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# TUBERCULOSIS IN CANADA

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# 2009

PRE-RELEASE

Canada

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Tuberculosis Prevention and Control  
Community Acquired Infections Division  
Centre for Communicable Diseases and Infection Control  
Infectious Disease Prevention and Control Branch  
Public Health Agency of Canada  
100 Eglantine Driveway, Health Canada Building  
A.L. 0603B, Tunney's Pasture  
Ottawa, ON K1A 0K9  
Telephone: (613) 941-0238  
Facsimile: (613) 946-3902  
EMAIL: TB\_1@ phac-aspc.gc.ca

### **Tuberculosis in Canada 2009 – Pre-release**

is available on the Internet at the following address:  
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Également disponible en français sous le titre :  
**La Tuberculose au Canada 2009 – Prédifusion**

This report was prepared by:

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

**Victor Gallant, MA**  
A/Epidemiologist  
Tuberculosis Prevention and Control

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

**Kathryn Dawson**  
Surveillance Officer  
Tuberculosis Prevention and Control

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

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Cat.: HP37-5/2009E-PDF  
ISBN: 978-1-100-17439-6

## **ACKNOWLEDGEMENTS**

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The authors acknowledge the members of the Canadian Tuberculosis Committee and the Provincial and Territorial Tuberculosis Programs for their contribution to and participation in the Canadian Tuberculosis Reporting System.

**TUBERCULOSIS**

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**IN CANADA**

**2009**

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**PRE-RELEASE**



# INTRODUCTION

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To facilitate an earlier release of *Tuberculosis in Canada, 2009*, the following 5 tables have been extracted from the Canadian Tuberculosis Reporting System (CTBRS) for the year 2009. Data included in this pre-release report represent the total number of active tuberculosis cases reported to Public Health Agency of Canada as of August 31, 2010. These data should be considered provisional until publication of the full report, *Tuberculosis in Canada 2009*.

## HIGHLIGHTS

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Over the past 7 years, in Canada, the total number of reported cases of active tuberculosis (TB) disease has remained relatively stable at an average of 1,623 cases per year. For 2009 there were 1,599 new active and re-treatment TB cases reported to the CTBRS, representing a drop of 2.7% from the number of cases reported in 2008. Similarly, between 2008 and 2009 the overall incidence rate decreased from 4.9 per 100,000 population to 4.7 per 100,000 population.

From the preliminary reports, all provinces and territories reported at least one case of active TB disease in 2009. In Atlantic Canada all provinces reported an increase in the number of cases compared with 2008. Both Alberta and Manitoba also saw increases in the number of reported cases for 2009 relative to 2008. The remaining provinces and all three territories remained stable or saw small decreases in the number of cases being reported relative to 2008.

The three most populous provinces (British Columbia, Ontario and Quebec) which collectively made up 75% of Canada's population in 2009, accounted for 66% of the total number of reported cases. The highest incidence rate was reported from Nunavut (174.0 per 100,000 population) (Table 1).

Individuals between the ages of 25 and 34 years made up the largest number of reported cases, accounting for 18% of the total. However, the corresponding case rate of 6.4 per 100,000 for this age group was surpassed by the age-specific rate of 8.5 per 100,000 for those greater than 74 years of age (Table 2).

In 2009, foreign-born individuals accounted for 63% of all reported TB cases in Canada. Canadian-born non-Aboriginal and Canadian-born Aboriginal cases made up 15% and 21% of all reported cases, respectively (Table 3). However, the TB incidence rate in the Canadian-born Aboriginal group continues to be the highest of the three groups, being almost 6 times that of the overall Canadian TB rate of 4.7 per 100,000.

Pulmonary TB continues to be the main diagnostic site of disease representing 68% of all reported cases (Table 4). There were a total of 64 cases of primary TB with 59% of these reported in the Canadian-born Aboriginal population. Of the 195 peripheral lymph node TB cases, 86% were diagnosed in foreign-born individuals (Table 5).

