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TUBERCULOSIS IN CANADA



1998

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TUBERCULOSIS

IN CANADA

1998

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INTRODUCTION

The *1998 Tuberculosis in Canada* annual report is a publication of Tuberculosis Prevention and Control (TBPC), Centre for Infectious Disease Prevention and Control, Population and Public Health Branch, Health Canada. Reports of new active and relapsed tuberculosis cases are reported to TBPC through the Canadian Tuberculosis Reporting System (CTBRS) from the ten provinces and two territories.

This publication is similar to previous annual reports published by TBPC and presents summary data for cases reported to the CTBRS which were diagnosed in 1998. The report contains information on the overall TB case counts and case rates for selected demographic and clinical characteristics. Presented in the report are data on the following characteristics:

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

The increased proportion of tuberculosis in foreign-born individuals is reflected in the tables wherein the birthplace (grouped by World Health Organization (WHO) region) is presented as a variable (Tables 3, 6, 8, 10, 11, 13, 16, 18, 19, 20).

As a result of a review of the national tuberculosis surveillance system conducted jointly in 1997 by the Canadian Tuberculosis Committee and TBPC, two previously included tables have been excluded from the report. No longer included are:

1. Reported new active and relapsed tuberculosis cases by bacillary status and main diagnostic site – Canada and provinces/territories; and,
2. Reported new active and relapsed tuberculosis cases by birthplace and bacillary status – Canada and provinces/territories.

Two new tables have been added that present data items on the pattern of drug resistance (at time of reporting) to first line anti-tuberculosis drugs for TB cases diagnosed in 1998 (Tables 15 and 16). Furthermore, changes in the order of presentation of Tables 12, 13 and 14 have been made. Reported new active and relapsed tuberculosis cases by bacillary status and other selected characteristics are now reported with the culture status first, followed by the microscopy status.

Appendices to the report include population estimates for 1998 (Appendices 1A, 1B), the tuberculosis reporting form (Appendix 2) and technical notes on the methodology of the report including the definition of terms (Appendix 3).

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

EXECUTIVE SUMMARY

In 1998, a total of 1,796 cases (5.9 per 100,000) of new active and relapsed tuberculosis (TB) were reported to Tuberculosis Prevention and Control from the ten provinces and two territories. This number represents a decrease of 9% from 1997 (6.6 per 100,000) and is the lowest number of reported cases in the last two decades. New active cases made up the vast majority (90%) of reported cases with relapsed cases accounting for the remainder.

Six of the reporting jurisdictions had case rates below the national rate (Alberta, New Brunswick, Newfoundland, Nova Scotia, Prince Edward Island and Quebec). The three most populous provinces (Ontario, Quebec and British Columbia) which collectively make up 75% of Canada's population, also accounted for 75% of the total number of reported cases. Compared with the previous year, seven reporting jurisdictions (Alberta, British Columbia, Newfoundland, Ontario, Prince Edward Island, Quebec and Saskatchewan) reported a decrease in case numbers and rates. Slightly increased rates were reported for Manitoba, New Brunswick, the Northwest Territories and Nova Scotia. There was no change for the Yukon Territory (Table 1A).

Trends with respect to TB incidence and birthplace continue to indicate the highest burden of disease among the foreign-born population. From 1988 to 1998, the number of cases among Canadian-born non-Aboriginal individuals decreased by 52% (724 to 348 cases), while that among Canadian-born Aboriginal people decreased by 16% (332 to 278 cases). During the same time period, the number of cases among foreign-born persons increased by 33% (891 to 1,154 cases). Of note, however, is that the most dramatic decrease in TB cases reported for 1998 occurred in the foreign-born population with the total number of cases falling from 1,271 in 1997 to 1,154 in 1998 (Table 3). The proportions of all TB cases that were Canadian-born non-Aboriginal, Canadian-born Aboriginal and foreign-born in 1988 were, 37%, 17% and 46% respectively. By 1998, these proportions had decreased among Canadian-born non-Aboriginal and Canadian-born Aboriginal people to 19% and 15% respectively, whereas among the foreign-born the proportion had increased to 64%.

With regard to the distribution of cases by birthplace across the country in 1998, the provinces of British Columbia and Ontario reported the highest percentage of foreign-born cases (71% and 83% respectively). In other jurisdictions foreign-born cases accounted for over half of all reported cases (Alberta 59%; Quebec 56%). In the Northwest Territories, Saskatchewan and Manitoba, cases among Canadian-born Aboriginal people contributed all or a large percentage of reported cases (Northwest Territories 100%; Saskatchewan 85%; Manitoba 43%) (Table 3).

By age group, individuals aged 25 to 34 years made up the largest number of reported cases, accounting for 17% of the total. However, the corresponding case rate of 6.7 per 100,000 for this age group was surpassed by the age-specific rates of 11.1 and 16.1 per 100,000 for those in the older age groups of 65 to 74 and greater than 74 years respectively (Table 2A). Canadian-born non-Aboriginal cases were relatively older (median 58 years) than foreign-born (median 41 years) and Canadian-born Aboriginal TB cases (median 30 years).

The presentation of tuberculosis by gender revealed a larger number of reported cases among males (968 cases, 6.4 per 100,000) than among females (828 cases, 5.4 per 100,000) (Tables 2B, 2C).

Overall, respiratory TB (see Technical Notes for definition) was the main diagnostic site, representing 64% of reported cases in 1998 (Table 4). A larger proportion of Canadian-born non-Aboriginal cases were reported as respiratory TB (75%) compared with that among both the Canadian-born Aboriginal and foreign-born cases (56% and 63% respectively). TB of the peripheral lymph nodes was the second most commonly reported diagnostic site, with almost half of all such cases occurring in foreign-born individuals who originated in the WHO Western Pacific Region. Among the Canadian-born Aboriginal cases, primary TB accounted for the most significant proportion (26%) of all notifications after respiratory TB (Table 10).

A total of 1,597 of the 1,796 reported cases (89%) were laboratory confirmed. Of the 1,152 respiratory cases, 54% were smear (microscopy) positive and 85% were culture positive (Table 14).

The majority of reported cases (74%) were detected through presentation of symptoms to a medical professional (Table 17).

Of the 1,796 cases diagnosed in 1998, 122 were reported to have died in the same year. TB was reported as the underlying cause of death for 19 cases (16%). For 54 cases (44%), TB was reported as contributing to death, but not as the underlying cause (Table 23). It should be noted that the number of reported TB related deaths is an underestimate, as it includes only known deaths occurring in the same year as the diagnosis at the time of reporting.

In recognition of the important interaction between TB and HIV infection, collection of HIV status began in 1997. The analysis of this variable indicated that HIV status was unknown for 92% of reported cases (Table 25). Further collaborative efforts with each of the provincial and territorial TB control and HIV/AIDS programs is necessary to gain a better understanding of the extent of TB/HIV co-infection in Canada.

Figure 1

Reported new active and relapsed tuberculosis incidence rate per 100,000 – Canada: 1924-1998

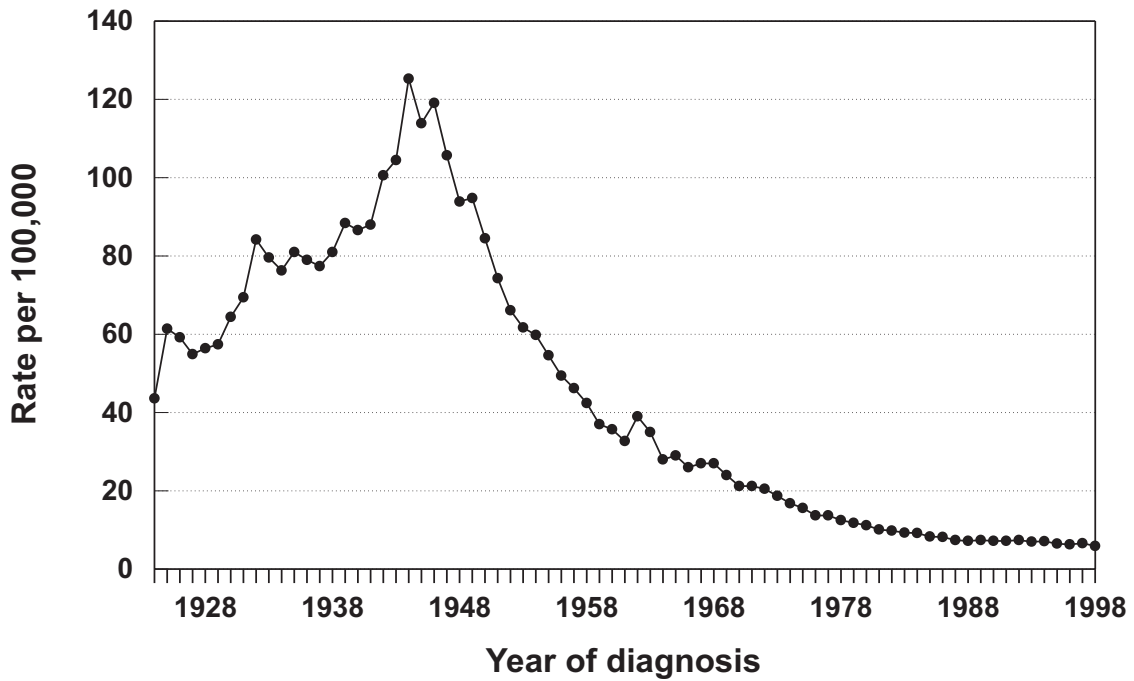


Figure 2

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 – Canada: 1980-1998

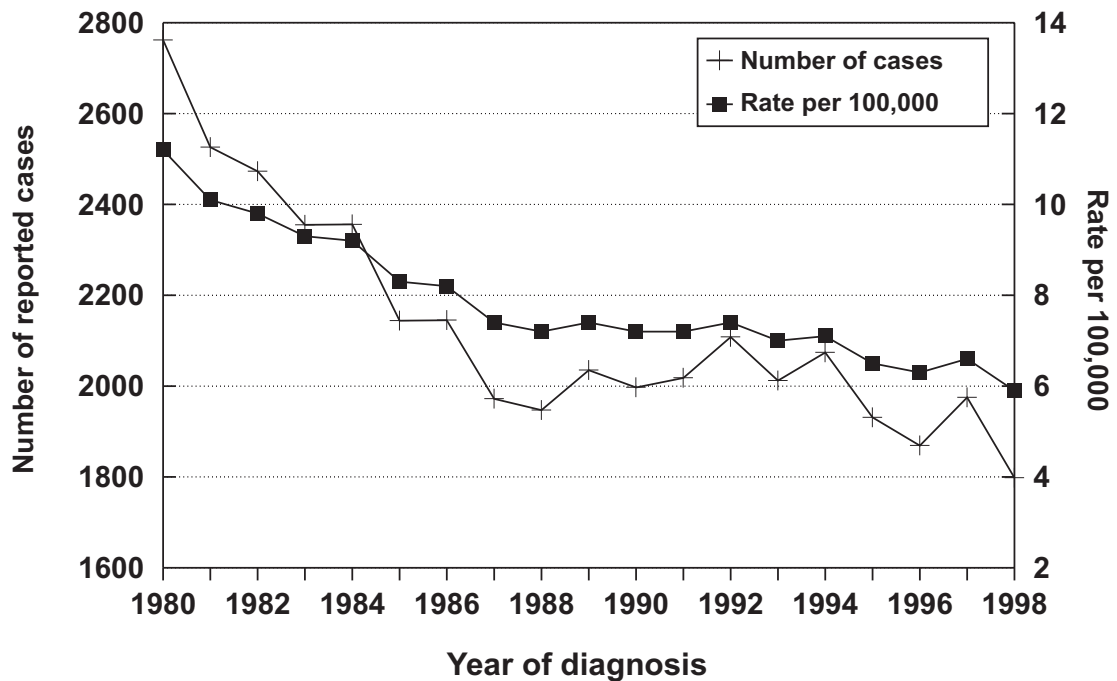


Figure 3

Reported new active and relapsed tuberculosis incidence rate per 100,000 by age group – Canada: 1983-1998

