

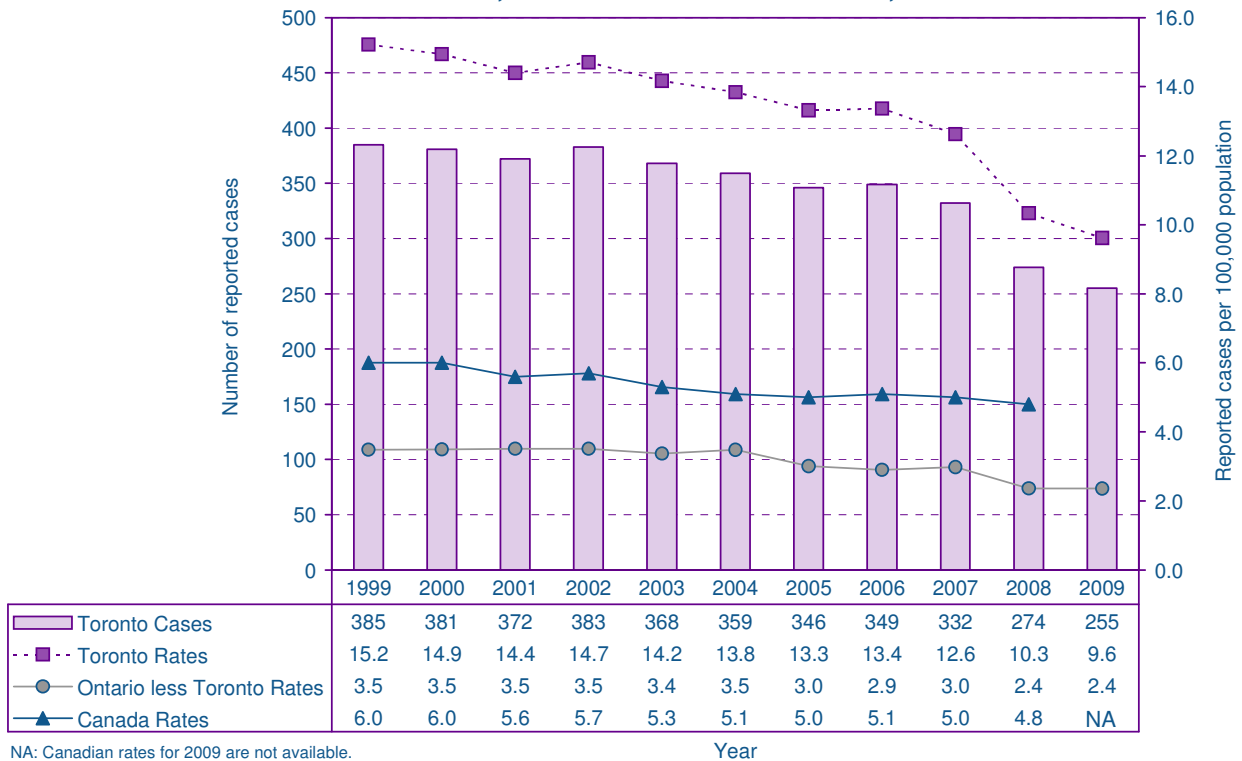
## Tuberculosis Highlights

- In 2009, there were 255 cases (9.6 cases per 100,000) of tuberculosis (TB) reported. This represents a decrease of 19 cases (7%) from the 2008 total of 274 cases. While this was the lowest level for the 11-year surveillance period (1999-2009), it was a smaller decrease than the previous year (Figure 4.16).
- Travel to or residence in an endemic area continues to be the most commonly reported exposure setting in 2009 (Table 4.10), reported by 94% (n=236) of tuberculosis cases in Toronto. Exposure setting captures the site where transmission most likely occurred.
- In 2009, only five (2%) cases reported a shelter as an exposure setting for acquiring tuberculosis, similar to the 6 cases in 2008 (Table 4.10).
- The proportion of Toronto's TB cases who were foreign-born remains fairly stable; 94% of TB cases in 2009 were born outside of Canada (Figure 4.19). Given that 50% of Toronto's population is foreign-born (2006 census), this confirms that TB continues to disproportionately affect the foreign-born population, reflecting TB rates in other parts of the world. The top countries of birth for TB cases were similar to 2008, with Sri Lanka falling out of the top ten in 2009 (Figure 4.20).
- The proportion of TB cases known to be co-infected with HIV remains fairly stable, with 11 (4%) of cases co-infected in 2009, compared to 14 (5%) in 2008.
- Overall, 77% (n=212) of the 267 TB cases beginning treatment in 2008 (the most recent cohort expected to have completed their treatment at the time of this report) were enrolled in the directly observed therapy (DOT) program (Table 4.12), an increase over the 69% enrolled in 2007.
- A total of 199 cases (78%) were culture confirmed in 2009. The proportion of isolates resistant to one or more drugs in 2008 was 17%, an increase from the 13% resistant in 2008, but within historical limits over the past decade (1999-2009). The proportion of isolates that are multi-drug resistant (MDR) is stable at 2% (Figure 4.21).

