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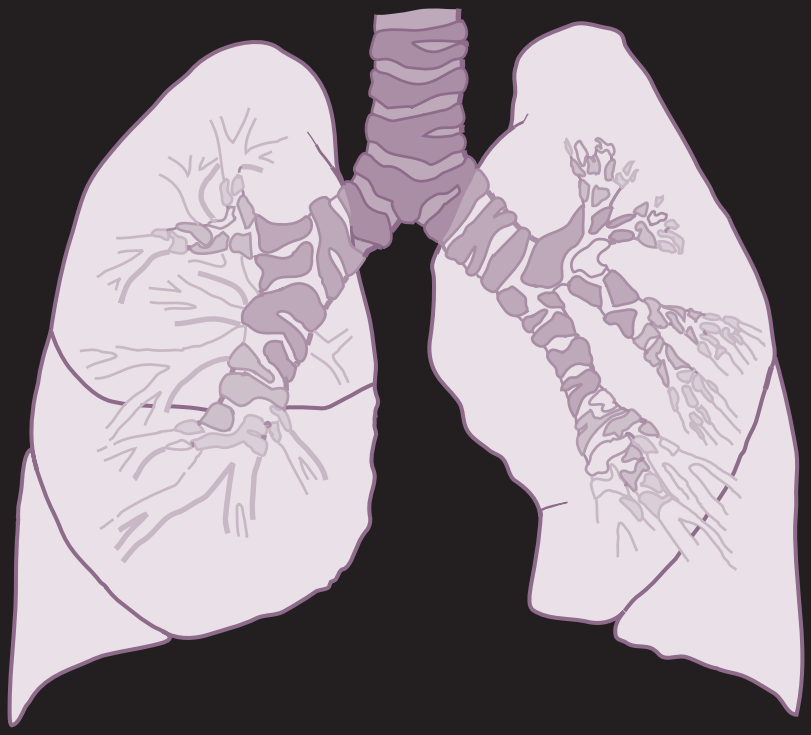
Tuberculosis in Canada



2007

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Tuberculosis in Canada

2007

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Executive Summary

In total, 1,548 new active and relapsed tuberculosis (TB) cases (a rate of 4.7 per 100,000 population) were reported to the Canadian Tuberculosis Reporting System (CTBRS) in 2007. Compared with 2006, both the number of cases reported and the incidence rate decreased, representing a 6.3% and 7.3% change, respectively. The TB incidence rate in 2007 was the lowest recorded since data collection began in Canada in 1924.

The three most populous provinces (British Columbia, Ontario and Quebec), which collectively made up 75% of Canada's population in 2007, accounted for 75% of the total number of reported cases. The highest incidence rate, 99.2 per 100,000 population was reported in Nunavut. For New Brunswick and Nova Scotia the rate was less than 1 per 100,000 population. For Prince Edward Island, no TB cases were reported.

Individuals between the ages of 35 and 44 years of age made up the largest number of reported cases, representing 18% of the total. The age-specific rate of 10.1 per 100,000 for those in the 75 years plus age group was the highest rate recorded for all age groups. In the 65-74 year age group, the rate continued to remain higher relative to the younger age groups.

In 2007, foreign-born cases continued to represent the greatest percentage of the overall case count when compared with the Canadian-born non-Aboriginal and Canadian-born Aboriginal populations. A total of 1,042 TB cases were reported among the foreign-born, representing 67% of all cases. A total of 170 cases (11% of the total) were in the Canadian-born non-Aboriginal population and 307 cases (20% of the total) were diagnosed in the Canadian-born Aboriginal population.

Pulmonary TB, including TB of the lungs and conducting airways was the most frequently reported diagnostic site, accounting for 65% of reported cases in 2007 followed by TB of the peripheral lymph nodes, which accounted for 13% of the reported cases.

Data on HIV status continues to be underreported at the national level. Of the 1,548 cases reported, 447 cases (29%) had an HIV test result reported (Figure 15). Across the provinces and territories, the percentage of cases for which HIV status was reported ranged from 0% to 96% of reported cases.

Of the 1,548 cases reported in 2007, 1,231 cases were culture positive. Of these, resistance information was available for 1,188 cases. Ninety-one percent of these showed no resistance to first-line anti-TB drugs (isoniazid, rifampin, ethambutol or pyrazinamide)[1], 8% percent were resistant to one drug and the remaining 1% showed patterns of resistance to two or more drugs prescribed.

For the 111 cases that were resistant to at least one drug, 85% were monoresistant with resistance to isoniazid accounting for 87% of all such cases. Nine percent were multidrug-resistant (MDR), defined as resistance to at least isoniazid and rifampin. One case was identified as being extensively drug-resistant (XDR).

[1] As of 2005, streptomycin was considered a second-line TB antibiotic in Canada, even though it may be used for initial treatment.

Of the 143 deaths, TB was reported as the underlying cause of death for 23 cases (16%). TB contributed to death, but was not the underlying cause for 68 cases (48%). Cause of death was not reported for 7 cases.

As of June 30, 2008, 124 (8%) of the 1,548 cases diagnosed in 2007 were reported to have died before or during treatment. Of these, TB was reported as the underlying cause of death for 28 cases (23%). TB contributed to death, but was not the underlying cause for 56 cases (45%). Cause of death was not reported for 3 cases.

The majority of individuals placed on TB drug therapy in Canada received treatment as per the *Canadian Tuberculosis Standards*[2]. Of the cases where the treatment final regime was reported over 80% of these cases received three or more anti-tuberculosis drugs.

For the 1,652 cases reported in 2006, 1,541 (93%) had outcome data (partial and complete) available. Of these cases, 1,270 (82%) were reported as cured or had completed treatment, 143 (9%) died before or during treatment, 29 (2%) transferred out of Canada, 35 (2%) absconded before completion of 80% of treatment and treatment was ongoing for 46 (3%) cases. For 129 (8%) cases, treatment outcome was not recorded or was recorded as other.

Although the total number of reported cases of TB in Canada has shown a general decrease over the past decade, this decrease is mostly a reflection of a decreasing number of cases in the Canadian-born non-Aboriginal population. Between 1997 and 2007 there was an average annual decrease of 8% in the number of cases reported in the Canadian-born non-Aboriginal population. The number of cases in the foreign-born population also decreased annually but only by an average of 2%. In the Canadian-born Aboriginal population, however, the number of cases increased by an average of 2% per year over the past decade.

[2] Long R, Ellis E, editors, *Canadian Tuberculosis Standards*, 6th ed. Ottawa ON: Her Majesty, the Queen in Right of Canada, represented by the Minister of Health; 2007.

Introduction

The *2007 Tuberculosis in Canada* annual report is a publication of Tuberculosis Prevention and Control (TBPC), Public Health Agency of Canada (PHAC). Collection of statistics on tuberculosis in Canada started in 1924 and TBPC stores and maintains copies of all these historical reports. In 1994, responsibility for the Canadian Tuberculosis Reporting System (CTBRS) was transferred from Statistics Canada to Health Canada. In September 2004, TBPC became part of the PHAC and assumed responsibility for the annual reporting. Records of all new active and relapsed tuberculosis cases come to TBPC from the ten provinces and three territories on an annual basis.

This report contains the overall TB case counts and incidence rates as well as data on selected demographic and clinical characteristics. This report describes information on the following for TB cases:

- province/territory
- sex
- age
- birthplace
- new and relapsed cases[3]
- main diagnostic site
- bacterial status
- method of detection
- immigration status
- HIV status
- risk factors/markers for disease
- patterns of drug resistance
- treatment outcomes
- drug regimens

Appendices to the report include data tables (*Appendix I*), technical notes (*Appendix II*), population estimates for 2007 (*Appendix III*) and the World Health Organization (WHO) estimated incidence of TB in the 22 high burden countries, 2007 (*Appendix IV*). Further appendices include the WHO TB epidemiological regions and the member countries (*Appendix V*), the WHO reporting form for 2007 cases *(Appendix VI*), Canadian case and treatment outcome reporting forms (*Appendix VII*) and the members of the Canadian Tuberculosis Committee (*Appendix VIII*).

These annual reports have undergone and will continue to undergo revisions in format and content from year to year. The goal is to continue to adapt and improve this publication in response to changes in the epidemiology and clinical management of TB. Comments on the content and/or format of this document are always welcome.

[3] As of 2008, the CTBRS classifies all cases as new or re-treatment cases; see *Canadian Tuberculosis Standards*, 6th ed., Appendix C for complete definitions.

Results

Section I – 2007 Case Reporting

National Trends

Following a peak in the epidemic in the early 1940s, the reported incidence of tuberculosis (TB) has declined (Figure 1). Over the past two decades the number of reported cases and the corresponding incidence rate has generally continued to decrease (Figure 2; Table A), however the rate did stabilize at approximately 5.0 per 100,000 population between 2000 and 2006.

In 2007, a total of 1,548 incident cases of TB were reported to the CTBRS. The rate declined by 7% from 2006 to 4.7 per 100,000 population, the lowest rate recorded in Canada since reporting began in 1924. New active cases made up the majority of reported cases with a rate of 4.2 per 100,000 population; the rate for relapsed cases was 0.3 per 100,000 population.

Table A

Incidence rate of tuberculosis in Canada: 1997-2007

Year	Number of reported cases	Crude rate per 100,000	Three-year moving average
1997	1,994	6.7	
1998	1,810	6.0	6.2
1999	1,820	6.0	5.9
2000	1,724	5.6	5.8
2001	1,773	5.7	5.5
2002	1,666	5.3	5.4
2003	1,631	5.2	5.2
2004	1,613	5.0	5.1
2005	1,641	5.1	5.1
2006	1,652	5.1	5.0
2007	1,548	4.7	

Geographic distribution

Across Canada, TB incidence rates ranged from 0.0 (Prince Edward Island) to 99.2 (Nunavut) cases per 100 000 population (Table B, Figure 3). Two territories (Nunavut and Yukon) and six provinces (Alberta, British Columbia, Manitoba, Newfoundland and Labrador, Nova Scotia and Ontario) had lower rates in 2007 compared with their rates in 2006. Three regions (New Brunswick, Northwest Territories and Saskatchewan) had higher rates in 2007. For Quebec the rate in 2007 remained stable at 3.0 per 100 000 population and for the second consecutive year no cases were reported from Prince Edward Island.

Figure 1

Tuberculosis incidence and mortality rates – Canada: 1924–2007

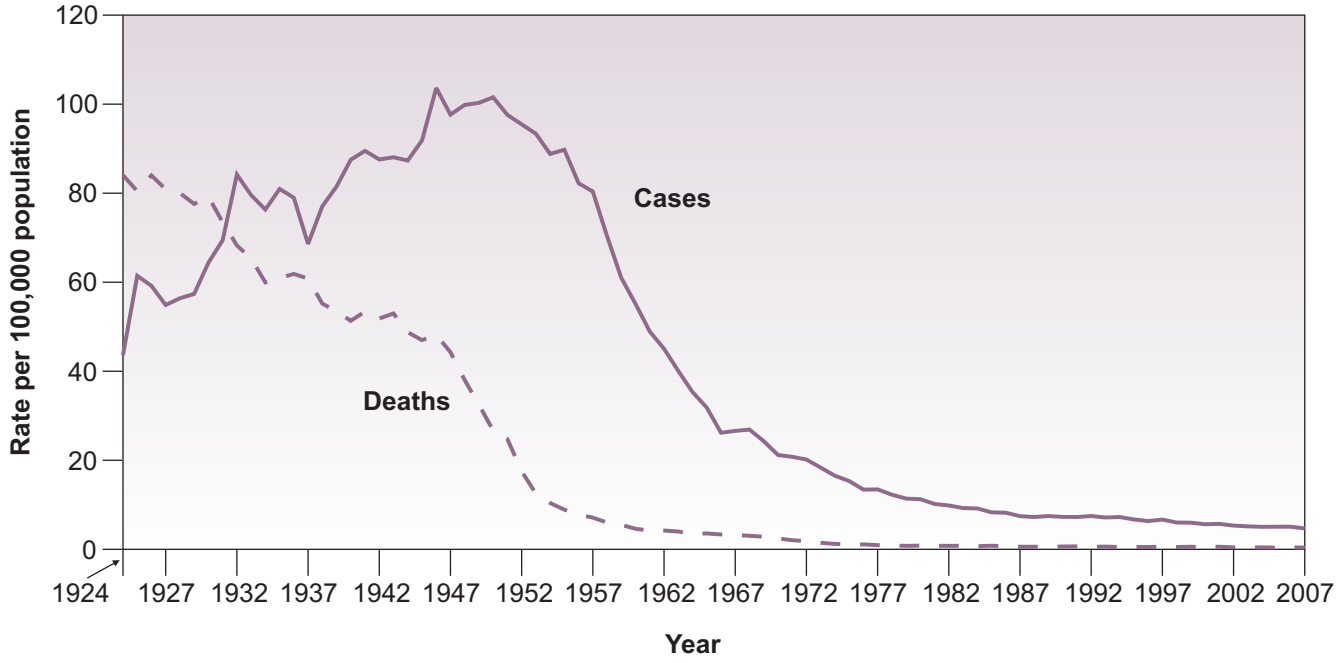


Figure 2

Tuberculosis cases and incidence rates – Canada: 1987–2007

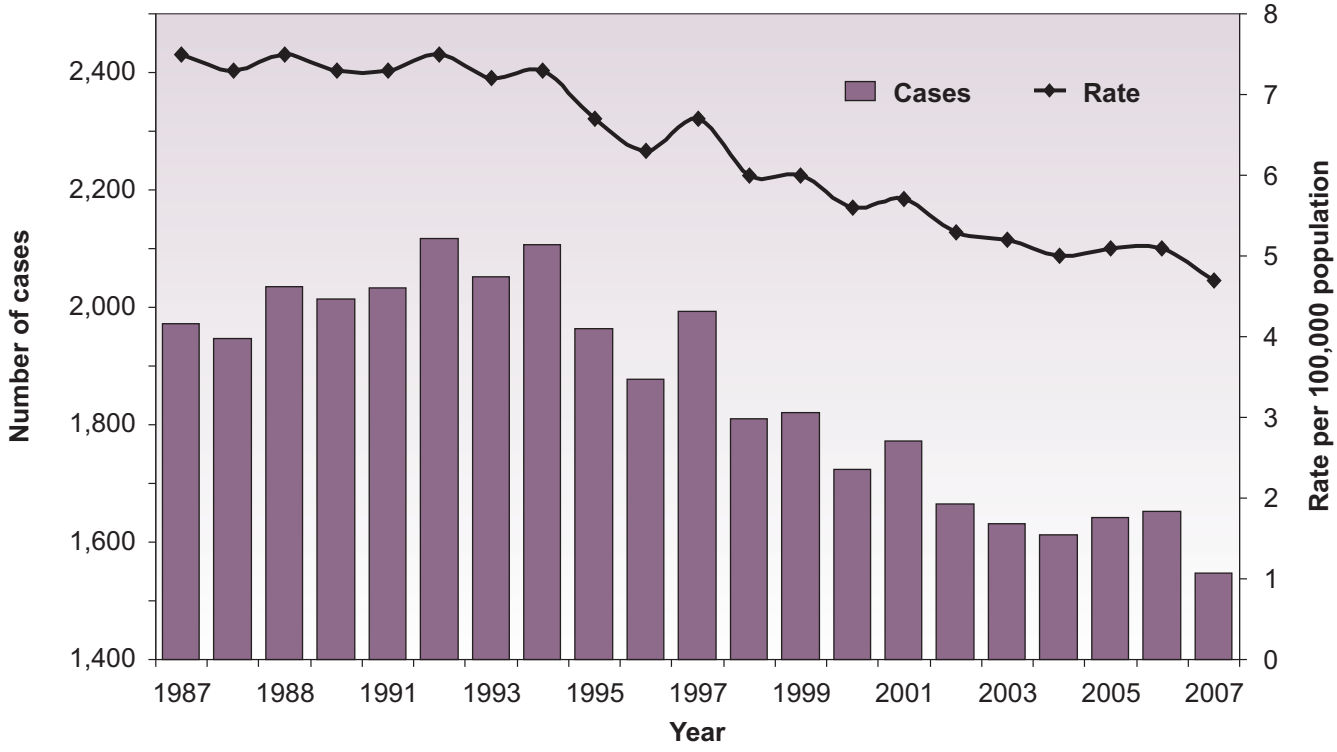


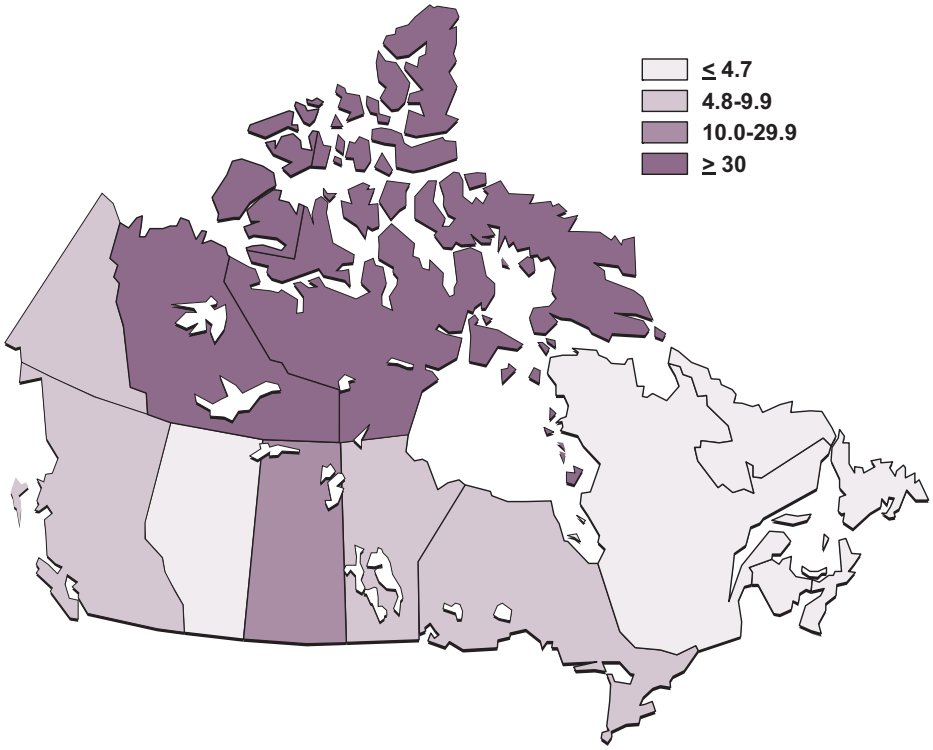
Table B

Ranked tuberculosis incidence in Canada – provinces/territories: 2007

Reporting province or territory	Abbreviation	Incidence rate per 100,000
Nunavut	Nvt.	99.2
Northwest Territories	N.W.T.	34.5
Saskatchewan	Sask.	10.6
Yukon	Y.T.	9.2
Manitoba	Man.	8.6
British Columbia	B.C.	6.4
Ontario	Ont.	5.1
Alberta	Alta.	3.2
Quebec	Que.	3.0
Newfoundland and Labrador	N.L.	1.4
Nova Scotia	N.S.	0.7
New Brunswick	N.B.	0.7
Prince Edward Island	P.E.I.	0.0
CANADA		**4.7**

Figure 3

Tuberculosis incidence rate by province/territory as compared with national rate (4.7 per 100,000): 2007

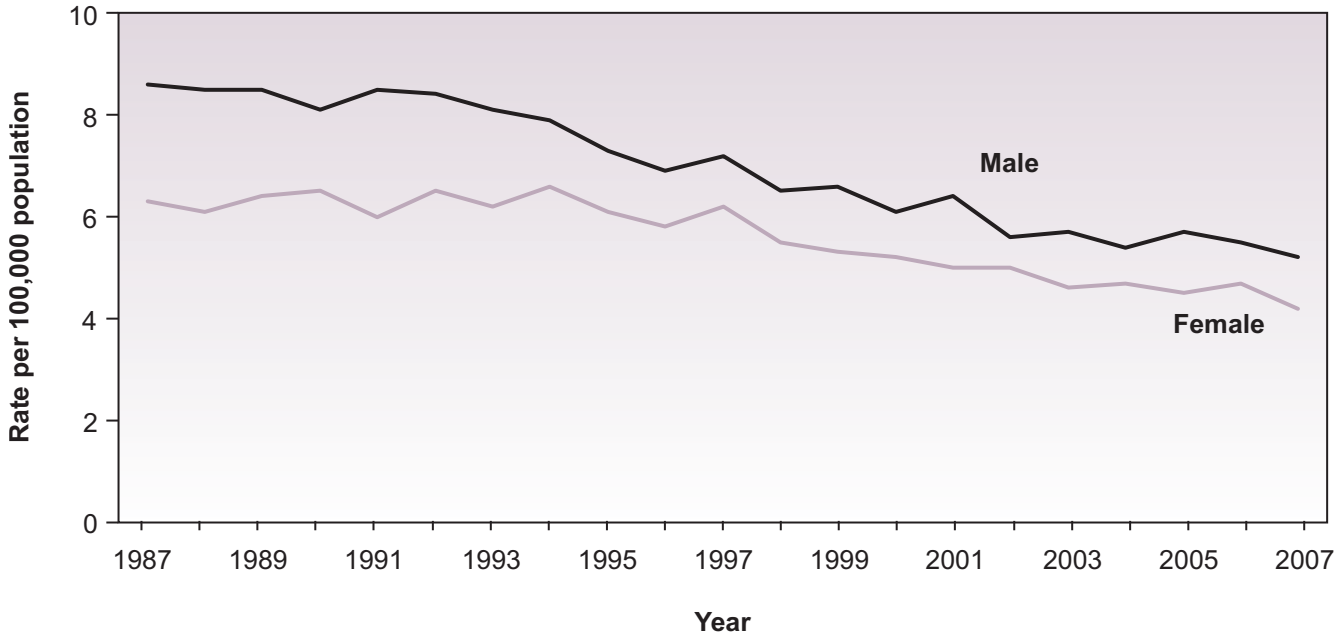


Sex and Age Group Distribution

Like the overall rate for Canada, over the past two decades, the incidence rates of TB in males and females have followed similar patterns of decline. While case reporting and incidence rates have always been higher in males, there has been a gradual decrease in the differential between males and females. However, in 2007 males continued to account for the larger number of reported cases (846 cases, 5.2 per 100,000 population), when compared with females (702 cases, 4.2 per 100,000 population) (Figure 4; *Appendix I*, Tables 2B and 2C).

Figure 4

Tuberculosis incidence rate by sex – Canada: 1987–2007



Individuals between the ages of 35 and 44 years of age made up the largest number of reported cases representing 18% of the total. The age-specific incidence rate of 10.1 per 100,000 for those in the 75 years and older remains the highest rate for all age groups. In the 65–74 year age group, the rate continues to remain higher relative to the younger age groups. However, the incidence per 100 000 population for this age group has been slowly declining over the past 5 years (Figure 5; *Appendix I*, Table 2A).

By age group and sex, the incidence rate of TB was similar in males and females for all age groups with the exception of the very young (< 1 year of age) and those aged 75 and older. The incidence rate for males in the youngest age cohort was 10 times higher than for the similar age cohort for females. This may be a reflection of the small number of cases reported. The incidence rate for the males 75 years and older was almost 2 times the rate for similarly aged females (Figure 6; *Appendix I*, Tables 5B and 5C).

Birthplace Distribution

In 2007, foreign-born cases continued to represent the greatest percentage of the overall case count when compared with the Canadian-born non-Aboriginal and Canadian-born Aboriginal populations. A total of 1,042 TB cases were reported among the foreign-born, representing 67% of all cases. A total of 170 cases (11% of the total) were in the Canadian-born non-Aboriginal population and 307 cases (20% of the total) were diagnosed in the Canadian-born Aboriginal population. Origin was unknown for 2% of the cases (Figure 7; *Appendix I*, Table 3).

Figure 5

Tuberculosis incidence rate by age group – Canada: 2007

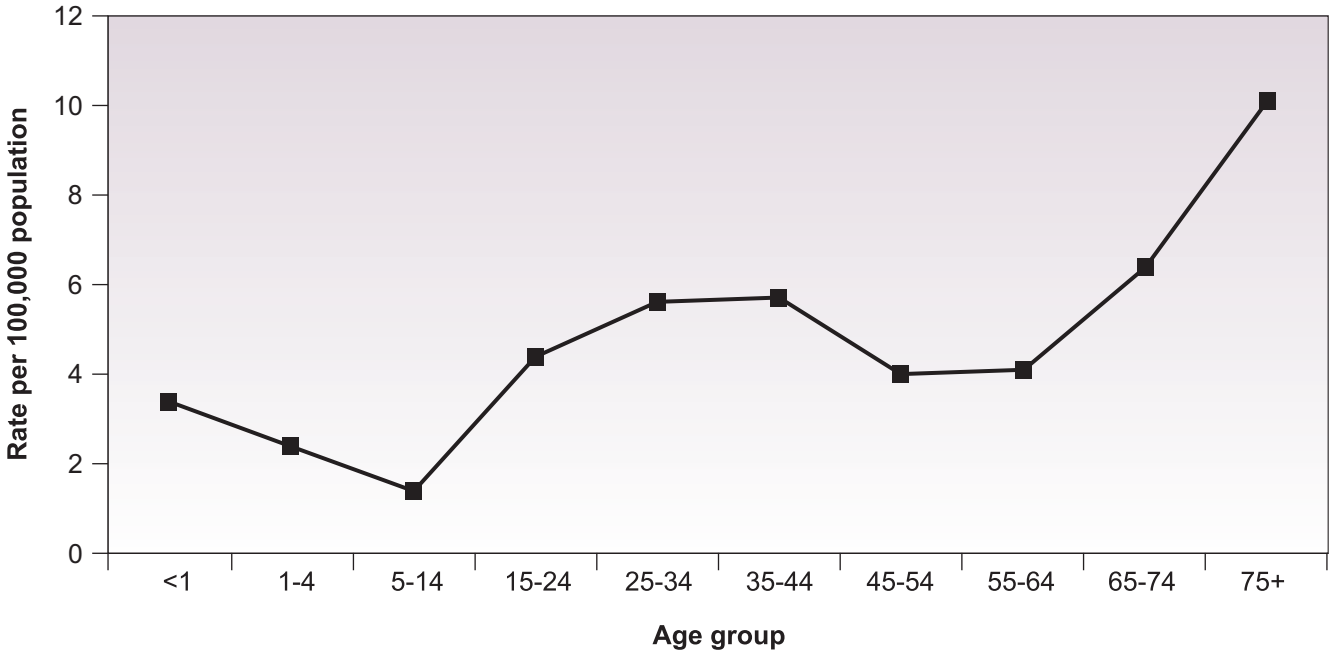


Figure 6

Tuberculosis incidence rate by age group and sex – Canada: 2007

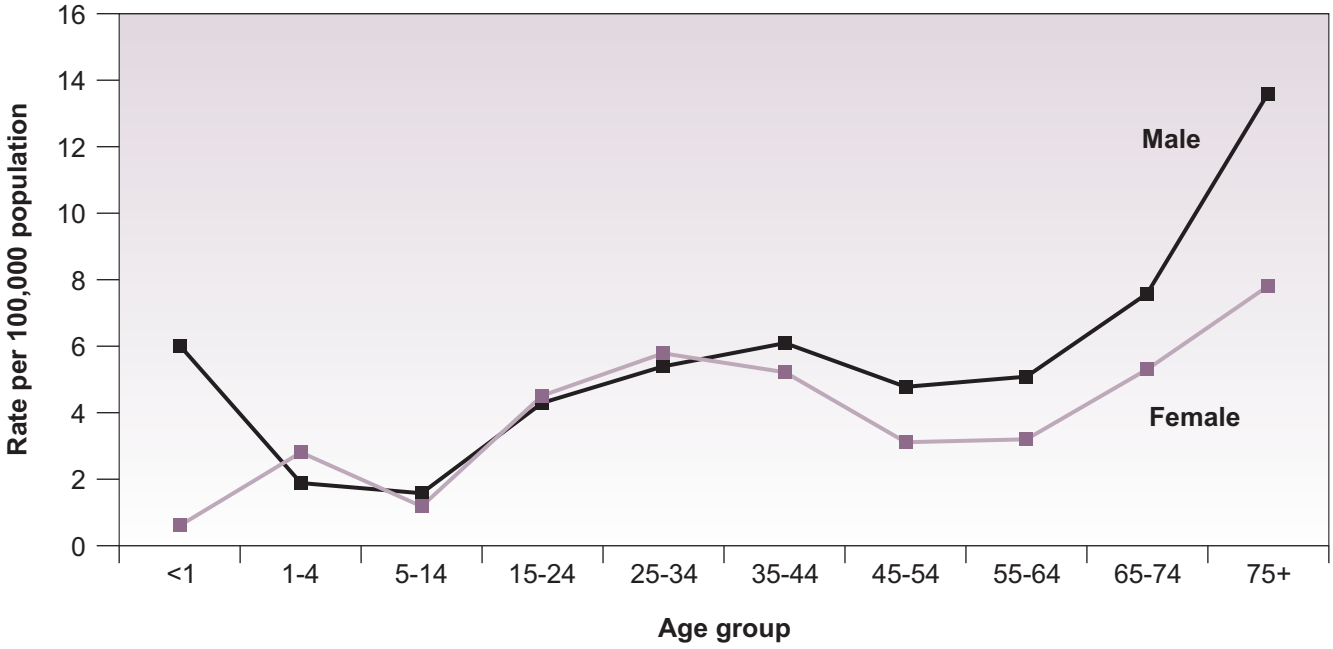
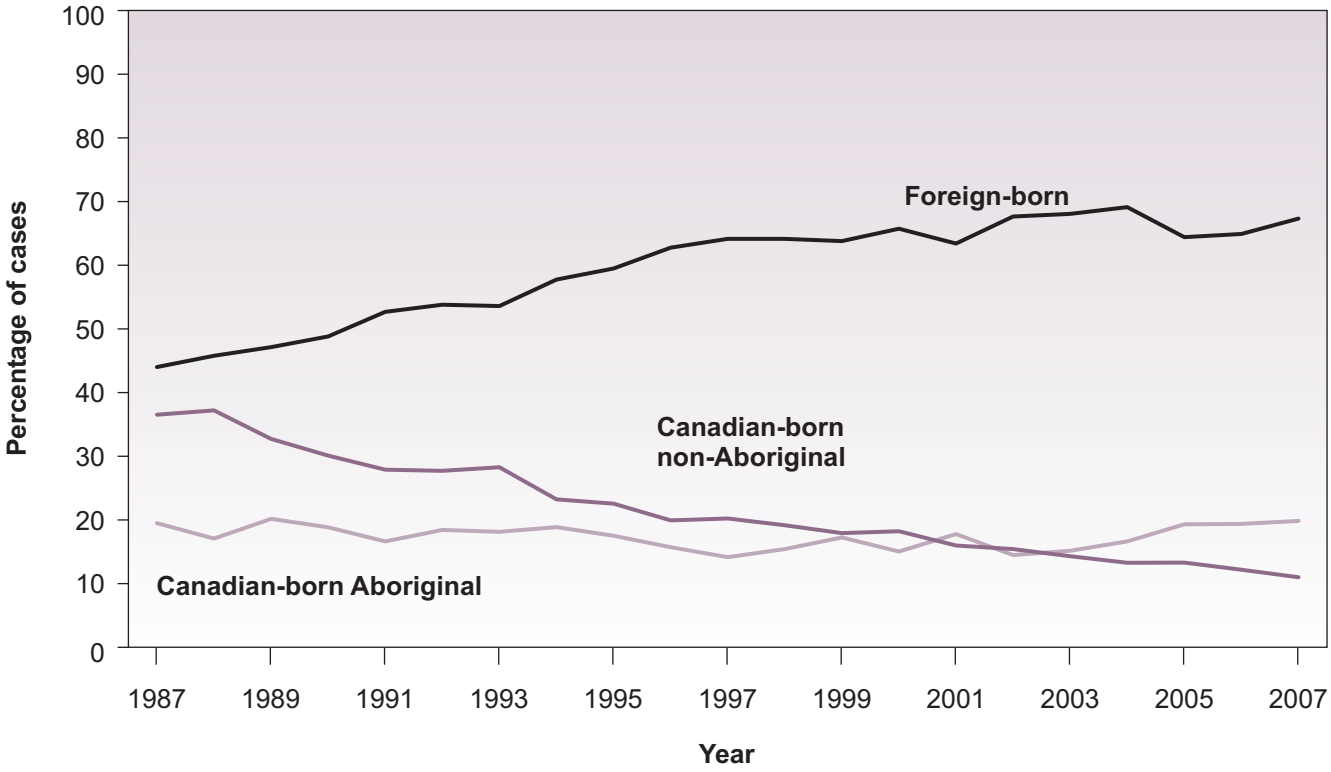


Figure 7

Percentage of tuberculosis cases by origin – Canada: 1987-2007



Although the total number of reported cases of TB in Canada has shown a general decrease over the past decade, this decrease is mostly a reflection of a decreasing number of cases in the Canadian-born non-Aboriginal population. Between 1997 and 2007 there was an average annual decrease of 8% in the number of cases reported in the Canadian-born non-Aboriginal population. The number of cases in the foreign-born population also decreased annually but only by an average of 2%. In the Canadian-born Aboriginal population, however, the number of cases increased by an average of 2% per year over the past decade (Figure 8; *Appendix I*, Table 3).