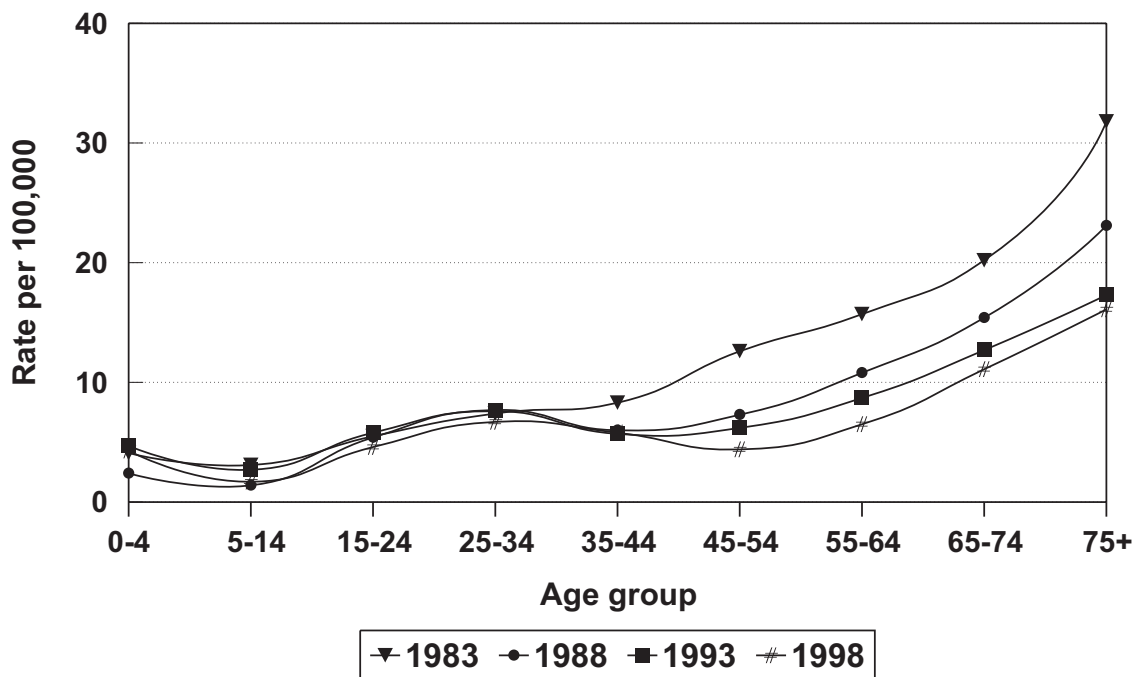


Figure 4

Distribution of reported new active and relapsed tuberculosis cases by origin – Canada: 1980 and 1998

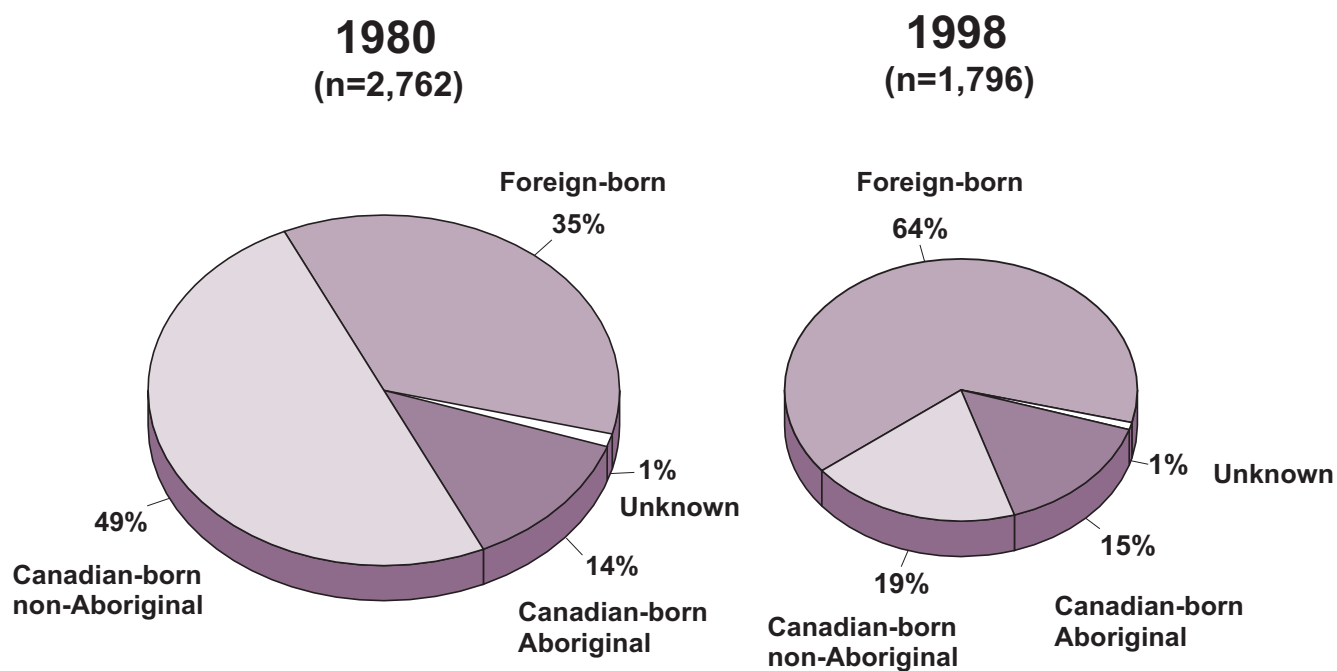


Figure 5

Reported new active and relapsed tuberculosis incidence rate per 100,000 by main diagnostic site – Canada: 1988-1998

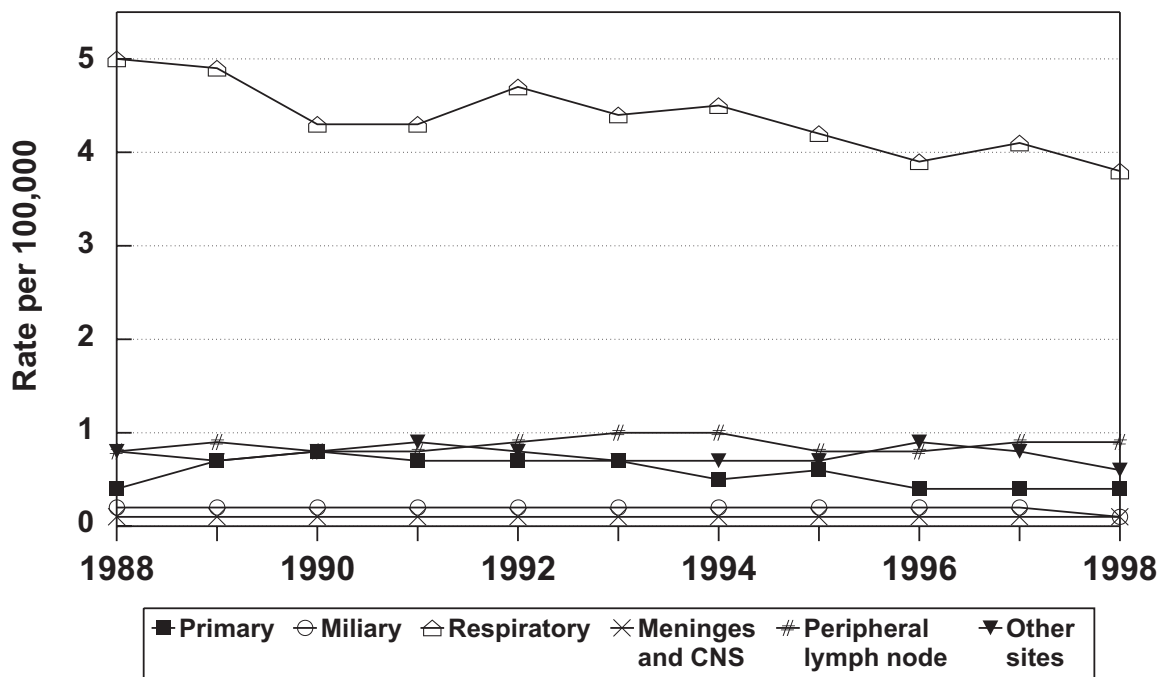


Figure 6

Distribution of reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by origin – provinces/territories: 1998 (n=1,796)

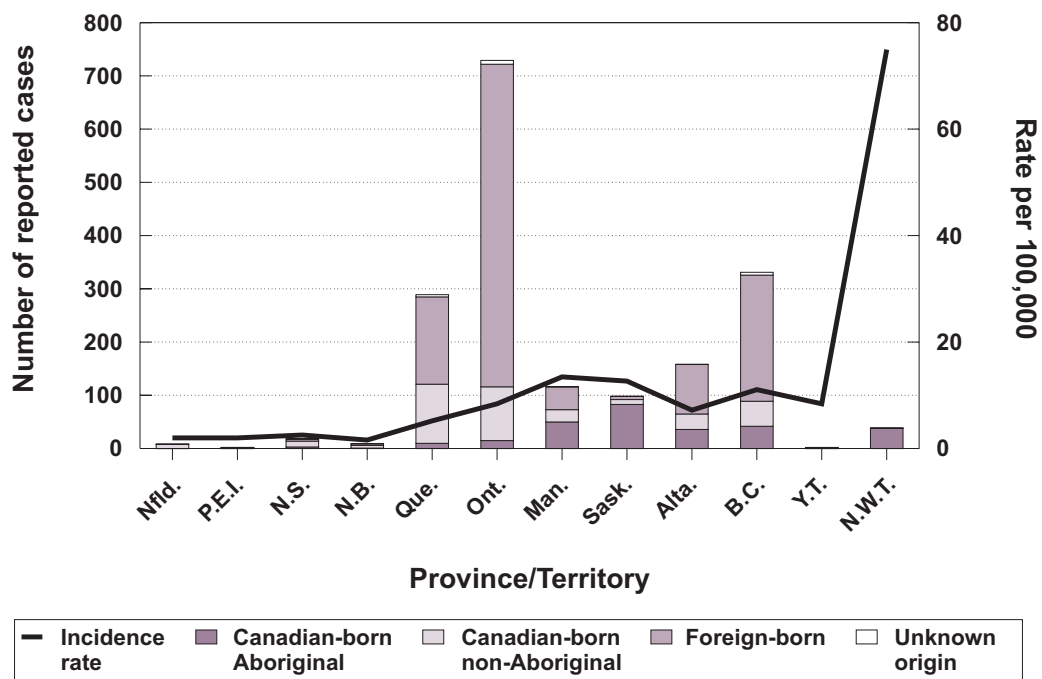


Figure 7

Reported new active and relapsed tuberculosis cases by age group and origin – Canada: 1998 (n=1,796)

