Health Canada
Santé Canada

Tuberculosis in Canada

2000

Canada

Our mission is to help the people of Canada maintain and improve their health.
Health Canada

HOW TO REACH US

For more information, copies of this report or other related reports, please contact:

Tuberculosis and Bacterial Respiratory Diseases
Centre for Infectious Disease Prevention and Control
Population and Public Health Branch
Health Canada
Room 0108B, Brooke Claxton Building
Tunney's Pasture, Ottawa, Ontario K1A 0K9

Internal Postal Address: 0900B-1

Telephone: (613) 941-0238
Facsimile: (613) 946-3902

This report can also be accessed on the internet at:

http://www.hc-sc.gc.ca/pphb-dgspsp/

The following figures, tables and explanatory text were prepared by:

Edward Ellis, MD, MPH, FRCPC
Chief
Tuberculosis and Bacterial Respiratory Diseases

Shelley Deeks, MD, MHSc, FRCPC
Medical Specialist
Tuberculosis and Bacterial Respiratory Diseases

Adam Medaglia, BSM
Surveillance Officer
Tuberculosis and Bacterial Respiratory Diseases

Melissa Phypers, MSc
Senior Epidemiologist
Tuberculosis and Bacterial Respiratory Diseases

Chris Sheardown, BA (current)
Penny Nault (former)
Tuberculosis Database Manager
Tuberculosis and Bacterial Respiratory Diseases

ACKNOWLEDGEMENT

The authors would like to acknowledge the Provincial/Territorial Tuberculosis Programs and their teams for their contribution to and participation in the Canadian Tuberculosis Reporting System (CTBRS).

The authors would also like to thank the Scientific Publication and Multimedia Services Section, Population and Public Health Branch, for its assistance in preparing this report.

Published by authority of the Minister of Health

Cat. H49-108/2000
ISBN 0-662-67074-4

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

Tuberculosis in Canada

2000

TABLE OF CONTENTS

FIGURES

TABLES

Tuberculosis among the foreign-born in Canada

Background

Overview

From 1970 to 2000, the number of annual cases of tuberculosis (TB) among the foreign-born in Canada has not increased substantially. However, there has been a significant increase in the proportion of all cases of TB attributable to foreign-born individuals. The incidence of the disease is highest in the first few years of arrival, but cases continue to be diagnosed many years after arrival.

Methods

TB case data reported to the Canadian Tuberculosis Reporting System (CTBRS) from 1970–2000 were examined. The reporting system is designed to capture information on every new active or relapsed case of TB occurring in Canada in all provinces and territories. Cases within the CTBRS meet the *Canadian Tuberculosis Standards* case definition[1]. The case report collects information on selected demographic characteristics, including origin. Origin for this report is defined as foreign-born (using World Health Organization Regions[2]), Aboriginal and Canadian-born non-Aboriginal. If a case report did not include information regarding origin it was excluded from analysis.

Results

Overall

The percentage of the total cases reported among the foreign-born has increased substantially since 1970. From 1970-2000 the proportion of TB cases among foreign-born persons in Canada increased from 18% of all cases reported to 65% (Figure 1). The incidence of disease and the total number of cases reported among the foreign-born has shown no appreciable increase (Figures 2 and 3). The number of cases in this population has increased by approximately 2% per year.

Figure 1

Proportion of TB cases in Canada by origin, 1970–2000

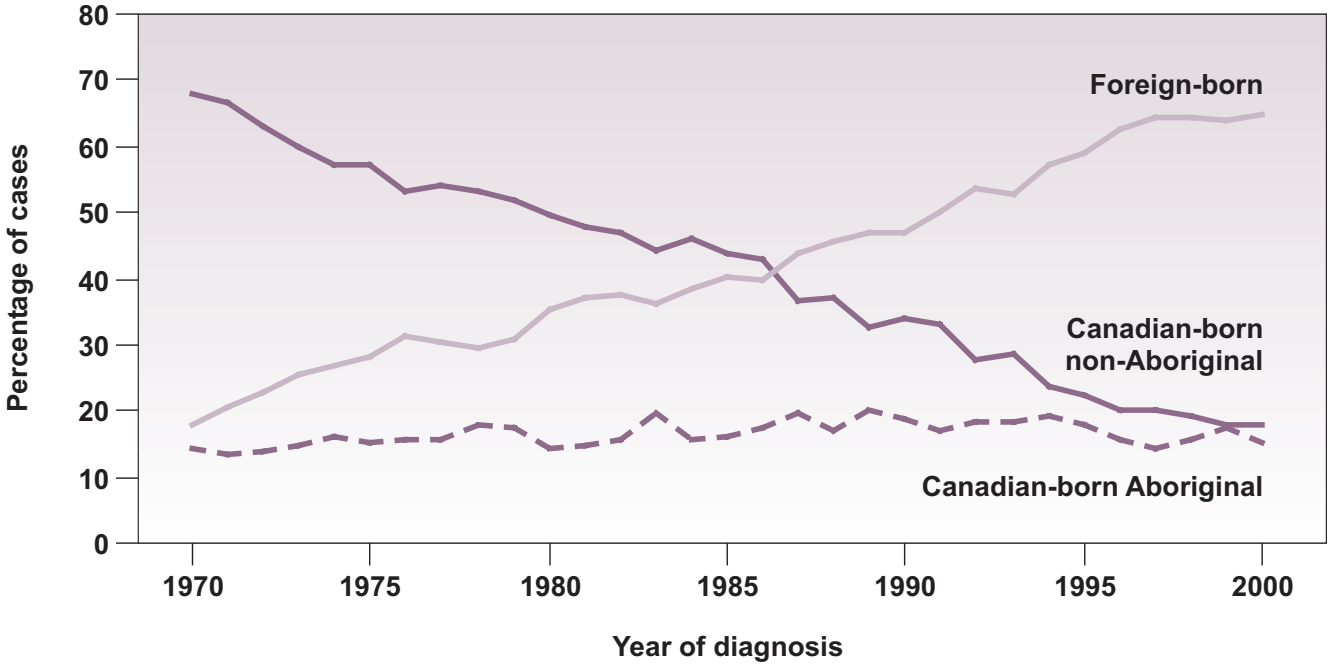
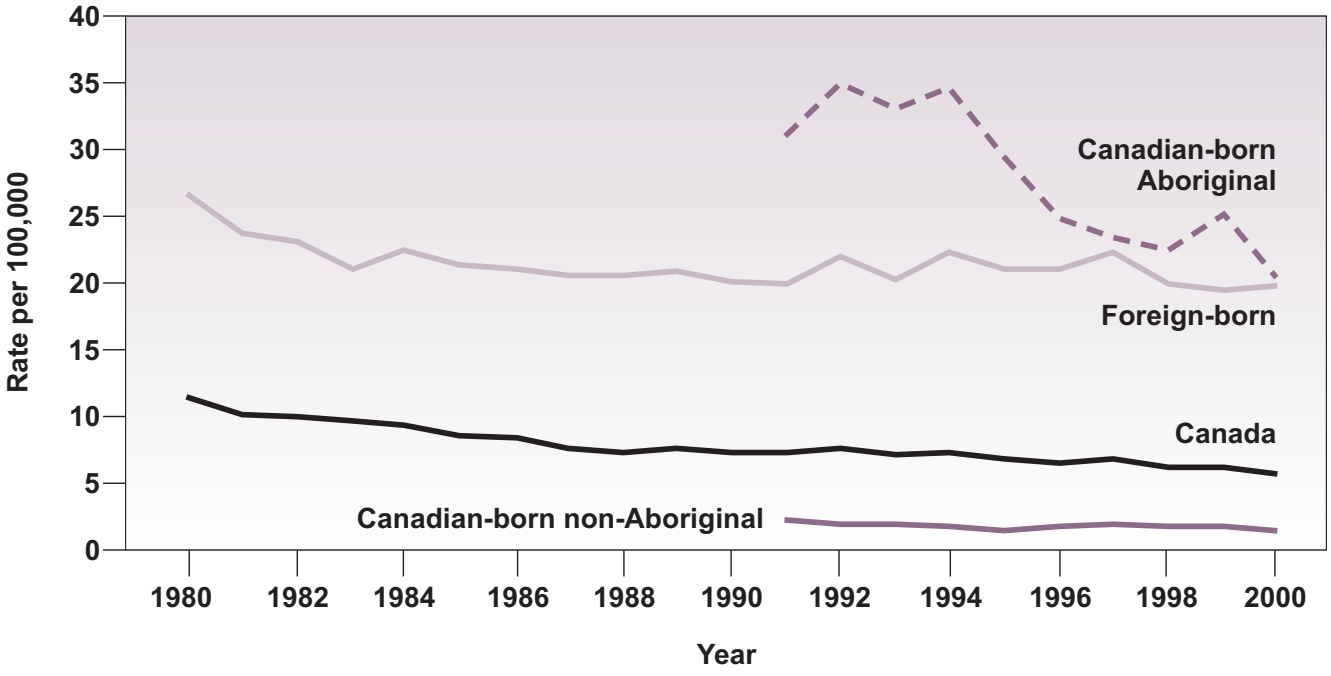


Figure 2

TB incidence in Canada, 1980–2000



Overall, the incidence of disease is highest in this population within the first few years of arrival in Canada (Figure 4). In 2000, TB incidence in all foreign-born individuals was 19.5 per 100,000.

Figure 3

TB cases in Canada, 1970–2000

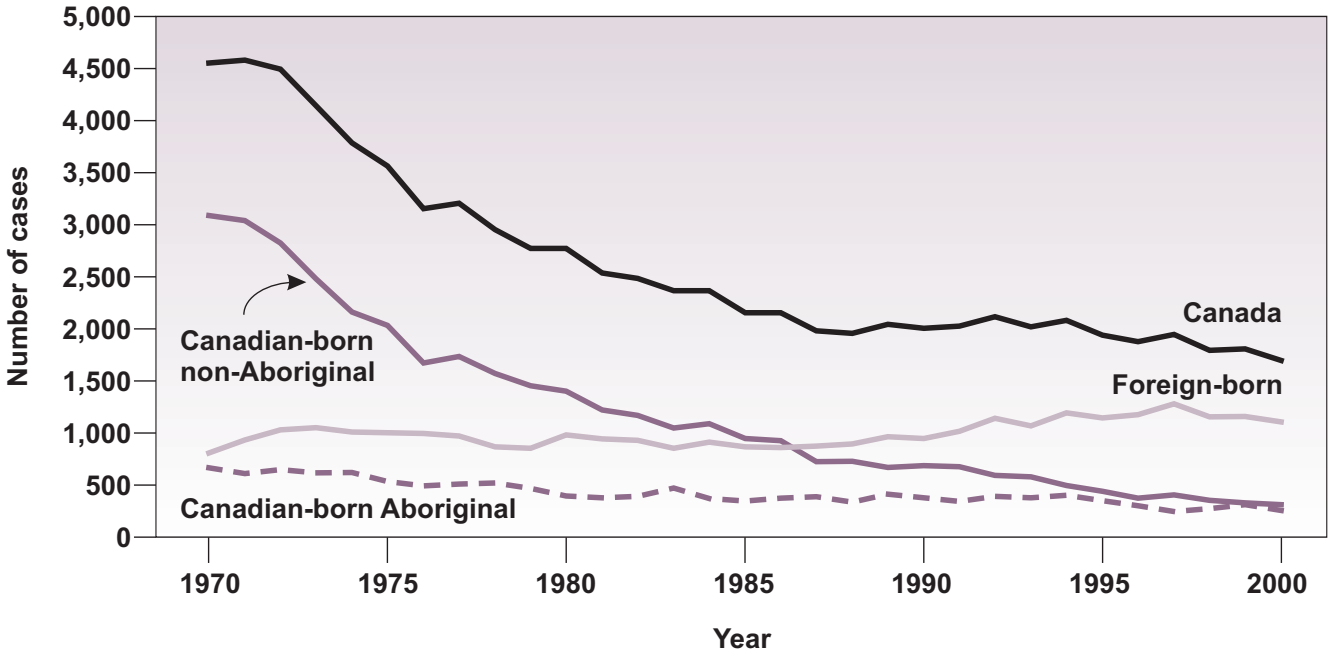
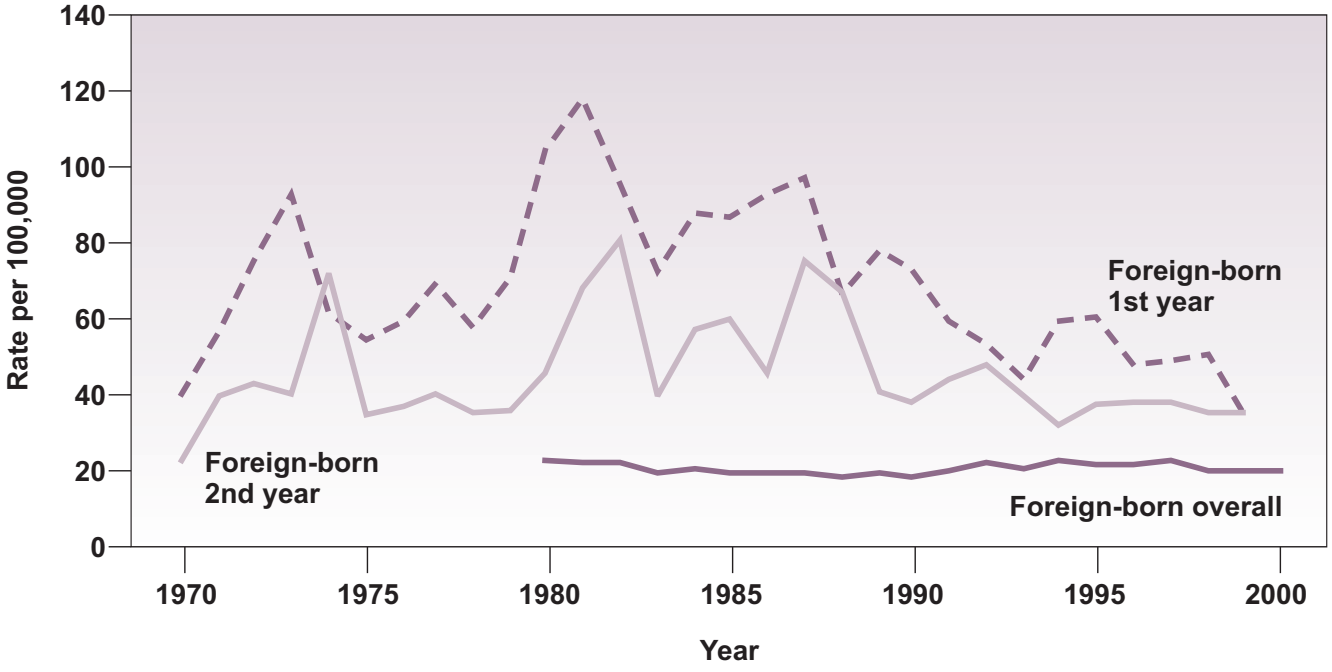


Figure 4

Incidence of TB among the foreign-born in Canada, 1st and 2nd year after arrival



Of the foreign-born TB cases reported in 2000, 10% developed active TB within the first year of arrival, 17% within 2 years and 35% within 5 years. Although a significant proportion of TB in the foreign-born is diagnosed within the first 5 years of arrival, cases continue to be reported many years afterwards, dropping at a rate of approximately 10% a year (Figure 5).

The composition of TB cases among foreign-born persons reflects changing immigration patterns and trends. Over time, the majority of foreign-born cases were diagnosed in individuals from the Western Pacific Region. Cases of European origin have fallen off dramatically, whereas there is an increasing trend in the reporting of cases from South East Asia and Africa (Figure 6).

Figure 5

Foreign-born TB cases by year of arrival in Canada

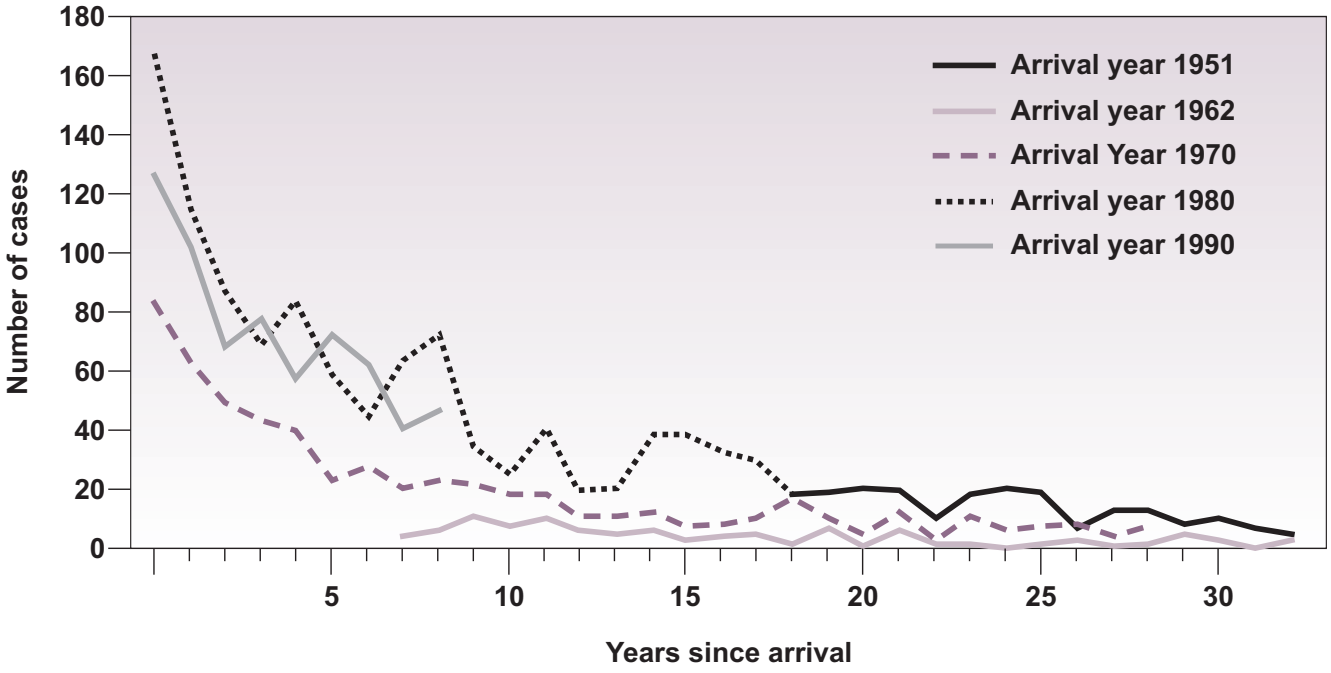
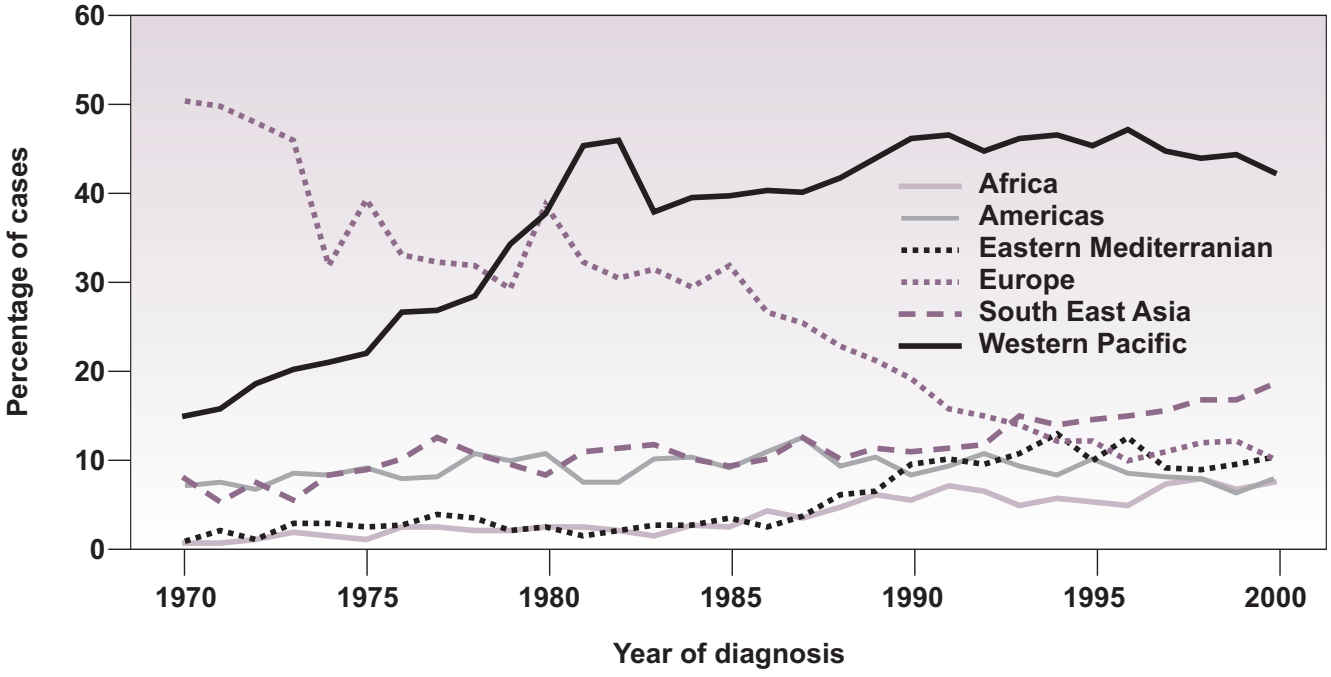


Figure 6

Foreign-born TB cases by WHO region



2000 Results

Geographic Distribution

The majority of foreign-born individuals (90%) settle in the provinces of British Columbia, Ontario and Quebec. Correspondingly, in 2000, these three provinces accounted for 87% of foreign-born cases (1,007 of 1,157 cases).

Demographic Characteristics

The median age of foreign-born TB cases was 39 years (landed immigrants 50 years, refugees 30 years and other non-residents 38 years) compared with the Canadian-born Aboriginal cases with a median age of 27 and Canadian-born non-Aboriginal cases at 59 years.

No significant difference was observed between the number of cases reported in males and females (51% and 49% respectively).

Clinical Characteristics

The rate of smear positive pulmonary TB in this population in 2000 was 6.1 per 100,000 and such cases accounted for 31% of all pulmonary TB reported in the foreign-born. No increased proportion of smear positive pulmonary cases was seen among the foreign-born population (50% of pulmonary cases) as compared with the Canadian-born population (55%).

The foreign-born account for a large percentage (66%) of the extrapulmonary TB reported in Canada. Of the extrapulmonary cases reported in the foreign-born, the majority were cases of TB diagnosed as peripheral lymph node disease. The foreign-born account for 80% of the peripheral lymph node disease reported in Canada, which is seen predominantly in individuals from the Western Pacific Region.

An increasing proportion of TB cases among Canadian-born and the foreign-born are being treated with three or more anti-TB drugs (foreign-born 1991 - 51%; 2000 - 68%; Canadian born 1991 - 54%; 2000 - 68%)

Of all cases of TB reported, 11% were resistant to one or more drugs, and 1% were multi-drug resistant (MDR-TB). The vast majority of drug resistant TB reported in Canada is in the foreign-born population. Of all drug resistant cases reported in Canada during 2000, 81% were in the foreign-born, as were 85% of MDR-TB. Overall, foreign-born cases are four times more likely to be drug resistant and six times more likely to be MDR than the Canadian-born.

Discussion

Why the shift?