The TB incidence rate has slowly declined among Canadian-born non-Aboriginal and foreign-born populations. However, no significant TB incidence rate change occurred in the Canadian-born Aboriginal population over the decade (Figure 9; *Appendix I*, Table 6).

The highest percentage of foreign-born cases (20%) was in the 35 to 44 age-group, slightly higher than the percentage of foreign-born cases between the ages of 25 and 34 (18%). For the Canadian-born non-Aboriginals, 20% of the cases were 75 years of age or older. For Canadian-born Aboriginal cases, 19% were between the ages of 15 and 24 and 19% were between the age of 35 and 44. A larger percentage of the Canadian-born Aboriginal cases were in the younger cohorts, 0 to 14 years of age, whereas a greater percentage of Canadian-born non-Aboriginals were in the older cohort 65 and over (Figure 10; *Appendix I*, Table 8). The median ages for Canadian-born non-Aboriginals, the foreign-born, and Canadian-born Aboriginals were 53 years, 45 years and 33 years, respectively.

In 2007 there were 19 Canadian born non-Aboriginal cases under the age of 15 years. Eight (42%) of these cases were born to parents who were foreign-born.

Figure 8

Number of tuberculosis cases by origin – Canada: 1987–2007

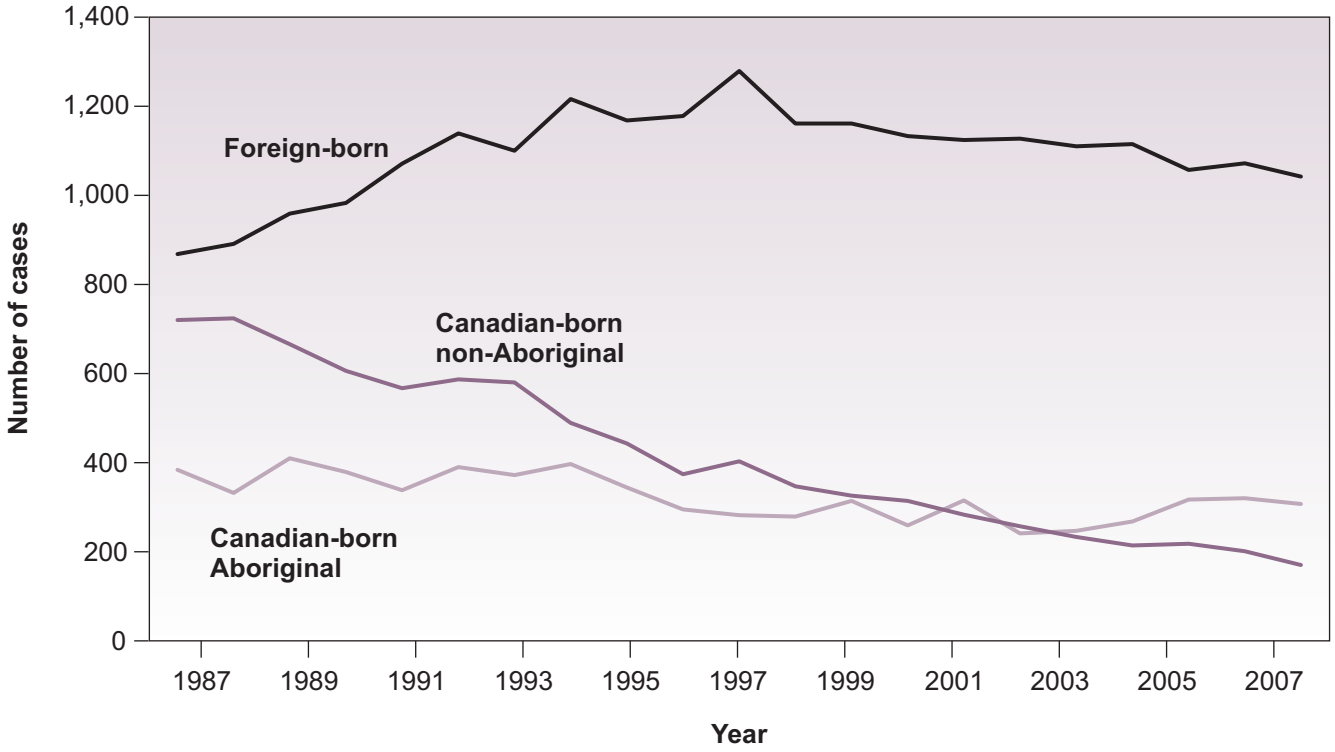


Figure 9

Tuberculosis incidence rate by origin – Canada: 1997–2007

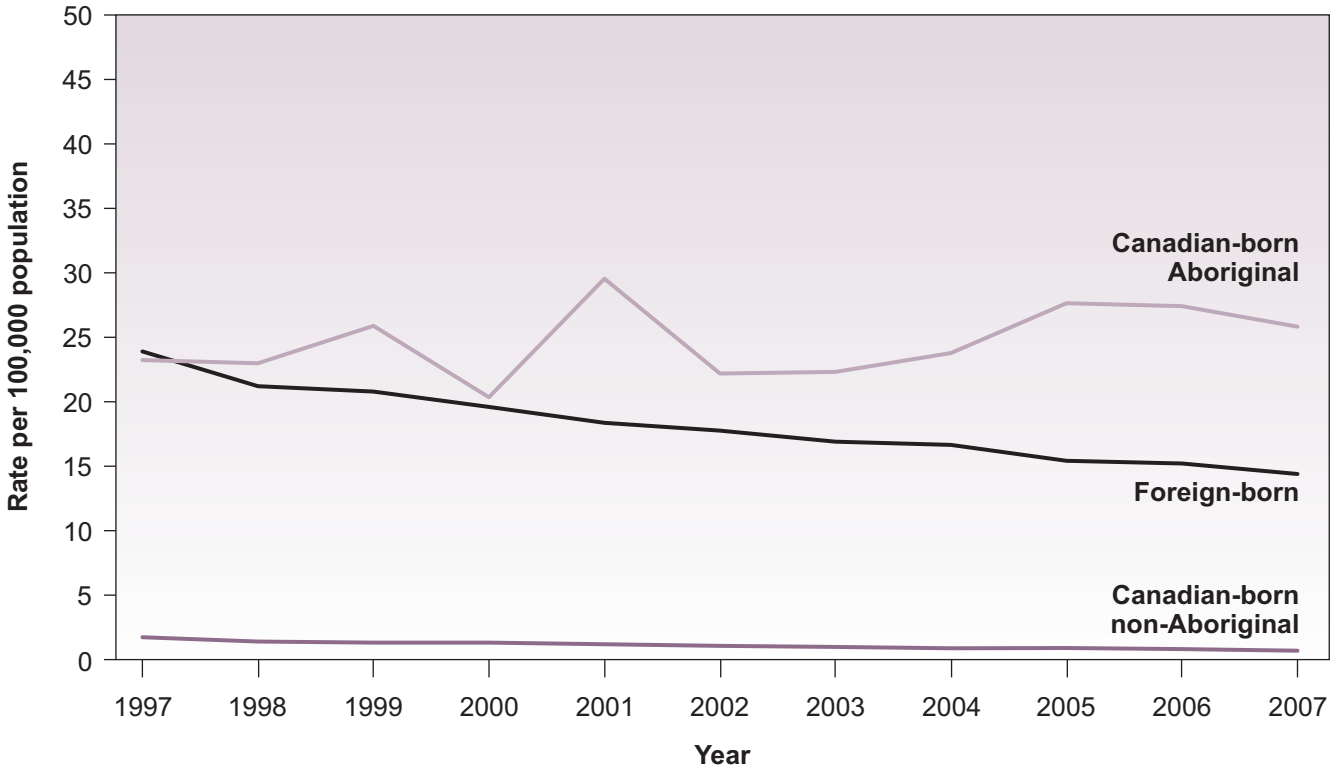
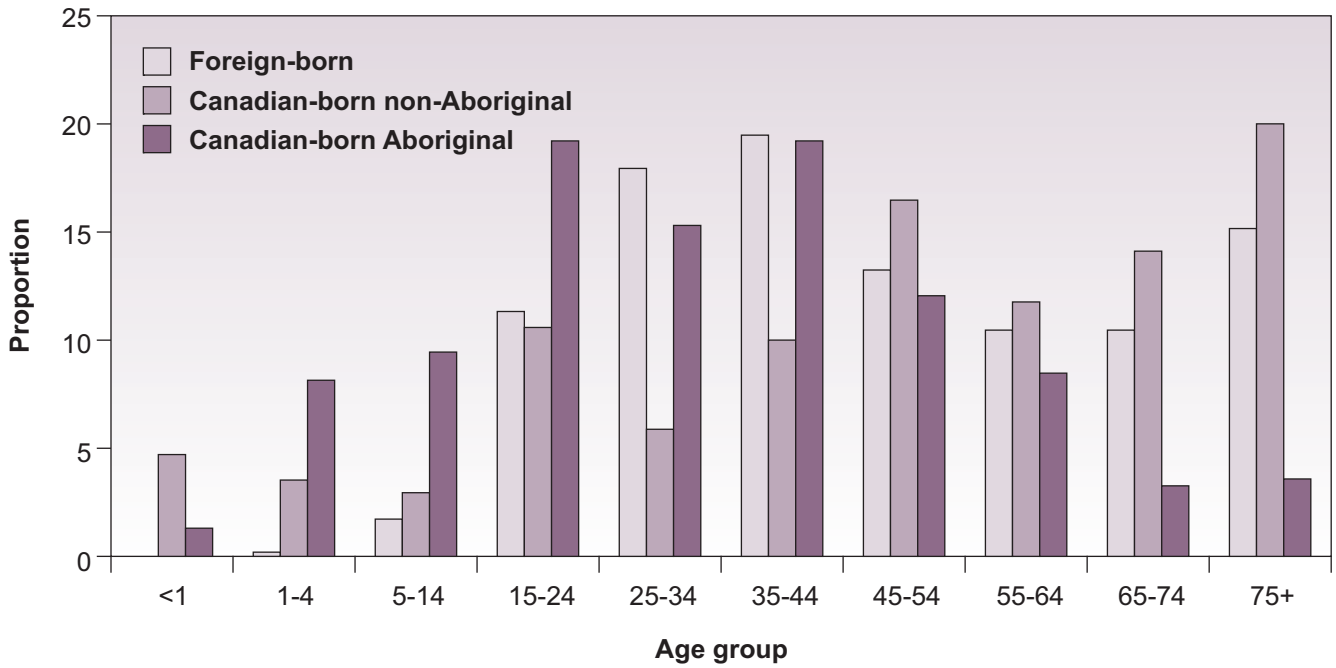


Figure 10

Proportion of tuberculosis cases by age group and origin – Canada: 2007



Among the foreign-born cases, when analyzed according to the STOP-TB Partnership/WHO TB epidemiological regions, 39% were in individuals originating from the Western Pacific Region with cases primarily from China, the Philippines and Viet Nam. The highest incidence rate (43.9 per 100,000 population) was found in individuals from the Africa, High HIV Prevalence region, (AFR-High). Table C shows the foreign-born TB incidence rate in Canada by WHO region of birth compared with the WHO estimated TB incidence rate for that region. Figure 11 shows the percentage of foreign-born TB by region, reported in Canada between 1997 and 2007.

Table C

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

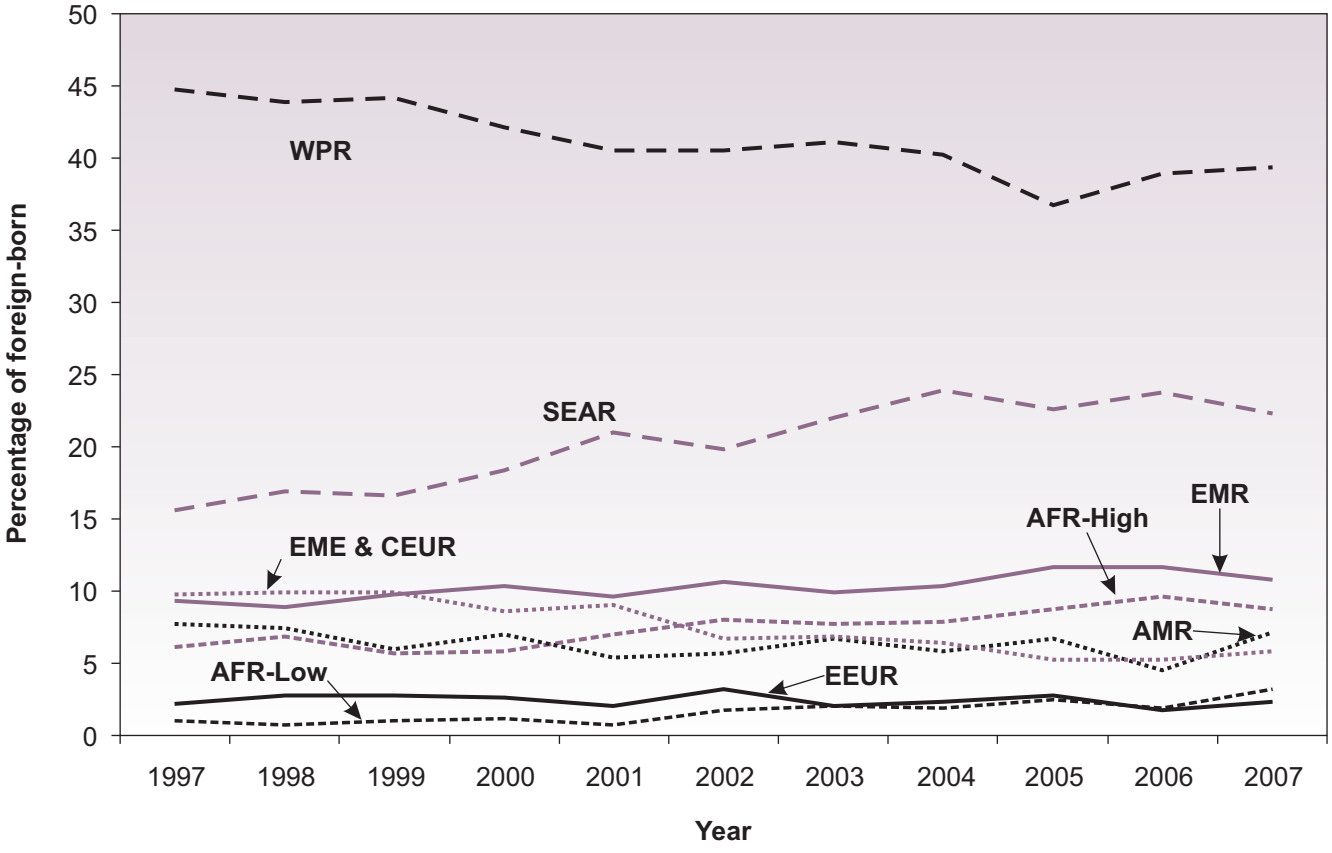
WHO regions*	Reported rate in Canada, 2007	WHO estimated TB incidence rate in regions, 2007**
Africa, High HIV Prevalence, (AFR High)	43.9	414
Africa, Low HIV Prevalence, (AFR Low)	29.7	217
American Region (AMR) – Latin American Countries (LAC)	9.4	56
Eastern Europe (EEUR)	7.2	91
Eastern Mediterranean (EMR)	15.7	104
Established Market Economies (EME) and Central Europe (CEUR)	2.3	12
South-East Asia (SEAR)	31.7	180
Western Pacific (WPR)	24.1	117
Overall	**14.4**	**139**

* Source: The Stop TB Partnership and World Health Organization. *Global Plan to Stop TB 2006–2015*. Geneva, World Health Organization, 2006 (WHO/HTM/STB/2006.35).

** Source: *Global tuberculosis control: surveillance, planning, financing, WHO report 2009*. Geneva, World Health Organization (WHO/HTM/TB/2009.411).

Figure 11

Percentage of foreign-born tuberculosis cases by STOP-TB Partnership/WHO TB epidemiological regions – Canada: 1997-2007



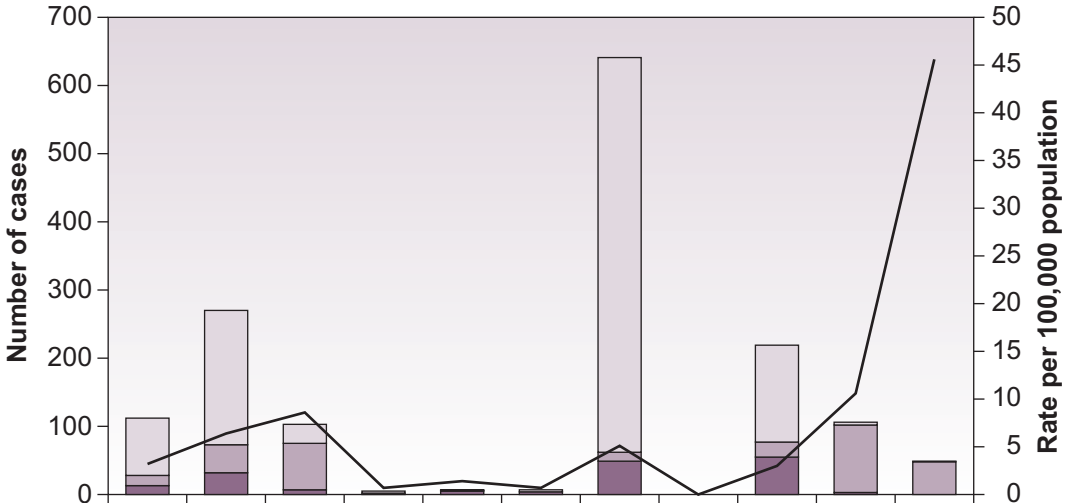
Analyzing the duration of time between the arrival of foreign-born individuals into Canada to the time they were diagnosed with active TB disease, based on the year of arrival, 19% of the foreign-born cases were diagnosed in individuals arriving in Canada after January 1, 2006, (i.e. < 2 years after arrival). An additional 14% of the cases arrive between January 1, 2003 and December 31, 2005 (i.e. between 2 and 5 years after arrival) (*Appendix I*, Table 18).

Alberta, British Columbia and Ontario reported the highest percentage of foreign-born cases (75%, 71% and 89%, respectively). In Quebec foreign-born cases accounted for 62% of the reported cases. In New Brunswick 60% of the cases were foreign-born and in Nova Scotia, 43% of the cases were foreign-born. (Table 6). For the remaining provinces/territories foreign-born cases accounted for fewer than 30% of the total case count.

Canadian-born Aboriginal cases accounted for 20% of all cases reported in Canada. In Saskatchewan and the North (which includes Northwest Territories, Nunavut and Yukon), Canadian-born Aboriginal peoples accounted for over 88% of reported cases. In Manitoba, Canadian-born Aboriginals made up 66% of the cases (Figure 12; Table D; *Appendix I*, Table 6).

Figure 12

Origin of tuberculosis cases and overall incidence rate – provinces/territories: 2007



	Alta.	B.C.	Man.	N.B.	N.L.	N.S.	Ont.	P.E.I.	Que.	Sask.	North*
Foreign-born	84	197	28	3	1	3	579	0	142	4	1
Canadian-born Aboriginal	15	41	68	0	1	0	13	0	22	99	48
Canadian-born non-Aboriginal	13	32	7	2	5	4	49	0	55	3	0
Rate per 100,000	3.2	6.4	8.6	0.7	1.4	0.7	5.1	0	3	10.6	45.6

Table D

Percentage of tuberculosis cases in Canada by origin – provinces/territories: 2007

Reporting province or territory	Canadian-born non-Aboriginal	Canadian-born Aboriginal	Foreign-born	Unknown birthplace
Alberta	11.6	13.4	75.0	0.0
British Columbia	11.6	14.9	71.4	2.2
Manitoba	6.8	66.0	27.2	0.0
New Brunswick	40.0	0.0	60.0	0.0
Newfoundland and Labrador	71.4	14.3	14.3	0.0
Nova Scotia	57.1	0.0	42.9	0.0
North*	0.0	98.0	2.0	0.0
Ontario	7.5	2.0	88.5	2.0
Prince Edward Island	-	-	-	-
Quebec	24.0	9.6	62.0	4.4
Saskatchewan	2.8	93.4	3.8	0.0
Canada	**11.0**	**19.8**	**67.3**	**1.9**

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

*Includes Northwest Territories, Nunavut and Yukon Territory.

Diagnostic distribution

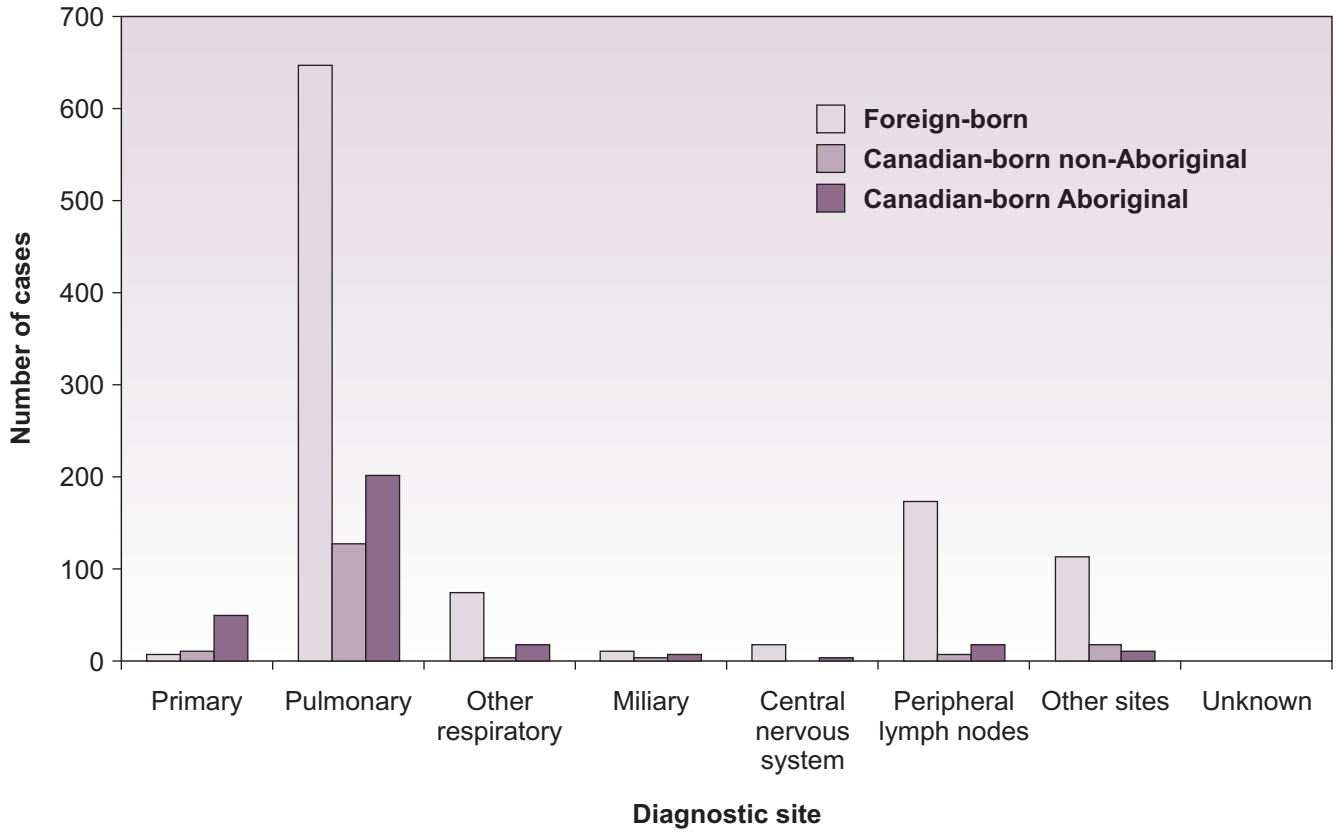
Pulmonary TB, including TB of the lungs and conducting airways (see Technical Annex for complete definition), was the most frequently reported diagnostic site, accounting for 65% of reported cases in 2007, followed by TB of the peripheral lymph nodes, which accounted for 13% of the reported cases. Nine percent of the cases were classified as "other", which included: TB of the intestines, peritoneum and mesenteric glands, bones and joints, genitourinary system, skin, eye, ear, thyroid, adrenal, and spleen (*Appendix I*, Table 4).

Pulmonary TB was diagnosed in 75% of Canadian-born non-Aboriginals, 66% of the Canadian-born Aboriginal cases and 62% of foreign-born cases. A greater percentage (17%) of the foreign-born cases was diagnosed with TB of the peripheral lymph nodes compared with 4% of the Canadian-born Aboriginal cases and 6% of the Canadian-born non-Aboriginal cases (*Appendix I*, Table 10).

There were of 63 cases of primary TB. Seventy-six percent of these cases were reported in the Canadian-born Aboriginal population and represented 16% of the total number of Aboriginal cases. TB of the central nervous system (CNS) was rare, accounting for only 20 (1.3%) of all reported cases (Figure 13; *Appendix I*, Table 10).

Figure 13

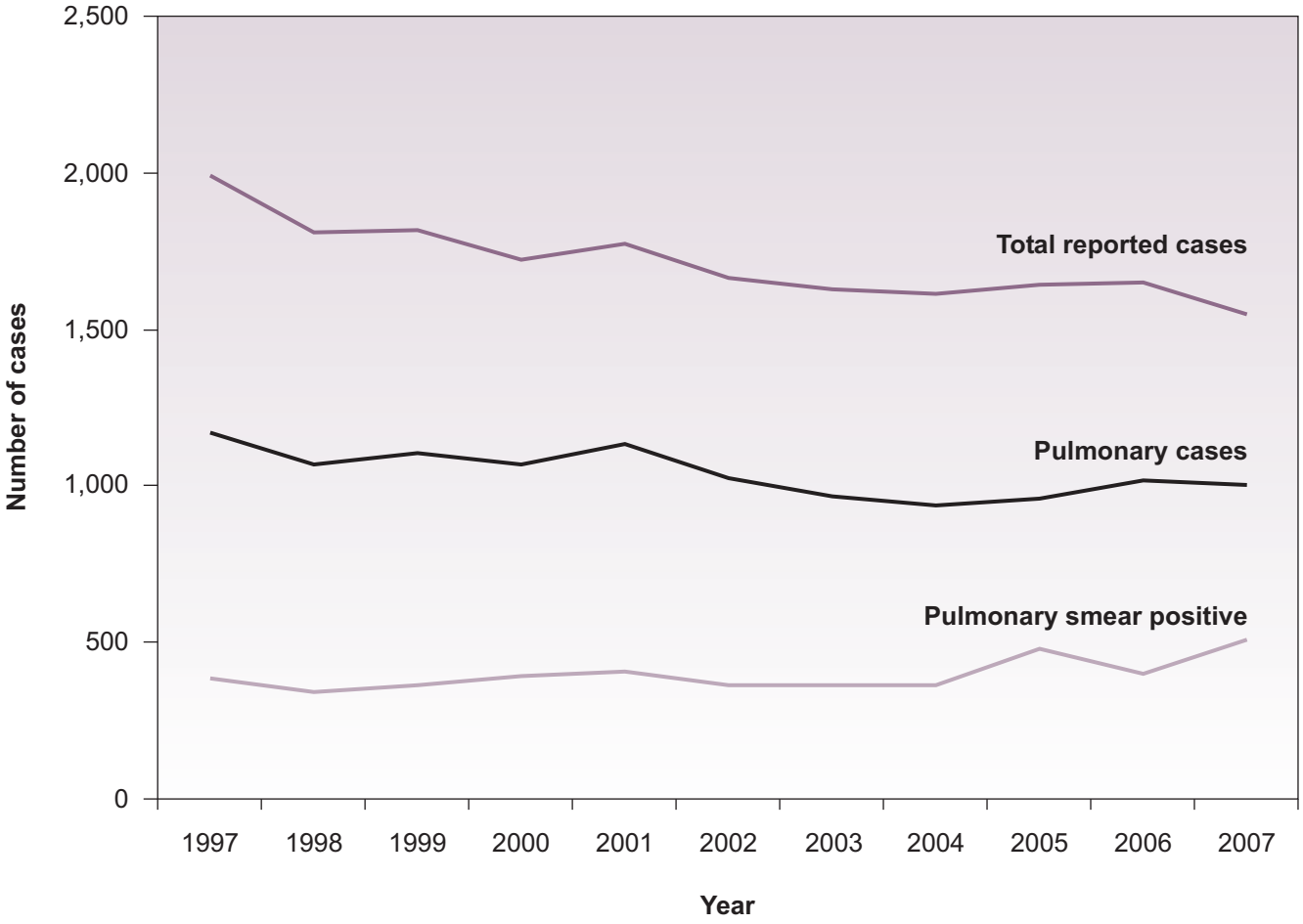
Tuberculosis cases by main diagnostic site and origin – Canada: 2007



Of the 1,002 cases of pulmonary TB reported, smear status was available for 909 cases. Of these, 56% (509 cases) were smear-positive (sputum was obtained from direct collection, through bronchoscopy or gastric aspirate). The percentage of pulmonary cases that were smear positive increased from 51% in 2006. A smear positive diagnosis denotes the most infectious form of pulmonary TB. Figure 14 shows the relationship between the total number of cases reported, the number of cases that were pulmonary and of those, the number that were pulmonary and smear-positive for the years 1997 to 2007.