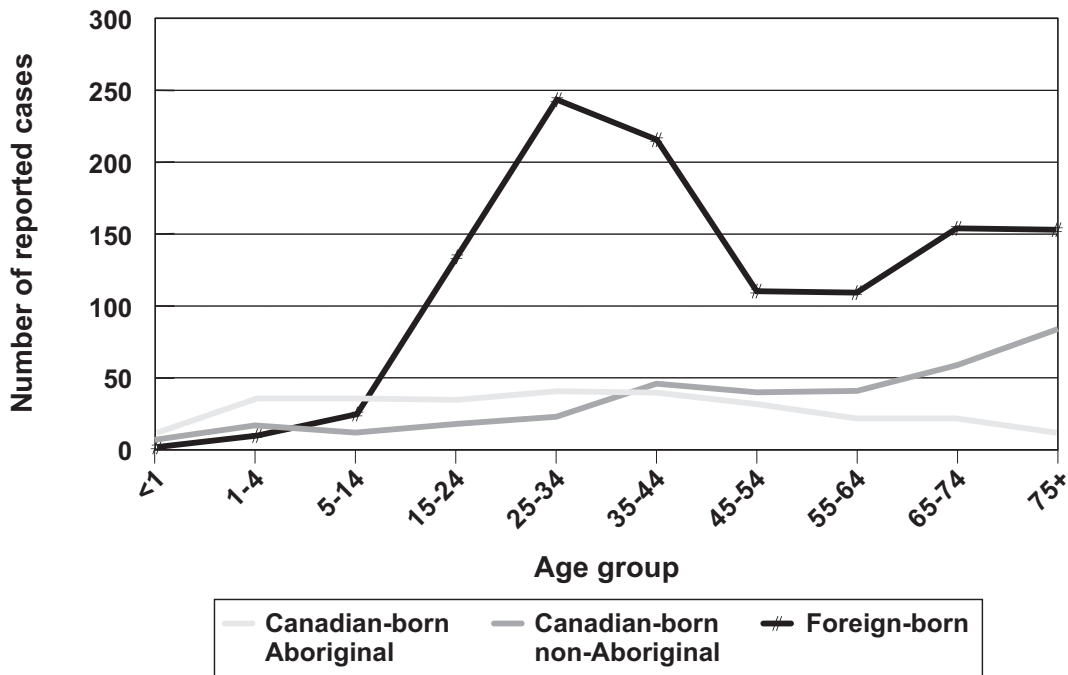


Figure 8

Distribution of reported new active and relapsed tuberculosis cases by origin and main diagnostic site – Canada: 1998 (n=1,796)

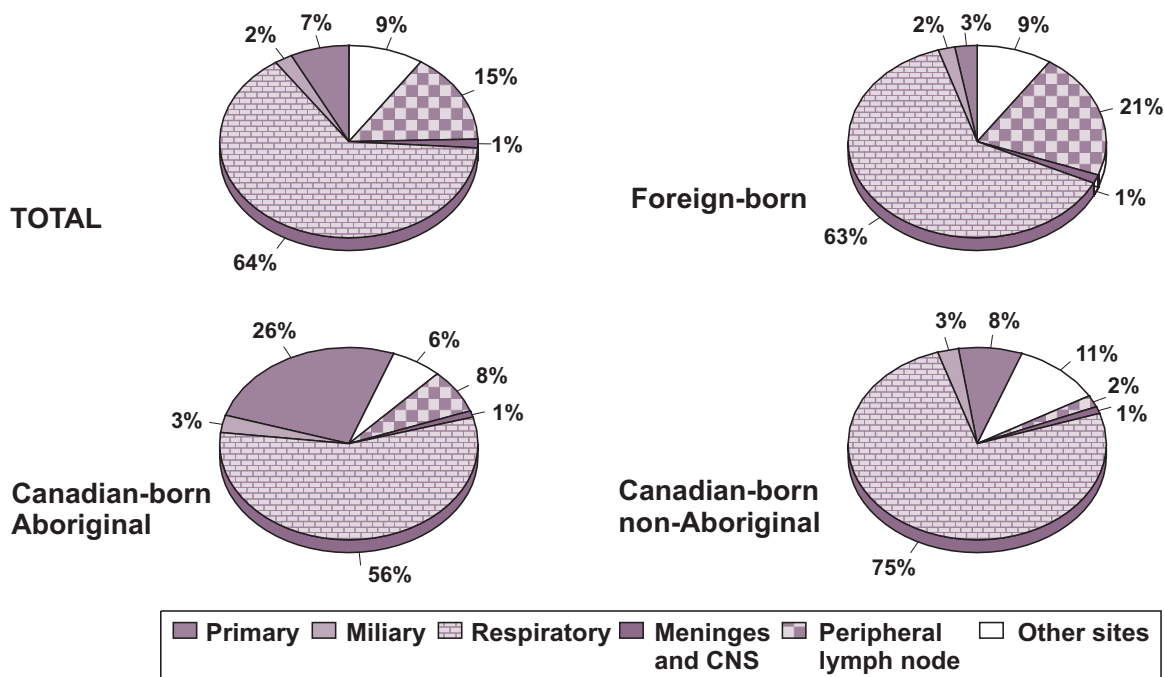


Table 1A

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 – Canada and provinces/territories: 1988-1998

Year of diagnosis	CANADA	Province/territory											
		Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
1988	Cases	65	4	26	18	423	635	111	149	176	300	4	36
	Rate	11.3	3.1	2.9	2.5	6.2	6.4	10.0	14.4	7.1	9.6	14.9	64.0
1989	Cases	42	5	30	29	420	711	100	216	133	288	5	56
	Rate	7.3	3.8	3.3	3.9	6.0	7.0	9.0	21.1	5.3	9.0	18.3	97.3
1990	Cases	28	1	23	34	412	730	92	223	156	265	10	23
	Rate	4.8	0.8	2.5	4.6	5.9	7.1	8.3	22.1	6.1	8.0	35.7	38.8
1991	Cases	34	3	17	27	400	769	101	184	173	280	8	22
	Rate	5.9	2.3	1.9	3.6	5.6	7.3	9.1	18.3	6.7	8.3	27.4	35.9
1992	Cases	34	2	13	19	424	822	86	133	222	323	3	27
	Rate	5.8	1.5	1.4	2.5	5.9	7.7	7.7	13.2	8.4	9.3	9.9	43.2
1993	Cases	62	5	17	15	352	769	108	153	156	337	3	35
	Rate	10.6	3.8	1.8	2.0	4.9	7.1	9.6	15.1	5.8	9.4	9.8	55.0
1994	Cases	14	-	12	16	361	831	116	147	178	324	10	65
	Rate	2.4	-	1.3	2.1	5.0	7.6	10.3	14.5	6.6	8.8	33.7	100.4
1995	Cases	11	1	13	9	380	766	108	155	126	308	2	52
	Rate	1.9	0.7	1.4	1.2	5.2	6.9	9.6	15.3	4.5	8.2	6.6	78.7
1996	Cases	24	3	15	15	332	771	97	113	140	317	6	36
	Rate	4.3	2.2	1.6	2.0	4.6	6.9	8.6	11.1	5.0	8.2	18.8	53.3
1997	Cases	15	5	7	7	360	761	96	121	166	404	2	31
	Rate	2.7	3.7	0.7	0.9	4.9	6.8	8.4	11.8	5.8	10.2	6.2	45.7
1998	Cases	8	2	18	9	289	729	116	98	158	329	2	38
	Rate	1.5	1.5	1.9	1.2	3.9	6.4	10.2	9.6	5.4	8.2	6.3	56.2

Table 1B

Reported new active tuberculosis cases and incidence rate per 100,000 – Canada and provinces/territories: 1988–1998

Year of diagnosis	Province/territory										CANADA	
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.		Y.T.
1988	Cases	56	4	24	15	407	560	102	160	271	4	34
	Rate	9.7	3.1	2.7	2.0	5.9	5.7	9.2	6.5	8.7	14.9	60.4
1989	Cases	37	5	21	22	407	627	87	121	252	3	44
	Rate	6.4	3.8	2.3	3.0	5.9	6.2	7.9	4.8	7.9	11.0	76.5
1990	Cases	26	-	15	27	402	614	88	144	234	8	19
	Rate	4.5	-	1.6	3.6	5.7	5.9	7.9	5.6	7.1	28.5	32.0
1991	Cases	32	3	12	22	382	661	89	152	253	8	22
	Rate	5.5	2.3	1.3	2.9	5.4	6.3	8.0	5.8	7.5	27.4	35.9
1992	Cases	31	2	9	16	399	692	81	201	291	2	20
	Rate	5.3	1.5	1.0	2.1	5.6	6.5	7.2	7.6	8.4	6.6	32.0
1993	Cases	59	5	14	12	311	653	95	143	304	3	28
	Rate	10.1	3.8	1.5	1.6	4.3	6.0	8.5	5.3	8.5	9.8	44.0
1994	Cases	12	-	12	15	306	723	107	160	294	9	59
	Rate	2.1	-	1.3	2.0	4.2	6.6	9.5	5.9	8.0	30.3	91.1
1995	Cases	9	1	10	8	348	657	96	116	290	2	46
	Rate	1.6	0.7	1.1	1.1	4.7	5.9	8.4	4.2	7.7	6.6	69.6
1996	Cases	21	3	11	9	294	689	84	129	288	4	31
	Rate	3.7	2.2	1.2	1.2	4.0	6.2	7.4	4.6	7.4	12.5	45.9
1997	Cases	13	4	5	6	323	687	86	150	359	2	24
	Rate	2.3	2.9	0.5	0.8	4.4	6.1	7.6	5.3	9.1	6.2	35.4
1998	Cases	7	2	16	7	262	646	104	146	306	2	32
	Rate	1.3	1.5	1.7	0.9	3.6	5.7	9.1	5.0	7.6	6.3	47.3

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: 1988–1998

Year of diagnosis	Province/territory										CANADA		
	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.		Y.T.	N.W.T.
1988	Cases	9	-	2	3	16	75	9	15	16	29	-	2
	Rate	1.6	-	0.2	0.4	0.2	0.8	0.8	1.5	0.6	0.9	-	3.6
1989	Cases	5	-	9	7	13	84	13	13	12	36	2	12
	Rate	0.9	-	1.0	0.9	0.2	0.8	1.2	1.3	0.5	1.1	7.3	20.9
1990	Cases	2	1	8	7	10	87	4	12	12	31	2	4
	Rate	0.3	0.8	0.9	0.9	0.1	0.8	0.4	1.2	0.5	0.9	7.1	6.7
1991	Cases	2	-	5	5	18	102	12	14	21	27	-	-
	Rate	0.3	-	0.5	0.7	0.3	1.0	1.1	1.4	0.8	0.8	-	-
1992	Cases	3	-	4	3	25	128	5	12	21	32	1	7
	Rate	0.5	-	0.4	0.4	0.3	1.2	0.4	1.2	0.8	0.9	3.3	11.2
1993	Cases	3	-	3	3	41	114	13	8	13	33	-	7
	Rate	0.5	-	0.3	0.4	0.6	1.1	1.2	0.8	0.5	0.9	-	11.0
1994	Cases	2	-	-	1	55	100	9	6	18	30	1	6
	Rate	0.3	-	-	0.1	0.8	0.9	0.8	0.6	0.7	0.8	3.4	9.3
1995	Cases	2	-	3	1	28	103	12	12	10	18	-	6
	Rate	0.3	-	0.3	0.1	0.4	0.9	1.1	1.2	0.4	0.5	-	9.1
1996	Cases	3	-	3	5	36	72	9	4	11	29	1	5
	Rate	0.5	-	0.3	0.7	0.5	0.6	0.8	0.4	0.4	0.7	3.1	7.4
1997	Cases	2	1	2	1	34	70	10	11	16	43	-	7
	Rate	0.4	0.7	0.2	0.1	0.5	0.6	0.9	1.1	0.6	1.1	-	10.3
1998	Cases	1	-	2	2	22	70	12	7	12	23	-	6
	Rate	0.5	-	0.2	0.3	0.3	0.6	1.1	0.7	0.4	0.6	-	8.9