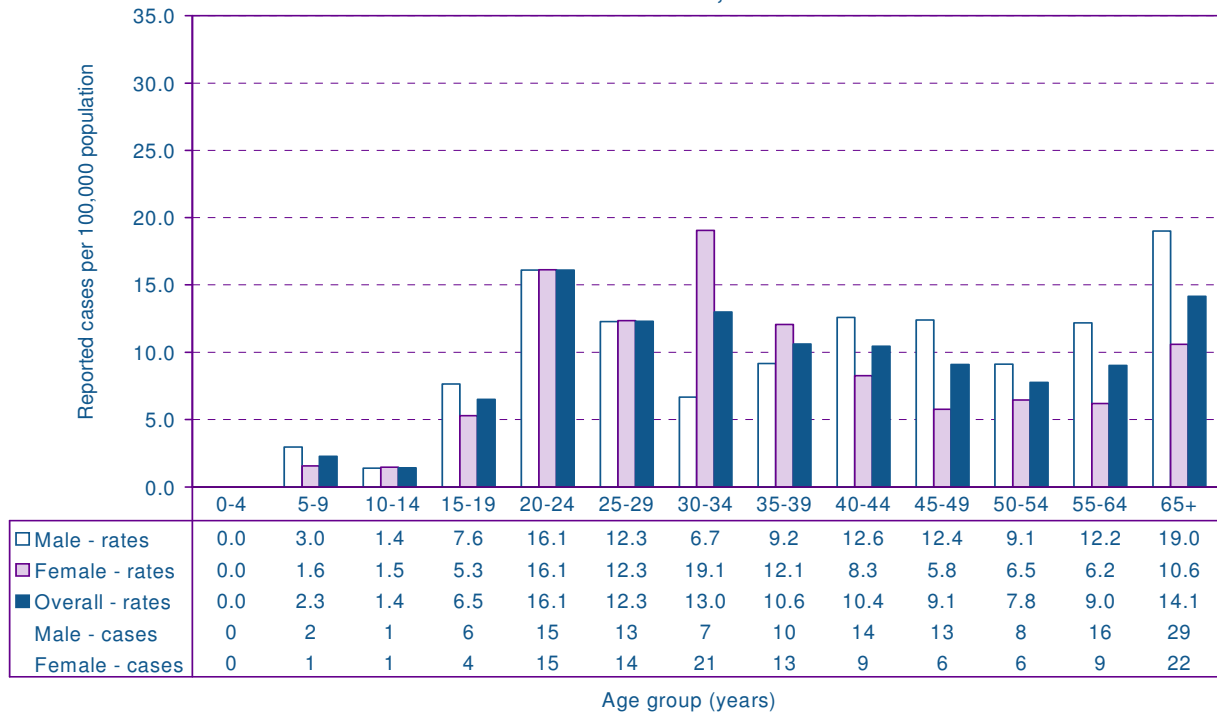
# Tuberculosis

Table 4.9: Tuberculosis summary data			
Toronto			
	2009	5-yr period 2004-2008	10-yr period 1999-2008
	Total	Means	
Number of reported cases	255	332	355
Incidence rate (per 100,000 population)			
Overall	9.6	12.7	13.7
Male	10.4	14.0	15.1
Female	8.9	11.5	12.4
Age at onset (years)	Summary statistics		
Mean	44	45	45
Median	40	41	40
Range	5      93	<1      99	<1      107
Case fatality (%)	7	9	9