**Table 1****Reported new active and re-treatment tuberculosis cases and incidence rate per 100,000 – Canada and provinces/territories: 1999–2009**

Year of diagnosis	Province/territory													Nwt.	
	CANADA	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.		
1999	Cases	1,821	12	2	15	15	314	699	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	0.0	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	0.0	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	1,654	12	0	10	2	228	673	134	87	131	320	3	6	48
	Rate	5.1	2.4	0.0	1.1	0.3	3.0	5.3	11.3	8.8	3.8	7.5	9.3	13.9	155.8
2007	Cases	1,578	7	0	7	5	229	683	103	106	112	277	3	15	31
	Rate	4.8	1.4	0.0	0.7	0.7	3.0	5.3	8.6	10.6	3.2	6.4	9.2	34.4	99.1
2008	Cases	1,644	8	0	4	6	240	603	141	95	167	300	8	13	59
	Rate	4.9	1.6	0.0	0.4	0.8	3.1	4.7	11.7	9.4	4.6	6.8	24.1	29.7	186.6
2009*	Cases	1,599	22	1	7	10	195	580	156	93	177	286	4	12	56
	Rate	4.7	4.3	0.7	0.7	1.3	2.5	4.4	12.8	9.0	4.8	6.4	11.9	27.6	174.0

\* Cases and rates for 2009 are provisional until publication of the *Tuberculosis in Canada – 2009 Annual Report*. These numbers will likely change.

**Table 2****Reported new active and re-treatment tuberculosis cases and incidence rate per 100,000 by age group – Canada: 1999–2009**

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 +		
1999	Cases	32	55	61	205	340	253	193	173	244	265	0	
	Rate	6.0	3.7	1.5	5.0	7.7	4.8	4.6	6.3	11.4	16.1	-	
2000	Cases	17	50	44	207	316	279	208	160	204	239	0	
	Rate	5.6	3.4	1.1	5.0	7.3	5.3	4.8	5.7	9.5	14.0	-	
2001	Cases	11	33	70	180	325	289	207	183	219	256	0	
	Rate	5.7	2.3	1.7	4.3	7.5	5.5	4.6	6.3	10.1	14.5	-	
2002	Cases	11	43	45	211	314	284	202	161	199	216	0	
	Rate	5.3	3.1	1.1	4.9	7.3	5.0	4.4	5.2	9.2	11.9	-	
2003	Cases	7	34	41	198	332	277	207	154	178	203	0	
	Rate	5.2	2.5	1.0	4.6	7.7	5.3	4.4	4.7	8.1	10.8	-	
2004	Cases	6	33	45	198	324	272	198	167	177	193	0	
	Rate	5.0	2.4	1.1	4.6	7.5	5.3	4.1	4.9	8.0	10.0	-	
2005	Cases	10	38	71	254	279	278	212	143	168	188	0	
	Rate	5.1	2.8	1.8	5.8	6.4	5.4	4.3	4.0	7.5	9.5	-	
2006	Cases	10	46	51	261	253	287	201	158	168	219	0	
	Rate	5.1	3.3	1.3	5.8	5.8	5.7	4.0	4.3	7.4	10.7	-	
2007	Cases	12	33	53	200	255	285	210	160	152	218	0	
	Rate	4.8	2.4	1.4	4.4	5.8	5.7	4.1	4.2	6.5	10.4	-	
2008	Cases	8	30	52	205	297	280	232	164	172	204	0	
	Rate	4.9	2.1	1.4	4.5	6.6	5.7	4.4	4.1	7.2	9.5	-	
2009*	Cases	12	32	44	218	295	277	234	166	135	186	0	
	Rate	4.7	2.2	1.2	4.8	6.4	5.8	4.4	4.0	5.4	8.5	-	

\* Cases and rates for 2009 are provisional until publication of the *Tuberculosis in Canada – 2009 Annual Report*. These numbers will likely change.

Table 3

## Reported new active and re-treatment tuberculosis cases by origin – Canada and provinces/territories: 2009

Birthplace	CANADA	Province/territory										North*
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	
North American Indian	Cases	2	0	0	0	5	8	84	54	27	35	13
	Rate	17.1	0.0	0.0	0.0	6.3	4.4	69.9	47.4	23.2	23.4	57.7
Status (registered) Indian	Cases			2		5	7	84	54	26	32	13
	Rate			5.8		6.7	3.8	61.1	39.8	23.5	24.5	48.8
Status (registered) Indian - On reserve	Cases			2		0	2	62	37	15	6	0
	Rate			9.3		-	2.1	71.1	52.4	20.7	8.9	0.0
Status (registered) Indian - Off reserve	Cases			0		0	2	22	17	11	21	13
	Rate			0		-	2.3	43.7	26.1	29.1	33.1	126.0
Status (registered) Indian - Unknown	Cases			0		5	3	0	0	0	5	0
	Rate			-		-	-	-	-	-	-	-
Non-Status Indian	Cases			0		0	1	0	0	1	3	0
	Rate			-		-	-	-	-	-	-	-
Inuit	Cases	16	0	0	0	14	1	1	0	0	0	57
	Rate	303.1	0.0	0.0	0.0	118.1	52.8	229.9	0.0	0.0	0.0	165.9
Métis	Cases	1	0	0	0	0	0	0	16	6	2	0
	Rate	15.6	0.0	0.0	0.0	0.0	0.0	0.0	19.9	11.5	4.0	0.0
Total Aboriginal	Cases	19	0	0	0	19	9	85	70	33	37	70
	Rate	81.2	0.0	0.0	0.0	17.4	3.7	45.4	35.3	19.9	18.5	112.7
Non-Aboriginal	Cases	3	1	6	6	45	65	27	8	19	57	0
	Rate	0.6	0.8	0.7	0.9	0.7	0.7	3.2	1.0	0.7	2.0	0.0
Total Canadian-born	Cases	22	1	6	6	64	74	112	78	52	94	70
	Rate	4.4	0.8	0.7	0.8	0.9	0.8	10.9	8.1	1.7	3.1	69.3
Africa, high HIV prevalence	Cases	78	0	0	0	14	40	5	2	13	4	0
	Rate	34.1	0.0	0.0	0.0	39.0	35.5	63.6	54.0	41.2	12.1	0.0