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

Table 2A

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – Canada: 1988-1998

Year of diagnosis	TOTAL	Age group											Age unk.
		< 1	1 - 4	5 - 14	15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 - 74	75 +		
1988	Cases	12	33	52	227	384	241	198	260	274	266	-	
	Rate	3.3	2.2	1.4	5.4	7.7	6.0	7.3	10.8	15.4	23.1	-	
1989	Cases	31	74	78	259	341	252	204	256	274	266	-	
	Rate	8.1	4.9	2.1	6.2	6.7	6.0	7.3	10.6	15.0	22.1	-	
1990	Cases	44	91	66	208	400	240	181	244	280	241	2	
	Rate	7.2	5.9	1.7	5.1	7.8	5.5	6.2	10.1	15.0	19.3	-	
1991	Cases	48	71	60	227	399	282	188	223	279	240	1	
	Rate	7.2	4.6	1.6	5.6	7.8	6.3	6.2	9.2	14.5	18.6	-	
1992	Cases	25	83	85	242	405	286	191	224	276	290	1	
	Rate	7.4	5.3	2.2	6.0	7.9	6.2	6.0	9.2	14.0	21.8	-	
1993	Cases	26	69	108	234	386	270	210	214	257	237	1	
	Rate	7.0	4.3	2.7	5.8	7.6	5.7	6.2	8.7	12.7	17.3	-	
1994	Cases	20	72	98	274	411	261	224	212	271	231	-	
	Rate	7.1	4.5	2.5	6.8	8.2	5.4	6.4	8.5	13.2	16.4	-	
1995	Cases	27	64	85	229	325	314	201	209	251	225	1	
	Rate	6.5	4.0	2.1	5.7	6.6	6.4	5.5	8.3	12.0	15.3	-	
1996	Cases	11	68	63	214	356	304	191	193	250	219	-	
	Rate	6.3	4.3	1.6	5.3	7.5	6.1	5.0	7.6	12.0	14.7	-	
1997	Cases	9	49	58	214	385	291	216	228	246	279	-	
	Rate	6.6	3.1	1.4	5.3	8.2	5.7	5.5	8.8	11.7	18.0	-	
1998	Cases	19	61	71	186	308	303	181	171	237	259	-	
	Rate	5.9	4.0	1.7	4.5	6.7	5.8	4.4	6.4	11.1	16.1	-	

Table 2B

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – males – Canada: 1988-1998

Year of diagnosis	TOTAL	Age group											Age unk.
		< 1	1 - 4	5 - 14	15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 - 74	75 +		
1988	Cases	3	16	21	128	207	145	119	172	159	153	-	
	Rate	1.6	2.1	1.1	5.9	8.2	7.1	8.7	14.7	20.1	35.4	-	
1989	Cases	15	43	39	121	178	146	132	175	160	143	-	
	Rate	7.7	5.5	2.0	5.7	6.9	6.9	9.3	14.8	19.6	31.7	-	
1990	Cases	16	41	33	112	217	130	117	140	161	128	-	
	Rate	8.0	5.2	1.7	5.4	8.3	5.9	8.0	11.8	19.2	27.3	1	
1991	Cases	30	38	31	135	235	162	107	119	179	137	-	
	Rate	14.5	4.8	1.6	6.6	9.1	7.2	7.1	9.9	20.8	28.2	1	
1992	Cases	16	39	35	129	222	178	116	133	157	153	-	
	Rate	7.7	4.8	1.8	6.3	8.6	7.7	7.2	11.0	17.7	30.6	-	
1993	Cases	13	35	62	124	207	154	130	132	144	133	-	
	Rate	6.5	4.2	3.1	6.0	8.1	6.5	7.7	10.9	15.8	25.9	1	
1994	Cases	9	36	52	140	203	151	133	117	150	130	-	
	Rate	4.6	4.3	2.6	6.8	8.0	6.3	7.5	9.5	16.0	24.6	-	
1995	Cases	9	30	40	112	166	191	118	122	145	111	-	
	Rate	4.6	3.7	2.0	5.5	6.7	7.7	6.4	9.8	15.2	20.2	-	
1996	Cases	7	32	35	106	180	158	106	104	144	134	-	
	Rate	3.6	3.9	1.7	5.1	7.5	6.3	5.6	8.3	15.0	24.1	-	
1997	Cases	6	27	25	93	193	158	118	130	139	163	-	
	Rate	3.3	3.4	1.2	4.5	8.2	6.2	6.0	10.2	14.3	28.2	-	
1998	Cases	14	32	37	78	163	162	100	104	130	148	-	
	Rate	7.9	4.1	1.8	3.7	7.1	6.2	4.9	8.0	13.2	24.7	-	

Table 2C

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – females – Canada: 1988-1998

Year of diagnosis	TOTAL	Age group											Age unk.
		< 1	1 - 4	5 - 14	15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 - 74	75 +		
1988	Cases	9	17	31	99	177	96	79	88	115	113	-	
	Rate	5.0	2.3	1.7	4.8	7.2	4.8	5.9	7.1	11.7	15.7	-	
1989	Cases	16	31	39	138	163	106	72	81	114	123	-	
	Rate	8.6	4.2	2.1	6.8	6.5	5.1	5.2	6.6	11.3	16.4	-	
1990	Cases	28	50	33	96	183	110	64	104	119	113	1	
	Rate	14.3	6.7	1.8	4.8	7.2	5.1	4.4	8.4	11.5	14.5	-	
1991	Cases	18	33	29	92	164	120	81	104	100	103	-	
	Rate	9.2	4.4	1.5	4.6	6.5	5.4	5.4	8.4	9.5	12.8	-	
1992	Cases	9	44	50	113	183	108	75	91	119	137	1	
	Rate	4.6	5.7	2.6	5.7	7.3	4.7	4.7	7.4	11.0	16.4	-	
1993	Cases	13	34	46	110	179	116	80	82	113	104	-	
	Rate	6.8	4.3	2.4	5.6	7.2	5.0	4.8	6.6	10.2	12.1	-	
1994	Cases	11	36	46	134	208	110	91	95	121	101	-	
	Rate	5.9	4.6	2.4	6.8	8.5	4.6	5.2	7.6	10.8	11.4	-	
1995	Cases	18	34	45	117	159	123	83	87	106	114	1	
	Rate	9.7	4.4	2.3	5.9	6.5	5.0	4.5	6.9	9.3	12.4	-	
1996	Cases	4	36	28	108	176	146	85	89	106	85	-	
	Rate	2.1	4.7	1.4	5.5	7.5	5.8	4.5	6.9	9.4	9.1	-	
1997	Cases	3	22	33	121	192	133	98	98	107	116	-	
	Rate	1.7	2.9	1.7	6.1	8.3	5.2	5.0	7.5	9.4	11.9	-	
1998	Cases	5	29	34	108	145	141	81	67	107	111	-	
	Rate	3.0	3.9	1.7	5.4	6.4	5.4	4.0	5.0	9.4	11.0	-	

Table 3

Reported new active and relapsed tuberculosis cases by birthplace – Canada: 1988-1998

Birthplace	Year of diagnosis											
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
Aboriginal												
Status Indian	236	303	295	259	322	260	268	265	219	212	190	
Non-Status Indian/Métis	75	73	72	58	39	55	95	56	51	52	53	
Inuit	21	34	8	22	26	58	35	24	26	19	35	
Total	332	410	375	339	387	373	398	345	296	283	278	
Non-Aboriginal	724	666	682	670	587	576	490	435	371	400	348	
Total	1056	1076	1057	1009	974	949	888	780	667	683	626	
Africa	42	57	52	70	73	53	68	60	57	92	90	
Americas	83	100	79	93	119	98	99	116	99	103	89	
East Mediterranean	52	63	90	103	108	112	152	113	146	114	102	
Europe	203	204	181	159	170	148	145	139	114	139	135	
South East Asia	91	108	103	114	133	159	167	164	177	197	194	
Western Pacific	289	293	435	470	509	491	551	519	553	569	509	
Unknown region	131	134	-	-	22	2	4	29	25	57	35	
Total	891	959	940	1009	1134	1063	1186	1140	1171	1271	1154	
Unknown birthplace	-	-	-	-	-	-	-	11	31	21	16	
TOTAL	1947	2035	1997	2018	2108	2012	2074	1931	1869	1975	1796	

Table 4

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by main diagnostic site – Canada: 1988-1998

Main diagnostic site	Year of diagnosis											
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
Cases	109	190	230	206	193	189	152	163	120	130	130	
Rate	0.4	0.7	0.8	0.7	0.7	0.7	0.5	0.6	0.4	0.4	0.4	
Cases	47	47	67	43	60	58	65	48	57	73	41	
Rate	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	
Cases	1344	1336	1183	1217	1351	1260	1325	1244	1156	1230	1152	
Rate	5.0	4.9	4.3	4.3	4.7	4.4	4.5	4.2	3.9	4.1	3.8	
Cases	19	14	17	15	17	19	18	22	19	25	25	
Rate	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Cases	218	249	223	223	259	281	301	249	242	266	273	
Rate	0.8	0.9	0.8	0.8	0.9	1.0	1.0	0.8	0.8	0.9	0.9	
Cases	210	199	220	242	220	202	206	199	263	250	165	
Rate	0.8	0.7	0.8	0.9	0.8	0.7	0.7	0.7	0.9	0.8	0.5	
Cases	-	-	57	72	8	3	7	6	12	1	10	
Rate	-	-	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Cases	1947	2035	1997	2018	2108	2012	2074	1931	1869	1975	1796	
Rate	7.2	7.4	7.2	7.2	7.4	7.0	7.1	6.5	6.3	6.6	5.9	

* Please refer to Technical Notes for definition.

Table 5A

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – Canada and provinces/territories: 1998

Age group	CANADA	Province/territory											
		Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
< 1	Cases	-	-	-	-	2	3	1	10	1	2	-	-
	Rate	-	-	-	-	2.6	2.3	6.9	77.6	2.7	4.5	-	-
1 – 4	Cases	-	-	-	-	3	16	6	20	5	7	-	4
	Rate	-	-	-	-	0.9	2.7	9.5	35.6	3.1	3.6	-	67.8
5 – 14	Cases	-	-	-	-	5	23	6	15	9	5	-	8
	Rate	-	-	-	-	0.5	1.5	3.6	9.4	2.1	1.0	-	56.6
15 – 24	Cases	-	-	-	1	28	71	21	13	7	38	1	6
	Rate	-	-	-	0.9	2.8	4.8	13.3	8.6	1.6	7.2	23.8	55.3
25 – 34	Cases	-	-	4	1	47	131	14	17	24	63	-	7
	Rate	-	-	2.9	0.9	4.4	7.4	8.6	12.5	5.2	10.3	-	55.7
35 – 44	Cases	-	-	-	1	43	141	23	6	26	60	-	3
	Rate	-	-	-	0.8	3.3	7.2	12.6	3.7	5.0	8.7	-	28.3
45 – 54	Cases	2	-	3	-	32	69	7	6	26	34	-	2
	Rate	2.5	-	2.3	-	3.1	4.6	4.9	5.1	7.2	6.1	-	29.5
55 – 64	Cases	3	-	3	-	30	78	9	6	15	26	-	1
	Rate	6.3	-	3.5	-	4.4	7.8	9.6	7.2	6.8	7.4	-	31.8
65 – 74	Cases	1	-	4	2	49	95	15	2	17	48	1	3
	Rate	2.9	-	6.1	3.8	9.1	11.6	18.6	2.6	10.3	16.9	95.2	199.7
75 +	Cases	2	2	4	4	50	102	14	3	28	46	-	4
	Rate	7.5	23.3	7.0	9.0	13.4	17.1	18.8	4.1	22.9	20.3	-	538.4
TOTAL	Cases	8	2	18	9	289	729	116	98	158	329	2	38
	Rate	1.5	1.5	1.9	1.2	3.9	6.4	10.2	9.6	5.4	8.2	6.3	56.2

Table 5B

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – males – Canada and provinces/territories: 1998