A highly significant factor in the increased proportion of TB cases among foreign-born persons is changing trends in the countries of origin of migrants to Canada. More than 90% of all cases of TB in the world occur in developing countries. The World Health Organization (WHO) indicates that more than 85% of refugees originate from regions of the world with high TB rates[2]. Immigration has been increasing in Canada and specifically from countries where the incidence and prevalence of TB is high. Rates in these regions and in individual countries are up to 20 times higher than in Canada.

Furthermore, though screening for active TB disease of most immigrant and refugee populations is mandatory, a large percentage of disease develops after arrival in Canada. Most TB cases among foreign-born persons are likely the result of reactivation of remotely acquired infection[3,4].

Risk to Canadians

In general, even though the proportion of TB in the foreign-born population has increased, significant transmission to persons born in Canada has not been commonly reported[5]. It has been hypothesized that the reasons for this lack of transmission are the mandatory screening for TB disease at the time of immigration, medical surveillance of those admitted with inactive TB, delayed integration of the migrant population and adequate treatment of cases.

Summary

Increasingly, reducing the burden of TB disease in Canada will depend on controlling the disease in foreign-born persons. The foreign-born have a greatly elevated risk of TB disease within the first 2 years of arrival, but the risk of developing TB remains for many years after arrival. Drug resistant TB is predominantly seen in this population but has not yet become a problem in Canada.

Directions

The elimination of TB in Canada will depend increasingly on the elimination of TB among the foreign-born. Although this presents challenges and requires a flexible approach, the priorities and guidelines put forward in the National TB Elimination Strategy[6] remain the same:

1. Finding persons with active disease and ensuring completion of treatment;
2. Tracing the contacts of those with active disease and evaluating each contact's status regarding TB disease and infection;
3. Screening persons at high risk for infection, offering preventive therapy, and ensuring completion of preventive therapy.

Members of the Canadian Tuberculosis Committee: Dr. V. Hoeppner (Chair); Dr. M Baikie; Dr. C Balram; Ms. C. Case; Dr. E. Ellis (Executive Secretary); Dr. R.K. Elwood (Past Chair); Ms. P. Gaba; Dr. B. Graham; Dr. B. Gushulak; Ms. C. Helmsley; Dr. E.S. Hershfield; Ms. R. Hickey; Dr. A. Kabani; Dr. B. Kawa; Dr. R. Long; Dr. F. Stratton; Ms. N. Sutton; Dr. L. Sweet; Dr. T.N. Tannenbaum.

This report was prepared by Ms. Melissa Phypers, Senior Epidemiologist, Tuberculosis and Bacterial Respiratory Diseases, Health Canada. Special thanks to Ms. Dena Schanzer, Modeling and Projections Division, Health Canada, for assistance with the analyses required for this report.

Reference List

1. *Canadian tuberculosis standards*. Ottawa: Canadian Lung Association; Government of Canada, 2000.
2. World Health Organization. *WHO report on the tuberculosis epidemic 2001*. Geneva: Global TB Programme, 2001.
3. Small PM, Hopewell PC, Singh SP, Paz A, Parsonnet J, Ruston DC *et al*. The epidemiology of tuberculosis in San Francisco. A population-based study using conventional and molecular methods. *N Engl J Med.* 1994;**330**:1703-9.
4. Borgdorff MW, Behr MA, Nagelkerke NJ, Hopewell PC, Small PM. Transmission of tuberculosis in San Francisco and its association with immigration and ethnicity. *Int J Tuberc Lung Dis* 2000;4:287-94.
5. Menzies D, Chan CH, Vissandjee B. Impact of immigration on tuberculosis infection among Canadian-born schoolchildren and young adults in Montreal. *Am J Respir Crit Care Med* 1997;**156**:1915-21.
6. Health Canada. Proceeding of the national consensus conference on tuberculosis, December 3-5, 1997. *CCDR* 1998;**24S2**.

EXECUTIVE SUMMARY

In 2000, 1,694 cases (5.5 per 100,000) of new active and relapsed TB were reported to the CTBRS. The highest rate of 61.1 per 100,000 was reported in the northern region (Yukon Territory, Northwest Territories and Nunavut). TB incidence was lowest in the Atlantic region (Nova Scotia, New Brunswick, Prince Edward Island, Newfoundland and Labrador: 1 per 100,000). The three most populous provinces (Ontario, Quebec and British Columbia), which collectively make up 75% of Canada's population, accounted for 75% of the total reported cases.

By age group, individuals between the ages of 25 and 34 years made up the largest number of reported cases, accounting for 18% of the total. However, the corresponding case rate of 7.0 per 100,000 for this age group was surpassed by the age-specific rates of 9.3 and 14.2 per 100,000 for those in the older age groups of 65 to 74 years and greater than 74 years, respectively.

TB incidence continues to be highest among the foreign-born population. In 2000, the foreign-born represented 18% of the Canadian population but accounted for 65% of all reported TB cases in Canada. Canadian-born Aboriginal peoples constituted 4% of the overall population whereas reported cases of TB in this group accounted for 18% of the disease burden. Canadian-born non-Aboriginal cases accounted for15% of the reported cases and birthplace was unknown for 1% of cases.

Respiratory TB was the most frequently reported main diagnostic site, representing 67% of reported cases in 2000. Diagnostic site varied by birthplace. TB of the peripheral lymph nodes was the second most commonly reported diagnostic site (15%), with 38% of these cases occurring in foreign-born individuals who originated in the WHO Western Pacific Region. Primary TB accounted for 6% of reported cases and was more common among Canadian-born Aboriginal Peoples.

Of the 1,694 reported cases, 1,568 (93%) were laboratory confirmed. Of the 1,067 pulmonary cases, 52% were smear (microscopy) positive and 86% were culture positive. (*Appendix II*, Table 12; Figure 20).

Of the 1,694 cases reported in 2000, 1,387 cases were culture positive. Of these, 89% had no resistance to TB drugs. 7.8% were resistant to one drug and the remaining 2.9% showed patterns of resistance to two or more drugs prescribed. The most common type of mono-resistance was resistance to isoniazid (INH) accounting for 41.6% of all reported resistance. Multi-drug resistant TB (defined as resistance to INH and rifampin) accounted for less than 1%of the positive cultures reported (*Appendix II*, Table 15).

Of the 1,806 cases reported in 1999, treatment outcome data was reported for 777 cases. Of these, 651 cases (84%) were reported as being culture negative or having completed treatment. The majority of individuals placed on TB drug therapy in Canada (84%) were treated with three or more anti-tuberculosis drugs.

INTRODUCTION

Surveillance reports on TB in Canada have been stored and maintained by Tuberculosis and Bacterial Respiratory Diseases (TB–BRD), Health Canada, from the early 1920s. Health Canada assumed responsibility for the Canadian Tuberculosis Reporting System (CTBRS) in 1994.

The *2000 Tuberculosis in Canada* annual report is a publication of TB–BRD, Centre for Infectious Disease Prevention and Control, Population and Public Health Branch, Health Canada. Reports of new active and relapsed TB cases are reported to TB–BRD through the CTBRS from the 10 provinces and three territories.

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

- province/territory
- 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 WHO) (*Appendix III*), population estimates for 2000 (*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.

Results

Section I – 2000 Case Reporting

National Trends

Following a peak in the epidemic in the early 1940s, the reported incidence of TB has shown continued decline (Figure 7). Over the past decade the reported incidence and number of cases of TB have continued to decrease (Figure 8; Table A). In 2000, 1,694 cases of TB were reported to the CTBRS representing an incidence rate of 5.5 per 100,000. New active cases made up the vast majority of reported cases (4.9 per 100,000) with relapsed cases accounting for the remainder (0.5 per 100,000).

Table A

Incidence of tuberculosis in Canada, 3-year moving average: 1989-2000

Year	Number of reported cases	Crude rate per 100,000	3-year moving average
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	1,791	5.9	5.8
2000	1,694	5.5	—

Geographic Distribution

Several reporting jurisdictions reported case rates below the national rate (Figure 9). TB incidence remains lowest in the Atlantic provinces and highest in the northern territories (Table B, Figure 10).

Figure 7

Tuberculosis incidence and mortality rates – Canada: 1924–2000

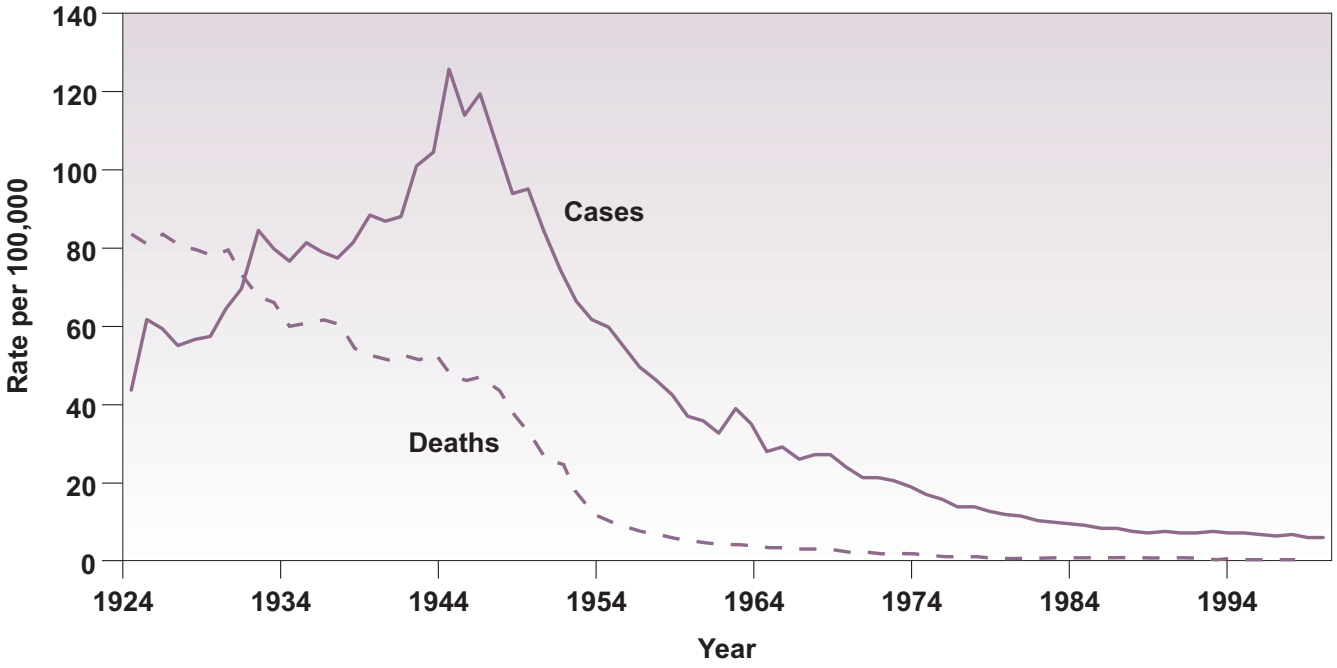


Figure 8

Tuberculosis cases and incidence – Canada: 1980–2000

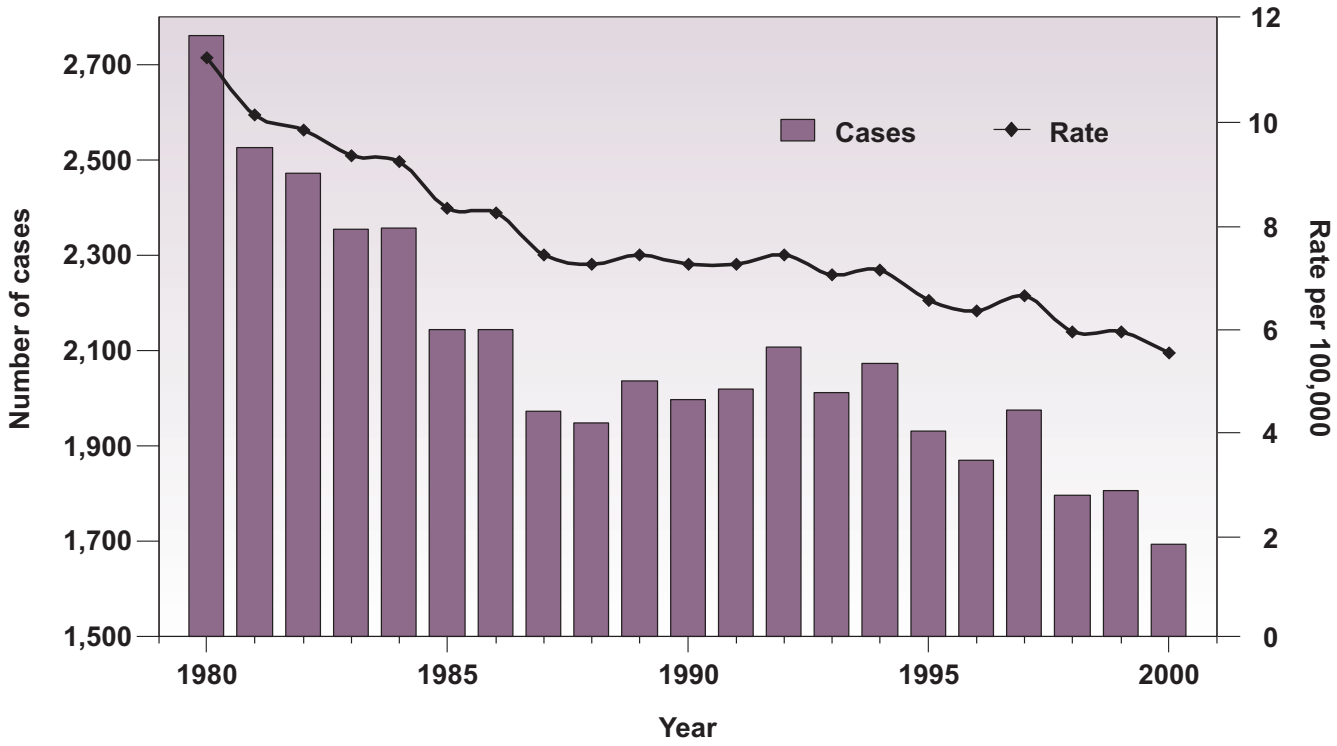


Figure 9

Tuberculosis incidence by province/territory as compared with national rate (5.5 per 100,000): 2000

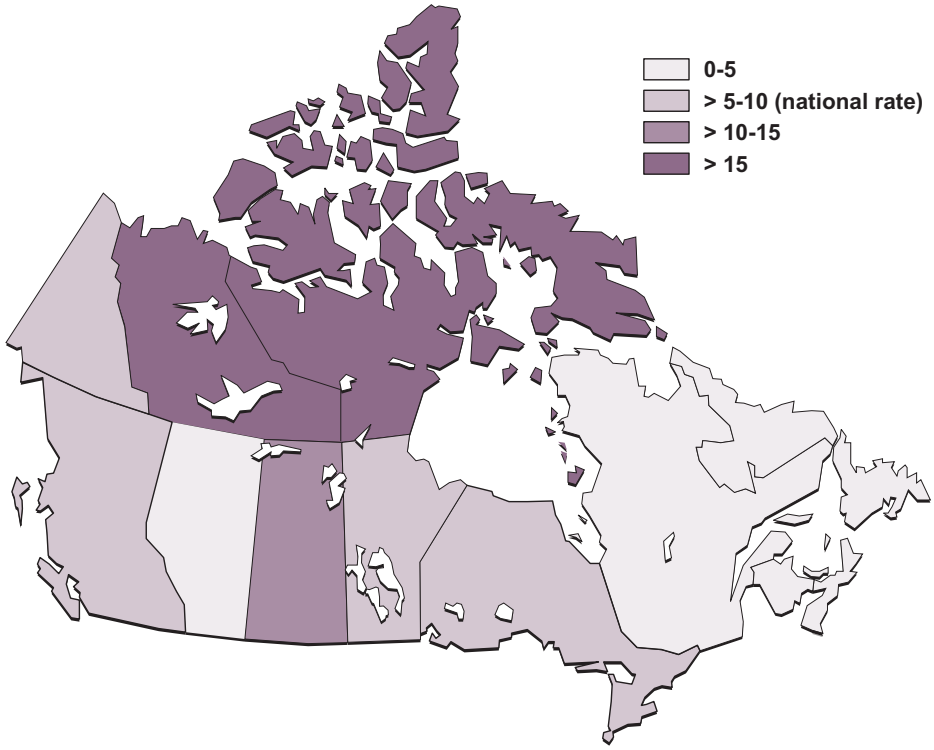


Figure 10

Tuberculosis incidence (95% confidence interval) – Canada and provinces/territories: 2000

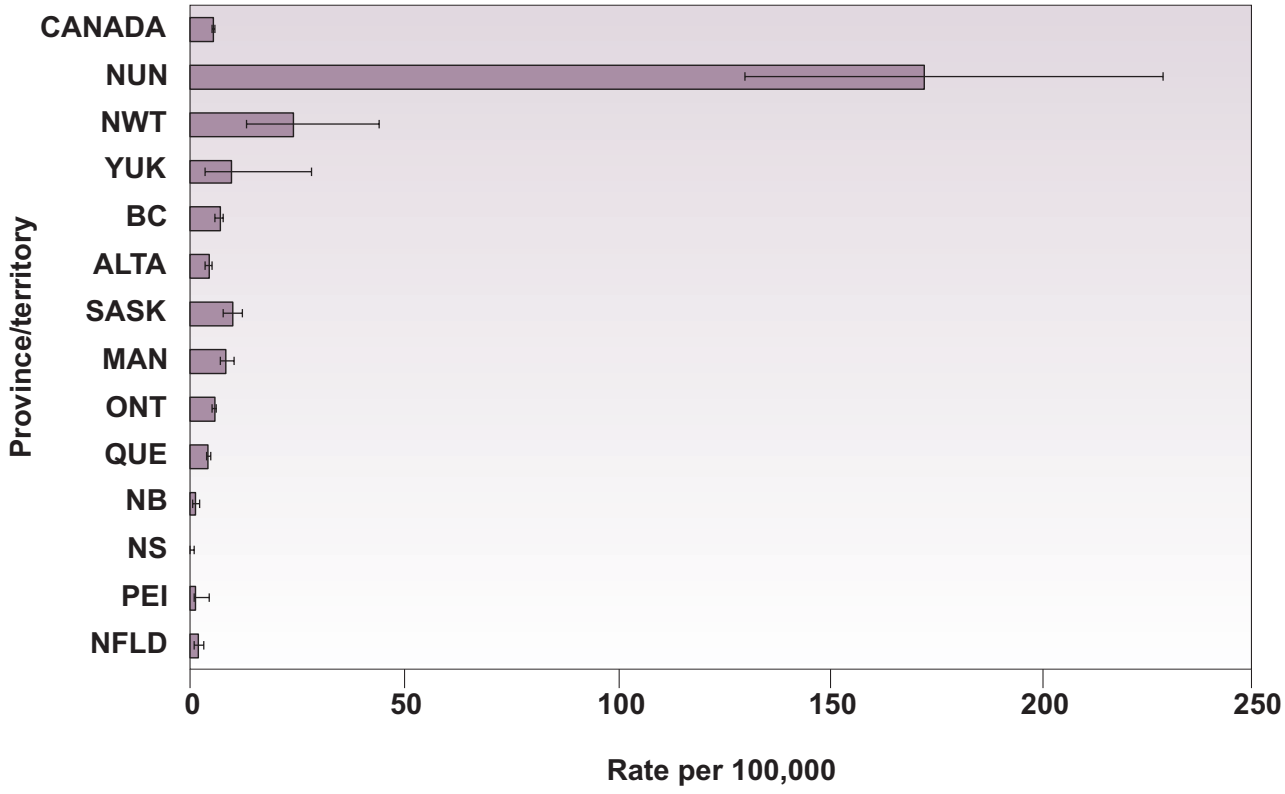


Table B

Ranked tuberculosis incidence in Canada – provinces/territories: 2000

Reporting province or territory	Rate per 100,000 (95% CI)
Nunavut	172.9 (130.6–229.2)
Northwest Territories	24.3 (13.3–44.6)
Saskatchewan	10.1 (8.4–12.3)
Yukon	9.7 (3.5–28.5)
Manitoba	8.5 (7.0–10.4)
British Columbia	7.0 (6.2–7.8)
Ontario	5.7 (5.3–6.1)
Alberta	4.4 (3.7–5.2)
Quebec	4.3 (3.8–4.8)
Newfoundland	1.9 (1.0–3.4)
Prince Edward Island	1.4 (0.4–4.6)
New Brunswick	1.3 (0.7–2.4)
Nova Scotia	0.3 (0.1–0.9)
CANADA	**5.5 (5.3–5.8)**

Sex and Age Group Distribution

Over the past two decades, incidence rates of TB in males and females have followed a similar pattern of decline. While case reporting and incidence have always been higher in males, there has been a noted decrease in the differential between males and females over the past several years (Figure 11; *Appendix II*, Tables 5B and 5C). In 2000, the presentation of TB by gender continued to reveal a larger number of reported cases among males (915 cases, 5.9 per 100,000) than among females (779 cases, 5.0 per 100,000) (*Appendix II*, Tables 2B and 2C).

In 2000, 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 7.0 per 100,000 for this age group was surpassed by the age-specific rates of 9.3 and 14.2 per 100,000 for those in the older age groups of 65 to 74 and greater than 74 years respectively (Figure 12; *Appendix II*, Table 2A). Canadian-born non-Aboriginal cases were relatively older (median 56 years) than foreign-born (median 42 years) and Canadian-born Aboriginal TB cases (median 35 years).

By age group and sex the incidence of TB was similar in males and females for all age groups with the exception of the youngest and the oldest age group, where the incidence in males was more than twice the incidence of TB in females (Figure 13).

