Communicable Diseases in Toronto 2006

Annual Report

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Toronto Public Health

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Executive Summary

Communicable Diseases in Toronto 2006 describes trends in reportable communicable diseases for the City of Toronto. The data in this report provide updates to trends described in previous annual reports and highlight significant considerations for communicable disease control in Toronto.

As in the past, Toronto's status as Canada's most populated and ethnically diverse urban setting significantly influenced the range of communicable diseases faced by the city.

In order to make the data available as soon as possible, disease-specific sections of this report have been posted on the Toronto Public Health (TPH) website as the information became available. The composite report provides an overall picture of communicable disease trends for Toronto, identifying areas of progress from the past and areas for further improvement. Ongoing vigilance in monitoring, detecting and controlling communicable diseases in Toronto continues to be a priority.

The most notable communicable disease highlights for 2006 in Toronto include:

- An outbreak of hepatitis B (HBV) and hepatitis C (HCV) was detected in May 2006 among a population of patients receiving dialysis treatment at a hospital-based hemodialysis program. The investigation detected five cases of HBV, three (60%) of which were co-infected with HCV and an additional four cases of only hepatitis C infection. Genetic testing showed that all cases of HBV and four of the HCV cases were a match to a previously identified infectious case (a returning traveller who had received dialysis while on vacation in South East Asia). In these cases, HBV and HCV were likely transmitted during breaches in infection control.

- A long term care home was the site of an outbreak that involved five cases of HBV. All five cases were genotypically identical and therefore likely shared a common source. The most probable exposure may have involved an invasive medical procedure (blood sugar monitoring), however a definitive source for the outbreak was not identified.

- In the late summer and fall of 2006, TPH investigated a community-based outbreak of hepatitis A in the west region of Toronto. A total of 23 cases were identified, associated with six households. Children between 5 and 14 years of age accounted for 65% of cases and all but one case was under 19 years of age. TPH conducted six vaccination clinics in the neighbourhood and immunized over 1,400 individuals.

- Two adult cases of botulism were reported and linked to an outbreak associated with the consumption of carrot juice that was distributed across North America. There were four additional cases in the United States.

- The incidence rate of chlamydia increased by 5% overall, with a 7% increase among females. The increase was observed in females across all age groups between 20 and 50 years. Some of this increase may be due to a social marketing campaign initiated by TPH in October 2006 which may have resulted in increased testing of women ages 15-24 years.

- Following three years of relatively stable rates, both the numbers of reported HIV infections and the incidence rate of HIV in Toronto increased in 2006. Although HIV continues to be mostly among men who have sex with men, new HIV diagnoses among people from HIV-endemic countries increased 50% (from 104 cases in 2005 to 156 cases in 2006); some of this increase appears to be due to increased HIV positive immigrant/refugee arrivals during the AIDS conference held in Toronto in August 2006. Females experienced the highest proportional increase (49%) in the reported rates of HIV, particularly among those aged 40 to 44 years

- Recently, Vancouver, Edmonton and Calgary experienced outbreaks of invasive *Streptococcus pneumoniae* (ISP) serotype 5 disease, predominantly among homeless or under household individuals, many of whom were illicit drug users and/or had chronic underlying medical conditions. Since Toronto has a significant high risk population and because there may be migration of the homeless and under housed across the country, TPH proactively worked with local service providers to enhance surveillance

efforts and undertake an immunization campaign, which occurred in early 2007. To date, no cases of ISP serotype 5 have been detected in Toronto.

- For the first time in its five-year surveillance history, Toronto's rate of West Nile Virus (WNV) was lower than that reported for the rest of Ontario and Canada. There were six cases reported and no related deaths.

- There were no cases of mumps reported in 2006 for the first time since 1996.

- The number of cryptosporidiosis cases reported in 2006 (85) was the highest since this disease became reportable in 1996. Toronto's cases and the increased numbers observed in five other Ontario health units were investigated epidemiologically, but no common exposure could be found to explain this increase. ❑

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Introduction to Report

This report updates previous annual summaries of reportable communicable diseases for the City of Toronto with 2006 data. These summaries deal specifically with diseases designated *reportable* and *communicable* under the *Health Protection and Promotion Act* and associated regulations. The report's descriptive format is designed for use by several audiences. Toronto Public Health can continue to use the new information to further guide prevention, promotion and control efforts, resource allocation and policy decisions. Regional, provincial and national counterparts may use the report to add to their understanding of the burden of communicable diseases in larger urban centers. As with all of our surveillance reports, we hope colleagues throughout the health sector and in academia find value in these data for further development of targeted interventions and strategies for communicable disease control in Toronto.

The descriptive data contained in *Communicable Diseases in Toronto 2006* are based on information collected in the course of usual public health investigations and stored in one of two Ministry of Health and Long-term Care (MOHLTC)-mandated information systems. The Reportable Disease Information System (RDIS) had been used to manage and store surveillance and case management data in Ontario since 1989. This system was replaced with the integrated Public Health Information System (iPHIS), which Toronto adopted in late November 2005. Data from both these databases were merged and reconciled to generate the historical data in this report. Data summarizing 2006 activities were extracted solely from iPHIS. Information in this report is presented in a manner that builds upon the previous communicable disease summaries published for Toronto. Together, the data in these reports can be used to understand current and historical communicable disease trends in Toronto.

The format and availability of the information in this report has changed from previous years to facilitate a more timely release of the data. This was accomplished through staggered postings of each disease section onto the Toronto Public Health web-site. Once every disease section was completed and posted they were compiled to form the basis of this report. The main change to the format was to the highlights, which previously accompanied each specific disease. This 2006 report provides highlights for each disease section (e.g. one highlight section for all Sexually Transmitted Infections), only noting relevant changes from the past or specific events of note.

The graphs and tables used in previous reports have been updated with 2006 case data. Rare diseases are again listed to provide basic information about the frequency of their occurrence. Accurate use of and extrapolation from the data in this report require understanding of the limitations and technical issues outlined in the respective appendices. The general format used in each disease summary is described in the next section and then applied to each disease, grouped in chapters reflecting the major modes of disease transmission. Disease groups are presented in an order reflecting their relative burden in Toronto. Within each disease grouping, diseases are presented in alphabetical order. ❑

Standard Report Format

Data in this report are derived and summarized as indicated below. The relevant measures and headings were included only where they were applicable and sufficient data were available.

Summary Data Table

Number of reported cases: For most diseases, this reflects cases of the disease with an episode date in the given time period (2006, most recent previous 5-year mean for 2001-2005, and overall previous 10-year mean for 1996-2005).

Incidence rates (reported as period rates per 100,000):

Overall: Number of all new cases in a time period divided by the Toronto population for that time period, multiplied by 100,000.

Male: Number of new male cases in a time period divided by the Toronto male population for that time period, multiplied by 100,000.

Female: Number of new female cases in a time period divided by the Toronto female population for that time period, multiplied by 100,000.

Mean age: Arithmetic mean age of all cases in the given time period.

Median age: The age that represents the midpoint of the sequence of all case ages for the given time period.

Age range: The age of the youngest and oldest cases in the given time period. With the exception of neonatal group B streptococcal reports, for cases under one year of age, less than one (<1) was used.

Case fatality rate (where applicable): The number of deaths in cases with the reportable disease in a given time period divided by the total number of incident cases within the same time period. This is expressed as a percentage. Note that deaths can occur a year or more after the disease was acquired and are likely underestimated given cases are followed for only a finite period. Deaths are counted in the year of the disease episode to capture the proportion of cases reported in a given year whose death was associated with the disease.

Hospitalization rate (where applicable): The number of cases with the reportable disease treated in a hospital (both in-patients and out-patients) divided by the total number of incident cases within the same time period. This is expressed as a percentage.

Outbreak-associated cases (where applicable): The number of cases with the reportable disease that were identified as being related to or part of an outbreak divided by the total number of incident cases within the same time period. This is expressed as a percentage.

Highlights

The report primarily focuses on 2006 data and highlights the significance of any changes from the previous year. Key observations and notable changes in trends for any diseases within a disease section are mentioned and summarized at the beginning of each disease section. Potential explanations of any significant changes or notable trends are offered when available.

Several years of data are combined when reporting rates for disease with few reports, as described below.

Figures and Tables

In general, data presented in figures and tables for each disease focus on the following attributes:

Regional comparisons: An illustration of incidence rates in Toronto, the rest of Ontario and Canada over the entire surveillance period. Rates for 'Ontario less Toronto' were calculated by dividing the number of cases in the rest of Ontario (Ontario cases less Toronto cases) by the population in the rest of Ontario (Ontario population less Toronto population) multiplied by 1000.

Age and sex: Where data were available and sufficient to allow division of cases into different sexes for each age group, the age-sex specific rates were reported along with the overall age-specific rate. Where the annual number of cases for the more common diseases (such as chlamydia or salmonellosis) was large enough, age-specific rates were provided for the most current year of data (2006). For diseases with low annual numbers of cases (e.g. hepatitis B and

legionellosis), age-specific rates were based on combined data for all years starting in 1996 (or the earliest date that disease data were available, for those diseases not designated reportable until a few years into the surveillance period).

Several factors shaped the determination of the age categories used in this report. Age categories were created to have cell sizes with more than five observations. Every attempt was also made to report standard age groups within disease chapters (e.g. all STIs) to facilitate comparisons between diseases.

Sex: For diseases that tend to be differentially reported by sex and where there are many cases, an illustration of the sex-specific incidence rates for 1996 to 2006 was provided. These data were primarily presented for sexually transmitted infections and enteric diseases (e.g. Amebiasis, Shigellosis, Giardiasis) for which a large proportion of infections are transmitted via sexual contact.

Risk factors, exposure source and exposure setting: Where applicable, the proportion of cases reporting specific medical risk factors, behavioural social factors, and probable exposure sources and settings was presented in corresponding summary tables. Categories used are those available in iPHIS, which vary by disease and time period. In some circumstances, which have been noted, categories were combined.

Month: Where applicable, the number of cases that occurred during each month of 2006, compared to the previous 10-year (1996-2005 or the longest period available) mean and 95% confidence interval was presented. Given the small numbers that could be reported in any given month, confidence intervals were used as a means to ascertain whether reports for any single month of the current year were notably high or low.

Tuberculosis disease – additional tables and figures: The epidemiology of tuberculosis is best understood with the summary of additional factors and facets of the disease. Additional disease and case characteristics such as country of origin, anatomical site, treatment outcomes, and antibiotic resistance numbers were included. ❑

Table 1.0: Number and proportion of cases for all reportable diseases by ranking. Toronto, 2006

Ranking	Reportable disease	Number of cases	Proportion of cases (%)
1	Chlamydia	6807	33
2	Chickenpox	2129	10
3	Gonorrhea	1819	9
4	Hepatitis B carriers	1418	7
5	Syphilis, late latent	1018	5
6	Hepatitis C	981	5
7	*Campylobacter* enteritis	965	5
8	Pertussis	698	3
9	Hepatitis B unclassified reports	672	3
10	HIV	652	3
11	Influenza*	531	3
12	Salmonellosis	526	3
13	Giardiasis	519	2
14	Tuberculosis	320	2
15	Amebiasis	319	2
16	Syphilis, infectious	247	1
17	*Streptococcus pneumoniae*, invasive	231	1
18	Streptococcal disease, Group A invasive	110	<1
19	Yersiniosis	107	<1
20	Malaria	97	<1
21	Hepatitis A	91	<1
22	Cryptosporidiosis	85	<1
23	AIDS	65	<1
24	Shigellosis	57	<1
25	Verotoxin-producing *E. coli* infection	43	<1
26	Typhoid fever	37	<1
27	Encephalitis/meningitis: viral	29	<1
27	Streptococcal disease, Group B neonatal	29	<1
29	Cyclosporiasis	25	<1
30	Hepatitis B cases	22	<1
31	Legionellosis	19	<1
32	Encephalitis/meningitis: unclassified	17	<1
33	Paratyphoid fever	15	<1
34	Listeriosis	13	<1
35	Meningococcal disease, invasive	10	<1
36	Encephalitis/meningitis: bacterial	9	<1
36	Syphilis, other†	9	<1
38	Lyme disease	7	<1
39	West Nile Virus	6	<1
40	Cytomegalovirus infection, congenital	4	<1
40	Encephalitis/meningitis: other	4	<1
42	Botulism	3	<1
42	Measles	3	<1
44	Rubella	2	<1
44	*Haemophilus influenzae* b, invasive	2	<1
46	Hepatitis D	1	<1
46	Herpes, neonatal	1	<1
46	Ophthalmia neonatorum	1	<1
	Total	**20775**	**100**

*Seasonal year from July 1, 2006 to June 30, 2007. †Excludes infectious, late latent and congenital syphilis.
Communicable diseases without any reported activity in 2006 were not included in this table. These include: anthrax, brucellosis, chancroid, cholera, congenital syphilis, diphtheria, hantavirus, haemorrhagic fevers, lassa fever, leprosy, mumps, plague, poliomyelitis, psittacosis/ornithosis, Q fever, rabies, rubella-congenital syndrome, severe acute respiratory syndrome (SARS), smallpox, transmissible spongiform encephalopathies, tetanus, trichinosis, tularemia, and yellow fever.

Sexually Transmitted and Bloodborne Diseases

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Sexually Transmitted and Bloodborne Diseases

These are diseases caused by infectious agents that are found in body fluids such as blood, semen, vaginal secretions, breast milk, and saliva. Transmission occurs primarily from person to person through sexual contact, through other means of direct entry into the blood system such as needle use or transfusions, perinatally from mother to infant or in the case of hepatitis B through household contact. This group of diseases is the most widespread in Toronto. Relative proportions of each disease within this grouping, and their ranking are listed below. ❑

Table 1.1: Number and proportion of reported cases of sexually transmitted and bloodborne diseases. Toronto, 2006

Ranking	Reportable disease	Number of cases	Proportion of cases (%)
1	Chlamydia	6807	50
2	Gonorrhea	1819	13
3	Hepatitis B carriers	1418	10
4	Syphilis, late latent	1018	7
5	Hepatitis C	981	7
6	Hepatitis B unclassified reports*	672	5
7	HIV	652	5
8	Syphilis, infectious	247	2
9	AIDS	65	<1
10	Hepatitis B cases	22	<1
11	Syphilis, other†	9	<1
12	Cytomegalovirus infection, congenital	4	<1
13	Hepatitis D	1	<1
13	Herpes, neonatal	1	<1
13	Ophthalmia neonatorum	1	<1
	Total	**13717**	**100**

Rare reportable diseases not summarized in this section are chancroid and congenital syphilis.

*Unclassified hepatitis B reports are clients whose laboratory results indicate positive hepatitis B virus markers, but are lacking sufficient evidence to be classified as cases or carriers. These reports are most likely carriers.

†Excludes infectious, late latent and congenital syphilis.

Select highlights

Chlamydia

- The number of chlamydia cases increased by 5% from 6487 reported cases in 2005 to 6807 reported cases in 2006 (Figure 1.1). Chlamydia rates increased in both males and females by 2% and 7% respectively compared to 2005 (Figure 1.3). This is the first increase in chlamydia rates observed among females since 2002. Increased rates were observed in all female age groups except those 0 - 9, 10 - 14, 15 - 19 and 50 - 54 years of age.

- Some of the increase in chlamydia reports observed in females may be due to a social marketing campaign initiated by TPH in October 2006 to increase testing of women ages 15 - 24 years. Monthly incidence of chlamydia increased for both October and November 2006 by 21% compared to the incidence for these months in 2005.

- In Toronto, nine probable and one confirmed case of lymphogranuloma venereum (LGV) were reported in 2006. The number of LGV reports decreased from the previous year when eight probable and 21 confirmed cases had been reported.

Gonorrhea

- In 2006, there were 1819 reported cases of gonorrhea. This represented an increase of 158 cases (10%) from the 2005 total of 1661 cases (Figure 1.4). This increase is consistent with increased rates observed in the rest of Ontario in 2006.

- While female rates of gonorrhea decreased in 2006, male rates increased 14% from 90.5 cases per 100,000 in 2005 to 102.9 cases per 100,000 in 2006 (Figure 1.6). Male rates of gonorrhea increased or remained comparable to 2005 for all age groups.

Hepatitis B

- In 2006, there were 22 reported cases of acute hepatitis B infection. This represented a decrease of 12 cases (35%) from 2005 (Figure 1.7), and is the lowest number of reported cases in the previous 10-year period.

- The most commonly reported risk factors for hepatitis B infection in 2006 correspond to the most likely sources of infection for two outbreaks of hepatitis B in 2006, dialysis (29% of cases) and invasive medical procedures (29% of cases) (Table 1.7). An outbreak in a hospital based dialysis program resulted in five cases of acute hepatitis B, and an additional five cases were linked to an outbreak in a long-term care home.

Hepatitis C

- In 2006, there were 981 reported cases of acute hepatitis C infection. This represented a decrease of 190 cases (16%) from 2005 (Figure 1.10), and is the lowest number of reported cases in the previous 10-year period. This finding is consistent with decreased rates observed in the rest of Ontario and Canada for the same time period.

HIV/AIDS

- In 2006, the number of reported HIV infections increased by 18% from the 2005 total of 554 infections (Figure 1.13). This increase does not appear to be primarily related to HIV testing since recent data indicate only a 4% increase in HIV testing in Toronto from 2005 to 2006.

- In August 2006, the International AIDS Conference was held in Toronto and attendees from all over the world arrived in Toronto. Some of the increase in reported HIV infections observed in 2006 is likely due to increased immigrant/refugee arrivals during the conference. This is supported by an increase in the proportion of HIV reports from physicians designated to test for HIV by Immigration Canada from 13% in 2005 to 19% in 2006. Monthly HIV reports for August and September from immigration physicians were 5 and 3 times higher than the 4-year mean number of reports from immigration physicians for these months suggesting an influx of HIV-positive immigrants/refugees in August and September 2006. Overall, the proportion of HIV-infected individuals from HIV-endemic countries increased from 19% in 2005 to 24% in 2006 (Table 1.11)

- HIV rates increased for both males and females by 11% and 49%, respectively, compared to 2005 (Figure 1.15). Among females, the highest increase was observed in the 40-44 year age group whose rate was 3 times higher than in 2005. Among males, the highest increase was observed in the 50-54 year age group whose rate was 3 times higher than in 2005.

- The most commonly reported exposure category for acquiring HIV continues to be males who have sex with males (MSM) (Table 1.11). Although as a proportion of reported exposure categories MSM decreased, the number of individuals reporting MSM as their exposure category increased 7% and went from n=326 in 2005 to n=348 in 2006.

Syphilis, Infectious

- The substantial decrease in infectious syphilis reports first observed in 2005 appears to have tapered in 2006. The number of infectious syphilis cases decreased by 4% from 256 reported cases in 2005 to 247 reported cases in 2006 (Figure 1.16).

- Among males, the proportion of infectious syphilis cases who reported engaging in sex with the same sex increased from 69% in 2005 to 86% in 2006, making it the most commonly reported risk factor.

Syphilis, Late Latent

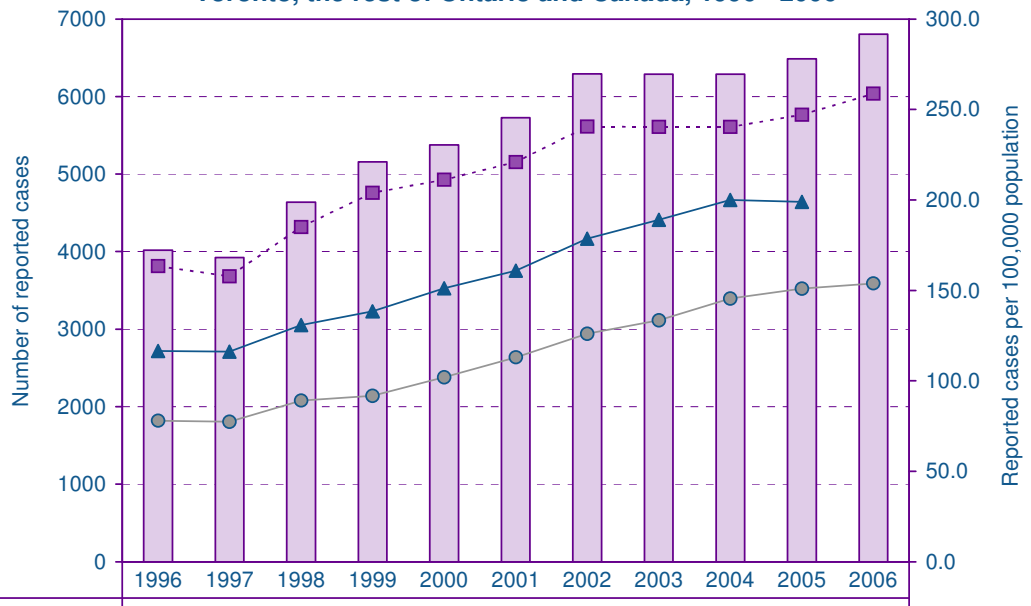
- In 2006, the highest incidence of late latent syphilis observed since 1989 (when electronic record keeping was implemented) was reported. The number of late latent syphilis cases increased by 95% from 522 reported cases in 2005 to 1018 reported cases in 2006 (Figure 1.21). Recent data indicate only a 6% increase in syphilis testing at the Toronto Public Health Laboratory from 2005 to 2006. Considerable increases in late latent syphilis reports have been observed since the introduction of a more sensitive enzyme immunoassay (EIA) test in August 2005.

- Rates of late latent syphilis doubled in both males and females in 2006 (Figure 1.23). Rates increased from 2005 to 2006 for all age groups over 25 years. A shift in the distribution of late latent syphilis cases to older age groups is reflected in the increase in the median age from 46 years in the previous 5 year period to 50 years in 2006 (Table 1.14).

Chlamydia

Table 1.2: Chlamydia summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	6807	6217	5420
Incidence rate (per 100,000 population)			
Overall	258.7	237.9	211.7
Male	214.9	190.6	156.3
Female	300.1	282.8	264.3
Age at onset (years)	Summary Statistics		
Mean	27	26	26
Median	24	24	23
Range	4 81	<1 84	<1 94

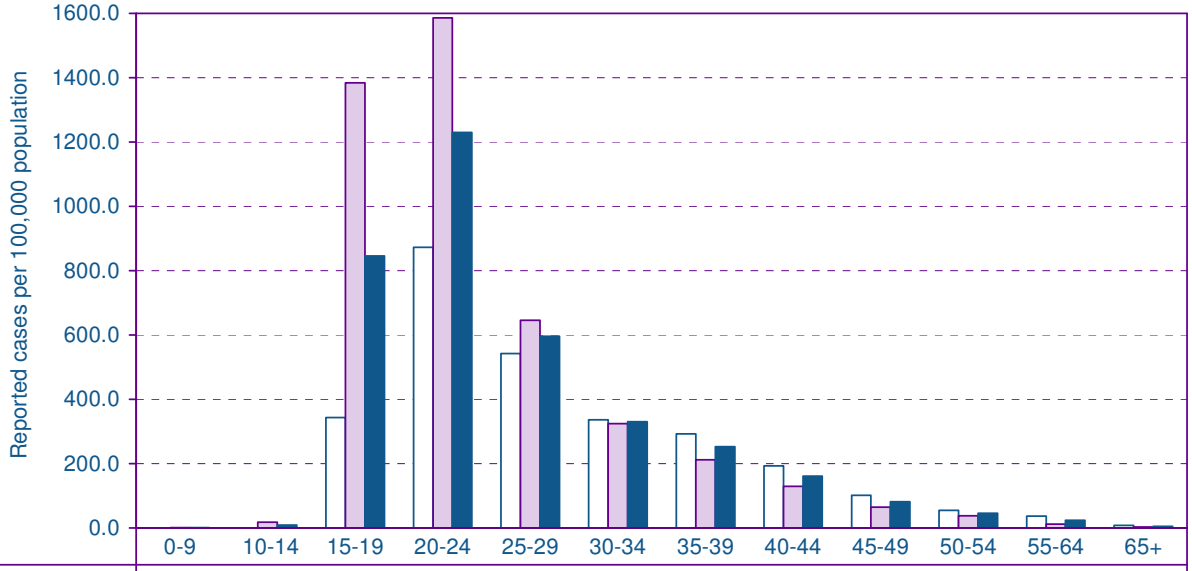
Figure 1.1: Incidence of chlamydia by year.
Toronto, the rest of Ontario and Canada, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Toronto cases	4018	3924	4640	5157	5379	5727	6294	6286	6291	6487	6807
Toronto rates	163.4	157.7	185.0	204.0	211.2	220.9	240.5	240.4	240.4	247.1	258.7
Ontario less Toronto rates	78.0	77.3	89.1	91.7	101.9	113.0	126.0	133.5	145.4	150.9	153.8
Canada rates	116.4	116.1	130.7	138.4	151.1	160.8	178.7	189.1	199.9	198.9	NA

NA: Canada data for 2006 are not available.

Figure 1.2: Incidence of chlamydia by age group and sex*.
Toronto, 2006

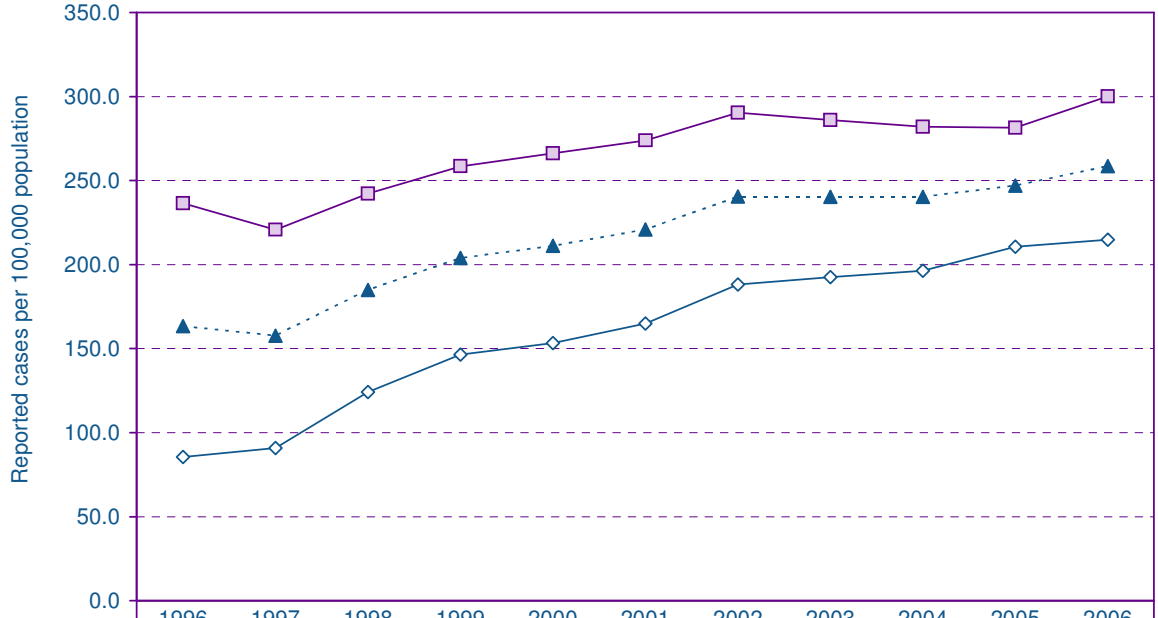


	0-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-64	65+
Male rates	0.0	0.0	342.9	872.6	542.4	336.3	292.7	193.4	100.7	54.3	36.5	7.4
Female rates	0.7	17.7	1384.5	1585.7	645.8	324.2	212.5	128.9	64.3	37.9	12.2	2.5
Overall rates	0.4	8.6	845.3	1229.3	595.7	330.2	252.5	161.4	82.1	45.8	23.7	4.6
Male cases	0	0	266	785	581	404	312	209	96	45	45	11
Female cases	1	13	1001	1423	736	393	228	137	64	34	17	5

*The sex of one case was unknown/transgendered.

Age group (years)

Figure 1.3: Incidence rates of chlamydia by sex and year.
Toronto, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Male rates	85.5	90.9	124.2	146.5	153.3	165.0	188.1	192.5	196.4	210.6	214.9
Female rates	236.6	220.8	242.3	258.5	266.2	273.9	290.4	286.0	282.1	281.5	300.1
Overall rates	163.4	157.7	185.0	204.0	211.2	220.9	240.5	240.4	240.4	247.1	258.7

Year

Table 1.3: Risk factors for reported cases of chlamydia by sex*. Toronto, 2006

Reported risk factor	Number of cases† (%)					
	Male		Female		Overall	
No condom used	2000	(87)	3003	(92)	5004	(90)
Multiple sex partners in last six months	691	(30)	421	(13)	1112	(20)
New partner in past two months	366	(16)	242	(7)	608	(11)
Sex with same sex	340	(15)	3	(<1)	343	(6)
Condom breakage	145	(6)	126	(4)	271	(5)
Partner with multiple sex partners	73	(3)	181	(6)	254	(5)
Travel outside province	66	(3)	39	(1)	105	(2)
Partner visiting from outside province	36	(2)	38	(1)	74	(1)
Judgement inpaired by alcohol/drugs	27	(1)	26	(<1)	53	(<1)
Met partner through internet	13	(<1)	11	(<1)	24	(<1)
Sex trade worker	6	(<1)	17	(1)	23	(<1)
Homeless	5	(<1)	13	(<1)	18	(<1)
Sex with sex trade worker	10	(<1)	3	(<1)	13	(<1)
Bath house	9	(<1)	0	(0)	9	(<1)
Shared sex toys	6	(<1)	3	(<1)	9	(<1)
Sex for drugs	0	(0)	5	(<1)	5	(<1)
Encounter following major event	2	(<1)	1	(<1)	3	(<1)
Total with a known risk factor	**2298**		**3261**		**5560**	
Number missing or unknown	456		791		1247	
Total cases	**2754**		**4052**		**6807**	

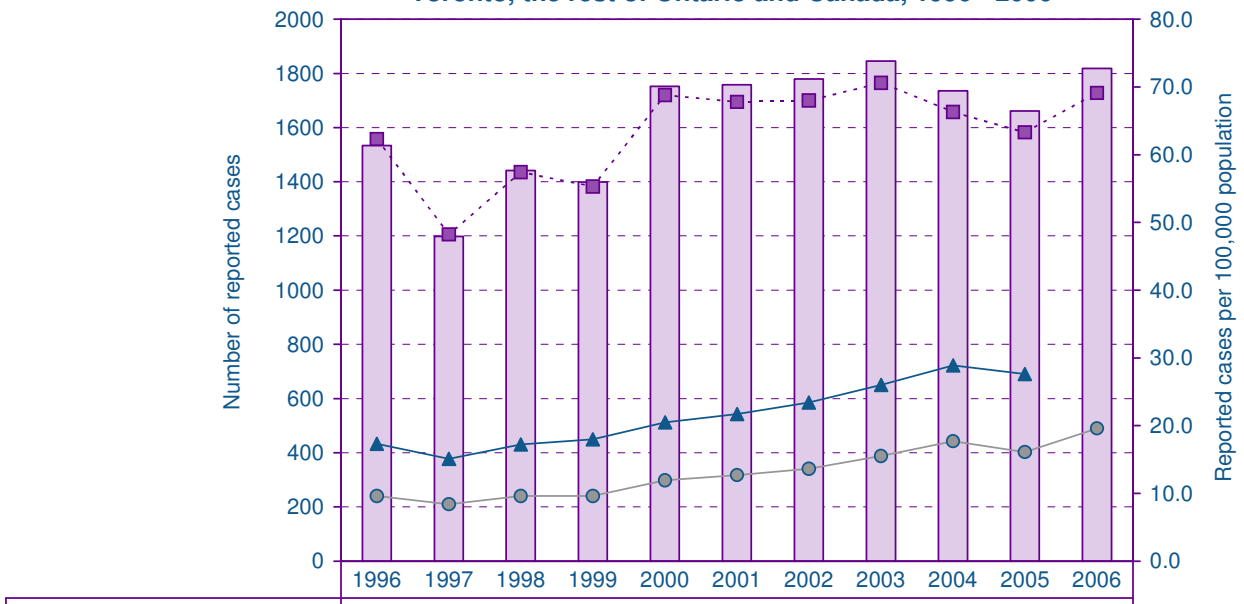
*The sex of one case was unknown/transgendered.

†Cases may report more than one risk factor.

Gonorrhea

Table 1.4: Gonorrhea summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	1819	1756	1611
Incidence rate (per 100,000 population)			
Overall	69.1	67.2	62.9
Male	102.9	93.8	84.6
Female	37.0	41.8	42.3
Age at onset (years)	Summary statistics		
Mean	31	28	27
Median	28	26	25
Range	14 75	<1 78	<1 85

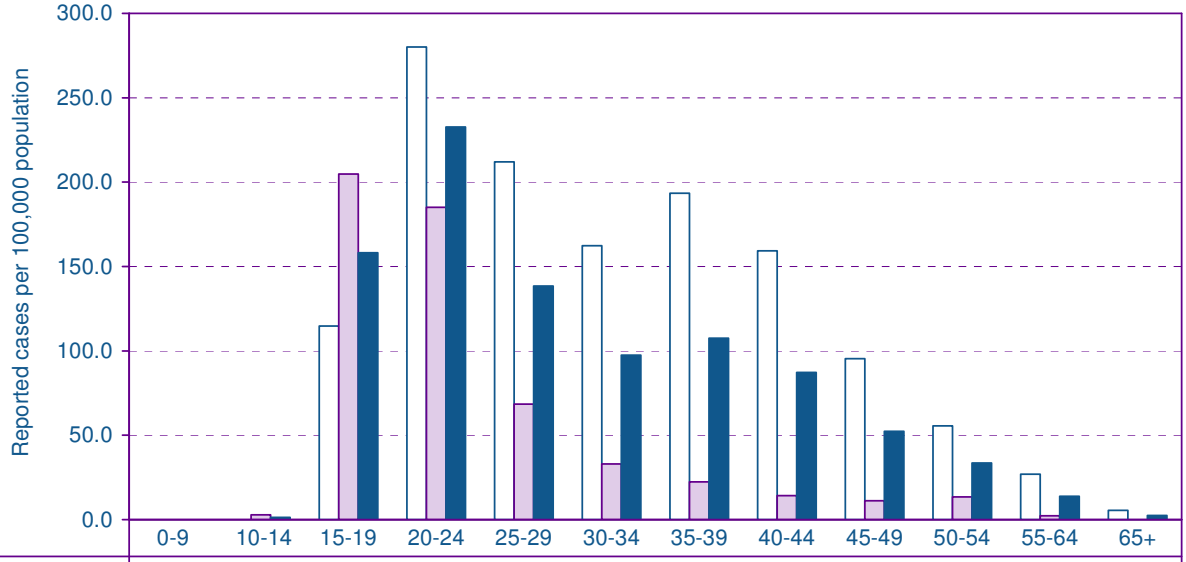
Figure 1.4: Incidence of gonorrhea by year.
Toronto, the rest of Ontario and Canada, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Toronto cases	1533	1199	1441	1399	1753	1758	1779	1846	1736	1661	1819
Toronto rates	62.3	48.2	57.4	55.3	68.8	67.8	68.0	70.6	66.3	63.3	69.1
Ontario less Toronto rates	9.6	8.4	9.6	9.6	11.9	12.7	13.6	15.5	17.7	16.1	19.6
Canada rates	17.3	15.1	17.2	18.0	20.5	21.7	23.4	26.0	28.9	27.6	NA

NA: Canada data for 2006 are not available.

Figure 1.5: Incidence of gonorrhea by age group and sex*.
Toronto, 2006

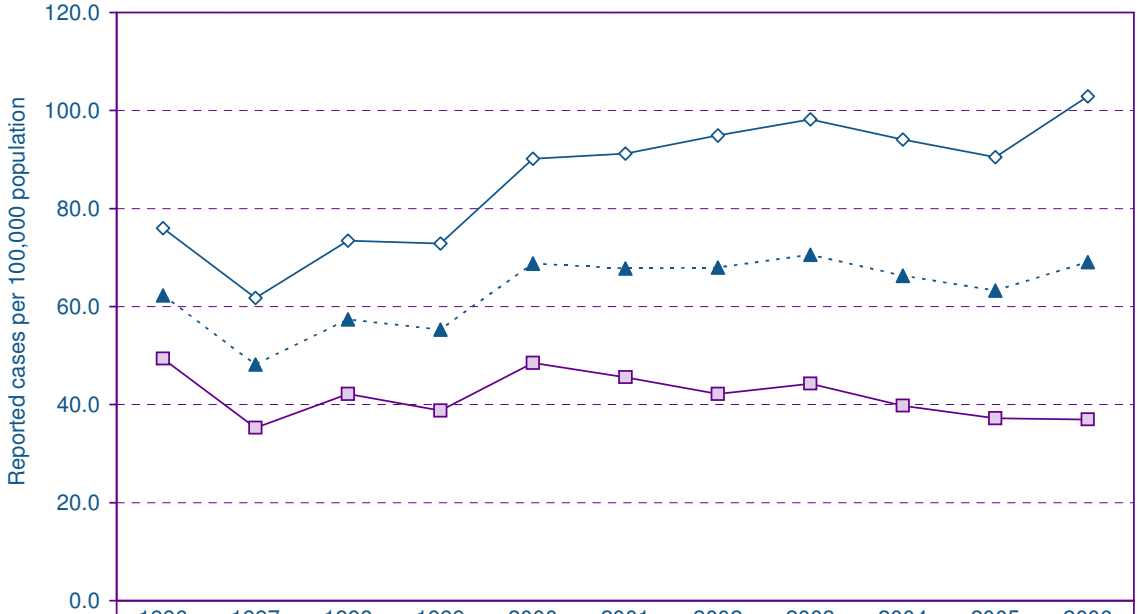


	0-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-64	65+
Male rates	0.0	0.0	114.7	280.1	211.9	162.3	193.3	159.2	95.4	55.5	26.8	5.4
Female rates	0.0	2.7	204.7	185.0	68.4	33.0	22.4	14.1	11.1	13.4	2.2	0.0
Overall rates	0.0	1.3	158.1	232.6	138.4	97.4	107.6	87.2	52.3	33.6	13.7	2.3
Male cases	0	0	89	252	227	195	206	172	91	46	33	8
Female cases	0	2	148	166	78	40	24	15	11	12	3	0

*The sex of one case was unknown/transgendered.