Age group	CANADA	Province/territory											
		Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
< 1	Cases	-	-	-	-	1	3	-	7	1	2	-	-
	Rate	-	-	-	-	2.5	4.4	-	106.4	5.2	8.8	-	-
1 – 4	Cases	-	-	-	-	2	9	2	14	2	1	-	2
	Rate	-	-	-	-	1.1	3.0	6.2	48.8	2.4	1.0	-	65.3
5 – 14	Cases	-	-	-	-	3	8	4	6	7	4	-	5
	Rate	-	-	-	-	0.6	1.0	4.7	7.4	3.1	1.5	-	69.5
15 – 24	Cases	-	-	-	-	10	31	9	6	5	14	-	3
	Rate	-	-	-	-	2.0	4.1	11.1	7.7	2.3	5.2	-	53.1
25 – 34	Cases	-	-	3	-	30	64	6	5	13	37	-	5
	Rate	-	-	4.4	-	5.5	7.2	7.2	7.3	5.5	12.0	-	77.9
35 – 44	Cases	-	-	-	-	26	76	19	3	9	28	-	1
	Rate	-	-	-	-	4.0	7.8	20.7	3.7	3.4	8.1	-	17.7
45 – 54	Cases	2	-	2	-	21	39	4	2	12	17	-	1
	Rate	5.0	-	3.1	-	4.0	5.2	5.6	3.3	6.5	6.1	-	26.7
55 – 64	Cases	2	-	2	-	19	50	4	4	6	16	-	1
	Rate	8.4	-	4.8	-	5.7	10.2	8.6	9.8	5.4	9.2	-	59.5
65 – 74	Cases	1	-	1	-	26	55	10	-	10	25	-	2
	Rate	6.0	-	3.3	-	10.7	14.5	26.7	-	12.6	18.4	-	254.1
75 +	Cases	1	1	-	2	32	61	9	2	12	26	-	2
	Rate	9.4	31.4	-	11.9	24.4	27.2	32.1	6.9	25.3	29.3	-	518.1
TOTAL	Cases	6	1	8	2	170	396	67	49	77	170	-	22
	Rate	2.2	1.5	1.7	0.5	4.7	7.0	11.9	9.6	5.2	8.5	-	62.4

Table 5C

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group – females – Canada and provinces/territories: 1998

Age group	CANADA	Province/territory												
		Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	
< 1	Cases	-	-	-	-	1	-	1	3	-	-	-	-	-
	Rate	-	-	-	-	2.7	-	14.3	47.5	-	-	-	-	-
1 – 4	Cases	-	-	-	-	1	7	4	6	3	6	-	2	
	Rate	-	-	-	-	0.6	2.4	13.0	21.8	3.9	6.5	-	70.5	
5 – 14	Cases	-	-	-	-	2	15	2	9	2	1	-	3	
	Rate	-	-	-	-	0.4	2.0	2.5	11.6	0.9	0.4	-	43.2	
15 – 24	Cases	-	-	-	1	18	40	12	7	2	24	1	3	
	Rate	-	-	-	1.9	3.7	5.5	15.6	9.5	1.0	9.3	50.8	57.7	
25 – 34	Cases	-	-	1	1	17	67	8	12	11	26	-	2	
	Rate	-	-	1.5	1.8	3.3	7.6	10.1	17.8	4.9	8.6	-	32.5	
35 – 44	Cases	-	-	-	1	17	65	4	3	17	32	-	2	
	Rate	-	-	-	1.6	2.7	6.6	4.4	3.8	6.6	9.2	-	40.3	
45 – 54	Cases	-	-	1	-	11	30	3	4	14	17	-	1	
	Rate	-	-	1.5	-	2.1	3.9	4.2	6.9	7.9	6.2	-	32.9	
55 – 64	Cases	1	-	1	-	11	28	5	2	9	10	-	-	
	Rate	4.3	-	2.3	-	3.1	5.5	10.5	4.8	8.3	5.7	-	-	
65 – 74	Cases	-	-	3	2	23	40	5	2	7	23	1	1	
	Rate	-	-	8.4	7.1	7.8	9.1	11.5	5.0	8.2	15.6	217.4	139.9	
75 +	Cases	1	1	4	2	18	41	5	1	16	20	-	2	
	Rate	6.2	18.5	11.0	7.2	7.5	11.0	10.8	2.3	21.4	14.5	-	560.2	
TOTAL	Cases	2	1	10	7	119	333	49	49	81	159	2	16	
	Rate	0.7	1.4	2.1	1.8	3.2	5.8	8.5	9.5	5.6	7.9	13.2	49.5	

Table 6

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by birthplace – Canada and provinces/territories: 1998

Birthplace	CANADA	Province/territory												
		Totals	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
Aboriginal		ATLANTIC												
Cases	190	4	-	-	3	1	-	15	45	59	25	38	-	4
Rate	35.4	19.9												
Cases	53	-	-	-	-	-	7	-	5	24	10	4	-	3
Rate	8.3	6.6												
Cases	35	-	-	-	-	-	3	-	-	-	1	-	-	31
Rate	58.7	29.4												
Cases	278	4	-	-	3	1	10	15	50	83	36	42	-	38
Rate	22.5	6.5												
Cases	348	26	8	2	11	5	112	101	23	9	29	47	1	-
Rate	1.5	1.2												
Cases	626	30	8	2	14	6	122	116	73	92	65	89	1	38
Rate	2.5	1.3	1.5	1.5	1.6	0.8	1.8	1.4	7.3	9.5	2.6	3.0	3.5	59.1
Cases	90	3	-	-	3	-	22	52	3	3	2	5	-	-
Rate	53.0	106.7	-	-	200.1	-	92.9	56.7	69.3	171.6	14.9	15.8	-	-
Cases	89	-	-	-	-	-	44	31	3	1	6	4	-	-
Rate	10.0	-	-	-	-	-	35.8	6.4	13.1	11.0	8.5	3.4	-	-
Cases	102	1	-	-	-	1	15	76	1	-	4	5	-	-
Rate	30.0	17.7	-	-	-	59.8	31.5	41.4	11.5	-	14.8	7.9	-	-
Cases	135	-	-	-	-	-	30	71	3	-	10	21	-	-
Rate	5.4	-	-	-	-	-	8.9	5.2	4.6	-	5.0	4.5	-	-
Cases	194	-	-	-	-	-	20	105	4	-	12	53	-	-
Rate	52.7	-	-	-	-	-	39.6	52.5	42.3	-	41.0	77.2	-	-
Cases	509	3	-	-	1	2	32	251	29	2	59	132	1	-
Rate	44.9	16.3	-	-	10.2	36.3	20.5	40.8	99.7	17.4	65.6	59.6	139.7	-

...cont'd

Table 6 *Cont'd*

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by birthplace - Canada and provinces/territories: 1998

Birthplace	CANADA	Province/territory												
		Totals	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
		ATLANTIC												
Foreign-born (WHO region)	Cases	35	-	-	-	-	0	20	0	-	0	15	-	-
	Rate	-	-	-	-	-	-	-	-	-	-	-	-	-
Unknown region	Cases	1154	7	-	4	3	163	606	43	6	93	235	1	-
	Rate	21.3	8.0	-	8.6	11.5	22.1	20.5	30.8	11.0	21.6	23.3	29.1	-
Unknown birthplace	Cases	16	-	-	-	-	4	7	-	-	-	5	-	-
	Rate	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	Cases	1796	37	8	2	18	289	729	116	98	158	329	2	38
	Rate	5.9	1.6	1.5	1.5	1.9	3.9	6.4	10.2	9.6	5.4	8.2	6.3	56.2

Table 7

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by main diagnostic site – Canada and provinces/territories: 1998

Main diagnostic site	CANADA	Province/territory												
		Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	
Primary	Cases	130	-	-	-	-	41	8	44	14	11	-	11	
	Rate	0.4	-	-	-	0.0	0.4	0.7	4.3	0.5	0.3	-	16.3	
Military/ disseminated	Cases	41	-	1	-	10	9	1	5	4	10	-	1	
	Rate	0.1	-	0.1	-	0.1	0.1	0.1	0.5	0.1	0.2	-	1.5	
Respiratory (pulm/other resp)*	Cases	1152	6	2	14	7	459	81	31	93	226	1	23	
	Rate	3.8	1.1	1.5	1.5	0.9	4.0	7.1	3.0	3.2	5.6	3.2	34.0	
Meninges and CNS	Cases	25	-	-	-	1	4	1	-	6	3	-	-	
	Rate	0.1	-	-	-	0.1	0.1	0.1	-	0.2	0.1	-	-	
Peripheral lymph node	Cases	273	-	-	-	1	34	16	12	21	53	1	2	
	Rate	0.9	-	-	-	0.1	1.2	1.4	1.2	0.7	1.3	3.2	3.0	
Other sites	Cases	165	2	-	3	-	69	9	6	20	26	-	1	
	Rate	0.5	0.4	-	0.3	-	0.6	0.8	0.6	0.7	0.6	-	1.5	
Unknown	Cases	10	-	-	-	2	8	-	-	-	-	-	-	
	Rate	0.0	-	-	-	0.0	0.1	-	-	-	-	-	-	
TOTAL	Cases	1796	8	2	18	9	729	116	98	158	329	2	38	
	Rate	5.9	1.5	1.9	1.2	3.9	6.4	10.2	9.6	5.4	8.2	6.3	56.2	

* Please refer to Technical Notes for definition.

Table 8

Reported new active and relapsed tuberculosis cases by birthplace, gender and age group – Canada: 1998

Birthplace	TOTAL	Age group																			
		< 1	1 – 4	5 – 14	15 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 – 74	75 +										
Aboriginal																					
Male	96	6	14	11	9	13	11	15	7	5	5										
Female	94	3	12	8	10	16	20	8	9	6	2										
Total	190	9	26	19	19	29	31	23	16	11	7										
Non-Status Indian/Métis																					
Male	24	1	5	3	3	2	3	1	3	3	-										
Female	29	1	1	5	6	4	1	3	1	6	1										
Total	53	2	6	8	9	6	4	4	4	9	1										
Inuit																					
Male	20	-	1	5	3	4	1	3	1	3	1										
Female	15	-	2	3	3	1	3	1	-	-	-										
Total	35	-	3	8	6	5	4	4	1	4	1										
Canadian-born																					
Total	140	7	20	19	15	19	15	19	11	19	6										
Male	138	4	15	16	19	21	24	12	10	12	5										
Female	278	11	35	35	34	40	39	31	21	21	11										
Total	217	6	8	7	6	14	33	30	31	33	49										
Non-Aboriginal																					
Male	131	1	9	5	12	9	13	10	10	10	36										
Female	348	7	17	12	18	23	46	40	41	41	85										
Total	357	13	28	26	21	33	48	49	42	42	55										
Foreign-born (WHO region)																					
Total	269	5	24	21	31	30	37	22	20	38	41										
Male	626	18	52	47	52	63	85	71	62	80	96										
Female	54	-	-	3	11	18	15	5	1	-	1										
Total	36	-	1	2	14	13	3	-	1	1	1										
Africa																					
Male	90	-	1	5	25	31	18	5	2	1	2										
Female	45	-	-	3	2	11	13	5	4	4	3										
Total	44	-	1	-	6	7	11	5	5	2	7										
Americas																					
Male	89	-	1	3	8	18	24	10	9	6	10										
Female																					
Total	89	-	1	3	8	18	24	10	9	6	10										

...cont'd

Table 8 *Cont'd*

Reported new active and relapsed tuberculosis cases by birthplace, gender and age group – Canada: 1998

Birthplace	TOTAL	Age group									
		< 1	1 - 4	5 - 14	15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 - 74	75 +
East Mediterranean	Male	-	2	2	10	13	8	3	2	5	2
	Female	-	1	5	10	13	6	5	3	8	4
	Total	-	3	7	20	26	14	8	5	13	6
Europe	Male	-	-	-	1	8	13	3	13	22	23
	Female	-	-	1	2	4	5	4	8	7	21
	Total	-	-	1	3	12	18	7	21	29	44
Foreign-born (WHO region)	Male	-	-	-	6	34	17	6	10	11	11
	Female	-	1	2	20	19	14	12	5	15	11
	Total	-	1	2	26	53	31	18	15	26	22
Western Pacific	Male	1	2	3	26	39	44	25	30	40	43
	Female	-	1	3	23	58	63	32	24	32	20
	Total	1	3	6	49	97	107	57	54	72	63
Unknown region	Male	-	-	-	1	6	3	4	2	5	2
	Female	-	-	-	2	1	1	1	1	2	4
	Total	-	-	-	3	7	4	5	3	7	6
Total	Male	1	4	11	57	129	113	51	62	87	85
	Female	-	5	13	77	115	103	59	47	67	68
	Total	1	9	24	134	244	216	110	109	154	153
Unknown birthplace	Male	-	-	-	-	1	1	-	-	1	8
	Female	-	-	-	-	-	1	-	-	2	2
	Total	-	-	-	-	1	2	-	-	3	10
TOTAL	Male	14	32	37	78	163	162	100	104	130	148
	Female	5	29	34	108	145	141	81	67	107	111
	Total	19	61	71	186	308	303	181	171	237	259