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 in the foreign-born population has been noted. Conversely, a steady decline has been noted in the proportion of reported Canadian-born non-Aboriginal cases, whereas the proportion of reported TB cases in Canadian-born Aboriginals has remained relatively constant. The

Figure 11

Tuberculosis incidence by sex – Canada: 1980–2000

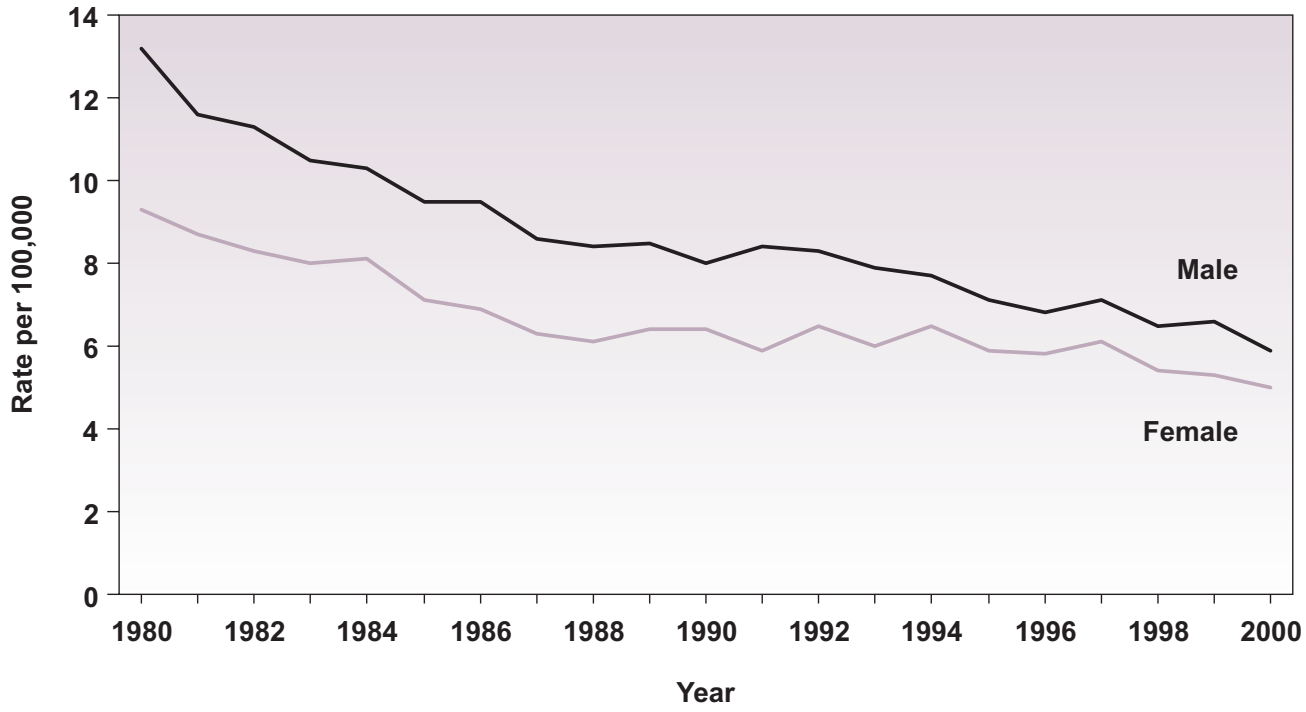


Figure 12

Tuberculosis incidence by age group – Canada: 2000

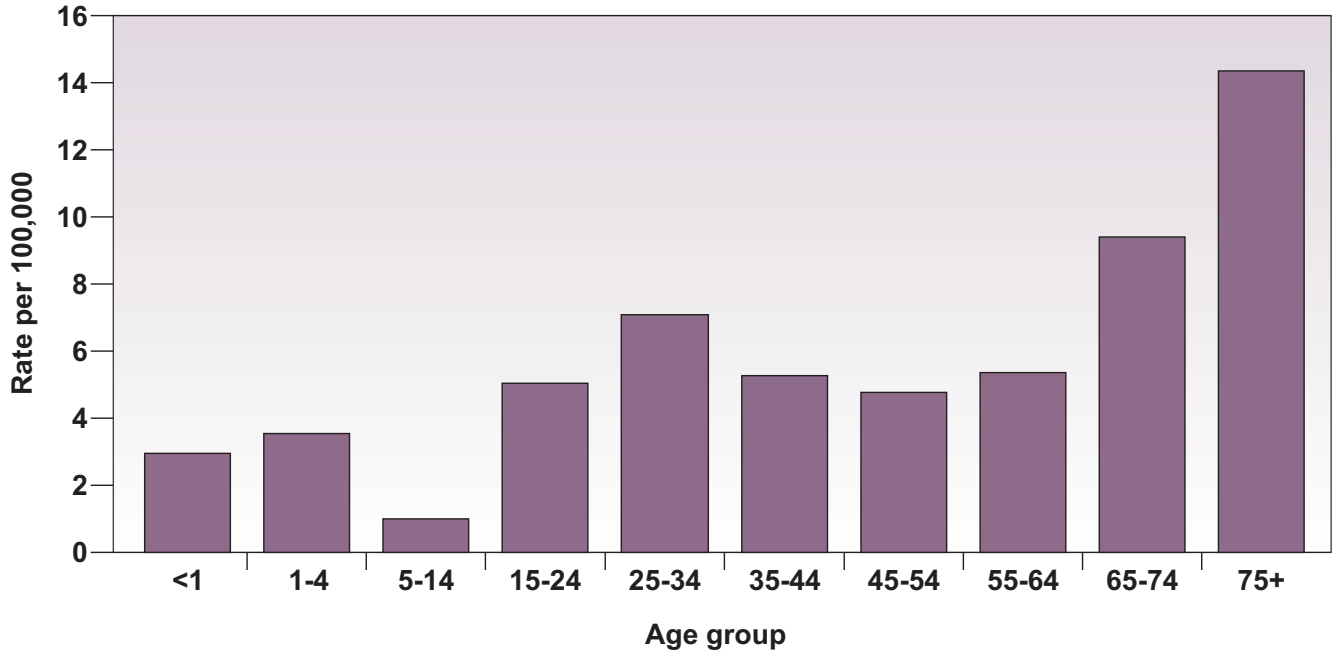
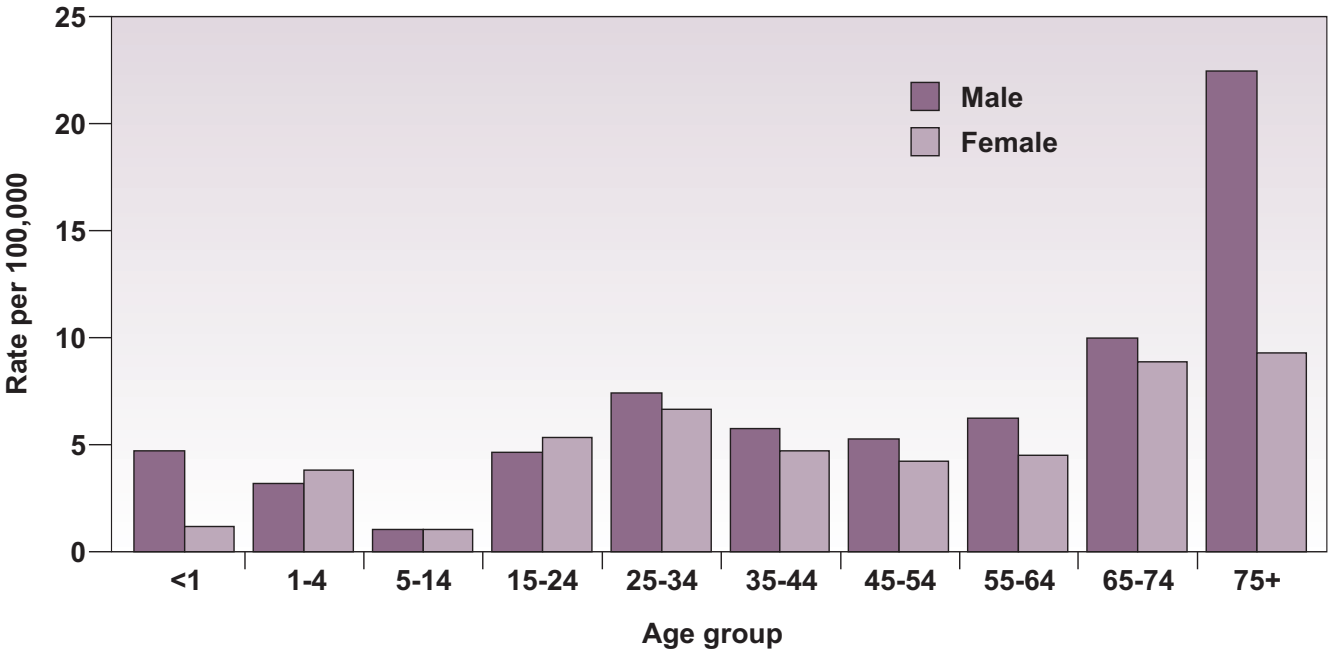


Figure 13

Tuberculosis incidence by age group and sex – Canada: 2000



proportion of TB cases continues to be highest among the foreign-born population. In 2000, the foreign-born represented 18% of the Canadian population but accounted for 65% of all reported TB cases in Canada. Canadian-born Aboriginal peoples constituted 4% of the overall population whereas reported cases of TB in this group accounted for 18% of the disease burden. Canadian-born non-Aboriginal cases accounted for15% of the reported cases and birthplace was unknown for 1% of cases (Figure 14; *Appendix II*, Table 3).

TB incidence was highest in the Canadian-born Aboriginal population (20.5 per 100,000) followed closely by an incidence of 19.5 per 100,000 in the foreign-born population. In the Canadian-born non-Aboriginal population, TB incidence was 1.3 per 100,000 (*Appendix II*, Table 6).

In general, TB cases in the 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 15; *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 over half of all reported cases (Alberta, 64%; Quebec, 58%). In the Yukon Territory, Northwest Territories, Nunavut, Saskatchewan and Manitoba, cases of Canadian-born Aboriginals contributed all or a large proportion of reported cases (Nunavut and the Northwest Territories 100%; Saskatchewan 76%; the Yukon Territory 66%; Manitoba 43%) (Figure 16; Table C; *Appendix II*, Table 6).

Figure 14

Proportion of tuberculosis cases by origin – Canada: 1980–2000

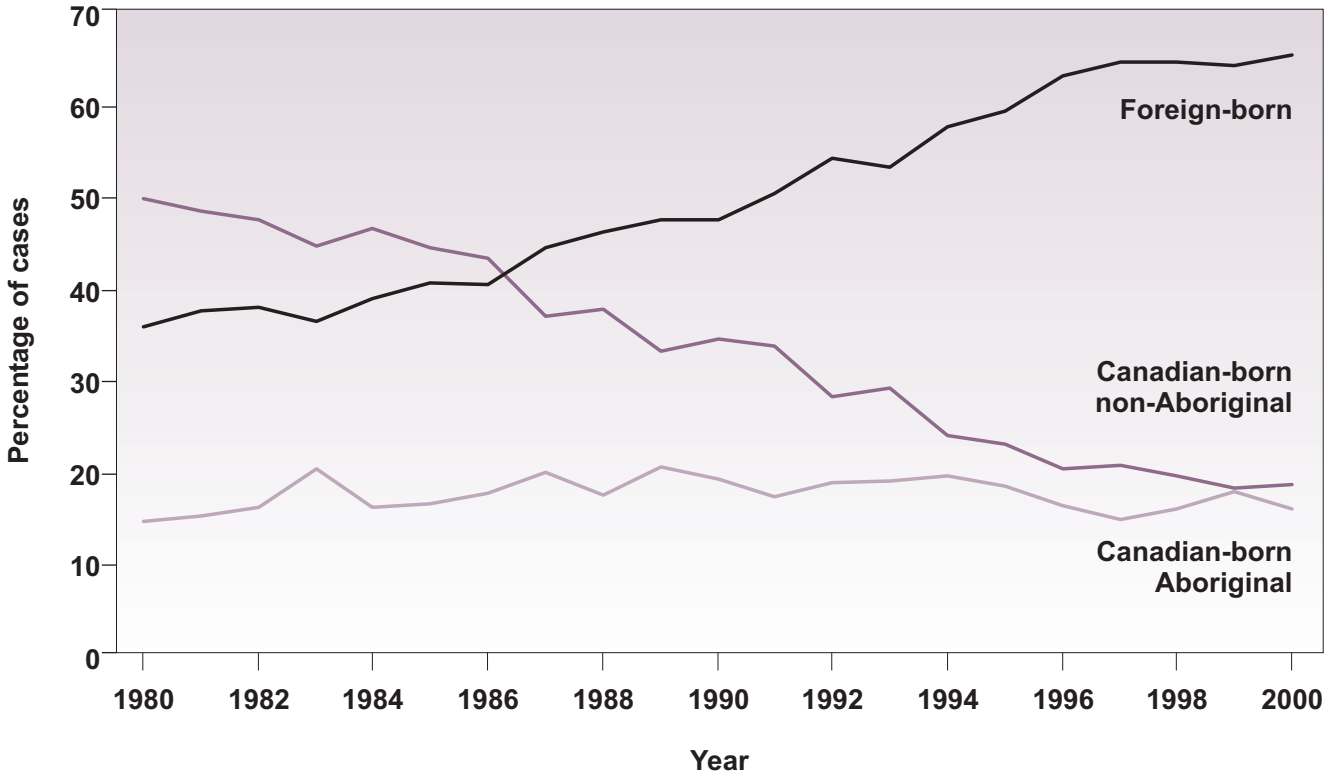


Figure 15

Tuberculosis cases by age group and origin – Canada: 2000

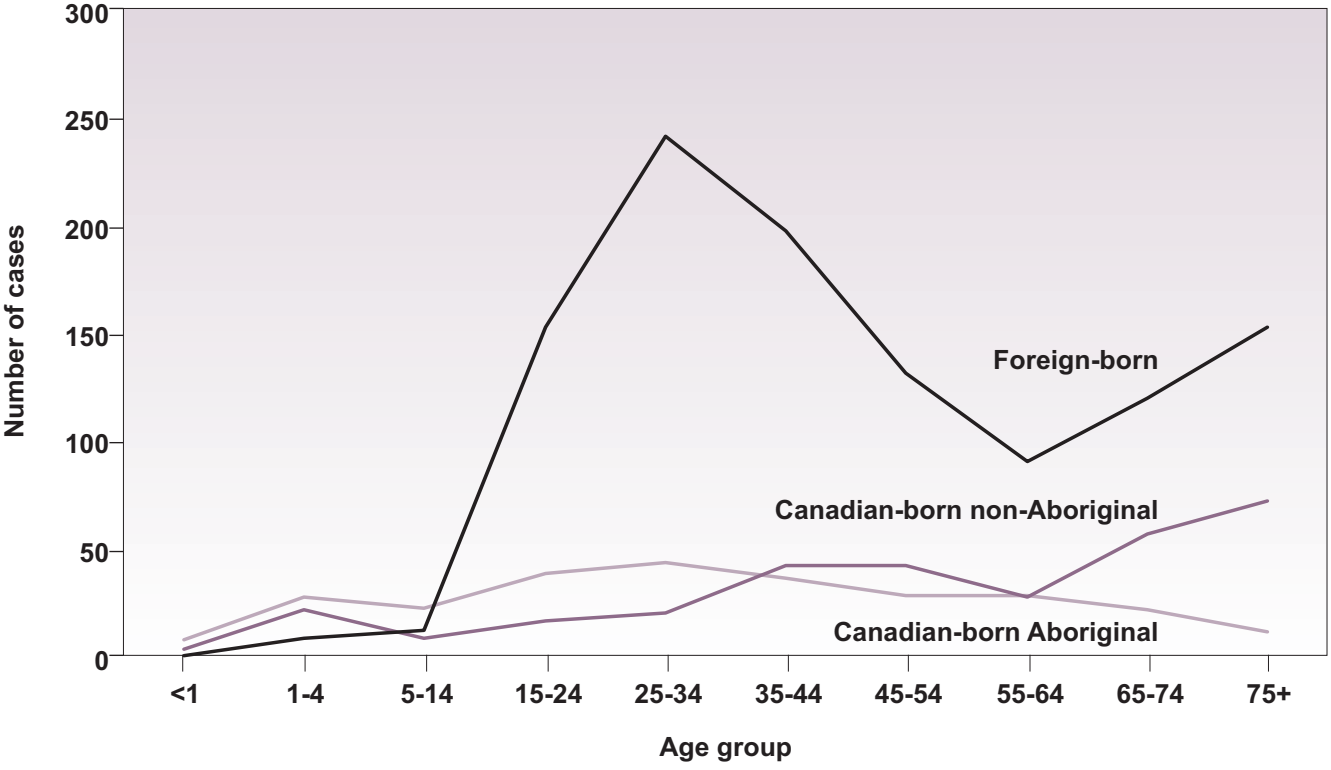


Figure 16

Distribution of tuberculosis cases by origin and incidence – provinces/territories: 2000

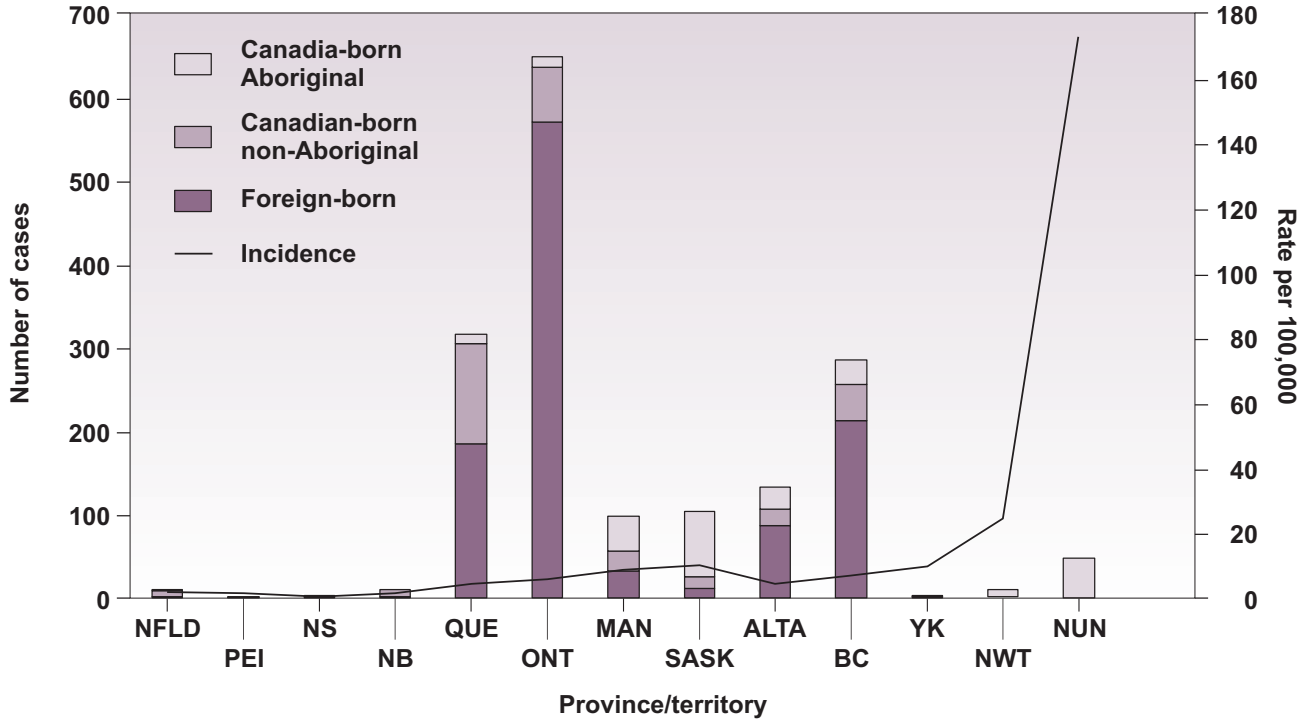


Table C

Proportion of tuberculosis cases in Canada by origin – provinces/territories: 2000

Reporting province or territory	Canadian-born Aboriginal	Canadian-born non-Aboriginal	Foreign-born	Unknown birthplace
Newfoundland	10.0	70.0	20.0	–
Prince Edward Island	–	50.0	50.0	–
Nova Scotia	–	66.7	33.3	–
New Brunswick	–	90.0	10.0	–
Quebec	3.4	37.7	58.2	0.6
Ontario	1.8	9.9	85.1	3.2
Manitoba	42.9	24.5	32.7	–
Saskatchewan	76.0	13.4	10.6	–
Alberta	20.3	15.0	64.7	–
British Columbia	10.5	15.1	74.4	–
Yukon	66.6	33.3	–	–
Northwest Territories	90.0	–	10.0	–
Nunavut	100.0	–		–
CANADA	**16.4**	**65.4**	**15.1**	**1.1**

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

By WHO region, the proportion of foreign-born cases was highest in individuals originating in the Western Pacific Region (468 cases; 39.7 per 100,000). However, the highest incidence rate (53.5 per 100,000) was found among individuals from the region of South East Asia. Cases of foreign-born TB reported in Canada from 1990 to 2000 by WHO region are shown in Figure 17. Reported cases of TB in Canada by WHO region are compared with reported TB incidence in the respective WHO region in Table D (Figure 18).

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[a]
Africa	46.4	105
Americas	9.2	29
East Mediterranean	32.5	32
Europe	4.2	43
South East Asia	53.5	97
Western Pacific	39.7	49

[a] Global Tuberculosis Control: WHO Report 2002. WHO/CDS/TB/2002.287 Geneva.

Figure 17

Proportion of foreign-born tuberculosis cases by WHO region – Canada: 1990-2000

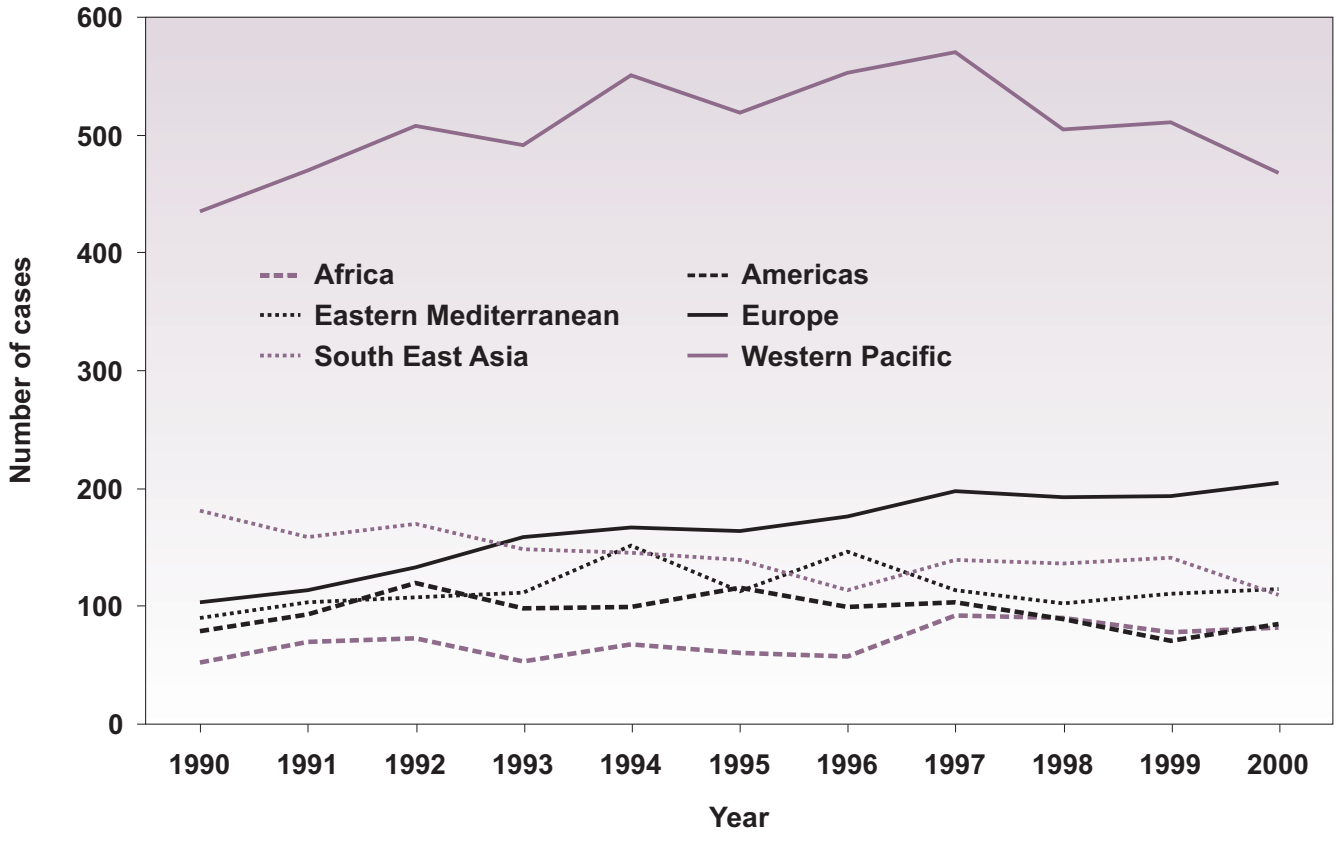
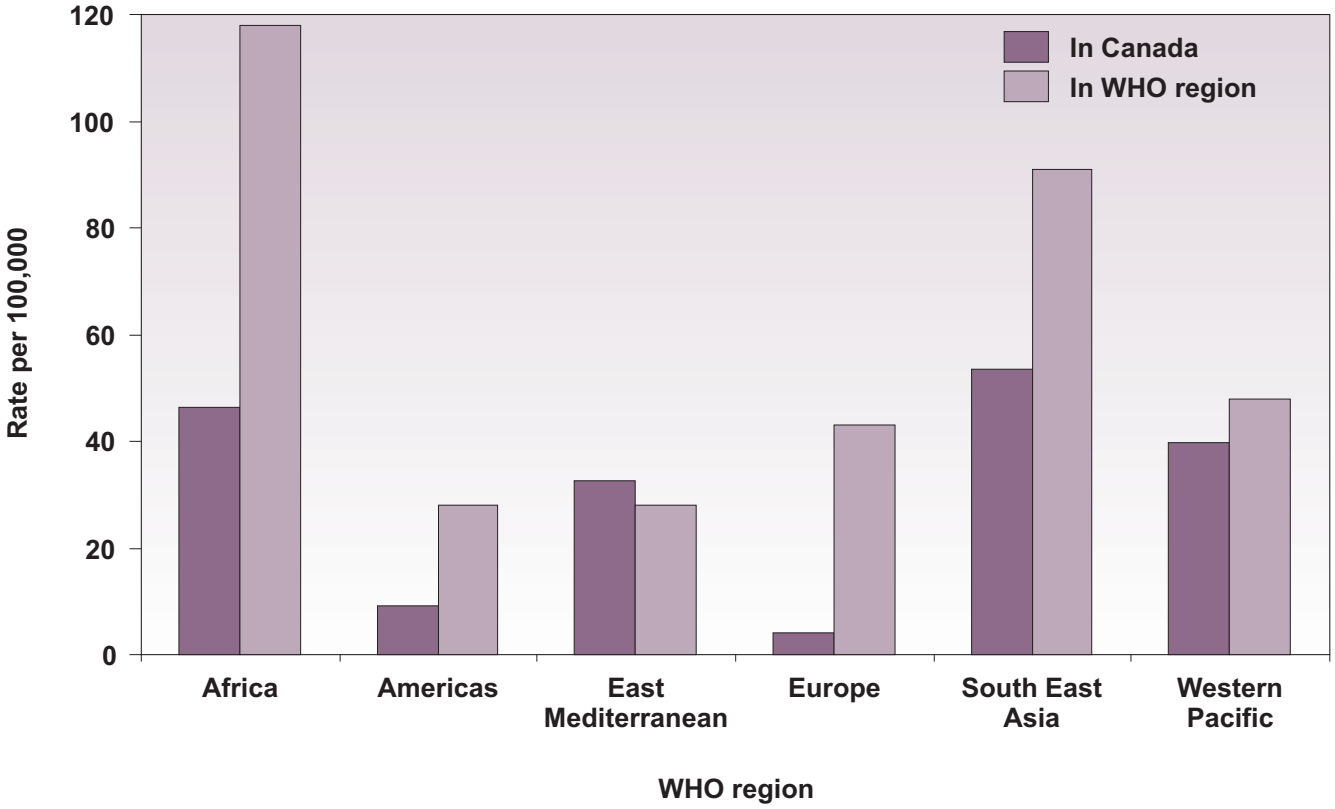