Figure 14

Pulmonary sputum smear positive tuberculosis cases – Canada: 1997-2007



Case detection

Seventy-four percent of the cases were diagnosed when the patient presented with symptoms to a medical professional. Of the 139 cases identified through contact tracing, 67% were in the Aboriginal population. Overall, 30% of all Aboriginal cases were detected through contact tracing compared with 12% for the non-Aboriginal cases and 2% of the foreign-born cases. For the foreign-born population, 7% were identified through immigration screening (*Appendix I*, Table 17).

Deaths

For the 1,652 cases diagnosed in 2006 for which outcomes were reported as of June 30, 2008, 143 (9%) were reported to have died before or during treatment. Of these, TB was reported as the underlying cause of death for 23 cases (16%). TB contributed to death, but was not the underlying cause for 68 cases (48%). Cause of death was not reported for seven cases (*Appendix I*, Tables 21 and 22).

As of June 30, 2008, 124 (8%) of the 1,548 cases diagnosed in 2007 were reported to have died before or during treatment. Of these, TB was reported as the underlying cause of death for 28 cases (23%). TB contributed to death, but was not the underlying cause for 56 cases (45%). Cause of death was not reported for three cases (*Appendix I*, Tables 21 and 22). The number of deaths as reported for the 2007 cases will be updated in the 2008 report when all outcome data has been submitted for these cases.

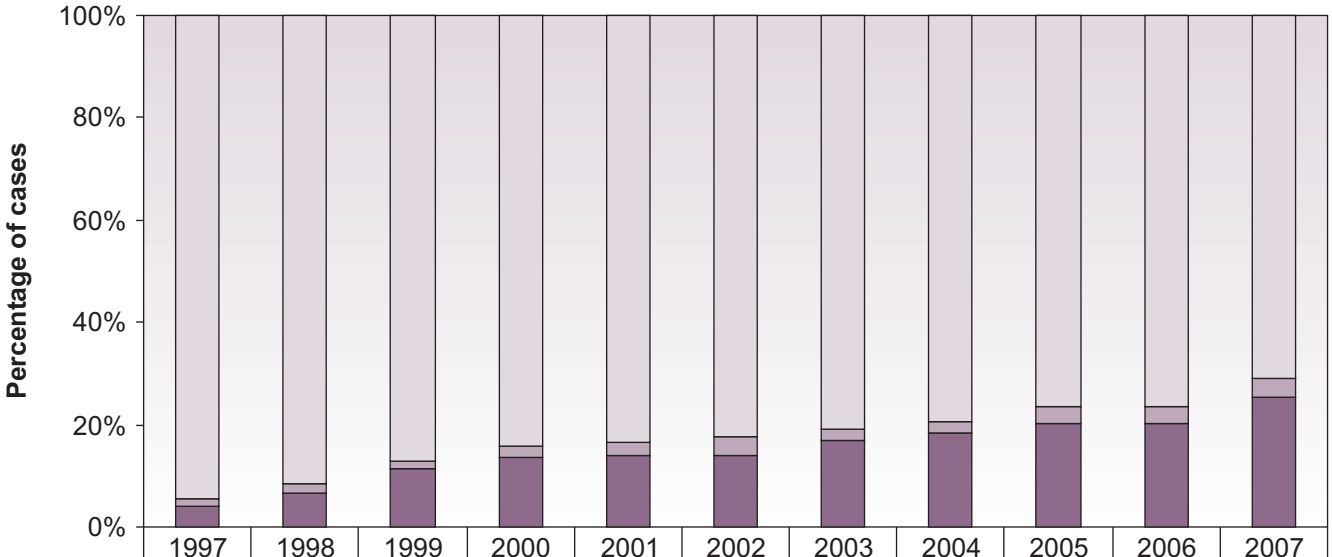
HIV Status

Data on HIV status continues to be underreported at the national level. Of the 1,548 cases reported, 447 cases (29%) had an HIV test result reported (Figure 15). Across the provinces and territories, the percentage of cases for which HIV status was reported ranged from 0% to 96% of reported cases. (Appendix 1, Table 24).

Of the cases for which HIV status was known, 59% were male and the majority of cases were between 15 and 55 years of age. Forty-percent of the Canadian-born Aboriginal population had a result reported, whereas 31% of the Canadian-born non-Aboriginal population and 26% of the foreign-population were tested. Of the 447 cases with known HIV status, 55 (12%) were HIV positive. By origin group, of those with HIV status reported, 29% of the Canadian-born non-Aboriginal tested were HIV positive, compared with 11% of the Canadian-born Aboriginal and 11% of the foreign-born.

Figure 15

Percentage of tuberculosis cases by HIV status – Canada: 1997-2007



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Unknown	94.4	91.7	87.1	84.2	83.4	82.2	80.8	79.2	76.5	76.3	71.1
Positive	1.6	1.5	1.4	2.1	2.5	4.0	2.3	2.4	3.4	3.5	3.6
Negative	4.0	6.8	11.5	13.6	14.1	13.8	16.9	18.4	20.2	20.2	25.3

Year

Patterns of drug resistance

Initial drug resistance

Of the 1,548 cases reported in 2007, 1,231 cases were culture positive. Of these, resistance information was available for 1,188 cases. Ninety-one percent of cases with reported drug sensitivity information showed no resistance to first-line anti-TB drugs (isoniazid, rifampin, ethambutol or pyrazinamide)[4,5], 8% percent were resistant to one drug and the remaining 1% showed patterns of resistance to two or more drugs prescribed.

For the 111 cases that were resistant to at least one drug, 85% were monoresistant with resistance to isoniazid accounting for 87% of all monoresistant cases. Nine percent of resistant cases were multidrug-resistant (MDR) defined as resistance to at least isoniazid and rifampin. One case was identified as being extensively drug-resistant (XDR-TB), which is resistance to any fluoroquinolone and at least one of three injectable second-line drugs: amikacin, capreomycin and kanamycin[6]. The remaining 5% of the resistant cases were poly-resistant, not including MDR-TB.

Foreign-born cases accounted for 81% of the 111 resistance cases and 90% of the MDR-TB cases. The one XDR-TB case was in a foreign-born patient who acquired resistance outside Canada.

The majority of cases, 84%, for which resistance was reported, were diagnosed with TB for the first time, 8% were relapsed cases and for the remaining 8% of cases, disease status was unknown (*Appendix I, Table 15*).

[4] As of 2005, streptomycin was considered a second-line TB antibiotic in Canada, even though it may be used for initial treatment.

[5] British Columbia and Manitoba do not routinely test resistance against PZA.

[6] This case was reported in Tuberculosis Drug Resistance in Canada, 2008 as a 2008 case since drug susceptibility testing was performed in 2008.

Section II – 2006 Treatment Outcomes

Treatment outcome data for new active and relapsed cases reported in the previous year are submitted to TBPC using a separate reporting form (*Appendix VII* – Reporting forms). For the 1,652 cases reported in 2006, 1,541 (93%) had outcome data (partial and complete) available. Of these cases, 1,270 (82%) were reported as cured or had completed treatment, 143 (9%) died before or during treatment, 29 (2%) transferred out of Canada, 35 (2%) absconded before completion of 80% of treatment, and treatment was ongoing for 46 (3%) cases. For 129 (8%) cases, treatment outcome was not reported or was reported as "other".

The majority of individuals were reported to have received treatment as per the *Canadian Tuberculosis Standards, 6th edition*[7]. Drug regimen reporting was complete for 1,042 cases. Almost eighty percent of these cases received three or more anti-tuberculosis drugs (*Appendix I*, Table 25).

Of the 1,652 patients diagnosed in 2006 822 (49%) were on directly observed therapy (DOT). An additional 36% self-administered their medications and 4% were treated using another treatment regimen. Treatment regimen was not indicated for 11% of the cases. Eighty-six percent of those patients on DOT and 89% who self-administered were reported to have been cured or to have completed treatment (Figure 16).

PHAC provides treatment outcome data to the WHO on an annual basis. This reporting focuses only on pulmonary smear positive cases and the treatment outcomes of these cases by major mode of treatment (e.g., DOTS or non-DOTS). The WHO global targets for TB include 70% detection of all pulmonary smear positive cases and of these cases an 85% cure or treatment completion rate. Table E provides the reported treatment outcome data for laboratory confirmed pulmonary cases in Canada between 1998 and 2006, inclusive. Laboratory-confirmed cases include smear-positive cases plus any cases confirmed by additional laboratory methods.

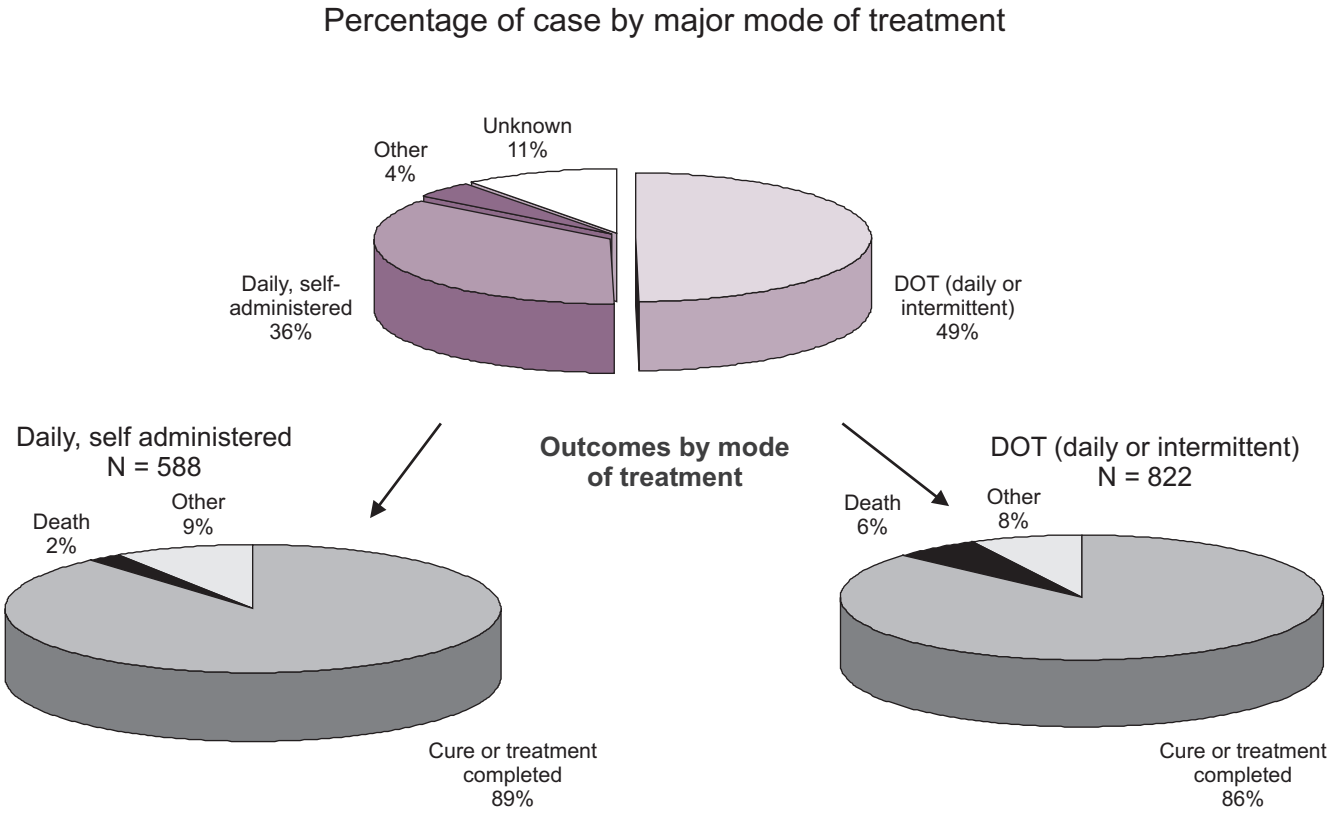
Acquired drug resistance

Acquired drug resistance occurs when patients who initially had drug-susceptible TB bacteria later become drug-resistant as a result of inadequate, inappropriate or irregular treatment or, more importantly, because of non-adherence in drug taking. In 2006 there was 1 case of acquired resistance reported (*Appendix I*, Table 28).

[7] Long R, Ellis E, editors, *Canadian Tuberculosis Standards*, 6th ed. Ottawa: Public Health Agency of Canada and the Canadian Lung Association/Canadian Thoracic Society; 2007.

Figure 16

Treatment outcome status of tuberculosis cases by major mode of treatment – 2006



* Other: absconded, transferred, treatment ongoing, unknown

Table E

Treatment outcome of laboratory confirmed pulmonary cases, Canada: 1998–2006[8]

Treatement outcome	1998		1999		2000		2001		2002		2003		2004		2005*		2006*	
	DOTS	*Non-DOTS*	**DOTS**	***Non-DOTS***	**DOTS**	***Non-DOTS***	**DOTS**	***Non-DOTS***	**DOTS**	***Non-DOTS***	**DOTS**	***Non-DOTS***	**DOTS**	***Non-DOTS***	**DOTS**	***Non-DOTS***	**DOTS**	***Non-DOTS***
Total cohort registered for treatment	184	*247*	221	*161*	231	*150*	258	*188*	205	*139*	200	*165*	216	*153*	437	*225*	416	*277*
Cured	68	*71*	76	*68*	107	*72*	79	*57*	83	*9*	55	*12*	46	*15*	62	*14*	63	*11*
Completed	88	*96*	126	*53*	84	*53*	134	*92*	99	*105*	121	*126*	129	*120*	307	*168*	293	*223*
Cured or completed (% of total)	**156 (85%)**	***167 (68%)***	**202 (91%)**	***121 (75%)***	**191 (83%)**	***125 (83%)***	**213 (83%)**	***149 (79%)***	**182 (89%)**	***114 (82%)***	**176 (88%)**	***138 (84%)***	**175 (81%)**	***135 (88%)***	**369 (84%)**	***182 (81%)***	**356 (86%)**	***234 (84%)***
Died	8	*28*	6	*25*	22	*10*	26	*23*	11	*13*	17	*17*	27	*8*	29	*25*	23	*23*
Failed	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*	0	*0*
Defaulted	1	*3*	5	*3*	6	*3*	9	*5*	4	*6*	3	*3*	3	*2*	5	*3*	9	*7*
Transferred	2	*20*	2	*5*	1	*8*	3	*10*	2	*4*	2	*5*	5	*3*	9	*7*	7	*6*
Treatment ongoing	3	*2*	4	*3*	8	*2*	3	*1*	1	*0*	0	*0*	3	*1*	17	*3*	15	*6*
Unknown	14	*27*	2	*4*	3	*2*	4	*0*	5	*2*	2	*2*	3	*4*	8	*5*	6	*1*

* The sharp increase in the number of cases registered between 2004 and 2005 is attributed to the submissions of outcome data from Ontario.

[8] Numbers may differ from *Global Tuberculosis Control, WHO Report 2009* (which reports 2007 case data and 2006 treatment outcome data) due to late reporting of cases to the Public Health Agency of Canada.

Section III – Measuring progress towards national targets

In 1997, the National Consensus Conference on Tuberculosis recommended that the Canadian goal of TB prevention and control should be to reduce the annual number of TB cases (new and relapsed) by five percent annually. The overall average rate of change for such cases between 1997 and 2007 was 3.3% (see Table F).

Table F

Average rate of change in the number of cases and in incidence rate for new and relapsed TB cases in Canada: 1997–2007

Reporting year	Number of reported cases	Rate	Rate of change (%)	
			Cases	Rate
1997	1,994	6.7		
1998	1,810	6.0	↓ 9.2	↓ 10.4
1999	1,820	6.0	↑ 0.6	no change
2000	1,724	5.6	↓ 5.3	↓ 6.7
2001	1,773	5.7	↑ 2.8	↑ 1.8
2002	1,666	5.3	↓ 6.0	↓ 7.0
2003	1,631	5.2	↓ 2.1	↓ 3.8
2004	1,613	5.0	↓ 1.1	↓ 2.0
2005	1,641	5.1	↑ 1.7	↑ 2.0
2006	1,652	5.1	↑ 0.7	no change
2007	1,548	4.7	↓ 6.3	↓ 7.3
		Average rate of change	**↓ 2.4**	**↓ 3 .3**

In 2006, the Canadian Tuberculosis Committee[9] (CTC) reviewed this national goal in view of the targets set in the *Global Plan to Stop TB 2006–2015*[10] to reduce the global burden of TB disease in 2015 by 50% relative to 1990 levels. The CTC recommended a target to reduce the Canadian TB (new and relapsed) incidence rate to 3.6 per 100,000 population (or less) by 2015. This represents one half of the disease burden in Canada as compared to the 1990 incidence rate. Achieving this goal will require a 3.3% annual reduction in the incidence rate between 2007 and 2015.

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

[10] Stop TB Partnership and World Health Organization. *Global Plan to Stop TB 2006–2015*. Geneva, World Health Organization, 2006 (WHO/HTM/STB/2006.35).

The *Canadian Tuberculosis Standards*, 6th edition has set program performance standards for the ideal anti-tuberculous drug regimen and its delivery. These standards require that, at a minimum, treatment:

- convert sputum cultures to negative after 4 months of treatment;
- achieve relapse (re-treatment) rates of less than 3% within 2 years following cessation of treatment;
- achieve acquired drug resistance rates of 0%;
- be cost-effective (since DOT is the optimal mode of drug delivery, intermittent regimens of 120 doses [9 months] or 95 doses [6 months] are recommended);
- be tolerated by the patient (< 5% of patients will discontinue or modify therapy because of adverse effects); and
- achieve at least a 90% cure (negative sputum culture at the end of treatment) or treatment completion (treatment completed but no sputum culture at the end of treatment) rate within 12 months of starting treatment for patients who did not die or transfer out during treatment.

The CTBRS contains data that can approximate measuring progress towards achieving some of these standards for the entire cohort of TB cases reported in Canada.

In 2006, after removing the patients who died or who transferred out of the region there were 1,270 patients who were deemed cured or completed treatment representing 86% of cases. There were 111 cases for which an outcome result was not reported.

Between 2001 and 2006 of the 9,976 TB cases reported in Canada, 750 (7% of all cases) were relapses. Of these relapsed cases, 327 (44%) were known to have been previously diagnosed in Canada and of these, 277 (85%) had a year of previous diagnosis recorded. Forty-two (16%) of the relapsed cases with a previous diagnosis in Canada were diagnosed with their current episode of TB within 2 years of the previous episode. The rate of relapse within two years of cessation of treatment, for cases previously diagnosed in Canada was therefore extremely low, averaging less than one percent of all reported cases for the last six years of reporting (2001 – 2006).

Conclusion

The total number of reported cases of TB in Canada has shown a general decrease over the past two decades. However, this decrease is mostly a reflection of a decreasing number of cases in the Canadian-born non-Aboriginal population. The number of cases in the Canadian-born Aboriginal population increased by an annual average of 2% over the past 10 years whereas there has been a minimal decrease in the foreign-born populations over the same time period.

Generally, the TB incidence rate has been slowly declining among Canadian-born non-Aboriginal and foreign-born populations, (the latter due to a significant increase in the total foreign-born population in Canada). However, no significant TB incidence rate change has occurred in the Canadian born Aboriginal population. The relatively high rate in the Aboriginal population continues to be a major concern.

Pulmonary tuberculosis makes up the majority of the cases reported in Canada. Of the pulmonary TB reported, 56% were smear-positive. The number of sputum smear positive cases, has decreased very little over the past ten years.

Determining the Canadian incidence rate of TB-HIV co-infection from this surveillance system is not yet possible. HIV status was reported for only 29% of cases, of which 12% were HIV sero-positive. This percentage is likely biased towards HIV testing in those with known risk factors for HIV infection. In the unlikely event that these were the only co-infected cases, the overall co-infection rate was 4%. The most recent report by the WHO has estimated HIV prevalence in incident TB cases in Canada in 2007 to be 5.7%.[11] There are a number of important personal and public health reasons for screening for HIV in patients with TB and their contacts, as well as screening and prevention of TB in patients with HIV.[12] Screening for HIV in TB cases and reporting of the results are essential activities for prevention and control of future TB cases in Canada.

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

For the treatment outcome data received, the majority of TB cases were reported as cured or completed treatment. Analysis on the treatment outcome status of laboratory confirmed pulmonary cases indicates that 86% of DOTS and 84% of non-DOTS, (total 85%).

In keeping with the targets set in the *Global Plan to Stop TB 2006-2015*[13] to reduce the global burden of TB disease by 50%, the Canadian tuberculosis incidence rate would have to be reduced to 3.6 per 100,000 by 2015 . Achieving this incidence rate will require an average per annum decrease in the number of reported cases of 3.3% between 2006 and 2015. This will require a concerted effort on behalf of all working on TB prevention and control in Canada.

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

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[11] Global tuberculosis control: surveillance, planning, financing, WHO report 2009. Geneva, World Health Organization (WHO/HTM/TB/2008.393).

[12] Long R, Ellis E, editors, *Canadian Tuberculosis Standards*, 6th ed., Appendix G: Recommendations for the screening and prevention of tuberculosis in patients with human immunodeficiency virus (HIV) and the screening for HIV in tuberculosis patients and their contacts. Ottawa: Public Health Agency of Canada and the Canadian Lung Association/Canadian Thoracic Society; 2007.

[13] Stop TB Partnership and World Health Organization. *Global Plan to Stop TB 2006–2015*. Geneva, World Health Organization, 2006 (WHO/HTM/STB/2006.35).

Appendices

Appendix I – Data tables: 2007

Appendix II – Technical notes

Appendix III – Population estimates: 2007

Appendix IV – WHO estimated incidence of TB, 22 high burden countries: 2007

Appendix V – STOP TB Partnership/ WHO TB epidemiological regions and member countries

Appendix VI – WHO reporting form for 2007 cases

Appendix VII – Canada – Case and treatment outcome reporting forms

Appendix VIII – The Canadian Tuberculosis Committee – 2009

Appendix I
Data Tables: 2007

Table 1A

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 – Canada and provinces/territories: 1997–2007

Year of diagnosis		CANADA	Province/territory												
			N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
1997	Cases	**1,994**	15	5	7	7	359	780	96	121	166	405	2	31	-
	Rate	**6.7**	2.7	3.7	0.8	0.9	4.9	6.9	8.4	11.9	5.9	10.3	6.3	45.9	-
1998	Cases	**1,810**	8	2	18	9	290	742	116	98	158	329	2	38	-
	Rate	**6.0**	1.5	1.5	1.9	1.2	4.0	6.5	10.2	9.6	5.5	8.3	6.4	56.6	-
1999	Cases	**1,820**	12	2	15	15	314	698	132	116	149	328	1	23	15
	Rate	**6.0**	2.3	1.5	1.6	2.0	4.3	6.1	11.6	11.4	5.0	8.2	3.2	56.6	55.9
2000	Cases	**1,724**	10	2	3	10	318	700	98	104	133	286	3	10	47
	Rate	**5.6**	1.9	1.5	0.3	1.3	4.3	6.0	8.5	10.3	4.4	7.1	9.9	24.7	170.9
2001	Cases	**1,773**	19	3	8	10	261	699	115	114	116	380	0	8	40
	Rate	**5.7**	3.6	2.2	0.9	1.3	3.5	5.9	10.0	11.4	3.8	9.3	-	19.6	142.2
2002	Cases	**1,666**	9	1	9	11	288	716	98	89	128	286	0	4	27
	Rate	**5.3**	1.7	0.7	1.0	1.5	3.9	5.9	8.5	8.9	4.1	7.0	-	9.6	93.7
2003	Cases	**1,631**	7	3	6	12	257	693	127	91	110	305	1	12	7
	Rate	**5.2**	1.3	2.2	0.6	1.6	3.4	5.7	10.9	9.1	3.5	7.4	3.2	28.2	23.9
2004	Cases	**1,613**	7	1	8	10	219	700	144	70	109	299	4	10	32
	Rate	**5.0**	1.4	0.7	0.9	1.3	2.9	5.6	12.3	7.0	3.4	7.2	12.7	23.1	107.2
2005	Cases	**1,641**	9	1	7	6	255	643	114	139	146	265	3	8	45
	Rate	**5.1**	1.7	0.7	0.7	0.8	3.4	5.1	9.7	14.0	4.4	6.3	9.4	18.4	148.4
2006	Cases	**1,652**	12	0	10	2	228	671	134	87	131	320	3	6	48
	Rate	**5.1**	2.4	-	1.1	0.3	3.0	5.3	11.3	8.8	3.8	7.5	9.3	13.9	155.8
2007	Cases	**1,548**	7	0	7	5	229	654	103	106	112	276	3	15	31
	Rate	**4.7**	1.4	-	0.7	0.7	3.0	5.1	8.6	10.6	3.2	6.4	9.2	34.5	99.2

Table 1B

Reported new active tuberculosis cases and incidence rate per 100,000 – Canada and provinces/territories: 1997-2007

Year of diagnosis		CANADA	Province/territory												
			N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
1997	Cases	**1,764**	13	4	5	6	322	682	86	110	150	360	2	24	-
	Rate	**5.9**	2.4	2.9	0.5	0.8	4.4	6.1	7.6	10.8	5.3	9.1	6.3	35.5	-
1998	Cases	**1,607**	7	2	16	7	263	631	104	91	146	306	2	32	-
	Rate	**5.4**	1.3	1.5	1.7	0.9	3.6	5.7	9.1	8.9	5.0	7.7	6.4	47.6	-
1999	Cases	**1,623**	11	2	12	13	278	596	123	110	141	304	1	17	15
	Rate	**5.3**	2.1	1.5	1.3	1.7	3.8	5.2	10.8	10.8	4.8	7.6	3.2	41.8	55.9
2000	Cases	**1,540**	10	2	3	8	297	599	88	100	120	264	2	7	40
	Rate	**5.0**	1.9	1.5	0.3	1.1	4.0	5.1	7.7	9.9	4.0	6.5	6.6	17.3	145.5
2001	Cases	**1,576**	17	2	5	10	235	610	108	104	106	337		8	34
	Rate	**5.1**	3.3	1.5	0.5	1.3	3.1	5.1	9.4	10.4	3.4	8.2	0.0	19.6	120.9
2002	Cases	**1,487**	6	1	7	10	258	631	92	83	121	252		4	22
	Rate	**4.7**	1.2	0.7	0.7	1.3	3.4	5.2	8.0	8.3	3.9	6.2	0.0	9.6	76.6
2003	Cases	**1,472**	4	1	5	11	242	613	118	82	104	275	1	9	7
	Rate	**4.7**	0.6	0.7	0.5	1.5	3.2	5.0	10.2	8.2	3.3	6.6	3.3	21.3	24.0
2004	Cases	**1,469**	4	1	8	9	204	634	132	63	100	277	4	9	24
	Rate	**4.6**	0.8	0.7	0.9	1.2	2.7	5.1	11.2	6.3	3.1	6.7	12.7	20.8	80.4
2005	Cases	**1,491**	8	1	7	6	223	586	105	127	131	247	3	8	39
	Rate	**4.6**	1.6	0.7	0.7	0.8	2.9	4.7	8.9	12.8	3.9	5.9	9.4	18.4	128.6
2006	Cases	**1,459**	9	0	9	2	207	566	125	79	123	287	3	5	44
	Rate	**4.5**	1.8	0.0	1.0	0.3	2.7	4.5	10.6	8.0	3.6	6.8	9.3	11.6	142.9
2007	Cases	**1,398**	7	0	6	5	210	583	96	96	106	250	2	14	23
	Rate	**4.2**	1.4	0.0	0.6	0.7	2.7	4.6	8.0	9.6	3.0	5.8	6.1	32.2	73.6