...cont'd



Table 3 *Cont'd*

## Reported new active and re-treatment tuberculosis cases by origin – Canada and provinces/territories: 2009

Birthplace	CANADA	Province/territory										North*
		N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	
Cases	26	0	0	0	0	14	5	2	0	2	3	0
Rate	21.4	0.0	0.0	0.0	0.0	21.0	12.8	77.0	0.0	30.7	76.0	0.0
Cases	52	0	0	0	0	26	15	0	0	9	2	0
Rate	5.8	0.0	0.0	0.0	0.0	12.3	2.9	0.0	0.0	14.6	3.5	0.0
Cases	57	0	0	0	0	9	24	0	1	5	17	1
Rate	2.1	0.0	0.0	0.0	0.0	2.7	1.7	0.0	3.3	2.0	3.6	21.9
Cases	14	0	0	0	1	5	4	1	1	0	2	0
Rate	3.9	0.0	0.0	0.0	104.3	6.6	2.1	7.2	23.3	0.0	5.5	0.0
Cases	106	0	0	0	0	12	52	6	3	19	13	1
Rate	14.6	0.0	0.0	0.0	0.0	7.1	12.6	72.3	65.9	32.8	22.0	392.2
Cases	222	0	0	1	1	13	141	4	0	22	40	0
Rate	28.3	0.0	0.0	33.5	65.1	28.7	28.8	31.1	0.0	33.9	24.8	0.0
Cases	409	0	0	0	1	34	182	24	8	55	105	0
Rate	22.6	0.0	0.0	0.0	16.4	26.4	21.9	43.0	46.0	27.3	19.1	0.0
Cases	39	0	0	0	1	4	29	2	0	0	3	0
Rate	-	-	-	-	-	-	-	-	-	-	-	-
Cases	1,003	0	0	1	4	131	492	44	15	125	189	2
Rate	13.3	0.0	0.0	1.6	10.4	12.2	12.3	22.2	21.5	17.7	13.7	24.4
Cases	17	0	0	0	0	0	14	0	0	0	3	0
Cases	1,599	22	1	7	10	195	580	156	93	177	286	72
Rate	4.7	4.3	0.7	0.7	1.3	2.5	4.4	12.8	9.0	4.8	6.4	65.9

NOTE: Provincial/territorial data are suppressed and reported in aggregate form if the P/T population denominator for the cell is less than 40. For the Atlantic Provinces (New Brunswick, Newfoundland and Labrador, Nova Scotia, and Prince Edward Island), the population figures for the Status-Indian on and off reserve are available in aggregate only. The indicated rates for these groups are for the entire Atlantic region.

\* North: Includes Northwest Territories, Nunavut and Yukon.

\*\* Cases and rates for 2009 are provisional until publication of the *Tuberculosis in Canada – 2009 Annual Report*. These numbers will likely change.

**Table 4****Reported new active and re-treatment tuberculosis cases and incidence rate per 100,000 by main diagnostic site – Canada: 1999-2009**