Age group (years)

Figure 1.6: Incidence rates of gonorrhea by sex and year.
Toronto, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Male rates	76.0	61.8	73.5	72.9	90.2	91.2	94.9	98.2	94.1	90.5	102.9
Female rates	49.4	35.3	42.2	38.8	48.5	45.6	42.2	44.3	39.8	37.2	37.0
Overall rates	62.3	48.2	57.4	55.3	68.8	67.8	68.0	70.6	66.3	63.3	69.1

Year

**Table 1.5: Risk factors for reported cases of gonorrhea by sex*.
Toronto, 2006**

Reported risk factor	Number of cases† (%)					
	Male		Female		Overall	
No condom used	931	(85)	343	(87)	1274	(85)
Multiple sex partners in last six months	458	(42)	69	(18)	528	(35)
Sex with same sex	428	(39)	0	(0)	428	(29)
New partner in past two months	290	(26)	47	(12)	337	(23)
Condom breakage	104	(9)	31	(8)	135	(9)
Partner with multiple sex partners	48	(4)	29	(7)	77	(5)
Judgement inpaired by alcohol/drugs	37	(3)	11	(3)	48	(3)
Travel outside province	27	(2)	3	(<1)	30	(2)
Bath house	28	(3)	0	(0)	28	(2)
Sex trade worker	11	(1)	11	(3)	22	(1)
Sex with sex trade worker	12	(1)	6	(2)	18	(1)
Partner visiting from outside province	14	(1)	3	(<1)	17	(1)
Homeless	8	(<1)	7	(2)	15	(1)
Met partner through internet	14	(1)	0	(0)	14	(<1)
Sex for drugs	2	(<1)	3	(<1)	5	(<1)
Shared sex toys	2	(<1)	0	(0)	2	(<1)
Encounter following major event	1	(<1)	0	(0)	1	(<1)
Total with a known risk factor	**1099**		**394**		**1494**	
Number missing or unknown	220		105		325	
Total cases	**1319**		**499**		**1819**	

*The sex of one case was unknown/transgendered.

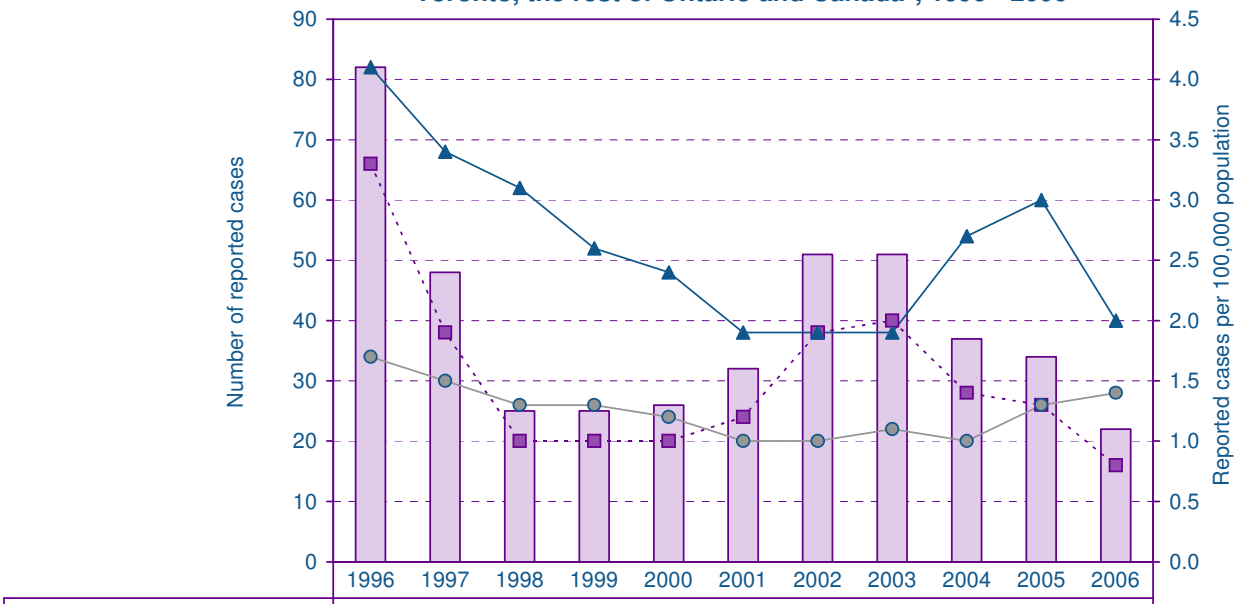
†Cases may report more than one risk factor.

Hepatitis B

Table 1.6: Hepatitis B summary data
Toronto

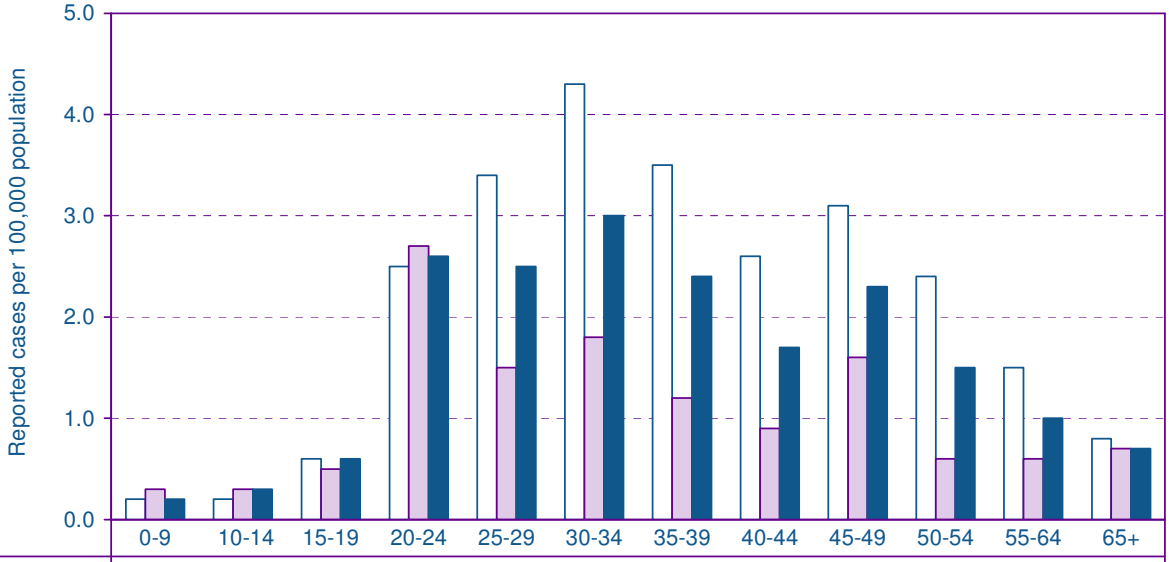
	2006		5-yr period 2001-2005		10-yr period 1996-2005	
	Total		Means			
	Cases	Carriers	Cases	Carriers	Cases	Carriers
Number of reports	22	1418	41	2105	41	2134
Incidence rate (per 100,000 population)						
Overall	0.8	53.9	1.6	80.6	1.6	83.3
Male	0.7	61.8	2.2	88.6	2.2	91.7
Female	1.0	46.3	0.9	72.0	1.0	74.1
Age at onset (years)	Summary statistics					
Mean	53	37	39	37	37	38
Median	45	35	37	35	35	35
Range	23 94	<1 88	<1 85	<1 100	<1 88	<1 100

Figure 1.7: Incidence of acute hepatitis B by year. Toronto, the rest of Ontario and Canada*, 1996 - 2006



*Canada data for 2006 do not include Nunavut.

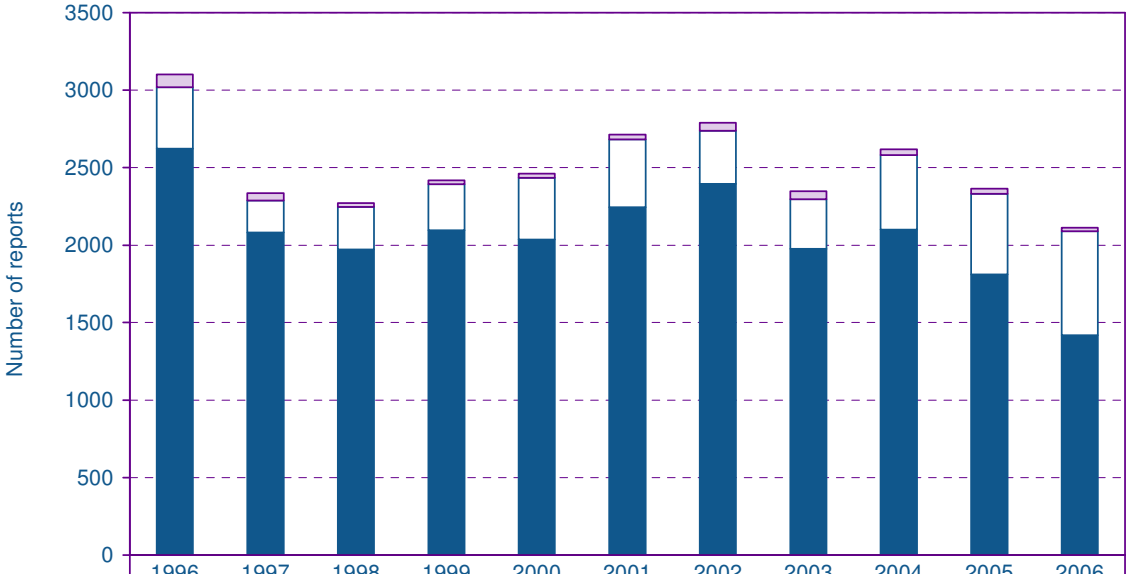
Figure 1.8: Incidence of acute hepatitis B by age group and sex. Toronto, 1996 - 2006 combined



	0-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-64	65+
Male rates	0.2	0.2	0.6	2.5	3.4	4.3	3.5	2.6	3.1	2.4	1.5	0.8
Female rates	0.3	0.3	0.5	2.7	1.5	1.8	1.2	0.9	1.6	0.6	0.6	0.7
Overall rates	0.2	0.3	0.6	2.6	2.5	3.0	2.4	1.7	2.3	1.5	1.0	0.7
Male cases	3	2	5	24	41	56	44	29	30	20	18	13
Female cases	5	2	4	26	19	23	15	10	16	5	8	15

Age group (years)

Figure 1.9: Number of hepatitis B cases, carriers and unclassified reports* by year. Toronto, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Cases	82	48	25	25	26	32	51	51	37	34	22
Unclassified reports	396	205	275	297	400	438	344	320	479	519	672
Carriers	2623	2083	1972	2096	2035	2243	2395	1976	2101	1812	1418

Year

*Unclassified hepatitis B reports are clients whose laboratory results indicate positive hepatitis B virus markers but are lacking sufficient evidence to be classified as cases or carriers. These reports are most likely carriers.

Table 1.7: Risk factors for reported acute cases of hepatitis B by sex. Toronto, 2006

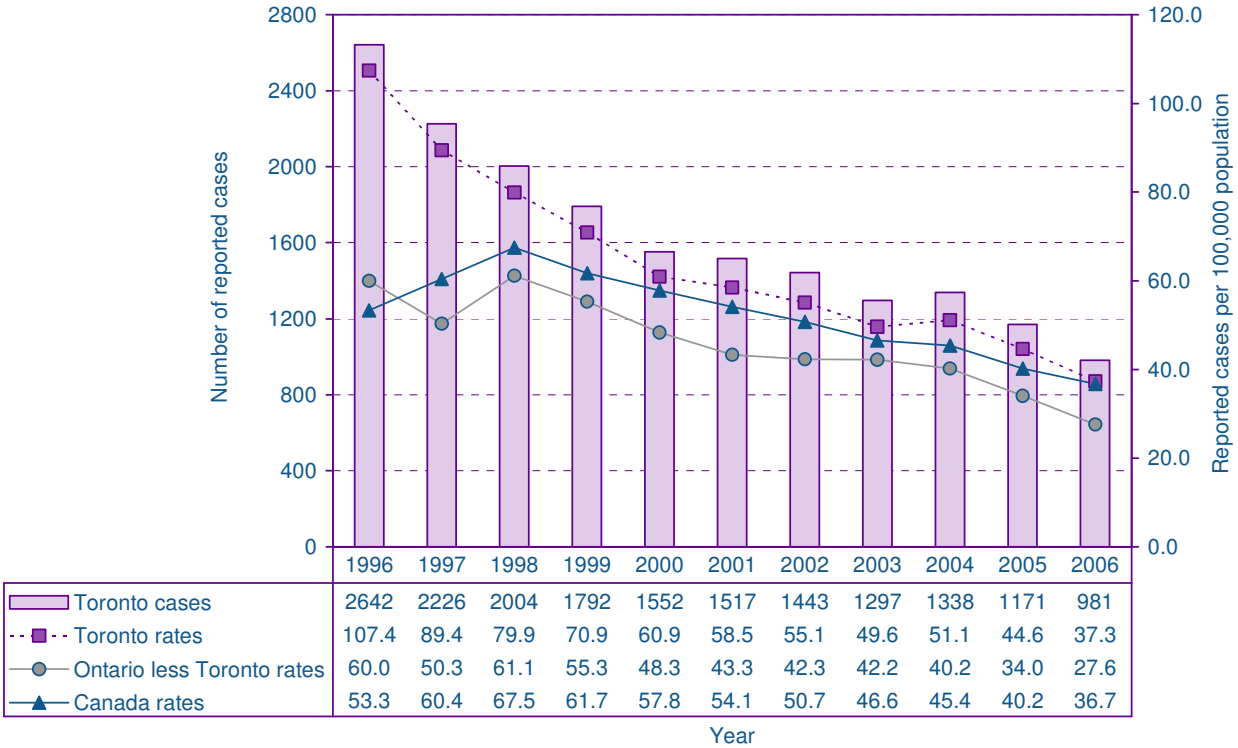
Reported risk factor	Number of cases* (%)					
	Male		Female		Overall	
Dialysis	4	(67)	1	(9)	5	(29)
Invasive medical procedure	0	(0)	5	(45)	5	(29)
Sexual contact	1	(17)	1	(9)	2	(12)
Travel	1	(17)	1	(9)	2	(12)
Blood transfusion	0	(0)	1	(9)	1	(6)
Tattoo/acupuncture/ear piercing/electrolysis	1	(17)	0	(0)	1	(6)
Other	1	(17)	3	(27)	4	(24)
Total with a known risk factor	**6**		**11**		**17**	
Number missing or unknown	3		2		5	
Total cases	**9**		**13**		**22**	

*Cases may report more than one risk factor.

Hepatitis C

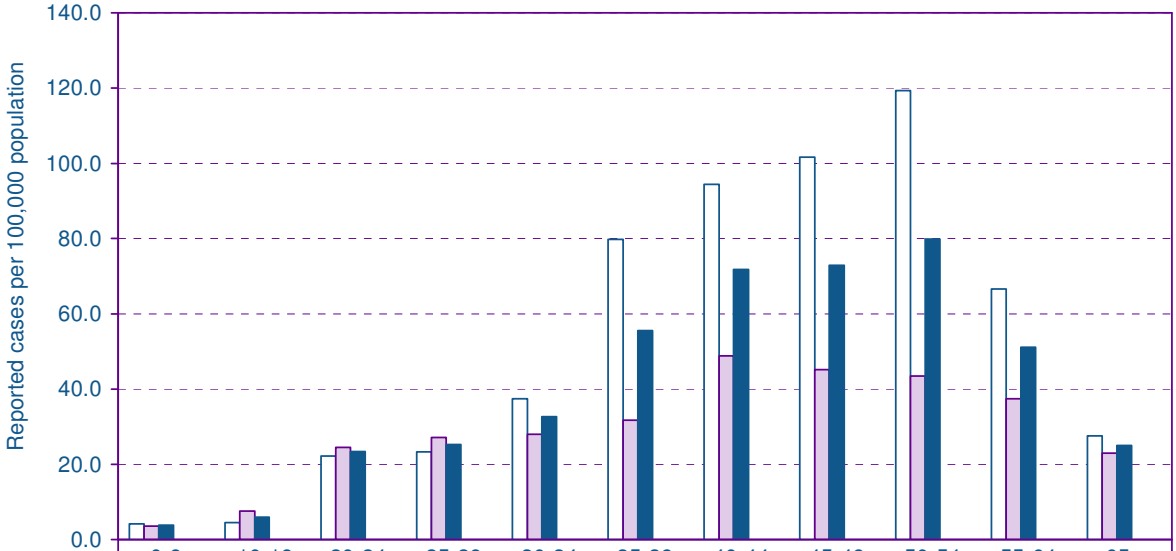
Table 1.8: Hepatitis C summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	981	1353	1698
Incidence rate (per 100,000 population)			
Overall	37.3	51.8	66.3
Male	47.6	65.6	85.8
Female	27.5	38.2	47.1
Age at onset (years)	Summary statistics		
Mean	45	46	44
Median	45	44	42
Range	<1 98	<1 98	<1 110
Case fatality (%)	0.4	0.1	0.2

Figure 1.10: Incidence of hepatitis C by year.
Toronto, the rest of Ontario and Canada*, 1996 - 2006



*Hepatitis C was not reportable in Manitoba for 1996 to 1998. Canada data for 2006 do not include Nunavut.

**Figure 1.11: Incidence of hepatitis C by age group and sex*.
Toronto, 2006**

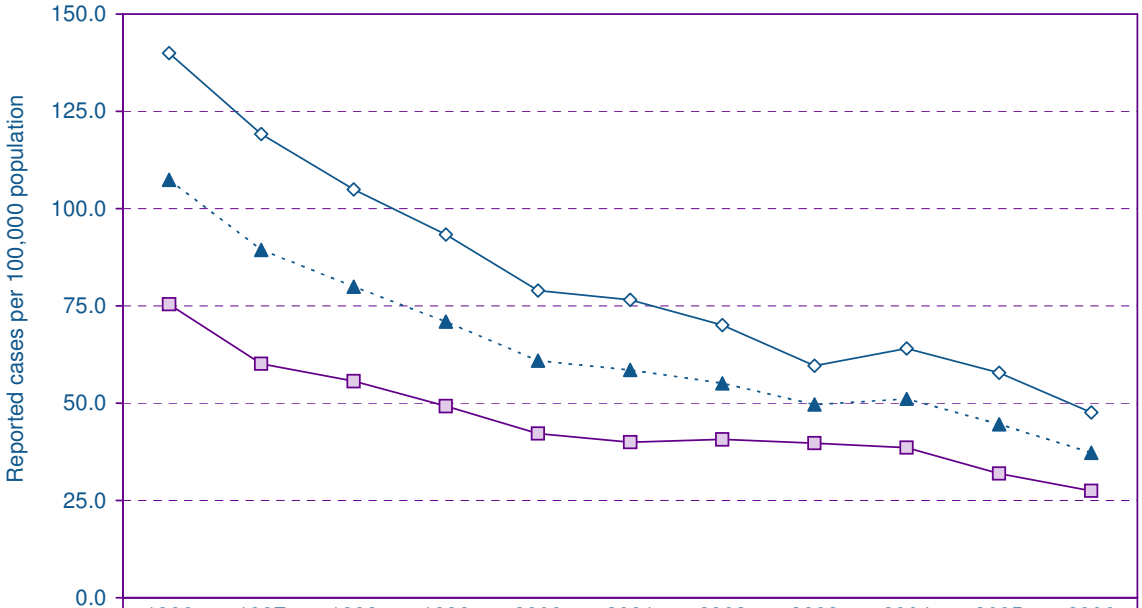


	0-9	10-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-64	65+
Male rates	4.2	4.5	22.2	23.3	37.5	79.8	94.4	101.7	119.4	66.6	27.6
Female rates	3.6	7.6	24.5	27.2	28.0	31.7	48.9	45.2	43.5	37.4	23.0
Overall rates	3.9	6.0	23.4	25.3	32.7	55.6	71.8	72.9	79.9	51.1	25.0
Male cases	6	7	20	25	45	85	102	97	99	82	41
Female cases	5	11	22	31	34	34	52	45	39	52	46

*The age of one case was not reported.

Year

**Figure 1.12: Incidence rates of hepatitis C by sex and year.
Toronto, 1996 - 2006**



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Male rates	140.0	119.1	104.9	93.3	78.9	76.6	70.1	59.6	64.0	57.8	47.6
Female rates	75.4	60.1	55.6	49.2	42.2	40.0	40.7	39.7	38.6	31.9	27.5
Overall rates	107.4	89.4	79.9	70.9	60.9	58.5	55.1	49.6	51.1	44.6	37.3

Year

Table 1.9: Risk factors for reported cases of hepatitis C by sex. Toronto, 2006

Reported risk factor	Number of cases* (%)					
	Male		Female		Overall	
Illicit drug use - Injection/intra nasal	159	(63)	70	(42)	229	(55)
Tattoo/acupuncture/ear piercing/electrolysis	43	(17)	32	(19)	75	(18)
Blood transfusion†	24	(9)	45	(27)	69	(17)
Sexual contact	37	(15)	22	(13)	59	(14)
Invasive medical procedure	11	(4)	13	(8)	24	(6)
Travel	9	(4)	13	(8)	22	(5)
Dialysis	5	(2)	3	(2)	8	(2)
Organ/tissue transplant	2	(<1)	1	(<1)	3	(<1)
Other	25	(10)	15	(9)	40	(10)
Total with a known risk factor	**253**		**165**		**418**	
Number missing or unknown	357		206		563	
Total cases	**610**		**371**		**981**	

*Cases may report more than one risk factor.

†Forty-five cases reported blood transfusion outside of Canada as a risk factor. Twenty-four cases that reported blood transfusion as a risk factor were diagnosed but not infected with hepatitis C in 2006.

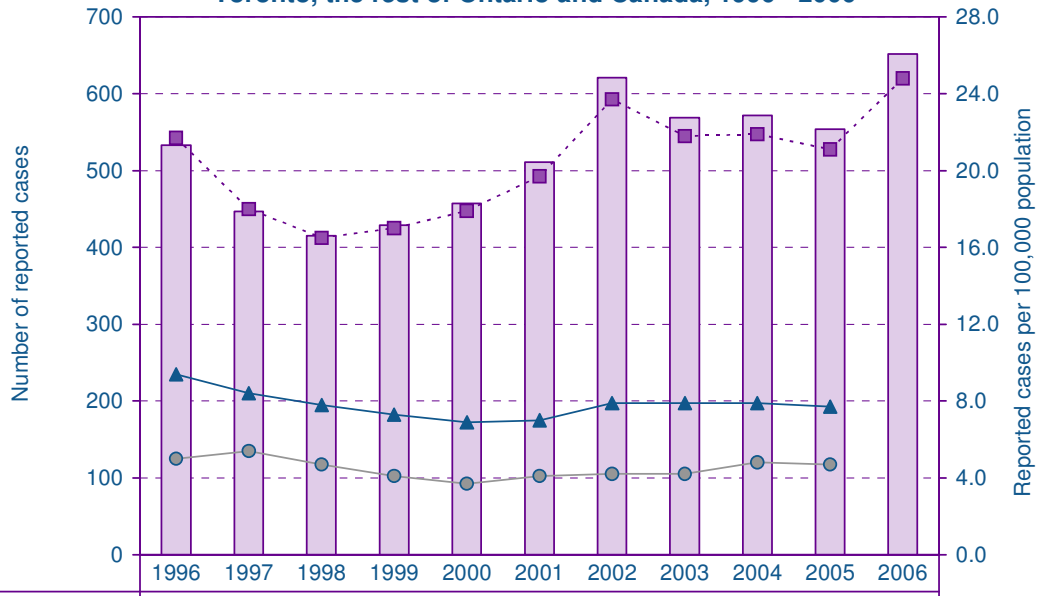
HIV/AIDS

Table 1.10: HIV/AIDS summary data
Toronto

	2006		5-yr period 2001-2005		10-yr period 1996-2005	
	Totals		Means			
	AIDS*	HIV	AIDS*	HIV	AIDS*	HIV
Number of reported cases	65	652	-	565	-	511
Incidence rate (per 100,000 population)						
Overall	2.5	24.8	-	21.6	-	20.0
Male	4.0	39.0	-	34.7	-	33.1
Female	1.0	11.2	-	9.1	-	7.3
Age at onset (years)	Summary statistics					
Mean	41	37	-	36	-	36
Median	43	37	-	35	-	35
Range	3 - 80	<1 - 81	-	<1 - 81	-	<1 - 81

*For AIDS cases there is a delay in reporting by as much as 2 years. Due to discrepancies associated with data conversion from RDIS to iPHIS, historical AIDS data are not available for reporting. Please see technical notes for more information on data limitations regarding the omission of historical AIDS data.

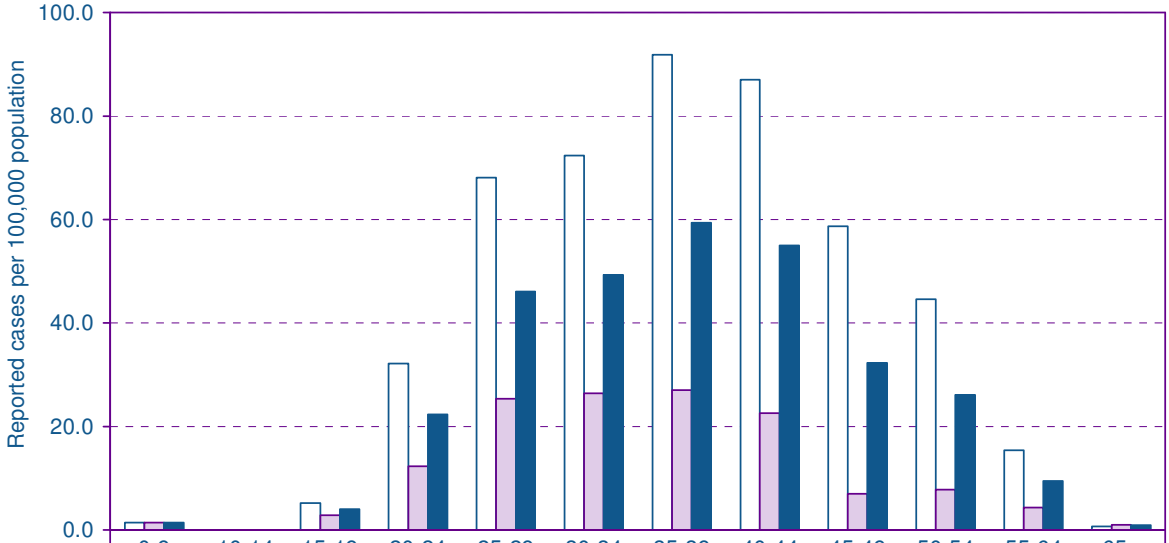
Figure 1.13: Incidence of HIV* infection by year.
Toronto, the rest of Ontario and Canada, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Toronto cases	533	447	415	429	457	511	621	569	572	554	652
Toronto rates	21.7	18.0	16.5	17.0	17.9	19.7	23.7	21.8	21.9	21.1	24.8
Ontario less Toronto rates	5.0	5.4	4.7	4.1	3.7	4.1	4.2	4.2	4.8	4.7	NA
Canada rates	9.4	8.4	7.8	7.3	6.9	7.0	7.9	7.9	7.9	7.7	NA

*HIV reports have been counted by year of test for Ontario less Toronto and Canada rate calculations.
NA: Ontario and Canada data for 2006 are not available.

Figure 1.14: Incidence rates of HIV infection by age group and sex*. Toronto, 2006

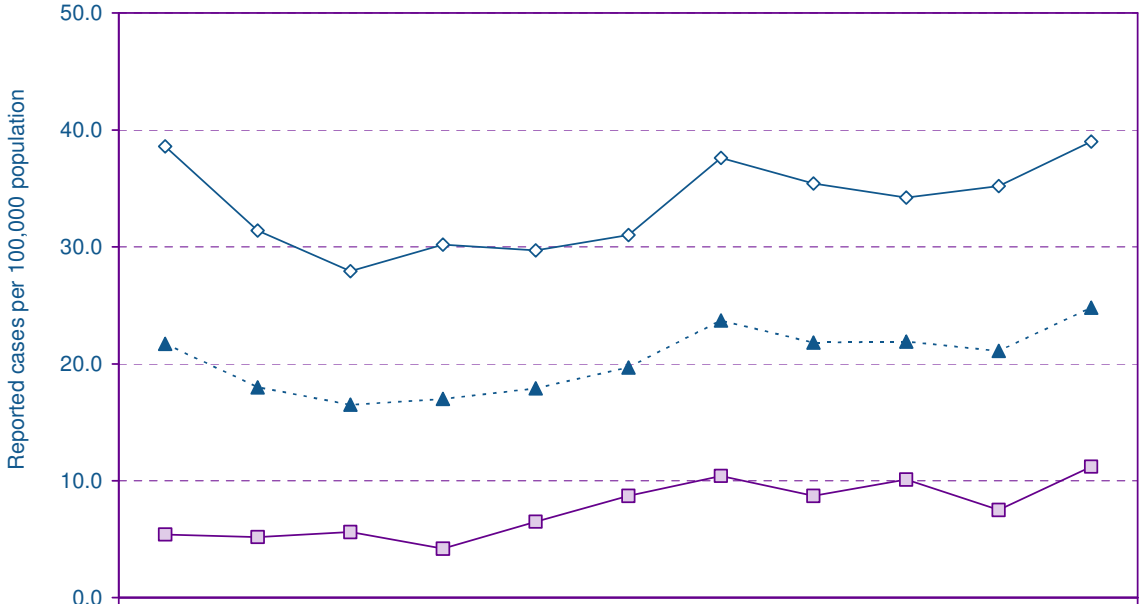


	0-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-64	65+
Male rates	1.4	0.0	5.2	32.2	68.1	72.4	91.9	87.0	58.7	44.6	15.4	0.7
Female rates	1.4	0.0	2.8	12.3	25.4	26.4	27.0	22.6	7.0	7.8	4.3	1.0
Overall rates	1.4	0.0	4.0	22.3	46.1	49.3	59.4	55.0	32.3	26.1	9.5	0.9
Male cases	2	0	4	29	73	87	98	94	56	37	19	1
Female cases	2	0	2	11	29	32	29	24	7	7	6	2

*The sex of one case was unknown/transgendered.

Age group (years)

Figure 1.15: Incidence rates of HIV infection by sex and year. Toronto, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Male rates	38.6	31.4	27.9	30.2	29.7	31.0	37.6	35.4	34.2	35.2	39.0
Female rates	5.4	5.2	5.6	4.2	6.5	8.7	10.4	8.7	10.1	7.5	11.2
Overall rates	21.7	18.0	16.5	17.0	17.9	19.7	23.7	21.8	21.9	21.1	24.8

Year

Table 1.11: Number and proportion of HIV-positive diagnoses by exposure category* and sex†. Toronto, 2006

Exposure category*	Number of cases‡ (%)					
	Male		Female		Overall	
MSM	348	(70)	0	-	348	(53)
MSM/IDU	11	(2)	0	-	12	(2)
IDU	6	(1)	2	(1)	8	(1)
Perinatal	2	(<1)	1	(<1)	3	(<1)
Received blood or blood products§	2	(<1)	7	(5)	9	(1)
HIV-endemic	65	(13)	91	(60)	156	(24)
HET-partner	7	(1)	16	(11)	23	(4)
NIR-HET	24	(5)	15	(10)	39	(6)
Occupational exposure	1	(<1)	0	(0)	1	(<1)
Non-medical, non-occupational exposure	1	(<1)	0	(0)	1	(<1)
Other	1	(<1)	1	(<1)	2	(<1)
No identifiable risk|	32	(6)	18	(12)	50	(8)
Total	**500**	**(100)**	**151**	**(100)**	**652**	**(100)**

*See the glossary for definitions of each exposure category.

†The sex for one case was unknown/transgendered.

‡Cases may report one or more risks but are counted in the category considered the highest risk according to an exposure category hierarchy. The categories are listed in descending order from those that are considered to carry the highest risk of HIV infection to those considered to carry the lowest risk.

§Seven of the eight cases whose exposure to HIV occurred via the receipt of blood products had also lived in or visited an HIV-endemic country.

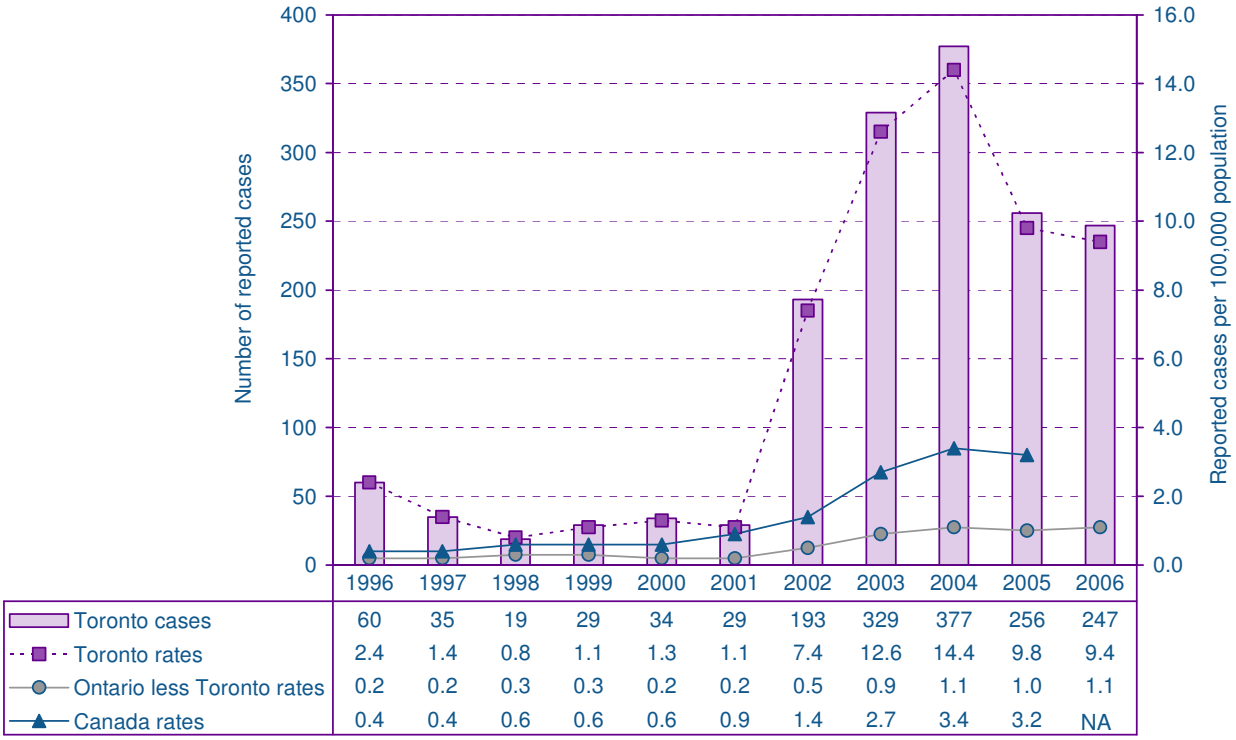
| The exposure category 'No identifiable risk' has been revised to include all clients that have missing or unknown risk factors.

Syphilis, infectious

(Primary, secondary and early latent syphilis)

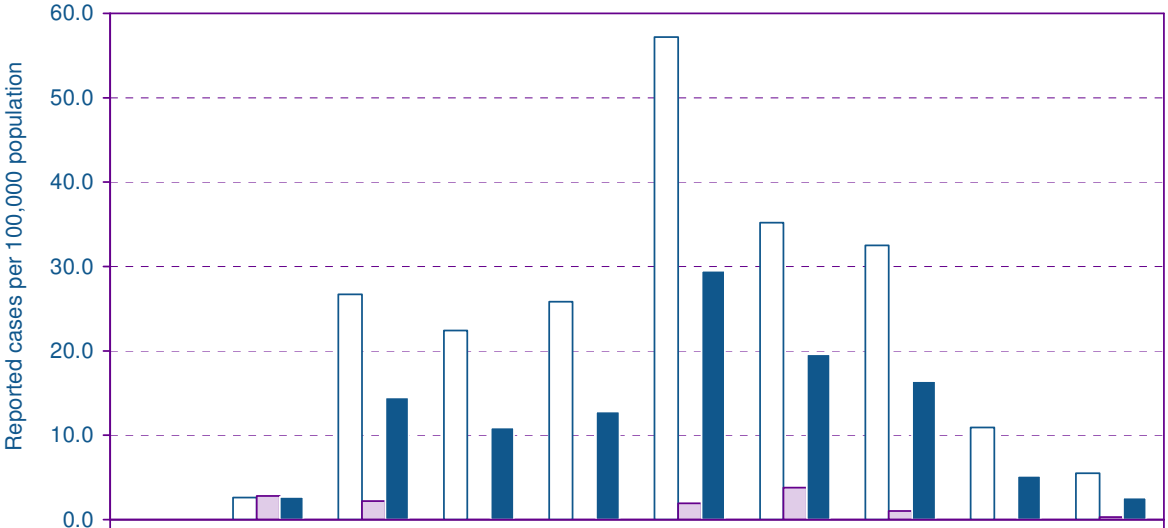
Table 1.12: Infectious syphilis summary data Toronto						
	2006		5-yr period 2001-2005		10-yr period 1996-2005	
	Total		Means			
Number of reported cases	247		237		136	
Incidence rate (per 100,000 population)						
Overall	9.4		9.1		5.3	
Male	18.3		17.8		10.0	
Female	0.9		0.7		0.9	
Age at onset (years)	Summary statistics					
Mean	38		38		38	
Median	38		38		37	
Range	18	67	14	72	14	72

Figure 1.16: Incidence of infectious syphilis by year. Toronto, the rest of Ontario and Canada, 1996 - 2006



NA: Canada data for 2006 are not available.