Table 9

Reported new active and relapsed tuberculosis cases and incidence rate per 100,000 by age group and main diagnostic site – Canada: 1998

Age group	TOTAL	Main diagnostic site									
		Primary	Miliary/ disseminated	Respiratory (pulm/ other resp)*	Meninges and CNS	Peripheral lymph node	Other sites*	Unknown			
< 1	Cases	12	-	6	-	1	-	-	-	-	-
	Rate	3.5	-	1.7	-	0.3	-	-	-	-	-
1 – 4	Cases	42	1	13	1	4	-	-	-	-	-
	Rate	2.7	0.1	0.8	0.1	0.3	-	-	-	-	-
5 – 14	Cases	35	-	24	2	6	4	-	-	-	-
	Rate	0.9	-	0.6	0.0	0.1	0.1	0.1	0.1	0.1	-
15 – 24	Cases	10	3	132	3	30	8	-	-	-	-
	Rate	0.2	0.1	3.2	0.1	0.7	0.2	-	-	-	-
25 – 34	Cases	6	9	191	5	67	30	-	-	-	-
	Rate	0.1	0.2	4.2	0.1	1.5	0.7	-	-	-	-
35 – 44	Cases	7	3	191	6	62	4	-	-	-	-
	Rate	0.1	0.1	3.7	0.1	1.2	0.6	-	-	-	-
45 – 54	Cases	-	5	108	5	35	26	-	-	-	-
	Rate	-	0.1	2.7	0.1	0.9	0.6	-	-	-	-
55 – 64	Cases	4	5	111	1	28	1	-	-	-	-
	Rate	0.2	0.2	4.2	0.0	1.1	0.8	-	-	-	-
65 – 74	Cases	9	8	173	1	18	26	-	-	-	-
	Rate	0.4	0.4	8.1	0.0	0.8	1.2	-	-	-	-
75 +	Cases	5	7	203	1	22	20	-	-	-	-
	Rate	0.3	0.4	12.6	0.1	1.4	1.2	-	-	-	-
TOTAL	Cases	130	41	1152	25	273	165	10	0.0	0.0	0.0
	Rate	0.4	0.1	3.8	0.1	0.9	0.5	0.0	0.0	0.0	0.0

* Please refer to Technical Notes for definition.

Table 10

Reported new active and relapsed tuberculosis cases by birthplace and main diagnostic site – Canada: 1998

Birthplace	TOTAL	Main diagnostic site							
		Primary	Miliary/ disseminated	Respiratory (pulm/ other resp)*	Meninges and CNS	Peripheral lymph node	Other sites*	Unknown	
Aboriginal									
Status Indian	190	51	4	103	2	15	15	-	-
Non-Status Indian/Métis	53	11	3	30	1	6	2	-	-
Inuit	35	10	1	23	-	-	1	-	-
Total Aboriginal	278	72	8	156	3	21	18	-	-
Non-Aboriginal	348	27	9	261	4	7	39	1	1
Total Canadian-born	626	99	17	417	7	28	57	1	1
Africa	90	3	5	57	1	20	2	2	2
Americas	89	1	3	61	1	16	7	-	-
East Mediterranean	102	2	1	57	2	23	17	-	-
Europe	135	8	2	98	-	11	16	-	-
South East Asia	194	6	2	116	4	39	26	1	1
Western Pacific	509	10	9	312	9	127	40	2	2
Unknown region	35	1	2	23	-	7	-	2	2
Total foreign-born	1154	31	24	724	17	243	108	7	7
Unknown birthplace	16			11	1	2		2	2
TOTAL	1796	130	41	1152	25	273	165	10	10

* Please refer to Technical Notes for definition.

Table 11

Reported new active and relapsed tuberculosis cases by birthplace and activity status – Canada: 1998

	Birthplace	TOTAL	Activity status		Unknown status
			New active cases	Relapsed cases	
Canadian-born	Aboriginal				
	Status Indian	190	171	19	-
	Non-Status Indian/Métis	53	49	4	-
	Inuit	35	29	6	-
	Total Aboriginal	278	249	29	-
	Non-Aboriginal	348	316	30	2
	Total Canadian-born	626	565	59	2
Foreign-born (WHO region)	Africa	90	81	5	4
	Americas	89	86	3	-
	East Mediterranean	102	97	5	-
	Europe	135	123	11	1
	South East Asia	194	183	10	1
	Western Pacific	509	447	57	5
	Unknown region	35	28	4	3
	Total foreign-born	1154	1045	95	14
Unknown birthplace	16	11	3	2	
TOTAL	1796	1621	157	18	

Table 12

Reported new active and relapsed tuberculosis cases by bacillary status – Canada and provinces/territories: 1998

Bacillary status	CANADA	Province/territory											
		Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
1. Culture positive													
a. Microscopy positive	649	5	2	11	7	148	208	40	27	53	135	2	11
b. Microscopy negative	368	-	-	3	2	62	92	44	8	55	88	-	14
c. Microscopy not done/unk.	405	2	-	-	-	54	279	10	9	10	40	-	1
Total	1422	7	2	14	9	264	579	94	44	118	263	2	26
2. Culture negative													
a. Microscopy positive	42	-	-	-	-	5	26	4	1	-	6	-	-
b. Microscopy negative	92	-	-	1	-	11	-	9	7	28	25	-	11
c. Microscopy not done/unk.	27	-	-	-	-	-	-	-	26	-	-	-	1
Total	161	-	-	1	-	16	26	13	34	28	31	-	12
3. Culture not done/unk.													
a. Microscopy positive	133	1	-	-	-	4	120	3	2	1	2	-	-
b. Microscopy negative	4	-	-	-	-	-	-	-	3	-	1	-	-
c. Microscopy not done/unk.	76	-	-	3	-	5	4	6	15	11	32	-	-
Total	213	1	-	3	-	9	124	9	20	12	35	-	-
TOTAL	1796	8	2	18	9	289	729	116	98	158	329	2	38

Table 13

Reported new active and relapsed tuberculosis cases by bacillary status and birthplace – Canada: 1998

Bacillary status	TOTAL	Birthplace			
		Canadian-born Aboriginal	Canadian-born non-Aboriginal	Foreign-born	Unknown birthplace
1. Culture positive					
a. Microscopy positive	649	91	137	413	8
b. Microscopy negative	368	68	64	236	-
c. Microscopy not done/unk.	405	28	62	309	6
Total	1422	187	263	958	14
2. Culture negative					
a. Microscopy positive	42	2	7	33	-
b. Microscopy negative	92	34	20	37	1
c. Microscopy not done/unk.	27	27	-	-	-
Total	161	63	27	70	1
3. Culture not done/unk.					
a. Microscopy positive	133	4	37	91	1
b. Microscopy negative	4	2	-	2	-
c. Microscopy not done/unk.	76	22	21	33	-
Total	213	28	58	126	1
TOTAL	1796	278	348	1154	16

Table 14

Reported new active and relapsed tuberculosis cases by bacillary status and main diagnostic site – Canada: 1998

Bacillary status	TOTAL	Main Diagnostic Site							Unknown
		Primary	Miliary/ disseminated	Respiratory (pulm/ other resp)*	Meninges and CNS	Peripheral lymph node	Other sites*		
1. Culture positive									
a. Microscopy positive	649	11	24	515	5	54	34	6	
b. Microscopy negative	368	10	8	297	4	34	15	-	
c. Microscopy not done/unk.	405	21	6	166	3	132	74	3	
Total	1422	42	38	978	12	220	123	9	
2. Culture negative									
a. Microscopy positive	42	3	1	31	-	4	3	-	
b. Microscopy negative	92	25	1	46	1	9	10	-	
c. Microscopy not done/unk.	27	27	-	-	-	-	-	-	
Total	161	55	2	77	1	13	13	-	
3. Culture not done/unk.									
a. Microscopy positive	133	11	-	74	6	27	14	1	
b. Microscopy negative	4	-	-	-	-	3	1	-	
c. Microscopy not done/unk.	76	22	1	23	6	10	14	-	
Total	213	33	1	97	12	40	29	1	
TOTAL	1796	130	41	1152	25	273	165	10	

* Please refer to Technical Notes for definition.

Table 15
Pattern of reported drug resistance to first-line anti-tuberculosis drugs at time of reporting – Canada and provinces/territories*: 1998

Drug pattern	Province/territory													
	CANADA		Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
Total positive cultures	1424 (100)	7 (100)	2 (100)	14 (100)	9 (100)	264 (100)	580 (100)	94 (100)	44 (100)	118 (100)	264 (100)	2 (100)	26 (100)	
No resistance	1280 (89.9)	7 (100)	2 (100)	12 (85.7)	8 (88.9)	233 (88.3)	519 (89.5)	85 (90.4)	43 (97.7)	106 (89.8)	237 (89.8)	2 (100)	26 (100)	
Resistance to one or more drugs	144 (10.1)	-	-	2 (14.3)	1 (11.1)	31 (11.7)	61 (10.5)	9 (9.6)	1 (2.3)	12 (10.2)	27 (10.2)	-	-	
Monoresistance														
INH	57 (0.4)	-	-	1 (7.1)	1 (11.1)	9 (3.4)	24 (4.1)	2 (2.1)	1 (2.3)	4 (3.4)	15 (5.7)	-	-	
SM	27 (1.9)	-	-	-	-	12 (4.5)	6 (1.0)	2 (2.1)	-	5 (4.2)	2 (0.8)	-	-	
EMB	3 (0.2)	-	-	1 (7.1)	-	-	2 (0.3)	-	-	-	-	-	-	
RMP	-	-	-	-	-	-	-	-	-	-	-	-	-	
PZA	9 (0.6)	-	-	-	-	4 (1.5)	4 (0.7)	1 (1.0)	-	-	-	-	-	
Total monoresistance	96 (6.7)	-	-	2 (14.3)	1 (11.1)	25 (9.5)	36 (6.2)	5 (5.3)	1 (2.3)	9 (7.6)	17 (6.4)	-	-	
Multi-drug resistant (MDR) TB**														
INH & RMP	2 (0.1)	-	-	-	-	-	2 (0.3)	-	-	-	-	-	-	
INH & SM & RMP	3 (0.2)	-	-	-	-	1 (0.4)	-	-	-	-	2 (0.8)	-	-	
INH & EMB & RMP	1 (0.1)	-	-	-	-	1 (0.4)	-	-	-	-	-	-	-	

* Not all provinces routinely test for resistance to all first-line anti-tuberculosis drugs (see Technical Notes).
 ** MDR-TB is defined as resistance to at least INH and RMP.