Figure 18

Comparison of tuberculosis incidence in WHO regions and in individuals from regions in Canada: 2000



Diagnostic Details

Overall, respiratory TB (please see *Appendix I:* Technical Notes for definition) was the most frequently reported diagnostic site, representing 67% of reported cases in 2000 (*Appendix II*, Table 4). Larger proportions of Canadian-born non-Aboriginal cases were reported as respiratory TB (76.5%) than of both Canadian-born Aboriginal and foreign-born cases (61% and 66% respectively). TB of the peripheral lymph nodes was the second most commonly reported diagnostic site (15%), with 38% of these cases occurring in foreign-born individuals who originated in the WHO Western Pacific Region. Primary TB accounted for 6% of the reported cases with 55% of these cases occurring in Canadian-born Aboriginal Peoples (Figure 19; *Appendix II*, Table 10).

TB of the central nervous system was rare, accounting for only 15 of the 1,694 (< 1%) reported cases. Similarly, miliary/disseminated TB was infrequently diagnosed, representing 40 (2%) of the reported cases (Table E; *Appendix II*, Table 4).

Figure 19

Tuberculosis cases by main diagnostic site and origin – Canada: 2000

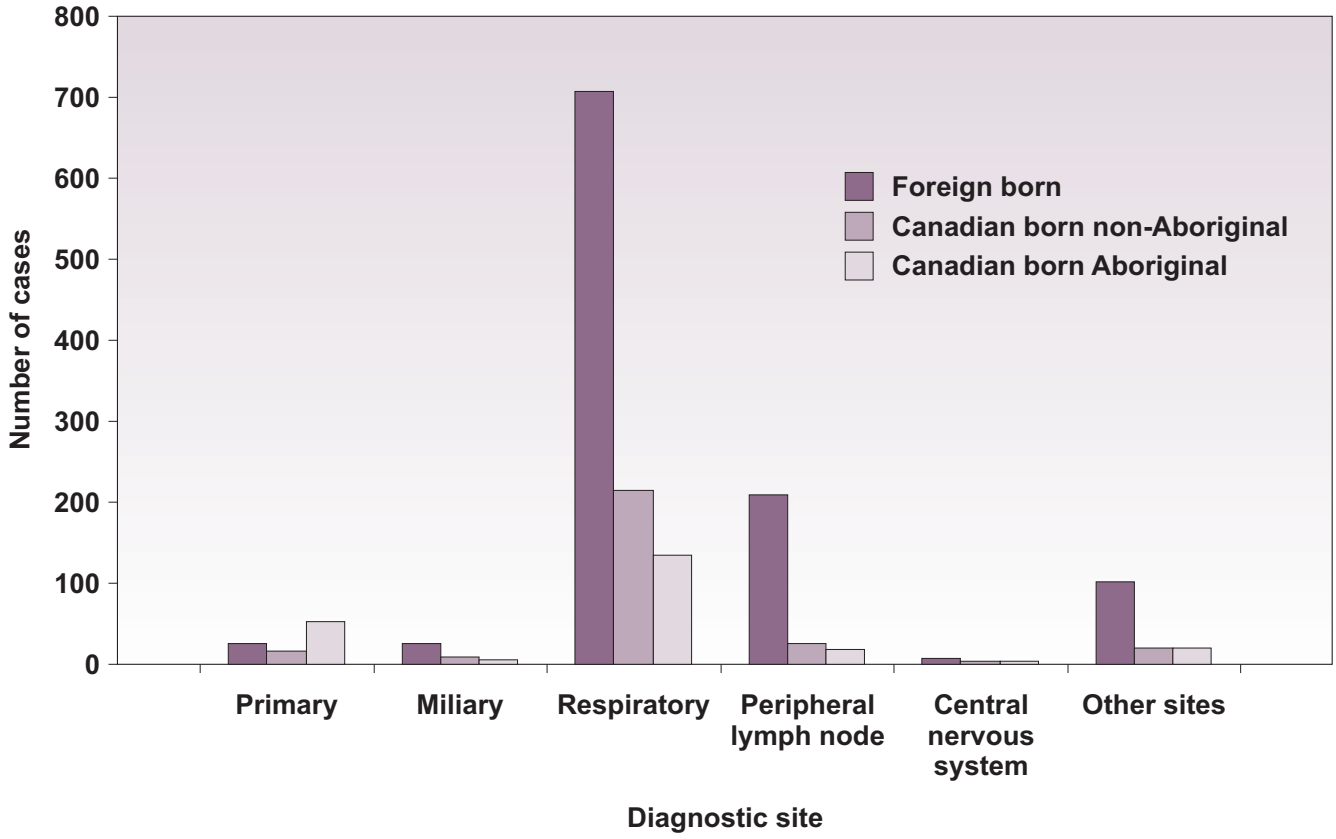


Table E

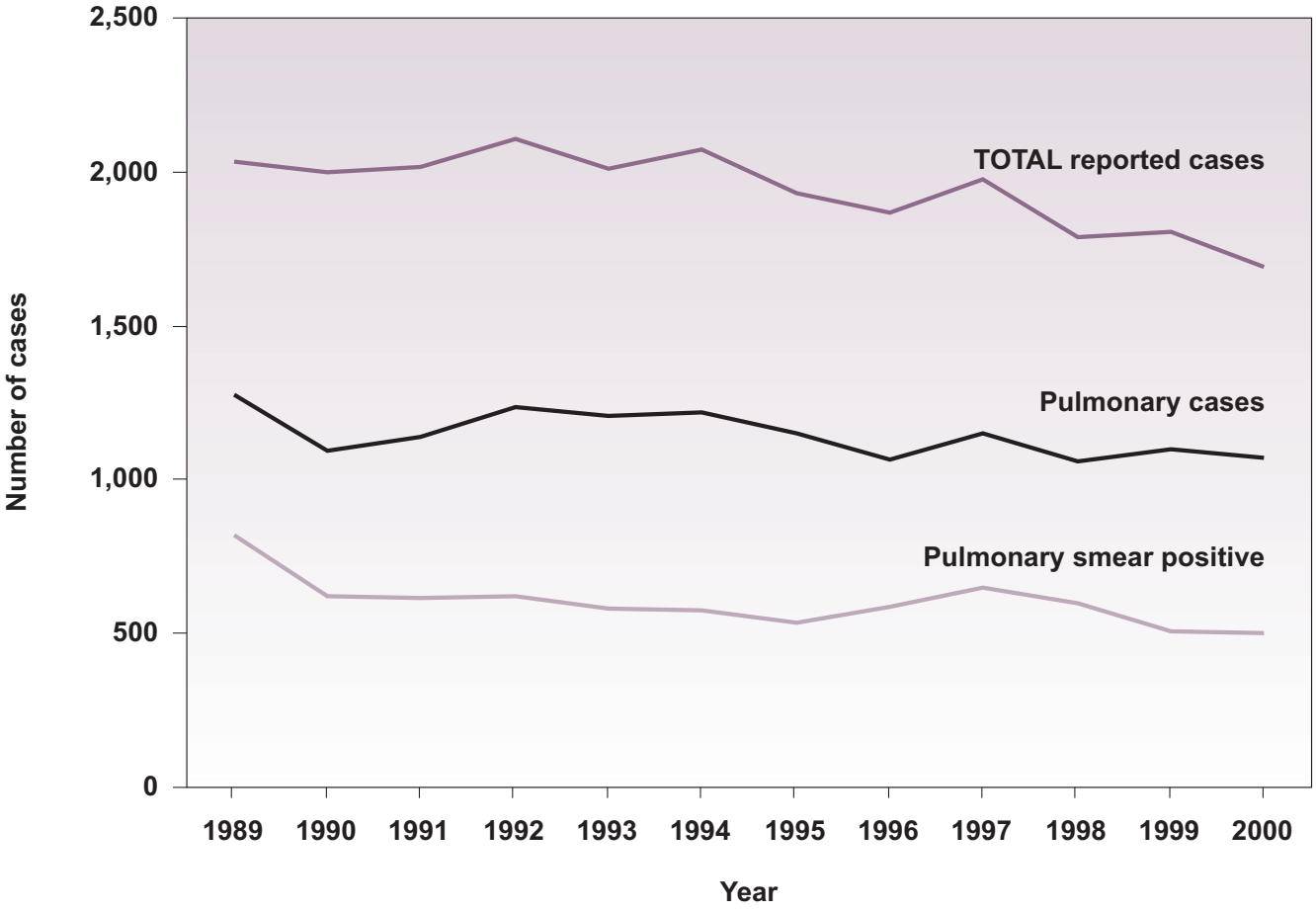
Tuberculosis cases by main diagnostic site in Canada: 2000

Diagnostic site	Number of cases	Percent of total cases	Rate per 100,000
Primary	101	5.7	0.3
Miliary	40	2.4	0.1
Respiratory	1,138	67.1	3.7
Peripheral lymph node	254	15.0	0.8
Central nervous system	15	< 1	–
Other/unknown	146	8.6	0.5
TOTAL	**1,694**	**100.0**	**5.5**

Of the 1,694 reported cases 1,568 (93%) were laboratory confirmed. Of the 1,067 cases of pulmonary TB reported, 49% (521 cases) were smear positive and 86% (919 cases) were culture positive, denoting possible infectious pulmonary TB. Over the past decade, the proportion of TB cases reported as pulmonary, smear positive has averaged approximately 30% of the total reported cases and 40% of the reported pulmonary cases (Figure 20).

Figure 20

Pulmonary smear positive tuberculosis cases – Canada: 1989-2000



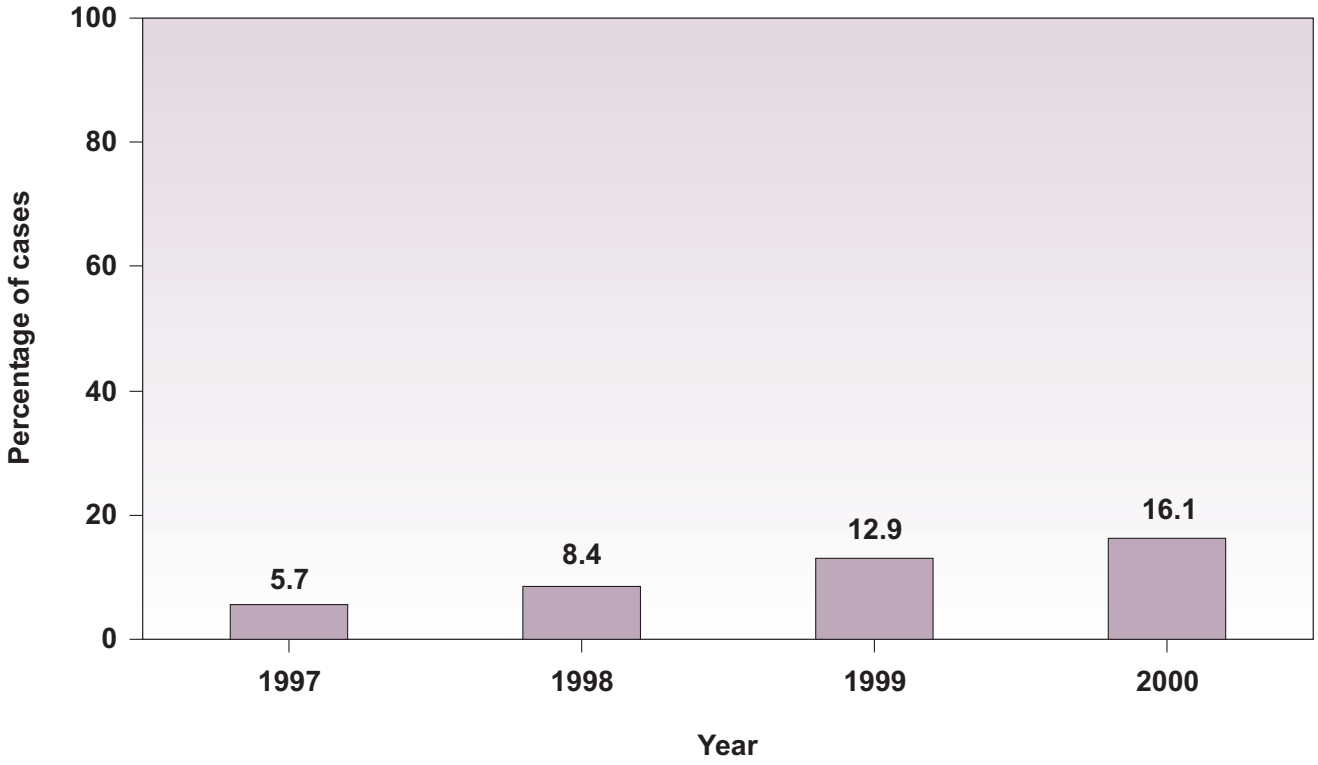
The majority of reported cases (78%) were detected through presentation of symptoms to a medical professional (*Appendix III*, Table 17). Immigration or immigration screening was reported as the method of detection for 3.5% of cases.

Of the 1,694 cases diagnosed in 2000, 111 reportedly died in the same year. TB was the underlying cause of death for 23 cases (21%). TB contributed to death, but was not the underlying cause for 67 cases (60%) (*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 the time of reporting in the same year of diagnosis.

HIV reporting continued to show improvements from previous reporting years. Since 1997 the number of TB cases for which HIV status was known increased from 5.7% to 16.1% in 2000 (Figure 21; *Appendix II, Table 25*).

Figure 21

Proportion of tuberculosis cases for which HIV status is known – Canada: 1997-2000



Resistance Patterns

Of the 1,694 cases reported in 2000, 1,387 cases were culture positive. Of these, 89% had no resistance to TB drugs; 7.8% were resistant to one drug; and the remaining 2.9% showed patterns of resistance to two or more drugs. The most common type of mono-resistance was resistance to isoniazid (INH) accounting for 42% of all reported drug resistance. Multi-drug resistant [resistance to INH and rifampin (RMP)] accounted for less than 1% of all positive cultures (*Appendix II*, Table 15).

Foreign-born cases accounted for the majority of resistance to one or more drugs (81%). Drug resistance to one or more drugs was reported for 17% of the Canadian-born non-Aboriginal cases and less than 1% of Canadian-born Aboriginal cases (*Appendix II*, *Table 16*).

Section II – 1999 Treatment Outcomes

National trends

Treatment outcome data for reported new active and relapsed cases are reported to TB-BRD by the provinces and territories on a separate reporting form for the previous calendar year (*Appendix V* – Reporting forms). Of the 1,806 cases diagnosed in 1999, treatment outcome status was known for 777 cases. The majority of cases for which treatment outcome status was known were reported as "Cure- negative culture" or "Treatment completed" (651 cases, 84%). Of the remaining cases for which treatment outcome was known, 52 (7%) died prior to completing treatment.

The majority of individuals were reported to have received treatment as per the *Canadian Tuberculosis Standards, 5th edition*[1]. Drug regimen reporting was complete for 782 cases, of which 84% (657 cases) were treated with three or more anti-tuberculosis drugs.

Cases reported as having been placed on the standard drug regimen of isoniazid (INH)/ethambutol (EMB)/rifampin (RMP)/pyrazinamide (PZA)[1] were more likely to have been reported as cure - culture negative (30%) than all other drug combinations combined (21%) (*Appendix II*, Table 27).

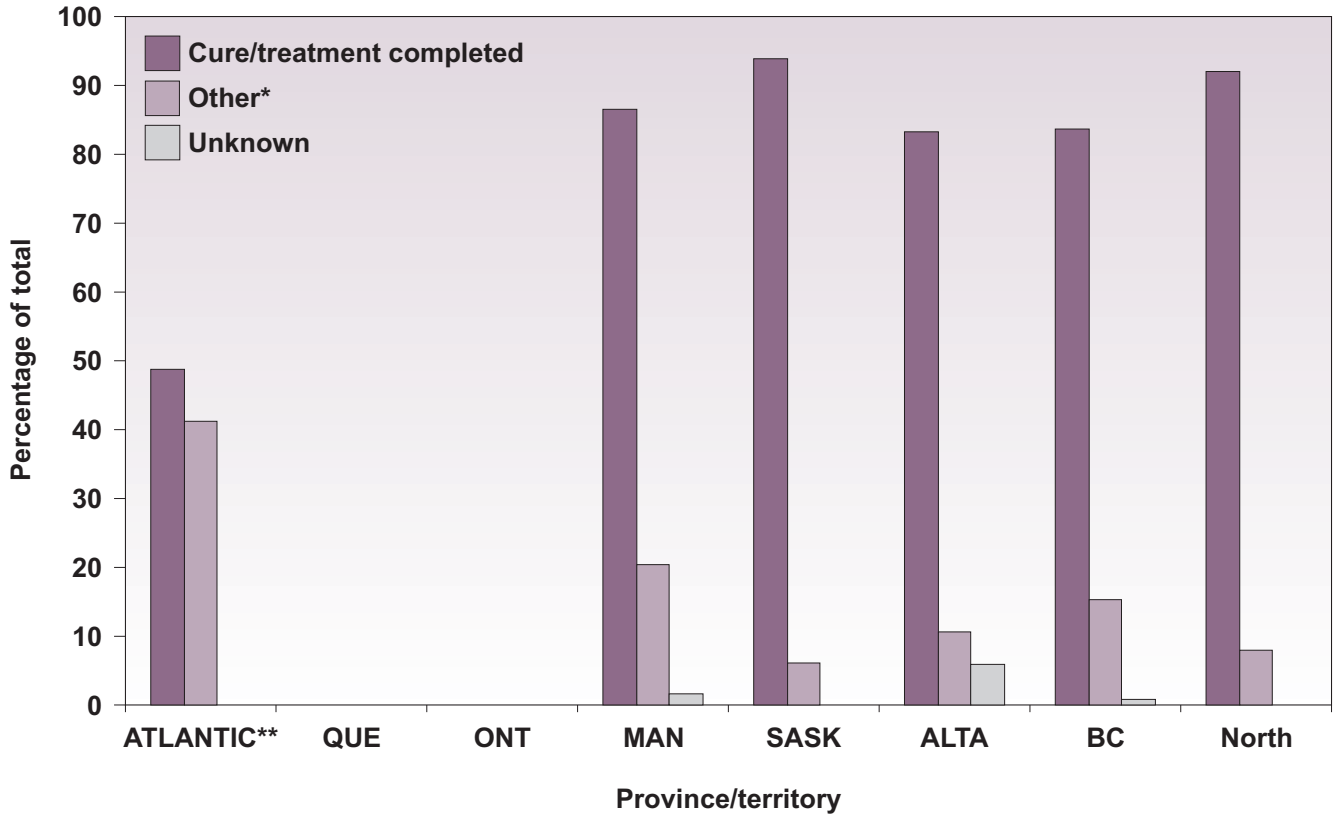
Fifty-three percent of individuals for whom the major mode of treatment was known were placed on Directly Observed Therapy (DOT). An additional 41% self-administered their medications. A difference in successful treatment outcome status was observed between these two major modes of treatment (Cure or treatment completed 91% – DOT, 85% – self-administered) (Figure 23).

The number of individuals who died before completing treatment was slightly higher in the self-administered treatment group as compared with DOT: 2.7% of DOT cases died prior to completing treatment versus 5.1% in the self-administered treatment group.

[1] Long, R. ed. Canadian Tuberculosis Standards, 5th edition. Canadian Lung Association, 2000.