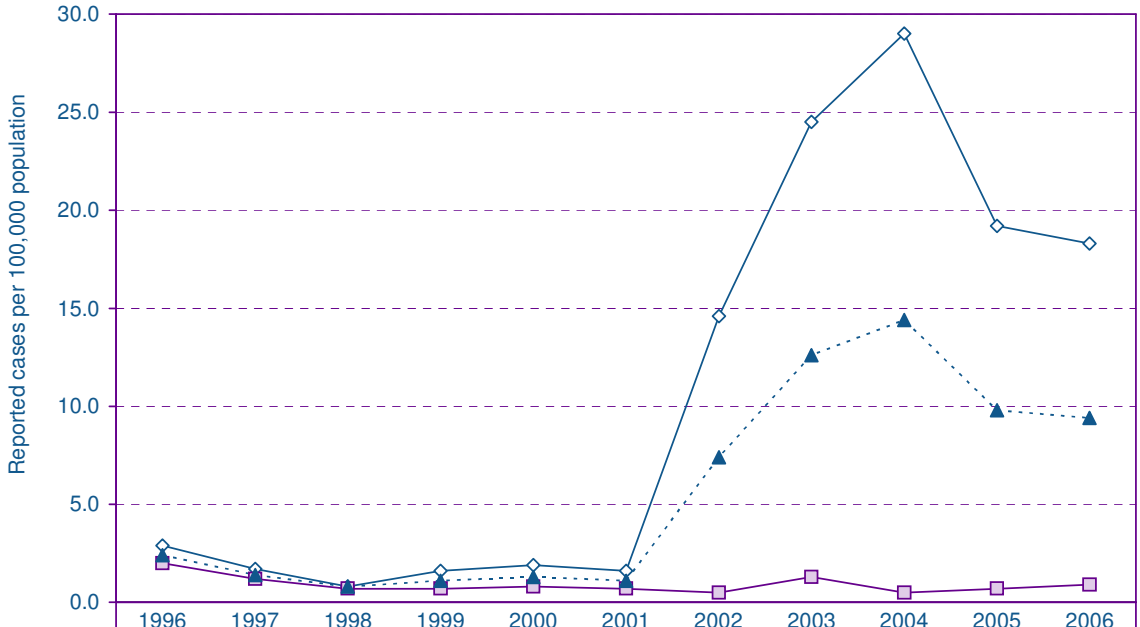
Figure 1.17: Incidence of infectious syphilis by age group and sex. Toronto, 2006



	0-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55+
Male rates	0.0	2.6	26.7	22.4	25.8	57.2	35.2	32.5	10.9	5.5
Female rates	0.0	2.8	2.2	0.0	0.0	1.9	3.8	1.0	0.0	0.3
Overall rates	0.0	2.7	14.5	10.9	12.8	29.5	19.6	16.4	5.2	2.6
Male cases	0	2	24	24	31	61	38	31	9	15
Female cases	0	2	2	0	0	2	4	1	0	1

Age group (years)

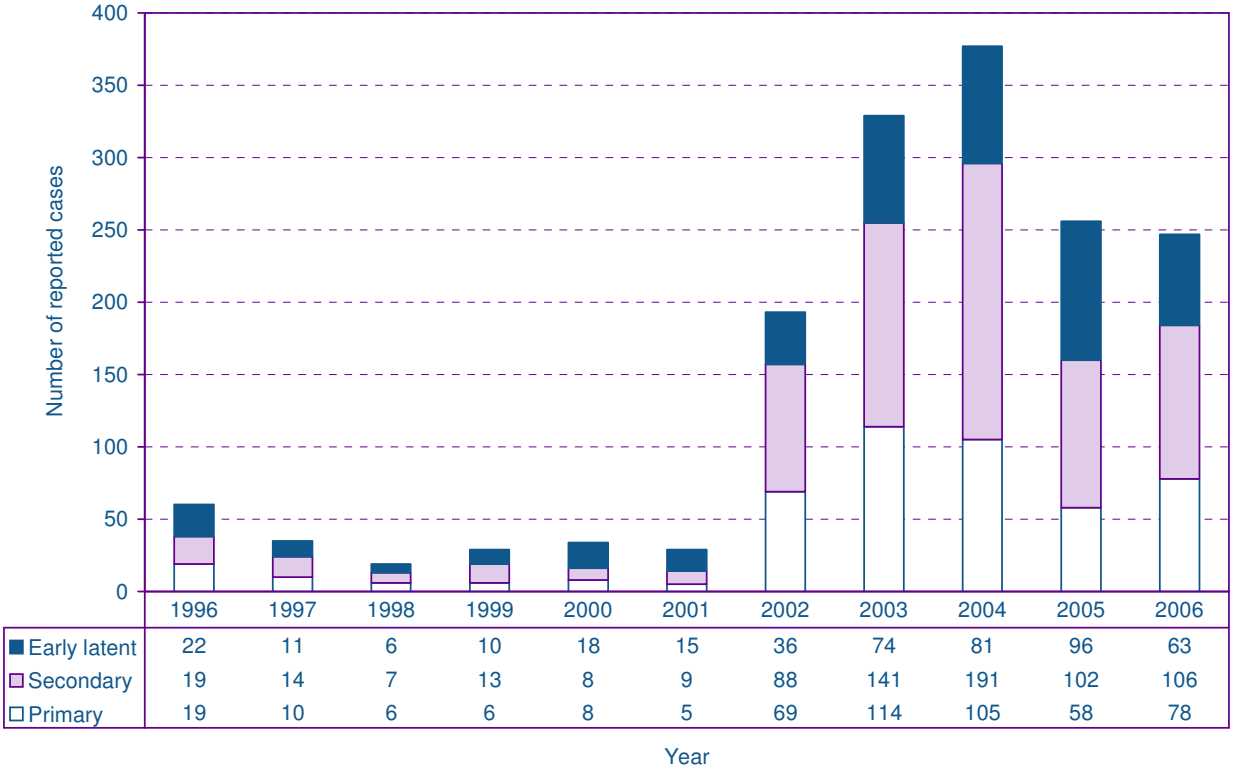
Figure 1.18: Incidence rates of infectious syphilis by sex and year. Toronto, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Male rates	2.9	1.7	0.8	1.6	1.9	1.6	14.6	24.5	29.0	19.2	18.3
Female rates	2.0	1.2	0.7	0.7	0.8	0.7	0.5	1.3	0.5	0.7	0.9
Overall rates	2.4	1.4	0.8	1.1	1.3	1.1	7.4	12.6	14.4	9.8	9.4

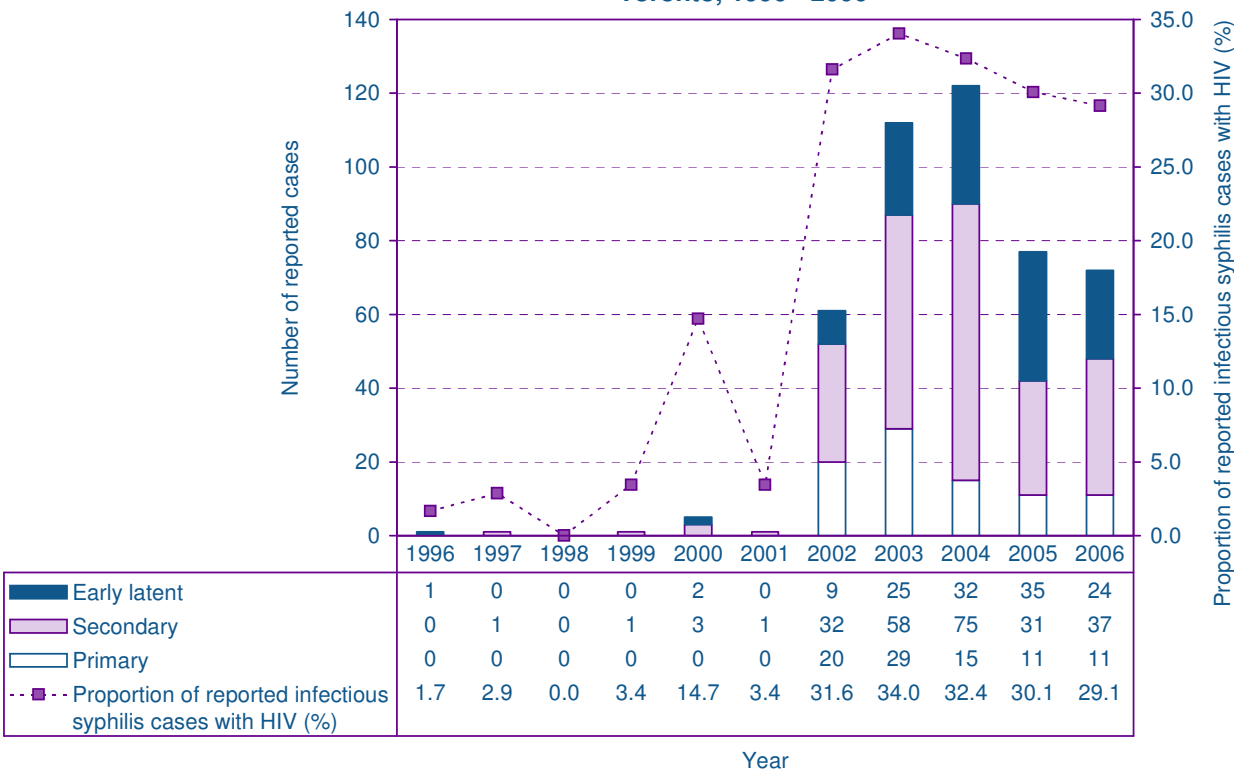
Year

Figure 1.19: Incidence of infectious syphilis by staging and year. Toronto, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Early latent	22	11	6	10	18	15	36	74	81	96	63
Secondary	19	14	7	13	8	9	88	141	191	102	106
Primary	19	10	6	6	8	5	69	114	105	58	78

Figure 1.20: Incidence of HIV and infectious syphilis co-infections by year. Toronto, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Early latent	1	0	0	0	2	0	9	25	32	35	24
Secondary	0	1	0	1	3	1	32	58	75	31	37
Primary	0	0	0	0	0	0	20	29	15	11	11
Proportion of reported infectious syphilis cases with HIV (%)	1.7	2.9	0.0	3.4	14.7	3.4	31.6	34.0	32.4	30.1	29.1

Table 1.13: Risk factors for reported cases of infectious syphilis by sex. Toronto, 2006

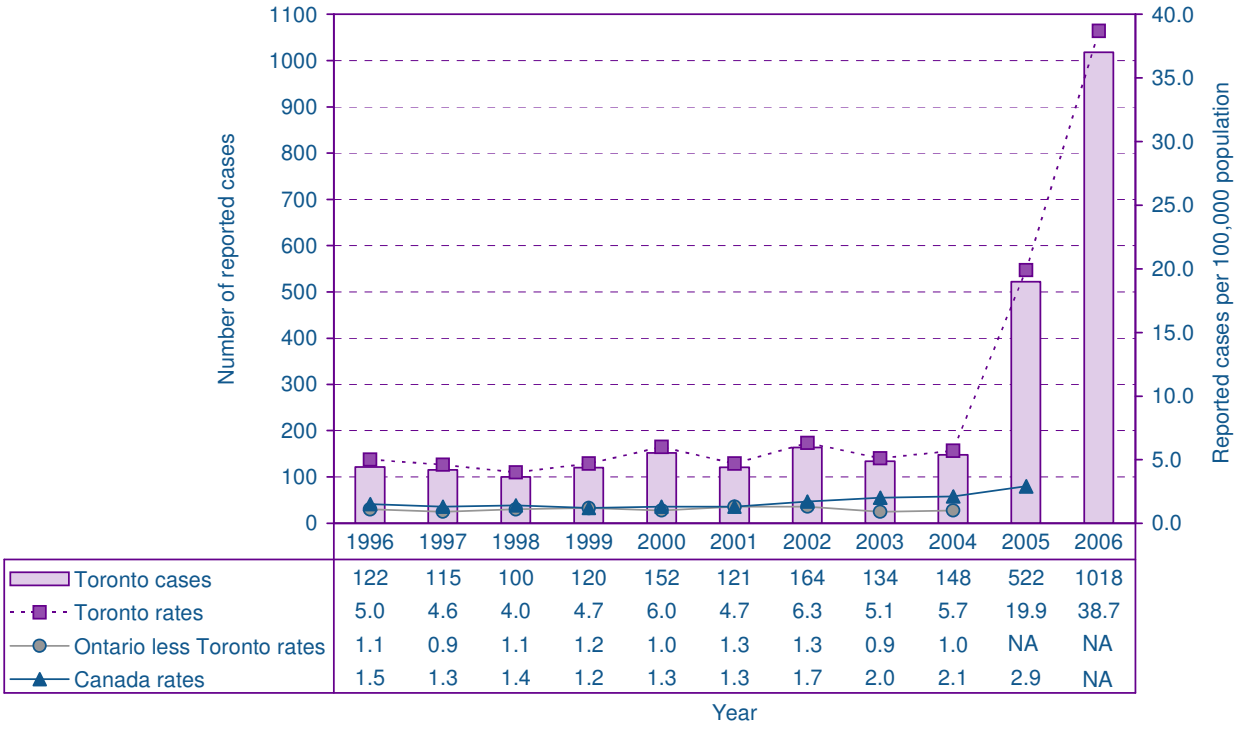
Reported risk factor	Number of cases* (%)					
	Male		Female		Overall	
Sex with same sex	192	(86)	0	(0)	192	(82)
No condom used	165	(74)	10	(100)	175	(75)
Multiple sex partners in last six months	133	(59)	0	(0)	133	(57)
New partner in past two months	67	(30)	0	(0)	67	(29)
Partner with multiple sex partners	27	(12)	2	(20)	29	(12)
Bath house	11	(5)	0	(0)	11	(5)
Partner visiting from outside province	9	(4)	0	(0)	9	(4)
Met partner through internet	7	(3)	0	(0)	7	(3)
Judgement inpaired by alcohol/drugs	6	(3)	0	(0)	6	(3)
Travel outside province	6	(3)	0	(0)	6	(3)
Condom breakage	5	(2)	0	(0)	5	(2)
Homeless	2	(<1)	0	(0)	2	(<1)
Sex trade worker	1	(<1)	0	(0)	1	(<1)
Total with a known risk factor	**224**		**10**		**234**	
Number missing or unknown	11		2		13	
Total cases	**235**		**12**		**247**	

*Cases may report more than one risk factor.

Syphilis, late latent

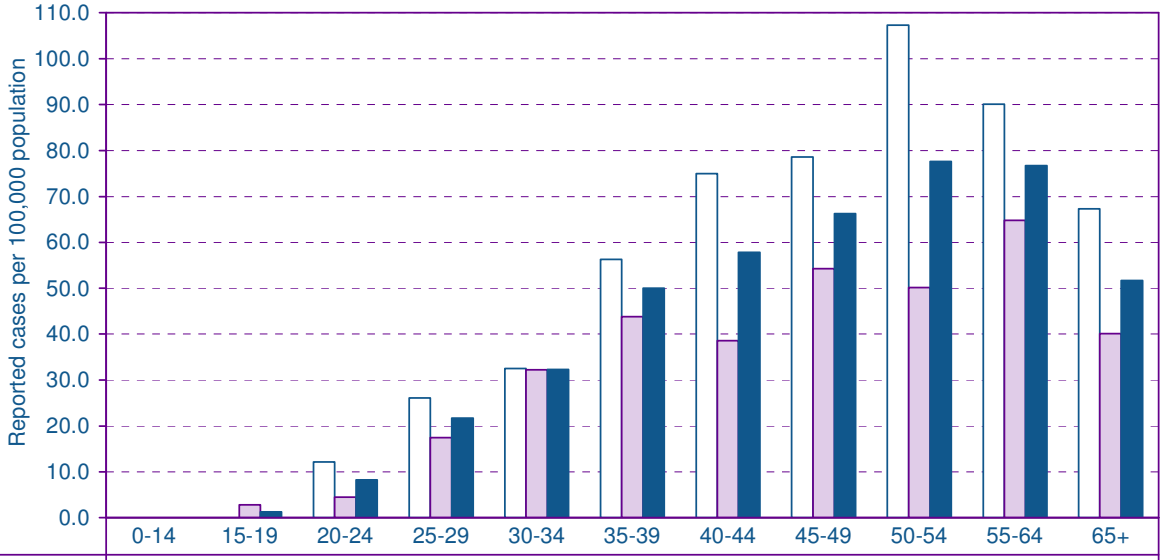
Table 1.14: Late latent syphilis summary data Toronto						
	2006		5-yr period 2001-2005		10-yr period 1996-2005	
	Total		Means			
Number of reported cases	1018		218		170	
Incidence rate (per 100,000 population)						
Overall	38.7		8.3		6.6	
Male	46.3		9.7		7.5	
Female	31.3		7.0		5.8	
Age at onset (years)	Summary statistics					
Mean	51		48		47	
Median	50		46		45	
Range	17	92	16	98	15	98

Figure 1.21: Incidence of late latent syphilis by year. Toronto, the rest of Ontario and Canada*, 1996 - 2006



*Canada data includes all syphilis stages except infectious and congenital, but is equivalent to late latent syphilis for comparison purposes.
NA: Ontario data for 2005 and 2006, and Canada data for 2006 are not available.

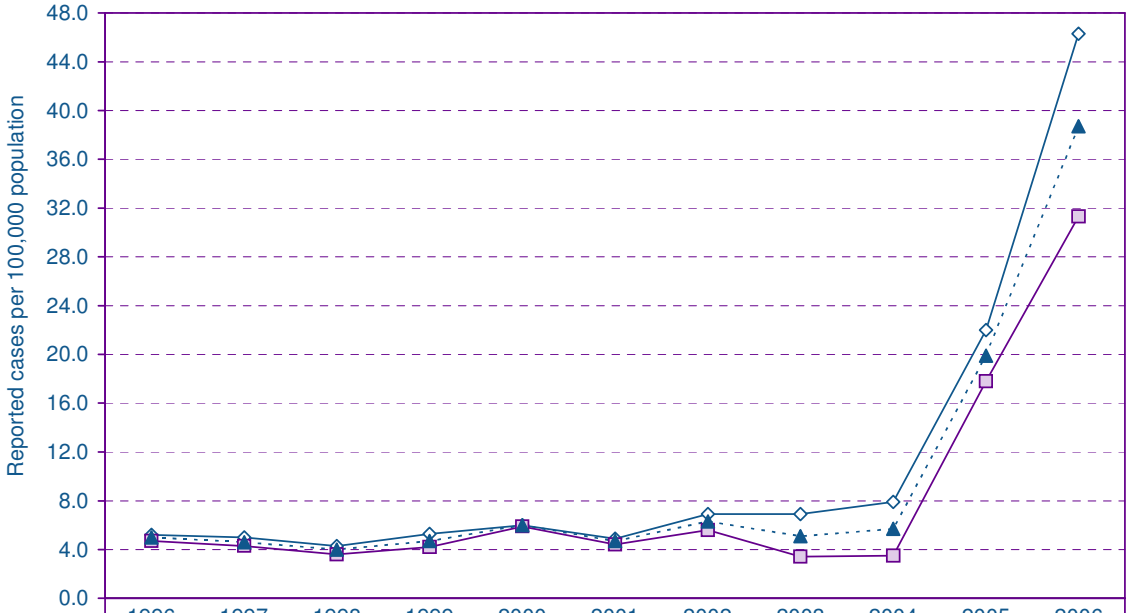
Figure 1.22: Incidence of late latent syphilis by age group and sex. Toronto, 2006



	0-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-64	65+
Male rates	0.0	0.0	12.2	26.1	32.5	56.3	75.0	78.6	107.3	90.1	67.3
Female rates	0.0	2.8	4.5	17.5	32.2	43.8	38.6	54.3	50.2	64.8	40.1
Overall rates	0.0	1.3	8.3	21.7	32.3	50.0	57.8	66.2	77.6	76.7	51.7
Male cases	0	0	11	28	39	60	81	75	89	111	100
Female cases	0	2	4	20	39	47	41	54	45	90	80

Age group (years)

Figure 1.23: Incidence rates of late latent syphilis by sex and year. Toronto, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Male rates	5.2	5.0	4.3	5.3	6.0	4.9	6.9	6.9	7.9	22.0	46.3
Female rates	4.7	4.3	3.6	4.2	5.9	4.4	5.6	3.4	3.5	17.8	31.3
Overall rates	5.0	4.6	4.0	4.7	6.0	4.7	6.3	5.1	5.7	19.9	38.7

Year

Figure 1.24: Incidence of HIV and late latent syphilis co-infections by year. Toronto, 1996 - 2006

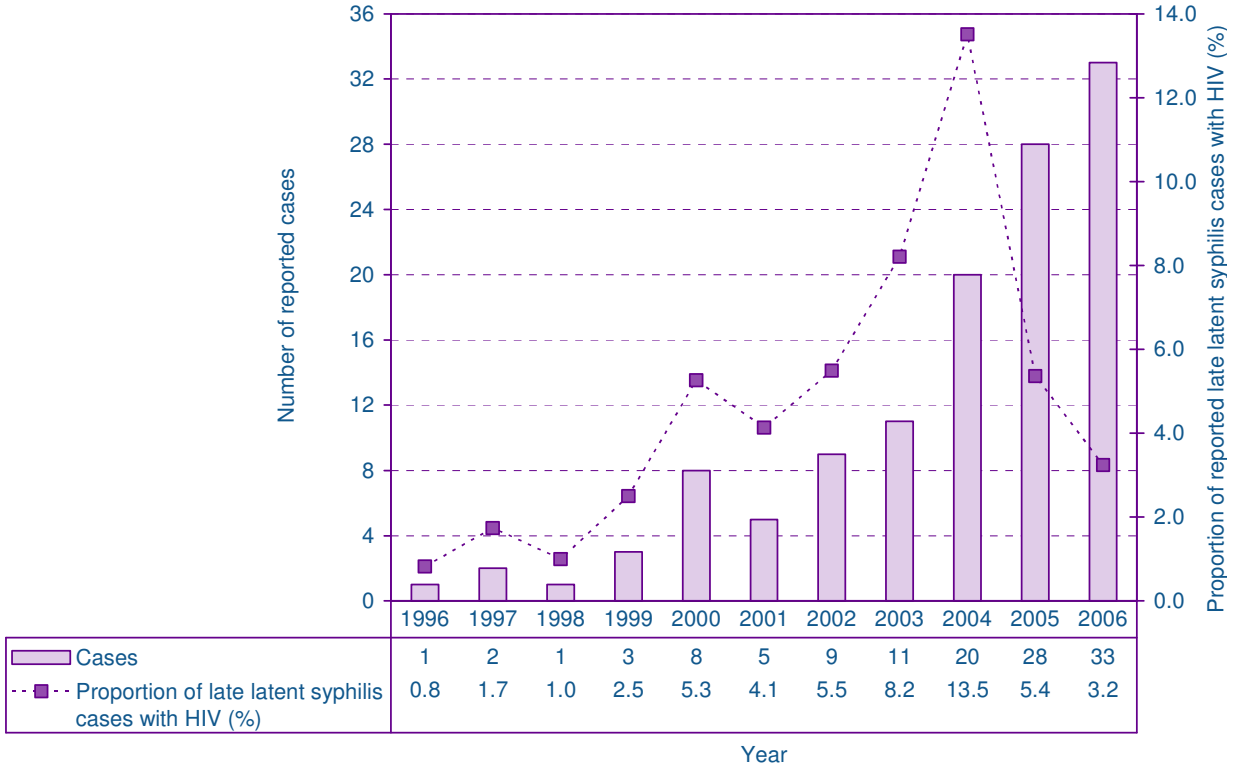


Table 1.15: Risk factors for reported cases of late latent syphilis by sex*. Toronto, 2006

Reported risk factor	Number of cases† (%)					
	Male		Female		Overall	
No condom used	319	(86)	234	(95)	554	(89)
Sex with same sex	51	(14)	0	(0)	52	(8)
Multiple sex partners in last six months	38	(10)	12	(5)	50	(8)
Travel outside province	24	(6)	11	(4)	35	(6)
New partner in past two months	9	(2)	2	(<1)	11	(2)
Partner visiting from outside province	4	(1)	4	(2)	8	(1)
Partner with multiple sex partners	3	(<1)	2	(<1)	6	(<1)
Judgement inpaired by alcohol/drugs	4	(1)	1	(<1)	5	(<1)
Sex trade worker	2	(<1)	3	(1)	5	(<1)
Sex with sex trade worker	5	(1)	0	(0)	5	(<1)
Condom breakage	3	(<1)	1	(<1)	4	(<1)
Homeless	4	(1)	0	(0)	4	(<1)
Bath house	2	(<1)	0	(0)	2	(<1)
Met partner through internet	2	(<1)	0	(0)	2	(<1)
Sex for drugs	0	(0)	1	(<1)	1	(<1)
Total with a known risk factor	**372**		**247**		**621**	
Number missing or unknown	222		175		397	
Total cases	**594**		**422**		**1018**	

*The sex of two cases were unknown/transgendered.
†Cases may report more than one risk factor.

Enteric, Food and Waterborne Diseases

Communicable Diseases in Toronto

2006

Toronto Public Health

Enteric, Food and Waterborne Diseases

These are diseases caused by infectious agents that are shed in the feces and can contaminate food or water sources. Transmission occurs primarily through ingestion of infected food or water, and more rarely through direct or fecal-oral contact with an infected person (e.g. oral-anal contact). This group of diseases is widespread in Toronto. Relative proportions of each disease within this grouping, and their ranking are listed below. ❑

Table 2.1: Number and proportion of reported cases of enteric, food and waterborne diseases. Toronto, 2006

Ranking	Reportable disease	Number of cases	Proportion of cases (%)
1	*Campylobacter* enteritis	965	34
2	Salmonellosis	526	19
3	Giardiasis	519	19
4	Amebiasis	319	11
5	Yersiniosis	107	4
6	Hepatitis A	91	3
7	Cryptosporidiosis	85	3
8	Shigellosis	57	2
9	Verotoxin-producing *E. coli* infection	43	2
10	Typhoid fever	37	1
11	Cyclosporiasis	25	<1
12	Paratyphoid fever	15	<1
13	Listeriosis	13	<1
14	Botulism	3	<1
	Total	**2805**	**100**

Rare reportable diseases not summarized in this section include cholera and trichinosis.

Select highlights

Hepatitis A

- Reports of hepatitis A in 2006 were 71% higher than expected when compared to the previous 5-year average (Table 2.17). This excess can be partially attributed to the occurrence of an outbreak in the West region of Toronto which accounted for 25% (n=23) of the total cases reported in 2006.

Cryptosporidiosis

- The total number of cryptosporidiosis reports in 2006 was approximately twice that expected based on comparison to the mean of the previous 5-year period (Table 2.8) and was the highest observed value since cryptosporidiosis became reportable in 1996 (Figure 2.8). Toronto's cases and the increased numbers observed in five other Ontario health units were investigated epidemiologically, but no common exposure could be found to explain the increase.

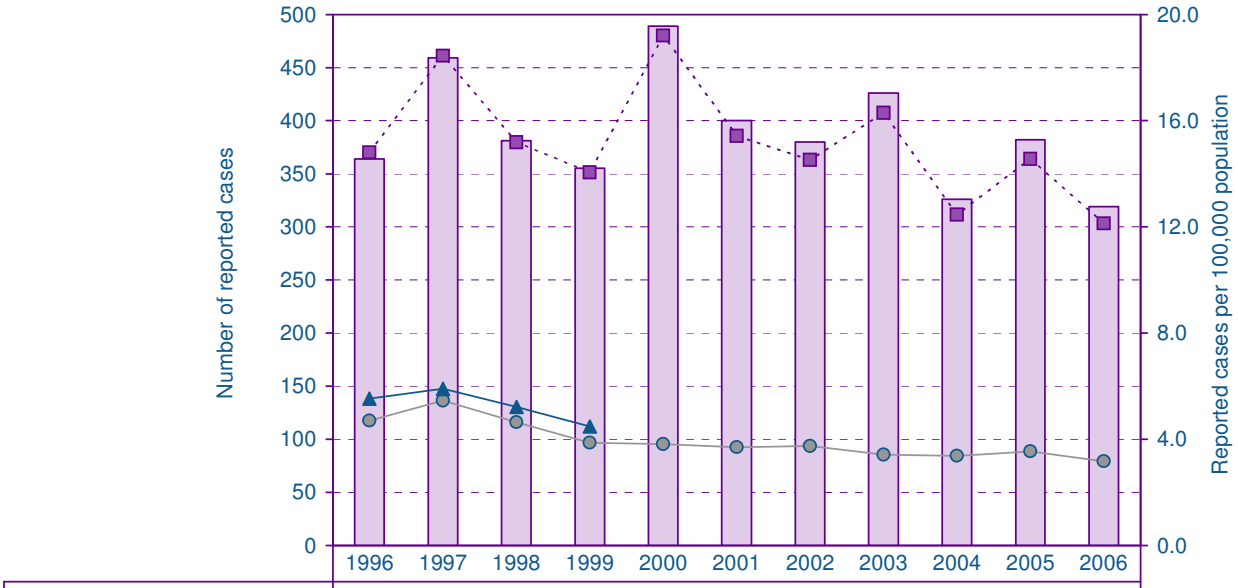
Transmission among men who have sex with men (MSM)

- As in previous years, rates of some enteric diseases, most notably amebiasis and giardiasis, were significantly higher among men than women (Figure 2.3, Figure 2.16), with rates for males approximately twice that of females. This trend has been attributed to transmission of enteric pathogens between men who have sex with men (MSM). For amebiasis and giardiasis, this trend has been observed over the previous 10–year period, and continued in 2006. The largest differences were seen in adult age groups for both diseases (Figure 2.2, Figure 2.15). This was confirmed for both amebiasis and giardiasis; where reported, sexual contact was the most frequently reported exposure source.

Amebiasis

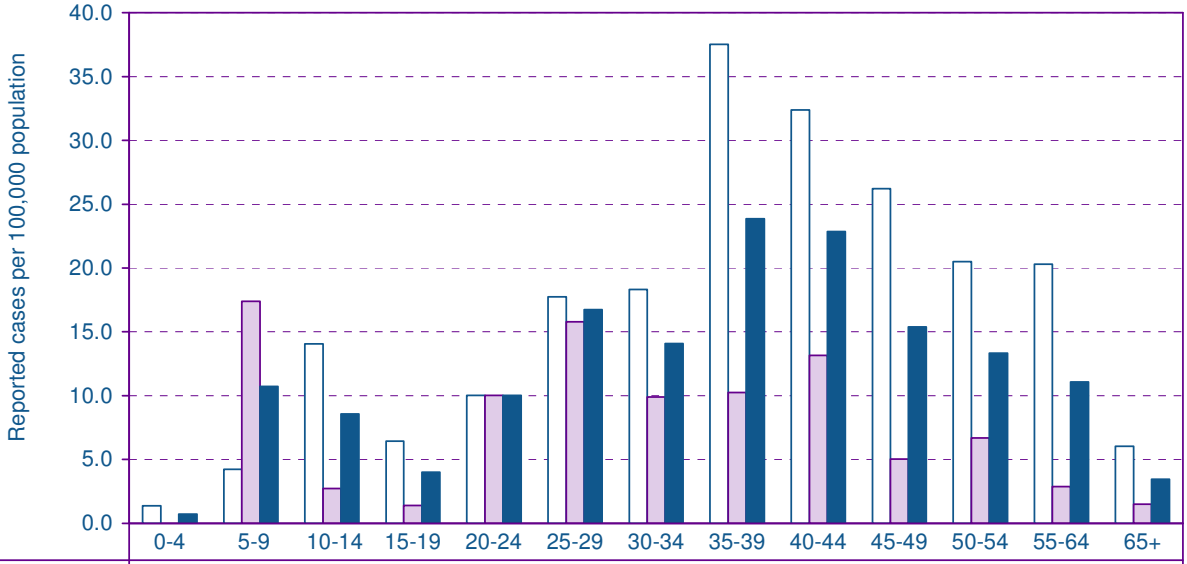
Table 2.2: Amebiasis summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	319	383	396
Incidence rate (per 100,000 population)			
Overall	12.1	14.6	15.5
Male	17.3	22.1	23.4
Female	7.2	7.6	7.9
Age at onset (years)	Summary statistics		
Mean	38	37	36
Median	38	37	36
Range	3 86	1 103	<1 103

Figure 2.1: Incidence of amebiasis by year.
Toronto, the rest of Ontario and Canada, 1996 - 2006



NR: Not reportable. Amebiasis was no longer nationally notifiable in Canada as of 2000.

Figure 2.2: Incidence of amebiasis by age group* and sex. Toronto, 2006

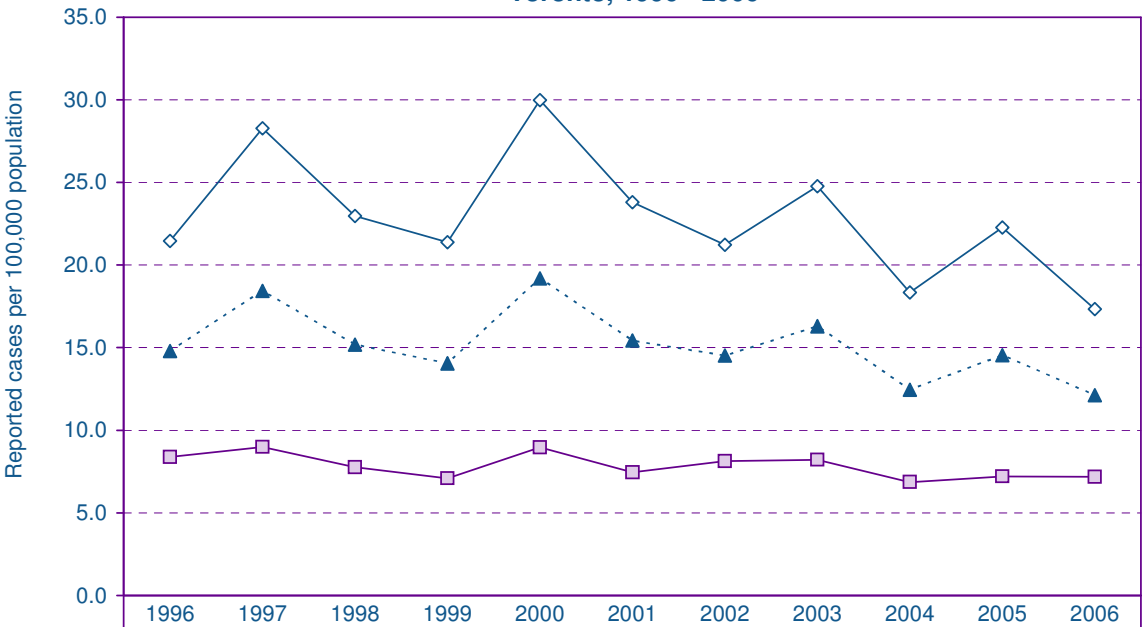


	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-64	65+
Male rates	1.4	4.2	14.0	6.4	10.0	17.7	18.3	37.5	32.4	26.2	20.5	20.3	6.1
Female rates	0.0	17.4	2.7	1.4	10.0	15.8	9.9	10.3	13.2	5.0	6.7	2.9	1.5
Overall rates	0.7	10.7	8.6	4.0	10.0	16.7	14.1	23.8	22.9	15.4	13.3	11.1	3.4
Male cases	1	3	11	5	9	19	22	40	35	25	17	25	9
Female cases	0	12	2	1	9	18	12	11	14	5	6	4	3

*The age of one case was not reported.

Age group (years)

Figure 2.3: Incidence rates of amebiasis by sex and year. Toronto, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Male rates	21.5	28.3	23.0	21.4	30.0	23.8	21.2	24.8	18.3	22.3	17.3
Female rates	8.4	9.0	7.8	7.1	9.0	7.5	8.1	8.2	6.9	7.2	7.2
Overall rates	14.8	18.4	15.2	14.0	19.2	15.4	14.5	16.3	12.5	14.5	12.1

Year

Figure 2.4: Number of reported cases of amebiasis by month. Toronto, 2006 compared to 1996 - 2005 mean

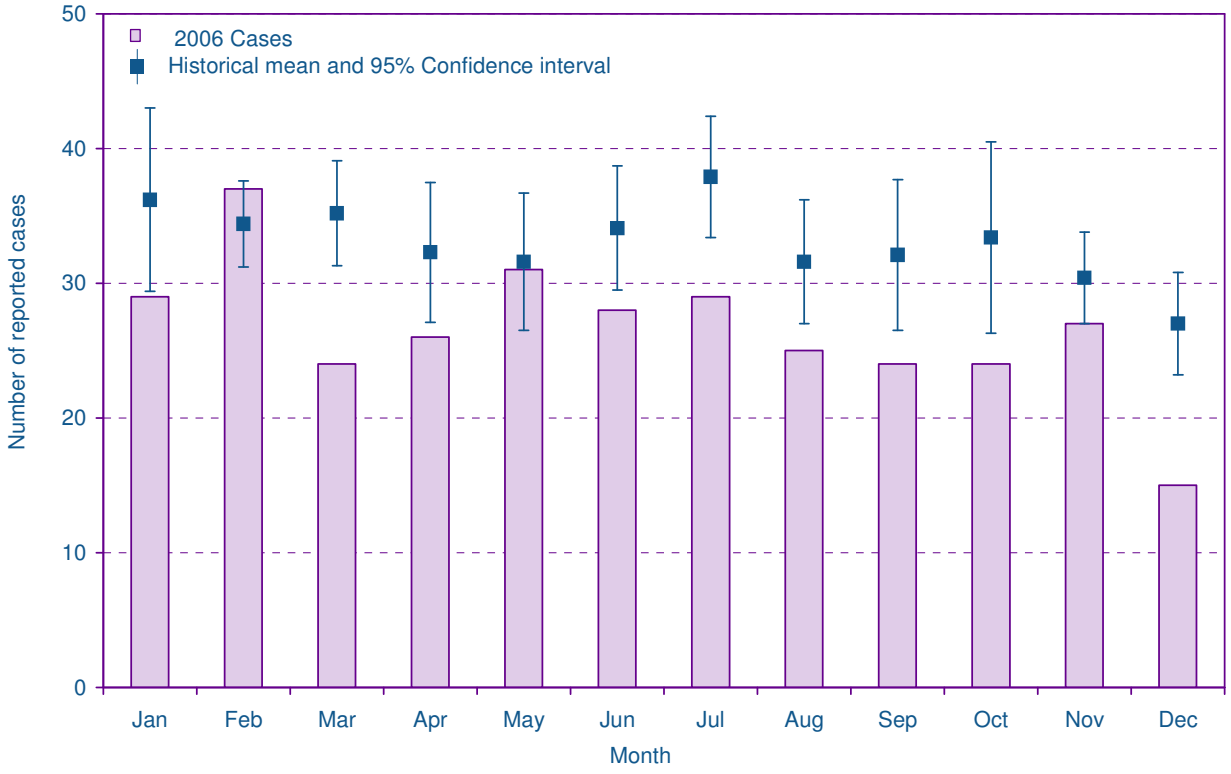


Table 2.3: Exposure source for reported cases of amebiasis. Toronto, 2006

Reported exposure source	Number of cases*	(%)
Person-to-person - Sexual contact	25	(8)
Foodborne	12	(4)
Water - Unknown	5	(2)
Item-to-person	4	(1)
Water - Drinking water	3	(<1)
Person-to-person - Other†	2	(<1)
Missing or unknown	270	(85)
Total cases	**319**	

*Cases may report more than one exposure source.
†Excludes sexual contact.