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: 1997-2007

Year of diagnosis		CANADA	Province/territory												
			N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
1997	Cases	**197**	2	1	2	1	34	70	10	11	16	43	0	7	-
	Rate	**0.7**	0.4	0.7	0.2	0.1	0.5	0.6	0.9	1.1	0.6	1.1	0.0	10.4	-
1998	Cases	**153**	1	0	2	2	22	66	12	7	12	23	0	6	-
	Rate	**0.5**	0.2	0.0	0.2	0.3	0.3	0.6	1.1	0.7	0.4	0.6	0.0	8.9	-
1999	Cases	**158**	1	0	2	1	33	69	9	6	8	23	0	6	0
	Rate	**0.5**	0.2	0.0	0.2	0.1	0.5	0.6	0.8	0.6	0.3	0.6	0.0	14.8	0.0
2000	Cases	**147**	0	0	0	1	18	70	10	4	13	21	1	3	6
	Rate	**0.5**	0.0	0.0	0.0	0.1	0.2	0.6	0.9	0.4	0.4	0.5	3.3	7.4	21.8
2001	Cases	**152**	2	1	3	0	17	59	5	10	10	39	0	0	6
	Rate	**0.5**	0.4	0.7	0.3	0.0	0.2	0.5	0.4	1.0	0.3	1.0	0.0	0.0	21.3
2002	Cases	**137**	3	0	2	1	19	56	6	6	7	32	0	0	5
	Rate	**0.4**	0.6	0.0	0.2	0.1	0.3	0.5	0.5	0.6	0.2	0.8	0.0	0.0	17.4
2003	Cases	**105**	3	1	1	1	15	35	9	9	6	22	0	3	0
	Rate	**0.3**	0.6	0.7	0.1	0.1	0.2	0.3	0.8	0.9	0.2	0.5	0.0	7.1	0.0
2004	Cases	**120**	3	0	0	1	15	42	12	7	9	22	0	1	8
	Rate	**0.4**	0.6	0.0	0.0	0.1	0.2	0.3	1.0	0.7	0.3	0.5	0.0	2.3	27.0
2005	Cases	**106**	1	0	0	0	12	33	9	12	15	18	0	0	6
	Rate	**0.3**	0.2	0.0	0.0	0.0	0.2	0.3	0.8	1.2	0.5	0.4	0.0	0.0	20.0
2006	Cases	**130**	3	0	1	0	20	44	9	8	8	32	0	1	4
	Rate	**0.4**	0.6	0.0	0.1	0.0	0.3	0.3	0.8	0.8	0.2	0.7	0.0	2.4	13.2
2007	Cases	**109**	0	0	1	0	10	39	7	10	6	26	1	1	8
	Rate	**0.3**	0.0	0.0	0.1	0.0	0.1	0.3	0.6	1.0	0.2	0.6	3.1	2.3	25.6

Note: Cases of 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: 1997-2007

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 unknown
1997	Cases	**1,994**	8	50	57	222	391	291	216	232	250	277	0
	Rate	**6.7**	2.2	3.2	1.4	5.5	8.4	5.7	5.5	9.0	11.9	17.9	-
1998	Cases	**1,810**	20	60	72	187	314	307	184	174	235	256	1
	Rate	**6.0**	5.8	3.9	1.8	4.6	7.0	5.9	4.5	6.6	11.0	16.0	-
1999	Cases	**1,820**	32	55	61	204	339	254	193	173	244	265	0
	Rate	**6.0**	9.5	3.7	1.5	5.0	7.7	4.8	4.6	6.3	11.4	16.1	-
2000	Cases	**1,724**	17	50	44	207	316	278	208	160	204	239	1
	Rate	**5.6**	5.0	3.4	1.1	5.0	7.3	5.3	4.8	5.7	9.5	14.0	-
2001	Cases	**1,773**	11	33	70	180	322	290	208	184	219	255	1
	Rate	**5.7**	3.3	2.3	1.7	4.3	7.5	5.5	4.6	6.3	10.1	14.5	-
2002	Cases	**1,666**	10	42	45	210	312	263	201	161	199	217	6
	Rate	**5.3**	3.0	3.0	1.1	4.9	7.2	5.0	4.4	5.2	9.2	11.9	-
2003	Cases	**1,631**	7	34	41	198	332	277	206	153	178	203	2
	Rate	**5.2**	2.1	2.5	1.0	4.6	7.7	5.3	4.4	4.7	8.1	10.8	-
2004	Cases	**1,613**	6	33	45	198	324	272	198	167	177	193	0
	Rate	**5.0**	1.8	2.4	1.1	4.6	7.5	5.3	4.1	4.9	8.0	10.0	-
2005	Cases	**1,641**	10	38	71	254	279	278	212	143	168	188	0
	Rate	**5.1**	2.9	2.8	1.8	5.8	6.4	5.4	4.3	4.0	7.5	9.5	-
2006	Cases	**1,652**	10	46	51	261	253	286	200	158	168	219	0
	Rate	**5.1**	2.9	3.3	1.3	5.8	5.8	5.7	4.0	4.3	7.4	10.7	-
2007	Cases	**1,548**	12	33	53	197	247	282	205	158	149	212	0
	Rate	**4.7**	3.4	2.4	1.4	4.4	5.6	5.7	4.0	4.1	6.4	10.1	-

Table 2B

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – males – Canada: 1997-2007

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 unknown
1997	Cases	**1,062**	6	27	25	94	195	161	118	131	141	164	0
	Rate	**7.2**	3.3	3.4	1.2	4.5	8.3	6.3	6.0	10.3	14.5	28.5	-
1998	Cases	**966**	16	31	38	78	162	164	100	105	125	147	0
	Rate	**6.5**	9.1	4.0	1.8	3.7	7.1	6.3	4.9	8.0	12.6	24.7	-
1999	Cases	**999**	20	28	24	99	176	141	117	96	144	154	0
	Rate	**6.6**	11.5	3.7	1.1	4.7	7.9	5.4	5.6	7.1	14.4	25.0	-
2000	Cases	**924**	10	27	24	97	168	149	117	88	101	143	0
	Rate	**6.1**	5.8	3.6	1.1	4.5	7.7	5.6	5.4	6.3	10.0	22.3	-
2001	Cases	**984**	6	15	45	92	153	168	124	111	127	143	0
	Rate	**6.4**	3.5	2.1	2.1	4.2	7.0	6.3	5.5	7.7	12.5	21.5	-
2002	Cases	**867**	5	19	15	96	168	143	105	90	116	110	0
	Rate	**5.6**	3.0	2.7	0.7	4.4	7.7	5.4	4.6	5.9	11.3	15.9	-
2003	Cases	**896**	3	21	14	102	162	161	128	87	105	113	0
	Rate	**5.7**	1.8	3.0	0.7	4.6	7.4	6.1	5.5	5.4	10.1	15.8	-
2004	Cases	**848**	5	22	23	85	146	147	104	99	110	107	0
	Rate	**5.4**	2.9	3.1	1.1	3.8	6.7	5.7	4.3	5.9	10.5	14.4	-
2005	Cases	**909**	6	20	33	128	142	154	124	83	97	122	0
	Rate	**5.7**	3.4	2.8	1.6	5.7	6.5	6.0	5.0	4.7	9.1	15.8	-
2006	Cases	**882**	6	24	24	137	117	150	118	86	90	130	0
	Rate	**5.5**	3.3	3.4	1.2	6.0	5.3	5.9	4.7	4.7	8.3	16.2	-
2007	Cases	**846**	11	14	31	99	120	154	124	96	84	113	0
	Rate	**5.2**	6.0	1.9	1.6	4.3	5.4	6.1	4.8	5.1	7.6	13.6	-

Table 2C

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – females – Canada: 1997-2007

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 unknown
1997	Cases	**932**	2	23	32	128	196	129	98	101	109	114	0
	Rate	**6.2**	1.2	3.0	1.6	6.5	8.6	5.1	5.0	7.7	9.6	11.8	-
1998	Cases	**844**	4	29	34	109	152	144	84	69	110	109	0
	Rate	**5.5**	2.4	3.9	1.7	5.5	6.8	5.6	4.1	5.1	9.7	10.9	-
1999	Cases	**821**	12	27	37	105	164	112	76	77	100	111	0
	Rate	**5.3**	7.3	3.7	1.9	5.2	7.5	4.3	3.6	5.6	8.8	10.7	-
2000	Cases	**800**	7	23	20	110	148	130	91	72	103	96	0
	Rate	**5.2**	4.2	3.2	1.0	5.4	6.9	4.9	4.2	5.1	9.0	9.0	-
2001	Cases	**788**	5	18	25	88	171	121	84	72	92	112	0
	Rate	**5.0**	3.1	2.6	1.3	4.3	8.0	4.6	3.7	4.9	8.1	10.2	-
2002	Cases	**797**	5	24	30	115	145	121	97	71	83	106	0
	Rate	**5.1**	3.1	3.5	1.5	5.5	6.8	4.6	4.2	4.5	7.2	9.4	-
2003	Cases	**735**	4	13	27	96	170	116	79	67	73	90	0
	Rate	**4.6**	2.5	1.9	1.4	4.6	8.0	4.5	3.3	4.1	6.3	7.8	-
2004	Cases	**765**	1	11	22	113	178	125	94	68	67	86	0
	Rate	**4.7**	0.6	1.6	1.1	5.3	8.3	4.9	3.9	3.9	5.8	7.3	-
2005	Cases	**732**	4	18	38	126	137	124	88	60	71	66	0
	Rate	**4.5**	2.4	2.7	2.0	5.9	6.4	4.9	3.6	3.3	6.0	5.4	-
2006	Cases	**770**	4	22	27	124	136	136	82	72	78	89	0
	Rate	**4.7**	2.4	3.3	1.4	5.7	6.3	5.5	3.2	3.9	6.5	7.2	-
2007	Cases	**702**	1	19	22	98	127	128	81	62	65	99	0
	Rate	**4.2**	0.6	2.8	1.2	4.5	5.8	5.2	3.1	3.2	5.3	7.8	-

Table 3

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by birthplace – Canada: 1997-2007

Birthplace			Year of diagnosis										
			1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Canadian-born	Aboriginal												
	North American Indian	Cases	232	205	255	174	213	173	206	206	219	230	229
		Rate	–	–	–	–	29.9	23.8	27.8	27.2	28.4	29.3	28.6
	Status (registered) Indian	Cases	212	191	247	167	199	165	204	202	213	223	225
		Rate	32.8	29.0	36.6	24.2	28.3	23.0	27.9	26.4	27.4	28.2	27.9
	Non-status Indian	Cases	20	14	8	7	14	8	2	4	6	7	4
		Rate	–	–	–	–	–	–	–	–	–	–	–
	Inuit	Cases	18	35	28	56	53	33	11	41	63	61	46
		Rate	30.9	58.7	47.0	89.9	111.4	67.8	22.1	80.4	120.7	114.3	84.2
	Metis	Cases	32	39	31	29	49	35	30	21	35	29	32
		Rate	–	–	–	–	16.0	11.3	9.5	6.6	10.8	8.8	9.6
	Total Aboriginal	**Cases**	**282**	**279**	**314**	**259**	**315**	**241**	**247**	**268**	**317**	**320**	**307**
		Rate	**23.2**	**23.0**	**25.9**	**20.4**	**29.5**	**22.2**	**22.3**	**23.8**	**27.6**	**27.4**	**25.8**
	Non-Aboriginal	Cases	403	347	326	314	283	257	233	214	218	201	170
		Rate	1.7	1.4	1.3	1.3	1.2	1.1	1.0	0.9	0.9	0.8	0.7
	Total Canadian-born	**Cases**	**685**	**626**	**640**	**573**	**598**	**498**	**480**	**482**	**535**	**521**	**477**
		Rate	**2.8**	**2.5**	**2.6**	**2.3**	**2.4**	**2.0**	**1.9**	**1.9**	**2.1**	**2.0**	**1.9**
Foreign-born	Africa, High HIV Prevalence (AFR-High)	Cases	79	79	66	66	78	91	85	87	93	103	91
		Rate	–	–	–	–	49.5	54.1	48.1	48.1	49.3	51.9	43.9
	Africa, Low HIV Prevalence (AFR-Low)	Cases	13	9	12	14	8	20	22	21	26	21	33
		Rate	–	–	–	–	11.3	25.8	26.0	23.7	27.6	20.5	29.7
	American Region - Latin American and Caribbean Countries (AMR)	Cases	99	87	70	80	61	64	75	65	71	48	75
		Rate	–	–	–	–	9.0	9.1	10.3	8.7	9.4	6.2	9.4

...cont'd

Table 3 *Cont'd*

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by birthplace – Canada: 1997-2007

Birthplace			Year of diagnosis										
			1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Foreign-born *(cont'd)*	Established Market Economies and Central Europe (EME-CEUR)	Cases	124	115	115	97	101	76	76	71	56	57	60
		Rate	–	–	–	–	3.8	2.8	2.9	2.7	2.1	2.2	2.3
	Eastern Europe (EEUR)	Cases	28	33	32	30	23	36	23	26	29	18	25
		Rate	–	–	–	–	9.0	13.2	7.9	8.6	9.1	5.4	7.2
	Eastern Mediterranean (EMR)	Cases	119	104	113	117	108	120	110	115	123	125	113
		Rate	–	–	–	–	22.9	23.0	19.2	19.0	19.1	18.4	15.7
	South-East Asia (SEAR)	Cases	200	197	193	208	236	224	245	267	239	255	233
		Rate	–	–	–	–	47.4	41.4	41.8	43.3	36.8	36.7	31.7
	Western Pacific Region (WPR)	Cases	572	509	513	477	456	457	457	448	389	417	410
		Rate	–	–	–	–	34.7	32.8	31.1	29.4	24.6	25.3	24.1
	Unknown	Cases	45	28	47	44	53	39	17	15	31	28	2
		Rate	–	–	–	–	–	–	–	–	–	–	–
	Total foreign-born	**Cases**	**1,279**	**1,161**	**1,161**	**1,133**	**1,124**	**1,127**	**1,110**	**1,115**	**1,057**	**1,072**	**1,042**
		Rate	**23.9**	**21.2**	**20.8**	**19.6**	**18.4**	**17.8**	**16.9**	**16.6**	**15.4**	**15.2**	**14.4**
Unknown		Cases	30	23	19	18	51	41	41	16	49	59	29
		Rate	–	–	–	–	–	–	–	–	–	–	–
TOTAL		**Cases**	**1,994**	**1,810**	**1,820**	**1,724**	**1,773**	**1,666**	**1,631**	**1,613**	**1,641**	**1,652**	**1,548**
		Rate	**6.7**	**6.0**	**6.0**	**5.6**	**5.7**	**5.3**	**5.2**	**5.0**	**5.1**	**5.1**	**4.7**

Table 4

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by main diagnostic site – Canada: 1997-2007

Main diagnostic site			Year of diagnosis										
			1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Respiratory	Primary*	Cases	131	130	154	99	121	88	79	94	106	91	63
		Rate	0.4	0.4	0.5	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.2
	Pulmonary**	Cases	1,171	1,071	1,105	1,068	1,134	1,023	963	935	960	1,017	1,002
		Rate	3.9	3.6	3.6	3.5	3.7	3.3	3.0	2.9	3.0	3.2	3.1
	Other respiratory†	Cases	75	63	62	64	52	57	64	98	117	102	96
		Rate	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.3	0.3
Nonrespiratory	Miliary	Cases	50	30	25	26	14	18	20	30	24	22	22
		Rate	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1
	Meninges and CNS	Cases	25	24	15	16	17	20	26	19	20	22	20
		Rate	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Peripheral lymph node	Cases	268	276	244	258	235	242	249	251	246	240	202
		Rate	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.6
	Other‡	Cases	258	190	189	163	181	193	193	185	168	157	143
		Rate	0.9	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.5	0.5	0.4
Unknown		Cases	16	26	26	30	19	25	37	1	0	1	0
		Rate	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Total cases		Cases	**1,994**	**1,810**	**1,820**	**1,724**	**1,773**	**1,666**	**1,631**	**1,613**	**1,641**	**1,652**	**1,548**
		Rate	**6.7**	**6.0**	**6.0**	**5.6**	**5.7**	**5.3**	**5.2**	**5.0**	**5.1**	**5.1**	**4.7**

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

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

† Other Respiratory includes tuberculous pleurisy (non-primary); tuberculosis of: intrathoracic lymph nodes, mediastinum, nasopharynx, nose (septum), and sinus (any nasal) (ICD-9 codes: 012.0, 012.1 and 012.8; ICD-10 codes: A15.4, A15.6, A15.8, A16.3, A16.5, A16.8).

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

Table 5A

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – Canada and provinces/territories: 2007

Age group		CANADA	Province/territory												
			N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
<1	Cases	**12**	0	0	0	0	4	3	0	2	1	1	0	0	1
	Rate	**3.4**	0.0	0.0	0.0	0.0	4.8	2.2	0.0	16.1	2.2	2.4	0.0	0.0	134.6
1 – 4	Cases	**33**	0	0	1	0	7	4	1	14	1	2	0	0	3
	Rate	**2.4**	0.0	0.0	2.9	0.0	2.3	0.7	1.8	29.1	0.6	1.2	0.0	0.0	106.4
5 – 14	Cases	**53**	0	0	0	1	10	8	5	18	4	6	0	0	1
	Rate	**1.4**	0.0	0.0	0.0	1.2	1.2	0.5	3.2	13.9	0.9	1.3	0.0	0.0	15.0
15 – 24	Cases	**197**	1	0	1	0	33	74	18	24	16	24	1	0	5
	Rate	**4.4**	1.5	0.0	0.8	0.0	3.4	4.2	10.4	16.0	3.0	4.1	21.7	0.0	82.5
25 – 34	Cases	**247**	1	0	0	2	30	119	20	12	20	34	0	3	6
	Rate	**5.6**	1.7	0.0	0.0	2.2	2.9	7.0	13.0	9.6	3.7	6.1	0.0	41.7	119.3
35 – 44	Cases	**282**	2	0	2	1	34	123	21	18	16	52	1	5	7
	Rate	**5.7**	2.6	0.0	1.5	0.9	3.0	6.1	12.7	14.0	3.0	8.0	19.0	70.5	158.6
45 – 54	Cases	**205**	0	0	1	0	26	85	20	11	13	42	0	3	4
	Rate	**4.0**	0.0	0.0	0.7	0.0	2.1	4.3	11.2	7.4	2.4	6.1	0.0	45.9	134.8
55 – 64	Cases	**158**	0	0	1	0	16	70	8	6	14	38	0	3	2
	Rate	**4.1**	0.0	0.0	0.8	0.0	1.7	4.9	6.1	5.6	4.1	7.2	0.0	83.0	116.7
65 – 74	Cases	**149**	0	0	1	1	28	70	4	0	9	33	1	0	2
	Rate	**6.4**	0.0	0.0	1.3	1.7	4.7	7.9	5.0	0.0	4.6	10.2	64.8	0.0	332.8
75 +	Cases	**212**	3	0	0	0	41	98	6	1	18	44	0	1	0
	Rate	**10.1**	9.7	0.0	0.0	0.0	8.1	12.1	7.1	1.3	10.6	14.9	0.0	129.9	0.0
TOTAL	**Cases**	**1,548**	**7**	**0**	**7**	**5**	**229**	**654**	**103**	**106**	**112**	**276**	**3**	**15**	**31**
	Rate	**4.7**	**1.4**	**0.0**	**0.7**	**0.7**	**3.0**	**5.1**	**8.6**	**10.6**	**3.2**	**6.4**	**9.2**	**34.5**	**99.2**

Table 5B

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – males – Canada and provinces/territories: 2007

Age group		CANADA	Province/territory												
			N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
<1	Cases	**11**	0	0	0	0	4	3	0	2	0	1	0	0	1
	Rate	**6.0**	0.0	0.0	0.0	0.0	9.4	4.3	0.0	31.5	0.0	4.6	0.0	0.0	276.2
1 – 4	Cases	**14**	0	0	0	0	2	1	0	8	0	2	0	0	1
	Rate	**1.9**	0.0	0.0	0.0	0.0	1.3	0.3	0.0	32.4	0.0	2.3	0.0	0.0	68.8
5 – 14	Cases	**31**	0	0	0	1	5	4	3	13	2	3	0	0	0
	Rate	**1.6**	0.0	0.0	0.0	2.4	1.1	0.5	3.7	19.6	0.9	1.2	0.0	0.0	0.0
15 – 24	Cases	**99**	1	0	0	0	18	37	7	12	11	10	1	0	2
	Rate	**4.3**	3.0	0.0	0.0	0.0	3.6	4.1	7.9	15.6	4.0	3.3	41.0	0.0	64.3
25 – 34	Cases	**120**	0	0	0	2	10	59	12	8	8	15	0	3	3
	Rate	**5.4**	0.0	0.0	0.0	4.4	1.9	7.0	15.3	12.7	2.8	5.4	0.0	82.5	116.9
35 – 44	Cases	**154**	1	0	1	1	18	66	15	8	9	27	0	5	3
	Rate	**6.1**	2.6	0.0	1.5	1.8	3.1	6.6	18.0	12.4	3.2	8.4	0.0	135.4	132.7
45 – 54	Cases	**124**	0	0	0	0	23	43	16	6	7	26	0	2	1
	Rate	**4.8**	0.0	0.0	0.0	0.0	3.7	4.4	17.6	8.0	2.5	7.7	0.0	58.6	63.1
55 – 64	Cases	**96**	0	0	0	0	9	38	5	5	8	27	0	2	2
	Rate	**5.1**	0.0	0.0	0.0	0.0	1.9	5.4	7.7	9.4	4.6	10.3	0.0	95.8	216.0
65 – 74	Cases	**84**	0	0	1	0	17	34	2	0	5	22	1	0	2
	Rate	**7.6**	0.0	0.0	2.8	0.0	6.1	8.1	5.3	0.0	5.3	14.0	118.3	0.0	602.4
75 +	Cases	**113**	1	0	0	0	25	49	2	0	7	29	0	0	0
	Rate	**13.6**	8.1	0.0	0.0	0.0	13.0	15.3	6.2	0.0	10.1	23.5	0.0	0.0	0.0
TOTAL	**Cases**	**846**	**3**	**0**	**2**	**4**	**131**	**334**	**62**	**62**	**57**	**162**	**2**	**12**	**15**
	Rate	**5.2**	**1.2**	**0.0**	**0.4**	**1.1**	**3.4**	**5.3**	**10.4**	**12.5**	**3.2**	**7.6**	**12.0**	**53.0**	**93.2**

Table 5C

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – females – Canada and provinces/territories: 2007

Age group		CANADA	Province/territory												
			N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
<1	Cases	**1**	0	0	0	0	0	0	0	0	1	0	0	0	0
	Rate	**0.6**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.0	0.0
1 – 4	Cases	**19**	0	0	1	0	5	3	1	6	1	0	0	0	2
	Rate	**2.8**	0.0	0.0	5.9	0.0	3.4	1.1	3.6	25.7	1.2	0.0	0.0	0.0	146.3
5 – 14	Cases	**22**	0	0	0	0	5	4	2	5	2	3	0	0	1
	Rate	**1.2**	0.0	0.0	0.0	0.0	1.2	0.5	2.6	7.9	0.9	1.3	0.0	0.0	30.4
15 – 24	Cases	**98**	0	0	1	0	15	37	11	12	5	14	0	0	3
	Rate	**4.5**	0.0	0.0	1.6	0.0	3.1	4.3	13.1	16.4	2.0	5.0	0.0	0.0	101.7
25 – 34	Cases	**127**	1	0	0	0	20	60	8	4	12	19	0	0	3
	Rate	**5.8**	3.3	0.0	0.0	0.0	4.0	7.0	10.6	6.4	4.7	6.7	0.0	0.0	121.8
35 – 44	Cases	**128**	1	0	1	0	16	57	6	10	7	25	1	0	4
	Rate	**5.2**	2.5	0.0	1.4	0.0	2.9	5.7	7.4	15.6	2.7	7.7	37.0	0.0	185.7
45 – 54	Cases	**81**	0	0	1	0	3	42	4	5	6	16	0	1	3
	Rate	**3.1**	0.0	0.0	1.3	0.0	0.5	4.3	4.5	6.7	2.3	4.6	0.0	32.0	216.9
55 – 64	Cases	**62**	0	0	1	0	7	32	3	1	6	11	0	1	0
	Rate	**3.2**	0.0	0.0	1.6	0.0	1.4	4.4	4.5	1.9	3.5	4.1	0.0	65.5	0.0
65 – 74	Cases	**65**	0	0	0	1	11	36	2	0	4	11	0	0	0
	Rate	**5.3**	0.0	0.0	0.0	3.3	3.5	7.7	4.8	0.0	4.0	6.7	0.0	0.0	0.0
75 +	Cases	**99**	2	0	0	0	16	49	4	1	11	15	0	1	0
	Rate	**7.8**	10.8	0.0	0.0	0.0	5.1	10.0	7.8	2.1	10.9	8.7	0.0	243.3	0.0
TOTAL	**Cases**	**702**	**4**	**0**	**5**	**1**	**98**	**320**	**41**	**44**	**55**	**114**	**1**	**3**	**16**
	Rate	**4.2**	**1.6**	**0.0**	**1.0**	**0.3**	**2.5**	**4.9**	**6.8**	**8.7**	**3.2**	**5.2**	**6.3**	**14.4**	**105.6**

Table 6

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by birthplace – Canada and provinces/territories: 2007

Birthplace			CANADA	Province/territory										
				N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
Canadian-born	Aboriginal													
	North American Indian	Cases	**229**	0	0	0	0	10	12	68	70	13	41	15
		Rate	**29.2**	0.0	0.0	0.0	0.0	12.9	6.8	59.2	64.8	11.6	28.2	69.6
	Status (registered) Indian	Cases	**225**	0	0	0	0	10	12	68	70	13	37	15
		Rate	**27.9**	0.0				13.8	6.7	51.6	53.7	12.3	29.0	57.5
	Non-status Indian	Cases	**4**	0	0	0	0	0	0	0	0	0	4	0
		Rate	-	-	-	-	-	-	-	-	-	-	-	-
	Inuit	Cases	**46**	1	0	0	0	12	1	0	0	0	0	32
		Rate	**84.2**	19.3	0.0	0.0	0.0	106.2	54.6	0.0	0.0	0.0	0.0	97.9
	Metis	Cases	**32**	0	0	0	0	0	0	0	29	2	0	1
		Rate	**9.6**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.6	2.6	0.0	19.9
	Total Aboriginal	**Cases**	**307**	**1**	**0**	**0**	**0**	**22**	**13**	**68**	**99**	**15**	**41**	**48**
		Rate	**25.8**	**4.5**	**0.0**	**0.0**	**0.0**	**20.8**	**5.6**	**37.8**	**62.4**	**7.9**	**21.0**	**81.0**
	Non-Aboriginal	Cases	**170**	5	0	4	2	55	49	7	3	13	32	0
		Rate	**0.7**	1.1	0.0	0.5	0.3	0.8	0.6	0.8	0.4	0.5	1.1	0.0
	Total Canadian-born	**Cases**	**477**	**6**	**0**	**4**	**2**	**77**	**62**	**75**	**102**	**28**	**73**	**48**
		Rate	**1.9**	**1.2**	**0.0**	**0.5**	**0.3**	**1.2**	**0.7**	**7.4**	**10.9**	**1.0**	**2.4**	**48.0**
Foreign-born	Africa, High HIV Prevalence (AFR-High)	Cases	**91**	0	0	2	1	16	47	2	0	15	8	0
		Rate	**43.9**	0.0	0.0	131.4	92.0	51.9	44.4	29.4	0.0	58.2	25.7	0.0
	Africa, Low HIV Prevalence (AFR-Low)	Cases	**33**	0	0	0	1	11	13	5	0	3	0	0
		Rate	**29.7**	0.0	0.0	0.0	149.9	18.2	35.0	245.6	0.0	55.6	0.0	0.0
	American Region - Latin American and Caribbean Countries (AMR)	Cases	**75**	0	0	0	0	33	31	1	0	2	8	0
		Rate	**9.4**	0.0	0.0	0.0	0.0	18.5	6.4	4.7	0.0	4.4	15.5	0.0

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Table 6 *Cont'd*

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by birthplace – Canada and provinces/territories: 2007

Birthplace			CANADA	Province/territory										
				N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North
Foreign-born *(cont'd)*	Established Market Economies and Central Europe (EME-CEUR)	Cases	**60**	0	0	0	0	16	33	0	0	1	10	0
		Rate	**2.3**	0.0	0.0	0.0	0.0	4.8	2.4	0.0	0.0	0.4	2.2	0.0
	Eastern Europe (EEUR)	Cases	**25**	0	0	0	1	5	13	2	0	1	3	0
		Rate	**7.2**	0.0	0.0	0.0	169.2	7.1	6.4	17.0	0.0	4.1	8.9	0.0
	Eastern Mediterranean (EMR)	Cases	**113**	0	0	0	0	11	80	5	0	9	8	0
		Rate	**15.7**	0.0	0.0	0.0	0.0	6.9	18.7	64.9	0.0	19.3	13.7	0.0
	South-East Asia (SEAR)	Cases	**233**	1	0	0	0	15	150	1	0	17	49	0
		Rate	**31.7**	78.4	0.0	0.0	0.0	30.0	31.8	9.4	0.0	34.7	33.9	0.0
	Western Pacific Region (WPR)	Cases	**410**	0	0	1	0	35	211	12	4	36	110	1
		Rate	**24.1**	0.0	0.0	12.3	0.0	28.2	26.0	25.4	29.1	21.9	21.0	63.4
	Unknown	Cases	**2**	0	0	0	0	0	1	0	0	0	1	0
		Rate	-	-	-	-	-	-	-	-	-	-	-	-
	Total foreign-born	**Cases**	**1,042**	**1**	**0**	**3**	**3**	**142**	**579**	**28**	**4**	**84**	**197**	**1**
		Rate	**14.4**	**6.6**	**0.0**	**4.8**	**8.6**	**14.1**	**14.7**	**15.9**	**6.3**	**14.1**	**15.1**	**13.6**
Unknown		Cases	**29**	0	0	0	0	10	13	0	0	0	6	0
		Rate	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL		**Cases**	**1,548**	**7**	**0**	**7**	**5**	**229**	**654**	**103**	**106**	**112**	**276**	**49**
		Rate	**4.7**	**1.4**	**0.0**	**0.7**	**0.7**	**3.0**	**5.1**	**8.6**	**10.6**	**3.2**	**6.4**	**45.6**

Note: Rates with small case numbers may be unstable.

North includes Northwest Territories, Nunavut and Yukon Territory.