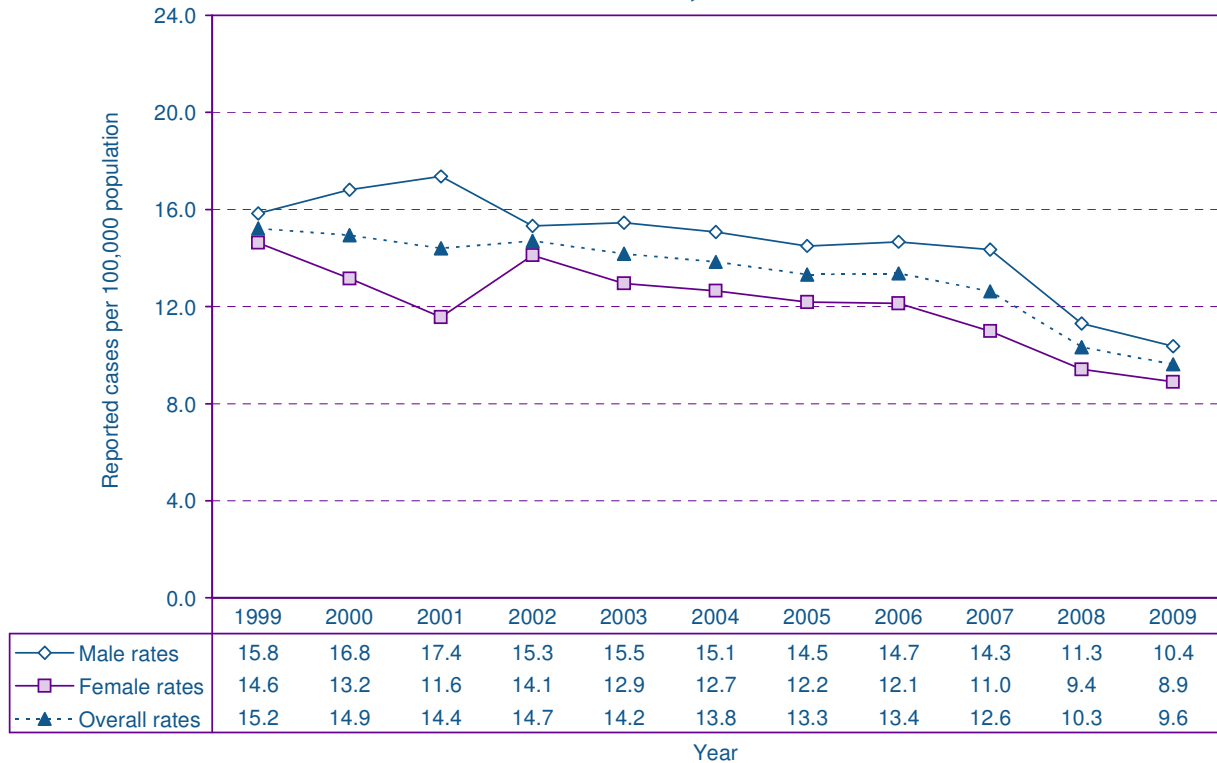
Figure 4.16: Incidence of tuberculosis by year.  
Toronto, the rest of Ontario and Canada, 1999 - 2009