Table 2.4: Exposure setting for reported cases of amebiasis. Toronto, 2006

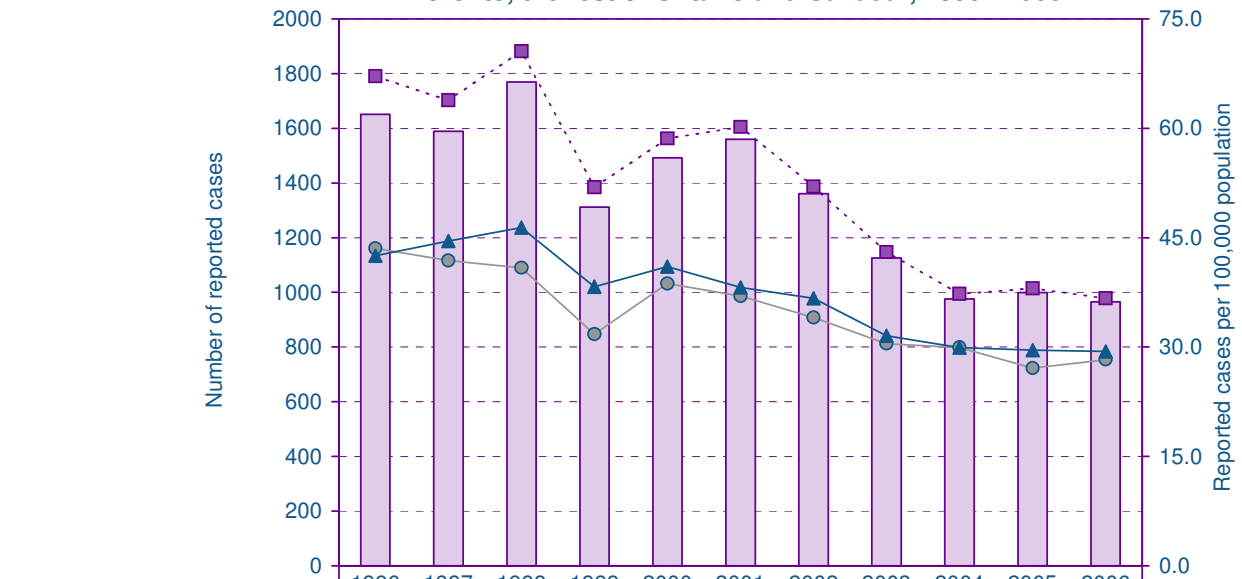
Reported exposure setting	Number of cases* (%)	
Travel - Out of Canada	36	(11)
Restaurant	2	(<1)
Private home	1	(<1)
Missing or unknown	280	(88)
Total cases	**319**	

*Cases may report more than one exposure setting.

Campylobacter enteritis

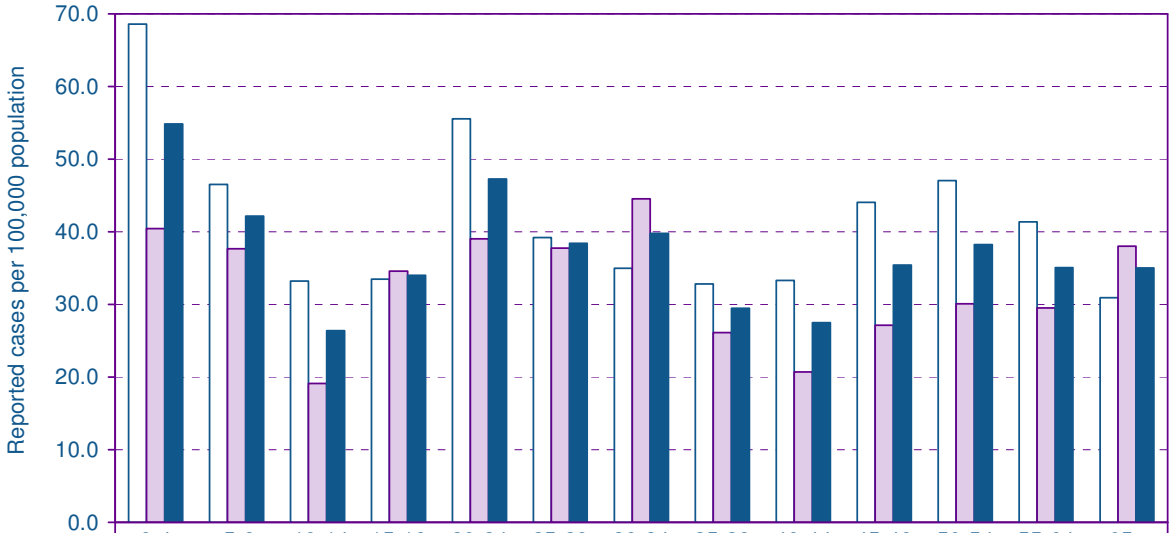
Table 2.5: *Campylobacter* enteritis summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	965	1204	1384
Incidence rate (per 100,000 population)			
Overall	36.7	46.1	54.0
Male	40.4	52.0	59.7
Female	33.0	40.4	48.5
Age at onset (years)	Summary statistics		
Mean	37	33	31
Median	34	31	29
Range	<1 95	<1 100	<1 100
Hospitalization rate (%)	6	4	3

Figure 2.5: Incidence of *Campylobacter* enteritis by year. Toronto, the rest of Ontario and Canada*, 1996 - 2006



*Canada data for 2006 do not include Nunavut.

Figure 2.6: Incidence of *Campylobacter* enteritis by age group and sex*. Toronto, 2006



	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-64	65+
Male rates	68.6	46.5	33.2	33.5	55.6	39.2	35.0	32.8	33.3	44.0	47.0	41.4	30.9
Female rates	40.4	37.7	19.1	34.6	39.0	37.7	44.5	26.1	20.7	27.1	30.1	29.5	38.1
Overall rates	54.9	42.2	26.4	34.0	47.3	38.4	39.8	29.5	27.5	35.4	38.2	35.1	35.0
Male cases	50	33	26	26	50	42	42	35	36	42	39	51	46
Female cases	28	26	14	25	35	43	54	28	22	27	27	41	76

*The sex of one case was not reported.

Age group (years)

Figure 2.7: Number of reported cases of *Campylobacter* enteritis by month. Toronto, 2006 compared to 1996 - 2005 mean

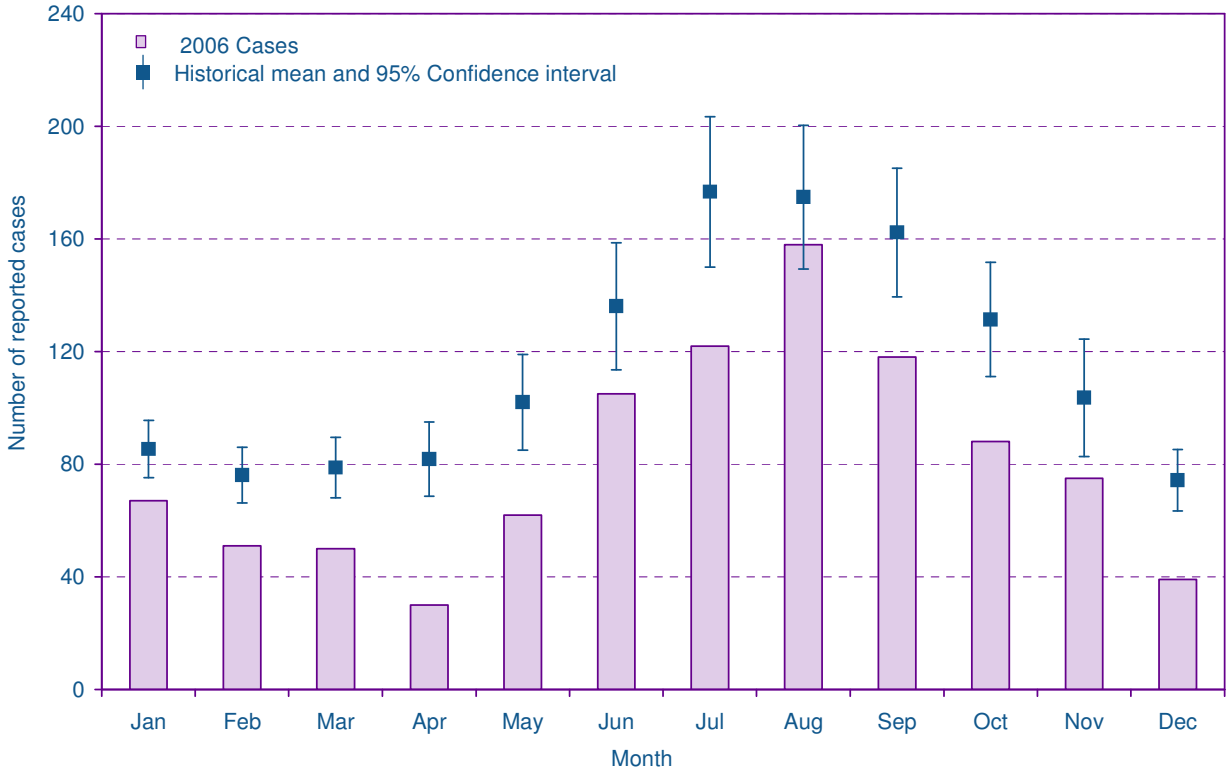


Table 2.6: Exposure source for reported cases of *Campylobacter* enteritis. Toronto, 2006

Reported exposure source	Number of cases*	(%)
Foodborne	123	(13)
Animal-to-person	5	(<1)
Item-to-person	4	(<1)
Water - Recreational	4	(<1)
Water - Drinking water	2	(<1)
Water - Unknown	2	(<1)
Missing or unknown	834	(86)
Total cases	**965**	**0**

*Cases may report more than one exposure source.

Table 2.7: Exposure setting for reported cases of *Campylobacter* enteritis. Toronto, 2006

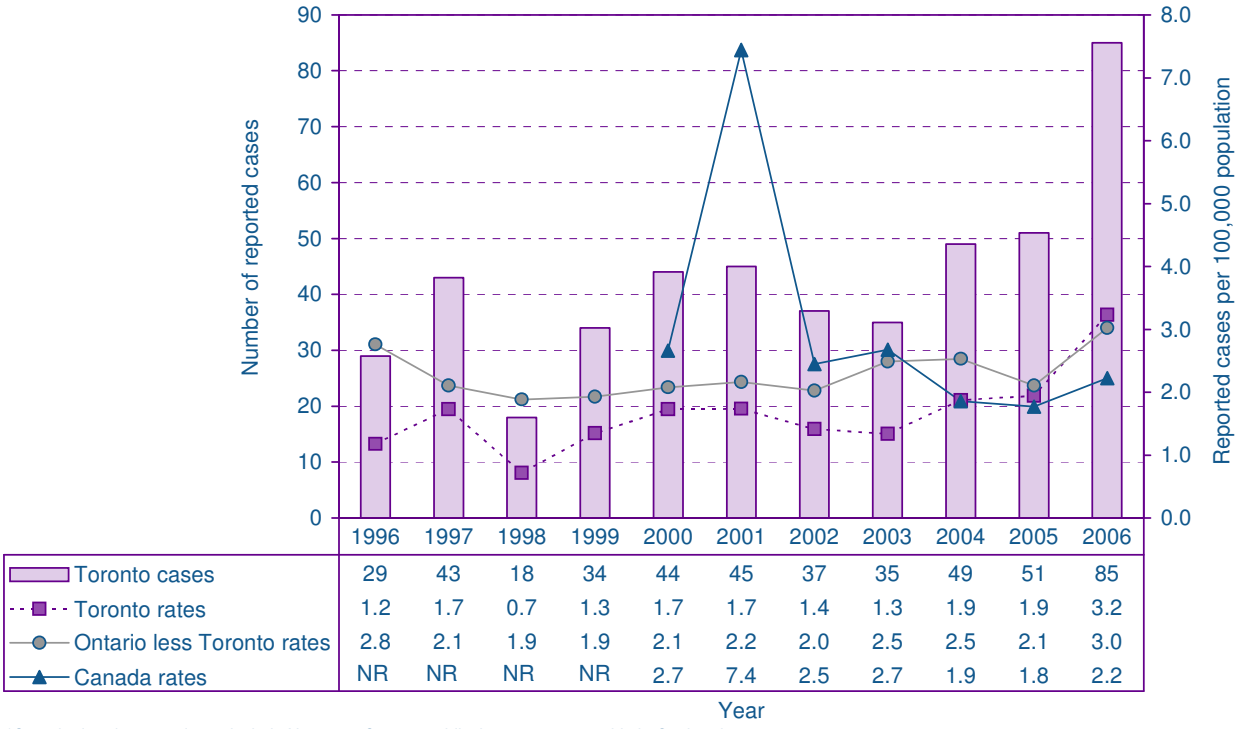
Reported exposure setting	Number of cases*	(%)
Travel - Out of Canada	83	(9)
Restaurant	43	(4)
Private home	28	(3)
Camping†	5	(<1)
Airplane	2	(<1)
Store - Grocery/supermarket	2	(<1)
Farmers' market	1	(<1)
Long term care home	1	(<1)
Travel - Within Ontario	1	(<1)
Other	5	(<1)
Missing or unknown	802	(83)
Total cases	**965**	

*Cases may report more than one exposure setting.
†Includes camp ground and educational camp.

Cryptosporidiosis

Table 2.8: Cryptosporidiosis summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	85	43	39
Incidence rate (per 100,000 population)			
Overall	3.2	1.7	1.5
Male	3.9	2.4	2.1
Female	2.6	1.0	0.9
Age at onset (years)	Summary statistics		
Mean	18	21	22
Median	11	12	18
Range	<1 58	<1 84	<1 84

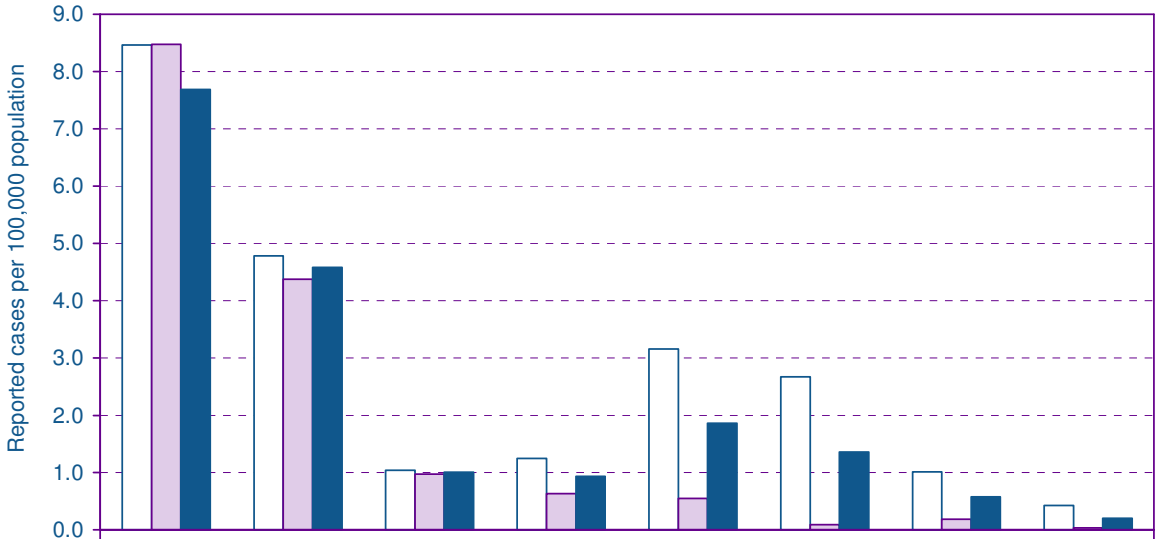
Figure 2.8: Incidence of cryptosporidiosis by year. Toronto, the rest of Ontario and Canada*, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Toronto cases	29	43	18	34	44	45	37	35	49	51	85
Toronto rates	1.2	1.7	0.7	1.3	1.7	1.7	1.4	1.3	1.9	1.9	3.2
Ontario less Toronto rates	2.8	2.1	1.9	1.9	2.1	2.2	2.0	2.5	2.5	2.1	3.0
Canada rates	NR	NR	NR	NR	2.7	7.4	2.5	2.7	1.9	1.8	2.2

*Canada data for 2006 do not include Nunavut. Cryptosporidiosis was not reportable in Quebec for 2000 to 2003.
NR: Not reportable. Starting January 1, 2000 cryptosporidiosis became nationally notifiable.

Figure 2.9: Incidence of cryptosporidiosis by age group and sex. Toronto, 1996 - 2006 combined



	0-4	5-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	8.5	4.8	1.0	1.3	3.2	2.7	1.0	0.4
Female rates	8.5	4.4	1.0	0.6	0.6	<0.1	0.2	<0.1
Overall rates	7.7	4.6	1.0	0.9	1.9	1.4	0.6	0.2
Male cases	72	40	17	27	81	56	15	9
Female cases	69	35	15	14	14	2	3	1

Age group (years)

Figure 2.10: Number of reported cases of cryptosporidiosis by month. Toronto, 2006 compared to 1996 - 2005 mean

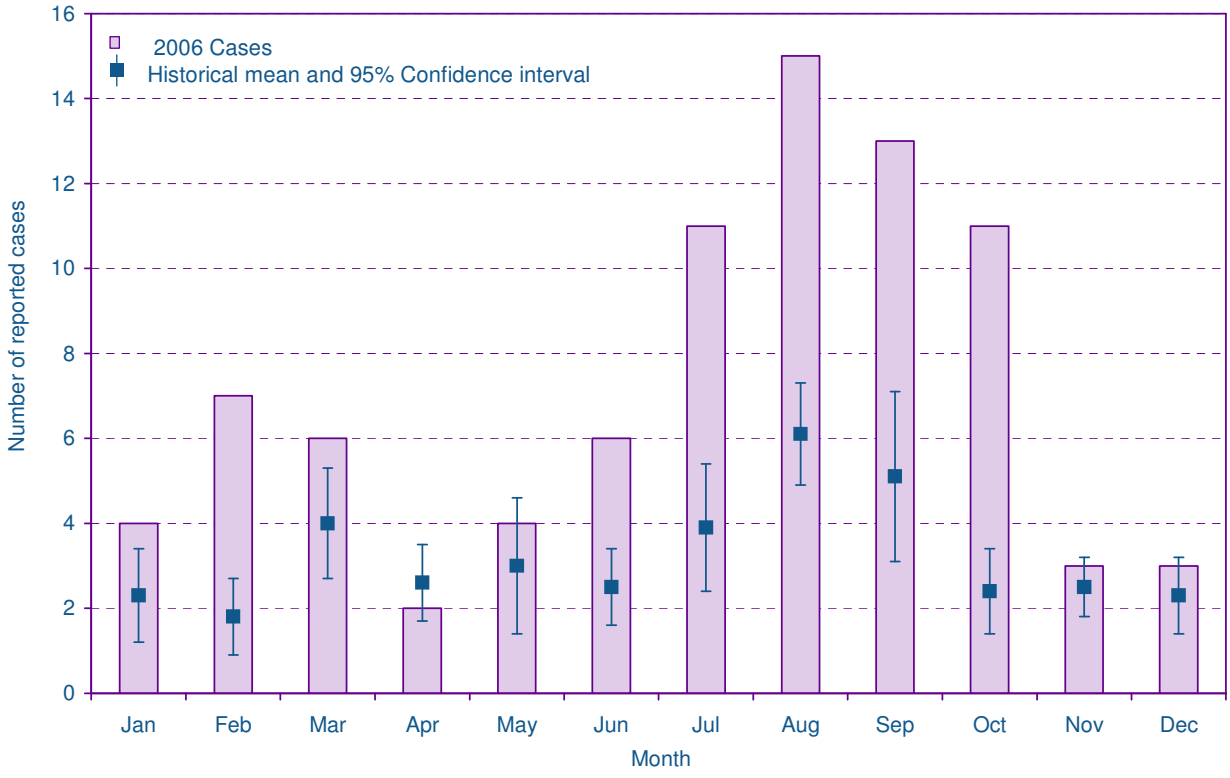


Table 2.9: Exposure source for reported cases of cryptosporidiosis. Toronto, 2006

Reported exposure source	Number of cases*	(%)
Water - Drinking water	7	(8)
Foodborne	6	(7)
Water - Other	5	(6)
Water - Recreational - River, lake, stream	5	(6)
Water - Recreational - Swimming pool	4	(5)
Animal-to-person	3	(4)
Item-to-person	3	(4)
Person-to-person - Sexual contact	3	(4)
Water - Recreational - Wading pool	1	(1)
Missing or unknown	52	(61)
Total cases	**85**	

*Cases may report more than one exposure source.

Table 2.10: Exposure setting for reported cases of cryptosporidiosis. Toronto, 2006

Reported exposure setting	Number of cases*	(%)
Travel - Out of Canada	21	(25)
Travel - Within Canada, out of Ontario	3	(4)
Camping†	3	(4)
Farm	2	(2)
Gym	2	(2)
Private home	2	(2)
Restaurant	2	(2)
Other	6	(7)
Missing or unknown	48	(56)
Total cases	**85**	

*Cases may report more than one exposure setting.
†Includes camp ground and recrational camping.

Cyclosporiasis

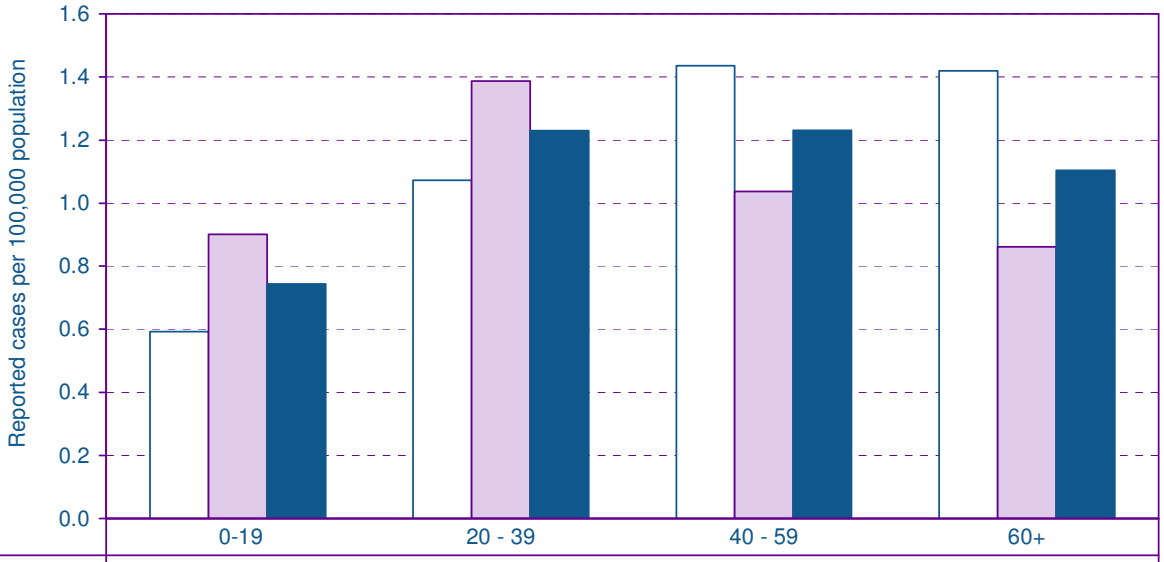
Table 2.11: Cyclosporiasis summary data* Toronto					
	2006	2005	2004	2003	2002
Number of reported cases	25	47	30	14	28
Incidence rate (per 100,000 population)					
Overall	0.9	1.8	1.1	0.5	1.1
Male	0.8	1.8	1.1	0.8	1.1
Female	1.1	1.8	1.2	0.3	1.0
Age at onset (years)	Summary statistics				
Mean	42	37	48	34	40
Median	40	31	48	33	37
Range	1 79	1 79	24 84	2 67	24 80
Outbreak associated cases (%)	4	36	0	0	4

*Cyclosporiasis became reportable in Ontario in 2002.

Figure 2.11: Incidence of cyclosporiasis by year. Toronto, the rest of Ontario* and Canada†, 2002 - 2006

*Cyclosporiasis became reportable in Ontario in 2002.
†Canada data for 2006 do not include Nunavut.

Figure 2.12: Incidence of cyclosporiasis by age group and sex. Toronto, 2002 - 2006 combined



	0-19	20 - 39	40 - 59	60+
Male rates	0.6	1.1	1.4	1.4
Female rates	0.9	1.4	1.0	0.9
Overall rates	0.7	1.2	1.2	1.1
Male cases	9	23	25	14
Female cases	13	30	19	11

Age group (years)

Figure 2.13: Number of reported cases of cyclosporiasis by month. Toronto, 2006 compared to 2002 - 2005 mean

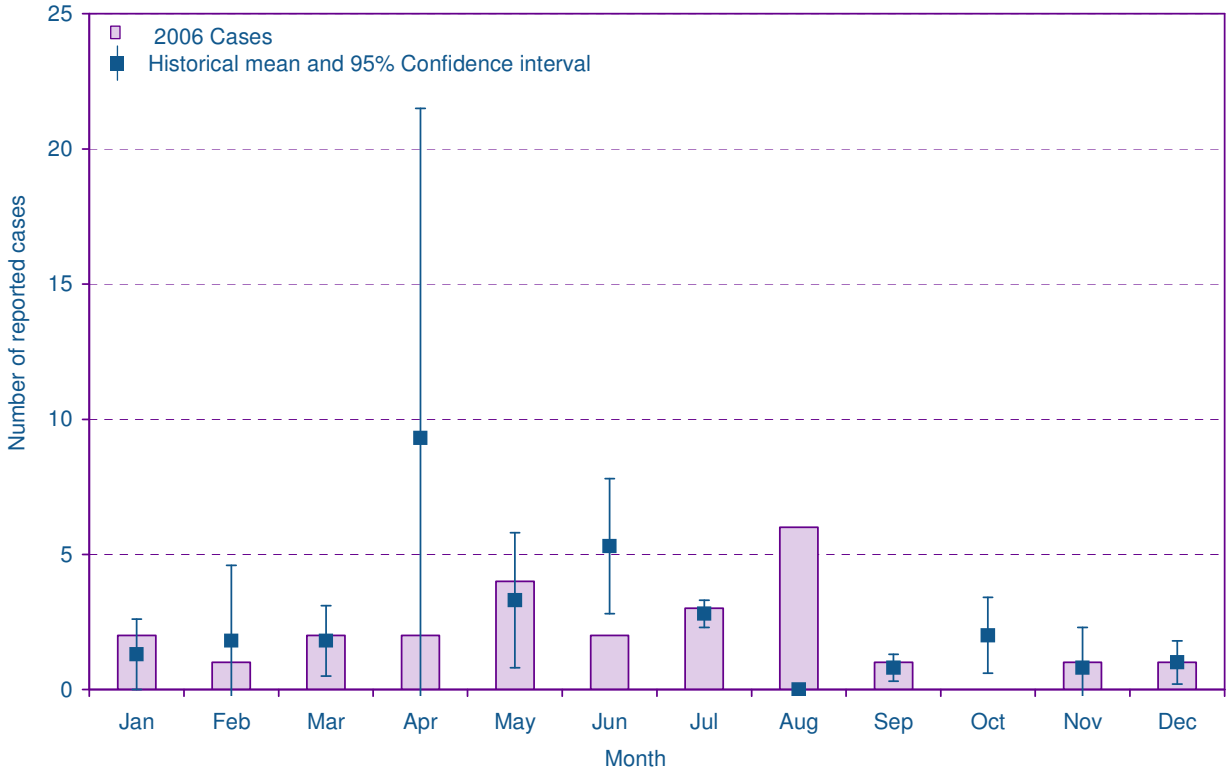


Table 2.12: Exposure source for reported cases of cyclosporiasis. Toronto, 2006

Reported exposure source	Number of cases* (%)	
Foodborne	10	(40)
Water	1	(4)
Missing or unknown	14	(56)
Total cases	**25**	

*Cases may report more than one exposure source.

Table 2.13: Exposure setting for reported cases of cyclosporiasis. Toronto, 2006

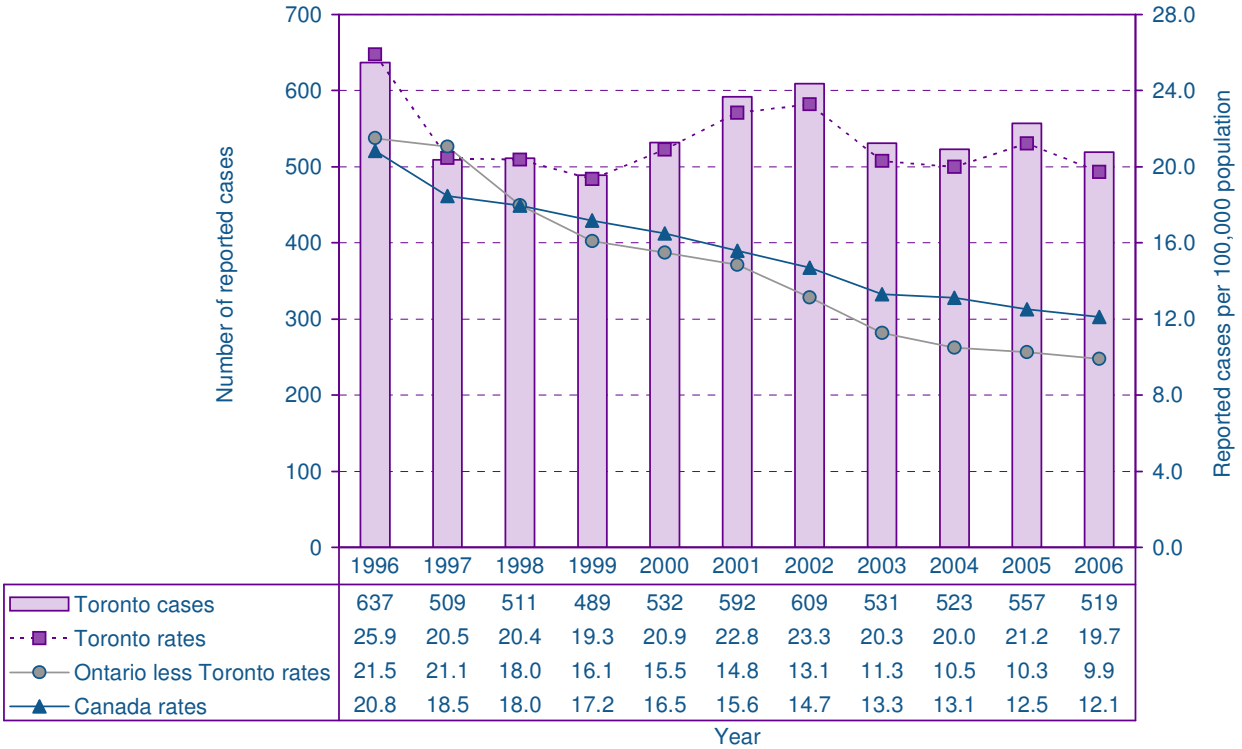
Reported exposure setting	Number of cases* (%)	
Travel - Out of Canada	13	(52)
Private home	1	(4)
Restaurant	1	(4)
Store - Grocery/supermarket	1	(4)
Missing or unknown	9	(36)
Total cases	**25**	

*Cases may report more than one exposure setting.

Giardiasis

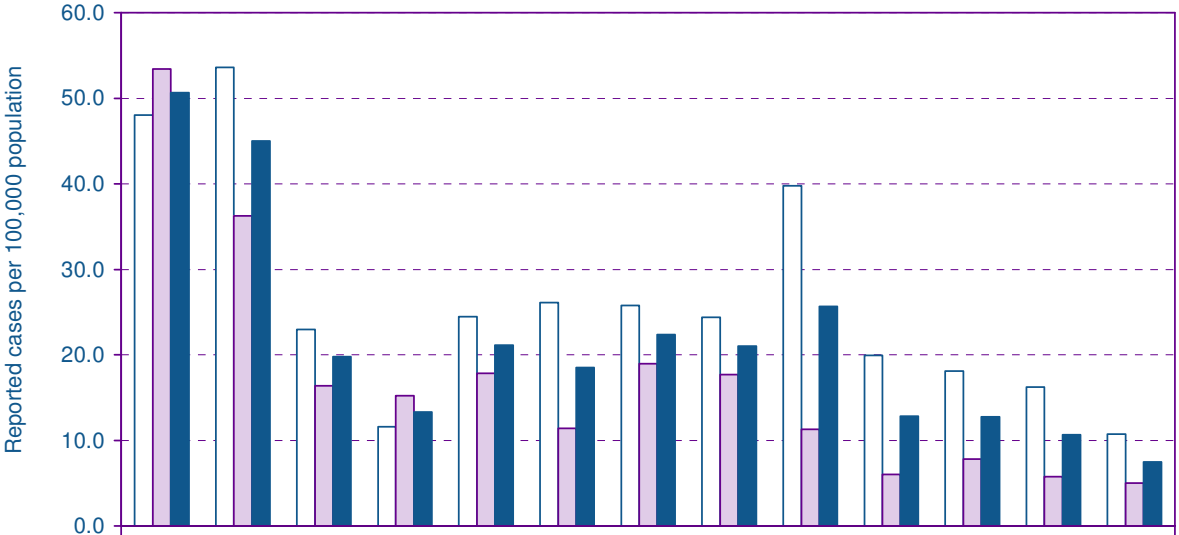
Table 2.14: Giardiasis summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	519	562	549
Incidence rate (per 100,000 population)			
Overall	19.7	21.5	21.4
Male	25.0	28.5	28.0
Female	14.7	14.9	15.2
Age at onset (years)	Summary statistics		
Mean	29	28	28
Median	29	30	29
Range	<1 84	<1 90	<1 99

Figure 2.14: Incidence of giardiasis by year.
Toronto, the rest of Ontario and Canada*, 1996 - 2006



*Canada data for 2006 do not include Nunavut. Giardiasis was not reportable in Manitoba for 1996.