Table 7

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by main diagnostic site – Canada and provinces/territories: 2007

Main diagnostic site			CANADA	Province/territory												
				N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
Respiratory	Primary*	Cases	**63**	0	0	0	3	1	8	5	34	5	1	0	2	4
		Rate	**0.2**	0.0	0.0	0.0	0.4	0.0	0.1	0.4	3.4	0.1	0.0	0.0	4.6	12.8
	Pulmonary**	Cases	**1002**	3	0	4	2	163	414	64	52	65	196	2	11	26
		Rate	**3.0**	0.6	0.0	0.4	0.3	2.1	3.2	5.4	5.2	1.9	4.5	6.1	25.3	83.2
	Other respiratory†	Cases	**96**	1	0	1	0	7	41	12	4	5	23	0	1	1
		Rate	**0.3**	0.2	0.0	0.1	0.0	0.1	0.3	1.0	0.4	0.1	0.5	0.0	2.3	3.2
Non-respiratory	Miliary	Cases	**22**	1	0	0	0	2	8	7	1	3	0	0	0	0
		Rate	**0.1**	0.2	0.0	0.0	0.0	0.0	0.1	0.6	0.1	0.1	0.0	0.0	0.0	0.0
	Meninges and CNS	Cases	**20**	0	0	0	0	2	11	0	1	1	5	0	0	0
		Rate	**0.1**	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
	Peripheral lymph node	Cases	**202**	1	0	0	0	30	103	8	8	18	32	1	1	0
		Rate	**0.6**	0.2	0.0	0.0	0.0	0.4	0.8	0.7	0.8	0.5	0.7	3.1	2.3	0.0
	Other‡	Cases	**143**	1	0	2	0	24	69	7	6	15	19	0	0	0
		Rate	**0.4**	0.2	0.0	0.2	0.0	0.3	0.5	0.6	0.6	0.4	0.4	0.0	0.0	0.0
Unknown		Cases	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
		Rate	**0.0**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL		**Cases**	**1,548**	**7**	**0**	**7**	**5**	**229**	**654**	**103**	**106**	**112**	**276**	**3**	**15**	**31**
		Rate	**4.7**	**1.4**	**0.0**	**0.7**	**0.7**	**3.0**	**5.1**	**8.6**	**10.6**	**3.2**	**6.4**	**9.2**	**34. 5**	**99.2**

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

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

† Other Respiratory includes tuberculous pleurisy (non-primary); tuberculosis of: intrathoracic lymph nodes, mediastinum, nasopharynx, nose (septum), and sinus (any nasal) (ICD-9 codes: 012.0, 012.1 and 012.8; ICD-10 codes: A15.4, A15.6, A15.8, A16.3, A16.5, A16.8).

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

Table 8

Reported new active and relapsed tuberculosis cases by birthplace, sex and age group – Canada: 2007

Birthplace			TOTAL	Age group										
				< 1	1–4	5–14	15–24	25–34	35–44	45–54	55–64	65–74	75 +	Unknown
Canadian-born	Aboriginal													
	North American Indian	Male	**134**	3	7	12	22	19	27	18	14	6	6	0
		Female	**95**	0	10	6	22	12	20	12	7	2	4	0
		Total	**229**	3	17	18	44	31	47	30	21	8	10	0
	Status (registered) Indian	Male	**130**	3	7	12	21	18	26	17	14	6	6	0
		Female	**95**	0	10	6	22	12	20	12	7	2	4	0
		Total	**225**	3	17	18	43	30	46	29	21	8	10	0
	Non-status Indian	Male	**4**	0	0	0	1	1	1	1	0	0	0	0
		Female	**0**	0	0	0	0	0	0	0	0	0	0	0
		Total	**4**	0	0	0	1	1	1	1	0	0	0	0
	Metis	Male	**20**	0	2	4	3	5	3	1	2	0	0	0
		Female	**12**	0	2	2	3	2	0	2	0	0	1	0
		Total	**32**	0	4	6	6	7	3	3	2	0	1	0
	Inuit	Male	**26**	1	2	3	6	4	5	1	2	2	0	0
		Female	**20**	0	2	2	3	5	4	3	1	0	0	0
		Total	**46**	1	4	5	9	9	9	4	3	2	0	0
	Total Aboriginal	**Male**	**180**	**4**	**11**	**19**	**31**	**28**	**35**	**20**	**18**	**8**	**6**	**0**
		Female	**127**	**0**	**14**	**10**	**28**	**19**	**24**	**17**	**8**	**2**	**5**	**0**
		Total	**307**	**4**	**25**	**29**	**59**	**47**	**59**	**37**	**26**	**10**	**11**	**0**
	Non-Aboriginal	Male	**111**	7	2	2	10	6	12	25	12	17	18	0
		Female	**59**	1	4	3	8	4	5	3	8	7	16	0
		Total	**170**	8	6	5	18	10	17	28	20	24	34	0
	Total Canadian-born	**Male**	**291**	**11**	**13**	**21**	**41**	**34**	**47**	**45**	**30**	**25**	**24**	**0**
		Female	**186**	**1**	**18**	**13**	**36**	**23**	**29**	**20**	**16**	**9**	**21**	**0**
		Total	**477**	**12**	**31**	**34**	**77**	**57**	**76**	**65**	**46**	**34**	**45**	**0**

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Table 8 *Cont'd*

Reported new active and relapsed tuberculosis cases by birthplace, sex and age group – Canada: 2007

Birthplace			TOTAL	Age group										
				< 1	1–4	5–14	15–24	25–34	35–44	45–54	55–64	65–74	75 +	Unknown
Foreign-born	Africa, High HIV Prevalence (AFR-High)	Male	**48**	0	1	2	7	13	12	9	1	2	1	0
		Female	**43**	0	0	0	4	22	8	4	4	1	0	0
		Total	**91**	0	1	2	11	35	20	13	5	3	1	0
	Africa, Low HIV Prevalence (AFR-Low)	Male	**27**	0	0	2	6	5	10	3	0	0	1	0
		Female	**6**	0	0	0	2	0	1	2	1	0	0	0
		Total	**33**	0	0	2	8	5	11	5	1	0	1	0
	American Region – Latin American and Caribbean Countries (AMR)	Male	**38**	0	0	1	5	6	7	8	9	2	0	0
		Female	**37**	0	0	0	5	10	9	3	3	5	2	0
		Total	**75**	0	0	1	10	16	16	11	12	7	2	0
	Established Market Economies and Central Europe (EME-CEUR)	Male	**37**	0	0	0	1	2	3	6	6	3	16	0
		Female	**23**	0	0	0	1	1	2	1	1	4	13	0
		Total	**60**	0	0	0	2	3	5	7	7	7	29	0
	Eastern Europe (EEUR)	Male	**14**	0	0	0	2	3	5	0	0	0	4	0
		Female	**11**	0	0	0	1	0	3	1	1	1	4	0
		Total	**25**	0	0	0	3	3	8	1	1	1	8	0
	Eastern Mediterranean (EMR)	Male	**58**	0	0	0	7	19	6	8	6	8	4	0
		Female	**55**	0	0	2	17	14	3	7	3	5	4	0
		Total	**113**	0	0	2	24	33	9	15	9	13	8	0
	South-East Asia (SEAR)	Male	**108**	0	0	2	8	21	28	13	14	11	11	0
		Female	**125**	0	1	4	10	27	20	11	13	17	22	0
		Total	**233**	0	1	6	18	48	48	24	27	28	33	0
	Western Pacific Region (WPR)	Male	**211**	0	0	3	22	15	34	30	29	29	49	0
		Female	**199**	0	0	2	20	29	52	31	18	21	26	0
		Total	**410**	0	0	5	42	44	86	61	47	50	75	0

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Table 8 *Cont'd*

Reported new active and relapsed tuberculosis cases by birthplace, sex and age group – Canada: 2007

Birthplace			TOTAL	Age group										
				< 1	1–4	5–14	15–24	25–34	35–44	45–54	55–64	65–74	75 +	Unknown
Foreign-born *(cont'd)*	Unknown	Male	**1**	0	0	0	0	0	0	0	0	0	1	0
		Female	**1**	0	0	0	0	0	0	1	0	0	0	0
		Total	**2**	0	0	0	0	0	0	1	0	0	1	0
	Total foreign-born	**Male**	**542**	**0**	**1**	**10**	**58**	**84**	**105**	**77**	**65**	**55**	**87**	**0**
		Female	**500**	**0**	**1**	**8**	**60**	**103**	**98**	**61**	**44**	**54**	**71**	**0**
		Total	**1,042**	**0**	**2**	**18**	**118**	**187**	**203**	**138**	**109**	**109**	**158**	**0**
Unknown		Male	**13**	0	0	0	0	2	2	2	1	4	2	0
		Female	**16**	0	0	1	2	1	1	0	2	2	7	0
		Total	**29**	0	0	1	2	3	3	2	3	6	9	0
TOTAL		**Male**	**846**	**11**	**14**	**31**	**99**	**120**	**154**	**124**	**96**	**84**	**113**	**0**
		Female	**702**	**1**	**19**	**22**	**98**	**127**	**128**	**81**	**62**	**65**	**99**	**0**
		Total	**1,548**	**12**	**33**	**53**	**197**	**247**	**282**	**205**	**158**	**149**	**212**	**0**

Table 9

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group and main diagnostic site – Canada: 2007

Age group		TOTAL	Main diagnostic site							
			Respiratory			Nonrespiratory				Unknown
			Primary	Pulmonary	Other respiratory	Miliary	CNS	Lymph	Other	
< 1	Cases	**12**	5	7	0	0	0	0	0	0
	Rate	**3.4**	1.4	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1 – 4	Cases	**33**	20	11	0	0	0	1	1	0
	Rate	**2.4**	1.4	0.8	0.0	0.0	0.0	0.1	0.1	0.0
5 – 14	Cases	**53**	23	20	2	0	0	6	2	0
	Rate	**1.4**	0.6	0.5	0.1	0.0	0.0	0.2	0.1	0.0
15 – 24	Cases	**197**	4	139	14	0	1	25	14	0
	Rate	**4.4**	0.1	3.1	0.3	0.0	0.0	0.6	0.3	0.0
25 – 34	Cases	**247**	2	149	18	6	6	44	22	0
	Rate	**5.6**	0.0	3.4	0.4	0.1	0.1	1.0	0.5	0.0
35 – 44	Cases	**282**	3	172	20	4	1	56	26	0
	Rate	**5.7**	0.1	3.5	0.4	0.1	0.0	1.1	0.5	0.0
45 – 54	Cases	**205**	0	133	9	4	4	34	21	0
	Rate	**4.0**	0.0	2.6	0.2	0.1	0.1	0.7	0.4	0.0
55 – 64	Cases	**158**	0	96	15	1	2	17	27	0
	Rate	**4.1**	0.0	2.5	0.4	0.0	0.1	0.4	0.7	0.0
65 – 74	Cases	**149**	4	108	6	1	2	11	17	0
	Rate	**6.4**	0.2	4.6	0.3	0.0	0.1	0.5	0.7	0.0
75 +	Cases	**212**	2	167	12	6	4	8	13	0
	Rate	**10.1**	0.1	7.9	0.6	0.3	0.2	0.4	0.6	0.0
Unknown	Cases	**0**	0	0	0	0	0	0	0	0
	Rate	**0.0**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	**Cases**	**1,548**	**63**	**1,002**	**96**	**22**	**20**	**202**	**143**	**0**
	Rate	**4.7**	**0.2**	**3.0**	**0.3**	**0.1**	**0.1**	**0.6**	**0.4**	**0.0**

Table 10

Reported new active and relapsed tuberculosis cases by birthplace and main diagnostic site – Canada: 2007

Birthplace		TOTAL	Main diagnostic site							
			Respiratory			Nonrespiratory				Unknown
			Primary*	Pulmonary**	Other respiratory†	Miliary	CNS	Lymph	Other‡	
Canadian-born	Aboriginal									
	North American Indian	**229**	32	148	17	7	3	14	8	0
	Status (registered) Indian	**225**	32	145	17	7	2	14	8	0
	Non-status Indian	**4**	0	3	0	0	1	0	0	0
	Metis	**32**	10	17	0	1	0	3	1	0
	Inuit	**46**	6	38	2	0	0	0	0	0
	Total Aboriginal	**307**	**48**	**203**	**19**	**8**	**3**	**17**	**9**	-
	Non-Aboriginal	**170**	9	127	4	3	1	7	19	0
	Total Canadian-born	**477**	**57**	**330**	**23**	**11**	**4**	**24**	**28**	-
Foreign-born	Africa, High HIV Prevalence (AFR-High)	**91**	0	58	5	2	2	18	6	0
	Africa, Low HIV Prevalence (AFR-Low)	**33**	0	19	0	1	0	8	5	0
	American Region – Latin American and Caribbean Countries (AMR)	**75**	1	47	3	2	1	12	9	0
	Established Market Economies and Central Europe (EME-CEUR)	**60**	0	39	3	2	1	5	10	0
	Eastern Europe (EEUR)	**25**	1	23	0	0	0	1	0	0
	Eastern Mediterranean (EMR)	**113**	0	61	9	0	1	25	17	0

…cont'd

Table 10 *Cont'd*

Reported new active and relapsed tuberculosis cases by birthplace and main diagnostic site – Canada: 2007

Birthplace		TOTAL	Main diagnostic site							
			Respiratory			Nonrespiratory				Unknown
			Primary*	Pulmonary**	Other respiratory†	Miliary	CNS	Lymph	Other‡	
Foreign-born *(cont'd)*	South-East Asia (SEAR)	**233**	1	125	30	1	4	46	26	0
	Western Pacific Region (WPR)	**410**	3	273	23	3	7	60	41	0
	Unknown	**2**	0	2	0	0	0	0	0	0
	Total foreign-born	**1,042**	**6**	**647**	**73**	**11**	**16**	**175**	**114**	-
Unknown		**29**	0	25	0	0	0	3	1	0
TOTAL		**1,548**	**63**	**1,002**	**96**	**22**	**20**	**202**	**143**	**0**

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

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

† Other Respiratory includes tuberculous pleurisy (non-primary); tuberculosis of: intrathoracic lymph nodes, mediastinum, nasopharynx, nose (septum), and sinus (any nasal) (ICD-9 codes: 012.0, 012.1 and 012.8; ICD-10 codes: A15.4, A15.6, A15.8, A16.3, A16.5, A16.8).

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

Table 11

Reported new active and relapsed tuberculosis cases by birthplace and activity status – Canada: 2007

Birthplace		TOTAL	Activity status		
			New active cases	Relapsed cases	Unknown status
Canadian-born	Aboriginal				
	North American Indian	**229**	206	22	1
	Status (registered) Indian	**225**	203	21	1
	Non-status Indian	**4**	3	1	0
	Metis	**32**	29	3	0
	Inuit	**46**	37	9	0
	Total Aboriginal	**307**	**272**	**34**	**1**
	Non-Aboriginal	**170**	151	10	9
	Total Canadian-born	**477**	**423**	**44**	**10**
Foreign-born	Africa, High HIV Prevalence (AFR-High)	**91**	78	9	4
	Africa, Low HIV Prevalence (AFR-Low)	**33**	33	0	0
	American Region - Latin American and Caribbean Countries (AMR)	**75**	73	2	0
	Established Market Economies and Central Europe (EME-CEUR)	**60**	56	2	2
	Eastern Europe (EEUR)	**25**	23	2	0
	Eastern Mediterranean (EMR)	**113**	106	2	5
	South-East Asia (SEAR)	**233**	222	7	4
	Western Pacific Region (WPR)	**410**	363	38	9
	Unknown	**2**	2	0	0
	Total foreign-born	**1,042**	**956**	**62**	**24**
Unknown		**29**	19	3	7
TOTAL		**1,548**	**1,398**	**109**	**41**

Table 12

Reported new active and relapsed tuberculosis cases by bacterial status – Canada and provinces/territories: 2007

Bacterial status	CANADA	Province/territory												
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
1. Culture positive														
a. Microscopy positive	**618**	1	0	3	3	97	264	41	45	34	110	1	5	14
b. Microscopy negative	**559**	4	0	1	1	83	207	46	12	66	118	1	9	11
c. Microscopy unknown	**54**	0	0	1	0	18	29	0	4	0	2	0	0	0
Total	**1,231**	5	0	5	4	198	500	87	61	100	230	2	14	25
2. Culture negative														
a. Microscopy positive	**22**	1	0	0	0	1	12	1	0	0	5	0	1	1
b. Microscopy negative	**135**	0	0	1	1	16	62	9	14	0	30	1	0	1
c. Microscopy unknown	**12**	0	0	0	0	1	5	0	5	0	1	0	0	0
Total	**169**	1	0	1	1	18	79	10	19	0	36	1	1	2
3. Culture unknown														
a. Microscopy positive	**19**	1	0	0	0	1	16	1	0	0	0	0	0	0
b. Microscopy negative	**12**	0	0	0	0	6	6	0	0	0	0	0	0	0
c. Microscopy unknown	**117**	0	0	1	0	6	53	5	26	12	10	0	0	4
Total	**148**	1	0	1	0	13	75	6	26	12	10	0	0	4
TOTAL	**1,548**	**7**	**0**	**7**	**5**	**229**	**654**	**103**	**106**	**112**	**276**	**3**	**15**	**31**

Table 13

Reported new active and relapsed tuberculosis cases by bacterial status and birthplace – Canada: 2007

Bacterial status	TOTAL	Birthplace			
		Canadian-born Aboriginal	Canadian-born non-Aboriginal	Foreign-born	Unknown birthplace
1. Culture positive					
a. Microscopy positive	**618**	122	88	395	13
b. Microscopy negative	**559**	101	41	409	8
c. Microscopy unknown	**54**	4	3	45	2
Total	**1,231**	**227**	**132**	**849**	**23**
2. Culture negative					
a. Microscopy positive	**22**	3	5	14	0
b. Microscopy negative	**135**	34	15	86	0
c. Microscopy unknown	**12**	5	1	5	1
Total	**169**	**42**	**21**	**105**	**1**
3. Culture unknown					
a. Microscopy positive	**19**	0	3	15	1
b. Microscopy negative	**12**	2	1	9	0
c. Microscopy unknown	**117**	36	13	64	4
Total	**148**	**38**	**17**	**88**	**5**
TOTAL	**1,548**	**307**	**170**	**1,042**	**29**

Table 14

Reported new active and relapsed tuberculosis cases by bacterial status and main diagnostic site – Canada: 2007

Bacterial status	TOTAL	Main diagnostic site							
		Respiratory			Nonrespiratory				Unknown
		Primary	Pulmonary	Other respiratory	Miliary	CNS	Lymph	Other	
1. Culture positive									
a. Microscopy positive	**618**	5	523	11	9	0	34	36	0
b. Microscopy negative	**559**	9	345	44	9	9	100	43	0
c. Microscopy unknown	**54**	3	14	2	1	2	13	19	0
Total	**1,231**	**17**	**882**	**57**	**19**	**11**	**147**	**98**	**0**
2. Culture negative									
a. Microscopy positive	**22**	0	14	0	0	0	7	1	0
b. Microscopy negative	**135**	7	58	26	2	4	22	16	0
c. Microscopy unknown	**12**	5	4	0	0	0	0	3	0
Total	**169**	**12**	**76**	**26**	**2**	**4**	**29**	**20**	**0**
3. Culture unknown									
a. Microscopy positive	**19**	2	10	2	0	1	4	0	0
b. Microscopy negative	**12**	0	9	1	0	0	1	1	0
c. Microscopy unknown	**117**	32	25	10	1	4	21	24	0
Total	**148**	**34**	**44**	**13**	**1**	**5**	**26**	**25**	**0**
TOTAL	**1,548**	**63**	**1,002**	**96**	**22**	**20**	**202**	**143**	**0**

Table 15

Drug resistance at time of intial case reporting by origin and activity status – Canada: 2007

Drug pattern	Total	Activity status											
		New				Relapse				Unknown			
		Canadian-born		Foreign-born	Un-known	Canadian-born		Foreign-born	Un-known	Canadian-born		Foreign-born	Un-known
		Aboriginal	Non-Aboriginal			Aboriginal	Non-Aboriginal			Aboriginal	Non-Aboriginal		
Total postive culture	**1,231**	**195**	**121**	**783**	**17**	**32**	**7**	**47**	**2**	**0**	**4**	**19**	**4**
Resistance pattern unknown	**43**	3	3	29	0	2	0	3	1	0	0	2	0
No resistance	**1,077**	185	109	678	16	29	7	36	1	0	3	11	2
Resistance to one or more drugs	**111**	**7**	**9**	**76**	**1**	**1**	**0**	**8**	**0**	**0**	**1**	**6**	**2**
Monoresistance													
INH	**82**	7	5	61	0	1	0	4	0	0	0	2	2
EMB	**6**	0	1	4	0	0	0	0	0	0	0	1	0
RMP	**1**	0	0	0	0	0	0	1	0	0	0	0	0
PZA	**5**	0	2	2	1	0	0	0	0	0	0	0	0
Total monoresistance	**94**	**7**	**8**	**67**	**1**	**1**	**0**	**5**	**0**	**0**	**0**	**3**	**2**
Multidrug-resistance (MDR-TB)*													
INH & RMP	**2**	0	0	1	0	0	0	0	0	0	1	0	0
INH & RMP & EMB	**6**	0	0	3	0	0	0	1	0	0	0	2	0
INH & RMP & PZA	**1**	0	0	1	0	0	0	0	0	0	0	0	0
INH & EMB & RMP & PZA	**1**	0	0	0	0	0	0	1	0	0	0	0	0
Total MDR-TB	**10**	**0**	**0**	**5**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**2**	**0**
Extensively drug-resistant (XDR-TB)†													
INH & RMP & EMB & CAP & OFLOX	**1**	0	0	1	0	0	0	0	0	0	0	0	0
Total XDR-TB	**1**	0	0	1	0	0	0	0	0	0	0	0	0
Other patterns													
INH & EMB	**6**	0	1	4	0	0	0	0	0	0	0	1	0
Total other patterns	**6**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

* Multidrug-resistant TB (MDR-TB) is resistance to at least isoniazid and rifampin.

† Extensively drug-resistant TB (XDR-TB) is MDR-TB plus resistance to any fluoroquinolone and at least one of three injectable second-line drugs: amikacin, capreomycin and kanamycin.

Table 16

Reported new active and relapsed tuberculosis cases by method of detection – Canada and provinces/territories: 2007

Case finding	CANADA	Province/territory												
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
Immigration	**80**	0	0	1	1	10	44	0	0	8	16	0	0	0
Symptoms/incidental findings	**1,142**	6	0	5	3	154	490	77	68	93	220	2	4	20
Contact investigation	**139**	0	0	1	1	23	20	20	29	7	19	1	11	7
Post-mortem	**14**	0	0	0	0	2	1	1	0	1	9	0	0	0
Screening	**58**	1	0	0	0	3	33	0	9	3	7	0	0	2
Other	**56**	0	0	0	0	21	27	5	0	0	3	0	0	0
Unknown	**59**	0	0	0	0	16	39	0	0	0	2	0	0	2
TOTAL	**1,548**	**7**	**0**	**7**	**5**	**229**	**654**	**103**	**106**	**112**	**276**	**3**	**15**	**31**

Table 17

Reported new active and relapsed tuberculosis cases by method of detection and birthplace – Canada: 2007

Case finding	TOTAL	Birthplace						
		Canadian-born					Foreign-born	Unknown birthplace
		Status (registered) Indian	Non-status Indian	Metis	Inuit	Non-Aboriginal		
Immigration	**80**	0	0	0	0	2	78	0
Symptoms/incidental findings	**1,142**	145	2	21	24	131	804	15
Post-mortem	**14**	2	0	0	0	2	6	4
Contact-investigation	**139**	66	2	8	17	20	26	0
Screening	**58**	10	0	3	3	5	35	2
Other	**56**	2	0	0	0	8	44	2
Unknown	**59**	0	0	0	2	2	49	6
TOTAL	**1,548**	**225**	**4**	**32**	**46**	**170**	**1,042**	**29**

Table 18

Reported new active and relapsed foreign-born tuberculosis cases by birthplace and year of arrival in Canada: 2007

Birthplace (WHO region)	TOTAL	Year of arrival												
		≤ 1969	1970-1979	1980-1989	1990-1999	2000	2001	2002	2003	2004	2005	2006	2007	Unk.
Africa, High HIV Prevalence (AFR-High)	**91**	2	3	8	13	4	11	4	6	3	5	9	19	4
Africa, Low HIV Prevalence (AFR-Low)	**33**	0	0	1	6	3	3	5	2	0	2	3	7	1
American Region - Latin American and Caribbean Countries (AMR)	**75**	0	15	10	13	2	3	1	2	3	3	8	9	6
Established Market Economies and Central Europe (EME-CEUR)	**60**	27	10	4	5	1	3	1	0	0	0	0	1	8
Eastern Europe (EEUR)	**25**	4	0	3	2	1	2	1	0	1	4	2	4	1
Eastern Mediterranean (EMR)	**113**	1	3	9	26	5	6	6	5	6	11	19	10	6
South-East Asia (SEAR)	**233**	2	10	31	63	7	6	13	16	15	11	30	19	10
Western Pacific Region (WPR)	**410**	14	38	69	128	7	11	17	21	15	14	30	15	31
Unknown	**2**	0	0	0	1	0	0	0	0	0	0	0	0	1
TOTAL	**1,042**	**50**	**79**	**135**	**257**	**30**	**45**	**48**	**52**	**43**	**50**	**101**	**84**	**68**

Table 19

Reported new active and relapsed foreign-born tuberculosis cases by immigration status – Canada and provinces/territories: 2007

Immigration status	CANADA	Province/territory												
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
Canadian citizen/ permanent resident	**444**	0	0	2	1	0	161	28	2	80	169	1	0	0
Refugee claimant	**46**	0	0	0	0	0	43	0	2	0	1	0	0	0
Other temporary resident (visitor, student, foreign nationals without status in Canada)	**23**	1	0	1	2	0	0	0	0	4	15	0	0	0
Other	**29**	0	0	0	0	0	29	0	0	0	0	0	0	0
Unknown	**500**	0	0	0	0	142	346	0	0	0	12	0	0	0
TOTAL	**1,042**	**1**	**0**	**3**	**3**	**142**	**579**	**28**	**4**	**84**	**197**	**1**	**0**	**0**

Table 20

Reported relapsed tuberculosis cases by length of inactive interval – Canada and provinces/territories: 2007

Interval	CANADA	Province/territory												
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
0-2 years	**9**	0	0	0	0	4	0	1	0	1	2	0	0	1
3-5 years	**10**	0	0	0	0	0	0	3	1	0	6	0	0	0
6-9 years	**5**	0	0	0	0	0	0	1	0	3	0	0	0	1
10-19 years	**12**	0	0	0	0	1	0	1	4	0	5	0	0	1
20+ years	**32**	0	0	1	0	3	0	1	5	2	13	1	1	5
Unknown	**41**	0	0	0	0	2	39	0	0	0	0	0	0	0
TOTAL	**109**	**0**	**0**	**1**	**0**	**10**	**39**	**7**	**10**	**6**	**26**	**1**	**1**	**8**

Table 21

Reported new active and relapsed tuberculosis cases who died, by cause of death – Canada and provinces/territories: 2007

Cause of death	CANADA		Province/territory												
	No.	Percent of total cases reported for year	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
Update on 2006 cases who died before or during treatment*															
TB was the cause of death	**23**	**1.4**	2	0	1	0	3	7	0	2	3	4	0	1	0
TB contributed to death but was not the underlying cause	**68**	**4.1**	0	0	0	0	7	27	0	5	11	18	0	0	0
TB did not contribute to death but was an incidental finding	**45**	**2.7**	0	0	1	0	8	17	7	2	3	5	0	1	1
Unknown	**7**	**0.4**	0	0	0	0	0	7	0	0	0	0	0	0	0
TOTAL	**143**	**8.7**	**2**	**0**	**2**	**0**	**18**	**58**	**7**	**9**	**17**	**27**	**0**	**2**	**1**
Cases reported in 2007 who died before or during treatment**															
TB was the cause of death	**28**	**1.8**	0	0	0	0	6	9	3	0	3	7	0	0	0
TB contributed to death but was not the underlying cause	**56**	**3.6**	2	0	0	0	7	24	5	1	5	11	0	1	0
TB did not contribute to death but was an incidental finding	**37**	**2.4**	0	0	1	0	4	13	2	1	3	13	0	0	0
Unknown	**3**	**0.2**	0	0	0	0	0	3	0	0	0	0	0	0	0
TOTAL	**124**	**8.0**	**2**	**0**	**1**	**0**	**17**	**49**	**10**	**2**	**11**	**31**	**0**	**1**	**0**

* Updates include results from both case and outcome reports.
** Includes results from case reports only.

Table 22

Reported new active and relapsed tuberculosis cases who died, by age group and sex – Canada and provinces/territories: 2007

Sex	TOTAL	Age group									
		< 1	1 – 4	5 – 14	15 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 – 74	75 +
Update on 2006 cases who died before or during treatment*											
Male	**88**	0	0	0	3	1	7	11	9	16	41
Female	**55**	0	0	1	0	2	2	4	7	11	28
TOTAL	**143**	**0**	**0**	**1**	**3**	**3**	**9**	**15**	**16**	**27**	**69**
Cases reported in 2007 who died before or during treatment**											
Male	**87**	0	0	0	0	5	7	10	5	17	43
Female	**37**	0	0	0	0	1	6	4	2	5	19
TOTAL	**124**	**0**	**0**	**0**	**0**	**6**	**13**	**14**	**7**	**22**	**62**

* Updates include results from both case and outcome reports.
** Includes results from case reports only.