Figure 22

Treatment outcome status of tuberculosis cases by provinces/territories – Canada: 1999



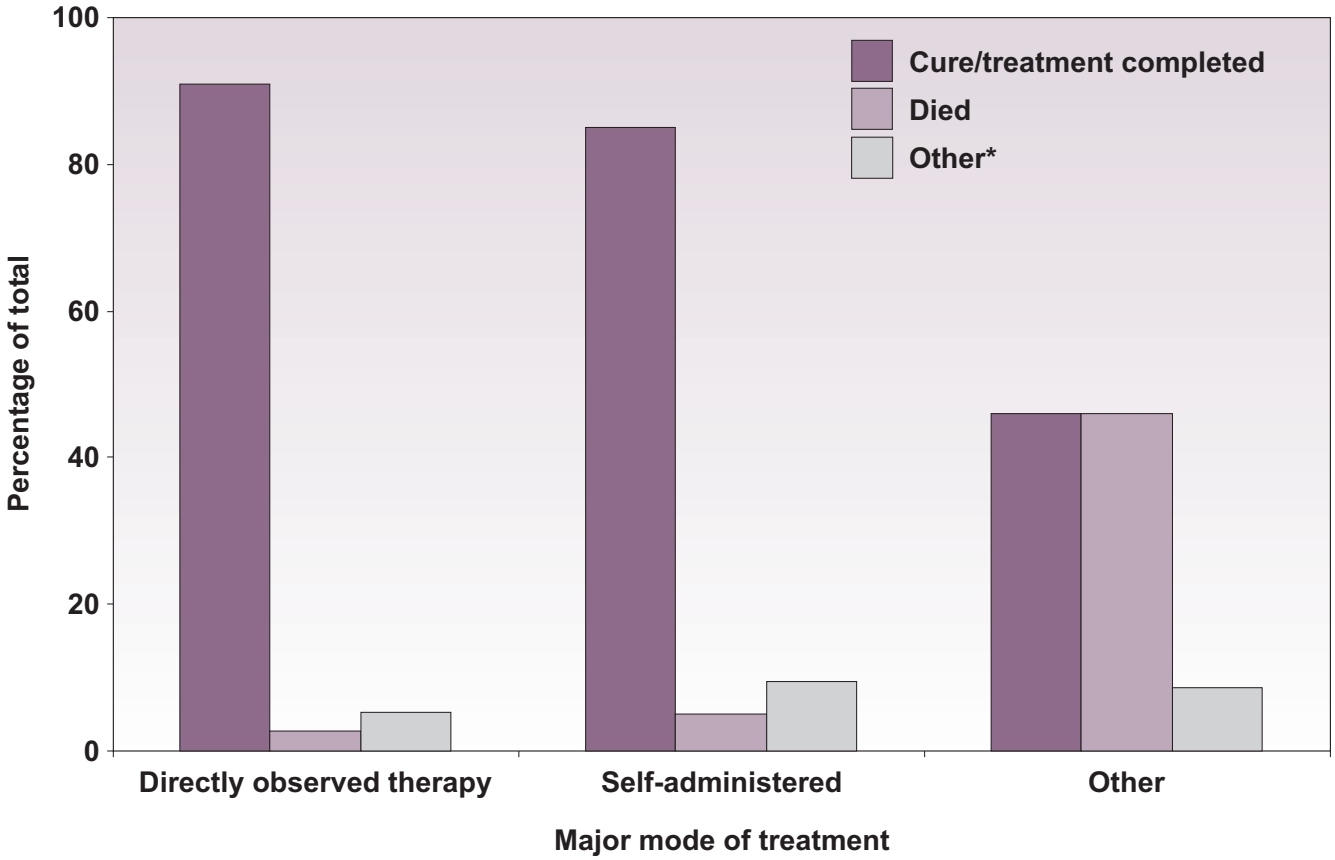
* Other – died, absconded, transferred, treatment ongoing

** Atlantic – PEI excluded from analysis due to not reporting

No data for ONT and QUE

Figure 23

Treatment outcome status of tuberculosis cases by major mode of treatment – Canada: 1999



* Other – died, absconded, transferred, treatment ongoing

Conclusion

The total number of reported cases of TB in Canada has shown a continual decrease over the past decade. However, this decrease has for the most part been made up of a reduction in the number of cases in the Canadian-born non-Aboriginal population. Cases in the Canadian-born Aboriginal population have shown a minimal decrease, whereas cases in the foreign-born population have remained relatively constant.

Respiratory TB continues to account for the majority of the cases reported by diagnostic site. Of these, 40% were smear positive, denoting the most infectious form of TB.

Drug resistance has not yet emerged as a significant problem. Cases of MDR-TB represent less than 1% of the reported cases of drug resistance to this reporting system. Treatment outcome data indicate that the vast majority of TB cases treated are cured or have completed treatment.

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

Appendix I
Technical Notes

METHODOLOGY AND DATA QUALITY

Data collection

The Canadian Tuberculosis Reporting System (CTBRS) maintained by Tuberculosis and Bacterial Respiratory Diseases (TB-BRD), 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 TB-BRD 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 TB-BRD 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 1st of the current year.

Data analysis

Data analyses were conducted using SAS Version 8e and SPSS Version 10.1.

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/territories may result in case counts and rates in this report that differ slightly from those in previous reports emanating from TB-BRD.

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 TB-BRD, 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 are based on case reporting data, differing from the methodology used in the *TB Drug Resistance in Canada*[1] 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/territory, 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. **Absconded** – patient was lost to follow-up before completion of 80% of doses, 8 months after treatment started

7. **Treatment ongoing**

8. **Other**

9. **Unknown**

Directly observed treatment (DOT)

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

Diagnostic classification

The classification used is from 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.

ICD-9 CODES FOR TUBERCULOSIS

010 **Primary Tuberculosis**

010.0	Primary tuberculous complex
010.1	Tuberculous pleurisy in primary progressive tuberculosis
010.8	Other primary progressive tuberculosis (excl. tuberculous erythema nodosum {017.1})
010.9	Unspecified

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

011.0	Tuberculosis of lung, infiltrative
011.1	Tuberculosis of lung, nodular
011.2	Tuberculosis of lung with cavitation
011.3	Tuberculosis of bronchus (excl. isolated bronchial TB {012.2})
011.4	Tuberculous fibrosis of lung
011.5	Tuberculous bronchiectasis
011.6	Tuberculous pneumonia (any form)
011.7	Tuberculous pneumothorax
011.8	Other pulmonary tuberculosis

011.9 Unspecified (respiratory tuberculosis not otherwise specified, tuberculosis of lung not otherwise specified)

012 Other Respiratory Tuberculosis (excl. respiratory tuberculosis, unspecified {011.9})

012.0 Tuberculous pleurisy
012.1 Tuberculosis of intrathoracic lymph nodes
012.2 Isolated tracheal or bronchial tuberculosis
012.3 Tuberculous laryngitis
012.8 Other (incl. tuberculosis of: mediastinum, nasopharynx, nose (septum), sinus (any nasal)

013 Tuberculosis of Meninges and Central Nervous System

013.0 Tuberculous meningitis (320.4) (excl. tuberculoma of meninges {013.1})
013.1 Tuberculoma of meninges (349.2)
013.8 Other (tuberculoma/tuberculosis of brain {348.8}, tuberculous abscess of brain {324.0}, tuberculous myelitis {323.4})
013.9 Unspecified (tuberculosis of central nervous system not otherwise specified)

014 Tuberculosis of Intestines, Peritoneum and Mesenteric Glands

Tuberculosis of: anus, intestine (large, small), rectum, retroperitoneal (lymph nodes)
Tuberculous: ascites, enteritis, peritonitis (567.0)

015 Tuberculosis of Bones and Joints

Incl. tuberculous: arthritis (711.4), necrosis of bone (730.0), oeseitis (730.0), osteomyelitis (730.0), synovitis (727.0), tenosynositis (727.0).

015.0 Vertebral column
Pott's: curvature (737.4), disease (730.4)
Tuberculous: kyphosis (737.4), spondylitis (720.8)
015.1 Hip
015.2 Knee
015.7 Other bone (tuberculous dactylitis, mastoiditis {383.1})
015.8 Other joint
015.9 Unspecified

016 Tuberculosis of Genitourinary System

016.0 Kidney (tuberculous pyelitis {590.8}, tuberculous pyelonephritis {590.8})
016.1 Other urinary orgrans (tuberculosis of bladder {595.4}, tuberculosis of ureter {593.8})
016.2 Epididymis (604.9)
016.3 Other male genital organs (tuberculosis of: prostate {601.4}, seminal vesicle {608.8}, testis {608.8})
016.4 Female genital organs (tuberculous: oophoritis {614.2}, salpingitis {614.2})
016.9 Unspecified

017 Tuberculosis of Other Organs

017.0 Skin and subcutaneous cellular tissue
Lupus: not otherwise specified, exedens, vulgaris, Scrofuloderma (excl. lupus erythrematosus {695.4}, disseminated {710.0})
Tuberculosis: colliquativa, cutis, lichenoides, papulonecrotica, verrucosa cutis
017.1 Erythema nodosum with hypersensitivity reaction in tuberculosis
Bazin's disease, Tuberculosis indurativa

Erythema: induratum, nodosum (tuberculous)
Excl. erythema nodosum not otherwise specified (695.2)

017.2 Peripheral lymph nodes (scrofula, scrofulous abscess, tuberculous adenitis)

017.3 Eye
Tuberculous: chorioretinitis, disseminated (363.1), episcleritis (379.0), interstitial keratitis (370.5), iridocyclitis (chronic) (364.1), keratoconjunctivitis (phlyctenular) (370.3)

017.4 Ear
Tuberculosis of ear (382.3), otitis media (382.3) (excl. Tuberculous mastoiditis {015.7})

017.5 Thyroid gland

017.6 Adrenal glands (255.4), Addison's disease (tuberculous)

017.7 Spleen

017.8 Other
Tuberculosis of: endocardium [any valve] (424.–), oesophagus (530.1), myocardium (422.0), pericardium (420.0)

018 Miliary Tuberculosis

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

018.0 Acute
018.8 Other
018.9 Unspecified

137 Late Effects of Tuberculosis

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

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

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

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 2000 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 2000 population estimates of total Canadian-born people are calculated by subtracting the foreign-born figures from the total 2000 population estimates (Statistic Canada). The 2000 population estimates of Canadian-born non-Aboriginal people are calculated by subtracting the total Aboriginal estimates from total Canadian-born estimates.

Population

The population consists of people 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

This is the difference between census under-coverage and census over-coverage. The former refers to persons not enumerated in the census 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 the definitions and coding instructions used 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[2].

Reference

1. *Tuberculosis drug resistance in Canada, 2000.* Ottawa: Minister of Public Works and Government Services Canada, 2001.
2. Long, R. ed. *Canadian tuberculosis standards*, 5th edition. Ottawa: Canadian Lung Association, 2000.

Appendix II
Data Tables: 2000

Table 1A

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 – Canada and provinces/territories: 1990–2000

Year of diagnosis		CANADA	Province/territory							
			Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
1990	Cases	**1,997**	86	412	730	92	223	156	265	33
	Rate	**7.2**	3.6	5.9	7.1	8.3	22.1	6.1	8.0	37.8
1991	Cases	**2,018**	81	400	769	101	184	173	280	30
	Rate	**7.2**	3.4	5.6	7.3	9.1	18.3	6.7	8.3	33.2
1992	Cases	**2,108**	68	424	822	86	133	222	323	30
	Rate	**7.4**	2.8	5.9	7.7	7.7	13.2	8.4	9.3	32.3
1993	Cases	**2,012**	99	352	769	108	153	156	337	38
	Rate	**7.0**	4.1	4.9	7.1	9.6	15.1	5.8	9.4	40.4
1994	Cases	**2,074**	42	361	831	116	147	178	324	75
	Rate	**7.1**	1.7	5.0	7.6	10.3	14.5	6.6	8.8	79.4
1995	Cases	**1,931**	34	380	766	108	155	126	308	54
	Rate	**6.5**	1.4	5.2	6.9	9.5	15.3	4.6	8.2	56.2
1996	Cases	**1,868**	57	332	771	97	113	140	316	42
	Rate	**6.3**	2.4	4.6	6.9	8.6	11.1	5.0	8.1	42.2
1997	Cases	**1,976**	34	360	761	96	121	166	405	33
	Rate	**6.6**	1.4	4.9	6.8	8.4	11.8	5.8	10.2	33.0
1998	Cases	**1,791**	37	289	724	116	98	158	329	40
	Rate	**5.9**	1.6	3.9	6.3	10.1	9.5	5.4	8.2	39.9
1999	Cases	**1,806**	44	314	684	132	116	149	328	39
	Rate	**5.9**	1.9	4.3	5.9	11.5	11.3	5.0	8.1	39.2
2000	Cases	**1,694**	25	318	670	98	104	133	285	61
	Rate	**5.5**	1.0	4.3	5.7	8.5	10.1	4.4	7.0	61.1

Table 1B

Reported new active tuberculosis cases and incidence rate per 100,000 – Canada and provinces/territories: 1990–2000

Year of diagnosis		CANADA	Province/territory							
			Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
1990	Cases	**1,788**	68	402	614	88	211	144	234	27
	Rate	**6.4**	2.9	5.7	5.9	7.9	20.9	5.6	7.1	30.9
1991	Cases	**1,806**	69	382	661	89	170	152	253	30
	Rate	**6.4**	2.9	5.4	6.3	8.0	16.9	5.8	7.5	33.2
1992	Cases	**1,865**	58	399	692	81	121	201	291	22
	Rate	**6.5**	2.4	5.6	6.5	7.2	12.0	7.6	8.4	23.7
1993	Cases	**1,772**	90	311	653	95	145	143	304	31
	Rate	**6.1**	3.7	4.3	6.0	8.5	14.3	5.3	8.5	32.9
1994	Cases	**1,838**	39	306	723	107	141	160	294	68
	Rate	**6.3**	1.6	4.2	6.6	9.5	13.9	5.9	8.0	72.0
1995	Cases	**1,726**	28	348	657	96	143	116	290	48
	Rate	**5.8**	1.2	4.7	5.9	8.4	14.1	4.2	7.7	49.9
1996	Cases	**1,671**	44	294	689	84	109	129	287	35
	Rate	**5.6**	1.8	4.0	6.2	7.4	10.7	4.6	7.4	35.2
1997	Cases	**1,770**	28	323	687	86	110	150	360	26
	Rate	**5.9**	1.2	4.4	6.1	7.6	10.8	5.3	9.1	26.0
1998	Cases	**1,617**	32	262	642	104	91	146	306	34
	Rate	**5.3**	1.3	3.6	5.6	9.1	8.8	5.0	7.6	33.9
1999	Cases	**1,631**	38	278	604	123	110	141	304	33
	Rate	**5.3**	1.6	3.8	5.2	10.8	10.7	4.7	7.5	33.2
2000	Cases	**1,522**	23	297	582	88	100	120	262	50
	Rate	**4.9**	1.0	4.0	5.0	7.6	9.7	4.0	6.4	50.1

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: 1990-2000

Year of diagnosis		CANADA	Province/territory							
			Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
1990	Cases	**180**	18	10	87	4	12	12	31	6
	Rate	**0.6**	0.8	0.1	0.8	0.4	1.2	0.5	0.9	6.9
1991	Cases	**206**	12	18	102	12	14	21	27	-
	Rate	**0.7**	0.5	0.3	1.0	1.1	1.4	0.8	0.8	-
1992	Cases	**241**	10	25	128	5	12	21	32	8
	Rate	**0.8**	0.4	0.3	1.2	0.4	1.2	0.8	0.9	8.6
1993	Cases	**238**	9	41	114	13	8	13	33	7
	Rate	**0.8**	0.4	0.6	1.1	1.2	0.8	0.5	0.9	7.4
1994	Cases	**228**	3	55	100	9	6	18	30	7
	Rate	**0.8**	0.1	0.8	0.9	0.8	0.6	0.7	0.8	7.4
1995	Cases	**195**	6	28	103	12	12	10	18	6
	Rate	**0.7**	0.2	0.4	0.9	1.1	1.2	0.4	0.5	6.2
1996	Cases	**178**	11	36	72	9	4	11	29	6
	Rate	**0.6**	0.5	0.5	0.6	0.8	0.4	0.4	0.7	6.0
1997	Cases	**197**	6	34	70	10	11	16	43	7
	Rate	**0.7**	0.3	0.5	0.6	0.9	1.1	0.6	1.1	7.0
1998	Cases	**156**	5	22	69	12	7	12	23	6
	Rate	**0.5**	0.2	0.3	0.6	1.0	0.7	0.4	0.6	6.0
1999	Cases	**158**	4	33	69	9	6	8	23	6
	Rate	**0.5**	0.2	0.4	0.6	0.8	0.6	0.3	0.6	6.0
2000	Cases	**145**	1	18	67	10	4	13	22	10
	Rate	**0.5**	0.0	0.2	0.6	0.9	0.4	0.4	0.5	10.0

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: 1990-2000

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.
1990	Cases	**1,997**	44	91	66	208	400	240	181	244	280	243	-
	Rate	**7.2**	11.0	5.9	1.7	5.1	7.8	5.5	6.2	10.1	15.0	19.4	-
1991	Cases	**2,018**	48	71	60	227	399	282	188	223	279	240	1
	Rate	**7.2**	11.9	4.6	1.6	5.6	7.8	6.3	6.2	9.2	14.5	18.6	-
1992	Cases	**2,108**	25	83	85	242	405	286	191	224	276	290	1
	Rate	**7.4**	6.2	5.3	2.2	6.0	7.9	6.2	6.0	9.2	14.0	21.8	-
1993	Cases	**2,012**	26	69	108	234	386	270	210	214	257	237	1
	Rate	**7.0**	6.6	4.3	2.7	5.8	7.6	5.7	6.2	8.7	12.7	17.3	-
1994	Cases	**2,074**	20	72	98	274	411	261	224	212	271	231	-
	Rate	**7.1**	5.2	4.5	2.5	6.8	8.2	5.4	6.4	8.5	13.2	16.4	-
1995	Cases	**1,931**	27	64	85	229	325	314	201	209	251	225	1
	Rate	**6.5**	7.1	4.0	2.1	5.7	6.6	6.4	5.5	8.3	12.0	15.3	-
1996	Cases	**1,868**	11	68	63	214	356	304	191	193	250	218	-
	Rate	**6.3**	2.9	4.3	1.6	5.3	7.5	6.1	5.0	7.6	12.0	14.6	-
1997	Cases	**1,976**	9	50	58	214	385	292	216	227	246	279	-
	Rate	**6.6**	2.5	3.2	1.4	5.3	8.2	5.7	5.5	8.8	11.7	18.0	-
1998	Cases	**1,791**	19	61	71	186	307	302	180	171	235	259	-
	Rate	**5.9**	3.6	4.0	1.7	4.5	6.7	5.8	4.4	6.4	11.0	16.1	-
1999	Cases	**1,806**	27	59	63	200	329	260	187	181	236	264	-
	Rate	**5.9**	7.9	4.0	1.5	4.8	7.4	4.9	4.4	6.6	11.1	15.9	-
2000	Cases	**1,694**	10	56	42	206	308	277	203	150	199	243	-
	Rate	**5.5**	2.9	3.5	1.0	5.0	7.0	5.2	4.7	5.3	9.3	14.2	-

Table 2B

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – males – Canada: 1999-2000

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.
1990	Cases	**1,096**	16	41	33	112	217	130	117	140	161	129	-
	Rate	**8.0**	7.8	5.2	1.7	5.4	8.3	5.9	8.0	11.8	19.2	27.5	-
1991	Cases	**1,174**	30	38	31	135	235	162	107	119	179	137	1
	Rate	**8.4**	14.5	4.8	1.6	6.6	9.1	7.2	7.1	9.9	20.8	28.2	-
1992	Cases	**1,178**	16	39	35	129	222	178	116	133	157	153	-
	Rate	**8.3**	7.7	4.8	1.8	6.3	8.6	7.7	7.2	11.0	17.7	30.6	-
1993	Cases	**1,135**	13	35	62	124	207	154	130	132	144	133	1
	Rate	**7.9**	6.5	4.2	3.1	6.0	8.1	6.5	7.7	10.9	15.8	25.9	-
1994	Cases	**1,121**	9	36	52	140	203	151	133	117	150	130	-
	Rate	**7.7**	4.6	4.3	2.6	6.8	8.0	6.3	7.5	9.5	16.0	24.6	-
1995	Cases	**1,044**	9	30	40	112	166	191	118	122	145	111	-
	Rate	**7.1**	4.6	3.7	2.0	5.5	6.7	7.7	6.4	9.8	15.2	20.2	-
1996	Cases	**1,005**	7	32	35	106	180	158	106	104	144	133	-
	Rate	**6.8**	3.6	3.9	1.7	5.1	7.5	6.3	5.6	8.3	15.0	23.9	-
1997	Cases	**1,051**	6	27	25	93	193	158	118	129	139	163	-
	Rate	**7.1**	3.3	3.4	1.2	4.5	8.2	6.2	6.0	10.1	14.3	28.2	-
1998	Cases	**963**	14	32	37	78	162	161	99	104	128	148	-
	Rate	**6.3**	3.8	4.1	1.8	3.7	7.0	6.2	4.9	8.0	13.0	24.7	-
1999	Cases	**992**	17	30	26	95	173	143	114	102	140	152	-
	Rate	**6.6**	9.8	3.9	1.2	4.5	7.7	5.4	5.4	7.6	14.1	24.4	-
2000	Cases	**915**	8	29	22	99	164	152	112	86	99	144	-
	Rate	**5.9**	4.7	3.2	1.0	4.6	7.4	5.7	5.2	6.2	9.9	22.3	-

Table 2C

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – females – Canada: 1990–2000

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.
1990	Cases	**901**	28	50	33	96	183	110	64	104	119	114	-
	Rate	**6.4**	14.3	6.7	1.8	4.8	7.2	5.1	4.4	8.4	11.5	14.6	-
1991	Cases	**844**	18	33	29	92	164	120	81	104	100	103	-
	Rate	**6.0**	9.2	4.4	1.5	4.6	6.5	5.4	5.4	8.4	9.5	12.8	-
1992	Cases	**930**	9	44	50	113	183	108	75	91	119	137	1
	Rate	**6.5**	4.6	5.7	2.6	5.7	7.3	4.7	4.7	7.4	11.0	16.4	-
1993	Cases	**877**	13	34	46	110	179	116	80	82	113	104	-
	Rate	**6.0**	6.8	4.3	2.4	5.6	7.2	5.0	4.8	6.6	10.2	12.1	-
1994	Cases	**953**	11	36	46	134	208	110	91	95	121	101	-
	Rate	**6.5**	5.9	4.6	2.4	6.8	8.5	4.6	5.2	7.6	10.8	11.4	-
1995	Cases	**887**	18	34	45	117	159	123	83	87	106	114	1
	Rate	**5.9**	9.7	4.4	2.3	5.9	6.5	5.0	4.5	6.9	9.3	12.4	-
1996	Cases	**863**	4	36	28	108	176	146	85	89	106	85	-
	Rate	**5.8**	2.1	4.7	1.4	5.5	7.5	5.8	4.5	6.9	9.4	9.1	-
1997	Cases	**925**	3	23	33	121	192	134	98	98	107	116	-
	Rate	**6.1**	1.7	3.0	1.7	6.1	8.3	5.2	5.0	7.5	9.4	11.9	-
1998	Cases	**828**	5	29	34	108	145	141	81	67	107	111	-
	Rate	**5.4**	3.0	3.9	1.7	5.4	6.4	5.4	4.0	5.0	9.4	11.0	-
1999	Cases	**814**	10	29	37	105	156	117	73	79	96	112	-
	Rate	**5.3**	6.0	4.0	1.9	5.2	7.1	4.4	3.4	5.7	8.4	10.8	-
2000	Cases	**779**	2	27	20	107	144	125	91	64	100	99	-
	Rate	**5.0**	1.2	3.8	1.0	5.3	6.6	4.7	4.2	4.5	8.8	9.2	-

Table 3

Reported new active and relapsed tuberculosis cases by birthplace – Canada: 1990-2000