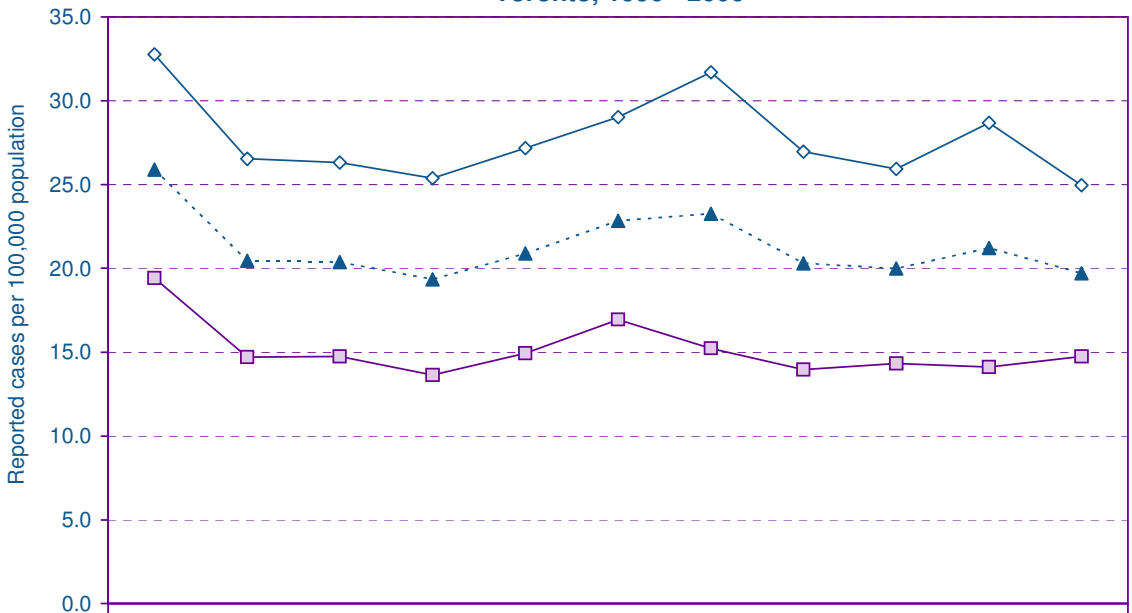
Figure 2.15: Incidence of giardiasis by age group and sex. Toronto, 2006



	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-64	65+
Male rates	48.0	53.6	23.0	11.6	24.5	26.1	25.8	24.4	39.8	19.9	18.1	16.2	10.8
Female rates	53.4	36.2	16.4	15.2	17.8	11.4	19.0	17.7	11.3	6.0	7.8	5.8	5.0
Overall rates	50.7	45.0	19.8	13.3	21.1	18.5	22.4	21.0	25.7	12.8	12.7	10.7	7.5
Male cases	35	38	18	9	22	28	31	26	43	19	15	20	16
Female cases	37	25	12	11	16	13	23	19	12	6	7	8	10

Age group (years)

Figure 2.16: Incidence rates of giardiasis by sex and year. Toronto, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Male rates	32.8	26.5	26.3	25.4	27.2	29.0	31.7	27.0	25.9	28.7	25.0
Female rates	19.4	14.7	14.7	13.6	14.9	16.9	15.2	14.0	14.3	14.1	14.7
Overall rates	25.9	20.5	20.4	19.3	20.9	22.8	23.3	20.3	20.0	21.2	19.7

Year

Figure 2.17: Number of reported cases of giardiasis by month. Toronto, 2006 compared to 1996 - 2005 mean

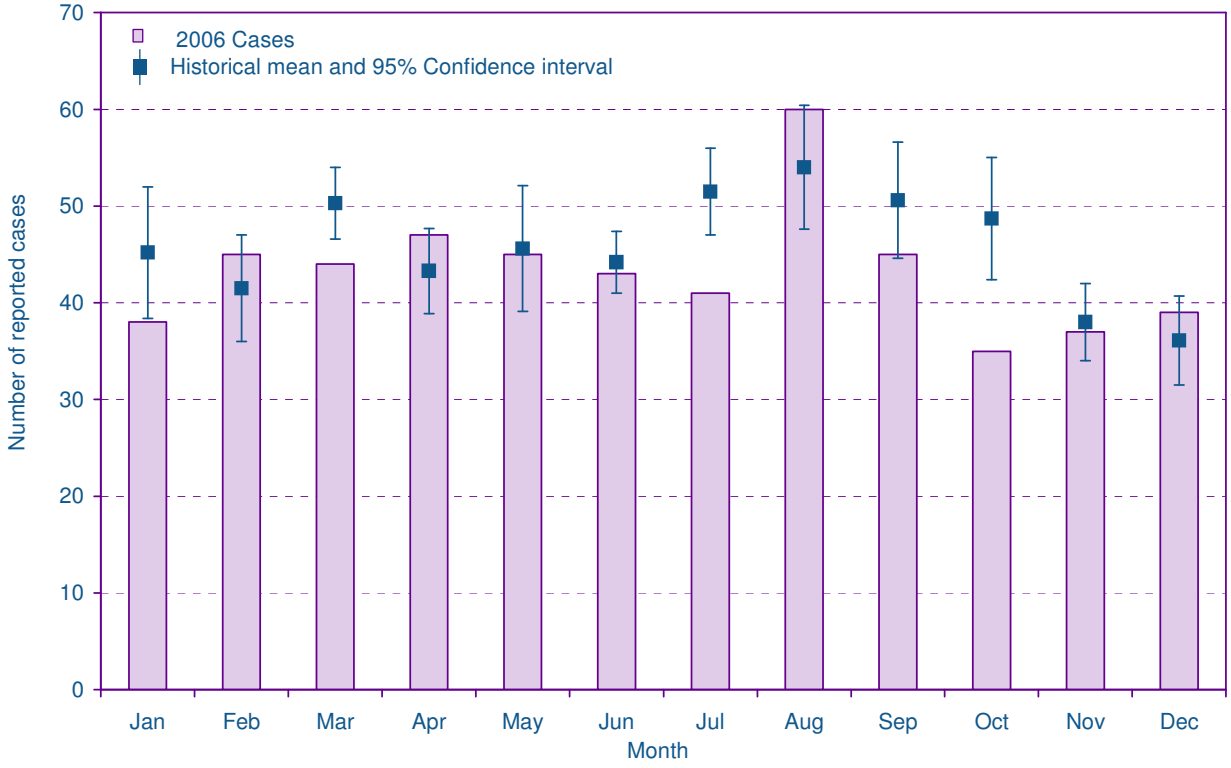


Table 2.15: Exposure source for reported cases of giardiasis. Toronto, 2006

Reported exposure source	Number of cases*	(%)
Person-to-person - Sexual contact	22	(4)
Water - Drinking water	16	(3)
Water - Other	12	(2)
Foodborne	10	(2)
Water - Recreational	6	(1)
Item-to-person	5	(<1)
Person-to-person - Other†	2	(<1)
Missing or unknown	448	(86)
Total cases	**519**	

*Cases may report more than one exposure source.

†Excludes sexual contact.

Table 2.16: Exposure setting for reported cases of giardiasis. Toronto, 2006

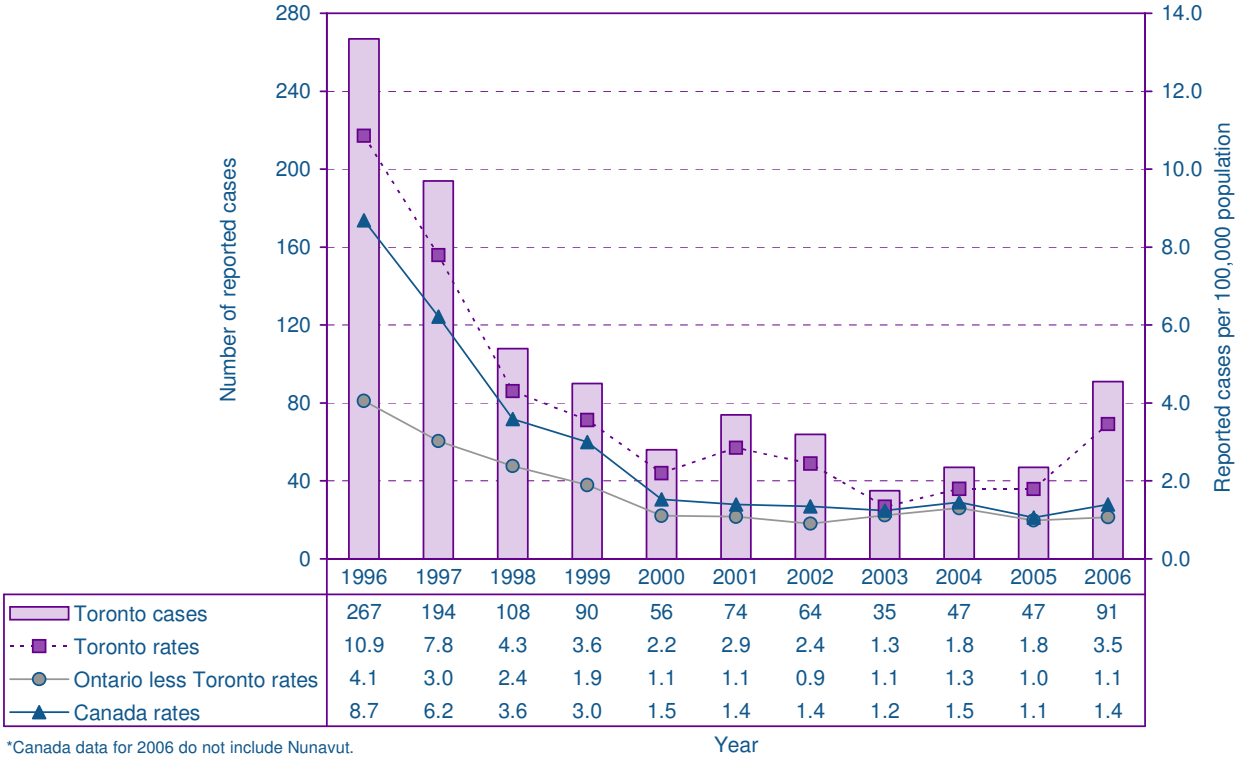
Reported exposure setting	Number of cases*	(%)
Travel - Out of Canada	72	(14)
Private home	4	(<1)
Travel - Within Canada, out of Ontario	4	(<1)
Camping†	2	(<1)
Child care centre	1	(<1)
Travel - Within Ontario	1	(<1)
Other	4	(<1)
Missing or unknown	433	(83)
Total cases	**519**	

*Cases may report more than one exposure setting.
†Includes camp ground and educational camp.

Hepatitis A

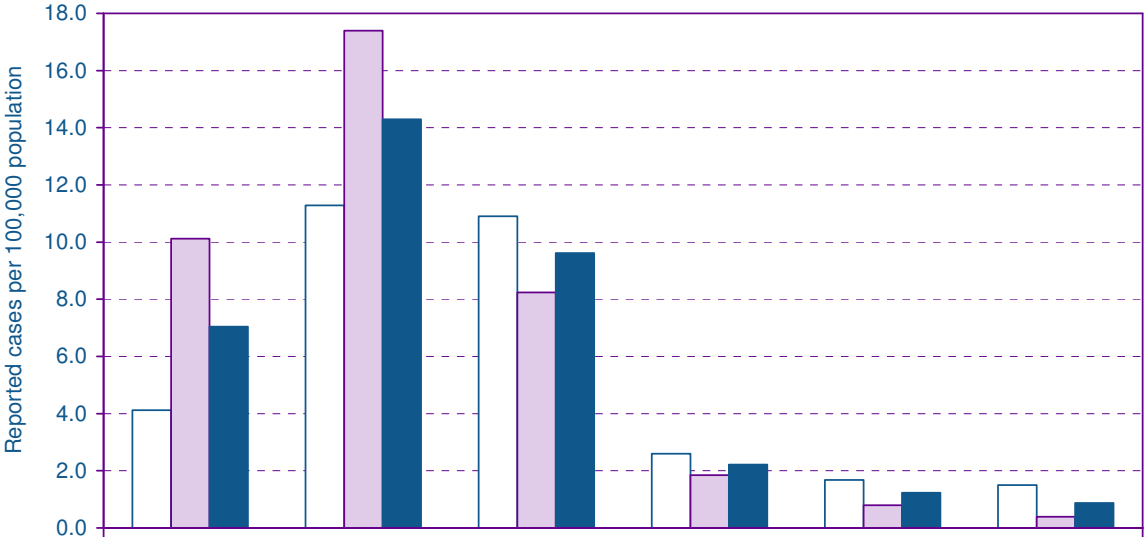
Table 2.17: Hepatitis A summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	91	53	98
Incidence rate (per 100,000 population)			
Overall	3.5	2.0	3.8
Male	3.7	2.4	5.2
Female	3.2	1.7	2.5
Age at onset (years)	Summary statistics		
Mean	20	24	29
Median	13	21	30
Range	1 77	<1 92	<1 92
Outbreak associated cases (%)	25	11	5
Hospitalization rate (%)	20	17	7

Figure 2.18: Incidence of hepatitis A by year.
Toronto, the rest of Ontario and Canada*, 1996 - 2006



*Canada data for 2006 do not include Nunavut.

Figure 2.19: Incidence of hepatitis A by age group and sex. Toronto, 2006



	0-4	5-9	10-19	20 - 39	40 - 59	60+
Male - rates	4.1	11.3	10.9	2.6	1.7	1.5
Female - rates	10.1	17.4	8.2	1.9	0.8	0.4
Overall - rates	7.0	14.3	9.6	2.2	1.2	0.9
Male - cases	3	8	17	11	6	3
Female - cases	7	12	12	8	3	1

Age group (years)

Figure 2.20: Number of reported cases of hepatitis A by month. Toronto, 2006 compared to 1996 - 2005 mean

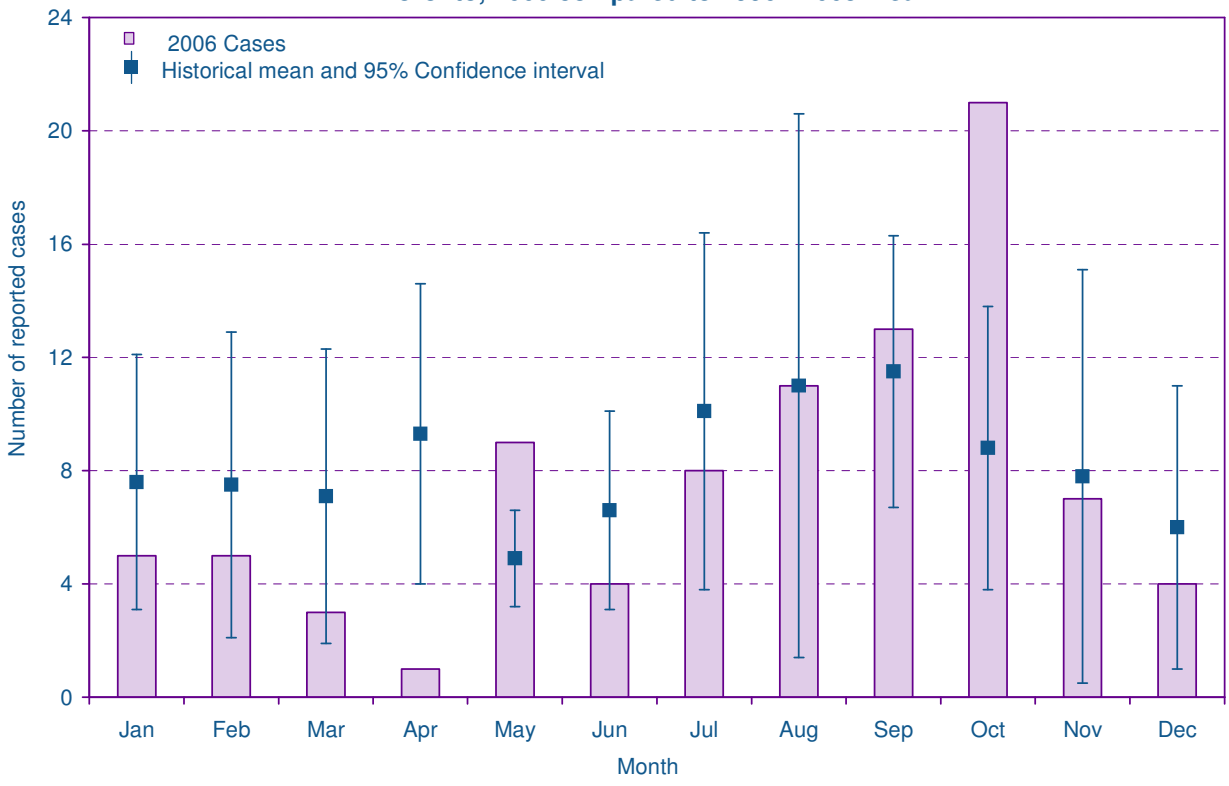


Table 2.18: Exposure source for reported cases of hepatitis A. Toronto, 2006

Reported exposure source	Number of cases* (%)	
Person-to-person - Other[†]	33	(36)
Foodborne	14	(15)
Item-to-person	3	(3)
Water - Drinking Water	2	(2)
Person-to-person - Sexual contact	1	(1)
Water - Recreational	1	(1)
Water - Unknown	1	(1)
Missing or unknown	42	(46)
Total cases	**91**	

*Cases may report more than one exposure source.
[†]Excludes sexual contact.

Table 2.19: Exposure setting for reported cases of hepatitis A. Toronto, 2006

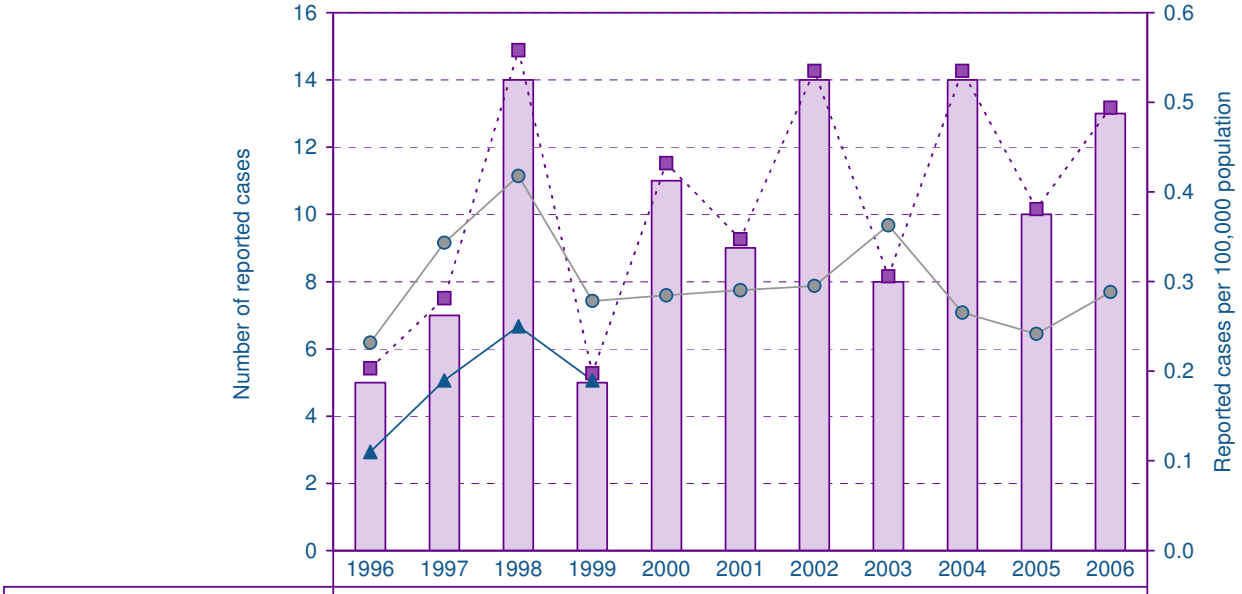
Reported exposure setting	Number of cases* (%)	
Travel - Out of Canada	42	(46)
Private home	27	(30)
Child care centre	5	(5)
Store - Grocery/supermarket	2	(2)
School	1	(1)
Other	1	(1)
Missing or unknown	21	(23)
Total cases	**91**	

*Cases may report more than one exposure setting.

Listeriosis

Table 2.20: Listeriosis summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	13	11	10
Incidence rate (per 100,000 population)			
Overall	0.5	0.4	0.4
Male	0.7	0.3	0.3
Female	0.3	0.6	0.4
Age at onset (years)	Summary statistics		
Mean	73	64	62
Median	80	71	70
Range	46 88	<1 95	<1 95
Hospitalization rate (%)	62	71	72
Case fatality (%)	8	16	21

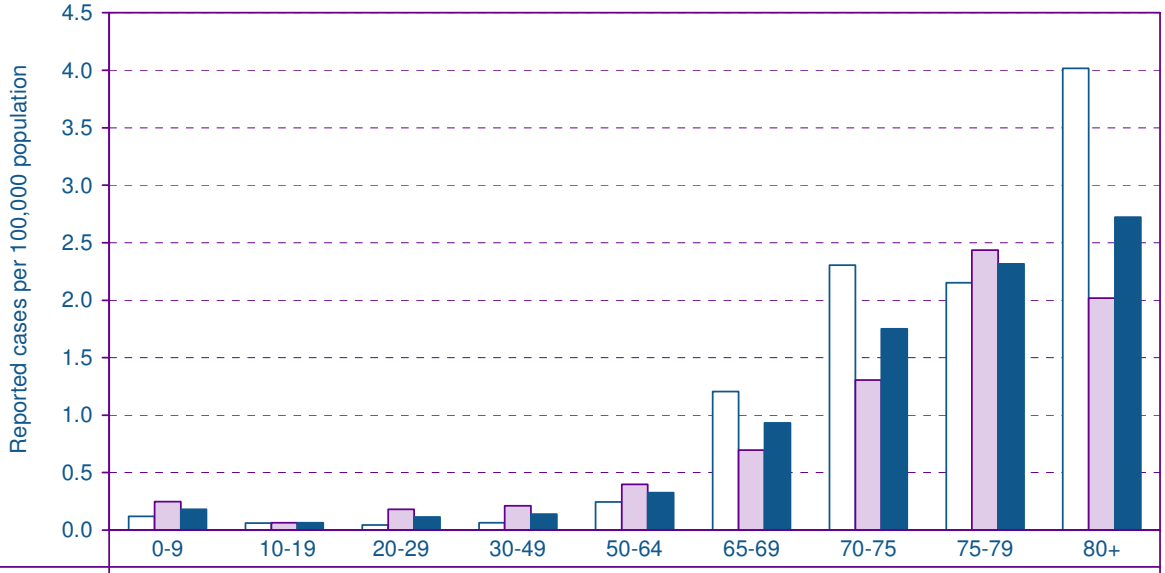
Figure 2.21: Incidence of listeriosis by year.
Toronto, the rest of Ontario and Canada, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Toronto cases	5	7	14	5	11	9	14	8	14	10	13
Toronto rates	0.2	0.3	0.6	0.2	0.4	0.3	0.5	0.3	0.5	0.4	0.5
Ontario less Toronto rates	0.2	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.2	0.3
Canada rates	0.1	0.2	0.3	0.2	NR	NR	NR	NR	NR	NR	NR

NR: Not reportable. Listeriosis was no longer nationally notifiable in Canada as of 2000.

Figure 2.22: Incidence of listeriosis by age group and sex. Toronto, 1996 - 2006 combined



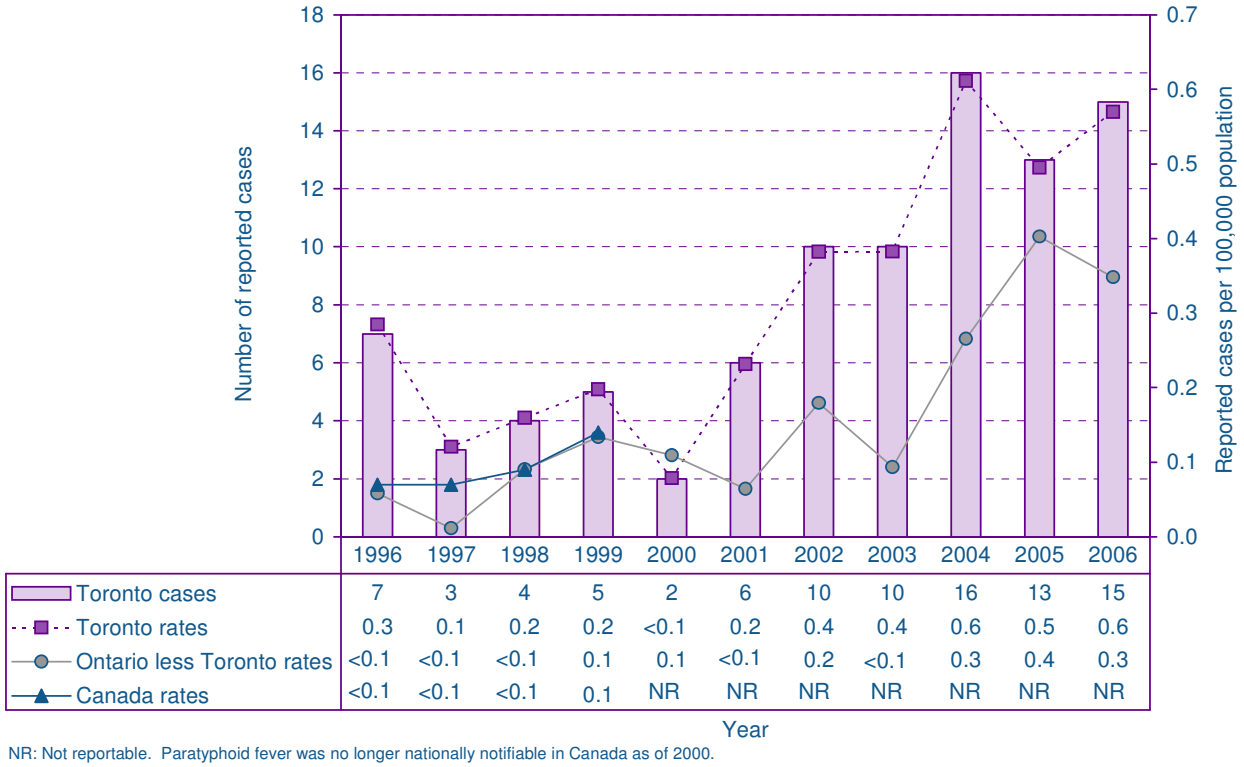
	0-9	10-19	20-29	30-49	50-64	65-69	70-75	75-79	80+
Male rates	0.1	<0.1	<0.1	<0.1	0.2	1.2	2.3	2.2	4.0
Female rates	0.2	<0.1	0.2	0.2	0.4	0.7	1.3	2.4	2.0
Overall rates	0.2	<0.1	0.1	0.1	0.3	0.9	1.8	2.3	2.7
Male cases	2	1	1	3	5	6	10	7	13
Female cases	4	1	4	10	9	4	7	11	12

Age group (years)

Paratyphoid fever

Table 2.21: Paratyphoid fever summary data Toronto						
	2006		5-yr period 2001-2005		10-yr period 1996-2005	
	Total		Means			
Number of reported cases	15		11		8	
Incidence rate (per 100,000 population)						
Overall	0.6		0.4		0.3	
Male	0.8		0.4		0.3	
Female	0.4		0.4		0.3	
Age at onset (years)	Summary statistics					
Mean	31		29		28	
Median	30		28		28	
Range	2	73	1	87	<1	87

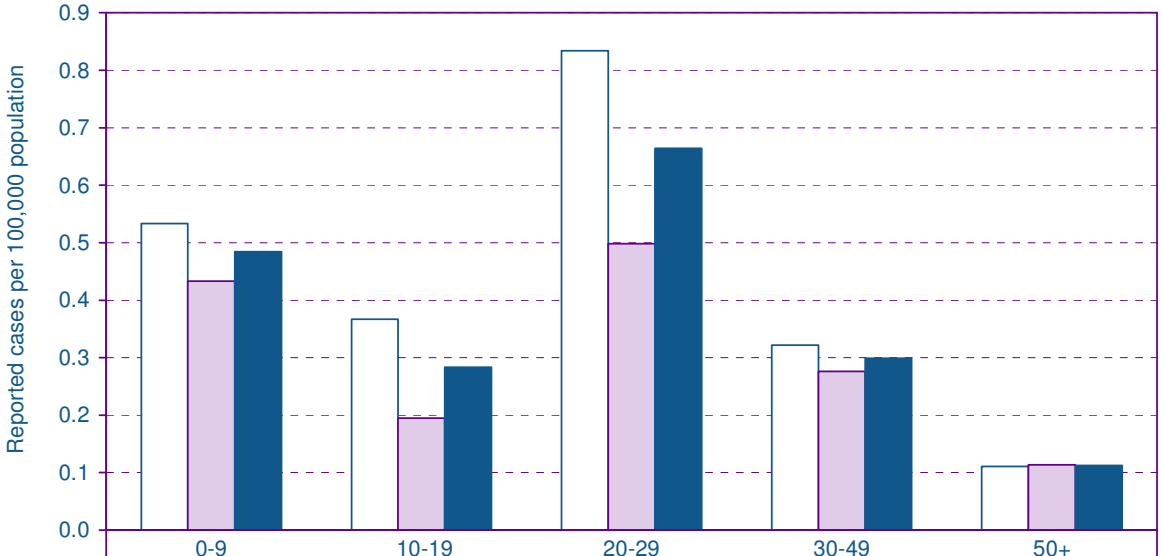
Figure 2.23: Incidence of paratyphoid fever by year. Toronto, the rest of Ontario and Canada, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Toronto cases	7	3	4	5	2	6	10	10	16	13	15
Toronto rates	0.3	0.1	0.2	0.2	<0.1	0.2	0.4	0.4	0.6	0.5	0.6
Ontario less Toronto rates	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.2	<0.1	0.3	0.4	0.3
Canada rates	<0.1	<0.1	<0.1	0.1	NR	NR	NR	NR	NR	NR	NR

NR: Not reportable. Paratyphoid fever was no longer nationally notifiable in Canada as of 2000.

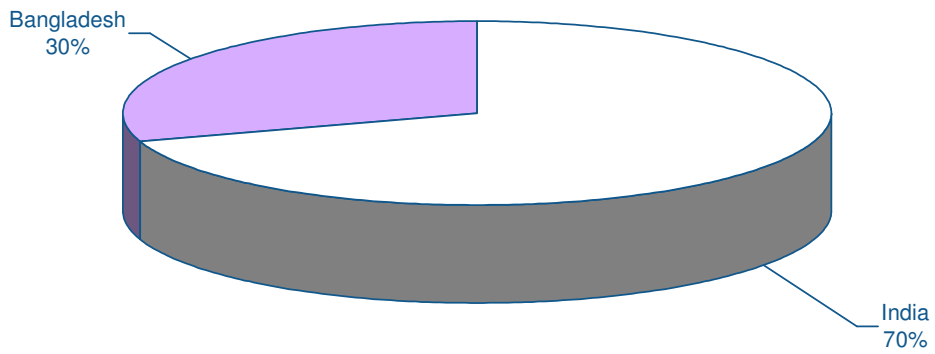
**Figure 2.24: Incidence of paratyphoid fever by age group and sex.
Toronto, 1996 - 2006 combined**



	0-9	10-19	20-29	30-49	50+
Male rates	0.5	0.4	0.8	0.3	0.1
Female rates	0.4	0.2	0.5	0.3	0.1
Overall rates	0.5	0.3	0.7	0.3	0.1
Male cases	9	6	18	15	4
Female cases	7	3	11	13	5

Age group (years)

**Figure 2.25: Travel country for reported cases of paratyphoid fever
with travel related exposure setting.
Toronto, 2006 (N=10)**

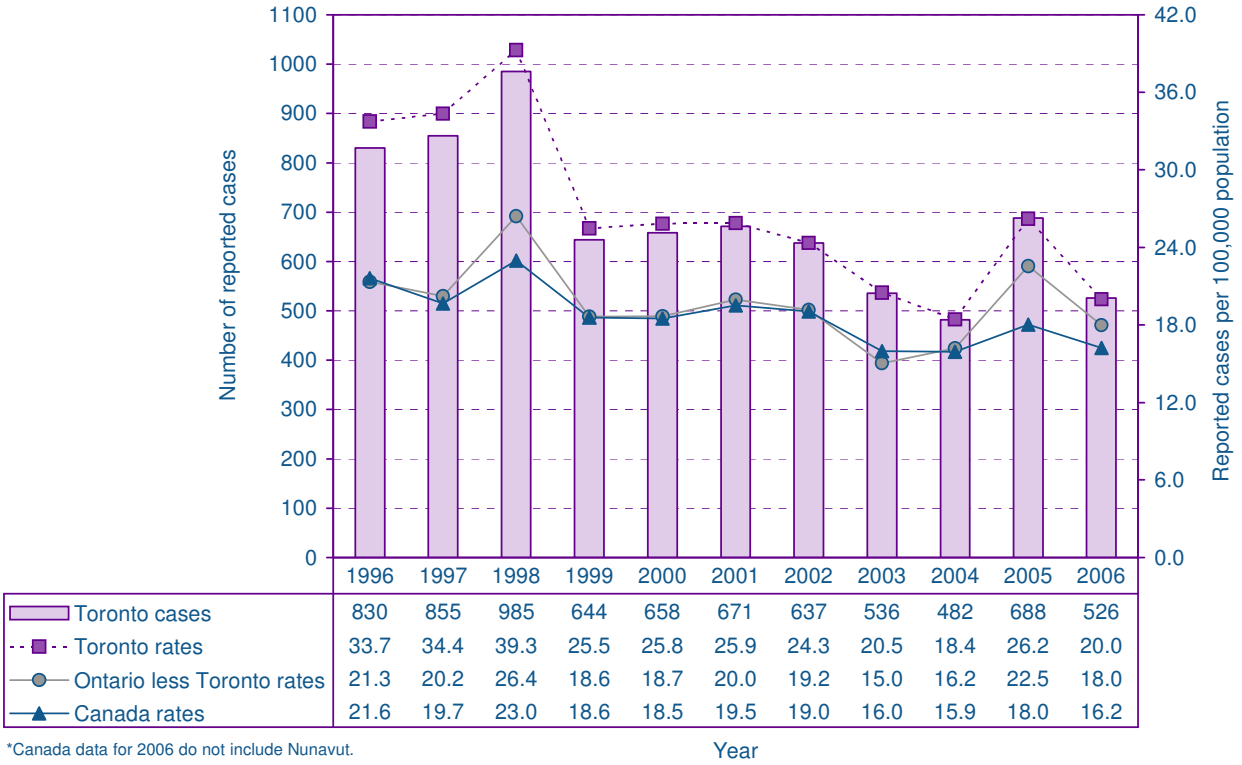


Salmonellosis
(non-typhoidal *Salmonella*)

Table 2.22: Salmonellosis summary data
Toronto

	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	526	603	699
Incidence rate (per 100,000 population)			
Overall	20.0	23.1	27.3
Male	20.2	24.1	27.6
Female	19.8	22.1	26.9
Age at onset (years)	Summary statistics		
Mean	29	27	25
Median	25	24	22
Range	<1 96	<1 101	<1 101
Outbreak associated cases (%)	1	8	5
Hospitalization rate (%)	10	8	6

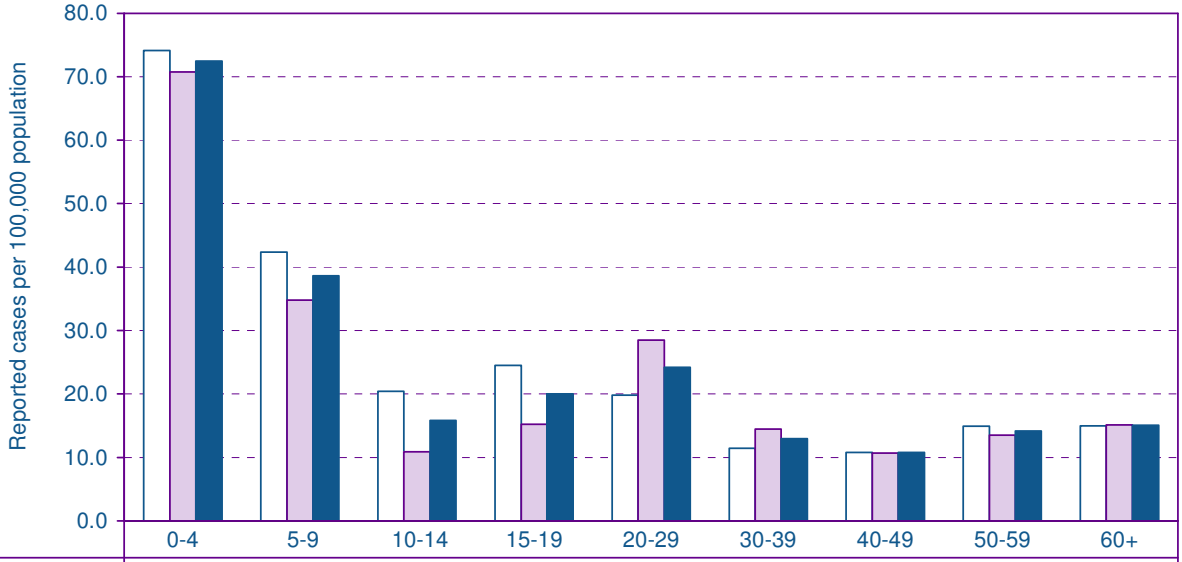
Figure 2.26: Incidence of salmonellosis by year.
Toronto, the rest of Ontario and Canada*, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Toronto cases	830	855	985	644	658	671	637	536	482	688	526
Toronto rates	33.7	34.4	39.3	25.5	25.8	25.9	24.3	20.5	18.4	26.2	20.0
Ontario less Toronto rates	21.3	20.2	26.4	18.6	18.7	20.0	19.2	15.0	16.2	22.5	18.0
Canada rates	21.6	19.7	23.0	18.6	18.5	19.5	19.0	16.0	15.9	18.0	16.2

*Canada data for 2006 do not include Nunavut.

Figure 2.27: Incidence of salmonellosis by age group and sex. Toronto, 2006



	0-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60+
Male rates	74.1	42.3	20.4	24.5	19.8	11.5	10.8	14.9	15.0
Female rates	70.8	34.8	10.9	15.2	28.5	14.4	10.7	13.5	15.1
Overall rates	72.5	38.6	15.8	20.0	24.2	13.0	10.8	14.2	15.0
Male cases	54	30	16	19	39	26	22	23	30
Female cases	49	24	8	11	58	33	22	23	39

Age group (years)

Figure 2.28: Number of reported cases of salmonellosis by month. Toronto, 2006 compared to 1996 - 2005 mean

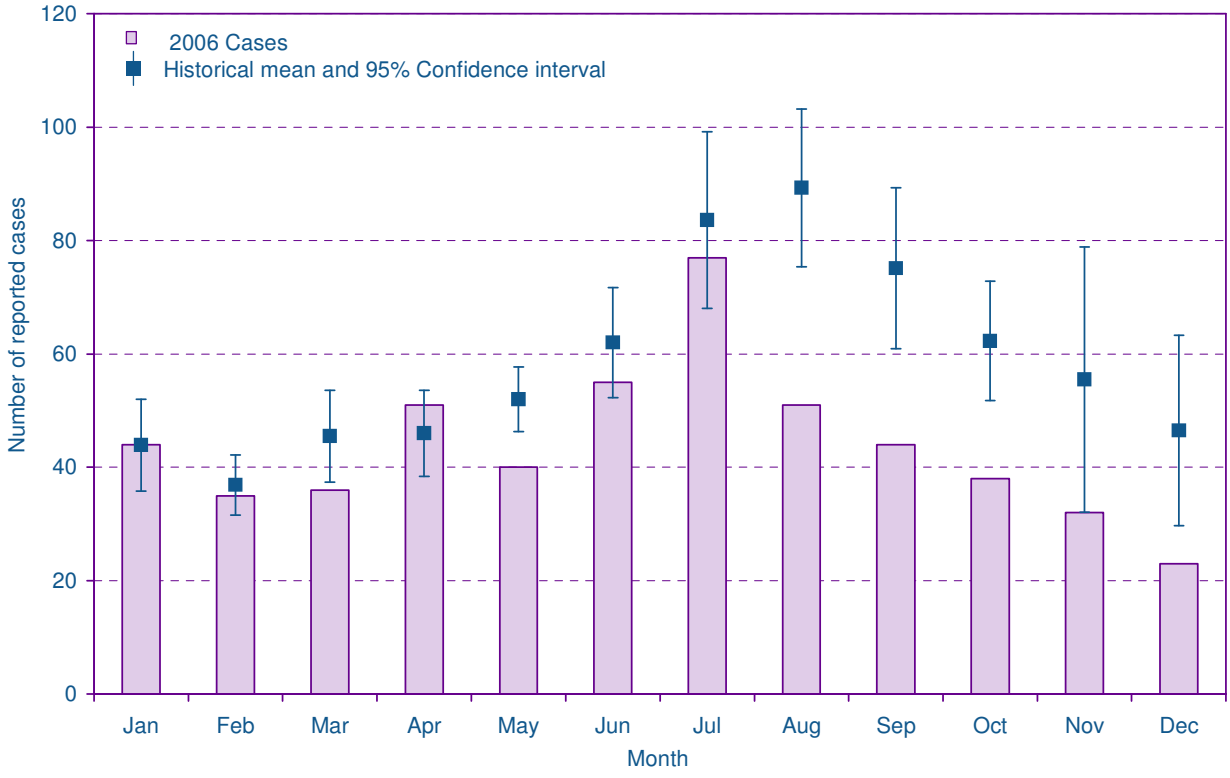


Table 2.23: Ten most prevalent *Salmonella* species. Toronto, 2006 cases compared to previous 5-year mean

Salmonella species	Number of cases (%)	
	2006 (N = 499)*	5-yr mean 2001-2005 (N = 451)*
S. enteritidis	145 (29)	132 (29)
S. typhimurium	87 (17)	103 (23)
S. heidelberg	41 (8)	73 (16)
S. newport	21 (4)	14 (3)
S. thompson	17 (3)	19 (4)
S. hadar	13 (3)	20 (4)
S. infantis	11 (2)	15 (3)
S. agona	8 (2)	11 (2)
S. berta	8 (2)	11 (2)
S. oranienburg	8 (2)	2 (<1)

*Denominator (N) = number of infections with a type isolated.