Table 23

Reported new active and relapsed tuberculosis cases by HIV status – Canada and provinces/territories: 2007

HIV status	CANADA	Province/territory												
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
Positive	**55**	0	0	0	1	0	19	6	3	10	16	0	0	0
Negative	**392**	1	0	3	3	0	0	51	0	97	198	2	13	24
Unknown	**1,101**	6	0	4	1	229	635	46	103	5	62	1	2	7
TOTAL	**1,548**	**7**	**0**	**7**	**5**	**229**	**654**	**103**	**106**	**112**	**276**	**3**	**15**	**31**

Table 24

Treatment outcome status – Canada and provinces/territories: 2006

	TOTAL	Treatment outcome							
		Cure	Treatment completed without culture	Death during treatment	Trans-ferred	Absconded	Treatment ongoing	Other	Unknown
CANADA	**1,652**	**104**	**1,166**	**143**	**29**	**35**	**46**	**18**	**111**
Province/territory									
Newfoundland and Labrador	**12**	3	6	2	0	0	0	1	0
Prince Edward Island	**0**	0	0	0	0	0	0	0	0
Nova Scotia	**10**	0	6	2	2	0	0	0	0
New Brunswick	**2**	0	0	0	1	0	0	0	1
Quebec	**228**	17	89	18	2	6	0	5	91
Ontario	**671**	0	527	58	12	6	45	4	19
Manitoba	**134**	5	119	7	2	0	0	1	0
Saskatchewan	**87**	4	70	9	0	4	0	0	0
Alberta	**131**	27	85	17	0	1	0	1	0
British Columbia	**320**	11	250	27	10	15	1	6	0
Yukon	**3**	0	3	0	0	0	0	0	0
Northwest Territories	**6**	3	1	2	0	0	0	0	0
Nunavut	**48**	34	10	1	0	3	0	0	0

Table 25

Treatment outcome status by treatment regimen – Canada: 2006

Treatment regimen	TOTAL	Treatment outcome							
		Cure	Treatment completed without culture	Death during treatment	Trans-ferred	Absconded	Treatment ongoing	Other	Unknown
Total	**1,652**	**104**	**1,166**	**143**	**29**	**35**	**46**	**18**	**111**
EMB	**2**	0	0	0	0	0	1	0	1
EMB & other drug(s)	**5**	0	3	0	1	0	1	0	0
EMB & PZA & other drug(s)	**1**	0	1	0	0	0	0	0	0
EMB & RMP	**3**	0	3	0	0	0	0	0	0
EMB & RMP & other drug(s)	**13**	0	9	4	0	0	0	0	0
EMB & RMP & PZA	**18**	2	13	1	0	0	1	1	0
EMB & RMP & PZA & other drug(s)	**13**	1	10	1	0	0	0	1	0
INH & EMB	**4**	0	2	2	0	0	0	0	0
INH & EMB & other drug(s)	**12**	0	9	0	0	0	3	0	0
INH & EMB & PZA	**9**	0	7	0	1	0	1	0	0
INH & EMB & PZA & other drug(s)	**20**	0	16	1	1	1	0	0	1
INH & EMB & RMP	**50**	6	38	5	1	0	0	0	0
INH & EMB & RMP & other drug(s)	**6**	3	2	1	0	0	0	0	0
INH & EMB & RMP & PZA	**391**	38	293	31	8	10	4	3	4
INH & EMB & RMP & PZA & other drug(s)	**29**	1	22	4	0	0	1	1	0
INH & other drug(s)	**9**	0	6	1	0	0	2	0	0
INH & PZA	**2**	0	2	0	0	0	0	0	0
INH & PZA & other drug(s)	**4**	0	3	0	0	0	0	0	1
INH & RMP	**128**	6	107	3	0	5	4	1	2
INH & RMP & other drug(s)	**2**	1	0	0	0	0	1	0	0
INH & RMP & PZA	**240**	28	190	6	2	9	2	2	1
INH & RMP & PZA & other drug(s)	**6**	1	4	0	0	1	0	0	0
RMP & other drug(s)	**9**	0	6	0	0	0	3	0	0

…cont'd

Table 25 *Cont'd*

Treatment outcome status by treatment regimen – Canada: 2006

Treatment regimen	TOTAL	Treatment outcome							
		Cure	Treatment completed without culture	Death during treatment	Trans-ferred	Absconded	Treatment ongoing	Other	Unknown
RMP & PZA	**2**	0	2	0	0	0	0	0	0
RMP & PZA & other drug(s)	**2**	0	1	0	0	0	0	0	1
Other	**3**	0	1	0	0	0	2	0	0
No drugs prescribed	**59**	0	0	59	0	0	0	0	0
Unknown	**610**	17	416	24	15	9	20	9	100

Table 26

Treatment outcome status by major mode of treatment – Canada: 2006

Major mode of treatment	TOTAL	Treatment outcome							
		Cure	Treatment completed without culture	Death during treatment	Transferred	Absconded	Treatment ongoing	Other	Unknown
DOT (daily/intermittent)	**822**	76	636	48	10	13	28	7	4
Daily – self administered	**588**	22	499	13	11	17	17	5	4
Other	**66**	4	21	35	2	2	1	0	1
Unknown	**176**	2	10	47	6	3	0	6	102
TOTAL	**1,652**	**104**	**1,166**	**143**	**29**	**35**	**46**	**18**	**111**

Table 27

Treatment outcome status by compliance estimate – Canada: 2006

Compliance estimate	TOTAL	Treatment outcome							
		Cure	Treatment completed without culture	Death during treatment	Transferred	Absconded	Treatment ongoing	Other	Unknown
< 50%	**23**	0	2	5	3	10	0	3	0
50–79%	**63**	4	31	8	0	14	3	3	0
≥ 80%	**1,269**	99	1074	58	13	4	15	5	1
Unknown	**297**	1	59	72	13	7	28	7	110
TOTAL	**1,652**	**104**	**1,166**	**143**	**29**	**35**	**46**	**18**	**111**

Table 28

Initial and acquired drug resistance by origin and activity status – Canada: 2006

Drug pattern	Total	Activity status											
		New				Relapse				Unknown			
		Canadian-born		Foreign-born	Un-known	Canadian-born		Foreign-born	Un-known	Canadian-born		Foreign-born	Un-known
		Aboriginal	Non-Aboriginal			Aboriginal	Non-Aboriginal			Aboriginal	Non-Aboriginal		
Initial drug resistance 2006													
Total Postive Culture	**1,317**	**226**	**133**	**758**	**36**	**26**	**21**	**61**	**4**	**0**	**4**	**45**	**3**
Resistance Pattern Unknown	**54**	1	2	36	2	0	0	2	1	0	1	9	0
No Resistance	**1,151**	220	119	649	34	25	19	47	2	0	3	31	2
Initial Resistance to one or more drugs	**112**	**5**	**12**	**73**	**0**	**1**	**2**	**12**	**1**	**0**	**0**	**5**	**1**
Monoresistance													
INH	**75**	2	8	48	0	1	2	9	1	0	0	3	1
EMB	**3**	1	0	2	0	0	0	0	0	0	0	0	0
RMP	**4**	1	0	3	0	0	0	0	0	0	0	0	0
PZA	**12**	1	4	6	0	0	0	0	0	0	0	0	1
Total monoresistance	**94**	**5**	**12**	**59**	**0**	**1**	**2**	**9**	**1**	**0**	**0**	**3**	**2**
Multi-drug resistance (MDR-TB)*													
INH & RMP	**7**	0	0	6	0	0	0	1	0	0	0	0	0
INH & RMP & EMB	**3**	0	0	2	0	0	0	1	0	0	0	0	0
INH & RMP & PZA	**1**	0	0	0	0	0	0	0	0	0	0	1	0
INH & EMB & RMP & PZA	**1**	0	0	1	0	0	0	0	0	0	0	0	0
Total MDR-TB	**12**	**0**	**0**	**9**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**
Other patterns													
INH & EMB	**6**	0	0	5	0	0	0	1	0	0	0	0	0
Total other patterns	**6**	**0**	**0**	**5**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**

...cont'd

Table 28 *Cont'd*

Initial and acquired drug resistance by origin and activity status – Canada: 2006

Drug pattern	Total	Activity status											
		New				Relapse				Unknown			
		Canadian-born		Foreign-born	Unknown	Canadian-born		Foreign-born	Unknown	Canadian-born		Foreign-born	Unknown
		Aboriginal	Non-Aboriginal			Aboriginal	Non-Aboriginal			Aboriginal	Non-Aboriginal		
Acquired drug resistance 2006													
Monoresistance													
INH	**1**	1	0	0	0	0	0	0	0	0	0	0	0
Total acquired resistance	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

* Multidrug-resistant TB (MDR-TB) is resistance to at least isoniazid and rifampin.

Appendix II
Technical Notes

CONCEPTS, METHODS AND DATA QUALITY

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

Data sources

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

All provinces/territories voluntarily submit their case and outcome data to TBPC. Case data for four of the thirteen provinces/territories (Alberta, Ontario, Quebec and Saskatchewan) are submitted electronically. The remaining provinces/territories submit paper reporting forms (See Appendix VII). Outcome data are submitted electronically from Alberta, Saskatchewan and Ontario. Quebec submits aggregated outcome data. The remaining provinces submit outcome results on paper forms.

Reference period

The information contained in this report reflects the number of new and relapsed cases diagnosed between January 1, 2007 to December 31, 2007. Outcomes are reported on patients diagnosed between January 1, 2006 to December 31, 2006. Tables 1 through 4 present historical counts and rates for the years 1997 to 2007 inclusive. The data in this report reflects the data submitted to the Public Health Agency of Canada as of March 31, 2009. Updates, because of late reporting, will be reflected in the 2008 report.

Data quality and validation

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

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

Data accuracy

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

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

In general, the majority of data elements for case and outcome reports submitted to TBPC are complete. Reporting is less complete for some of the data elements introduced in 1997 such as HIV status. Historically, Ontario and Quebec have not had the capacity to report individual treatment outcomes. Prior to 2005 both Ontario and Quebec submitted outcome data in aggregated form only. In 2005 Ontario began submitting individual outcome data but Quebec continues to submit only aggregated outcome data.

Provinces/territories do not always report outcomes for all cases. However reporting is improving and the percentage of outcomes reported in 2007 for 2006 cases was 93% of all cases. Ongoing work with the provinces/territories will ensure that the data reported in the *TB in Canada* reports correspond with those reported at the provincial/territorial level.

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

Rates

Rates are expressed as the number of cases reported each calendar year per 100,000 population. The denominators used to calculate rates for total Canadian, provincial/territorial, total Canadian-born Aboriginal, Inuit and Métis were derived from official and custom census products from Statistics Canada, Demography Division.[14]

The rates presented for the total Aboriginal population including Métis, Inuit and North American Indian (combining Status (registered) Indian and non-Status Indian counts) were derived from the 2001 Census data published in the *Projections of the Aboriginal populations, Canada, provinces and territories, 2001 to 2017.*[15]

Current and historical incidence rates for the Status (registered) Indian population are based on population estimates from Indian and Northern Affairs Canada. These estimates are considered a more accurate reflection of the true counts of the Status Indian population.[16] However, using different sources does introduce possibility of conflicting numbers. As a result, caution should be observed when drawing comparative conclusions between the Status (registered) Indian and other origin groups.

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[14] Statistics Canada, Demography Division, Demographic, Estimates Section, Population estimates 0-90+, July, Canada – Provinces/Territories 1971-2005, updated February, 2008.

[15] Projections of the Aboriginal populations, Canada, provinces and territories 2001 to 2017 Demography Division, Statistics Canada Catalogue No. 91-547-XIE.

[16] INAC, R*egistered Indian Population by Sex and Residence 2005*. Available at: http://www.ainc-inac.gc.ca/pr/sts/rip/rip05_e.pdf.

Prior to 2003, in the annual *Tuberculosis In Canada* reports, the case counts for the Métis and non-Status Indians were combined into one aggregated number and because populations counts were not available, incidence rates were not calculated. In 2003 population estimates for the Métis were produced by Statistics Canada, Demography Division, enabling the reporting of rates for this population. Starting in 2003, case counts for the Métis were separated from those for non-Status counts and rates for the Métis were reported – accurate population counts for the non-Status Indian are not available and so incidence rates are not able to be calculated. Some jurisdictions have not been able to distinguish non-Status from the Métis cases due to constraints with their TB program's reporting system. National rates for the Métis may be over inflated and need to be interpreted cautiously. It is hoped that in working with the jurisdictions these data will become more accurate in future reports.

Incidence rates in the foreign-born population from 2001 forward are based on population estimates from the Canadian census, a Statistics Canada, Demography Division customized product.

Incidence rates in the foreign-born population are presented according to the eight Stop-TB /WHO TB Epidemiological Regions described in the *Actions for Life: Towards a World Free of Tuberculosis: The Global Plan to Stop TB, 2006 – 2015*. The eight TB epidemiological regions include: the Established Market Economies (EME) and the Central European countries (CEUR); African countries with high HIV prevalence (AFR High HIV); African countries with low HIV prevalence (AFR Low HIV); the American Region (AMR) – Latin America Countries (LAC); Eastern Europe Region (EEUR); Eastern Mediterranean Region (EMR); South-East Asia Region (SEAR); and the Western Pacific Region (WP). Because EME and CEUR have similarly high per capita income level and low tuberculosis incidence rates the results for these two regions are combined.

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

Canadian-born non-Aboriginal
=
Total Canadian Population (Statistics Canada)
– Foreign Born (Statistics Canada)
– Total Aboriginal persons (Statistics Canada)

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

Deaths

Starting in 2005, the tabulation of the total number of deaths included cases that were diagnosed in the previous calendar year but who died at any time during their treatment. Prior to 2005 only deaths that occurred within the calendar year of the current report were counted and thus may not have included cases that died while still on treatment into the following calendar year. This enhanced method for determining the number of deaths will more accurately reflect the actual deaths.

Privacy and confidentiality

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

VARIABLES MEASURED

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

Case definitions in effect in 2005

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

a. a. Cases with *Mycobacterium tuberculosis* complex (i.e. *M. tuberculosis* [including subspecies *M. canetti*], *M. bovis* [excluding BCG strain], *M. africanum*, *M.caprae*, *M.microti* or *M. pinnipedii*) demonstrated on culture.

OR

b. In the absence of bacteriological proof, cases clinically compatible with active tuberculosis that have, for example:

i chest x-ray changes compatible with active tuberculosis including idiopathic pleurisy with effusion

ii active extrapulmonary tuberculosis (meningeal, bone, kidney, peripheral lymph nodes etc.)

iii pathologic or post-mortem evidence of active tuberculosis

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

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

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

III New and relapsed (reactivated) cases of tuberculosis[17]

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

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

c. **Inactive tuberculosis:**

i Cultures for *M. tuberculosis* negative for at least 6 months

OR

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

[17] As of 2008, the CTBRS classifies all cases as new or re-treatment cases; see *Canadian Tuberculosis Standards*, 6th ed., Appendix C for complete definitions

IV Treatment outcomes

Cure – Negative culture at completion of treatment.

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

Died – Death during treatment

a. TB was the cause of death;

b. TB contributed to death but was not the underlying cause; or

c. TB did not contribute to death.

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

Failure – Culture positive at five months or more

Absconded – Patient was lost to follow-up before completion of 80% of doses, eight months after treatment started

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

Other

Unknown

Diagnostic classification

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

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

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

Other Respiratory includes tuberculous pleurisy (non-primary); tuberculosis of: intrathoracic lymph nodes, mediastinum, nasopharynx, nose (septum), and sinus (any nasal) (ICD-9 codes: 012.0, 012.1 and 012.8; ICD-10 codes: A15.4, A15.6, A15.8, A16.3, A16.5, A16.8).

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

The table below summarizes the codes used by ICD system for each of the diagnostic categories.

Table G

ICD9 and ICD10 codes by diagnostic classification

ICD System	Primary	Pulmonary	Other Respiratory	Miliary	CNS	Peripheral Lymph Nodes	Other
ICD 9	010, 010.0, 010.1, 010.8, 010.9	011, 011.0, 011.1, 011.2, 011.3, 011.4, 011.5, 011.6, 011.7, 011.8, 011.9, 012.2, 012.3	012, 012.0, 012.1, 012.8	018, 018.0, 018.8, 018.9	013, 013.0, 013.1, 013.8, 013.9	017.2	all other ICD9 codes
ICD 10	A15.7, A16.7	A15, A15.0, A15.1, A15.2, A15.3, A15.5, A15.9, A16.0, A16.1, A16.2, A16.4, A16.9	A15.4, A15.6, A15.8, A16.3, A16.5, A16.8	A19, A19.0, A19.1, A19.2, A19.8, A19.9	A17, A17.0, A17.1, A17.8, A17.9	A18.2	all other ICD10 codes including

Cases are reported based on the following hierarchy:

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

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

010 Primary Tuberculosis

010.0 Primary tuberculous complex

010.1 Tuberculous pleurisy in primary progressive tuberculosis

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

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

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

010.9 Unspecified

011 Pulmonary Tuberculosis (with associated silicosis use code 502)

011.0 Tuberculosis of lung, infiltrative

011.1 Tuberculosis of lung, nodular

011.2 Tuberculosis of lung with cavitation

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

011.4 Tuberculous fibrosis of lung

011.5 Tuberculous bronchiectasis

011.6 Tuberculous pneumonia (any form)

011.7 Tuberculous pneumothorax

011.8 Other pulmonary tuberculosis

011.9 Unspecified (respiratory tuberculosis NOS, tuberculosis of lung NOS)

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

012.0 Tuberculous pleurisy

012.1 Tuberculosis of intrathoracic lymph nodes

012.2 Isolated tracheal or bronchial tuberculosis

012.3 Tuberculous laryngitis

012.8 Other (incl. tuberculosis of: mediastinum, nasopharynx, nose (septum), sinus (any nasal)

013 Tuberculosis of Meninges and Central Nervous System

013.0 Tuberculous meningitis (320.4) (excl. tuberculoma of meninges {013.1})

013.1 Tuberculoma of meninges (349.2)

013.8 Other (tuberculoma/tuberculosis of brain {348.8}, tuberculous abscess of brain {324.0}, tuberculous myelitis {323.4})

013.9 Unspecified (tuberculosis of central nervous system NOS)

014 Tuberculosis of intestines, peritoneum and mesenteric glands

014.0 Tuberculous peritonitis Tuberculous ascites

014.8 Other Tuberculosis (of):

anus
intestine (large) (small)
mesenteric glands
rectum
retroperitoneal (lymph nodes)
Tuberculous enteritis

015 Tuberculosis of Bones and Joints

Incl. tuberculous: arthritis (711.4), necrosis of bone (730.8), osteitis (730.8), osteomyelitis (730.8), synovitis (727.01), tenosynovitis (727.01).

015.0 Vertebral column
Pott's: curvature (737.4), disease (730.4)
Kyphosis (737.4), spondylitis (720.8)

015.1 Hip

015.2 Knee

015.5 Limb bones

015.6 Mastoid

015.7 Other bone (tuberculous dactylitis, mastoiditis {383.1})

015.8 Other joint

015.9 Unspecified

016 Tuberculosis of Genitourinary System

016.0 Kidney (tuberculous pyelitis {590.8}, tuberculous pyelonephritis {590.8})

016.1 Other urinary organs (tuberculosis of bladder {595.4}, tuberculosis of ureter {593.8})

016.2 Epididymis (604.9)

016.3 Other male genital organs (tuberculosis of: prostate {601.4}, seminal vesicle {608.8}, testis {608.8})

016.4 Female genital organs (tuberculous: oophoritis {614.2}, salpingitis {614.2})

016.9 Unspecified

017 Tuberculosis of Other Organs

017.0 Skin and subcutaneous cellular tissue
Lupus: NOS, exedens, vulgaris, Scrofuloderma
(excl. lupus erythrematosus {695.4}, disseminated {710.0})
Tuberculosis: colliquativa, cutis, lichenoides, papulonecrotica, verrucosa cutis

017.1 Erythema nodosum with hpersensitivity reaction in tuberculosis
Bazin's disease, Tuberculosis indurativa
Erythema: induratum, nodosum (tuberculous)
Excl. erythema nodosum NOS (695.2)

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

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

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

017.5 Thyroid gland

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

017.7 Spleen

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

018 Miliary Tuberculosis

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

018.0 Acute

018.8 Other

018.9 Unspecified

137 Late Effects of Tuberculosis

137.0 Late effects of respiratory or unspecified tuberculosis

137.1 Late effects of central nervous system tuberculosis

137.2 Late effects of genitourinary tuberculosis

137.3 Late effects of tuberculosis of bones and joints

137.4 Late effects of tuberculosis of other specified organs

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

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

Source: ICD–10 CA/CCI Tabular List – CIHI, 2003

A15 Respiratory tuberculosis, bacteriologically and histologically confirmed

Includes: infections due to Mycobacterium tuberculosis and Mycobacterium bovis

Excludes: congenital tuberculosis (P37.0)
pneumoconiosis associated with tuberculosis (J65)
sequelae of tuberculosis (B90–)
silicotuberculosis (J65)

A15.0 Tuberculous of lung, confirmed by sputum microscopy with or without culture

Includes:

Tuberculous:
- bronchiectasis
- fibrosis of lung
- pneumonia
- pneumothorax

A15.1 Tuberculosis of lung, confirmed by culture only

Includes: Conditions listed in A15.0, confirmed by culture only

A15.2 Tuberculosis of lung, confirmed histologically

Includes: Conditions listed in A15.0, confirmed histologically

A15.3 Tuberculosis of lung, confirmed by unspecified means

Includes: Conditions listed in A15.0, confirmed but unspecified whether bacteriologically or histologically

A15.4 Tuberculosis of intrathoracic lymph nodes, confirmed bacteriologically and histologically

Includes:

Tuberculosis of lymph nodes:
- hilar
- mediastinal
- tracheobronchial

Excludes: specified as primary (A15.7)

A15.5 Tuberculosis of larynx, trachea and bronchus confirmed bacteriologically and histologically

Includes:

Tuberculosis of:
- bronchus
- glottis
- larynx
- trachea

A15.6 Tuberculosis pleurisy, confirmed bacteriologically and histologically

Includes:

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

A15.7 Primary respiratory tuberculosis, confirmed bacteriologically and histologically

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

A15.8 Other respiratory tuberculosis, confirmed bacteriologically and histologically

Includes: Mediastinal tuberculosis

Nasopharyngeal tuberculosis

Tuberculosis of:

nose

sinus [any nasal]

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

A16 Respiratory tuberculosis, not confirmed bacteriologically or histologically

A16.0 Tuberculosis of lung, bacteriologically and histologically negative

Includes:

Tuberculous:

bronchiectasis

fibrosis of lung

pneumonia

pneumothorax

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

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

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

Tuberculosis of lung

Tuberculous:

bronchiectasis
fibrosis of lung
pneumonia
pneumothorax

} NOS (without mention of bacteriological or histological confirmation)

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

Includes:

Tuberculosis of lymph nodes:

- hilar
- intrathoracic
- mediastinal
- tracheobronchial

} NOS (without mention of bacteriological or histological confirmation)

Excludes: when specified as primary (A16.7)

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

Includes:

Tuberculosis of:

- bronchus
- glottis
- larynx
- trachea

} NOS (without mention of bacteriological or histological confirmation)

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

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

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

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

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

- Mediastinal tuberculosis
- Nasopharyngeal tuberculosis
- **Tuberculosis of:**
  - Nose
  - sinus [any part]

} NOS (without mention of bacteriological or histological confirmation)

A16.9 Respiratory tuberculosis unspecified, *w*ithout mention of bacteriological or histological confirmation

Includes: Respiratory tuberculosis NOS
Tuberculosis NOS

A17 Tuberculosis of nervous system

A17.0 Tuberculous meningitis (G01)

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

A17.1 Meningeal tuberculoma (G07)

Includes: Tuberculoma of meninges

A17.8 Other tuberculosis of nervous system

Includes:

Tuberculoma of:
brain (G07)
spinal cord (G07)

Tuberculosis of:
brain (G07)
spinal cord (G07)

Tuberculous:
abscess of brain (G07)
meningoencephalitis (G05.0)
myelitis (G05.0*)
polyneuropathy (G63.0*)

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

A18 Tuberculosis of other organs

A18.0 Tuberculosis of bones and joints

Includes:

Tuberculosis of:
hip (M01.1)
knee (M01.1)
vertebral column (M49.0)

Tuberculous:
arthritis (M01.1)
mastoiditis (H75.0)
necrosis of bone (M90.0)
osteitis (M90.0)
osteomyelitis (M90.0)
synovitis (M68.0)
tenosynovitis (M68.0)

A18.1 Tuberculosis of genitourinary system

Includes:

Tuberculosis of:

bladder (N33.0)
cervix (N74.0)
kidney (N29.1)
male genital organs (N51.–)
ureter† (N29.1)
Tuberculous female pelvic inflammatory disease (N74.1)

A18.2 Tuberculous peripheral lymphadenopathy

Includes: Tuberculous adenitis

Excludes:

Tuberculosis of lymph nodes:

intrathoracic (A15.4, A16.3)
mesenteric and retroperitoneal (A18.3)
Tuberculous tracheobronchial adenopathy (A15.4, A16.3)

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

Includes:

Tuberculosis (of):

anus and rectum (K93.0)
intestine (large) (small) (K93.0)
retroperitoneal (lymph nodes)

Tuberculous:

ascites
enteritis (K93.0)
peritonitis (K67.3)

A18.4 Tuberculosis of skin and subcutaneous tissue

Includes: Erythema induratum, tuberculous
Lupus:
exedens
vulgaris:
NOS
of eyelid (H03.1)
Scrofuloderma

Excludes: lupus erythematosus (L93.–)
systemic (M32.–)

A18.5 Tuberculosis of eye

Includes:

Tuberculous:

chorioretinitis (H32.0)
episcleritis (H19.0)
interstitial keratitis (H19.2)
iridocyclitis (H22.0)
keratoconjunctivitis (interstitial) (phlyctenular) (H19.2)

Excludes: lupus vulgaris of eyelid (A18.4)

A18.6 Tuberculosis of ear

Includes: Tuberculosis otitis media (H67.0)

Excludes: Tuberculous mastoiditis (A18.0)

A18.7 Tuberculosis of adrenal glands (E35.1)

Includes: Addison's disease, tuberculous

A18.8 Tuberculosis of other specified organs

Includes:

Tuberculosis of:

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

A19 Miliary Tuberculosis

Includes:

Tuberculosis:

disseminated
generalized

Tuberculous polyserositits

A19.0 Acute miliary tuberculosis of a single specified site

A19.1 Acute miliary tuberculosis of multiple sites

A19.2 Acute miliary tuberculosis, unspecified

A19.8 Other miliary tuberculosis

A19.9 Miliary Tuberculosis, unspecified

Appendix III
Population Estimates: 2007

Population estimates by gender and age group, Canada and provinces/territories: 2007

Male

	CANADA	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
< 1	**182,922**	2,354	745	4,300	3,587	42,451	69,618	7,507	6,343	23,462	21,624	195	374	362
1 – 4	**721,595**	9,376	2,719	17,375	14,393	155,525	288,405	29,210	24,726	89,088	87,200	759	1,366	1,453
5 – 14	**1,977,074**	27,657	8,579	52,058	42,271	436,202	787,346	80,626	66,410	222,246	245,029	1,994	3,279	3,377
15 – 24	**2,312,433**	33,071	9,733	62,498	49,216	502,261	903,227	88,405	76,878	277,540	300,302	2,439	3,754	3,109
25 – 34	**2,221,940**	28,990	7,740	53,542	45,560	528,590	845,223	78,401	62,840	284,652	278,138	2,060	3,638	2,566
35 – 44	**2,504,540**	37,882	9,718	67,904	54,342	572,780	1,005,418	83,382	64,337	277,409	322,865	2,550	3,692	2,261
45 – 54	**2,576,566**	41,838	10,398	74,999	59,534	622,357	979,400	90,793	74,721	276,437	337,872	3,221	3,411	1,585
55 – 64	**1,885,633**	35,513	8,925	60,828	48,915	473,328	697,721	65,337	53,393	174,147	262,339	2,174	2,087	926
65 – 74	**1,111,634**	19,789	5,359	35,840	28,053	279,349	418,166	37,700	33,972	94,026	157,527	845	676	332
75 +	**831,804**	12,349	3,664	25,192	20,041	192,597	320,351	32,440	31,550	69,452	123,290	396	359	123
TOTAL	**16,326,141**	**248,819**	**67,580**	**454,536**	**365,912**	**3,805,440**	**6,314,875**	**593,801**	**495,170**	**1,788,459**	**2,136,186**	**16,633**	**22,636**	**16,094**

Female

< 1	**173,636**	2,145	661	4,139	3,395	40,314	65,817	7,039	6,053	22,443	20,784	166	299	381
1 – 4	**680,899**	8,901	2,633	16,987	13,582	148,301	272,346	27,426	23,313	82,944	81,100	698	1,301	1,367
5 – 14	**1,879,760**	26,094	8,106	50,182	39,762	414,811	751,167	76,339	63,389	210,890	230,513	1,974	3,245	3,288
15 – 24	**2,195,127**	31,992	9,536	62,052	46,834	479,166	864,229	84,114	73,107	253,772	281,791	2,167	3,417	2,950
25 – 34	**2,196,225**	30,310	8,156	58,128	46,466	504,457	863,218	75,399	62,318	257,486	282,061	2,206	3,556	2,464
35 – 44	**2,456,496**	39,924	9,795	69,717	55,033	548,385	995,464	81,632	64,186	258,624	325,480	2,701	3,401	2,154
45 – 54	**2,587,160**	43,307	11,075	78,004	62,068	626,236	983,709	87,935	74,655	264,319	348,309	3,031	3,129	1,383
55 – 64	**1,938,997**	36,000	9,054	62,527	49,774	494,293	725,456	66,293	53,092	170,827	267,499	1,867	1,527	788
65 – 74	**1,222,234**	20,532	5,692	39,082	30,344	311,151	469,459	42,013	37,079	100,363	164,938	699	613	269
75 +	**1,270,697**	18,435	5,830	40,685	32,200	313,484	487,832	51,523	47,335	100,765	171,644	440	411	113
TOTAL	**16,601,231**	**257,640**	**70,538**	**481,503**	**379,458**	**3,880,598**	**6,478,697**	**599,713**	**504,527**	**1,722,433**	**2,174,119**	**15,949**	**20,899**	**15,157**

TOTAL

< 1	**356,558**	4,499	1,406	8,439	6,982	82,765	135,435	14,546	12,396	45,905	42,408	361	673	743
1 – 4	**1,402,494**	18,277	5,352	34,362	27,975	303,826	560,751	56,636	48,039	172,032	168,300	1,457	2,667	2,820
5 – 14	**3,856,834**	53,751	16,685	102,240	82,033	851,013	1,538,513	156,965	129,799	433,136	475,542	3,968	6,524	6,665
15 – 24	**4,507,560**	65,063	19,269	124,550	96,050	981,427	1,767,456	172,519	149,985	531,312	582,093	4,606	7,171	6,059
25 – 34	**4,418,165**	59,300	15,896	111,670	92,026	1,033,047	1,708,441	153,800	125,158	542,138	560,199	4,266	7,194	5,030
35 – 44	**4,961,036**	77,806	19,513	137,621	109,375	1,121,165	2,000,882	165,014	128,523	536,033	648,345	5,251	7,093	4,415
45 – 54	**5,163,726**	85,145	21,473	153,003	121,602	1,248,593	1,963,109	178,728	149,376	540,756	686,181	6,252	6,540	2,968
55 – 64	**3,824,630**	71,513	17,979	123,355	98,689	967,621	1,423,177	131,630	106,485	344,974	529,838	4,041	3,614	1,714
65 – 74	**2,333,868**	40,321	11,051	74,922	58,397	590,500	887,625	79,713	71,051	194,389	322,465	1,544	1,289	601
75 +	**2,102,501**	30,784	9,494	65,877	52,241	506,081	808,183	83,963	78,885	170,217	294,934	836	770	236
TOTAL	**32,927,372**	**506,459**	**138,118**	**936,039**	**745,370**	**7,686,038**	**12,793,572**	**1,193,514**	**999,697**	**3,510,892**	**4,310,305**	**32,582**	**43,535**	**31,251**

Population estimates by Canadian-born origin and foreign-born birthplace – Canada and provinces/territories: 2006

	CANADA	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	North#	Y.T.	N.W.T.	Nvt.
Canadian-born															
North American Indian	**1,188,348**	22,378	1,825	20,852	19,596	105,911	234,078	179,969	158,664	190,526	195,269	59,280	8,176	23,524	27,580
Status Indian*	**805,750**				33,645	72,565	178,080	131,910	130,335	105,592	127,533	26,090	8,347	17,743	
Non-status**	-														
Inuit	**54,615**	5,171	31	440	179	11,296	1,831	422	274	1,273	999	32,699	211	5,087	27,401
Metis	**333,569**	6229	255	3,451	4,750	17,340	55,267	64,698	50,323	77,415	48,823	5,018	627	4344	47
Total Aboriginal†	**1,576,532**	**33,778**	**2,111**	**24,743**	**24,525**	**134,547**	**291,176**	**245,089**	**209,261**	**269,214**	**245,091**	**96,997**	**9,014**	**32,955**	**55,028**
Non-Aboriginal‡	**24,133,700**	457,466	129,846	848,701	686,012	6,544,583	8,560,767	772,488	727,100	2,644,533	2,759,204	3,000	19,862	7,447	- 24,309
Total Canadian-born	**25,710,232**	**491,244**	**131,957**	**873,444**	**710,537**	**6,679,130**	**8,851,943**	**1,017,577**	**936,361**	**2,913,747**	**3,004,295**	**99,997**	**28,876**	**40,402**	**30,719**
Foreigh-born^															
AFR High	**207,222**	569	107	1,522	1,087	30,810	105,888	6,796	3,257	25,759	31,178	249	83	141	25
AFR Low	**111,172**	171	48	534	667	60,341	37,101	2,036	836	5,394	3,965	79	14	56	9
AMR	**795,774**	849	312	3,772	1,975	178,548	487,766	21,491	4,109	45,163	51,454	335	156	136	43
EEUR	**348,613**	621	107	1,624	591	69,958	202,396	11,767	3,395	24,327	33,562	265	90	165	10
EMR	**719,954**	1,337	429	8,754	2,218	160,479	428,642	7,700	4,996	46,681	58,527	191	42	131	18
EME + CEUR	**2,594,708**	7,902	4,227	35,201	22,018	332,515	1,394,956	68,299	29,756	236,617	458,817	4,400	2,583	1,506	311
SEAR	**735,762**	1,276	153	3,041	1,500	50,068	472,229	10,601	3,219	48,971	144,430	274	149	111	14
WPR	**1,703,935**	2,490	778	8,147	4,777	124,189	812,651	47,247	13,768	164,233	524,077	1,578	589	887	102
Total foreign-born	**7,217,140**	**15,215**	**6,161**	**62,595**	**34,833**	**1,006,908**	**3,941,629**	**175,937**	**63,336**	**597,145**	**1,306,010**	**7,371**	**3,706**	**3,133**	**532**
Total population^^	**32,927,372**	**506,459**	**138,118**	**936,039**	**745,370**	**7,686,038**	**12,793,572**	**1,193,514**	**999,697**	**3,510,892**	**4,310,305**	**107,368**	**32,582**	**43,535**	**31,251**

* Source: Registered Indian Population, Household and Family Projections 2004–2029, INAC, 2007.