**Figure 4.17: Incidence of tuberculosis by age group and sex. Toronto, 2009**



**Figure 4.18: Incidence rates of tuberculosis by sex and year. Toronto, 1999 - 2009**

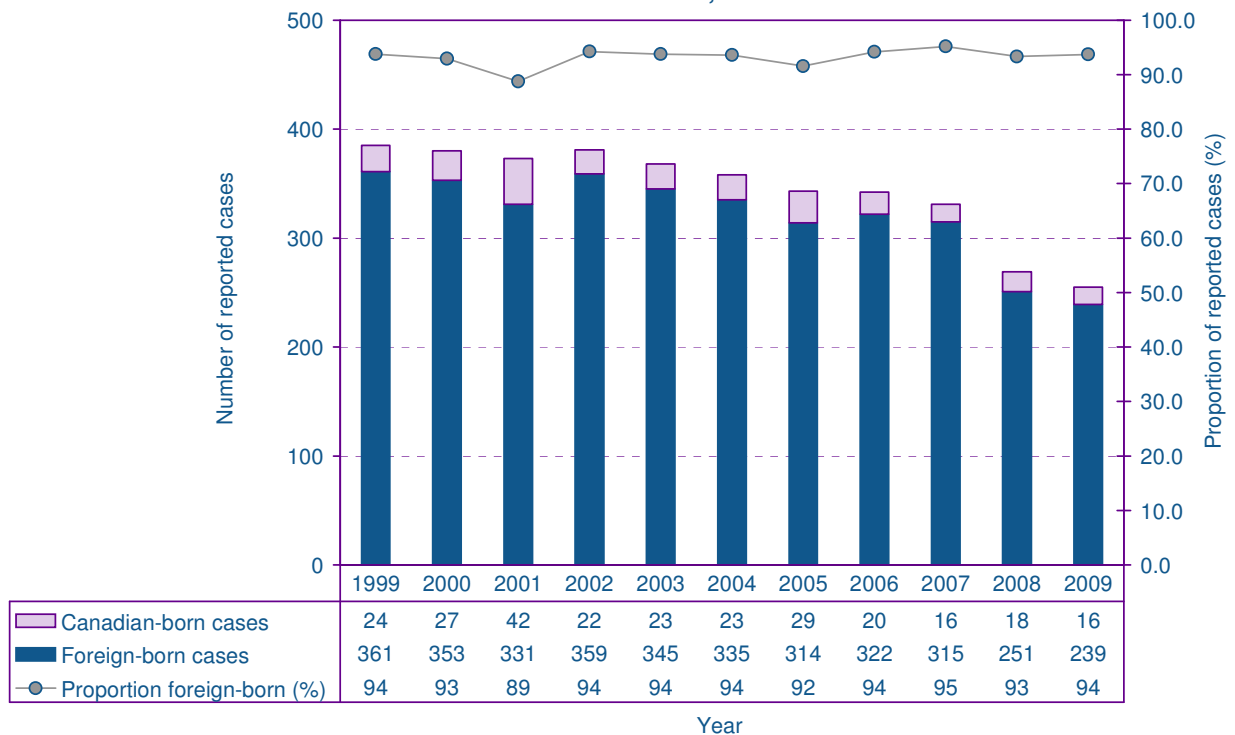


**Table 4.10: Exposure setting for reported cases of tuberculosis\*.  
Toronto, 2009**

Reported exposure setting	Number of cases*	Proportion of cases (%)
Travel or lived in endemic area	236	(94)
Home	11	(4)
Shelter	5	(2)
School	4	(2)
Workplace	4	(2)
Residential/Long-term facility	4	(2)
Correctional facility	3	(1)
Hospital	2	(1)
Lived in first nation community	2	(1)
Other	1	(<1)
<b>Total with a known exposure setting</b>	<b>250</b>	
Missing or unknown	5	
<b>Total cases</b>	<b>255</b>	