Table 2.24: Exposure source for reported cases of salmonellosis. Toronto, 2006

Reported exposure source	Number of cases* (%)	
Foodborne	125	(24)
Animal-to-person	12	(2)
Person-to-person - Other†	4	(<1)
Item-to-person	3	(<1)
Water - Recreational	2	(<1)
Water - Drinking water	1	(<1)
Water - Unknown	1	(<1)
Missing or unknown	384	(73)
Total cases	**526**	

*Cases may report more than one exposure source.

†Excludes sexual contact.

Table 2.25: Exposure setting for reported cases of salmonellosis. Toronto, 2006

Reported exposure setting	Number of cases*	(%)
Travel - Out of Canada	70	(13)
Private home	40	(8)
Restaurant	31	(6)
Store†	8	(2)
School	4	(<1)
Banquet hall	3	(<1)
Bakery	1	(<1)
Caterer	1	(<1)
Long term care home	1	(<1)
Mobile food premise - Catering vehicle	1	(<1)
Pet shop	1	(<1)
Processing plant	1	(<1)
Travel - Within Canada, out of Ontario	1	(<1)
Other	7	(1)
Missing or unknown	363	(69)
Total cases	**526**	

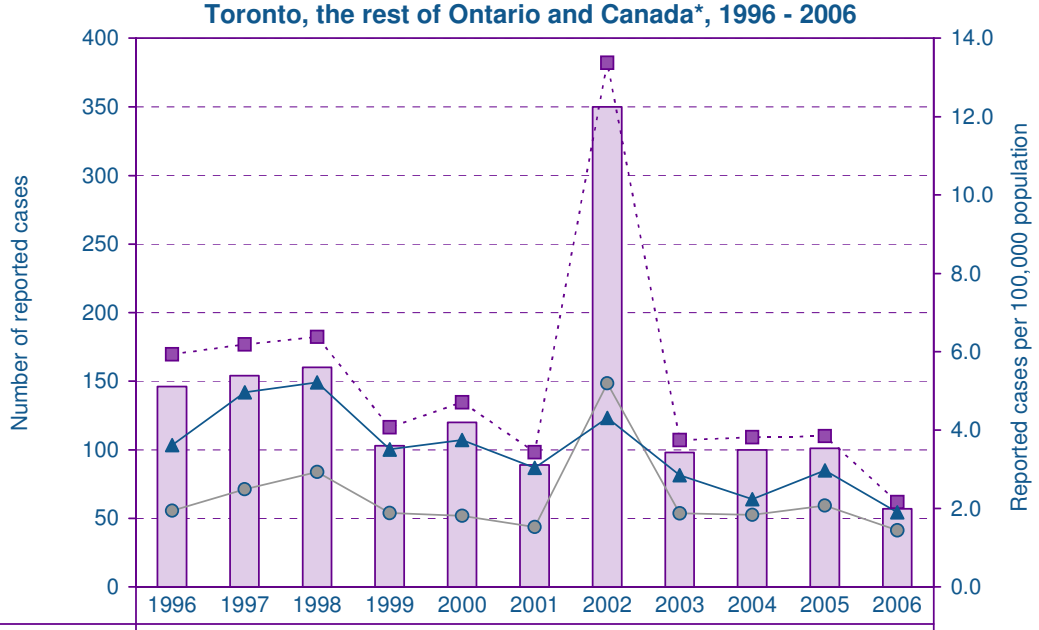
*Cases may report more than one exposure setting.

†Includes grocery/supermarket and convenience/variety store.

Shigellosis

Table 2.26: Shigellosis summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	57	148	142
Incidence rate (per 100,000 population)			
Overall	2.2	5.6	5.6
Male	2.4	6.3	5.9
Female	1.9	5.0	5.2
Age at onset (years)	Summary statistics		
Mean	32	31	29
Median	33	33	30
Range	1 78	<1 83	<1 84
Outbreak associated cases (%)	0	33	20
Hospitalization rate (%)	4	10	7

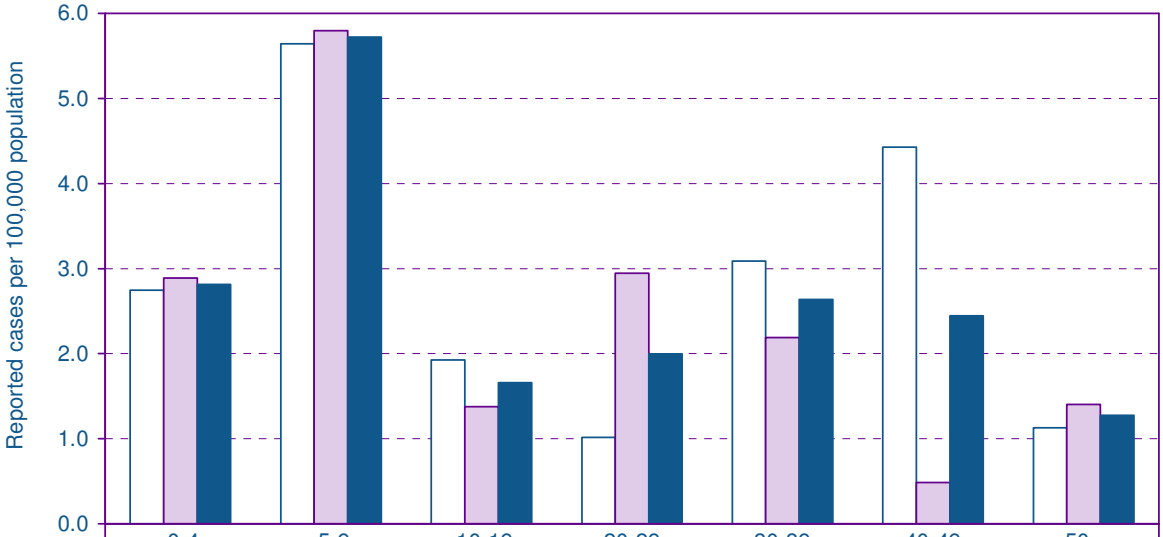
Figure 2.29: Incidence of shigellosis by year.
Toronto, the rest of Ontario and Canada*, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Toronto cases	146	154	160	103	120	89	350	98	100	101	57
Toronto rates	5.9	6.2	6.4	4.1	4.7	3.4	13.4	3.7	3.8	3.8	2.2
Ontario less Toronto rates	1.9	2.5	2.9	1.9	1.8	1.5	5.2	1.9	1.8	2.1	1.4
Canada rates	3.6	5.0	5.2	3.5	3.8	3.0	4.3	2.9	2.2	3.0	1.9

*Canada data for 2006 does not include Nunavut.

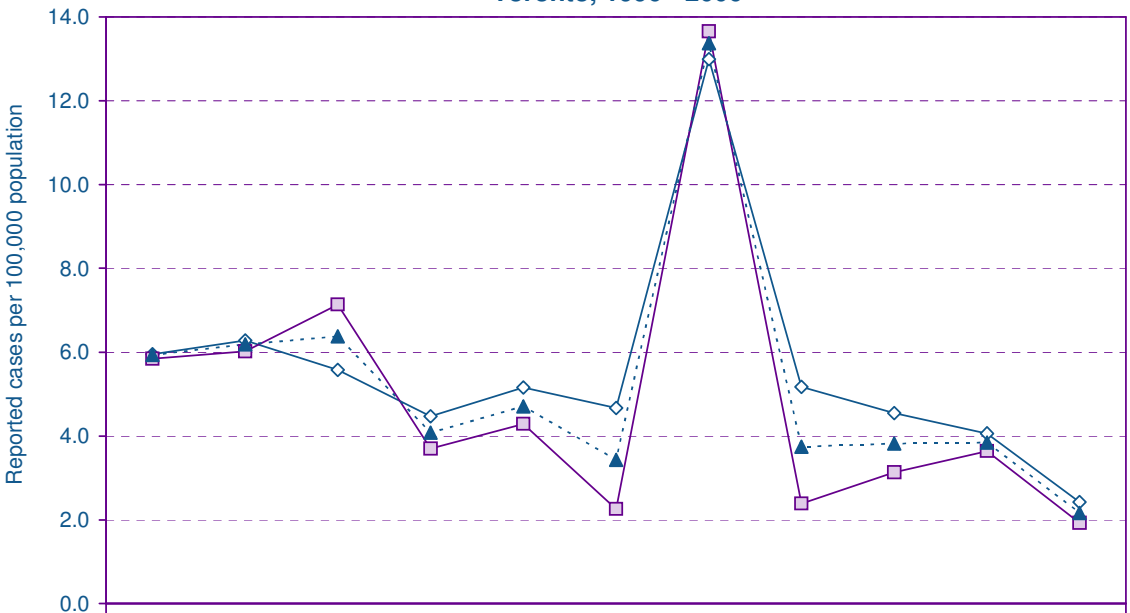
Figure 2.30: Incidence of shigellosis by age group and sex. Toronto, 2006



	0-4	5-9	10-19	20-29	30-39	40-49	50+
Male rates	2.7	5.6	1.9	1.0	3.1	4.4	1.1
Female rates	2.9	5.8	1.4	2.9	2.2	0.5	1.4
Overall rates	2.8	5.7	1.7	2.0	2.6	2.4	1.3
Male cases	2	4	3	2	7	9	4
Female cases	2	4	2	6	5	1	6

Age group (years)

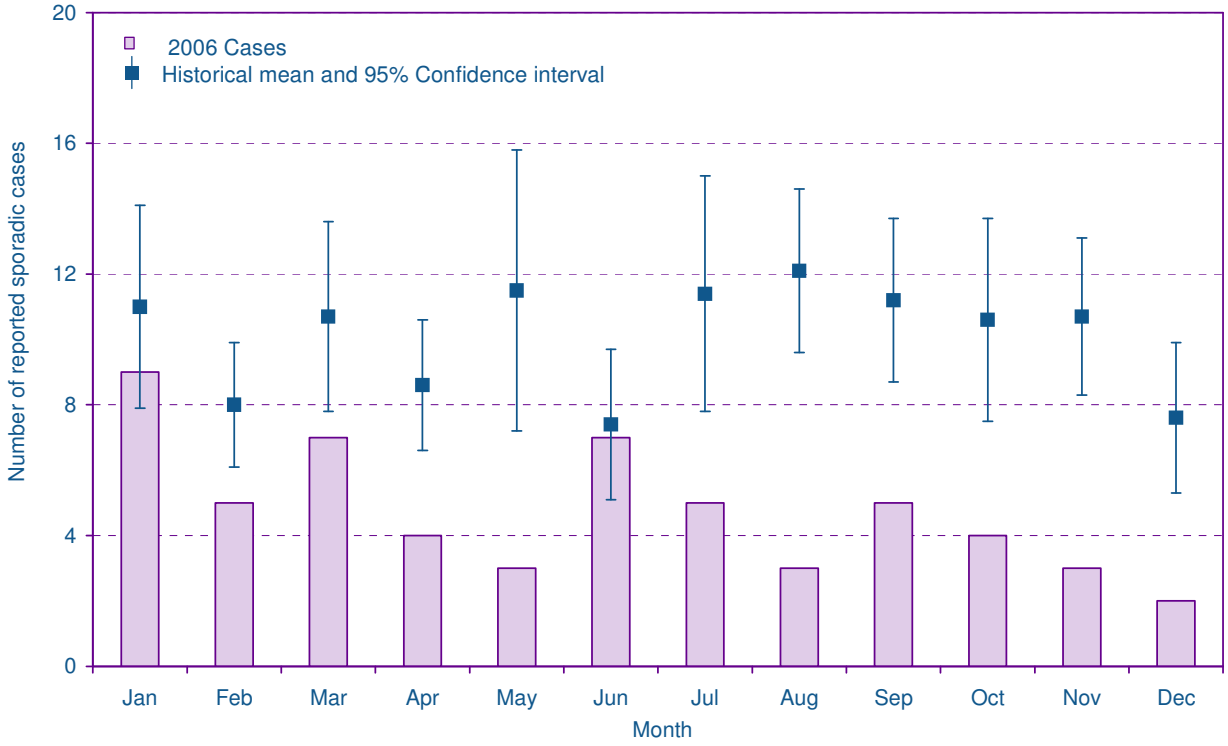
Figure 2.31: Incidence rates of shigellosis by sex and year. Toronto, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Male rates	6.0	6.3	5.6	4.5	5.2	4.7	13.0	5.2	4.5	4.1	2.4
Female rates	5.8	6.0	7.1	3.7	4.3	2.3	13.7	2.4	3.1	3.6	1.9
Overall rates	5.9	6.2	6.4	4.1	4.7	3.4	13.4	3.7	3.8	3.8	2.2

Year

**Figure 2.32: Number of reported cases of shigellosis by month.
Toronto 2006 compared to 1996 - 2005 mean***



*Excludes the 218 cases associated with a large province-wide shigellosis outbreak in 2002.

**Figure 2.33: Proportion of reported cases of shigellosis by agent.
Toronto, 2006 (N=54)**

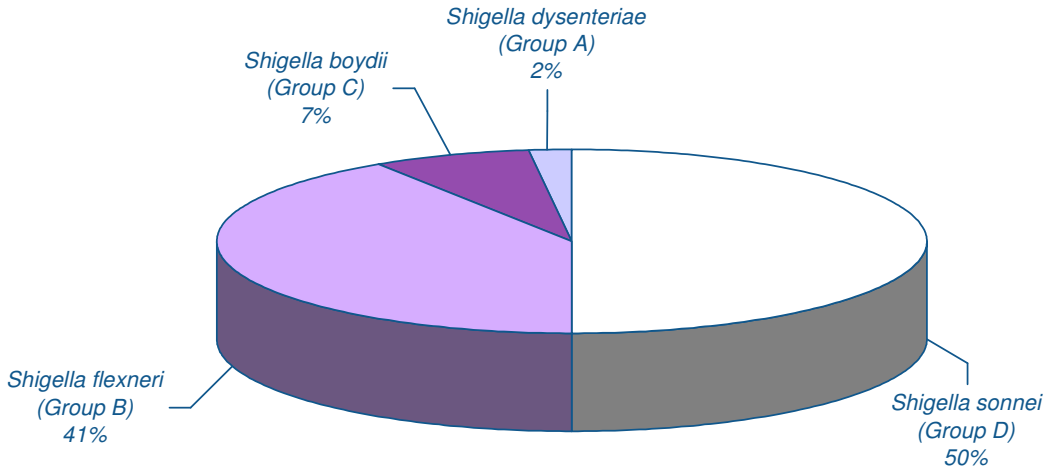


Table 2.27: Exposure source for reported cases of shigellosis. Toronto, 2006

Reported exposure source	Number of cases* (%)	
Foodborne	17	(30)
Person-to-person - Other†	6	(11)
Person-to-person - Sexual contact	4	(7)
Water - Drinking water	1	(2)
Missing or unknown	30	(53)
Total cases	**57**	

*Cases may report more than one exposure source.
†Excludes sexual contact.

Table 2.28: Exposure setting for reported cases of shigellosis. Toronto, 2006

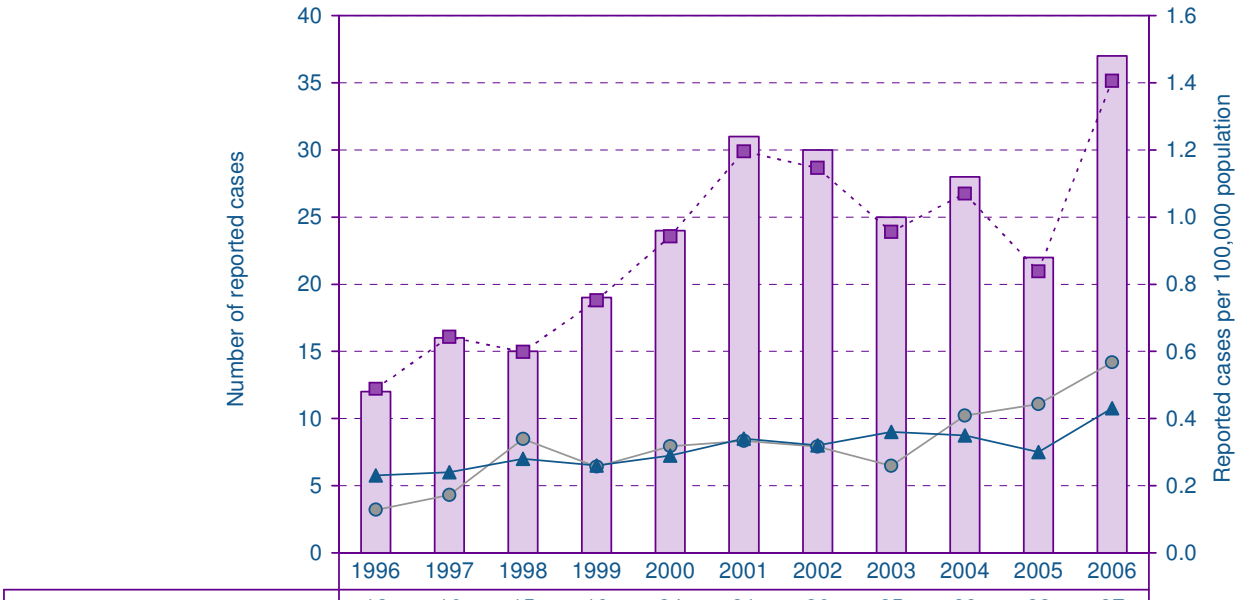
Reported exposure setting	Number of cases* (%)	
Travel - Out of Canada	23	(40)
Private home	4	(7)
Restaurant	3	(5)
Missing or unknown	28	(49)
Total cases	**57**	

*Cases may report more than one exposure setting.

Typhoid fever

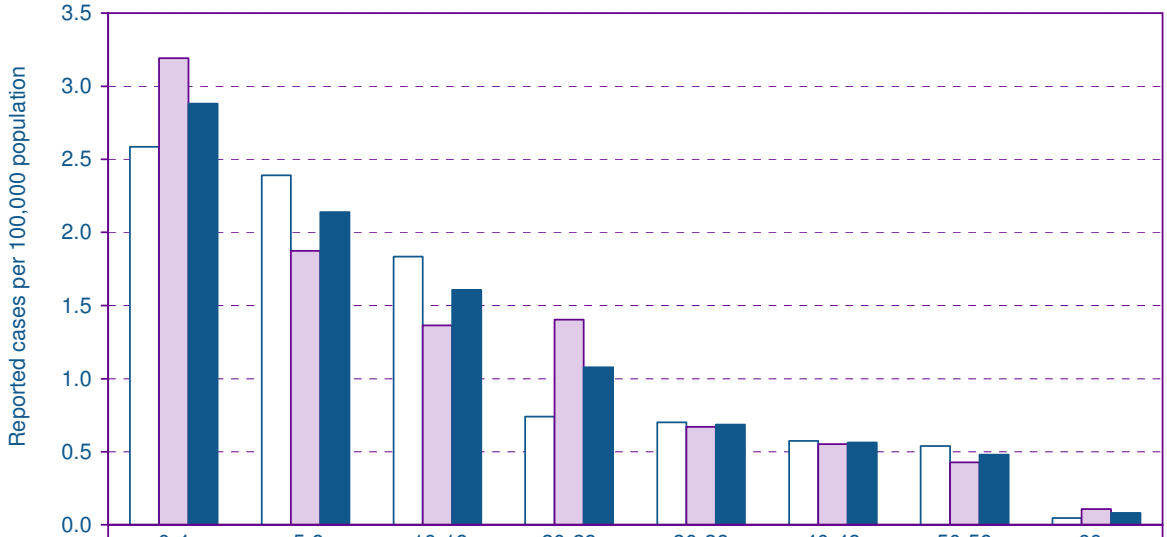
Table 2.29: Typhoid fever summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	37	27	22
Incidence rate (per 100,000 population)			
Overall	1.4	1.0	0.9
Male	1.2	1.0	0.9
Female	1.6	1.0	0.8
Age at onset (years)	Summary statistics		
Mean	19	21	22
Median	15	18	19
Range	<1 71	<1 60	<1 83

Figure 2.34: Incidence of typhoid fever by year.
Toronto, the rest of Ontario and Canada*, 1996 - 2006



*Canada data for 2006 do not include Nunavut.

Figure 2.35: Incidence of typhoid fever by age group and sex. Toronto, 1996 - 2006 combined



	0-4	5-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	2.6	2.4	1.8	0.7	0.7	0.6	0.5	<0.1
Female rates	3.2	1.9	1.4	1.4	0.7	0.6	0.4	0.1
Overall rates	2.9	2.1	1.6	1.1	0.7	0.6	0.5	<0.1
Male cases	22	20	30	16	18	12	8	1
Female cases	26	15	21	31	17	12	7	3

Age group (years)

Figure 2.36: Number of reported cases of typhoid fever by month. Toronto, 2006 compared to 1996 - 2005 mean

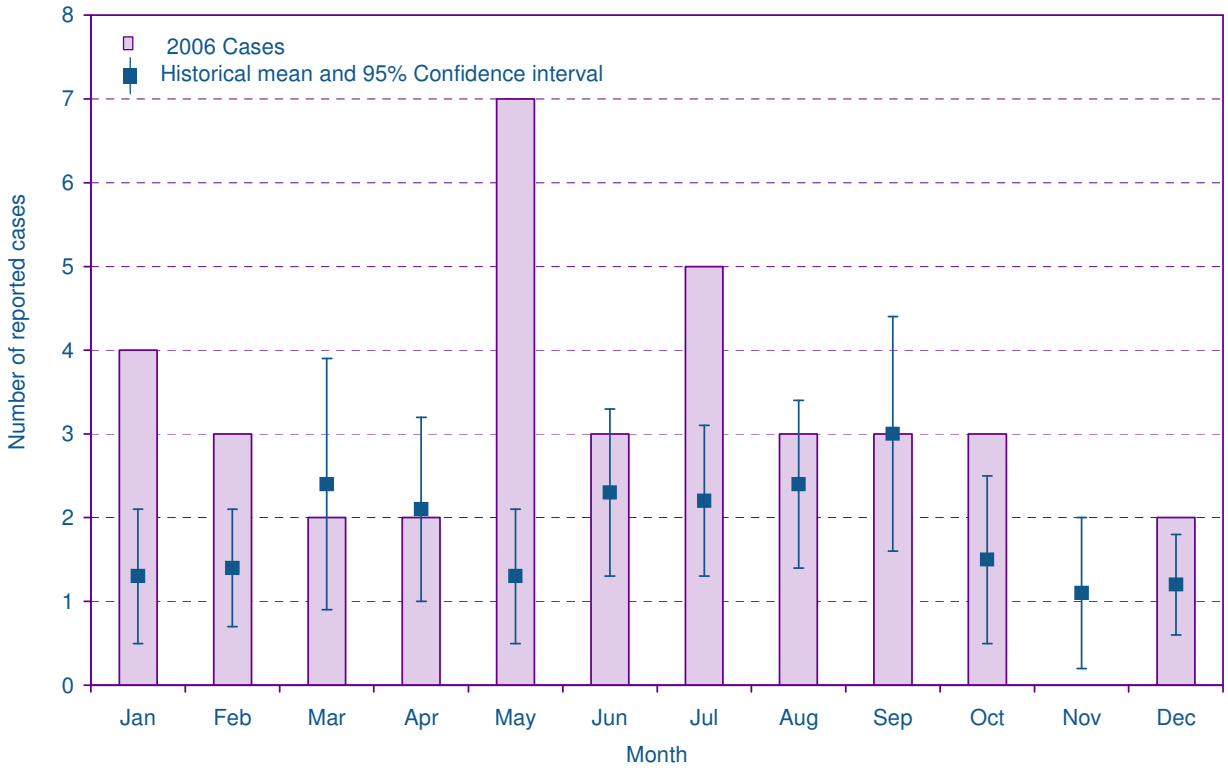
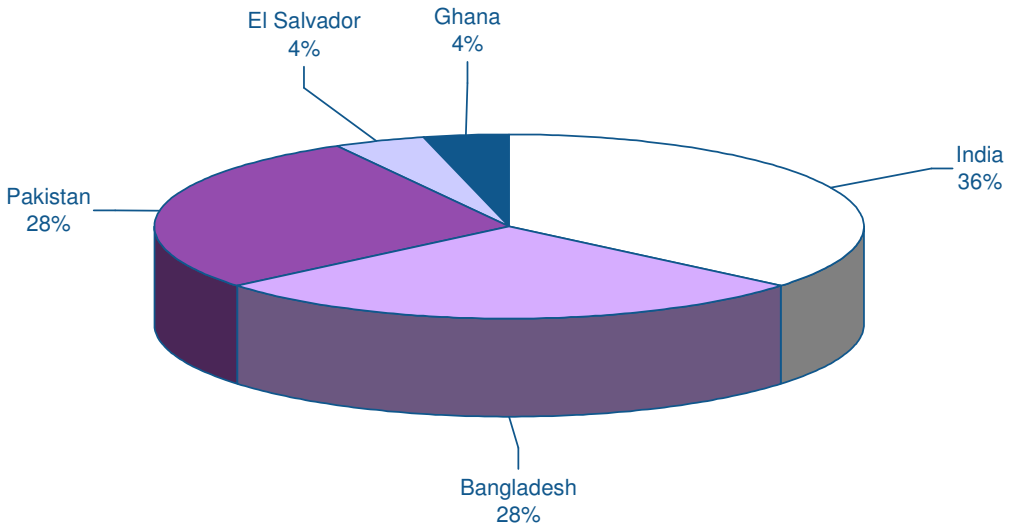


Table 2.30: Exposure source for reported cases of typhoid fever. Toronto, 2006

Reported exposure source	Number of cases* (%)	
Water - Drinking water	4	(11)
Foodborne	3	(8)
Water - Recreational	1	(3)
Missing or unknown	29	(78)
Total cases	**37**	

*Cases may report more than one exposure source.

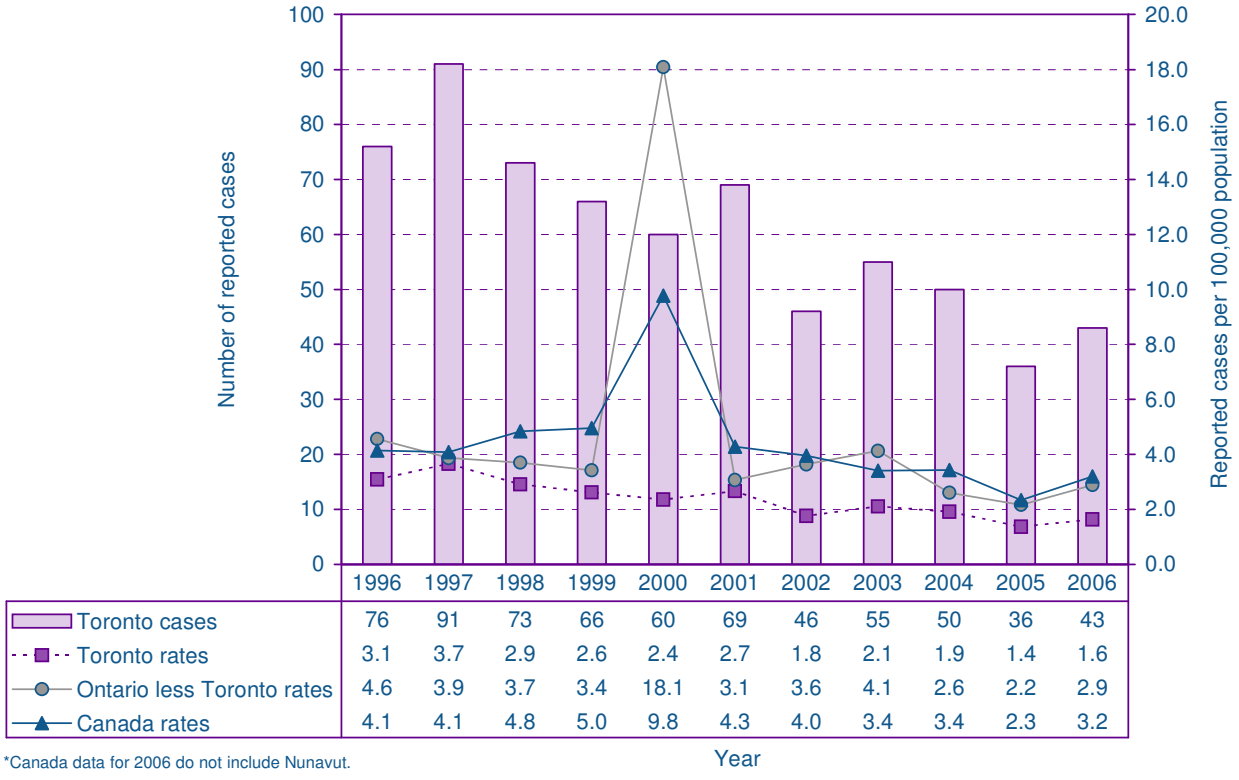
Figure 2.37: Travel country for reported cases of typhoid fever with travel related exposure setting. Toronto, 2006 (N=25)



Verotoxin-producing *E. coli* (VTEC) infection

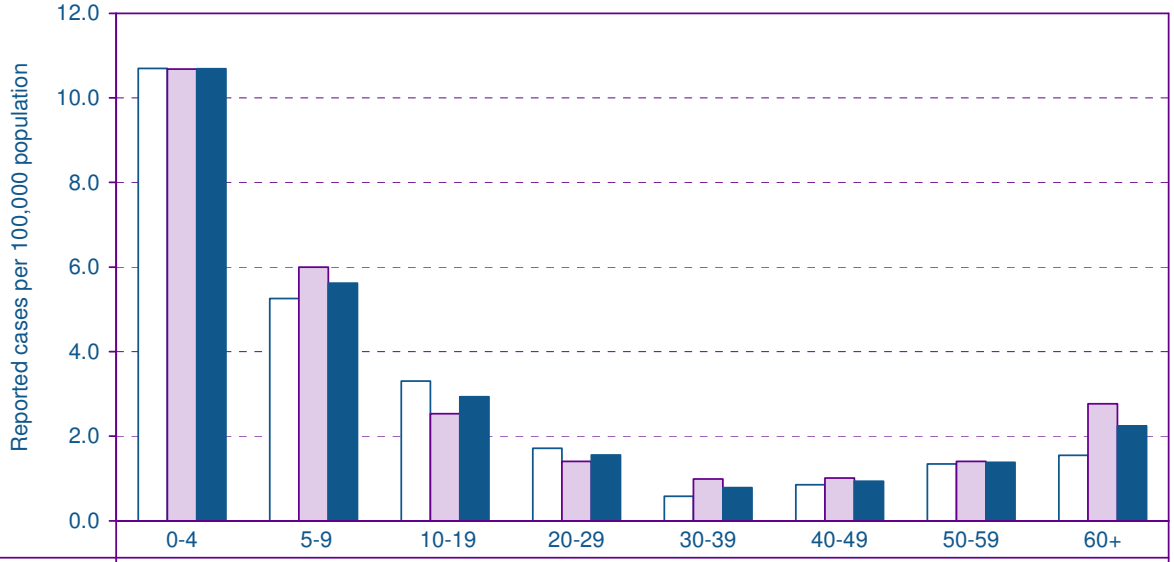
Table 2.31: Verotoxin-producing *E. coli* infection summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	43	51	62
Incidence rate (per 100,000 population)			
Overall	1.6	2.0	2.4
Male	1.5	1.8	2.4
Female	1.8	2.1	2.5
Age at onset (years)	Summary statistics		
Mean	32	27	26
Median	20	17	15
Range	1 100	<1 83	<1 92
Outbreak associated cases (%)	2	13	8
Hospitalization rate (%)	28	27	25

Figure 2.38: Incidence of verotoxin-producing *E. coli* infection by year. Toronto, the rest of Ontario and Canada*, 1996 - 2006



*Canada data for 2006 do not include Nunavut.

Figure 2.39: Incidence of verotoxin-producing *E. coli* infection by age group* and sex. Toronto, 1996 - 2006 combined



	0-4	5-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	10.7	5.3	3.3	1.7	0.6	0.9	1.4	1.5
Female rates	10.7	6.0	2.5	1.4	1.0	1.0	1.4	2.8
Overall rates	10.7	5.6	2.9	1.6	0.8	0.9	1.4	2.2
Male cases	91	44	54	37	15	18	20	33
Female cases	87	48	39	31	25	22	23	77

*The age of one case was not reported.

Age group (years)

Figure 2.40: Number of reported cases of verotoxin-producing *E. coli* infection by month. Toronto, 2006 compared to 1996 - 2005 mean

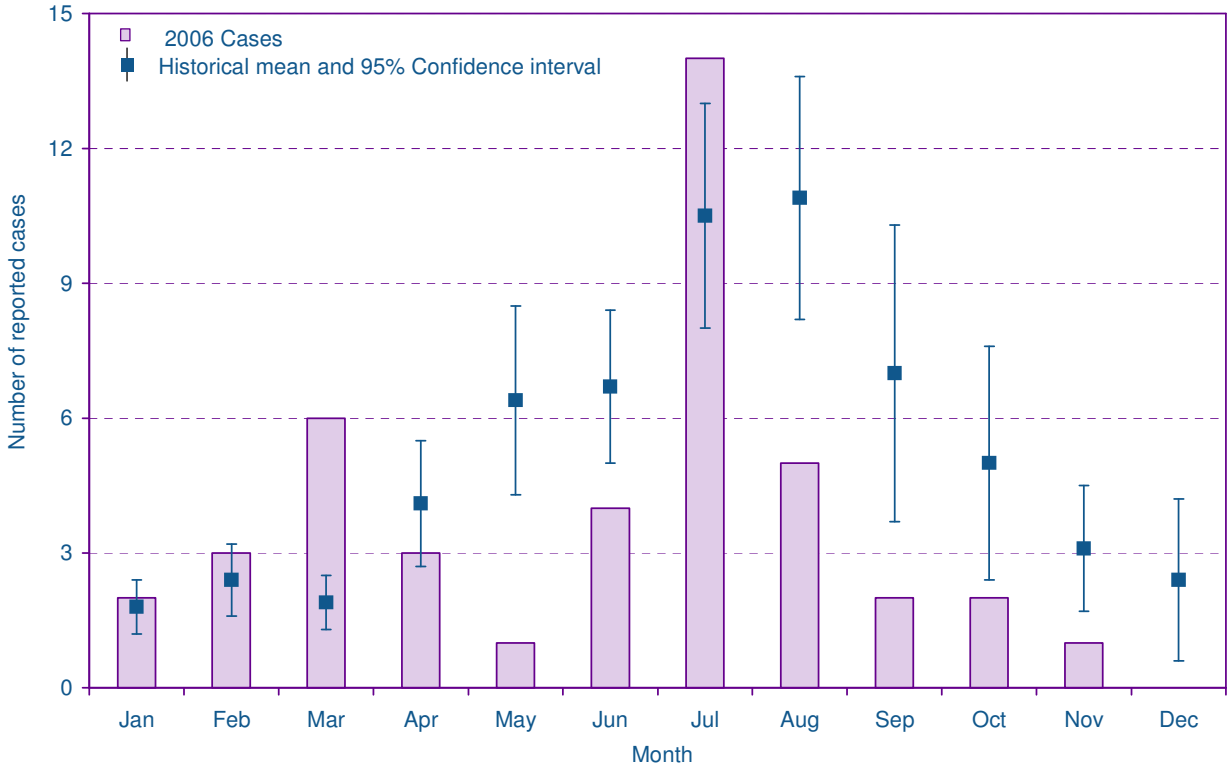


Table 2.32: Exposure source for reported cases of verotoxin-producing *E. coli*. Toronto, 2006

Reported exposure source	Number of cases*	(%)
Foodborne	10	(23)
Item-to-person	2	(5)
Person-to-person - Other†	1	(2)
Water - Other	1	(2)
Water - Recreational	1	(2)
Missing or unknown	32	(74)
Total cases	**43**	

*Cases may report more than one exposure source.
†Excludes sexual contact.