Birthplace		Year of diagnosis										
		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Canadian-born	Aboriginal											
	Status Indian	295	259	322	260	268	265	219	212	190	248	168
	Non-Status Indian/Métis	72	58	39	55	95	56	51	52	53	39	36
	Inuit	8	22	26	58	35	24	26	18	35	28	57
	Total	**375**	**339**	**387**	**373**	**398**	**345**	**296**	**282**	**278**	**315**	**261**
	Non-Aboriginal	682	670	587	576	490	435	371	400	348	324	307
	Total	**1,057**	**1,009**	**974**	**949**	**888**	**780**	**667**	**682**	**626**	**639**	**568**
Foreign-born (WHO region)	Africa	52	70	73	53	68	60	57	92	90	78	82
	Americas	79	93	120	98	99	116	99	103	89	71	85
	East Mediterranean	90	103	108	112	152	113	146	114	102	111	115
	Europe	181	159	170	148	145	139	114	139	136	141	110
	South East Asia	103	114	133	159	167	164	176	198	193	193	205
	Western Pacific	435	470	508	491	551	519	553	570	505	511	468
	Unknown region			22	2	4	29	25	57	35	46	37
	Total	**940**	**1,009**	**1,134**	**1,063**	**1,186**	**1,140**	**1,170**	**1,273**	**1,150**	**1,151**	**1,102**
Unknown birthplace		–	–	–	–	–	11	31	21	15	16	24
TOTAL		**1,997**	**2,018**	**2,108**	**2,012**	**2,074**	**1,931**	**1,868**	**1,976**	**1,791**	**1,806**	**1,694**

Table 4

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by main diagnostic site – Canada: 1990–2000

Main diagnostic site		Year of diagnosis										
		1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**
Primary	Cases	230	206	193	189	152	163	120	131	130	155	101
	Rate	0.8	0.7	0.7	0.7	0.5	0.6	0.4	0.4	0.4	0.5	0.3
Miliary/disseminated	Cases	67	43	60	58	65	48	57	73	41	38	40
	Rate	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
Respiratory (pulm/other resp)*	Cases	1,183	1,217	1,351	1,260	1,325	1,244	1,155	1,230	1,150	1,171	1,138
	Rate	4.3	4.3	4.7	4.4	4.5	4.2	3.9	4.1	3.8	3.8	3.7
Meninges and CNS	Cases	17	15	17	19	18	22	19	25	24	15	15
	Rate	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Peripheral lymph node	Cases	223	223	259	281	301	249	242	266	271	239	254
	Rate	0.8	0.8	0.9	1.0	1.0	0.8	0.8	0.9	0.9	0.8	0.8
Other sites*	Cases	220	242	220	202	206	199	263	248	165	180	144
	Rate	0.8	0.9	0.8	0.7	0.7	0.7	0.9	0.8	0.5	0.6	0.5
Unknown	Cases	57	72	8	3	7	6	12	3	10	8	2
	Rate	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	**Cases**	**1,997**	**2,018**	**2,108**	**2,012**	**2,074**	**1,931**	**1,868**	**1,976**	**1,791**	**1,806**	**1,694**
	Rate	**7.2**	**7.2**	**7.4**	**7.0**	**7.1**	**6.5**	**6.3**	**6.6**	**5.9**	**5.9**	**5.5**

* 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: 2000

Age group		CANADA	Province/territory							
			Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
< 1	Cases	**10**	–	1	2	–	5	1	–	1
	Rate	**2.9**	–	1.4	1.5	–	39.7	2.7	–	60.3
1 – 4	Cases	**56**	–	14	9	1	21	2	2	7
	Rate	**3.5**	–	3.9	1.4	1.5	35.5	1.1	1.0	91.1
5 – 14	Cases	**42**	–	3	16	4	9	–	5	5
	Rate	**1.0**	–	0.3	1.0	2.4	5.8	–	1.0	25.9
15 – 24	Cases	**206**	3	35	95	11	7	11	32	12
	Rate	**5.0**	0.9	3.6	6.2	6.9	4.6	2.5	5.9	77.5
25 – 34	Cases	**308**	2	53	128	15	17	18	61	14
	Rate	**7.0**	0.6	5.3	7.4	9.5	13.1	3.9	10.5	85.2
35 – 44	Cases	**277**	2	52	126	19	13	23	37	5
	Rate	**5.2**	0.5	4.0	6.2	10.4	8.2	4.3	5.3	29.5
45 – 54	Cases	**203**	1	37	76	17	10	13	45	4
	Rate	**4.7**	0.3	3.4	4.7	11.1	7.8	3.2	7.5	32.5
55 – 64	Cases	**150**	2	20	58	10	5	21	28	6
	Rate	**5.3**	0.9	2.7	5.5	10.1	5.9	8.9	7.5	101.2
65 – 74	Cases	**199**	7	47	72	10	11	21	27	4
	Rate	**9.3**	4.3	8.7	8.8	12.7	14.9	12.2	9.5	148.1
75 +	Cases	**243**	8	56	88	11	6	23	48	3
	Rate	**14.2**	5.7	14.0	13.6	14.3	8.0	17.5	19.6	219.8
TOTAL	**Cases**	**1,694**	**25**	**318**	**670**	**98**	**104**	**133**	**285**	**61**
	Rate	**5.5**	**1.0**	**4.3**	**5.7**	**8.5**	**10.1**	**4.4**	**7.0**	**61.1**

Table 5B

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – males – Canada and provinces/territories: 2000

Age group		CANADA	Province/territory							
			Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
< 1	Cases	**8**	–	1	1	–	4	1	–	1
	Rate	**4.7**	–	2.7	1.5	–	63.3	5.2	–	116.8
1 – 4	Cases	**29**	–	4	4	1	15	2	1	2
	Rate	**3.2**	–	2.0	1.1	2.7	45.5	2.0	0.9	45.2
5 – 14	Cases	**22**	–	1	8	3	4	–	4	2
	Rate	**1.0**	–	0.2	1.0	3.5	5.1	–	1.5	20.4
15 – 24	Cases	**99**	1	15	45	7	3	4	19	5
	Rate	**4.6**	0.6	3.0	5.7	8.6	3.8	1.7	6.9	62.3
25 – 34	Cases	**164**	1	31	63	8	8	12	32	9
	Rate	**7.4**	0.6	6.0	7.3	9.9	12.2	5.1	10.9	109.2
35 – 44	Cases	**152**	1	26	75	11	7	10	19	3
	Rate	**5.7**	0.5	4.0	7.4	11.9	8.8	3.7	5.4	34.3
45 – 54	Cases	**112**	1	23	35	12	8	7	24	2
	Rate	**5.2**	0.6	4.2	4.4	15.8	12.3	3.4	8.0	30.1
55 – 64	Cases	**86**	1	11	27	5	3	13	23	3
	Rate	**6.2**	0.9	3.1	5.2	10.2	7.2	11.0	12.4	92.3
65 – 74	Cases	**99**	1	28	37	5	9	8	10	1
	Rate	**9.9**	1.3	11.4	9.6	13.6	25.6	9.6	7.2	69.7
75 +	Cases	**144**	4	32	54	7	3	16	27	1
	Rate	**22.3**	7.6	22.6	22.2	24.3	10.2	31.4	27.9	149.9
TOTAL	**Cases**	**915**	**10**	**172**	**349**	**59**	**64**	**73**	**159**	**29**
	Rate	**5.9**	**0.8**	**4.7**	**6.0**	**10.3**	**12.5**	**4.7**	**7.8**	**55.7**

Table 5C

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – females – Canada and provinces/territories: 2000

Age group		CANADA	Province/territory							
			Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
< 1	Cases	**2**	–	–	1	–	1	–	–	–
	Rate	**1.2**	–	–	1.6	–	16.0	–	–	–
1 – 4	Cases	**27**	–	10	5	–	6	–	1	5
	Rate	**3.8**	–	6.3	1.8	–	23.0	–	1.1	153.5
5 – 14	Cases	**20**	–	2	8	1	5	–	1	3
	Rate	**1.0**	–	0.4	1.0	1.2	6.6	–	0.4	31.6
15 – 24	Cases	**107**	2	20	50	4	4	7	13	7
	Rate	**5.3**	1.2	4.2	6.7	5.2	5.4	3.2	4.9	94.0
25 – 34	Cases	**144**	1	22	65	7	9	6	29	5
	Rate	**6.6**	0.6	4.5	7.6	9.1	13.9	2.7	10.0	61.0
35 – 44	Cases	**125**	1	26	51	8	6	13	18	2
	Rate	**4.7**	0.5	4.1	5.0	8.9	7.7	5.0	5.1	24.5
45 – 54	Cases	**91**	–	14	41	5	2	6	21	2
	Rate	**4.2**	–	2.5	5.0	6.5	3.2	3.0	7.0	35.4
55 – 64	Cases	**64**	1	9	31	5	2	8	5	3
	Rate	**4.5**	0.9	2.4	5.8	10.0	4.7	6.8	2.7	112.0
65 – 74	Cases	**100**	6	19	35	5	2	13	17	3
	Rate	**8.8**	6.9	6.4	8.0	12.0	5.2	14.7	11.6	237.2
75 +	Cases	**99**	4	24	34	4	3	7	21	2
	Rate	**9.2**	4.5	9.3	8.5	8.3	6.7	8.7	14.2	286.5
TOTAL	**Cases**	**779**	**15**	**146**	**321**	**39**	**40**	**60**	**126**	**32**
	Rate	**5.0**	**1.2**	**3.9**	**5.4**	**6.7**	**7.8**	**4.0**	**6.2**	**67.1**

Table 6

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by birthplace – Canada and provinces/territories: 2000

Birthplace			CANADA	Province/territory							
				Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
Canadian-born	Aboriginal										
	Status Indian	Cases	**168**	–	–	12	38	63	20	24	11
		Rate	**29.7**	–	–	10.4	44.2	79.2	24.8	23.2	55.8
	Non-Status Indian/Métis	Cases	**36**	–	3	–	4	16	7	6	–
		Rate	**5.6**	–	2.8	–	6.8	38.7	6.5	6.0	–
	Inuit	Cases	**57**	1	8	–	–	–	–	–	48
		Rate	**91.5**	10.8	74.8	–	–	–	–	–	170.2
	Total	**Cases**	**261**	**1**	**11**	**12**	**42**	**79**	**27**	**30**	**59**
		Rate	**20.5**	**1.6**	**6.2**	**3.8**	**28.9**	**65.1**	**14.1**	**14.6**	**109.3**
	Non-Aboriginal	Cases	**307**	19	120	66	24	14	20	43	1
		Rate	**1.3**	0.9	1.9	0.8	2.8	1.6	0.8	1.5	2.6
	Total	**Cases**	**568**	**20**	**131**	**78**	**66**	**93**	**47**	**73**	**60**
		Rate	**2.2**	**0.9**	**2.0**	**0.9**	**6.5**	**9.5**	**1.8**	**2.4**	**64.7**
Foreign-born (WHO region)	Africa	Cases	**82**	2	30	36	4	–	6	4	–
		Rate	**46.4**	65.4	122.8	37.7	92.9	–	43.6	11.9	–
	Americas	Cases	**85**	–	42	30	3	1	4	5	–
		Rate	**9.2**	–	33.1	6.0	13.2	11.4	5.5	2.8	–
	East Mediterranean	Cases	**115**	1	22	78	1	–	7	6	–
		Rate	**32.5**	16.2	44.9	40.9	11.6	–	25.4	8.9	–
	Europe	Cases	**110**	–	23	57	2	6	5	17	–
		Rate	**4.2**	–	6.6	4.0	3.1	25.1	2.4	3.4	–
	South East Asia	Cases	**205**	1	23	114	1	1	12	53	–
		Rate	**53.5**	15.8	44.1	54.8	10.6	27.9	40.2	72.6	–
	Western Pacific	Cases	**468**	1	45	235	20	3	52	111	1
		Rate	**39.7**	5.1	27.9	36.7	69.2	27.1	56.6	49.4	68.6

…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: 2000

Birthplace			CANADA	Province/territory							
				Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
Foreign-born (WHO region)	Unknown region	Cases	**37**	–	–	20	1	–	–	16	–
		Rate	–	–	–	–	–	–	–	–	–
	Total	**Cases**	**1,102**	**5**	**185**	**570**	**32**	**11**	**86**	**212**	**1**
		Rate	**19.5**	**5.4**	**24.2**	**18.6**	**23.1**	**21.0**	**19.6**	**19.7**	**14.4**
Unknown birthplace		Cases	**24**	–	2	22	–	–	–	–	–
		Rate	–	–	–	–	–	–	–	–	–
TOTAL		**Cases**	**1,694**	**25**	**318**	**670**	**98**	**104**	**133**	**285**	**61**
		Rate	**5.5**	**1.0**	**4.3**	**5.7**	**8.5**	**10.1**	**4.4**	**7.0**	**61.1**

Table 7

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by main diagnostic site – Canada and provinces/territories: 2000

Main diagnostic site		CANADA	Province/territory							
			Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
Primary	Cases	**101**	–	10	35	4	32	3	4	13
	Rate	**0.3**	–	0.1	0.3	0.3	3.1	0.1	0.1	13.0
Miliary/ disseminated	Cases	**40**	–	7	9	2	3	3	15	1
	Rate	**0.1**	–	0.1	0.1	0.2	0.3	0.1	0.4	1.0
Respiratory (pulm/other resp)*	Cases	**1,138**	19	238	417	73	47	91	209	44
	Rate	**3.7**	0.8	3.2	3.5	6.3	4.6	3.0	5.1	44.1
Meninges and CNS	Cases	**15**	1	1	4	3	1	2	3	–
	Rate	**0.0**	0.0	0.0	0.0	0.3	0.1	0.1	0.1	–
Peripheral lymph node	Cases	**254**	1	39	126	9	13	27	38	1
	Rate	**0.8**	0.0	0.5	1.1	0.8	1.3	0.9	0.9	1.0
Other sites*	Cases	**144**	4	23	77	7	8	7	16	2
	Rate	**0.5**	0.2	0.3	0.7	0.6	0.8	0.2	0.4	2.0
Unknown	Cases	**2**	–	–	2	–	–	–	–	–
	Rate	**0.0**	–	–	0.0	–	–	–	–	–
TOTAL	**Cases**	**1,694**	**25**	**318**	**670**	**98**	**104**	**133**	**285**	**61**
	Rate	**5.5**	**1.0**	**4.3**	**5.7**	**8.5**	**10.1**	**4.4**	**7.0**	**61.1**

* Please refer to Technical Notes for definition.

Table 8

Reported new active and relapsed tuberculosis cases by birthplace, gender and age group – Canada: 2000

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	**92**	4	14	5	12	8	16	12	11	8	2
		Female	**76**	1	6	7	10	9	14	6	10	8	5
		Total	**168**	5	20	12	22	17	30	18	21	16	7
	Non-Status Indian/Métis	Male	**23**	1	1	2	1	8	2	4	–	1	3
		Female	**13**	–	1	1	1	3	1	4	1	1	–
		Total	**36**	1	2	3	2	11	3	8	1	2	3
	Inuit	Male	**27**	1	–	3	5	9	2	1	4	1	1
		Female	**30**	–	5	4	9	6	1	1	2	2	–
		Total	**57**	1	5	7	14	15	3	2	6	3	1
	Total	**Male**	**142**	**6**	**15**	**10**	**18**	**25**	**20**	**17**	**15**	**10**	**6**
		Female	**119**	**1**	**12**	**12**	**20**	**18**	**16**	**11**	**13**	**11**	**5**
		Total	**261**	**7**	**27**	**22**	**38**	**43**	**36**	**28**	**28**	**21**	**11**
	Non-Aboriginal	Male	**195**	2	10	6	9	15	29	34	19	28	43
		Female	**112**	1	11	2	7	5	13	8	8	28	29
		Total	**307**	3	21	8	16	20	42	42	27	56	72
	Total	**Male**	**337**	**8**	**25**	**16**	**27**	**40**	**49**	**51**	**34**	**38**	**49**
		Female	**231**	**2**	**23**	**14**	**27**	**23**	**29**	**19**	**21**	**39**	**34**
		Total	**568**	**10**	**48**	**30**	**54**	**63**	**78**	**70**	**55**	**77**	**83**
Foreign-born (WHO region)	Africa	Male	**43**	–	–	–	15	13	12	3	–	–	–
		Female	**39**	–	–	1	10	11	13	1	2	1	–
		Total	**82**	–	–	1	25	24	25	4	2	1	–
	Americas	Male	**38**	–	1	–	7	12	9	4	2	1	2
		Female	**47**	–	2	1	10	11	5	7	1	4	6
		Total	**85**	–	3	1	17	23	14	11	3	5	8

…cont'd

Table 8 *Cont'd*

Reported new active and relapsed tuberculosis cases by birthplace, gender and age group – Canada: 2000

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	**61**	–	1	3	10	16	14	5	2	5	5
		Female	**54**	–	2	1	15	12	10	3	3	2	6
		Total	**115**	–	3	4	25	28	24	8	5	7	11
	Europe	Male	**63**	–	–	–	4	12	9	7	7	5	19
		Female	**47**	–	–	–	1	3	9	5	7	7	15
		Total	**110**	–	–	–	5	15	18	12	14	12	34
	South East Asia	Male	**100**	–	–	–	15	23	19	11	14	9	9
		Female	**105**	–	–	1	20	24	14	12	8	15	11
		Total	**205**	–	–	1	35	47	33	23	22	24	20
	Western Pacific	Male	**240**	–	1	3	20	43	39	27	22	35	50
		Female	**228**	–	–	2	23	52	43	40	18	29	21
		Total	**468**	–	1	5	43	95	82	67	40	64	71
	Unknown region	Male	**20**	–	1	–	1	3	1	3	4	4	3
		Female	**17**	–	–	–	1	6	–	3	–	2	5
		Total	**37**	–	1	–	2	9	1	6	4	6	8
	Total	**Male**	**565**	–	**4**	**6**	**72**	**122**	**103**	**60**	**51**	**59**	**88**
		Female	**537**	–	**4**	**6**	**80**	**119**	**94**	**71**	**39**	**60**	**64**
		Total	**1,102**	–	**8**	**12**	**152**	**241**	**197**	**131**	**90**	**119**	**152**
Unknown birthplace		Male	**13**	–	–	–	–	2	–	1	1	2	7
		Female	**11**	–	–	–	–	2	2	1	4	1	1
		Total	**24**	–	–	–	–	4	2	2	5	3	8
TOTAL		**Male**	**915**	**8**	**29**	**22**	**99**	**164**	**152**	**112**	**86**	**99**	**144**
		Female	**779**	**2**	**27**	**20**	**107**	**144**	**125**	**91**	**64**	**100**	**99**
		Total	**1,694**	**10**	**56**	**42**	**206**	**308**	**277**	**203**	**150**	**199**	**243**

Table 9

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group and main diagnostic site – Canada: 2000

Age group		TOTAL	Main diagnostic site						
			Primary	Miliary/ disseminated	Respiratory (pulm/ other resp)*	Meninges and CNS	Peripheral lymph node	Other sites*	Unknown
< 1	Cases	**10**	9	-	1	-	-	-	-
	Rate	**2.9**	2.6	-	0.3	-	-	-	-
1 – 4	Cases	**56**	34	-	17	-	4	1	-
	Rate	**3.5**	2.1	-	1.1	-	0.2	0.1	-
5 – 14	Cases	**42**	15	-	14	-	8	5	-
	Rate	**1.0**	0.4	-	0.3	-	0.2	0.1	-
15 – 24	Cases	**206**	12	2	145	1	27	18	1
	Rate	**5.0**	0.3	0.0	3.5	0.0	0.6	0.4	0.0
25 – 34	Cases	**308**	9	5	196	3	72	23	-
	Rate	**7.0**	0.2	0.1	4.5	0.1	1.6	0.5	-
35 – 44	Cases	**277**	4	11	167	5	63	27	-
	Rate	**5.2**	0.1	0.2	3.1	0.1	1.2	0.5	-
45 – 54	Cases	**203**	2	9	140	-	36	16	-
	Rate	**4.7**	0.0	0.2	3.2	-	0.8	0.4	-
55 – 64	Cases	**150**	4	3	103	5	23	12	-
	Rate	**5.3**	0.1	0.1	3.7	0.2	0.8	0.4	-
65 – 74	Cases	**199**	5	2	155	1	13	22	1
	Rate	**9.3**	0.2	0.1	7.2	0.0	0.6	1.0	0.0
75 +	Cases	**243**	7	8	200	-	8	20	-
	Rate	**14.2**	0.4	0.5	11.7	-	0.5	1.2	-
TOTAL	**Cases**	**1,694**	**101**	**40**	**1,138**	**15**	**254**	**144**	**2**
	Rate	**5.5**	**0.3**	**0.1**	**3.7**	**0.0**	**0.8**	**0.5**	**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: 2000

Birthplace		TOTAL	Main diagnostic site						
			Primary	Miliary/ dissem-inated	Respiratory (pulm/ other resp)*	Meninges and CNS	Peripheral lymph node	Other sites*	Unknown
Canadian-born	Aboriginal								
	Status Indian	**168**	37	6	94	4	13	14	–
	Non-Status Indian/Métis	**36**	6	–	25	–	3	2	–
	Inuit	**57**	13	–	41	–	1	2	–
	Total	**261**	**56**	**6**	**160**	**4**	**17**	**18**	**–**
	Non-Aboriginal	**307**	16	9	235	3	24	20	–
	Total	**568**	**72**	**15**	**395**	**7**	**41**	**38**	**–**
Foreign-born (WHO region)	Africa	**82**	1	5	52	1	17	5	1
	Americas	**85**	4	2	57	1	15	6	–
	East Mediterranean	**115**	4	1	68	2	26	14	–
	Europe	**110**	6	3	83	1	7	10	–
	South East Asia	**205**	–	6	132	1	44	22	–
	Western Pacific	**468**	7	6	318	1	97	39	–
	Unknown region	**37**	3	2	21	1	3	6	1
	Total	**1,102**	**25**	**25**	**731**	**8**	**209**	**102**	**2**
Unknown birthplace		**24**	4	–	12	–	4	4	–
TOTAL		**1,694**	**101**	**40**	**1,138**	**15**	**254**	**144**	**2**

* Please refer to Technical Notes for definition.