Table 15 *Cont'd*

Pattern of reported drug resistance to first-line anti-tuberculosis drugs at time of reporting – Canada and provinces/territories*: 1998

Drug pattern	Province/territory												
	CANADA	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)
INH & SM & EMB & RMP	1 (0.1)	-	-	-	-	-	1 (0.2)	-	-	-	-	-	-
INH & SM & EMB & RMP & PZA	5 (0.4)	-	-	-	-	-	3 (0.5)	1 (1.0)	-	1 (0.8)	-	-	-
Total MDR-TB**	12 (0.8)	-	-	-	-	2 (0.8)	6 (1.0)	1 (1.0)	-	1 (0.8)	2 (0.8)	-	-
Other patterns													
INH & SM	27 (1.9)	-	-	-	-	3 (1.1)	14 (2.4)	2 (2.1)	-	1 (0.8)	7 (2.7)	-	-
INH & EMB	2 (0.1)	-	-	-	-	-	1 (0.2)	-	-	-	1 (0.4)	-	-
INH & SM & EMB	3 (0.2)	-	-	-	-	-	3 (0.5)	-	-	-	-	-	-
INH & PZA	1 (0.1)	-	-	-	-	1 (0.4)	-	-	-	-	-	-	-
INH & SM & PZA	3 (0.2)	-	-	-	-	-	1 (0.2)	1 (1.0)	-	1 (0.8)	-	-	-
Total other patterns	36 (2.5)	-	-	-	-	4 (1.5)	19 (3.3)	3 (3.2)	-	2 (1.7)	8 (3.0)	-	-

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

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

Table 16**Pattern of reported drug resistance to first-line anti-tuberculosis drugs at time of reporting by birthplace - Canada*: 1998**

Drug pattern	TOTAL No. (%)	Canadian-born		Foreign-born No. (%)	Unknown birthplace No. (%)
		Aboriginal No. (%)	Non-Aboriginal No. (%)		
Total positive cultures	1424 (100)	187 (13.1)	263 (18.4)	960 (67.5)	14 (1.0)
No resistance	1280 (89.8)	184 (12.9)	245 (17.1)	839 (58.9)	12 (0.8)
Resistance to one or more drugs	144 (10.2)	3 (0.2)	18 (1.3)	121 (8.6)	2 (0.1)
Monoresistance					
INH	57 (0.4)	1 (0.1)	8 (0.6)	47 (3.3)	1 (0.1)
SM	27 (1.9)	1 (0.1)	2 (0.1)	24 (1.7)	-
EMB	3 (0.2)	-	1 (0.1)	2 (0.1)	-
RMP	-	-	-	-	-
PZA	9 (0.6)	-	7 (0.5)	2 (0.1)	-
Total monoresistance	96 (6.7)	2 (0.1)	18 (1.3)	75 (5.3)	1 (0.1)
Multi-drug resistant (MDR) TB**					
INH & RMP	2 (0.1)	-	-	2 (0.1)	-
INH & SM & RMP	3 (0.3)	-	-	3 (0.3)	-
INH & EMB & RMP	1 (0.1)	-	-	1 (0.1)	-
INH & SM & EMB & RMP	1 (0.1)	-	-	1 (0.1)	-
INH & SM & EMB & RMP & PZA	5 (0.4)	-	-	5 (0.4)	-
Total MDR-TB**	13 (0.9)	-	-	13 (0.9)	-
Other patterns					
INH & SM	27 (1.9)	-	-	26 (1.8)	1 (0.1)
INH & EMB	2 (0.1)	-	-	2 (0.1)	-
INH & SM & EMB	3 (0.2)	-	-	3 (0.2)	-
INH & PZA	1 (0.1)	-	-	1 (0.1)	-
INH & SM & PZA	3 (0.2)	1 (0.1)	-	2 (0.1)	-
Total other patterns	36 (2.5)	1 (0.1)	-	34 (2.4)	1 (0.1)

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

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

Table 17

Reported new active and relapsed tuberculosis cases by method of detection – Canada and provinces/territories: 1998

Method of detection	Province/territory												
	CANADA	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
Immigration	47	-	-	-	-	6	19	2	-	4	16	-	-
Symptoms/incidental findings	1336	6	2	16	7	235	592	11	64	124	263	2	14
Post-mortem	25	-	-	-	-	2	5	1	1	4	12	-	-
Contact investigation	114	-	-	2	-	6	28	12	13	16	24	-	13
Screening	115	1	-	-	1	14	47	6	20	8	8	-	10
Other	140	-	-	-	-	15	33	84	-	2	5	-	1
Unknown	19	1	-	-	1	11	5	-	-	-	1	-	-
TOTAL	1796	8	2	18	9	289	729	116	98	158	329	2	38

Table 18

Reported new active and relapsed tuberculosis cases by method of detection and birthplace – Canada: 1998

Method of Detection	TOTAL	Birthplace						
		Canadian-born			Foreign-born			
		Status Indian	Non-Status Indian/Métis	Inuit	Non-Aboriginal	Unknown birthplace		
Immigration	47	-	-	-	-	-	47	-
Symptoms/incidental findings	1336	94	31	13	256	934	8	8
Post-mortem	25	6	-	-	8	8	3	3
Contact investigation	114	36	10	12	34	22	-	-
Screening	115	23	8	9	15	60	-	-
Other	140	30	4	1	29	73	3	3
Unknown	19	1	-	-	6	10	2	2
TOTAL	1796	190	53	35	348	1154	16	16

Table 19

Reported new active and relapsed foreign-born tuberculosis cases by birthplace and year of arrival in Canada: 1998

Birthplace (WHO region)	TOTAL	Year of arrival										
		≤ 1962	1963- 1972	1973- 1982	1983- 1992	1993	1994	1995	1996	1997	1998	Unk.
Africa	90	-	2	4	25	3	3	9	14	15	13	2
Americas	89	4	4	14	26	7	3	4	3	11	8	5
East Mediterranean	102	-	-	3	32	5	6	7	14	24	8	3
Europe	135	50	17	10	12	8	1	5	5	7	7	10
South East Asia	194	-	4	22	47	13	20	10	18	26	26	8
Western Pacific	509	7	21	91	185	24	41	29	29	34	29	19
Unknown region	35	4	2	1	2	1	-	1	1	-	2	21
TOTAL	1154	65	50	145	329	61	74	65	84	117	93	68

Table 20

Reported new active and relapsed foreign-born tuberculosis cases by immigration status – Canada and provinces/territories: 1998

Immigration status	CANADA	Province/territory												
		Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	
Landed immigrant or Canadian citizen	360	-	-	2	1	57	-	42	-	86	171	1	-	
Refugee claimant	15	-	-	-	-	9	-	-	-	1	5	-	-	
Non-resident (visitor, student, illegal alien)	32	-	-	2	1	4	-	1	-	4	20	-	-	
Other	3	-	-	-	-	2	-	-	-	-	1	-	-	
Unknown	744	-	-	-	1	91	606	-	6	2	38	-	-	
TOTAL	1154	-	-	4	3	163	606	43	6	93	235	1	-	

Table 21

Reported relapsed tuberculosis cases by length of inactive interval – Canada and provinces/territories: 1998

Interval	Province/territory												
	CANADA	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
< 2 years	2	-	-	-	-	-	-	1	-	1	-	-	-
2-5 years	14	-	-	1	-	-	-	4	1	3	3	-	2
6-9 years	3	-	-	-	-	-	-	-	1	1	1	-	-
10-19 years	9	-	-	1	-	-	-	1	1	2	4	-	-
20+ years	38	1	-	-	1	3	-	6	4	5	14	-	4
Unknown	91	-	-	-	1	19	70	-	-	-	1	-	-
TOTAL	157	1	-	2	2	22	70	12	7	12	23	-	6

Table 22

Reported new active and relapsed tuberculosis cases and number of diagnoses by main diagnostic site – Canada: 1998

	Main diagnostic site									
	TOTAL	Primary	Miliary/ disseminated	Respiratory (pulm/ other resp)	Meninges and CNS	Peripheral lymph node	Other sites	Unknown		
Total number of cases	1796	130	41	1152	25	273	165	10		
Primary	130	130	-	-	-	-	-	-		
Miliary/Disseminated	41	-	41	-	-	-	-	-		
Pulmonary	1059	2	4	1053	-	-	-	-		
Pulmonary (with silicosis)	1	-	-	1	-	-	-	-		
Pleurisy (tuberculosis)	101	1	-	100	-	-	-	-		
Other respiratory	24	1	-	23	-	-	-	-		
Meninges and CNS	31	-	3	3	25	-	-	-		
Peripheral lymph node	295	-	1	21	-	273	-	-		
Abdominal	33	-	1	7	-	1	24	-		
Bones and joints	60	-	-	11	1	2	46	-		
Genitourinary	60	-	4	8	-	1	47	-		
Other non-respiratory	77	1	-	18	1	5	52	-		
Unknown	10	-	-	-	-	-	-	10		
Total diagnoses	1922									

Table 23

Reported new active and relapsed tuberculosis cases reported in 1998 who died in 1998*, by cause of death – Canada and provinces/territories: 1998

Cause of death	CANADA	Province/territory											
		Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
TB was underlying cause of death	19	-	-	-	-	2	10	2	-	2	3	-	-
TB contributed to death but was not the underlying cause	54	1	-	2	-	9	19	2	4	8	8	-	1
TB did not contribute to death	41	-	-	1	-	3	18	4	-	5	10	-	-
Cause not reported	8	-	-	-	-	1	7	-	-	-	-	-	-
TOTAL	122	1	-	3	-	15	54	8	4	15	21	-	1

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

* See Technical Notes.

Table 24

Reported new active and relapsed tuberculosis cases reported in 1998 who died in 1998*, by age group and gender – Canada: 1998

Gender	TOTAL	Age group										
		< 1	1 – 4	5 – 14	15 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 – 74	75 +	
Male	77	-	-	-	-	4	4	5	6	15	43	
Female	45	-	-	-	1	2	1	3	5	11	22	
TOTAL	122	-	-	-	1	6	5	8	11	26	65	

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

* See Technical Notes.

Table 25

Reported new active and relapsed tuberculosis cases by HIV status – Canada and provinces/territories: 1998

HIV status	CANADA	Province/territory											
		Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
Positive	27	-	-	-	-	-	7	1	1	2	16	-	-
Negative	123	-	-	1	2	-	-	47	-	43	23	-	8
Unknown	1646	8	2	17	7	289	722	68	97	113	292	2	30
TOTAL	1796	8	2	18	9	289	729	116	98	158	331	2	38

APPENDIX 1A

Population estimates by gender and age group – Canada and provinces/territories: 1998

TOTAL													
	CANADA	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
< 1	344,671	5,303	1,565	9,804	7,836	77,014	132,252	14,428	12,894	37,650	44,116	437	1,372
1 – 4	1,532,347	22,951	6,829	43,354	34,217	351,352	594,730	63,154	56,257	159,891	191,939	1,773	5,900
5 – 14	4,089,065	72,497	19,954	124,306	98,138	926,497	1,551,221	165,886	158,912	434,987	517,587	4,945	14,135
15 – 24	4,090,348	83,820	19,616	126,200	105,453	985,327	1,492,715	157,436	152,009	424,678	528,048	4,199	10,847
25 – 34	4,563,570	81,490	18,921	136,813	111,792	1,059,001	1,768,275	162,641	135,695	459,042	612,034	5,294	12,572
35 – 44	5,219,147	91,486	21,748	158,361	126,730	1,292,206	1,951,880	181,932	160,144	523,988	693,618	6,450	10,604
45 – 54	4,072,201	79,268	18,464	129,420	105,487	1,044,579	1,503,788	143,376	118,125	363,234	554,919	4,751	6,790
55 – 64	2,652,604	47,300	11,897	84,985	66,183	688,740	1,001,665	94,133	82,906	219,125	350,278	2,244	3,148
65 – 74	2,127,508	34,731	9,421	65,737	52,431	537,920	819,552	80,812	75,734	165,296	283,322	1,050	1,502
75 +	1,605,125	26,725	8,590	57,194	44,426	372,439	598,225	74,315	72,995	122,073	226,916	484	743
TOTAL	30,296,586	545,571	137,005	936,174	752,693	7,335,075	11,414,303	1,138,113	1,025,671	2,909,964	4,002,777	31,627	67,613
Male													
< 1	176,785	2,664	836	5,107	4,081	39,574	67,716	7,412	6,577	19,282	22,604	232	700
1 – 4	785,987	11,763	3,581	22,222	17,715	179,407	304,866	32,316	28,702	82,501	98,920	929	3,065
5 – 14	2,096,862	37,098	10,145	63,805	50,267	473,843	796,529	85,106	81,413	223,303	265,588	2,571	7,194
15 – 24	2,093,641	42,897	9,934	63,945	54,102	504,900	762,477	80,732	78,221	218,675	269,877	2,231	5,650
25 – 34	2,305,822	40,242	9,465	67,896	56,651	541,688	885,340	83,115	68,308	235,267	308,816	2,615	6,419
35 – 44	2,616,118	45,085	10,772	78,582	63,574	651,512	971,284	91,849	80,938	266,665	346,976	3,236	5,645
45 – 54	2,031,125	39,764	9,187	64,448	52,794	518,904	743,984	71,751	60,006	185,335	278,616	2,585	3,751
55 – 64	1,307,156	23,795	5,898	41,994	32,856	335,493	491,755	46,550	40,987	110,187	174,721	1,240	1,680
65 – 74	988,312	16,664	4,435	30,175	24,204	242,483	380,303	37,440	35,976	79,539	135,716	590	787
75 +	600,306	10,664	3,180	20,977	16,737	130,952	224,209	28,053	28,861	47,372	88,717	198	386
TOTAL	15,002,114	270,636	67,433	459,151	372,981	3,618,756	5,628,463	564,324	509,989	1,468,126	1,990,551	16,427	35,277
Female													
< 1	167,886	2,639	729	4,697	3,755	37,440	64,536	7,016	6,317	18,368	21,512	205	672
1 – 4	746,360	11,188	3,248	21,132	16,502	171,945	289,864	30,838	27,555	77,390	93,019	844	2,835
5 – 14	1,992,203	35,399	9,809	60,501	47,871	452,654	754,692	80,780	77,499	211,684	251,999	2,374	6,941
15 – 24	1,996,707	40,923	9,682	62,255	51,351	480,427	730,238	76,704	73,788	206,003	258,171	1,968	5,197
25 – 34	2,257,748	41,248	9,456	68,917	55,141	517,313	882,935	79,526	67,387	223,775	303,218	2,679	6,153
35 – 44	2,603,029	46,401	10,976	79,779	63,156	640,694	980,596	90,083	79,206	257,323	346,642	3,214	4,959
45 – 54	2,041,076	39,504	9,277	64,972	52,693	525,675	759,804	71,625	58,119	177,899	276,303	2,166	3,039
55 – 64	1,345,448	23,505	5,999	42,991	33,327	353,247	509,910	47,583	41,919	108,938	175,557	1,004	1,468
65 – 74	1,139,196	18,067	4,986	35,562	28,227	295,437	439,249	43,372	39,758	85,757	147,606	460	715
75 +	1,004,819	16,061	5,410	36,217	27,689	241,487	374,016	46,262	44,134	74,701	138,199	286	357
TOTAL	15,294,472	274,935	69,572	477,023	379,712	3,716,319	5,785,840	573,789	515,682	1,441,838	2,012,226	15,200	32,336