Table 2.33: Exposure setting for reported cases of verotoxin-producing *E. coli*. Toronto, 2006

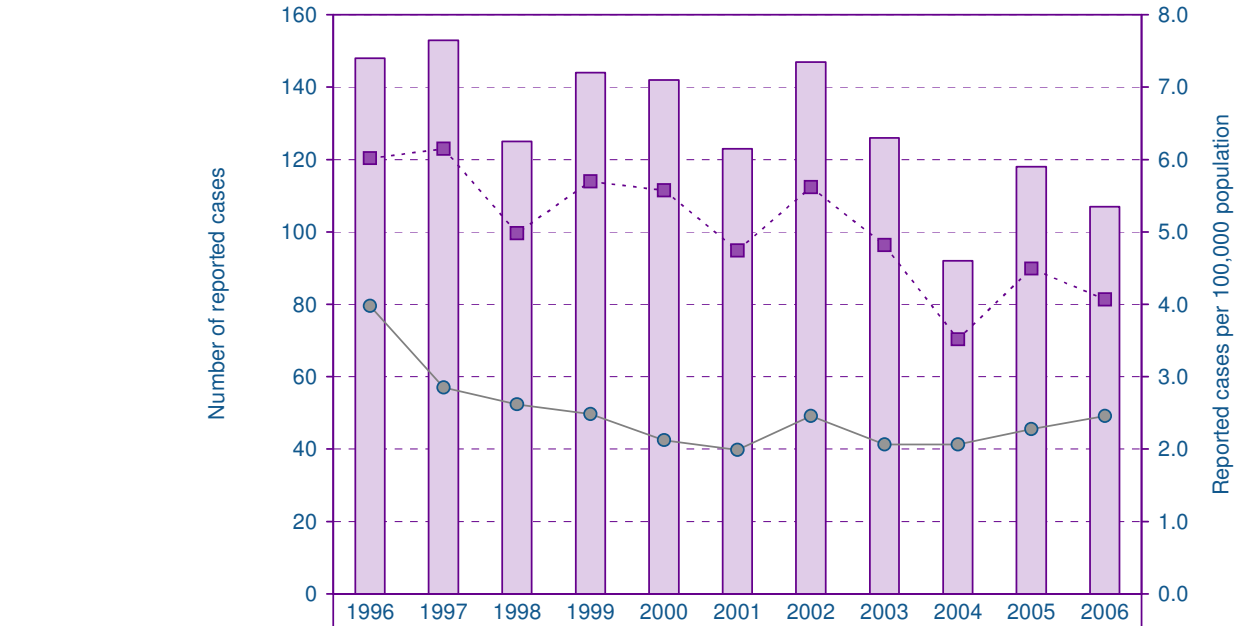
Reported exposure setting	Number of cases*	(%)
Restaurant	5	(12)
Private home	3	(7)
Camping†	2	(5)
Deli	1	(2)
Temporary fair/exhibition	1	(2)
Travel - Out of Canada	1	(2)
Travel - Within Ontario	1	(2)
Other	2	(5)
Missing or unknown	31	(72)
Total cases	**43**	

*Cases may report more than one exposure setting.
†Includes camp ground and educational camp.

Yersiniosis

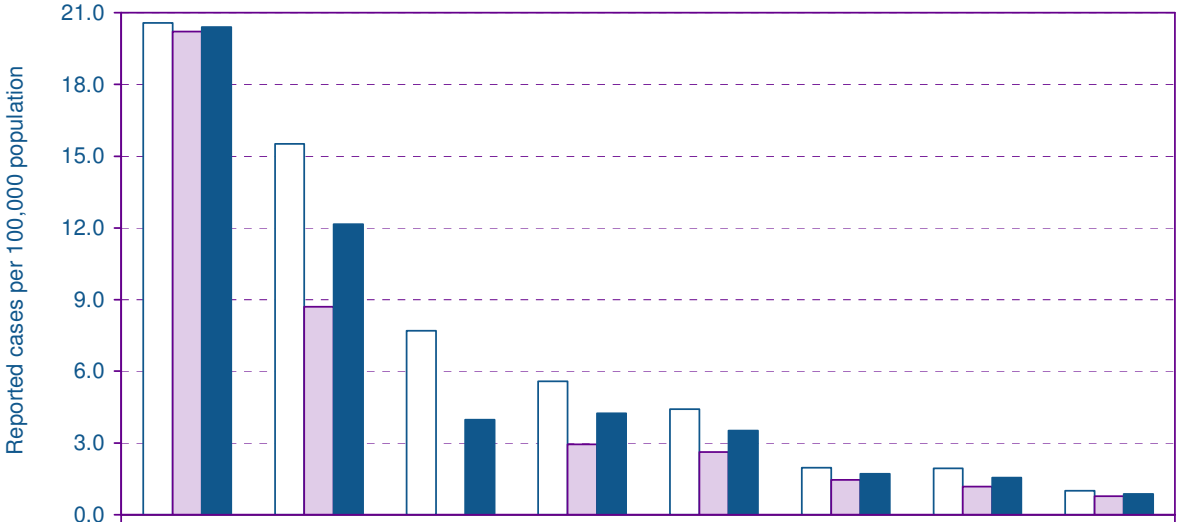
Table 2.34: Yersiniosis summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	107	121	132
Incidence rate (per 100,000 population)			
Overall	4.1	4.6	5.1
Male	5.3	5.4	6.0
Female	2.9	3.9	4.3
Age at onset (years)	Summary statistics		
Mean	21	20	19
Median	13	11	10
Range	<1 96	<1 101	<1 101

Figure 2.41: Incidence of yersiniosis by year.
Toronto and the rest of Ontario, 1996 - 2006



Yersiniosis is not nationally notifiable.

Figure 2.42: Incidence of yersiniosis by age group and sex. Toronto, 2006



	0-4	5-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	20.6	15.5	7.7	5.6	4.4	2.0	1.9	1.0
Female rates	20.2	8.7	0.0	2.9	2.6	1.5	1.2	0.8
Overall rates	20.4	12.2	4.0	4.2	3.5	1.7	1.5	0.9
Male cases	15	11	12	11	10	4	3	2
Female cases	14	6	0	6	6	3	2	2

Figure 2.43: Number of reported cases of yersiniosis by month. Toronto, 2006 compared to 1996 - 2005 mean

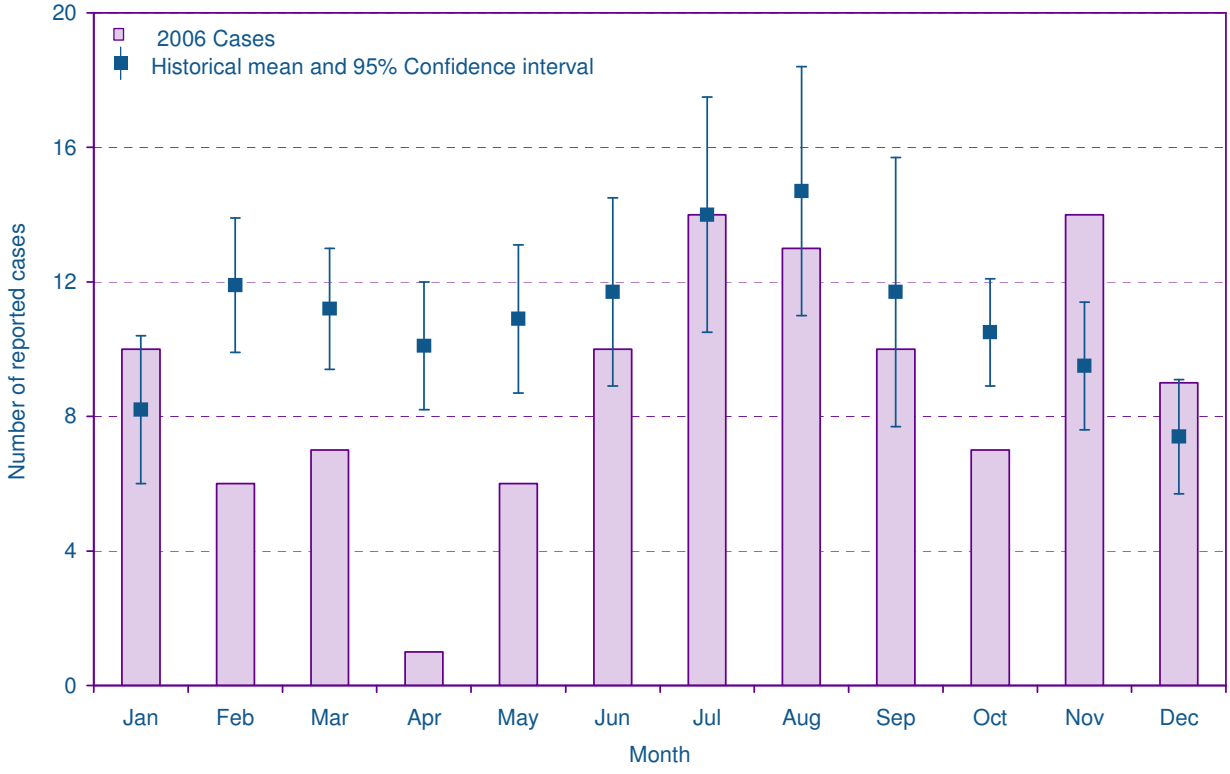


Table 2.35: Exposure source for reported cases of yersiniosis. Toronto, 2006

Reported exposure source	Number of cases*	(%)
Foodborne	6	(6)
Animal-to-person	1	(<1)
Item-to-person	1	(<1)
Water - Recreational	1	(<1)
Missing or unknown	98	(92)
Total cases	**107**	

*Cases may report more than one exposure source.

Table 2.36: Exposure setting for reported cases of yersiniosis. Toronto, 2006

Reported exposure setting	Number of cases*	(%)
Private home	5	(5)
Farm	2	(2)
Travel - Out of Canada	1	(<1)
Other	1	(<1)
Missing or unknown	98	(92)
Total cases	**107**	

*Cases may report more than one exposure setting.

Diseases Preventable by Routine Vaccination

Communicable Diseases in Toronto

2006

Toronto Public Health

Diseases Preventable by Routine Vaccination

These are diseases caused by agents that can be spread through a variety of ways, but for which there is an effective vaccine that is readily available and routinely used. Due in large part to the successful use and efficacy of the respective vaccines, the majority of these diseases are rare in Toronto. Relative proportions of each disease within this grouping, and their ranking are listed below. ❑

Table 3.1: Number and proportion of reported cases of vaccine preventable diseases. Toronto, 2006

Ranking	Reportable disease	Number of cases	Proportion of cases (%)
1	Pertussis	698	56
2	Influenza*	531	43
3	Measles	3	<1
4	*Haemophilus influenzae* b disease, invasive	2	<1
4	Rubella	2	<1
	Total	**1236**	**100**

*Seasonal year from July to June (e.g. 2006/07 includes cases from July 1, 2006 to June 30, 2007)
Rare reportable diseases not summarized in this section include diphtheria, mumps, poliomyelitis, rubella (congenital syndrome), smallpox and tetanus.

Select highlights

Influenza

- The 2006/07 season was comparable to 2005/06 season; both years had a good match between vaccine circulating influenza strains. The number of outbreaks, however, was higher in 2006/07 (38 outbreaks) compared to the 29 outbreaks reported for the 2005/06 season. The higher number of institutional outbreaks may explain the older median age (39 years) reported for the 2006/07 season (Table 3.2). Compared to the 2005/06 season, influenza rates increased in all age groups except those groups less than 15 years of age.

Measles

- In 2006, there were three reported cases (0.1 cases per 100,000), which was in keeping with the previous 5-year average (Table 3.3). Two of the reported cases were unvaccinated infants (<1 year of age) who were born in Canada; one of these infants traveled to Ethiopia prior to developing symptoms. The third case occurred in a 3-year-old who had previously received one dose of MMR vaccine and had no reported history of travel.

Mumps

- There were no cases of mumps reported in 2006 for the first time since 1996.

Pertussis

- Pertussis displaced influenza as the most reported vaccine preventable disease in 2006. The 698 reported cases (26.5 cases per 100,000) of pertussis in 2006 represented an increase of 520 cases (almost a 3-fold increase) over the 2005 total of 178 cases (Figure 3.7). This was also the highest number of cases during the 11-year surveillance period (Figure 3.7). This increase in reports was related to a community-wide pertussis outbreak that began in Toronto in November 2005 and continued into 2006. A more sensitive diagnostic test, increased awareness, and more testing of this disease may also explain some of the increase in cases seen across Toronto. Toronto's rate of pertussis was 4.8 times the rate reported for the rest of Ontario in 2006 and 3.8 times the rate reported for Canada (Figure 3.7).

Influenza

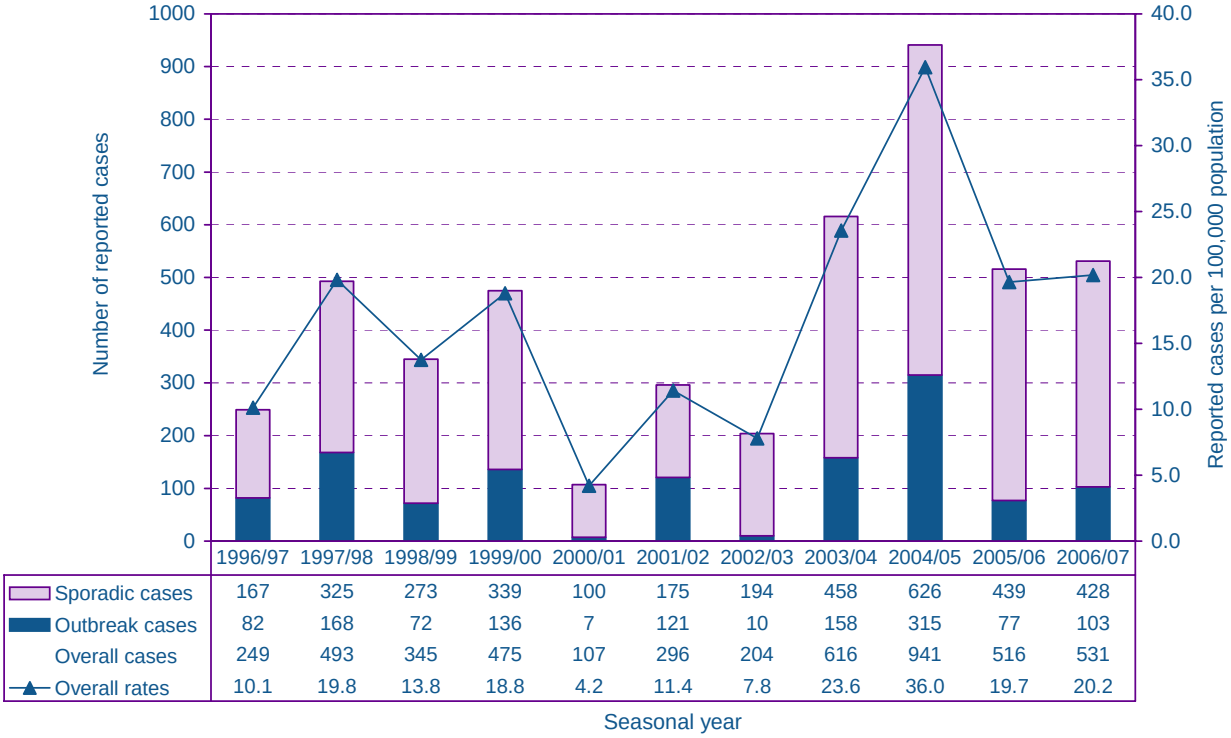
Note: Only laboratory-confirmed cases of influenza are captured in this report. These data are mostly sporadic cases, which tend to be younger and healthier than outbreak associated cases reported to public health.

Table 3.2: Influenza summary data
Toronto

	2006/07	5-yr period 2001/02-2005/06	10-yr period 1996/97-2005/06
	Total	Means	
Number of reported cases	531	515	424
Incidence rate (per 100,000 population)			
Overall	20.2	19.7	16.6
Male	21.2	19.2	16.4
Female	19.0	20.2	16.7
Age at onset (years)	Summary statistics		
Mean	43	40	37
Median	39	28	17
Range	<1 105	<1 110	<1 110
Case fatality (%)	1	2	1
Influenza outbreaks*	38	46	NA

*In Ontario, respiratory outbreaks in institutions became formally reportable in 2001, however, Toronto Public Health began the routine collection of these data in 1998.

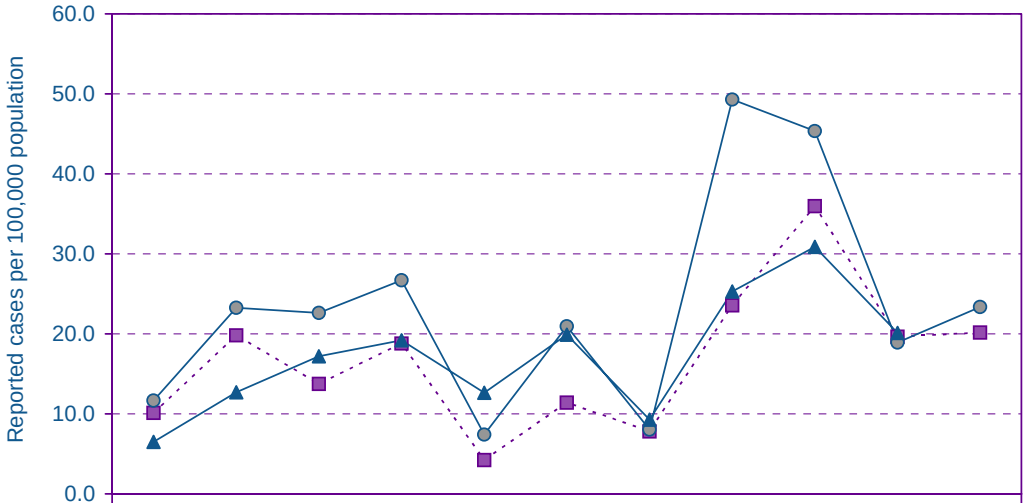
Figure 3.1: Incidence of influenza by seasonal year*.
Toronto, 1996/97 - 2006/07



	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Sporadic cases	167	325	273	339	100	175	194	458	626	439	428
Outbreak cases	82	168	72	136	7	121	10	158	315	77	103
Overall cases	249	493	345	475	107	296	204	616	941	516	531
Overall rates	10.1	19.8	13.8	18.8	4.2	11.4	7.8	23.6	36.0	19.7	20.2

*Seasonal year from July to June (i.e. 2006/07 includes cases from July 1, 2006 to June 30, 2007).

Figure 3.2: Incidence of influenza by seasonal year*. Toronto, the rest of Ontario and Canada†, 1996/97 - 2006/07

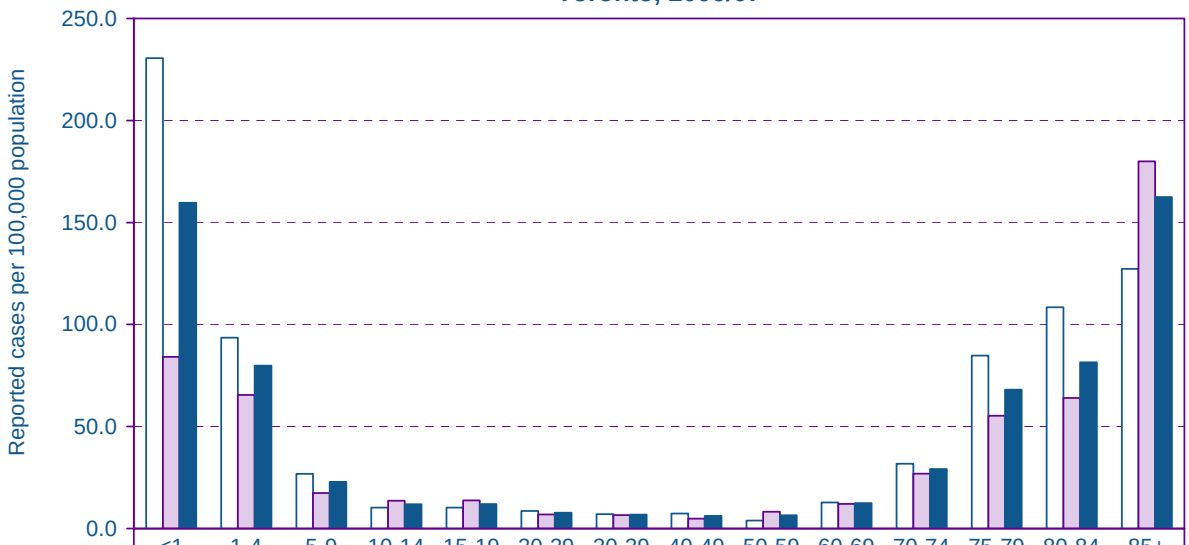


	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Toronto rates	10.1	19.8	13.8	18.8	4.2	11.4	7.8	23.6	36.0	19.7	20.2
Ontario less Toronto rates	11.6	23.3	22.6	26.7	7.4	20.9	8.0	49.3	45.3	18.9	23.4
Canada rates	6.5	12.7	17.2	19.2	12.6	19.9	9.3	25.3	30.9	20.1	NA

Year

*For Toronto, the seasonal year includes July to June (e.g. 2006/07 includes cases from July 1, 2006 to June 30, 2007).
For Ontario, the seasonal year is from October to June (e.g. 2006/07 includes cases from October 1, 2006 to June 30, 2007).
For Canada, the seasonal year is from August to August (e.g. 2006/07 includes cases from August 28, 2006 to August 26, 2007).
†Canada data for 2003/04 do not include New Brunswick. NA: Canada data for 2006/07 are not available.

Figure 3.3: Incidence of influenza by age group and sex*. Toronto, 2006/07

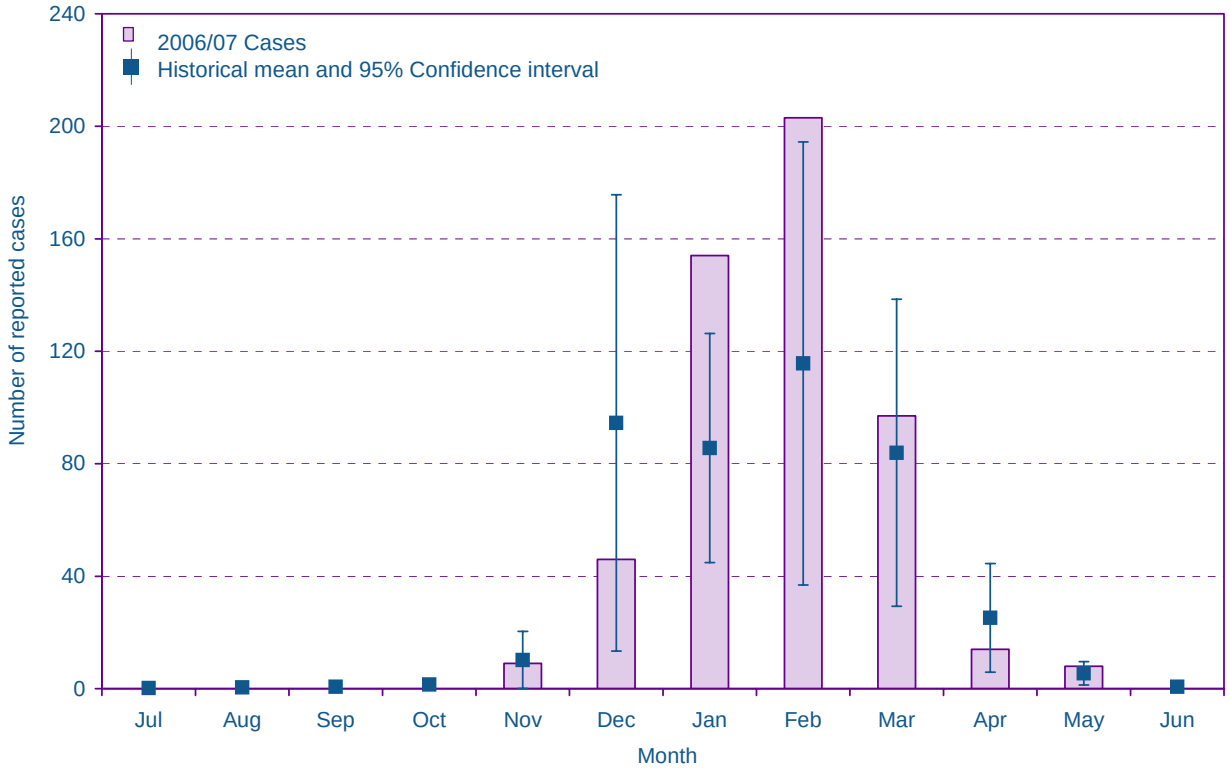


	<1	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60-69	70-74	75-79	80-84	85+
Male rates	230.6	93.6	26.8	10.2	10.3	8.6	7.1	7.4	3.9	12.8	31.7	84.8	108.5	127.3
Female rates	84.2	65.5	17.4	13.6	13.8	6.9	6.6	4.9	8.2	12.1	26.9	55.3	64.0	180.0
Overall rates	159.7	79.9	22.9	11.9	12.0	7.7	6.8	6.1	6.5	12.4	29.1	68.1	81.4	162.5
Male cases	35	54	19	8	8	17	16	15	6	12	12	27	24	19
Female cases	12	36	12	10	10	14	15	10	14	13	12	23	22	54

*The sex of two cases was not reported.

Age group (years)

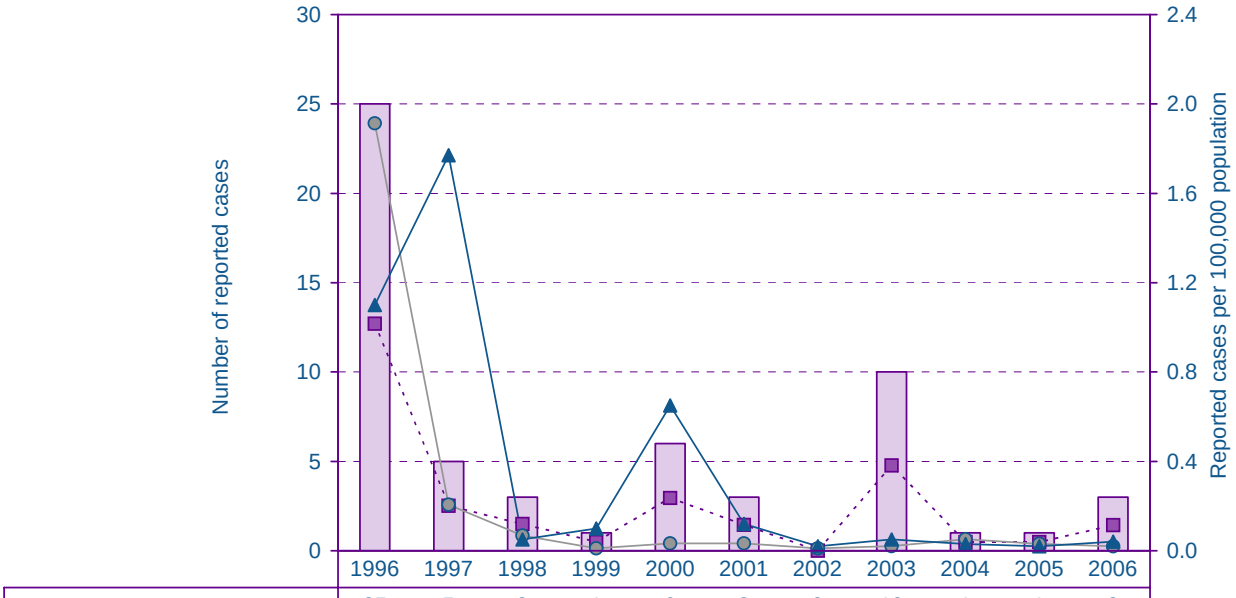
Figure 3.4: Number of reported cases of influenza by month.
Toronto, 2006/07 compared to 1996/97 - 2005/06 mean



Measles

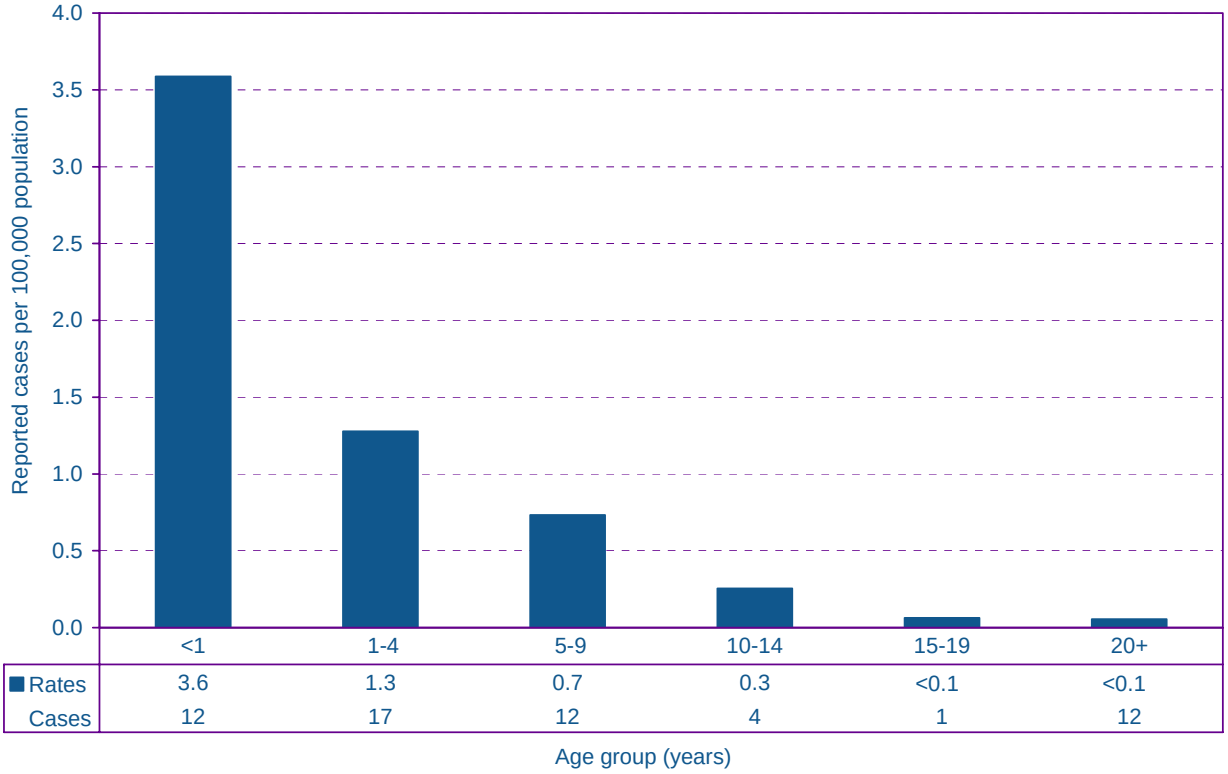
Table 3.3: Measles summary data Toronto	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	3	3	6
Incidence rate (per 100,000 population)			
Overall	0.1	0.1	0.2
Male	0.2	0.1	0.2
Female	<0.1	0.1	0.2
Age at onset (years)	Summary statistics		
Mean	1	15	10
Median	<1	3	6
Range	<1 3	<1 42	<1 42

Figure 3.5: Incidence of measles by year.
Toronto, the rest of Ontario and Canada*, 1996 - 2006



*Canada data for 2006 do not include Nunavut.

Figure 3.6: Incidence of measles by age group.
Toronto, 1996 - 2006 combined



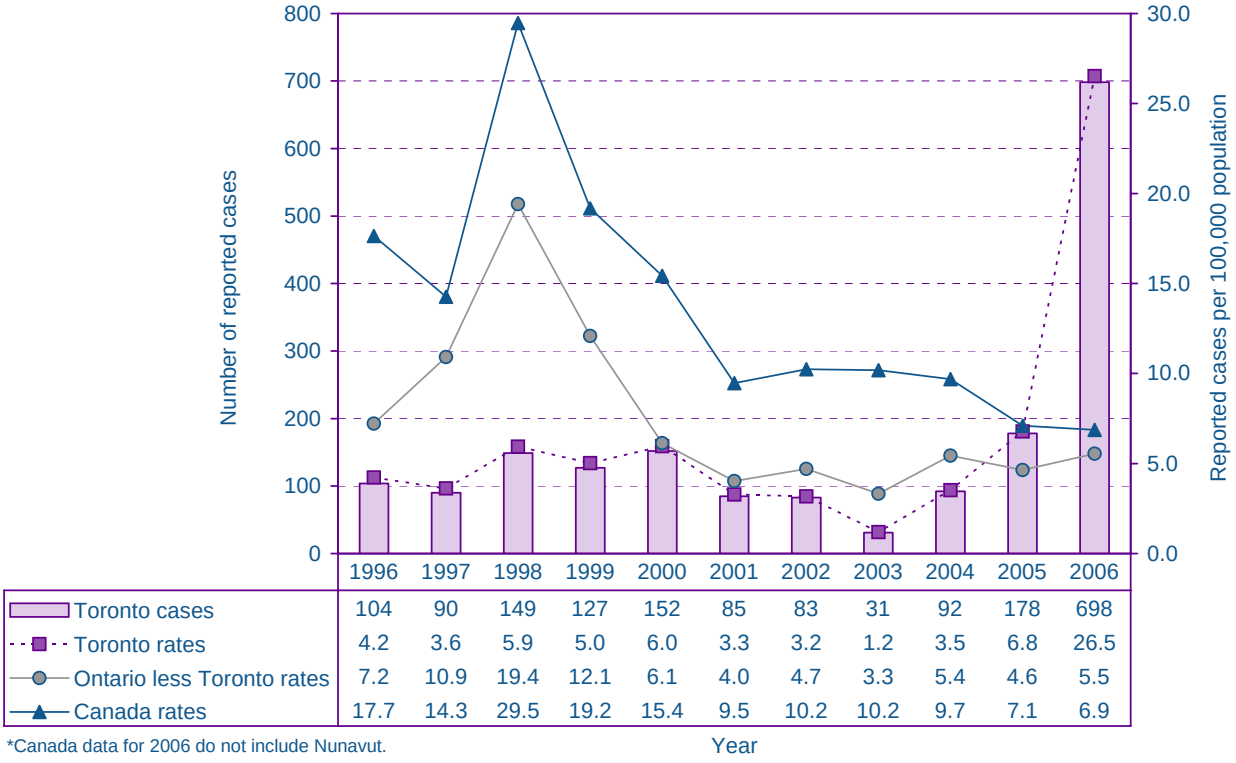
	<1	1-4	5-9	10-14	15-19	20+
Rates	3.6	1.3	0.7	0.3	<0.1	<0.1
Cases	12	17	12	4	1	12

Age group (years)

Pertussis

Table 3.4: Pertussis summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	698	94	109
Incidence rate (per 100,000 population)			
Overall	26.5	3.6	4.3
Male	25.5	3.6	4.3
Female	27.4	3.6	4.2
Age at onset (years)	Summary statistics		
Mean	7	13	11
Median	3	8	7
Range	<1 64	<1 83	<1 83
Outbreak associated cases (%)	<1	5	5

Figure 3.7: Incidence of pertussis by year.
Toronto, the rest of Ontario and Canada*, 1996 - 2006



*Canada data for 2006 do not include Nunavut.