Table 11

Reported new active and relapsed tuberculosis cases by birthplace and activity status – Canada: 2000

Birthplace		TOTAL	Activity status		
			New active cases	Relapsed cases	Unknown status
Canadian-born	Aboriginal				
	Status Indian	**168**	148	20	-
	Non-Status Indian/Métis	**36**	33	3	-
	Inuit	**57**	50	6	1
	Total	**261**	**231**	**29**	**1**
	Non-Aboriginal	**307**	278	25	4
	Total	**568**	**509**	**54**	**5**
Foreign-born (WHO region)	Africa	**82**	74	5	3
	Americas	**85**	79	6	-
	East Mediterranean	**115**	107	6	2
	Europe	**110**	103	5	2
	South East Asia	**205**	191	12	2
	Western Pacific	**468**	409	53	6
	Unknown region	**37**	35	1	1
	Total	**1,102**	**998**	**88**	**16**
Unknown birthplace		**24**	15	3	6
TOTAL		**1,694**	**1,522**	**145**	**27**

Table 12

Reported new active and relapsed tuberculosis cases by bacillary status – Canada and provinces/territories: 2000

Bacillary status	CANADA	Province/territory							
		Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
1. Culture positive									
a. Microscopy positive	**711**	12	144	265	61	36	55	121	17
b. Microscopy negative	**392**	6	83	105	23	13	43	91	28
c. Microscopy not done/unk.	**284**	5	56	175	1	12	9	26	–
Total	**1,387**	**23**	**283**	**545**	**85**	**61**	**107**	**238**	**45**
2. Culture negative									
a. Microscopy positive	**14**	–	3	2	–	1	3	5	–
b. Microscopy negative	**89**	1	16	14	4	10	12	22	10
c. Microscopy not done/unk.	**27**	–	1	6	–	20	–	–	–
Total	**130**	**1**	**20**	**22**	**4**	**31**	**15**	**27**	**10**
3. Culture not done/unk.									
a. Microscopy positive	**33**	–	5	25	2	1	–	–	–
b. Microscopy negative	**18**	–	–	13	–	1	–	3	1
c. Microscopy not done/unk.	**126**	1	10	65	7	10	11	17	5
Total	**177**	**1**	**15**	**103**	**9**	**12**	**11**	**20**	**6**
TOTAL	**1,694**	**25**	**318**	**670**	**98**	**104**	**133**	**285**	**61**

Table 13

Reported new active and relapsed tuberculosis cases by bacillary status and birthplace – Canada: 2000

Bacillary status	TOTAL	Birthplace			
		Canadian-born Aboriginal	Canadian-born non-Aboriginal	Foreign-born	Unknown birthplace
1. Culture positive					
a. Microscopy positive	**711**	104	152	449	6
b. Microscopy negative	**392**	70	60	259	3
c. Microscopy not done/unk.	**284**	18	34	219	13
Total	**1,387**	**192**	**246**	**927**	**22**
2. Culture negative					
a. Microscopy positive	**14**	2	1	11	-
b. Microscopy negative	**89**	21	18	50	-
c. Microscopy not done/unk.	**27**	20	2	5	-
Total	**130**	**43**	**21**	**66**	-
3. Culture not done/unk.					
a. Microscopy positive	**33**	1	10	20	2
b. Microscopy negative	**18**	2	5	11	-
c. Microscopy not done/unk.	**126**	23	25	78	-
Total	**177**	**26**	**40**	**109**	**2**
TOTAL	**1,694**	**261**	**307**	**1,102**	**24**

Table 14

Reported new active and relapsed tuberculosis cases by bacillary status and main diagnostic site – Canada: 2000

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	**697**	1	24	552	2	72	46	-
b. Microscopy negative	**384**	12	9	326	3	31	3	-
c. Microscopy not done/unk.	**285**	20	2	111	2	88	60	2
Total	**1,366**	**33**	**35**	**989**	**7**	**191**	**109**	**2**
2. Culture negative								
a. Microscopy positive	**28**	15	-	8	-	5	-	-
b. Microscopy negative	**97**	20	2	63	2	7	3	-
c. Microscopy not done/unk.	**26**	19	-	6	-	-	1	-
Total	**151**	**54**	**2**	**77**	**2**	**12**	**4**	**-**
3. Culture not done/unk.								
a. Microscopy positive	**33**	1	-	12	-	16	4	-
b. Microscopy negative	**18**	1	1	11	-	3	2	-
c. Microscopy not done/unk.	**126**	12	2	49	6	32	25	-
Total	**177**	**14**	**3**	**72**	**6**	**51**	**31**	**-**
TOTAL	**1,694**	**101**	**40**	**1,138**	**15**	**254**	**144**	**2**

* 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*: 2000

Drug pattern	CANADA	Province/territory							
		Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Total positive cultures	**1,387 (100)**	**23 (100)**	**283 (100)**	**545 (100)**	**85 (100)**	**61 (100)**	**107 (100)**	**238 (100)**	**45 (100)**
No resistance	**1,237 (89.3)**	23 (100)	253 (89.4)	473 (87.0)	77 (90.6)	56 (91.8)	97 (90.7)	214 (89.9)	44 (97.8)
Resistance to one or more drugs	**150 (10.7)**	–	**30 (10.6)**	**72 (13.0)**	**8 (9.4)**	**5 (8.2)**	**10 (9.3)**	**24 (10.1)**	**1 (2.2)**
Monoresistance									
INH	**62 (4.5)**	–	20 (7.1)	25 (4.4)	4 (4.7)	1 (1.6)	1 (0.9)	12 (5.0)	–
SM	**22 (1.6)**	–	–	13 (2.4)	1 (1.2)	1 (1.6)	2 (1.9)	5 (2.1)	–
EMB	**3 (0.2)**	–	–	1	–	1	1 (0.9)	–	–
RMP	**1 (0.1)**	–	–	–	–	–	–	1 (0.4)	–
PZA	**20 (1.4)**	–	9 (3.2)	10 (1.8)	–	–	1 (0.9)	–	–
Total monoresistance	**108 (7.8)**	–	**29 (10.2)**	**49 (8.8)**	**5 (5.9)**	**3 (4.9)**	**5 (4.7)**	**18 (7.6)**	–
Multi-drug resistant (MDR) TB**									
INH & RMP	**3 (0.2)**	–	–	1 (0.2)	–	1 (1.6)	–	1 (0.4)	–
INH & SM & RMP	**3 (0.2)**	–	–	2 (0.4)	–	–	–	–	1 (2.2)
INH & EMB & RMP	**3 (0.2)**	–	–	2 (0.4)	–	–	–	1 (0.4)	–

* Not all provinces/territories 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*: 2000

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	**3 (0.2)**	–	1 (0.4)	1 (0.2)	–	–	–	1 (0.4)	–
INH & EMB & RMP & PZA	–	–	–	–	–	–	–	–	–
INH & SM & RMP & PZA	**1 (0.1)**	–	–	1 (0.2)	–	–	–	–	–
INH & SM & EMB & RMP & PZA	–	–	–	–	–	–	–	–	–
Total MDR-TB**	**13 (0.9)**	–	**1 (0.4)**	**7 (1.3)**	–	**1 (1.6)**	–	**3 (1.3)**	**1 (2.2)**
Other patterns									
INH & SM	**18 (1.3)**	–	–	11 (2.0)	3 (3.5)	–	3 (2.8)	1 (0.4)	–
INH & EMB	**2 (0.1)**	–	–	1 (0.2)	–	1 (1.6)	–	–	–
EMB & RMP	**2 (0.1)**	–	–	2 (0.4)	–	–	–	–	–
SM & RMP	–	–	–	–	–	–	–	–	–
INH & SM & EMB	**4 (0.3)**	–	–	1 (0.2)	–	–	1 (0.9)	2 (0.8)	–
INH & PZA	**1 (0.1)**	–	–	1 (0.2)	–	–	–	–	–
INH & SM & PZA	**1 (0.1)**	–	–	–	–	–	1 (0.9)	–	–
Total other patterns	**28 (2.0)**	–	–	**16 (2.9)**	**3 (3.5)**	**1 (1.6)**	**5 (4.7)**	**3 (1.3)**	–

* Not all provinces/territories 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*: 2000

Drug pattern	TOTAL	Canadian-born		Foreign-born	Unknown birthplace
		Aboriginal	Non-Aboriginal		
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Total positive cultures	**1,387 (100)**	**192 (13.8)**	**246 (17.7)**	**927 (66.8)**	**22 (1.6)**
No resistance	**1,238**	188 (13.6)	225 (16.2)	806 (58.2)	18 (1.3)
Resistance to one or more drugs	**149**	**4 (0.3)**	**21 (1.5)**	**121 (8.7)**	**4 (0.3)**
Monoresistance					
INH	**62 (4.5)**	–	8 (0.6)	54 (3.8)	1 (0.1)
SM	**22 (1.6)**	–	1 (0.1)	21 (1.5)	–
EMB	**3 (0.2)**	1 (0.1)	–	2 (0.1)	–
RMP	**1 (0.1)**	–	1 (0.1)	–	–
PZA	**20 (1.4)**	–	9 (0.6)	8 (0.6)	3 (0.2)
Total monoresistance	**108 (7.8)**	**1 (0.1)**	**19 (1.4)**	**85 (6.0)**	**4 (0.3)**
Multi-drug resistant (MDR) TB**					
INH & RMP	**3 (0.2)**	1 (0.1)	–	2 (0.1)	–
INH & SM & RMP	**3 (0.2)**	1 (0.1)	–	2 (0.1)	–
INH & EMB & RMP	**3 (0.2)**	–	–	3 (0.2)	–
INH & SM & EMB & RMP	**3 (0.2)**	–	–	3 (0.2)	–
INH & EMB & RMP & PZA	–	–	–	–	–
INH & SM & RMP & PZA	**1 (0.1)**	–	–	1 (0.1)	–
INH & SM & EMB & RMP & PZA	–	–	–	–	–
Total MDR-TB**	**13 (0.9)**	**2 (0.1)**	–	**11 (0.8)**	–
Other patterns					
INH & SM	**18 (1.3)**	–	–	18 (1.3)	–
INH & EMB	**2 (0.1)**	1 (0.1)	–	1 (0.1)	–

* Not all provinces/territories 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*: 2000

Drug pattern	TOTAL	Canadian-born		Foreign-born	Unknown birthplace
		Aboriginal	Non-Aboriginal		
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
EMB & RMP	**2 (0.1)**	–	1 (0.1)	1 (0.1)	–
SM & RMP	–	–	–	–	–
INH & SM & EMB	**4 (0.3)**	–	–	4 (0.3)	–
INH & PZA	**1 (0.1)**	–	1 (0.1)	–	–
INH & SM & PZA	**1 (0.1)**	–	–	1 (0.1)	–
Total other patterns	**28 (2.0)**	**1 (0.1)**	**2 (0.1)**	**25 (1.8)**	**–**

* Not all provinces/territories 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: 2000

Method of detection	CANADA	Province/territory							
		Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
Immigration	**60**	2	–	38	2	–	6	12	–
Symptoms/incidental findings	**1,336**	15	239	505	87	103	117	234	36
Post-mortem	**20**	3	4	2	–	1	3	7	–
Contact investigation	**87**	2	13	25	6	–	5	14	22
Screening	**107**	3	44	39	–	–	1	17	3
Other	**70**	–	17	49	3	–	–	1	–
Unknown	**14**	–	1	12	–	–	1	–	–
TOTAL	**1,694**	**25**	**318**	**670**	**98**	**104**	**133**	**285**	**61**

Table 18

Reported new active and relapsed tuberculosis cases by method of detection and birthplace – Canada: 2000

Method of detection	TOTAL	Birthplace					
		Canadian-born				Foreign-born	Unknown birthplace
		Status Indian	Non-Status Indian/Métis	Inuit	Non-Aboriginal		
Immigration	**60**	–	–	–	–	60	–
Symptoms/incidental findings	**1,336**	144	32	32	244	872	12
Post-mortem	**20**	1	–	–	8	9	2
Contact investigation	**87**	15	2	22	25	22	1
Screening	**107**	3	–	3	12	88	1
Other	**70**	4	2	–	16	42	6
Unknown	**14**	1	–	–	2	9	2
TOTAL	**1,694**	**168**	**36**	**57**	**307**	**1,102**	**24**

Table 19

Reported new active and relapsed foreign-born tuberculosis cases by birthplace and year of arrival in Canada: 2000

Birthplace (WHO region)	TOTAL	Year of arrival												
		≤ 1962	1963-1972	1973-1982	1983-1992	1993	1994	1995	1996	1997	1998	1999	2000	Unk.
Africa	**82**	–	–	3	9	3	2	6	2	7	8	16	23	3
Americas	**85**	3	4	9	16	7	1	2	3	2	6	9	12	11
East Mediterranean	**115**	–	2	3	25	10	3	4	3	7	15	17	15	11
Europe	**110**	25	7	6	10	2	3	2	2	3	1	21	7	21
South East Asia	**205**	–	2	20	45	10	6	9	17	13	13	31	29	10
Western Pacific	**468**	11	18	73	130	20	24	31	23	21	21	27	33	36
Unknown region	**37**	–	–	2	4	–	–	–	–	1	–	3	2	25
TOTAL	**1,102**	**39**	**33**	**116**	**239**	**52**	**39**	**54**	**50**	**54**	**64**	**124**	**121**	**117**

Table 20

Reported new active and relapsed foreign-born tuberculosis cases by immigration status – Canada and provinces/territories: 2000

Immigration status	CANADA	Province/territory							
		Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
Landed immigrant or Canadian citizen	**260**	2	–	–	31	–	77	150	–
Refugee claimant	**12**	1	–	–	–	–	1	10	–
Non-resident (visitor, student, illegal alien)	**22**	1	–	–	1	–	4	16	–
Other	**2**	–	–	–	–	–	–	2	–
Unknown	**806**	1	185	570	–	11	4	34	1
TOTAL	**1,102**	**5**	**185**	**570**	**32**	**11**	**86**	**212**	**1**

Table 21

Reported relapsed tuberculosis cases by length of inactive interval – Canada and provinces/territories: 2000

Interval	CANADA	Province/territory							
		Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
< 2 years	**6**	–	1	–	1	–	1	3	–
2–5 years	**14**	–	2	–	2	–	–	9	1
6–9 years	**2**	–	–	–	1	–	–	1	–
10–19 years	**4**	–	1	–	–	–	1	1	1
20+ years	**38**	1	6	–	5	4	11	4	7
Unknown	**81**	–	8	67	1	–	–	4	1
TOTAL	**145**	**1**	**18**	**67**	**10**	**4**	**13**	**22**	**10**

Table 22

Reported new active and relapsed tuberculosis cases and number of diagnoses by main diagnostic site – Canada: 2000

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	96	–	–	–	–	–	–
	Primary & pulmonary	3	–	–	–	–	–	–
	Primary & meninges/CNS	1	–	–	–	–	–	–
	Primary & miliary & pulmonary & peripheral lymph nodes	1	–	–	–	–	–	–
	Total	**101**	–	–	–	–	–	–
Miliary	Miliary only	–	27	–	–	–	–	–
	Miliary & pulmonary	–	7	–	–	–	–	–
	Miliary & bones/joints	–	1	–	–	–	–	–
	Miliary & genitourinary	–	2	–	–	–	–	–
	Miliary & pulmonary & peripheral lymph nodes	–	1	–	–	–	–	–
	Miliary & pulmonary & abdominal	–	1	–	–	–	–	–
	Miliary & pulmonary & genitourinary	–	1	–	–	–	–	–
	Total	–	**40**	–	–	–	–	–
Pulmonary (with silicosis)	Pulmonary only	–	–	972	–	–	–	–
	Pulmonary & pleurisy	–	–	25	–	–	–	–
	Pulmonary & other respiratory	–	–	2	–	–	–	–
	Pulmonary & meninges/CNS	–	–	1	–	–	–	–
	Pulmonary & peripheral lymph nodes	–	–	14	–	–	–	–
	Pulmonary & abdominal	–	–	5	–	–	–	–
	Pulmonary & bones/joints	–	–	12	–	–	–	–
	Pulmonary & genitourinary	–	–	6	–	–	–	–
	Pulmonary & other non-respiratory	–	–	4	–	–	–	–
	Pulmonary & pleurisy & genitourinary	–	–	1	–	–	–	–
	Pulmonary & meninges/CNS & genitourinary	–	–	1	–	–	–	–
	Pulmonary & other respiratory & peripheral lymph nodes	–	–	1	–	–	–	–

...cont'd

Table 22 *Cont'd*

Reported new active and relapsed tuberculosis cases and number of diagnoses by main diagnostic site – Canada: 2000

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 (with silicosis) *(cont'd)*	Pulmonary & pleurisy & other non-respiratory	–	–	1	–	–	–	–
	Pulmonary & peripheral lymph nodes & abdominal	–	–	1	–	–	–	–
	Pulmonary & abdominal & genitourinary	–	–	1	–	–	–	–
	Total	**–**	**–**	**1,047**	**–**	**–**	**–**	**–**
Pulmonary (without silicosis)	Pulmonary (without silicosis)	–	–	4	–	–	–	–
	Total	**–**	**–**	**4**	**–**	**–**	**–**	**–**
Pleurisy	Pleurisy only	–	–	70	–	–	–	–
	Pleurisy & genitourinary	–	–	1	–	–	–	–
	Pleurisy & abdominal & other non-respiratory	–	–	1	–	–	–	–
	Pleurisy & bones/joints & other non-respiratory	–	–	1	–	–	–	–
	Total	**–**	**–**	**73**	**–**	**–**	**–**	**–**
Other respiratory	Other respiratory only	–	–	14	–	–	–	–
	Total	**–**	**–**	**14**	**–**	**–**	**–**	**–**
Meninges/ CNS	Meninges/CNS only	–	–	–	14	–	–	–
	Meninges/CNS & bones/joints	–	–	–	1	–	–	–
	Total	**–**	**–**	**–**	**15**	**–**	**–**	**–**
Peripheral lymph nodes	Peripheral lymph nodes only	–	–	–	–	250	–	–
	Peripheral lymph nodes & abdominal	–	–	–	–	1	–	–
	Peripheral lymph nodes & other non-respiratory	–	–	–	–	2	–	–
	Peripheral lymph nodes & abdominal & genitourinary	–	–	–	–	1	–	–
	Total	**–**	**–**	**–**	**–**	**254**	**–**	**–**

...cont'd

Table 22 *Cont'd*

Reported new active and relapsed tuberculosis cases and number of diagnoses by main diagnostic site – Canada: 2000

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	–	–	–	–	–	25	–
	Abdominal & genitourinary	–	–	–	–	–	1	–
	Total	–	–	–	–	–	**26**	–
Bones & joints	Bones/joints only	–	–	–	–	–	37	–
	Bones/joints & genitourinary	–	–	–	–	–	1	–
	Bones/joints & other non-respiratory	–	–	–	–	–	3	–
	Total	–	–	–	–	–	**41**	–
Genitourinary	Genitourinary only	–	–	–	–	–	30	–
	Genitourinary & other non-respiratory	–	–	–	–	–	1	–
	Total	–	–	–	–	–	**31**	–
Other non-respiratory	Other non-respiratory only	–	–	–	–	–	46	–
	Total	–	–	–	–	–	**46**	–
Unknown	**Total**	–	–	–	–	–	–	**2**
Total		**101**	**40**	**1,138**	**15**	**254**	**144**	**2**

Table 23

Reported new active and relapsed tuberculosis cases reported in 2000 who died in 2000*, by cause of death – Canada and provinces/territories: 2000

Cause of death	CANADA	Province/territory							
		Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
TB was underlying cause of death	**23**	1	6	7	1	-	2	5	1
TB contributed to death but was not the underlying cause	**67**	-	14	17	2	12	12	9	1
TB did not contribute to death	**16**	-	3	7	2	-	-	4	-
Cause not reported	**5**	-	-	4	-	-	-	-	1
TOTAL	**111**	**1**	**23**	**35**	**5**	**12**	**14**	**18**	**3**

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 2000 who died in 2000*, by age group and gender – Canada: 2000

Gender	TOTAL	Age group									
		< 1	1 – 4	5 – 14	15 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 – 74	75 +
Male	**69**	-	-	-	-	3	4	3	9	10	40
Female	**42**	-	-	-	1	5	2	7	2	8	17
TOTAL	**111**	**-**	**-**	**-**	**1**	**8**	**6**	**10**	**11**	**18**	**57**

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: 2000

HIV status	CANADA	Province/territory							
		Atlantic	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
Positive	**36**	1	–	5	5	–	3	21	1
Negative	**236**	2	–	–	42	–	56	98	38
Unknown	**1,422**	22	318	665	51	104	74	166	22
TOTAL	**1,694**	**25**	**318**	**670**	**98**	**104**	**133**	**285**	**61**

Table 26

Treatment outcome status – Canada and provinces/territories: 1999

	TOTAL	Treatment outcome							
		Cure – negative culture	Treatment completed	Died before treatment completed	Transfer	Absconded	Treatment ongoing	Other	Unknown
CANADA	**777**	**198**	**453**	**52**	**27**	**20**	**15**	**11**	**1**
Province/territory									
Atlantic	**39**	4	15	7	10	–	–	3	–
Quebec	**1**	1	–	–	–	–	–	–	–
Ontario	**2**	–	2	–	–	–	–	–	–
Manitoba	**132**	8	99	10	2	10	2	1	–
Saskatchewan	**109**	3	105	1	–	–	–	–	–
Alberta	**149**	53	71	10	2	2	9	2	–
British Columbia	**306**	114	141	22	12	8	3	5	1
North	**39**	15	20	2	1	–	1	–	–

Table 27

Treatment outcome status by treatment regimen – Canada: 1999

Treatment regimen	TOTAL	Treatment outcome							
		Cure	Treatment completed without cure	Death during treatment	Transferred	Absconded	Treatment ongoing	Other	Unknown
INH & RMP	**94**	3	86	2	2	1	–	–	–
INH & PZA	**1**	–	1	–	–	–	–	–	–
SM & EMB	**1**	–	–	1	–	–	–	–	–
EMB & other drug(s)	**1**	–	1	–	–	–	–	–	–
INH & SM & EMB	**2**	–	2	–	–	–	–	–	–
INH & SM & RMP	**1**	–	1	–	–	–	–	–	–
INH & EMB & RMP	**22**	6	12	2	2	–	–	–	–
INH & EMB & PZA	**2**	1	1	–	–	–	–	–	–
INH & RMP & PZA	**178**	53	104	5	5	4	2	4	1
EMB & RMP & PZA	**6**	1	3	1	–	1	–	–	–
SM & EMB & other drug(s)	**1**	–	–	1	–	–	–	–	–
EMB & RMP & other drug(s)	**1**	–	1	–	–	–	–	–	–
INH & SM & EMB & RMP	**2**	–	2	–	–	–	–	–	–
INH & SM & EMB & PZA	**1**	1	–	–	–	–	–	–	–
INH & SM & RMP & PZA	**43**	2	31	4	–	5	1	–	–
INH & EMB & RMP & PZA	**352**	117	186	18	9	8	9	4	1
SM & EMB & RMP & PZA	**3**	–	2	–	–	1	–	–	–
INH & EMB & PZA & other drug(s)	**1**	–	–	1	–	–	–	–	–
INH & EMB & RMP & other drug(s)	**1**	–	1	–	–	–	–	–	–
INH & RMP & PZA & other drug(s)	**3**	2	–	1	–	–	–	–	–
EMB & RMP & PZA & other drug(s)	**1**	–	1	–	–	–	–	–	–

Table 27 *Cont'd*

Treatment outcome status by treatment regimen – Canada: 1999

Treatment regimen	TOTAL	Treatment outcome							
		Cure	Treatment completed without cure	Death during treatment	Transferred	Absconded	Treatment ongoing	Other	Unknown
INH & SM & EMB & RMP & PZA	**18**	6	10	–	1	–	1	–	–
INH & SM & EMB & RMP & other drug(s)	**1**	–	1	–	–	–	–	–	–
INH & SM & RMP & PZA & other drug(s)	**1**	–	1	–	–	–	–	–	–
INH & EMB & RMP & PZA & other drug(s)	**14**	5	6	2	–	–	1	–	–
None prescribed	**20**	–	–	5	–	–	–	–	15
Unknown	**1,035**	1	–	9	8	–	1	3	1,013
Total	**1,806**	**198**	**453**	**52**	**27**	**20**	**15**	**11**	**1,030**

Table 28

Treatment outcome status by major mode of treatment – Canada: 1999

Major mode of treatment	TOTAL	Treatment outcome							
		Absconded	Cure	Death during treatment	Other	Transferred	Treatment completed – without cure	Treatment ongoing	Unknown
Daily – self administered	**314**	8	102	16	5	11	164	6	2
DOT (daily/intermittent)	**402**	11	90	8	2	4	279	7	1
Other	**31**	1	6	14	1	–	8	1	–
Unknown	**1,059**	–	–	14	3	12	2	1	1,027
TOTAL	**1,806**	**20**	**198**	**52**	**11**	**27**	**453**	**15**	**1,030**