APPENDIX 1 B

Population estimates by Canadian-born origin and foreign-born birthplace – Canada and provinces/territories: 1998

TOTAL ¹	CANADA	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.
	30,296,586	545,571	137,005	936,174	752,693	7,335,075	11,414,303	1,138,113	1,025,671	2,909,964	4,002,777	31,627	67,613
Canadian-born													
Aboriginal		Atlantic region											
Status Indian	537,100		20,100			56,200	110,100	81,400	74,700	76,500	99,300	5,800	12,900
NSI/Métis	637,400		32,400			105,800	188,800	57,600	43,100	104,700	98,700	1,600	4,500
Inuit	59,600		9,000			10,200	6,300	900	600	3,400	2,300	200	26,700
Total Aboriginal	1,234,000		61,500			172,200	305,100	139,900	118,400	184,700	200,300	7,600	44,200
Non-Aboriginal	23,645,260		2,222,845			6,423,694	8,159,928	858,635	852,926	2,294,589	2,792,102	20,590	20,051
Total	24,879,260	535,864	132,220	889,727	726,534	6,595,894	8,465,028	998,535	971,326	2,479,289	2,992,402	28,190	64,251
Foreign-born (WHO region)													
Africa	169,723	327	152	1,499	834	23,679	91,744	4,331	1,748	13,465	31,730	107	107
Americas	891,064	1,654	793	7,751	4,339	122,910	483,439	22,851	9,056	70,768	116,384	563	557
East Mediterranean	339,882	660	306	3,012	1,673	47,549	183,560	8,662	3,513	26,957	63,561	214	214
Europe	367,910	671	326	3,176	1,784	50,462	199,966	9,458	3,714	29,235	68,656	233	229
South East Asia	2,515,263	4,304	2,200	21,176	12,018	338,554	1,375,197	65,184	24,824	200,213	468,440	1,603	1,549
Western Pacific	1,132,761	2,089	1,007	9,827	5,507	155,928	614,973	29,075	11,484	89,980	221,468	716	707
Other/unknown	725	1	1	6	3	98	396	19	7	58	135	0	0
Total	5,417,326	9,707	4,785	46,447	26,159	739,181	2,949,275	139,578	54,345	430,675	1,010,375	3,437	3,362
Source(s):	Demography Division, Statistics Canada												
Aboriginal:	Projected – Indian and Northern Affairs Canada												
Non-Aboriginal:	Calculated – based on Population Estimates from Demography Division, Statistics Canada												
Foreign:	Projected – Demography Division, Statistics Canada												

APPENDIX 2

Active Tuberculosis Report Form – New and Relapsed Cases

Serial No. _____

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

HC/SC4368E (01-97)

DISPONIBLE EN FRANÇAIS

APPENDIX 3

TECHNICAL NOTES

METHODOLOGY AND DATA QUALITY REPORT

Data collection

The Canadian Tuberculosis Reporting System (CTBRS) maintained by Tuberculosis Prevention and Control (TBPC), Centre for Infectious Disease Prevention and Control, Population and Public Health Branch, Health Canada, is derived from records of provincial/territorial tuberculosis registries. The reporting system is designed to capture information on every new active or relapsed case of tuberculosis occurring in Canadian residents and visitors. All provinces and territories have legislation requiring physicians, laboratories and other health officials to report cases of tuberculosis to an office of tuberculosis control. In most provinces and territories, information on cases is collected using a standard notification form (see Appendix 2), and reported to Tuberculosis Prevention and Control annually.

Information is included on age, gender, residence, aboriginal status, country of birth, diagnosis, and bacteriological status. The Canadian Tuberculosis Committee is responsible for determining the content of the database. Recent revisions have resulted in the inclusion of more detail with respect to high risk populations, methods of detecting cases, antibiotic resistance, treatment date, drugs prescribed, previous TB history, Immigration status, HIV status and, for deceased persons, information on cause and date of death.

Case reports are completed in the provincial/territorial registries, where codes are entered for diagnosis (using the ICD-9), residence, birthplace and other items. Some provinces have computerized their data, and four provinces currently send data in electronic form.

Data processing

Case notifications received at Tuberculosis Prevention and Control are logged, checked for completeness and reasonableness, and filed. Data are captured in a standard format on computer, with validity and correlation edits being an integral part of the data entry program. Lists of cases together with any queries arising from edit failures are returned to provincial/territorial directors for review, correction of errors and ascertainment of completeness of case lists for the year.

Calculation of rates

The rates used in this report have been calculated using population figures provided by the Demography Division of Statistics Canada and Indian and Northern Affairs Canada (see Appendices IA and 1B). The population estimates have been adjusted for net census undercoverage and include non-permanent residents. For more information, see 'Population Figures' in the Definitions of Terms section and reference 1. Because of adjustment of the population estimates and updates to the reported number of cases in some provinces, case counts and rates appearing in this report may differ slightly from those in previous reports emanating from TBPC.

Data quality

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

Coverage of the tuberculosis reporting system has not been explicitly reviewed at the national level. Regional differences in the availability of diagnostic facilities and resources as well as the degree of active versus passive surveillance may affect the overall coverage of the reporting system. Furthermore, tabulations in annual reports may be slightly incomplete because case notifications received after a cut-off date are not included.

Of the cases reported to Tuberculosis Prevention and Control, reporting of most core data items is virtually complete. Reporting is less complete for some of the data items more recently introduced (i.e. HIV status).

Some limitations should be kept in mind when using and interpreting the data. For the variable referring to "origin", the definitions of "Registered Indian", "Unregistered Indian or Métis", "Inuit" and "Other" as reported on the case notification forms may not strictly correspond to the definitions used by Census Canada or by Indian and Northern Affairs Canada in estimating corresponding populations. The terms "new active" and "relapsed" may be interpreted differently in different provinces/territories; the definitions of these terms were revised effective January 1, 1997 (see [Definitions of Terms](#)). Also, with the introduction of Tables 15 and 16, the reader should be cautioned against making comparisons with data presented in *Tuberculosis: Drug resistance in Canada 1998*⁽²⁾ as reporting methods differ. First line anti-tuberculosis drugs include Isoniazid (INH), Rifampin (RMP), Ethambutol (EMB), Streptomycin (SM) and Pyrazinamide (PZA). Routine testing is not performed for SM for Nova Scotia, New Brunswick and Prince Edward Island. Routine testing for PZA is not performed for British Columbia, Saskatchewan and the Yukon Territory.

Data in this report are tabulated according to year of diagnosis however, since 1990, Ontario data have been tabulated according to episode date (which is the closest approximation of date of onset of illness), and since 1997, Quebec dates have been tabulated according to report date.

Other sources of information

In addition to these annual data on new active and relapsed cases of tuberculosis in Canada, the numbers of tuberculosis cases are presented monthly, based on date of diagnosis, by province, age group and gender as part of the 'Notifiable Disease Summary' appearing in the *Canada Communicable Disease Report*⁽³⁻⁵⁾.

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

DEFINITION OF TERMS

Tuberculosis registry

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

Notification

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

Tuberculosis case definition

Effective January 1, 1997:

I TB case definition in the Canadian tuberculosis reporting system

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

OR

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

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

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

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

III New and relapsed (reactivated) cases of tuberculosis

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

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

Inactive tuberculosis:

- a. Cultures for *Mycobacterium tuberculosis* negative for at least six months

OR

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

Diagnostic classification

The classification used is the *International Classification of Diseases, 9th Edition*. Up to five diagnoses per case are captured and presented as Main Diagnostic Site using the following hierarchy: primary, miliary/disseminated, respiratory (includes pulmonary, pleurisy and other respiratory), meninges and CNS, peripheral lymph node and other sites. Based on this classification, a case can have more than one diagnosis.

Deaths

This report contains statistics on deaths from the Canadian tuberculosis reporting system, which introduced new questions in 1990 concerning deaths of persons registered as cases of active tuberculosis. These statistics are shown in Tables 23 and 24 and are based on the patient's status at time of reporting (for Ontario they are based on "episode date").

Population figures

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

In this report the 1998 overall population estimates for Canada and provinces/territories by gender and age group are based on adjusted 1996 census data.

Population estimates of Canadian-born Aboriginal people are based on Projections of Population with Aboriginal Ancestry, Canada, Provinces/Regions and Territories, 1991-2016 (Statistics Canada), and Population Projections of Registered Indians, 1991-2015 (Indian and Northern Affairs Canada).

Population estimates of foreign-born people by birthplace are based on 1996 Census data (Statistics Canada).

The 1996 population estimates of total Canadian-born people are calculated by subtracting the foreign-born census (1996) figures from 1996 population estimates (Statistics Canada).

The 1996 population estimates of Canadian-born non-Aboriginal people are calculated by subtracting the total Aboriginal estimates from total Canadian-born estimates.

Population

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

Non-permanent residents

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

Net census undercoverage

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

More information

More information on definitions used and coding instructions is available upon request from Tuberculosis Prevention and Control, Population and Public Health Branch at Health Canada. Medical terminology regarding bacteriological aspects, diagnosis, dissemination, treatment, prevention, screening and control of tuberculosis is well documented in *Canadian Tuberculosis Standards, Fifth Edition, 2000*, available from the Canadian Lung Association⁽⁶⁾.

References

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2. Health Canada. *Tuberculosis: Drug resistance in Canada, 1998*. Ottawa: Minister of Public Works and Government Services Canada, 1999. (Cat. H49-110/1998).
3. Health Canada. *Notifiable diseases summary*. *CCDR* 1998;24:81-2.
4. *Ibid*:117-18.
5. *Ibid*:166-67.
6. Long R, ed. *Canadian tuberculosis standards*. 5th ed. Ottawa: Health Canada and the Canadian Lung Association, 2000. (Cat. H49-146/2000E).