** No accurate population counts for non-Status Indian available.

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

‡ Calculated: Non-Aboriginal = Total population - Total Aboriginal - Total Foreign-born.

^ Source: Statistics Canada: Demography Division, Custom Product.

^^ Source: Statistics Canada, Demography Division, Demographic, Estimates Section, Population estimates 0-90+ July Canada - Provinces 1971-2006, updated Feburary 2009.

North includes Yukon, Northwest Territories, and Nunavut.

Appendix IV
WHO Estimated incidence of TB, 22 high-burden countries: 2007

COUNTRY	POPULATION (1000s)	NUMBER ESTIMATED				CUMULATIVE INCIDENCE (%) (REGIONAL PROPORTION OF GLOBAL TOTAL)
		ALL CASES		SMEAR-POSITIVE CASES		
		NUMBER (1000s)	RATE PER 100,000	NUMBER (1000s)	RATE PER 100,000	
1 India	**1,169,016**	1,962	168	873	75	21.2
2 China	**1,328,630**	1,306	98	585	44	35.2
3 Indonesia	**231,627**	528	228	236	102	40.9
4 Nigeria	**148,093**	460	311	195	131	45.9
5 South Africa	**48,577**	461	948	174	358	50.9
6 Bangladesh	**158,662**	353	223	159	100	54.7
7 Ethiopia	**83,099**	314	378	135	163	58.1
8 Pakistan	**163,902**	297	181	133	81	61.3
9 Philippines	**87,960**	255	290	115	130	64.0
10 DR Congo	**62,636**	245	392	109	174	66.7
11 Russian Federation	**142,499**	157	110	68	48	68.3
12 Viet Nam	**87,375**	150	171	66	76	70.0
13 Kenya	**37,538**	132	353	53	142	71.4
14 Brazil	**191,791**	92	48	49	26	72.4
15 UR Tanzania	**40,454**	120	297	49	120	73.7
16 Uganda	**30,884**	102	330	42	136	74.8
17 Zimbabwe	**13,349**	104	782	40	298	75.9
18 Thailand	**63,884**	91	142	39	62	76.9
19 Mozambique	**21,397**	92	431	37	174	77.9
20 Myanmar	**48,798**	83	171	37	75	78.8
21 Cambodia	**14,444**	72	495	32	219	79.5
22 Afghanistan	**27,145**	46	168	21	76	80.0
Total, high-burden countries	**4,201,760**	**7,422**	**177**	**3,245**	**77**	**80.0**
Africa	**792,378**	2,879	363	1,188	150	31.0
Americas	**909,820**	295	32	157	17	3.2
East Mediterranean	**555,064**	583	105	259	47	6.3
Europe	**889,278**	432	49	190	21	4.7
South East Asia	**1,745,394**	3,165	181	1,410	81	34.1
Western Pacific	**1,776,440**	1,919	108	859	48	20.7
Global total	**6,668,374**	**9,273**	**139**	**4,062**	**61**	**100.0**

Source: *Global tuberculosis control: surveillance, planning, financing, WHO report 2009.* Geneva, World Heatlh Organization (WHO/HTM/TB/2009.411).

Appendix V
STOP-TB partnership
TB epidemiological regions and member countries[18]

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

[18] *Stop TB Partnership and World Health Organization. Global Plan to Stop TB 2006–2015*. Geneva, World Health Organization, 2006 (WHO/HTM/STB/2006.35).

American region (AMR) – Latin American countries (LAC)	
Anguilla	Guyana
Antigua & Barbuda	Haiti
Argentina	Honduras
Bahamas	Jamaica
Barbados	Mexico
Belize	Montserrat
Bermuda	Netherlands Antillies
Bolivia	Nicaragua
Brazil	Panama
British Virgin Islands	Paraguay
Cayman Islands	Peru
Chile	Puerto Rico
Colombia	Saint Kitts and Nevis
Costa Rica	Saint Lucia
Cuba	St Vincent and the Grenadines
Dominica	Suriname
Dominican Republic	Trinidad and Tobago
Ecuador	Turks & Caicos Islands
El Salvador	Uruguay
Grenada	US Virgin Islands
Guatemala	Venezuela

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

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

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

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

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

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

Appendix VI
WHO reporting form for 2007

To navigate, move between sheets using the tabs at the bottom, or click on a heading in the list below. You can come back to this sheet by clicking on the "Menu link to the right of the heading of each section.

Throughout the form, "NTP" refers to the national tuberculosis control programme or equivalent.

This form allows WHO to collect data from over 200 diverse countries. It is NOT a recommended data collection format for national programmes. (For recommended data collection forms see: http://www.who.int/tb/dots/r_and_r_forms/en/index.html).

		Status C; complete, P; partially complete, N; not started.
1. Identification		P
2. Strategy		
	Political commitment	P
	Overview of services for diagnosis and treatment of TB	P
	Laboratory diagnostic services	P
	Human resource development (HRD)	P
	Drug management	P
	Monitoring and evaluation system, and impact measurement	P
	Collaborative TB-HIV activities	P
	Management of drug-resistant TB	P
	Special populations and other high-risk groups	P
	Health systems strengthening	P
	Practical Approach to Lung Health (PAL)	P
	Public-Private and Public-Public Mix (PPM)	P
	Advocacy, communication and social mobilization (ACSM)	P
	Community involvement in TB control	N
	Patients' Charter for Tuberculosis Care	N
	Operational research and retooling	P
	Optional (major achievements, major challenges, what's new?)	N
3. Notifications		
	TB cases by history, site, smear result and strategy	N
	TB cases by age-sex	N
	MDR-TB	N
	TB/HIV	N
	Outcomes of all cases	N
	Outcomes of HIV-positive cases	N
	Outcomes of MDR-TB cases	N
4. Finance		
	Budget 2008	N
	Budget 2009 (preliminary)	N
	Utilization of health services 2008	N
	Expenditure 2007	N

Please send your completed form to your local/regional WHO office **NOT LATER than Augsut 1st, 2008.**

If you cannot reply to all of the questions before the deadline, please fill in the form as much as possible and send it to us; you can provide the remaining data later on.

We estimate that it will about two hours to answer the questions that ask for information about the implementation of the Stop TB Strategy in your country (sheet "2. Strategy"). The time required to fill in sheets 3 and 4 will depend on how data are managed at national level.

Identification (please update as necessary)

1.1 Country	**Canada**
1.2 Date	

National TB control programme manager or equivalent:

1.3 Name	
1.4 Functional title	
1.5 Address	
1.6 Telephone	
1.7 Fax	
1.8 E-mail	
1.9 Name	
1.10 Functional title	
1.11 Address	
1.12 Telephone	
1.13 Fax	
1.14 E-mail	

Page 1

Implementing the Stop TB Strategy

Menu

You will find explanations and instructions on the right-hand side of the screen. These will change according to the answers you provide, and will not appear when you print the form.

Political commitment

Menu

2.1	Do you have a national strategic plan for TB control?	
	Start year	
	End year	
2.2	Is there a mechanism for national interagency coordination?	
	If yes, in which year was it established?	
	If no, in which year do you plan to establish one?	
2.3	Is there a national Stop TB Partnership?	
	If yes, in which year was it established?	
	If no, in which year do you plan to establish one?	

Overview of services for diagnosis and treatment of TB

Menu

2.4	How many TB basic management units (BMUs) were there in 2007?	

The basic management unit is defined in terms of management, supervision, and monitoring responsibility. It may have several treatment facilities, one or more laboratories, and one or more hospitals. The defining aspect is the presence of a manager or coordinator who oversees TB control activities for the unit and who maintains a master register of all TB patients being treated, which is used to monitor the programme and report on indicators to higher levels.

2.5	How many of these BMUs were considered "DOTS" units at the end of 2007?	
2.6	What term is used to describe a BMU in your country?	
2.7	What proportion of the country's population was covered by BMUs defined as DOTS in 2007?	%

If a unit became a DOTS unit in October of 2007, then use only 1/4 of its population in your calculation; if in July, then use 1/2 of its population, etc. DOTS coverage is a crude indicator of access to DOTS. The proportion of the population with access to DOTS services is lower than DOTS coverage in many countries. If you have an estimate of access to DOTS, please provide the estimate along with the definition of access and the method of estimation in the "Remarks" sheet in addition to answering this question.

2.8	What is the main type of health-care facility through which the NTP provides TB treatment?	Rural
		Urban
2.9	How many of these types of health-care facility were there in the country at the end of 2007?	
2.10	In how many of these facilities was the NTP providing TB treatment services at the end of 2007?	
2.11	Are these facilities part of the general primary health-care network?	
2.12	Within the NTP, to which kind of health-care facility do pulmonary TB suspects typically need to go for smear diagnosis?	Rural
		Urban
2.13	Is diagnosis through the NTP free-of-charge?	

		Number of new and re-treatment patients whose treatment was supervised
2.14	Was every dose of medication supervised at least during the initial phase (2–3 months) of treatment in 2007?	
	DOTS units	
	non-DOTS units	

2.15 Did the following groups provide treatment supervision (for patients treated through the NTP) in 2007?

	Health-care worker	Community member	Family member
Initial phase			
Continuation phase			

Page 2

Laboratory diagnostic services

Menu

2.16 How many laboratories were providing TB diagnostic services in 2007 and how many laboratories will provide services in 2008? Please include all laboratories contributing to the diagnosis of patients notified by the NTP (including collaborating laboratories within or outside the public health sector).

	2007			2008	
	Number of laboratories at end of 2007	Number of laboratories for which EQA was carried out	Of labs for which EQA was carried out, number that failed to show adequate performance*	Number of laboratories expected to be providing services by end of 2008	Total number of laboratories for which EQA will be carried out
Smear microscopy					
Culture					
Drug susceptibility testing					

*failed to show adequate performance: one or more high false positive (HFP) or high false negative (HFN)

2.17	Was second-line drug susceptibility testing available for NTP patients in 2007?	
2.18	In 2007, how many of the laboratories performing smear microscopy were stand-alone TB laboratories (i.e. working for TB only)?	0
2.19	How many non-NTP laboratories were collaborating with the NTP in 2007?	Private sector
		NGO sector
		University/medical college
		Social insurance schemes
		Military/police/paramilitary
		Prisons/detention centers

			Number of pulmonary TB suspects for whom smear microscopy was performed
2.20	Was sputum smear microscopy routinely used to diagnose suspected pulmonary TB cases in 2007?		
		DOTS units	*All suspects in all units*
		non-DOTS units	*Not applicable*

2.21	Were there any stock-outs of laboratory reagents and supplies at any level in 2007?	Central level
		Peripheral level
2.22	Did you have a national reference laboratory or laboratories (NRL) in 2007?	
	If there is no NRL, do you plan to establish one?	

Human resource development (HRD)

Menu

2.23	At the central level of the NTP, was there a member of staff who was responsible HRD in 2007?	
	If yes, what percentage of this person's time was allocated to HRD-related activities?	
2.24	Have you completed a human resource development (HRD) needs assessment?	
	If yes, in which year was it carried out?	
	If no, when do you plan to carry out an assessment?	
2.25	Do you have a comprehensive strategic HRD plan for TB control?	
	If yes, what time period does the plan cover?	Start year
		End year

	Training needs	Staffing needs
If yes, which of the following are included in the HRD plan?		
DOTS expansion and enhancement		
Management of MDR-TB		
Collaborative TB/HIV activities		
Public–Private and Public–Public Mix strategies		
Advocacy, communication and social mobilization (ACSM)		

Page 3

2.26 Are job descriptions up-to-date (i.e. do they correspond with the current policies and recommendations for TB control)?

2.27 Is TB control (following NTP guidelines) formally included in the curricula for basic training of the following categories of health-care worker?

Doctors	
Nurses	
Laboratories technicians	

2.28 For countries with NTP staff in 2007:

	How many posts were there in the NTP to perform TB control tasks?	How many of those posts were filled?	Of those posts filled, how many of these staff had been trained in TB control in the past 3 years?
National level			
Provincial/regional level or equivalent			
BMU level			
Health-care facility level			

Drug management Menu

2.29 Was standardized, short-course chemotherapy (less than 9 months) used routinely to treat all TB patients except chronic and proven or suspected MDR-TB patients in 2007?

For WHO recommendations, see www.who.int/entity/tb/publications/tb_2003_313_chap4_rev.pdf

	Number of new and re-treatment patients receiving standardized, short-course chemotherapy
DOTS units	
non-DOTS units	

2.30 Were TB drugs provided free-of-charge to all TB patients treated with first-line drugs under the NTP in 2007?

	Number of new and re-treatment patients receiving treatment free-of-charge
DOTS units	
non-DOTS units	

2.31 Were there any stock-outs of TB drugs at any level in 2007 (i.e. drugs not present for at least one day)?

	Stock-outs of first-line drugs	Stock-outs of second-line drugs in MDR-TB management units
Central level		
Peripheral level (which resulted in treatment interruption or delay in start of treatment for TB patients)		

2.32 What are the NTP-recommended regimens for TB treatment?

Use the table provided to describe the regimens. The abbreviated regimen will appear automatically in the grey column, as shown for the example. If the regimen(s) used cannot be described using the table or if you have more than one regimen in use for a given category of patients, please describe the regimen(s) and explain in the Remarks sheet.

	Initial phase		Initial phase (part II - cat II only)		Continuation phase		
	Duration/ drugs	Frequency (per week)	Duration/ drugs	Frequency (per week)	Duration/ drugs	Frequency (per week)	Generated automatically
Example Cat I	*2/HRZE*	*7*			*4/HR)*	*3*	*2/HRZE / 4/HR)3*
Example Cat II	*2/HRZES*	*6*	*1/HRZE*	*6*	*5/HRE*	*6*	*2/HRZES / 1/HRZE / 5/HRE*
Cat I	*Select*	*Select*			*Select*	*Select*	
Cat II	*Select*	*Select*	*Select*	*Select*	*Select*	*Select*	
Cat III (if any)	*Select*	*Select*			*Select*	*Select*	
Child (if any)	*Select*	*Select*			*Select*	*Select*	

"H" indicates isoniazid; "R", rifampicin; "Z", pyrazinamide; "E", ethambutol; "S", streptomycin. Parentheses "( )" indicate fixed-dose combinations.

2.33 If the recommended category I treatment regimen does not include rifampicin in the continuation phase, do you intend to introduce it?

2.34 Were paediatric formulations of anti-TB drugs procured specifically for children in 2007?

2.35 Was TB drug procurement, distribution and stock management performed together with other essential drugs management in 2007?

Monitoring and evaluation system, and impact measurement Menu

2.36 At the central level of the NTP, were there members of staff who were responsible for the following tasks in 2007?

Data management	
Data analysis	

2.37 Did you keep (or have access to) data for individual TB patients at the NTP central office in 2007?

If not, what is the lowest administrative level for which data are available at central level?

2.38 Are data at the NTP central office stored in a relational database management system (RDBMS)?

An RDBMS is an application or system that allows you to store and easily access an extensive amount of data for use in your routine work. It is usually accessible to several people at the same time and allows users to enter/upload and edit/update the data. It also allows users to produce standard and/or customized analyses (e.g. tables and graphs) using these data at the click of a button. An RDBMS is usually purchased from a software company or developed by an internal IT team. It is usually operated using standard database technologies such as Microsoft SQL or Access, MySQL or Oracle.

	Case finding, 2007	Treatment outcomes, 2006
2.39 How many quarterly reports (or equivalent) were received from BMUs?		
2.40 How many quarterly reports (or equivalent) from BMUs were missing?		

2.41 Do you publish an annual report of the activities of the NTP?

If yes, in which year did you start publishing annual reports?

2.42 Which of the following approaches have been used, or will be used, to assess the epidemiological burden of TB and the impact of TB control in your country?

	Year of most recent assessment	Year of next assessment
In-depth analysis of routine surveillance data		
Population-based prevalence of disease survey		
Population-based prevalence of infection survey		
Population-based mortality survey (e.g. verbal autopsy study)		
Analysis of vital registration mortality data		

Collaborative TB/HIV activities See also Notifications sheet, questions 3.35 to 3.43 and 3.59 to 3.66 Menu

2.43 Was there a national policy to offer HIV counselling and testing to all TB patients in 2007?

If yes, is this policy for provider-initiated testing?

2.44 Was there a national surveillance system to measure the prevalence of HIV in TB patients in 2007?

2.45 If yes, what sources of data were used?

	Number of TB patients tested	Number of TB patients HIV+ve	Estimated prevalence (%)	Year of estimate
Routine HIV testing of TB patients?				
Sentinel sites?				
Prevalence surveys?				

2.46 Was there a national body responsible for coordinating TB/HIV activities in 2007?

2.47 Was there a national plan for collaborative TB/HIV activities in 2007?

2.48 Was there a national policy to offer co-trimoxazole preventive therapy (CPT) to HIV-positive TB patients in 2007?

2.49 Was there a national policy to offer antiretroviral therapy (ART) to HIV-positive TB patients in 2007?

2.50 Was there a national policy to screen people living with HIV for TB in 2007?

2.51 Was there a national policy to offer isoniazid prophylaxis (IPT; treatment of latent TB infection) to people with HIV in 2007?

2.52 Which of the following components of collaborative TB/HIV activities were paid for from the NTP budget in 2007?

Co-trimoxazole preventive therapy (CPT) for HIV-positive TB patients	
Antiretroviral therapy (ART) for HIV-positive TB patients	
HIV testing for TB patients	
Isoniazid prophylaxis (IPT) for HIV-positive people without active TB	

2.53 Did you have a policy for infection control in the following congregate settings in 2007?

Hospitals	
Clinics	
Military barracks	
Prisons/detention centers	

Management of drug-resistant TB See also Notifications sheet, questions 3.27 to 3.34 and 3.67 to 3.78 Menu

MDR = multidrug-resistant. DST = drug susceptibility testing. GLC = The Green Light Committee: the mechanism of WHO and its partners in the Stop TB Partnership to enable access to second-line anti-TB drugs in low- and middle-income countries to treat multidrug-resistant tuberculosis (MDR-TB) under programmatic conditions and following specific guidelines. XDR = extensively-drug resistant. For further information, see http://whqlibdoc.who.int/publications/2006/9241546956_eng.pdf.

2.54 What is the status of the management of drug-resistant TB?

	If yes, since which year?
National plan for the management of drug-resistant TB exists?	
Person at central level of NTP responsible for drug-resistant TB?	
GLC project(s)?	
National guidelines for management of drug-resistant TB developed?	
Training material developed?	
Training specifically for drug-resistant TB conducted?	
Scaling-up initiated?	
Extent of implementation of management of drug-resistant TB?	

2.55 Was there a national surveillance system to measure the prevalence of drug resistance among TB cases in 2007?

If yes, what sources of data were used?

	1st-line drugs	2nd-line drugs
Routine drug-susceptibility testing?		
Sentinel sites?		
Periodic drug resistance surveys?		

2.56 For which groups of patients is first-line drug-susceptibility testing routinely performed? (select as many as apply)

All patients		Re-treatment cases		Chronic cases	
New cases		Treatment failures		Contacts of MDR-TB cases	

Special populations and other high-risk groups Menu

2.57 Did the NTP implement any specific activities for TB control for the following groups/situations in 2007?

Refugees/displaced people		Ethnic minorities		Population movement due to:	
Migratory workers		Alcohol abusers		Political unrest	
Cross-border populations		Injecting drug users		War	
Orphaned/homeless		People with diabetes		Natural disaster	
Slum dwellers		People who smoke tobacco			

2.58 Do you routinely screen immigrants for TB?

The definition of an immigrant varies among countries. In some countries, the definition is based on place of birth, in others on citizenship or residency. When answering the following two questions, please apply the definition used in your country.

2.59 What is your policy for treatment of TB in immigrants?

	Children (< 5 years old)	All ages
2.60 How many contacts of smear-positive TB cases were screened for TB in 2007?		
2.61 How many TB cases were identified among contacts in 2007?		
2.62 How many contacts began IPT in 2007?		

Health systems strengthening and integration of TB control within primary health care Menu

2.63 Apart from the NTP, which of the following have taken part in the planning of TB control?

MoH planning department	
Hospital administration department or equivalent	
Ministry of Education (e.g. medical colleges)	
Ministry of Interior/Justice (prisons/detention centers)	
Ministry of Defence (armed forces health facilities)	
Drug regulatory body	
National health insurance office	
National AIDS programme	
Other disease programmes	
Civil society (e.g. NGOs, patient groups)	
Professional associations	

2.64 Which of the following exist in the country?

Plan for national human resources for health	
If yes, is the NTP plan and budget aligned (i.e. linked to and coordinated) with it?	
Plan for national health sector development	
If yes, is the NTP plan and budget aligned (i.e. linked to and coordinated) with it?	
Poverty Reduction Strategy Paper	
If yes, is the NTP plan and budget aligned (i.e. linked to and coordinated) with it?	
Medium-term Expenditure Frameworks for health	
If yes, is the NTP plan and budget aligned (i.e. linked to and coordinated) with it?	
Sector Wide Approach (SWAp)	
If yes, is the NTP plan and budget aligned (i.e. linked to and coordinated) with it?	

Practical Approach to Lung Health (PAL) Menu

2.65 Are you implementing PAL?

If yes, since when?

If no, when do you plan to introduce it?

2.66 How many primary health-care facilities implemented PAL in 2007?

Out of how many primary health-care facilities in total?

Public-Private and Public-Public Mix (PPM) including International Standards for TB Care (ISTC) Menu

2.67 Did the following private-sector providers in your country collaborate with the NTP in 2007?

These data are collected on Form 10 of the revised WHO-recommended recording and reporting forms www.who.int/tb/dots/r_and_r_forms/

	Number in country	Number collaborating	Number of TB suspects referred for diagnosis to NTP facilities	Number of new cases of TB diagnosed according to NTP guidelines	Number of TB patients (new cases) treated following NTP guidelines
Private practitioners					
Private hospitals					
NGO/mission clinics & hospitals					
Corporate (business) health services					
Private medical college hospitals					

2.68 Did the following public-sector providers in your country collaborate with the NTP in 2007?

These data are collected on Form 10 of the revised WHO-recommended recording and reporting forms www.who.int/tb/dots/r_and_r_forms/

	Number in country	Number collaborating	Number of TB suspects referred for diagnosis to NTP facilities	Number of new cases of TB diagnosed according to NTP guidelines	Number of TB patients (new cases) treated following NTP guidelines
General public hospitals					
Public medical college hospitals					
Health/social insurance services					
Prisons/detention centers					
Military					

2.69 Were you using the ISTC to promote the involvement of non-NTP providers in TB control in 2007?

2.70 Are the ISTC part of NTP training material?

2.71 Are the ISTC included in the curriculum of medical schools?

2.72 Have the ISTC been formally endorsed by any professional association(s) in the country?

If yes, please list the association(s), with the year of endorsement. Provide full names of associations, not abbreviations.

Advocacy, communication and social mobilization (ACSM) Menu

Advocacy, communication and social mobilization (ACSM) is a term that describes a set of activities aimed at encouraging care-seeking behaviour, providing education on the signs and symptoms of TB, providing education on where to go for TB testing and treatment, increasing knowledge about risk factors for TB, combating stigma, providing a channel for afflicted individuals and communities to voice needs and concerns, encouraging community action, and calling for increased political and financial support for local, national and international action.

2.73 Which of the following groups were targeted by ACSM activities implemented by the NTP in 2007?

General public (e.g. through encouraging health-care seeking behaviour, educating on symptoms of TB, combating stigma)

TB suspects and patients (e.g. providing information on where to go for TB testing and treatment)

Health-care providers

Policy-makers and planners (e.g. through calling for increased political and financial support)

2.74 Have you conducted or do you plan to conduct a Knowledge, Attitudes and Practices (KAP) or similar survey on TB?

Most recent survey

Next planned survey

2.75 How many patient-centred organizations or networks (with cured TB patients as members) were involved in TB advocacy activities and/or DOTS implementation in 2007?

Community involvement in TB control Menu

2.76 In how many BMUs were community members involved in referral of TB suspects for diagnosis in 2007?

Number of TB suspects referred by community members

2.77 In how many BMUs did community members supervise TB treatment in 2007?

Number of patients supervised by community members

Patients' Charter for Tuberculosis Care Menu

2.78 In how many health-care facilities was the Patients' Charter or similar code of conduct displayed or distributed in 2007?

Out of how many health-care facilities in total?

Operational research and retooling Menu

Operational research: research specifically aimed at developing interventions that result in improved policy-making, better design and implementation of health systems, and more efficient methods of service delivery.

2.79 How many operational research projects were implemented in collaboration with the NTP in the country in 2007?

2.80 Please list provide the title of each study (or studies) in the box provided.

DOTS implementation and enhancement — Number of projects:

Collaborative TB-HIV activities — Number of projects:

MDR/XDR TB — Number of projects:

PAL — Number of projects:

PPM approaches — Number of projects:

Social mobilization and community involvement — Number of projects:

Other — Number of projects:

2.81 Which of the following new technologies/strategies for TB diagnosis are used, or will be used, to diagnose patients notified by the NTP?

Fluorescence microscopy

Liquid culture and DST

Rapid speciation test for *Mycobacterium tuberculosis* cultures

Line-probe assay for detecting resistance to rifampicin

Line-probe assay for detecting resistance to rifampicin and isoniazid

Using a smear-positive case definition based on a patient having one positive sputum smear (≥ 1 AFB per smear) instead of two positive smears (see www.who.int/tb/dots/laboratory/policy)

Optional (major achievements, major challenges, what's new?) Menu

2.82 Please describe in no more than one paragraph any new developments, major achievements and/or major challenges in TB control in your country that you would like to highlight.

TB case notifications Menu

Enter numbers in the tables below. For "None", enter 0. If a question is not applicable, or you do not know the answer, please indicate this in the "Remarks" sheet, and explain why.

TB cases by history, site, smear result and strategy, 2007 calendar year (number of patients) Menu

Strategy applies to basic management units, not individual patients. If a unit is a "DOTS" unit, then all cases from that unit should be reported as DOTS cases.

		DOTS	non-DOTS
3.1	New pulmonary smear-positive		
3.2	New pulmonary smear-negative		
3.3	New pulmonary smear-unknown/not done		
3.4	New extrapulmonary		
3.5	Other NEW cases not in lines 3.1–3.4		
3.6	Relapse (pulmonary smear and or culture-positive)		
3.7	Treatment after failure (pulmonary smear and or culture-positive)		
3.8	Treatment after default (pulmonary smear and or culture-positive)		
3.9	Other re-treatment cases not in lines 3.6–3.8		
3.10	Other, not in lines 3.1-3.9 (i.e., history unknown). Please specify what these cases are, in the "Remarks" sheet		
3.11	New pulmonary lab-confirmed cases. Lab-confirmed includes all cases confirmed by smear and/or culture, or by any other laboratory methods.		
3.12	What is the total number of new and re-treatment TB cases reported among foreign-born individuals in 2007? (or among non-citizens if that is the criterion used in your country)		
3.13	How many people with symptoms and signs suggestive of pulmonary TB (e.g. cough of long duration; more than 2-3 weeks) were screened for TB in 2007?		
3.14	Number of TB deaths registered by the vital registration system of your country following the ICD-10 (or ICD-9) codes for TB in 2007?		