Table 29

Treatment outcome status by compliance estimate – Canada: 1999

Compliance estimate	TOTAL	Treatment outcome							
		Cure – negative culture	Treatment completed	Died before treatment completed	Transferred	Absconded	Treatment ongoing	Other	Unknown
≥ 80%	**671**	191	433	21	11	5	7	1	2
50–79%	**28**	3	8	–	–	11	3	3	–
< 50%	**6**	2	1	1	1	1	–	–	–
Unknown	**1,101**	2	11	30	15	3	5	7	1,028
TOTAL	**1,806**	**198**	**453**	**52**	**27**	**20**	**15**	**11**	**1,030**

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
Total high-burden countries		**6,700,000**	**3,760,358,000**	**178.2**
Global total			**5,975,045,000**	**140.9**

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

APPENDIX IV

POPULATION ESTIMATES: 2000

Population estimates by gender and age group – Canada and provinces/territories: 2000

TOTAL

	CANADA	Nfld./Lab.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nun.
< 1	**335,510**	4,871	1,478	9,409	7,756	73,530	131,276	14,215	12,588	37,639	41,090	354	647	657
1 – 4	**1,446,100**	21,519	6,388	40,628	32,488	324,080	564,555	59,358	52,757	157,380	180,118	1,545	2,633	2,651
5 – 14	**4,094,687**	67,004	19,422	121,492	95,681	923,629	1,580,015	166,532	154,836	433,978	512,801	4,558	7,807	6,932
15 – 24	**4,159,223**	79,568	19,839	126,625	103,438	983,098	1,532,369	158,895	152,837	447,148	539,929	4,262	6,319	4,896
25 – 34	**4,399,739**	76,483	18,115	130,080	107,417	1,003,282	1,718,953	157,673	129,934	458,558	582,811	4,599	7,117	4,717
35 – 44	**5,306,948**	90,276	22,212	159,851	126,949	1,291,000	2,026,003	182,369	157,856	532,597	700,914	6,065	7,464	3,392
45 – 54	**4,360,940**	84,124	19,817	137,792	112,983	1,099,651	1,610,334	152,915	128,407	404,544	598,072	4,938	4,922	2,441
55 – 64	**2,812,753**	50,746	12,583	90,328	70,667	736,598	1,054,768	98,594	84,345	234,695	373,502	2,588	2,316	1,023
65 – 74	**2,138,496**	35,375	9,557	66,002	51,832	541,932	822,150	78,602	73,825	171,608	284,913	1,108	1,090	502
75 +	**1,715,273**	27,255	8,654	58,992	46,067	400,854	644,881	76,813	74,607	131,102	244,683	565	592	208
TOTAL	**30,769,669**	**537,221**	**138,065**	**941,199**	**755,278**	**7,377,654**	**11,685,304**	**1,145,966**	**1,021,992**	**3,009,249**	**4,058,833**	**30,582**	**40,907**	**27,419**

Male

< 1	**171,583**	2,514	722	4,828	4,029	37,505	67,189	7,317	6,322	19,308	20,993	189	328	339
1 – 4	**911,140**	13,424	4,011	25,549	20,927	202,874	355,754	37,715	32,979	100,166	113,314	1,019	1,659	1,749
5 – 14	**2,099,611**	34,339	9,904	62,359	48,919	471,550	811,540	85,514	79,187	223,069	263,437	2,335	3,883	3,575
15 – 24	**2,130,144**	40,505	10,018	64,364	53,136	504,390	783,945	81,251	78,776	230,115	275,612	2,235	3,349	2,448
25 – 34	**2,223,072**	38,120	9,014	64,233	54,344	513,516	860,958	80,808	65,347	236,104	292,388	2,249	3,565	2,426
35 – 44	**2,664,994**	44,416	10,991	79,370	63,780	653,183	1,011,654	92,285	79,569	270,021	350,983	3,033	3,872	1,837
45 – 54	**2,173,802**	42,057	9,790	68,548	56,490	547,077	795,420	76,125	65,218	207,216	299,213	2,595	2,711	1,342
55 – 64	**1,384,349**	25,585	6,286	44,511	35,160	359,427	516,303	48,839	41,683	117,651	185,655	1,438	1,262	549
65 – 74	**1,002,808**	16,978	4,512	30,782	23,878	246,283	385,354	36,854	35,108	83,372	138,252	615	551	269
75 +	**644,401**	10,737	3,222	21,373	17,268	141,597	243,595	28,759	29,523	50,964	96,696	255	278	134
TOTAL	**15,405,904**	**268,675**	**68,470**	**465,917**	**377,931**	**3,677,402**	**5,831,712**	**575,467**	**513,712**	**1,537,986**	**2,036,543**	**15,963**	**21,458**	**14,668**

Female

< 1	**163,927**	2,357	756	4,581	3,727	36,025	64,087	6,898	6,266	18,331	20,097	165	319	318
1 – 4	**706,543**	10,609	3,099	19,907	15,590	158,711	275,990	28,960	26,100	76,522	87,797	715	1,302	1,241
5 – 14	**1,995,076**	32,665	9,518	59,133	46,762	452,079	768,475	81,018	75,649	210,909	249,364	2,223	3,924	3,357
15 – 24	**2,029,079**	39,063	9,821	62,261	50,302	478,708	748,424	77,644	74,061	217,033	264,317	2,027	2,970	2,448
25 – 34	**2,176,667**	38,363	9,101	65,847	53,073	489,766	857,995	76,865	64,587	222,454	290,423	2,350	3,552	2,291
35 – 44	**2,641,954**	45,860	11,221	80,481	63,169	637,817	1,014,349	90,084	78,287	262,576	349,931	3,032	3,592	1,555
45 – 54	**2,187,138**	42,067	10,027	69,244	56,493	552,574	814,914	76,790	63,189	197,328	298,859	2,343	2,211	1,099
55 – 64	**1,428,404**	25,161	6,297	45,817	35,507	377,171	538,465	49,755	42,662	117,044	187,847	1,150	1,054	474
65 – 74	**1,135,688**	18,397	5,045	35,220	27,954	295,649	436,796	41,748	38,717	88,236	146,661	493	539	233
75 +	**1,070,872**	16,518	5,432	37,619	28,799	259,257	401,286	48,054	45,084	80,138	147,987	310	314	74
TOTAL	**15,535,348**	**271,060**	**70,317**	**480,110**	**381,376**	**3,737,757**	**5,920,781**	**577,816**	**514,602**	**1,490,571**	**2,043,283**	**14,808**	**19,777**	**13,090**

Population estimates by Canadian-born origin and foreign-born birthplace – Canada and provinces/territories: 2000

TOTAL	CANADA	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nun.
	30,941,252	**539,735**	**138,787**	**946,027**	**759,307**	**7,415,159**	**11,752,493**	**1,153,283**	**1,028,314**	**3,028,557**	**4,079,826**	**30,771**	**41,235**	**27,758**
		2,383,856											68,993	
Canadian-born														
Aboriginal		**Atlantic region**												
Status Indian	565,200	21,200				58,900	115,700	85,900	79,500	80,800	103,500	6,200	13,500	
NSI/Métis	644,700	33,100				107,400	191,400	58,400	41,300	107,400	99,600	1,500	4,600	
Inuit	62,300	9,300				10,700	6,500	1,000	600	3,500	2,500	200	28,000	
Total Aboriginal	1,272,200	63,600				177,000	313,600	145,300	121,400	191,700	205,600	7,900	46,100	
Non-Aboriginal	24,030,502	2,228,410				6,474,121	8,368,027	869,235	854,474	2,397,114	2,800,324	19,341	19,456	
Total Canadian-born	**25,302,702**	**529,665**	**133,854**	**896,709**	**731,782**	**6,651,121**	**8,681,627**	**1,014,535**	**975,874**	**2,588,814**	**3,005,924**	**27,241**	**65,556**	
		2,292,010												
Foreigh-born														
Africa	176,599	348	158	1,640	910	24,425	95,425	4,308	1,690	13,768	33,709	110	108	
Americas	927,314	1,739	820	8,354	4,649	126,915	503,113	22,722	8,746	72,307	176,804	578	567	
East Mediterranean	353,639	705	317	3,308	1,835	49,035	190,900	8,617	3,396	27,569	67,521	219	217	
South East Asia	382,906	700	337	3,397	1,893	52,134	208,159	9,403	3,585	29,860	72,965	239	234	
Europe	2,618,460	4,386	2,260	22,051	12,353	350,387	1,432,796	64,770	23,927	204,254	498,038	1,648	1,590	
Western Pacific	1,178,878	2,191	1,040	10,562	5,881	161,041	640,061	28,909	11,089	91,926	224,721	736	721	
Other/unknown	754	1	1	6	4	101	412	19	7	59	144	0	0	
Total foreign-born	**5,638,550**	**10,070**	**4,933**	**49,318**	**27,525**	**764,038**	**3,070,866**	**138,748**	**52,440**	**439,743**	**1,073,902**	**3,530**	**3,437**	
		91,846												

Source(s): 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-born: Projected – Demography Division, Statistics Canada

Appendix V
Reporting Forms

Active Tuberculosis Report Form – New and Relapsed Cases

Serial No. _____

For Internal Use Only
Date received at LCDC — Year Month Day
LCDC Number

Confidential when completed

Province/Territory/Patient ID

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 M 2 F

Name of Patient

6. Surname | Given Name | Birth Surname

Usual Residence

7. Number Street | City/Town/Village | County and Health Unit | Postal Code | Geo Codes PR CD PR HU/SC

Origin

8.
1 Status Indian (registered) ↓
Lives on reserve most of the time
1 Yes
2 No
8 Not Applicable
9 Unknown
2 Métis
3 Inuit
4 Other aboriginal *(specify)* _____
5 Canadian Born non-Aboriginal If under age 20,
country of birth of mother _____
country of birth of father _____
6 Foreign-Born
(a) Country of Birth _____
(b) Year of Arrival in Canada _____
(c) Immigration status: (current status)
1 Landed immigrant/ now Canadian citizen
2 Refugee claimant
3 Non-resident (migrant worker, visitor, student, illegal alien)
8 Other *(specify)* _____
9 Unknown

Diagnosis

9. Date of diagnosis — Year Month Day

10. Diagnosis (ICD9)
List Diagnoses *(check all that apply)*

- Pulmonary: 011.0; 011.1; 011.2; 011.3; 011.4; 011.5; 011.6; 011.7; 011.8; 011.9
  - With Silicosis: 502
- Miliary/Disseminated: 018.0; 018.8; 018.9
- Primary: 010.0; 010.1; 010.8; 010.9
- Pleurisy (tuberculosis): 012.0
- Other respiratory: 012.1; 012.2; 012.3; 012.8; 137.0
- Central nervous system: 013.0; 013.1; 013.8; 013.9; 137.1
- Abdominal: 014
- Bones and joints: 015.0; 015.1; 015.2; 015.7; 015.8; 015.9; 137.3
- Genitourinary: 016.0; 016.1; 016.2; 016.3; 016.4; 016.9; 137.2
- Peripheral lymph nodes (non-respiratory): 017.2
- Other non-respiratory *(specify)*: 017.0; 017.1; 017.3; 017.4; 017.5; 017.6; 017.7; 017.8; 137.4

Bacillary Status

11. *Check all that apply:*

	Microscopy							Culture						
	Sputum	Bronchial Wash	GI Wash	Node biopsy	Urine	CSF	Other	Sputum	Bronchial Wash	GI Wash	Node biopsy	Urine	CSF	Other
Negative														
Positive														
Not Done/ Unknown														

12. Case Criteria
1 Positive culture
2 No positive culture, clinical diagnosis

13. Antibiotic resistance to initial positive culture
1 Yes – *(check all that apply)* 1 INH 2 SM 3 EMB 4 RMP 5 PZA 8 Other *(specify)* _____
2 No 9 Unknown

14. Date Treatment Started — Year Month Day

15. Initial Drugs Prescribed *(check all boxes that apply)*
1 INH 2 SM 3 EMB 4 RMP
5 PZA 8 Other *(specify)* _____ 7 No drugs prescribed
9 Unknown

16. Case Finding
1 Symptoms compatible with site of diagnosis
2 Incidental findings
3 Post-mortem
4 Contact investigation
5 Post-landing surveillance
6 Pre-landing immigration evaluation (in Canada)
7 Occupational screening program
8 Other screening
9 Other *(specify)* _____
10 Unknown

17. First episode of TB
1 Yes 2 No ↓
If no: (a) Year of previous diagnosis _____
(b) Previous diagnosis occurred in:
1 Canada 2 Other Country: _____
(c) Previous treatment with *(check all antibiotics used)*:
1 INH 2 SM 3 EMB 4 RMP
5 PZA 8 Other *(specify)* _____

18. Patient died before completion of therapy
1 Yes
1 TB was the cause of death
2 TB contributed to death but was not the underlying cause
3 TB did not contribute to death but was an incidental finding
Date of death — Year Month Day
2 No 3 Not applicable 9 Unknown

19. HIV status
1 Positive
2 Negative
9 Unknown

HC/SC 4388E (01-97)

DISPONIBLE EN FRANÇAIS

Health Canada / Santé Canada

CONFIDENTIAL WHEN COMPLETED

Serial No. _____

Treatment Outcome of a New Active or Relapsed Tuberculosis Case

For Internal Use Only
Date received at LCDC: Year / Month / Day
LCDC Number

Please send Copy 1 (white) of the notification form to:

Tuberculosis Control
Office of Special Health Initiatives
Laboratory Centre for Disease Control
Room 0106B, Brooke Claxton Building
Internal Address Locator: 0900B
OTTAWA ON K1A 0L2

Province / Territory / Patient ID

1. **Reporting province / territory:**
2. **Register case number:**
3. **Unique identifier: (if name not provided)**
4. **Date of birth:** Year / Month / Day
5. **Sex:** 1 M 2 F

Diagnosis / Treatment

6. **Date of diagnosis:** Year / Month / Day
7. **Date initial treatment started:** Year / Month / Day
8. **Initial drugs prescribed (list all that apply):**
   1 INH 2 SM 3 EMB 4 RMP 5 PZA
   7 No drugs prescribed 8 Other *(specify)* _____ 9 Unknown

Name of Patient

9. **Surname:** **Given Name(s):** **Birth Surname (maiden name):**

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 this is a new number (because the patient moved to your province / territory after being registered elsewhere), please report the case number in your registry.

12. **Unique Identifier:**
Please indicate patient identifier (if name not provided).

13. **Date Treatment Started:**
If date treatment started is different from the date of diagnosis, please indicate the year, month and day treatment started.

14. **Last Day of this Treatment:**
Please indicate the year, month and day of the last day of this treatment.

15. **If Drug Resistance Developed:**
Please indicate Yes or No and check the appropriate drug(s).

16. **What was the Treatment Outcome?**
Please check the appropriate box. If this is 'Other', please specify.

17. **Treatment Regimen:**
Please check the appropriate box(es) and indicate duration of treatment for **each** drug in months.

18. **Major Mode of Treatment:**
Please check the appropriate box. If 'Other', please specify.

19. **Compliance Estimate:**
Please check the appropriate box indicating extent of patient's compliance to treatment based on percentage of prescribed medication actually received.

20 & 21. **Sputum Results:**
Please check the appropriate box and indicate the year, month and day of test results.

22. **X-ray Results:**
Please check the appropriate box and indicate the year, month and day of most recent x-ray.

Province / Territory of Treatment

10. **If transfer from original reporting province / territory, please state follow-up province:**
11. **Register case number: (if different from 2 above)**
12. **Unique identifier: (if different from 3 above)**
13. **Date treatment started:** Year / Month / Day

Treatment Compliance

14. **Last day of this treatment:** Year / Month / Day

15. **Did resistance develop during treatment?** 1 Yes 2 No
If yes, please check drug(s) *(check all that apply)*:
1 INH 2 SM 3 EMB 4 RMP 5 PZA 8 Other (specify) _____ 9 Unknown

16. **What was the treatment outcome?** ***(Check one only).***
1 Cure - negative culture at completion of treatment.
2 Treatment completed - without culture at end of treatment.
3 Death during treatment → 1 TB was the cause of death; 2 TB contributed to death but was not the underlying cause; 3 TB did not contribute to death
Date of Death: Year / Month / Day
4 Transferred to new jurisdiction - outcome of treatment unknown *(specify new jurisdiction)* _____
5 Failure - culture positive at 5 months or more.
6 Absconded (lost to follow-up before completion of 80% of treatment)
7 Other *(specify)* _____
8 Unknown

Treatment Regimen

17. **Treatment regimen** ***(check all that apply)***
1 INH 2 SM 3 EMB 4 RMP 5 PZA 8 Other *(specify)* _____ 9 Unknown
Duration (months)

Treatment Mode

18. **Major mode of treatment:**
1 2 or 3 times weekly observed 2 Daily, self-administered
8 Other *(specify)* _____ 9 Unknown

19. **Compliance estimate** ***(% of medication received):***
1 100% 2 80-99% 3 50-79%
4 <50% 9 Unknown

Sputum Results

20. **Last sputum smear:** 1 Positive 2 Negative 3 Not done 9 Unknown
Date of last smear: Year / Month / Day

21. **Last sputum culture:** 1 Positive 2 Negative 3 Not done 9 Unknown
Date of last culture: Year / Month / Day

X-Ray Results

22. **Most recent chest x-ray results:**
1 Better than initial x-rays 2 Worse than initial x-rays
3 Stable 4 Not done 9 Unknown

23. **Date of most recent x-ray:** Year / Month / Day

HC/SC 9012E (10-97)

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

DISPONIBLE EN FRANÇAIS

Appendix VI
WHO Region by country

WHO Region	Country
AFRICA	Benin
	Burkina Faso
	Central African Republic
	Chad
	Comoros
	Congo
	Côte d'Ivoire
	Eritrea
	Ethiopia
	Gabon
	Gambia
	Ghana
	Guinea
	Guinea-Bissau
	Kenya
	Lesotho
	Liberia
	Madagascar
	Malawi
	Mali
	Mauritania
	Mauritius
	Mayotte
	Mozambique
	Namibia
	Niger
	Nigeria
	Réunion
	Rwanda
	Saint Helena
	Sao Tome and Principe
	Senegal
	Seychelles
	Sierra Leone
	South Africa

WHO Region	Country
AFRICA (cont'd)	Swaziland
	Tanzania, United Republic of
	Togo
	Uganda
	Zaire (dem. Republic of Congo)
	Zambia
	Zimbabwe
AMERICAS, THE	Anguilla
	Antigua and Barbuda
	Argentina
	Aruba
	Bahamas
	Barbados
	Belize
	Bermuda
	Bolivia
	Brazil
	Canada
	Cayman Islands
	Chile
	Colombia
	Costa Rica
	Cuba
	Dominica
	Dominican Republic
	Ecuador
	El Salvador
	Falkland Islands (Malvinas)
	French Guiana
	Grenada
	Guadeloupe
	Guatemala
	Guyana
	Haiti
	Honduras

WHO Region	Country
AMERICAS, THE (cont'd)	Jamaica
	Martinique
	Mexico
	Montserrat
	Netherlands Antilles
	Nicaragua
	Panama
	Paraguay
	Peru
	Puerto Rico
	Saint Kitts and Nevis
	Saint Lucia
	Saint Vincent and the Grenadines
	South Georgia & South Sandwich Islands
	Suriname
	Trinidad and Tobago
	Turks and Caicos Islands
	United States
	United States Minor Outlying Islands
	Uruguay
	Venezuela
	Virgin Islands, British
	Virgin Islands, U.S.
EAST MEDITER-RANEAN	Afghanistan
	Bahrain
	Cyprus
	Djibouti
	Egypt
	Equatorial Guinea
	Iran, Islamic Republic of
	Iraq
	Jordan
	Kuwait
	Lebanon
	Libyan Arab Jamahiriya
	Morocco
	Oman
	Pakistan
	Qatar
	Saudi Arabia
	Somalia
	Sudan
	Syrian Arab Republic

WHO Region	Country
EAST MEDITER-RANEAN (cont'd)	Tunisia
	United Arab Emirates
	Western Sahara
	Yemen
EUROPE	Albania
	Andorra
	Armenia
	Austria
	Azerbaijan
	Belarus
	Belgium
	Bosnia and Herzegovina
	Bulgaria
	Croatia
	Czech Republic
	Denmark
	Estonia
	Finland
	France
	Georgia
	Germany
	Gibraltar
	Greece
	Hungary
	Iceland
	Ireland
	Israel
	Italy
	Kazakhstan
	Kyrgyzstan
	Latvia
	Liechtenstein
	Lithuania
	Luxembourg
	Macedonia
	Malta
	Moldova, Republic of
	Monaco
	Netherlands
	Norway
	Poland
	Portugal
	Romania
	Russian federation

WHO Region	Country
EUROPE (cont'd)	San Marino
	Slovakia
	Slovenia
	Spain
	Sweden
	Switzerland
	Tajikistan
	Turkey
	Turkmenistan
	Ukraine
	United Kingdom
	Uzbekistan
	Yugoslavia
SOUTH EAST ASIA	Bangladesh
	Bhutan
	British Indian Ocean Territory
	India
	Indonesia
	Korea, Democratic People's Republic of
	Maldives
	Myanmar
	Nepal
	Sri Lanka
	Thailand
WESTERN PACIFIC	American Samoa
	Australia
	Brunei Darussalam
	Cambodia
	China
	Christmas Island
	Cocos (Keeling) Islands
	Cook Islands
	Fiji
	French Polynesia
	Guam
	Heard Island and McDonald Islands
	Hong Kong
	Japan

WHO Region	Country
WESTERN PACIFIC (cont'd)	Kiribati
	Korea, Republic of
	Lao People's Democratic Republic
	Macau
	Malaysia
	Marshall Islands
	Micronesia, Federated States of
	Mongolia
	Nauru
	New Caledonia
	New Zealand
	Niue
	Norfolk Island
	Northern Mariana Islands
	Palau
	Papua New Guinea
	Philippines
	Samoa
	Singapore
	Solomon Islands
	Taiwan, Province of China
	Tokelau
	Tonga
	Tuvalu
	Vanuatu
	Viet Nam
	Wallis and Futuna Islands
UNKNOWN	Antarctica
	Country unknown
	East Timor
	Faroe Islands
	French Southern Territories
	Greenland
	Pitcairn
	Saint Pierre and Miquelon
	Svalbard and Jan Mayen
	Vatican City State (Holy See)

Appendix VII
The Canadian Tuberculosis Committee

PROVINCIAL/TERRITORIAL TB CONTROL PROGRAM REPRESENTATIVES

Alberta
Dr. Richard Long

British Columbia
Dr. Kevin Elwood

Manitoba
Dr. Earl Hershfield

Québec
Dr. Terry Nan Tannenbaum

New Brunswick
Dr. Christofer Balram

Newfoundland and Labrador
Dr. Faith Stratton

Nova Scotia
Dr. Maureen Baikie

Northwest Territories
Ms. Cheryl Case

Nunavut
Ms.Priya Gaba

Ontario
Dr. Barbara H. Kawa

Prince Edward Island
Dr. Lamont Sweet

Saskatchewan
Dr. Vernon Hoeppner

Yukon
Ms. Colleen Hemsley

TUBERCULOSIS AND BACTERIAL RESPIRATORY DISEASES
Dr. Edward Ellis

NATIONAL TB LABORATORY
Dr. Amin Kabani

FIRST NATIONS AND INUIT HEALTH BRANCH, HEALTH CANADA
Ms. Raymonde Hickey

PROVINCIAL LABORATORIES
vacant

CORRECTIONAL SERVICES OF CANADA
Ms. Nancy Sutton

CITIZENSHIP AND IMMIGRATION CANADA
Dr. Brian Gushulak

CANADIAN LUNG ASSOCIATION REPRESENTATIVE
Dr. Brian Graham