Main diagnostic site	Year of diagnosis											
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Respiratory	Cases	154	99	121	88	79	94	106	91	64	59	64
	Rate	0.5	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2
Pulmonary <sup>†</sup>	Cases	1,135	1,102	1,164	1,054	997	966	985	1,138	1,041	1,148	1,086
	Rate	3.7	3.6	3.8	3.4	3.2	3.0	3.1	3.5	3.2	3.4	3.2
Other respiratory <sup>‡</sup>	Cases	56	60	49	53	63	90	112	86	93	80	95
	Rate	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.3
Nonrespiratory	Miliary	9	6	4	8	12	13	14	10	9	14	11
	Rate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CNS	Cases	15	16	16	18	26	19	20	15	22	11	12
	Rate	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0
Peripheral lymph node	Cases	243	258	233	238	247	251	243	188	203	180	195
	Rate	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.6	0.5	0.6
Other <sup>§</sup>	Cases	186	155	163	177	166	179	161	125	146	152	136
	Rate	0.6	0.5	0.5	0.6	0.5	0.6	0.5	0.4	0.4	0.5	0.4
Unknown	Cases	23	28	23	30	41	1	0	1	0	0	0
	Rate	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL**	Cases	1,821	1,724	1,773	1,666	1,631	1,613	1,641	1,654	1,578	1,644	1,599
	Rate	6.0	5.6	5.7	5.3	5.2	5.0	5.1	5.1	4.8	4.9	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). Included within the pulmonary counts are cases, regardless of ICD site designation (except for primary diagnosis) for which smear results and culture results are positive for sputum, bronchial wash and GI wash.

‡ Other respiratory includes tuberculous pleurisy (non-primary) and 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.

\*\* Cases and rates for 2009 are provisional until publication of the *Tuberculosis in Canada – 2009 Annual Report*. These numbers will likely change.

**Table 5**

**Reported new active and re-treatment tuberculosis cases by birthplace and main diagnostic site – Canada: 2009**

	Birthplace	TOTAL	Main diagnostic site									
			Respiratory			Nonrespiratory				Unknown		
			Primary*	Pulmonary†	Other respiratory‡	Miliary	CNS	Peripheral lymph node	Other§	Unknown		
Canadian-born	North American Indian	228	27	147	24	2	3	14	11	0		
	Status (registered) Indian	223	26	144	23	2	3	14	11	0		
	Status (registered) Indian - On reserve	124	21	73	14	0	1	8	7	0		
	Status (registered) Indian - Off reserve	86	5	61	9	2	1	6	2	0		
	Status (registered) Indian - Unknown	13	0	10	0	0	1	0	2	0		
	Non-Status	5	1	3	1	0	0	0	0	0		
	Métis	25	1	20	2	1	0	1	0	0		
	Inuit	89	10	77	1	1	0	0	0	0		
	<b>Total Aboriginal</b>	<b>342</b>	<b>38</b>	<b>244</b>	<b>27</b>	<b>4</b>	<b>3</b>	<b>15</b>	<b>11</b>	<b>0</b>		
	Non-Aboriginal	237	19	161	18	2	2	12	23	0		
<b>Total Canadian-born</b>	<b>579</b>	<b>57</b>	<b>405</b>	<b>45</b>	<b>6</b>	<b>5</b>	<b>27</b>	<b>34</b>	<b>0</b>			
Foreign-born (WHO regions)	Africa, high HIV prevalence	78	0	50	2	1	1	15	9	0		
	Africa, low HIV prevalence	26	0	18	0	0	0	5	3	0		
	American region – Latin American and Caribbean countries	52	1	36	1	0	0	8	6	0		
	Established market economies and Central Europe	14	0	12	1	0	0	1	0	0		
	Eastern Europe	57	0	42	4	2	0	4	5	0		
	Eastern Mediterranean	106	2	63	7	0	1	22	11	0		
	South-East Asia	222	2	139	13	1	0	45	22	0		
	Western Pacific Region	409	2	278	19	1	4	65	40	0		
	Unknown	39	0	29	2	0	1	3	4	0		
	<b>Total Foreign-born</b>	<b>1,003</b>	<b>7</b>	<b>667</b>	<b>49</b>	<b>5</b>	<b>7</b>	<b>168</b>	<b>100</b>	<b>0</b>		
Unknown birthplace	17	0	14	1	0	0	0	2	0			
<b>TOTAL**</b>	<b>1,599</b>	<b>64</b>	<b>1,086</b>	<b>95</b>	<b>11</b>	<b>12</b>	<b>195</b>	<b>136</b>	<b>0</b>			

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

† Pulmonary includes tuberculosis of the lungs and conducting airways which includes tuberculous fibrosis of the lung, tuberculous bronchiectasis, tuberculous pneumonia, tuberculous pneumothorax, isolated tracheal or bronchial tuberculosis and tuberculous laryngitis; (ICD-9 codes 011-011.9, 012.2, 012.3; ICD-10 codes A15.0-A15.3, A15.5, A15.9, A16.0-A16.2, A16.4, A16.9). Included within the pulmonary counts are cases, regardless of ICD site designation (except for primary diagnosis) for which smear results and culture results are positive for sputum, bronchial wash and GI wash.

‡ Other respiratory includes tuberculous pleurisy (non-primary) and 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.

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