New pulmonary smear-positive TB cases, 2007 calendar year (number of patients) Menu

If you have data by age and sex that do not fit this framework (e.g., different age groups), then you can provide the data that you have in the "Remarks" sheet.

		0-4	5-14	0-14	15–24	25–34	35–44	45–54	55–64	65+
	DOTS									
3.15	Male									
3.16	Female									
	Non-DOTS									
3.17	Male									
3.18	Female									

New pulmonary smear-negative/smear-unknown/smear-not done TB cases, 2007 calendar year (number of patients) Menu

		0-4	5-14	0-14	15–24	25–34	35–44	45–54	55–64	65+
	DOTS									
3.19	Male									
3.20	Female									
	Non-DOTS									
3.21	Male									
3.22	Female									

New extrapulmonary TB cases, 2007 calendar year (number of patients) Menu

		0-4	5-14	0-14	15–24	25–34	35–44	45–54	55–64	65+
	DOTS									
3.23	Male									
3.24	Female									
	Non-DOTS									
3.25	Male									
3.26	Female									

MDR-TB, 2007 calendar year (number of patients) Menu

3.27 How many new and re-treatment patients received diagnostic drug susceptibility testing (DST) in 2007?

3.28 Among those new and re-treatment patients tested (question 3.27), how many laboratory-confirmed cases of MDR-TB were identified?

3.29 How many MDR-TB cases (question 3.28) received 2nd-line DST in 2007? Include all MDR-TB cases for which 2nd-line DST was performed, whether done at the same time as 1st-line DST or following diagnosis of MDR-TB.

3.30 Among MDR-TB cases receiving 2nd-line DST (question 3.29), how many cases of XDR-TB were identified?

3.31 How many patients registered as new cases received diagnostic DST in 2007?

3.32 Among those new patients tested (question 3.31), how many laboratory-confirmed cases of MDR-TB were identified in 2007?

3.33 How many patients registered as re-treatment cases received diagnostic DST in 2007?

3.34 Among those re-treatment patients tested (question 3.33), how many laboratory-confirmed cases of MDR-TB were identified in 2007?

TB/HIV, 2006 and 2007 calendar year (number of patients) Menu

Data on co-trimoxazole preventive therapy and antiretroviral therapy should be reported with the quarterly data on TB treatment outcomes and therefore final numbers for 2007 may not be available yet. However we request that you provide us with provisional numbers for 2007 as well as the final numbers for 2006.

		2006	2007
3.35	How many TB patients (new and re-treatment) had an HIV test result recorded in the TB register in 2006 and 2007? This should include those TB cases that were previously known as HIV-positive or their negative HIV result from previous testing was acceptable to the clinician (e.g. done in the last 3-6 months in a reliable laboratory)		
3.36	Of these (i.e. question 3.35), how many were recorded to be HIV positive in 2006 and 2007?		
3.37	How many HIV-positive TB patients (question 3.36) started or continued on co-trimoxazole preventive therapy in 2006 and 2007?		
3.38	How many HIV-positive TB patients (question 3.36) started or continued on antiretroviral therapy (ART) in 2006 and 2007?		

To answer questions 3.39-3.43, please consult with your colleagues in the national HIV programme (or equivalent) to obtain these data

		2007
3.39	How many people were registered as HIV-positive in 2007, regardless of year of diagnosis? (include everyone in the HIV care and/or ART register)	
3.40	How many of the people registered as HIV-positive (question 3.39) were screened for TB at least once during 2007?	
3.41	How many of the people registered as HIV-positive (question 3.39) started TB treatment during 2007?	
3.42	How many of the people registered as HIV-positive and started on TB treatment (question 3.41) were also on ART (i.e. recorded in ART register) in 2007?	
3.43	How many of the people registered as HIV-positive (question 3.39) were given isoniazid prophylaxis (treatment of latent TB infection) in 2007?	

Treatment outcomes for cases registered in 2006 calendar year (number of patients) Menu

If treatment outcomes for re-treatment cases cannot be separated into relapse, after-failure and after-default, then please provide these outcomes in row "Other re-treatment" and mention in the "Remarks" sheet which types of re-treatment cases contributed in this row.

3.44 If you are not able to report the treatment outcomes of pulmonary cases by smear status only, please specify which method of confirmation is used: Select answer

		Total number of cases registered	Cured	Completed	Died	Failed	Defaulted	Transferred out*
	DOTS							
3.45	New pulmonary smear-positive							
3.46	New pulmonary smear-negative/unknown/not done							
3.47	New extrapulmonary							
3.48	Relapse (pulmonary smear and/or culture-positive)							
3.49	Treatment after failure (pulmonary smear and or culture-positive)							
3.50	Treatment after default (pulmonary smear and or culture-positive)							
3.51	Other re-treatment							
	non-DOTS							
3.52	New pulmonary smear-positive							
3.53	New pulmonary smear-negative/unknown/not done							
3.54	New extrapulmonary							
3.55	Relapse (pulmonary smear and/or culture-positive)							
3.56	Treatment after failure (pulmonary smear and or culture-positive)							
3.57	Treatment after default (pulmonary smear and or culture-positive)							
3.58	Other re-treatment							

* "Transferred-out" means transferred out and not evaluated. It is the subset of transfer patients for whom the outcome was not evaluated.

Treatment outcomes for HIV-positive TB cases registered in 2006 calendar year (number of patients) Menu

If treatment outcomes for HIV-positive cases cannot be separated into different case types (questions 3.58-3.64), then please provide these outcomes in 3.65 (All TB cases) and mention in the "Remarks" sheet which types of cases contributed in this row.

		Total number of cases registered	Cured	Completed	Died	Failed	Defaulted	Transferred out
3.59	New pulmonary smear-positive							
3.60	New pulmonary smear-negative/unknown/not done							
3.61	New extrapulmonary							
3.62	Relapse (pulmonary smear and/or culture-positive)							
3.63	Treatment after failure (pulmonary smear and or culture-positive)							
3.64	Treatment after default (pulmonary smear and or culture-positive)							
3.65	Other re-treatment							
3.66	All TB cases							

Final treatment outcomes for MDR-TB cases registered in 2004 calendar year (number of patients) Menu

GLC = The Green Light Committee. The mechanism of WHO and its partners of the Stop TB Partnership to enable access to second-line anti-TB drugs in low- and middle-income countries to treat multidrug-resistant tuberculosis (MDR-TB) under programmatic conditions and following specific guidelines. For further information, see http://www.who.int/tb/challenges/mdr/greenlightcommittee/en/

		Total number of cases registered	Cured	Completed	Died	Failed	Defaulted	Transferred out	Still on treatment
GLC-approved									
3.67	New cases								
3.68	Re-treatment cases								
3.69	Other cases								
Other									
3.70	New cases								
3.71	Re-treatment cases								
3.72	Other cases								

Interim treatment outcomes for MDR-TB cases registered in 2005, 2006 and 2007 calendar year (number of patients) Menu

		Total number of cases registered	Cured	Completed	Died	Failed	Defaulted	Transferred out	Still on treatment
GLC-approved									
3.73	All cases registered in **2005**								
3.74	All cases registered in **2006**								
3.75	All cases registered in **2007**								
Other									
3.76	All cases registered in **2005**								
3.77	All cases registered in **2006**								
3.78	All cases registered in **2007**								

Financial information

Menu

Enter numbers in the tables below. For "None", enter 0. If a question is not applicable, or you do not know the answer, please indicate this in the "Remarks" sheet, and explain why. To see explanations for each question, click on links on right-hand side of screen.

Users of the WHO planning and budgeting tool (www.who.int/tb/dots/planning_budgeting_tool) can use the summary tables in the tool to complete the budget tables for 2008 and 2009. Click at right for instructions. Planning & Budgeting Tool

Menu

Budget fiscal year 2008

4.1 Beginning of your fiscal year 2008 (year/month/day)

4.2 Expected number of new smear-positive patients to be treated in 2008

4.3 Expected number of new smear-negative/extra-pulmonary patients to be treated in 2008

4.4 How many HIV-positive TB patients are expected to start ART in 2008?

4.5 How many MDR-TB patients are expected to be treated in 2008?

GLC-approved | Other

Please report the financial data in absolute US Dollars

	Budget line items:	Budget required[a]	EXPECTED funding: Government[b]	Loans[c]	Global Fund[d]	Other grants[e]	Gap[f]
4.6	First-line TB drugs						
4.7	Staff working for TB control (central unit staff and subnational TB staff)						
4.8	Routine programme management and supervision activities						
4.9	Laboratory supplies and equipment for smears, culture and DST						
4.10	PAL (Practical Approach to Lung Health)						
4.11	PPM (Public-Public, Public–Private Mix-DOTS)						
4.12	Collaborative TB/HIV activities						
4.13	Second-line drugs for MDR-TB						
4.14	Management of MDR-TB (budget excluding second-line drugs)						
4.15	Community involvement						
4.16	ACSM (Advocacy, communication and social mobilization)						
4.17	Operational research						
4.18	Surveys to measure TB burden and impact of TB control						
4.19	All other budget lines for TB (e.g., technical assistance)						
4.20	**TOTAL** (calculated automatically)						

Budget fiscal year 2009 Menu

4.21 Beginning of your fiscal year 2009 (year/month/day)

4.22 Expected number of new smear-positive patients to be treated in 2009

4.23 Expected number of new smear-negative/extra-pulmonary patients to be treated in 2009

4.24 How many HIV-positive TB patients are expected to start ART in 2009?

4.25 How many MDR-TB patients are expected to be treated in 2009?

GLC-approved | Other

Please report the financial data in absolute US Dollars

	Budget line items:	Budget required[a]	EXPECTED funding: Government[b]	Loans[c]	Global Fund[d]	Other grants[e]	Gap[f]
4.26	First-line TB drugs						
4.27	Staff working for TB control (central unit staff and subnational TB staff)						
4.28	Routine programme management and supervision activities						
4.29	Laboratory supplies and equipment for smears, culture and DST						
4.30	PAL (Practical Approach to Lung Health)						
4.31	PPM (Public-Public, Public–Private Mix-DOTS)						
4.32	Collaborative TB/HIV activities						
4.33	Second-line drugs for MDR-TB						
4.34	Management of MDR-TB (budget excluding second-line drugs)						
4.35	Community involvement						
4.36	ACSM (Advocacy, communication and social mobilization)						
4.37	Operational research						
4.38	Surveys to measure TB burden and impact of TB control						
4.39	All other budget lines for TB (e.g., technical assistance)						
4.40	**TOTAL** (calculated automatically)						

Utilization of health services, 2008

Menu

		New smear-positive	New smear negative/extra-pulmonary	MDR-TB
4.41	Typical number of visits to a health facility after diagnosis			
4.42	Estimated percentage of cases that are hospitalized (%)			
4.43	Estimated average duration of stay if hospitalized (days)			

		non-MDR TB	MDR-TB	Total
4.44	Number of hospital beds used exclusively for TB (including beds in sanatoria, where these exist)			

Expenditure

Menu

Fiscal year 2007

Please report the financial data in absolute US Dollars

		Actual expenditure[g]	RECEIVED funding[h]: Government	Loans	Global Fund	Other grants
4.45	First-line TB drugs					
4.46	Staff working for TB control (central unit staff and subnational TB staff)					
4.47	Routine programme management and supervision activities					
4.48	Laboratory supplies and equipment for smears, culture and DST					
4.49	PAL (Practical Approach to Lung Health)					
4.50	PPM (Public-Public, Public–Private Mix-DOTS)					
4.51	Collaborative TB/HIV activities					
4.52	Second-line drugs for MDR-TB					
4.53	Management of MDR-TB (budget excluding second-line drugs)					
4.54	Community involvement					
4.55	ACSM (Advocacy, communication and social mobilization)					
4.56	Operational research					
4.57	Surveys to measure TB burden and impact of TB control					
4.58	All other budget lines for TB (e.g., technical assistance)					
4.59	**TOTAL** (calculated automatically)					

Please contact the following people for assistance if required: Rafel Lopez Olarte, lopezrafl@paho.org (for AMR); Katherine Floyd, floydk@who.int (for EUR, SEAR, WPR); Andrea Pantoja, pantojaa@who.int (for AFR, EMR).

Remarks

Menu

Please include number of question to which remark applies.
Press ALT-RETURN to start a new paragraph.

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

Instructions for sheet "4. Finance"	
Please remember that funding for TB control can only be improved if some attempt to describe the financial situation is made, even if data availability is limited. If the central NTP office has no information on the exact amounts that peripheral governments make available for TB control, please try to estimate.	
Budget items	
4.1 & 4.21	The date of the beginning of your fiscal year (between 1 January and 31 December of the year indicated)
4.2 & 4.22	The number of patients you expect to detect and treat – new smear-positive cases in all areas (DOTS and non-DOTS). It does NOT mean the total estimated incident number of cases in your country.
4.3 & 4.23	The number of patients that you expect to detect and treat – new smear-negative and extra-pulmonary cases in all areas (DOTS and non-DOTS). It does NOT mean the total estimated incident number of cases in your country.
4.4 & 4.24	The number of HIV+TB patients that you expect will start ART treatment in this year, either in the NTP programme or in the national AIDS programme. If patients are provided ART by the National AIDS programme please let us know in the remarks.
4.5 & 4.25	The number of MDR-TB patients that you expect to treat. Please report separately: a) patients treated in GLC-approved projects and b) other patients.
4.6 & 4.26	Budget for anti-TB drugs, excluding drugs to treat multidrug-resistant (MDR) TB. If drugs are provided by the Global Drug Facility (GDF), please include an estimate of the value of these drugs. Please include the budget for all first-line drugs used to treat category I, II and III cases, i.e. all new (including children) and re-treatment cases, and the budget for buffer stock (if any).
4.7 & 4.27	Staff cost for staff working ONLY on TB activities at central and peripheral levels (for example provincial TB coordinators, district TB coordinators, etc). Do NOT include, for example, primary health care nurses working on several diseases, including TB.
4.8 & 4.28	Budget for activities to manage and supervise the TB control programme. Examples are training, policy development, meetings, visits for supervision, fuel for supervision, purchase of office equipment/vehicles, construction of buildings for use by staff programme, recording and reporting, and drug management and distribution.
4.9 & 4.29	Budget for laboratory supplies and equipment for microscopy, culture and DST, including for external quality assurance.
4.10 & 4.30	Budget necessary to manage PAL, e.g. meetings related to PAL and development of guidelines.
4.11 & 4.31	Budget necessary to manage PPM, e.g. meetings related to PPM, development of guidelines and any payment/contractual scheme that might exist.
4.12 & 4.32	Activities involving collaboration between TB and HIV programmes aimed at reducing the impact of HIV-related TB. These include TB/HIV coordinating bodies, joint TB/HIV training and planning, HIV testing for TB patients, HIV surveillance among TB patients, TB screening for people living with HIV/AIDS, isoniazid preventive therapy, joint TB/HIV information/education/communication, antiretroviral treatment for TB patients, etc. For clarifications, please see the WHO TB/HIV interim policy or the Monitoring and Evaluation guide.
4.13 & 4.33	Budget for second-line drugs, include drugs procured through the Green Light Committee (GLC) and through other mechanisms.
4.14 & 4.34	Budget for the management of MDR-TB (excluding anti-TB drugs for MDR-TB). Include all activities related to programme management not already included in 4.7 & 4.27.
4.15 & 4.35	Budget for activities related community involvement, including policy development, incentives and enablers.
4.16 & 4.36	Budget for activities related to advocacy, communication & social mobilization, and community-based care, including workshops to create awareness, mass media campaigns or World TB Day.
4.17 & 4.37	Budget for operational research. Please remember that OR studies are designed to answer specific questions arising from routine data and management such as "Why do we have a high default rate?".
4.18 & 4.38	Budget for periodic surveys to measure burden of TB and impact of TB control, e.g. disease prevalence surveys, ARI surveys, surveys of TB mortality or drug resistance surveys.
4.19 & 4.39	Include in the "Other" category all other budget lines not included in previous budget lines. Examples are technical assistance, supplies and equipment for X-rays, budget for high-risk groups, infection control and childhood TB.
Utilization of health services	
4.41	The average number of visits per smear-positive, smear-negative/extra-pulmonary and MDR-TB patient to any health facility during TB treatment, for example for observed treatment (DOT), collection of drugs, smear monitoring, etc. after the patient has been diagnosed with TB, in view of your treatment guidelines. For example, if a smear-positive patient receives directly observed treatment daily in the intensive phase at clinics and, in the continuation phase 4 visits are required (one per month for collection of drugs), the total would be 60+4=64. If unsure, please give a range.
4.42	The approximate percentage of smear-positive, smear-negative/extra-pulmonary and MDR-TB patients hospitalized for TB treatment (for any duration of stay), in view of your treatment guidelines. For example, if your policy or general practice is to admit all TB patients for 2 months, the figure will be 100%. If unsure, please give a range.
4.43	If smear-positive, smear-negative/extra-pulmonary and MDR-TB patient are hospitalized for TB treatment, the average number of days they would spend in hospital. If unsure, please give a range.
4.44	Estimated number of beds in TB hospitals and in TB wards of other hospitals. Include sanatoria beds if these exist. If unsure, please give a range.
Expenditure items	
4.45–4.58	Report actual expenditures and funds received on line items. For explanations see 4.6–4.19 above.
Sources of funding	
a	The total budget required should be in line with your annual plan of activity. Indicate the total amount required to carry out all activities and NOT only the amount you expect to receive.
b	Include funding from both the central and peripheral government sources (provinces, districts, etc.).
c	All loans for TB or amount for TB in an overall health sector-wide loan.
d	Grants awarded by the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund). The amount for the relevant fiscal year only and NOT the total amount of the grant.
e	All grants, excluding Global Fund grants. The amount should be for the relevant fiscal year and not the total amount of the grant.
f	The amount in this column should equal the "Total budget required" column MINUS the total of all expected funding columns (i.e. government, loans, grants excluding Global Fund, Global Fund grants, other).
g	Report the amounts that were actually spent on each line item during your last fiscal year. The total in this column might be lower than the total funds received, but not higher.
h	Report the funds actually received from each source of funding. The total amount from all sources might be higher than the expenditure reported, but not lower.

Appendix VII
Canada – Case and treatment outcome reporting forms

Public Health Agency of Canada | Agence de santé publique du Canada

Active Tuberculosis Case Report Form – New and Relapsed Cases

EFFECTIVE JANUARY 2007

CONFIDENTIAL WHEN COMPLETED

Province/Territory/Patient ID

1. Reporting province/territory ☐☐

2. Register case number _____

3. Unique identifier _____

4. Date of birth Year ____ Month ____ Day ____

5. Sex Male 1 ☐ Female 2 ☐

6. Usual residence City/Town/Village _____ Postal code ☐☐☐☐☐☐

County and Health Unit _____

Lives on First Nation's reserve most of the time? 1 ☐ Yes 2 ☐ No 8 ☐ N/A 9 ☐ Unknown

Origin

7. Canadian born? N →

Y → 1 ☐ Status Indian *(Registered)* 2 ☐ Métis 3 ☐ Inuit 4 ☐ Other Aboriginal *(specify)* _____

5 ☐ Canadian born non-Aboriginal → Y → Under age 15? → Y → Country of birth of mother ☐☐☐ Country of birth of father ☐☐☐

6 ☐ **Foreign-born** → Y → Country of birth ☐☐☐ _____

Date of arrival in Canada Year ____ Month ____ Day ____

Immigration status at time of diagnosis

1 ☐ Canadian citizen/Landed immigrant

2 ☐ Refugee → Y → 1 ☐ Convention Refugee 2 ☐ Refugee claimant

5 ☐ Work visa 6 ☐ Student visa 7 ☐ Visitor visa 8 ☐ Other *(specify)* _____ 9 ☐ Unknown

Diagnosis

8. Date of diagnosis Year ____ Month ____ Day ____

☐ **ICD 9** ____.____ ____.____ ____.____ ____.____ ____.____

☐ **ICD 10** ____.____ ____.____ ____.____ ____.____ ____.____

9. Chest X-Ray 1 ☐ Normal 2 ☐ Abnormal 3 ☐ Not done 9 ☐ Unknown **If abnormal** → 1 ☐ Cavitary 2 ☐ Non-cavitary

Bacterial Status

10. Microscopy

	Sputum	Bronchial Wash	GI Wash	Node Biopsy	Urine	CSF	Other
Negative							
Positive							
Not done							
Unknown							
Not Applicable							

11. Culture

	Sputum	Bronchial Wash	GI Wash	Node Biopsy	Urine	CSF	Other
Negative							
Positive							
Not done							
Unknown							
Not Applicable							

12. Case Criteria 1 ☐ Culture positive 2 ☐ Clinical diagnosis

13. If initial positive culture – Antibiotic resistance?

1st line

DRUG	Result: Susceptible	Resistant	Not done	Unknown
1 INH	☐	☐	☐	☐
2 EMB	☐	☐	☐	☐
3 RMP	☐	☐	☐	☐
4 PZA	☐	☐	☐	☐

2nd line

DRUG	Result: Susceptible	Resistant	Not done	Unknown
1 Streptomycin	☐	☐	☐	☐
2 Kanamycin	☐	☐	☐	☐
3 Capreomycin	☐	☐	☐	☐
4 Ofloxacin	☐	☐	☐	☐
5 Ethionamide	☐	☐	☐	☐
6 PAS	☐	☐	☐	☐
7 Rifabutin	☐	☐	☐	☐
8 Other	☐	☐	☐	☐

8 ☐ Other *(specify)* _____ _____

9 ☐ Unknown

14. Genotyping results? 1 ☐ Yes 2 ☐ No 9 ☐ Unknown MIRU ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ RFLP 1 ☐ Yes 2 ☐ No

Treatment Details

15. Date treatment started Year ____ Month ____ Day ____

16. Initial drugs prescribed *(check all that apply)*

1st line

1 ☐ INH 4 ☐ RMP 3 ☐ EMB 5 ☐ PZA

2nd line

1 ☐ Streptomycin 4 ☐ Ofloxacin 7 ☐ Rifabutin 2 ☐ Kanamycin 5 ☐ Ethionamide 8 ☐ Other 3 ☐ Capreomycin 6 ☐ PAS

6 ☐ No drugs prescribed 8 ☐ Other *(specify)* _____ 9 ☐ Unknown

17. Death before or during treatment?

1 ☐ Yes 2 ☐ No 9 ☐ Unknown If yes, date of death Year ____ Month ____ Day ____

1 ☐ TB was the cause of death

2 ☐ TB contributed but was not the cause of death

3 ☐ TB did not contribute to death

TB History/Case Finding/Risk Factors

18. First episode of TB disease?

1 ☐ Yes 2 ☐ No → **If no:** Year of previous diagnosis _____

Previous diagnosis occured in: 1 ☐ Canada 2 ☐ Other country: ☐☐☐

Previous treatment with *(check all antibiotics used)*:

1st line

1 ☐ INH 3 ☐ EMB 4 ☐ RMP 5 ☐ PZA

2nd line

1 ☐ Streptomycin 4 ☐ Ofloxacin 7 ☐ Rifabutin 2 ☐ Kanamycin 5 ☐ Ethionamide 8 ☐ Other 3 ☐ Capreomycin 6 ☐ PAS

8 ☐ Other *(specify)* _____

9 ☐ Unknown

19. Case finding

1 ☐ Symptoms compatible with site of disease

2 ☐ Incidental finding

3 ☐ Post-mortem

4 ☐ Contact investigation

5 ☐ Immigration medical surveillance

1 ☐ Initial immigration medical exam done outside Canada

2 ☐ Initial immigration medical exam done inside Canada

6 ☐ Occupational screening

7 ☐ Other screening

8 ☐ Other *(specify)* _____

9 ☐ Unknown

20. Risk factors

HIV 1 ☐ Positive 2 ☐ Negative 3 ☐ Test refused 4 ☐ Test not offered 5 ☐ Unknown

If positive, date of 1st positive test / If negative, date of most recent test: Year ____ Month ____ Day ____

Known or suspected substance abuse	1 ☐ Yes	2 ☐ No	9 ☐ Unknown
Transplant related immunosuppression	1 ☐ Yes	2 ☐ No	9 ☐ Unknown
Silicosis	1 ☐ Yes	2 ☐ No	9 ☐ Unknown
End-stage renal disease	1 ☐ Yes	2 ☐ No	9 ☐ Unknown
Contact with person with active TB in past 2 years	1 ☐ Yes	2 ☐ No	9 ☐ Unknown
Previous abnormal chest x-ray *(fibronodular disease)*	1 ☐ Yes	2 ☐ No	9 ☐ Unknown
Diabetes mellitus type 1 or 2	1 ☐ Yes	2 ☐ No	9 ☐ Unknown
Long-term (≥ 1 month) corticosteroid use *(prednisone ≥ 15 mg/day or equivalent)*	1 ☐ Yes	2 ☐ No	9 ☐ Unknown
Lives in correctional setting at time of diagnosis	1 ☐ Yes	2 ☐ No	9 ☐ Unknown
Homeless *(at diagnosis or within the previous 12 months)*	1 ☐ Yes	2 ☐ No	9 ☐ Unknown
Other *(specify)* _____	1 ☐ Yes	2 ☐ No	9 ☐ Unknown

PHAC/ASPC 9012E (01-2007)

DISPONIBLE EN FRANÇAIS

Public Health Agency of Canada | Agence de santé publique du Canada

Treatment Outcome of a New Active or Relapsed Tuberculosis Case

EFFECTIVE JANUARY 2007

CONFIDENTIAL WHEN COMPLETED

1. Reporting province/territory ☐☐

2. Register case number _____

3. Unique identifier _____

4. Date of birth Year ☐☐☐☐ Month ☐☐ Day ☐☐

5. Sex Male 1 ☐ Female 2 ☐

6. If transfer from diagnosing province/territory, please state treating province/territory ☐☐

7. Register case number *(if different from 2 above)* _____

8. Unique identifier *(if different from 3 above)* _____

9. Date of diagnosis Year ☐☐☐☐ Month ☐☐ Day ☐☐

10. Date treatment started Year ☐☐☐☐ Month ☐☐ Day ☐☐

11. Last day of treatment Year ☐☐☐☐ Month ☐☐ Day ☐☐

12. Initial drugs prescribed *(list all that apply)*

1st line

1 ☐ INH 3 ☐ EMB 4 ☐ RMP 5 ☐ PZA

2nd line

1 ☐ Streptomycin 3 ☐ Capreomycin 5 ☐ Ethionamide 7 ☐ Rifabutin
2 ☐ Kanamycin 4 ☐ Ofloxacin 6 ☐ PAS 8 ☐ Other

6 ☐ No drugs prescribed 8 ☐ Other *(specify)* _____ 9 ☐ Unknown

13. Did resistance develop during treatment?

1 ☐ Yes 2 ☐ No 3 ☐ Not tested

If yes, please check drug(s) *(check all that apply)*

1st line

1 ☐ INH 3 ☐ EMB 4 ☐ RMP 5 ☐ PZA

2nd line

1 ☐ Streptomycin 4 ☐ Ofloxacin 7 ☐ Rifabutin
2 ☐ Kanamycin 5 ☐ Ethionamide 8 ☐ Other
3 ☐ Capreomycin 6 ☐ PAS

8 ☐ Other *(specify)* _____
9 ☐ Unknown

14. 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 before or during treatment
   Date of death Year ☐☐☐☐ Month ☐☐ Day ☐☐
   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
4 ☐ Transferred to new country – outcome of treatment unknown *(specify new country)* _____
5 ☐ Failure – continued or recurrent positive cultures after 4 or more months of treatment
6 ☐ Absconded *(lost to follow-up before completion of 80% of doses)*
7 ☐ Treatment ongoing
8 ☐ Other *(specify)* _____ 9 ☐ Unknown

* if MDR-TB please see guidelines for definitions

15. Treatment regimen ***(for drugs taken > 1 month)*** *(check all that apply)*

1st line

1 ☐ INH 3 ☐ EMB 4 ☐ RMP 5 ☐ PZA

2nd line

1 ☐ Streptomycin 4 ☐ Ofloxacin 7 ☐ Rifabutin
2 ☐ Kanamycin 5 ☐ Ethionamide 8 ☐ Other
3 ☐ Capreomycin 6 ☐ PAS

6 ☐ No drugs prescribed 9 ☐ Unknown
8 ☐ Other *(specify)* _____

16. Major mode of treatment:

1 ☐ DOT *(Directly Observed Therapy)* → 1 ☐ Modified, 2 ☐ Standard, 3 ☐ Enhanced
2 ☐ Daily, self-administered
8 ☐ Other *(specify)* _____
9 ☐ Unknown

17. Adherence estimate *(% of medication received)*

1 ☐ 80%+ 2 ☐ 50-79%
3 ☐ < 50% 9 ☐ Unknown

PHAC/ASPC 4386E (01-2007) DISPONIBLE EN FRANÇAIS

Appendix VIII
The Canadian Tuberculosis Committee
2009

PROVINCIAL/TERRITORIAL TB CONTROL PROGRAM REPRESENTATIVES

Alberta
Dr. Geetika Verma

British Columbia
Dr. Kevin Elwood

Manitoba
Dr. Joel Kettner

New Brunswick
Ms. Eileen McQuade

Newfoundland and Labrador
Ms. Marion Yetman

Nova Scotia
Ms. Dee Monbourquette

Northwest Territories
Ms. Cheryl Case

Nunavut
Ms. Elaine Randell

Ontario
Dr. George Samuel

Prince Edward Island
Dr. Heather Morrison

Québec
Dr. Paul Rivest (Chair)

Saskatchewan
Ms. Ruth Anne Appl

Yukon
Ms. Cathy Stannard

ABORIGINAL SCIENTIFIC SUBCOMMITTEE
Dr. Pamela Orr

ASSOCIATION OF MEDICAL MICROBIOLOGY AND INFECTIOUS DISEASE CANADA
Dr. Wendy Wobeser

CANADIAN LUNG ASSOCIATION/ STOP TB CANADA
Ms. Debbie Smith

CANADIAN THORACIC SOCIETY
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