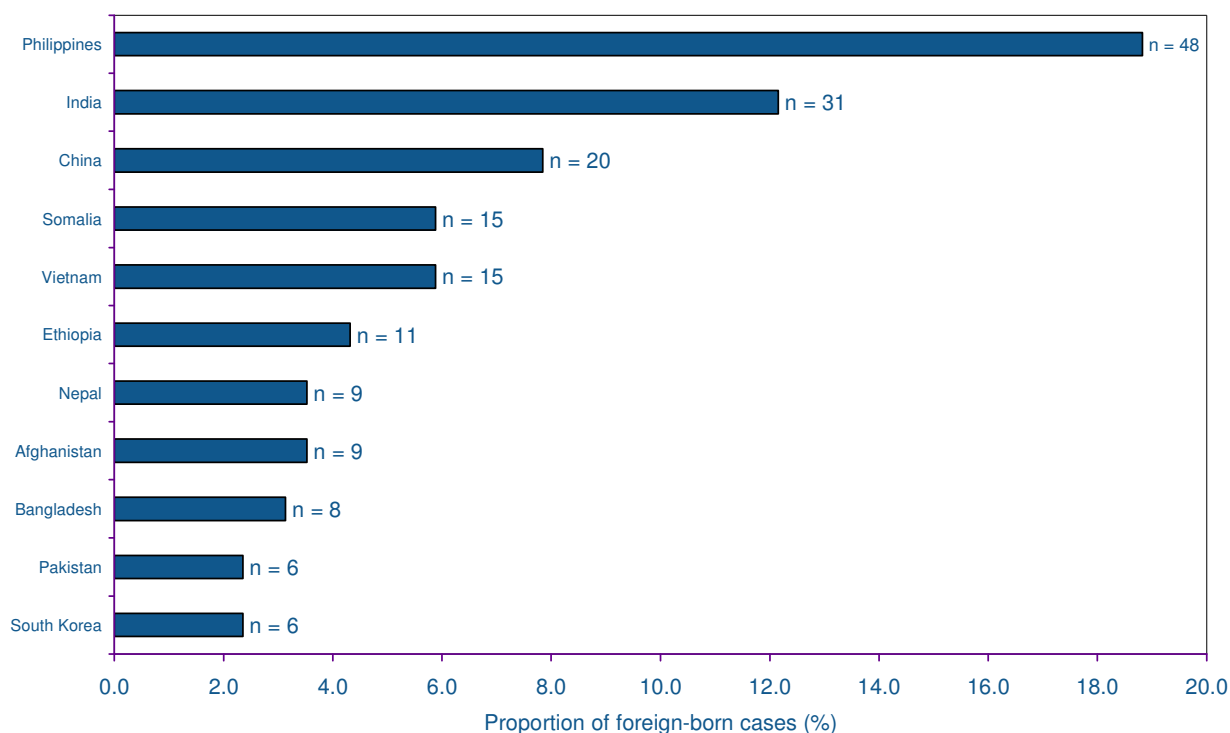
\*Cases may report more than one exposure setting.

**Figure 4.19: Reported cases of tuberculosis by origin\* and year.  
Toronto, 1999 - 2009**



\*Numbers may not add up to total cases for any given year because the origin was unknown or missing for some cases.

**Figure 4.20: Proportion of foreign-born tuberculosis cases by top countries\* of birth. Toronto, 2009**



\*Other countries of birth were reported by foreign-born tuberculosis cases in 2009.

**Table 4.11: Number and proportion of reported cases of tuberculosis by anatomic site\* and country of origin. Toronto, 2009**

Site of tuberculosis*	Canadian-born cases (%)		Foreign-born cases (%)		Overall cases† (%)	
Pulmonary	11	(69)	149	(62)	160	(63)
Lymph node	1	(6)	58	(24)	59	(23)
Pleurisy	2	(13)	18	(8)	20	(8)
Abdominal	0	(0)	13	(5)	13	(5)
Other	1	(6)	12	(5)	13	(5)
Bone and joint	1	(6)	7	(3)	8	(3)
Central nervous system	2	(13)	5	(2)	7	(3)
Genitourinary	0	(0)	3	(1)	3	(1)
Eye	1	(6)	2	(1)	3	(1)
Miliary	0	(0)	2	(1)	2	(1)
Skin	0	(0)	2	(1)	2	(1)
<b>Total sites of infection</b>	<b>19</b>		<b>271</b>		<b>290</b>	
<b>Total cases</b>	<b>16</b>		<b>239</b>		<b>255</b>	

\*Cases may have tuberculosis at more than one anatomic site.

**Table 4.12: Reported cases of tuberculosis by treatment status and treatment method for cases who started treatment in 2008. Toronto, 2009\***

Treatment status	DOT (%)		Non-DOT (%)	
Successfully treated	160	(75)	43	(78)
Undergoing treatment	32	(15)	5	(9)
Expired during treatment	12	(6)	6	(11)
Referred to other jurisdiction	6	(3)	0	(0)
Other	2	(1)	1	(2)
Lost to follow up	0	(0)	0	(0)
<b>Total cases<sup>†</sup></b>	<b>212</b>	<b>(100)</b>	<b>55</b>	<b>(100)</b>

\*Treatment status is reported for 2008 since this is the most recent cohort expected to have completed their treatment at the time of the report.

†The total number of cases by treatment status does not add up to the total of 274 cases in 2008 because 7 cases were excluded, either because they were diagnosed after death, or died after less than one month of treatment.

**Figure 4.21: Proportion of culture positive tuberculosis cases that are drug resistant by year. Toronto, 1999 - 2009**