Figure 3.8: Incidence of pertussis by age group.
Toronto, 2006

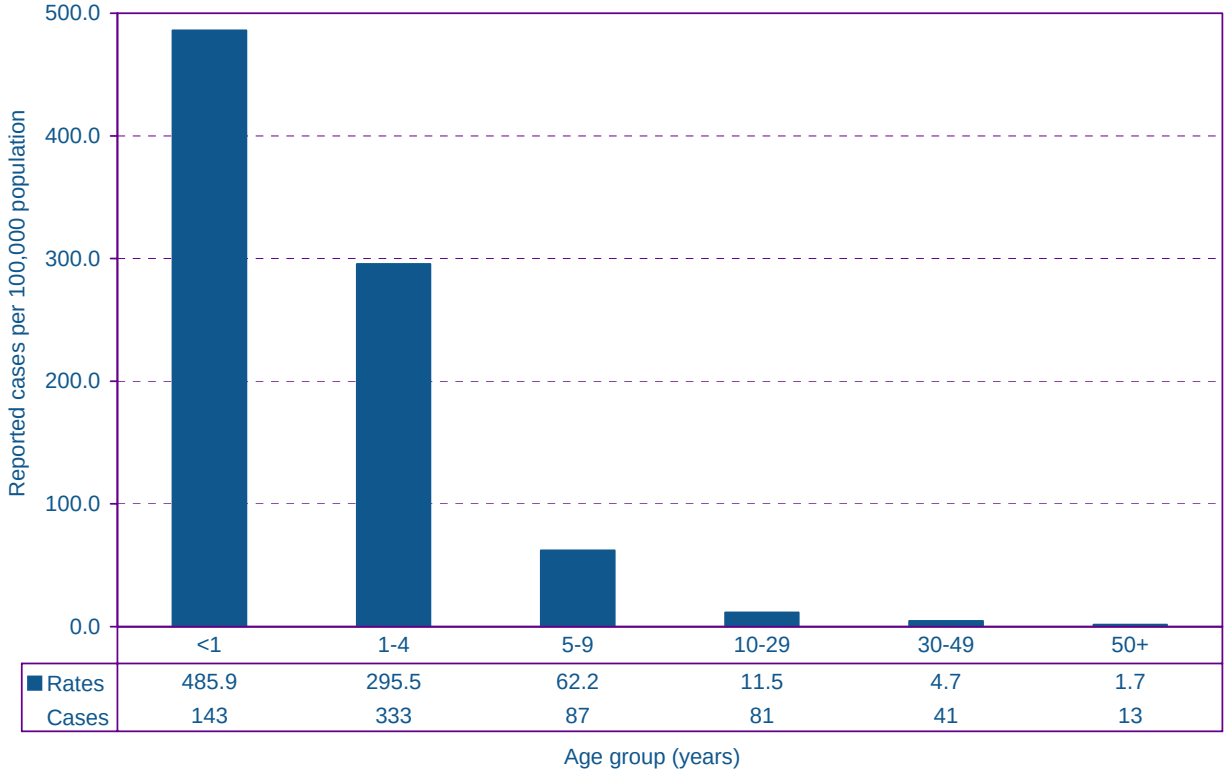
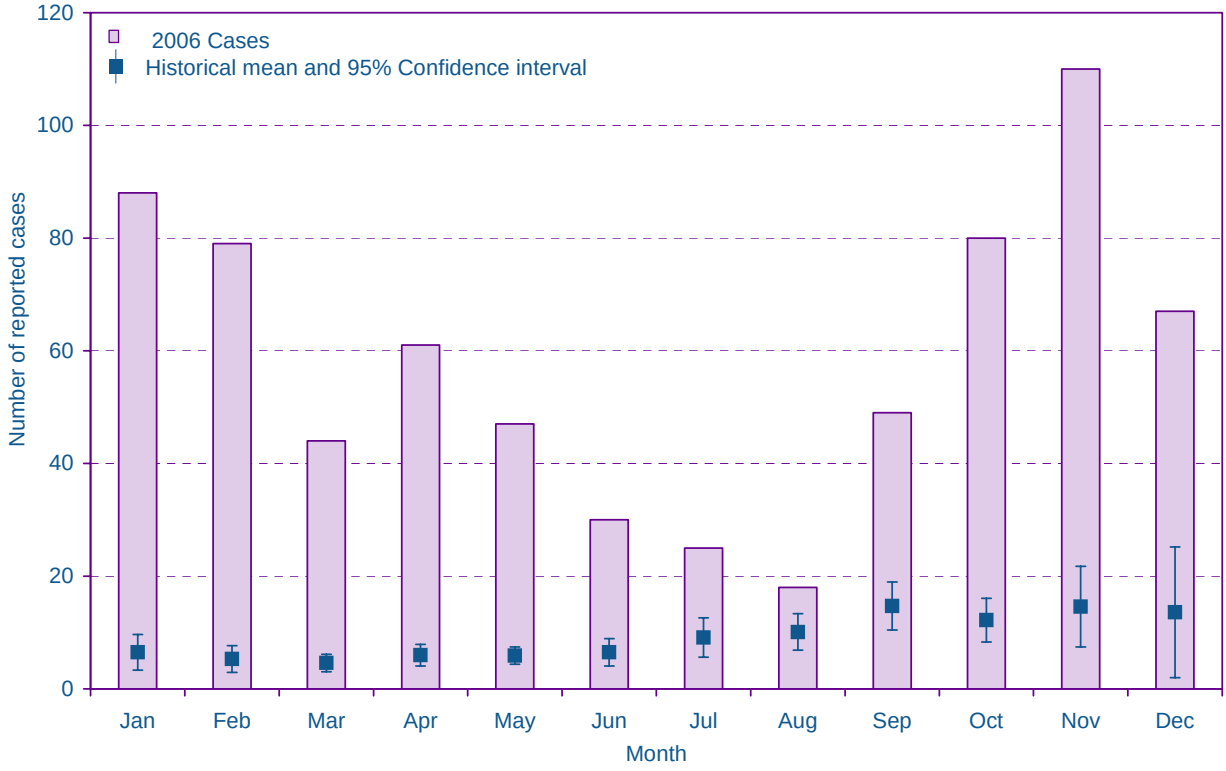


Figure 3.9: Number of reported cases of pertussis by month.
Toronto, 2006 compared to 1996 - 2005 mean

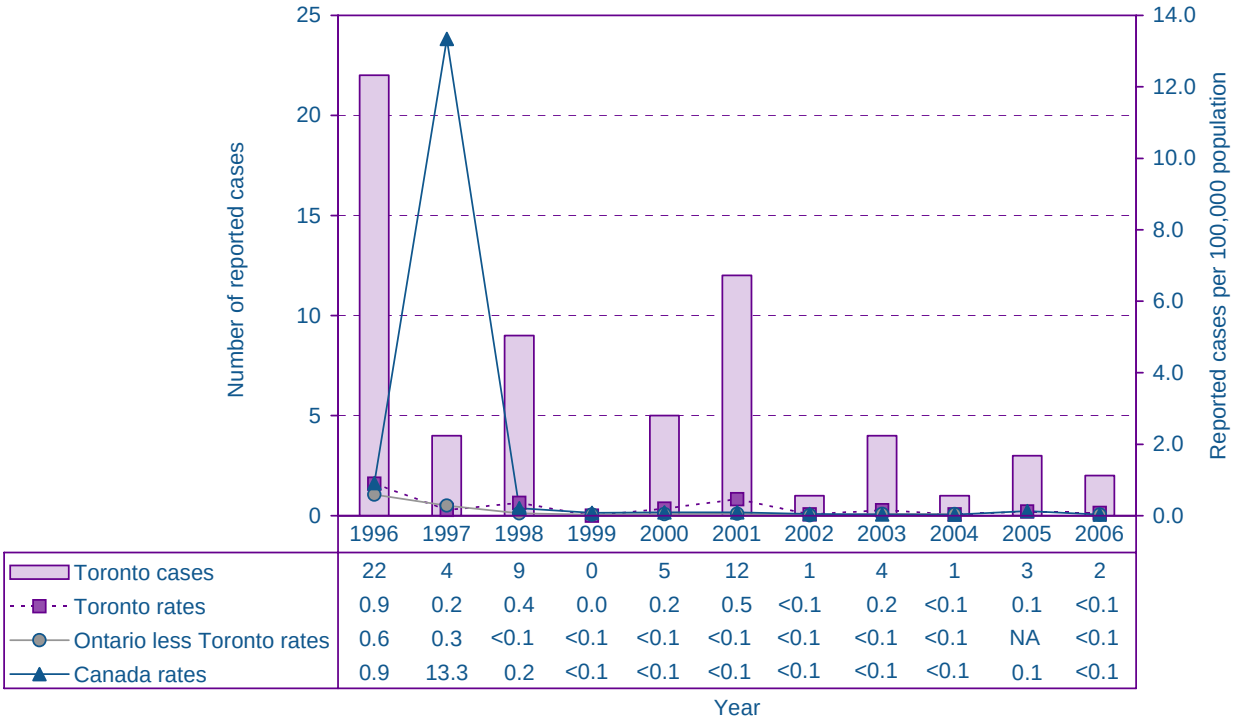


Rubella

Table 3.5: Rubella summary data* Toronto						
	2006		5-yr period 2001-2005		10-yr period 1996-2005	
	Total		Means			
Number of reported cases	2		4		6	
Incidence rate (per 100,000 population)						
Overall	<0.1		0.2		0.2	
Male	0.2		0.2		0.2	
Female	0.0		0.2		0.2	
Age at onset (years)	Summary statistics					
Mean	29		39		32	
Median	29		45		32	
Range	27	30	2	65	<1	65

*Only cases of rubella are summarized in this table. Congenital rubella syndrome reports are summarized in the rare diseases section.

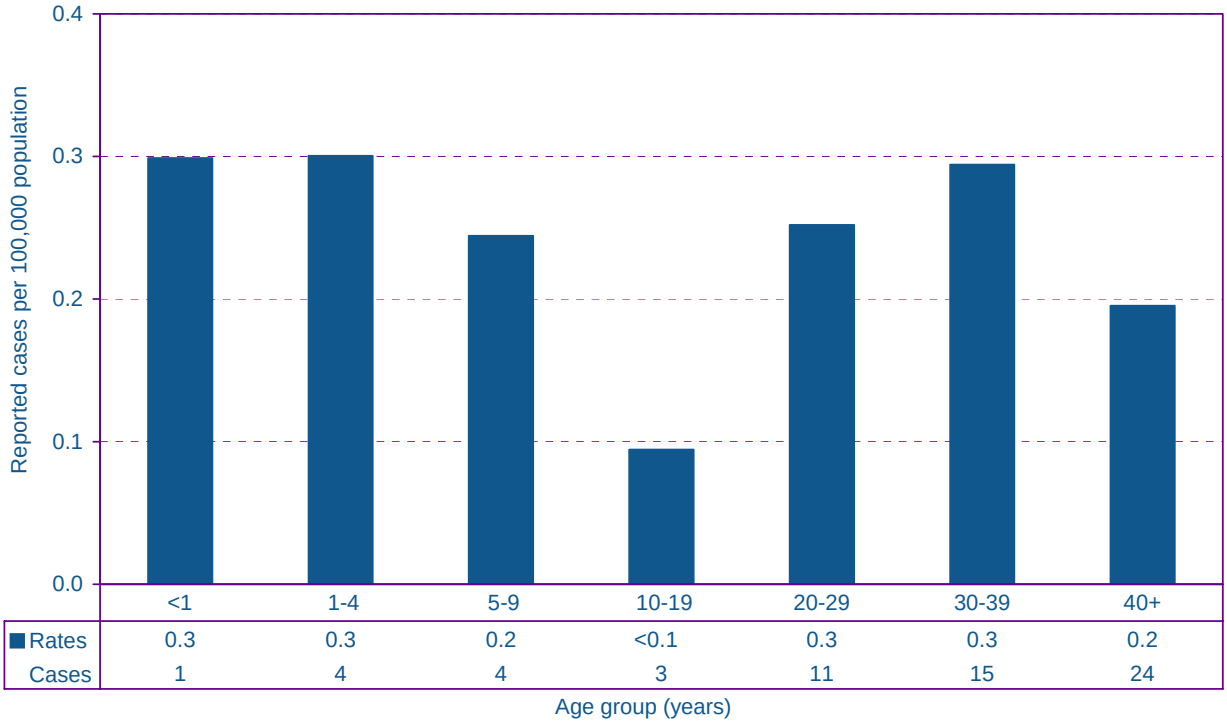
Figure 3.10: Incidence of rubella* by year. Toronto, the rest of Ontario and Canada†, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Toronto cases	22	4	9	0	5	12	1	4	1	3	2
Toronto rates	0.9	0.2	0.4	0.0	0.2	0.5	<0.1	0.2	<0.1	0.1	<0.1
Ontario less Toronto rates	0.6	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1
Canada rates	0.9	13.3	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1

*Only cases of rubella are summarized in this figure. Congenital rubella syndrome reports are summarized in the rare diseases section.
†Canada data for 2006 do not include Nunavut. NA: Ontario data for 2005 are not available.

Figure 3.11: Incidence of rubella* by age group[†]. Toronto, 1996 - 2006 combined



	<1	1-4	5-9	10-19	20-29	30-39	40+
Rates	0.3	0.3	0.2	<0.1	0.3	0.3	0.2
Cases	1	4	4	3	11	15	24

Age group (years)

*Only cases of rubella are summarized in this figure. Congenital rubella syndrome reports are summarized in the rare diseases section.

[†]The age was not reported for one case.

Diseases Transmitted by Direct Contact and Respiratory Routes

Communicable Diseases in Toronto

2006

Toronto Public Health

Diseases Transmitted by Direct Contact and Respiratory Routes

These are diseases caused by infectious agents transmitted through direct contact with and/or airborne spread of contagious secretions of an infected person, usually secretions from the respiratory tract. This group of diseases includes one of the most contagious and common reportable diseases, chickenpox. Relative proportions of each disease within this grouping, and their ranking are listed below. ❑

Table 4.1: Number and proportion of reported cases of direct contact and respiratory diseases. Toronto, 2006

Ranking	Reportable disease	Number of cases	Proportion of cases (%)
1	Chickenpox	2129	75
2	Tuberculosis	320	11
3	*Streptococcus pneumoniae*, invasive	231	8
4	Streptococcal disease, Group A invasive	110	4
5	Streptococcal disease, Group B neonatal	29	1
6	Legionellosis	19	<1
7	Meningococcal disease, invasive	10	<1
	Total	**2848**	**100**

Rare reportable diseases not summarized in this section include leprosy and severe acute respiratory syndrome (SARS).

Select highlights

Chickenpox (Varicella Zoster virus)

- The number of chickenpox cases declined 60% from the 5317 reports in 2004 to the 2129 in 2006. The 2006 reports were the lowest in the 11-year surveillance period (Figure 4.1). The decrease may be related to the publicly funded chickenpox vaccine that was offered free as of January 1, 2005 to all one year old children and those with high risk medical conditions.

Legionellosis

- There were 19 laboratory-confirmed reported cases (0.7 cases per 100,000) of legionellosis in 2006 compared to 53 reported cases (2.0 cases per 100,000) for 2005 (Figure 4.4), when a large outbreak occurred at a long term care facility. Despite the decrease, the 19 reported cases exceeded the 5- and 10-year means for legionellosis. A more sensitive urine test and increased testing after the 2005 outbreak may account for some of the cases.

Meningococcal disease, invasive

- Compared to 2005, there was a 3-fold increase in the number of reported cases of invasive meningococcal disease (IMD) in 2006. The 10 cases reported in 2006, however, were comparable to both the previous 5- and 10-year averages (Table 4.4). All serogroups except for serogroup A were identified in 2006, with serogroup C meningococcal disease predominating (Figure 4.9). Nevertheless, Toronto's rate of IMD has remained lower than the rates reported for the rest of Ontario and Canada since 2003 (Figure 4.7). Toronto Public Health held a vaccine clinic to address a large-scale exposure from one case of serogroup C IMD who attended a downtown bar while contagious. No related cases were detected.

Streptococcal infections, Group A invasive

- In 2006, there were 110 reported cases (4.2 cases per 100,000) of invasive group A streptococcal (GAS) disease. This represented an increase of 37 cases (51%) over the 2005 total of 73 cases (Figure 4.10), and the highest number of cases during the 11-year surveillance period (Figure 4.10). Cases reported in 2006 were younger and more likely to be male than in past years. This may explain the lower hospitalization and the case fatality rates compared to the previous 5- and 10 year equivalents (Table 4.5).

Streptococcus pneumoniae, invasive

- The 231 invasive *Streptococcus pneumoniae* (ISP) reports for 2006 were either comparable to or lower than the number of cases reported since 2002 (Table 4.8). Recently, Vancouver, Edmonton, and Calgary experienced outbreaks of ISP serotype 5, predominantly affecting homeless and underhoused individuals, many of whom were illicit drug users and/or had chronic medical conditions. Since Toronto has a significant high risk population and because there may be migration of homeless and under housed across the country, TPH proactively worked with local service providers to enhance surveillance efforts and undertake an immunization campaign, which occurred in early 2007. To date, no cases of ISP serotype 5 have been detected in Toronto.

Tuberculosis

- In 2006, there were 320 cases (12.2 cases per 100,000) of tuberculosis (TB) reported. This represents a decrease of 23 cases (7%) from the 2005 total of 343 cases. Incidence rates in Toronto continue to decrease slowly, with 2006 reaching the lowest level of the 11-year period (1995-2006, see Figure 4.16).

- Travel to or residence in an endemic area continues to be the most commonly reported exposure setting for cases of tuberculosis (Table 4.10), reported by 84% (n=303). Exposure setting captures the site where transmission most likely occurred.

- In 2006, only six (2%) of cases reported a shelter as an exposure setting for acquiring tuberculosis, down from the 10 cases of 2005 (Table 4.10).

- The proportion of Toronto's TB cases who were foreign-born has been stable since 2002, and was 94% in 2006 (Figure 4.19). Given that only 44% of Toronto's population is foreign-born (2001 census), this confirms that TB continues to disproportionately affect the foreign-born population, reflecting TB rates in other parts of the world. The top ten countries of birth for TB cases were similar to 2005, with Nepal replacing Bangladesh (Figure 4.20).

- The proportion of TB cases known to be co-infected with HIV remains fairly stable, with 15 (5%) of cases co-infected in 2006, compared to 20 (6%) in 2005.

- Overall, 58% (n=187) of TB cases treated in 2005 (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). Eighty-three percent (n=156) of cases on DOT and 84% not on DOT successfully completed their treatment in Toronto. This represents an increase in completion of treatment for clients not on DOT, over the 73% reported last year. Although comparable in completion rates, a larger proportion (10%) of DOT cases remain on treatment than those cases not on DOT (4%).

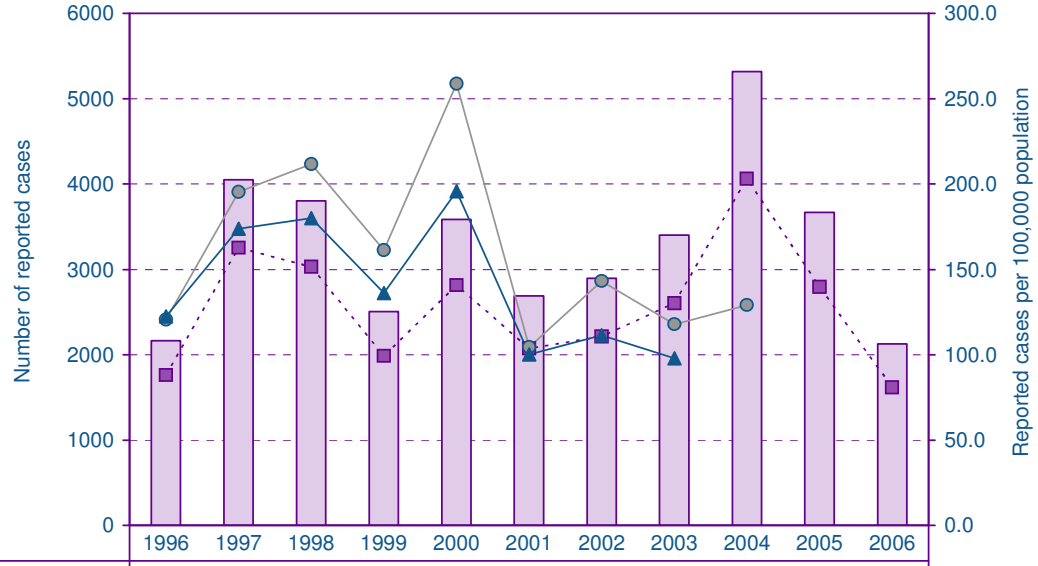
- A total of 273 cases (85%) were culture confirmed in 2006. The proportion of isolates resistant to one or more drugs in 2006 decreased to 11%, a decrease from the 16% resistant in 2005 and the lowest in the surveillance period (Figure 4.21). Despite this drop, MDR-TB is still detected in Toronto, accounting for 2% of cases in 2006.The greatest difference from 2005, and the main reason for the overall drop from 16% to 11%, was the change in other patterns of resistance from 5% to 1%. Note: The Ontario Public Health Laboratory stopped testing for sensitivity to streptomycin as part of first-line drug testing on January 1, 2006.

Chickenpox (Varicella Zoster virus)

Table 4.2: Chickenpox summary data* Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	2129	3594	3408
Incidence rate (per 100,000 population)	80.9	137.5	133.1
Age at onset (years)	Summary statistics		
Grouped mean	9	8	8
Grouped median	8	7	7
Range	<1 >60	<1 >60	<1 >60

*Chickenpox cases are recorded in iPHIS as aggregated age categories.

Figure 4.1: Incidence of chickenpox by year. Toronto, the rest of Ontario and Canada*, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Toronto cases	2165	4049	3801	2509	3586	2689	2895	3403	5317	3668	2129
Toronto rates	88.0	162.7	151.5	99.3	140.8	103.7	110.6	130.1	203.2	139.7	80.9
Ontario less Toronto rates	120.6	195.3	211.7	161.3	258.8	104.5	143.2	117.9	129.1	NA	NA
Canada rates	122.4	173.9	180.1	136.3	195.8	100.2	111.5	98.0	NA	NA	NA

*From 1996 to 2006 Chickenpox was not reportable in British Columbia, Manitoba, and Quebec. Saskatchewan provided data only for 1998 to 2000.
NA: Canada data for 2004 to 2006 are not available. Ontario data for 2005 and 2006 are not available.

Figure 4.2: Incidence of chickenpox by age group.
Toronto, 2006

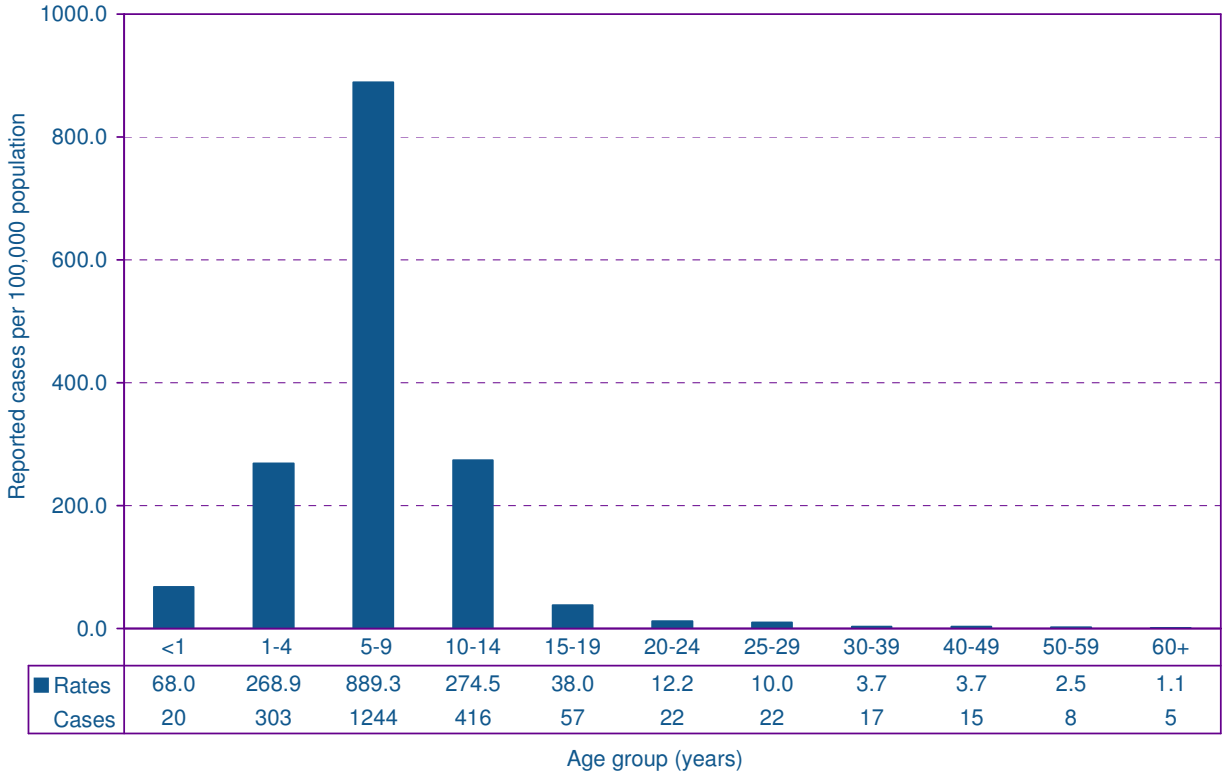
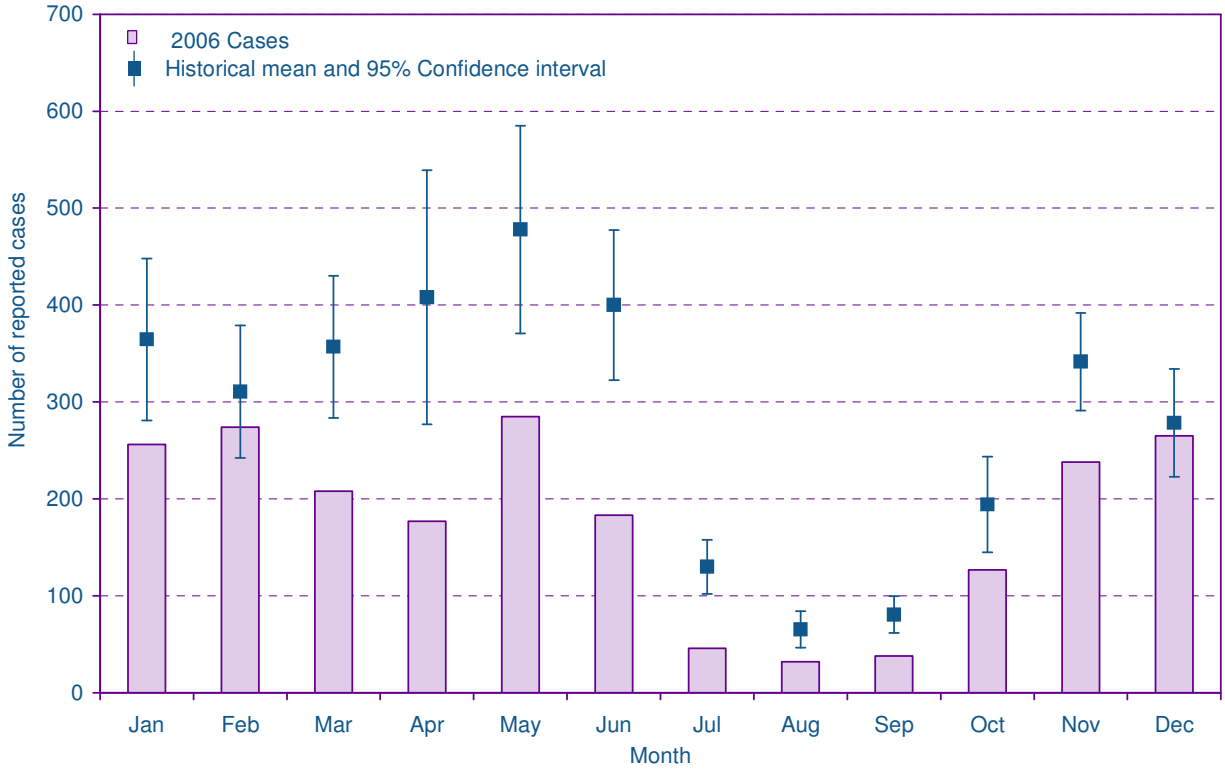


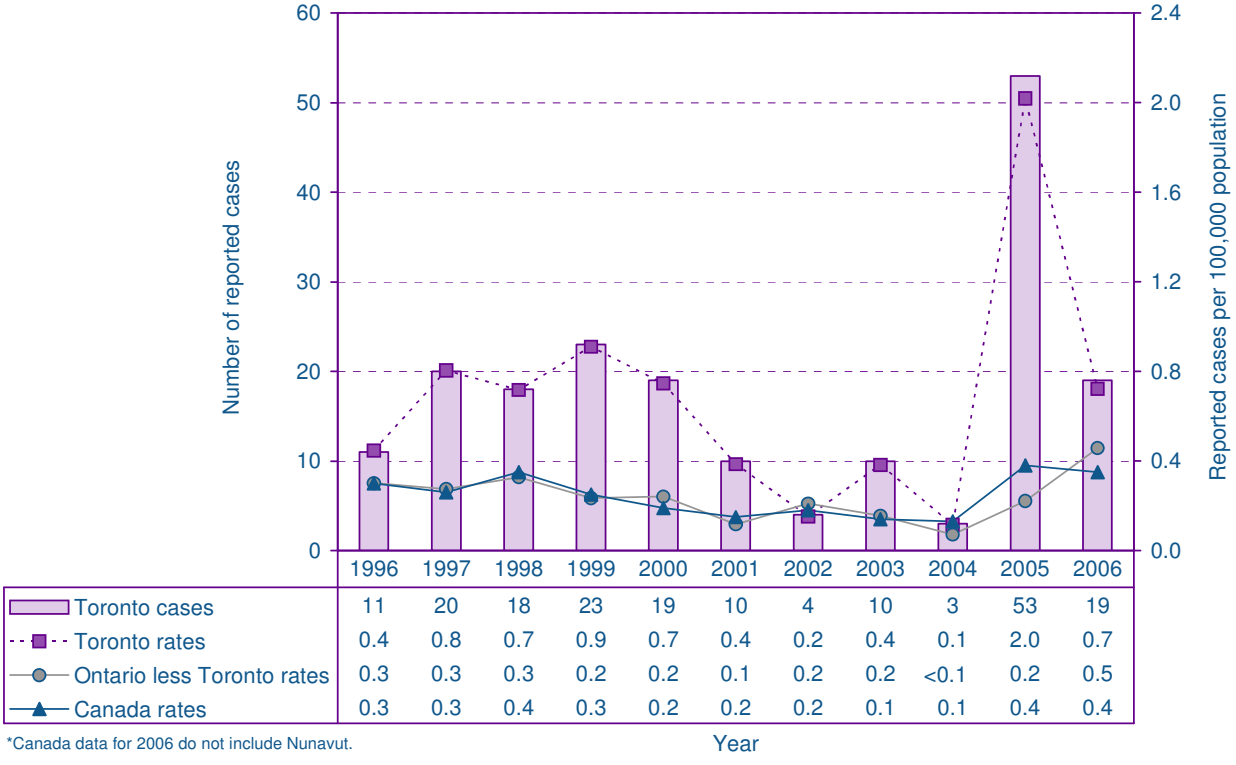
Figure 4.3: Number of reported cases of chickenpox by month.
Toronto, 2006 compared to 1996 - 2005 mean



Legionellosis

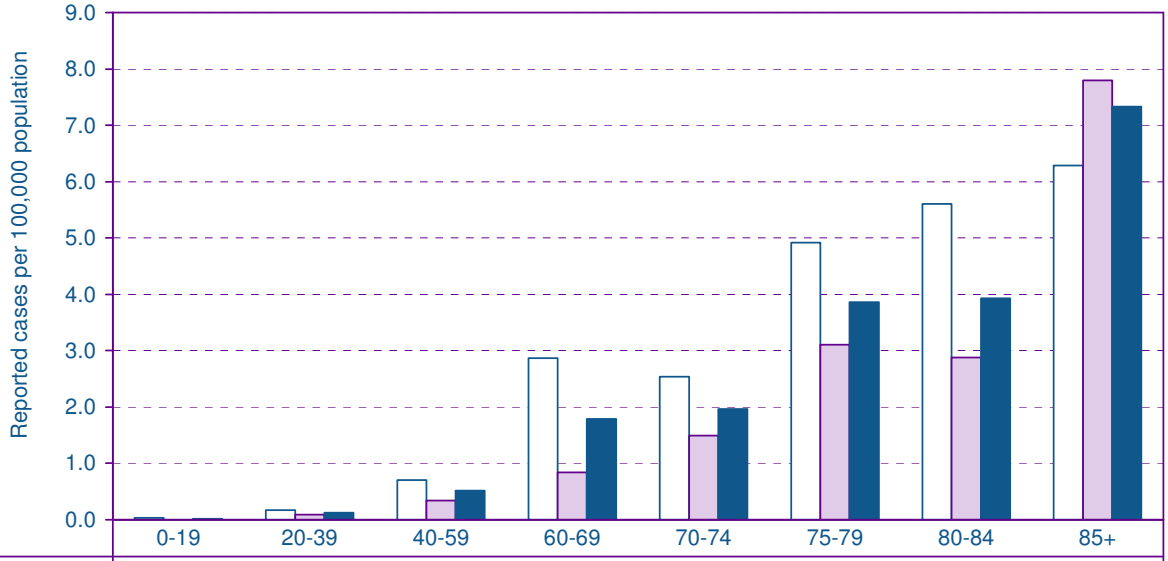
Table 4.3: Legionellosis summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	19	16	17
Incidence rate (per 100,000 population)			
Overall	0.7	0.6	0.7
Male	0.9	0.6	0.8
Female	0.5	0.6	0.6
Age at onset (years)	Summary statistics		
Mean	64	72	68
Median	68	77	72
Range	35 82	28 99	2 99
Case fatality (%)	0	36	30

Figure 4.4: Incidence of legionellosis by year.
Toronto, the rest of Ontario and Canada*, 1996 - 2006



*Canada data for 2006 do not include Nunavut.

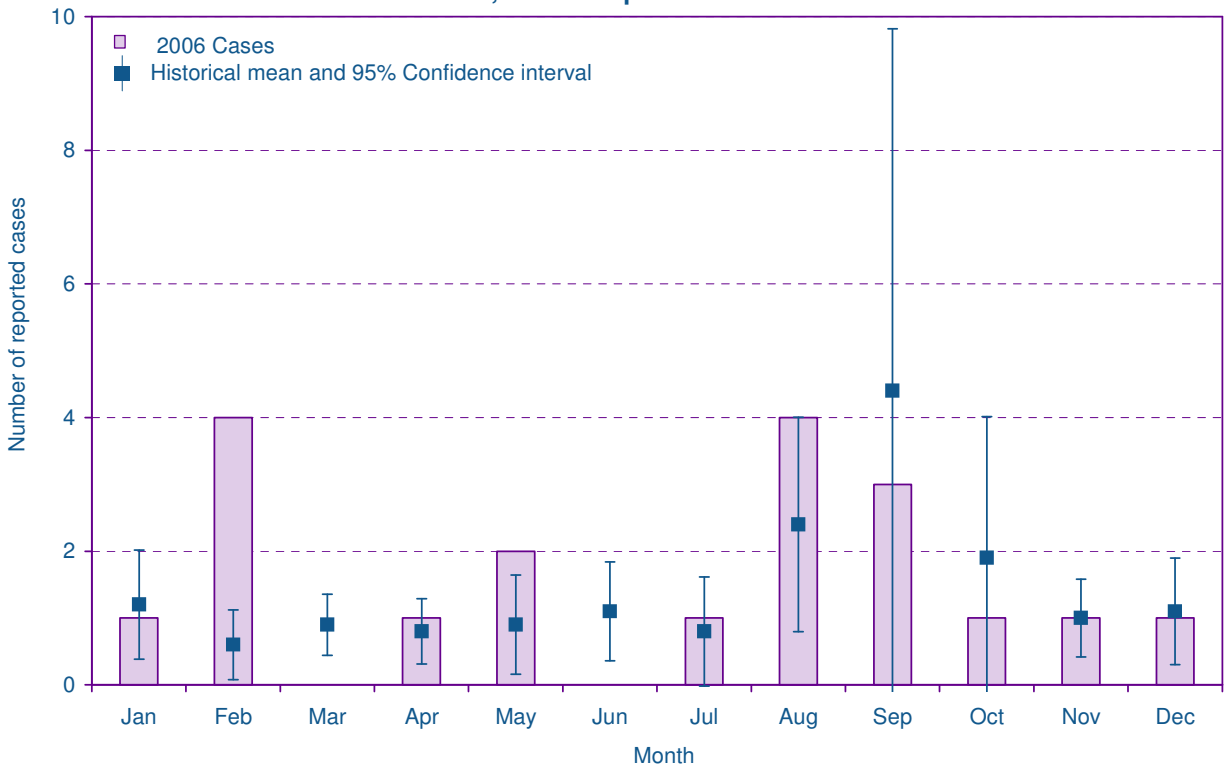
Figure 4.5: Incidence of legionellosis by age group and sex.
Toronto, 1996 - 2006 combined



	0-19	20-39	40-59	60-69	70-74	75-79	80-84	85+
Male rates	<0.1	0.2	0.7	2.9	2.5	4.9	5.6	6.3
Female rates	0.0	<0.1	0.3	0.8	1.5	3.1	2.9	7.8
Overall rates	<0.1	0.1	0.5	1.8	2.0	3.9	3.9	7.3
Male cases	1	8	25	30	11	16	11	8
Female cases	0	4	13	10	8	14	9	22

Age group (years)

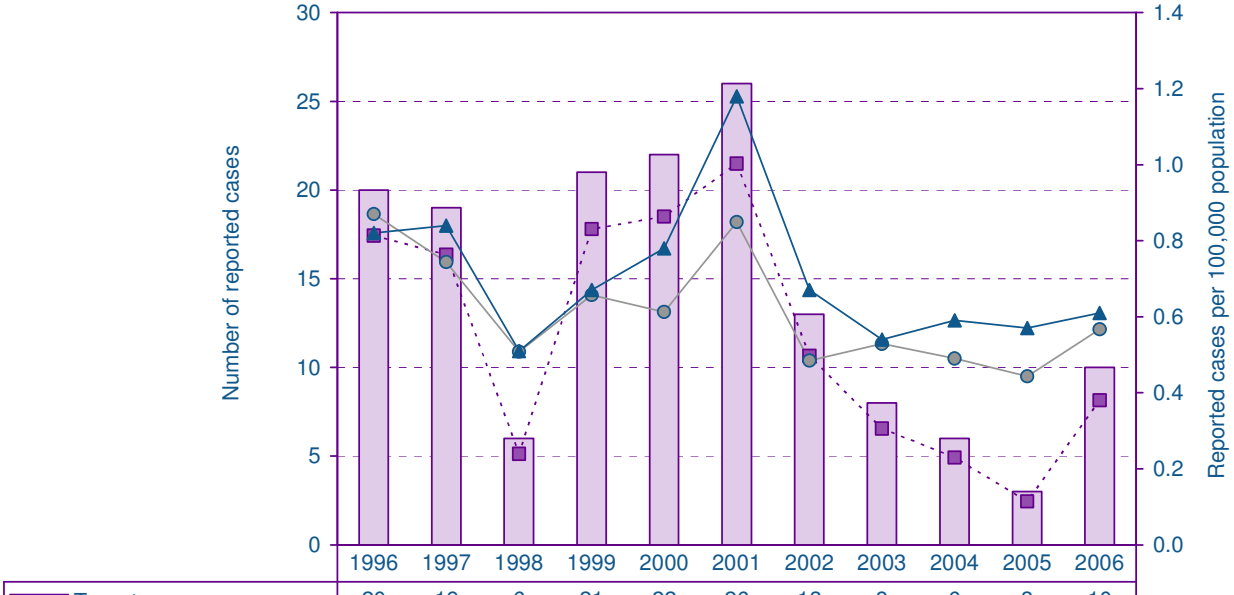
Figure 4.6: Number of reported cases of legionellosis by month.
Toronto, 2006 compared to 1996 - 2005 mean



Meningococcal disease, invasive

Table 4.4: Invasive meningoccocal disease summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	10	11	14
Incidence rate (per 100,000 population)			
Overall	0.4	0.4	0.6
Male	0.2	0.4	0.5
Female	0.5	0.5	0.6
Age at onset (years)	Summary statistics		
Mean	36	33	29
Median	29	25	23
Range	<1 79	<1 79	<1 88
Case fatality (%)	20	16	15

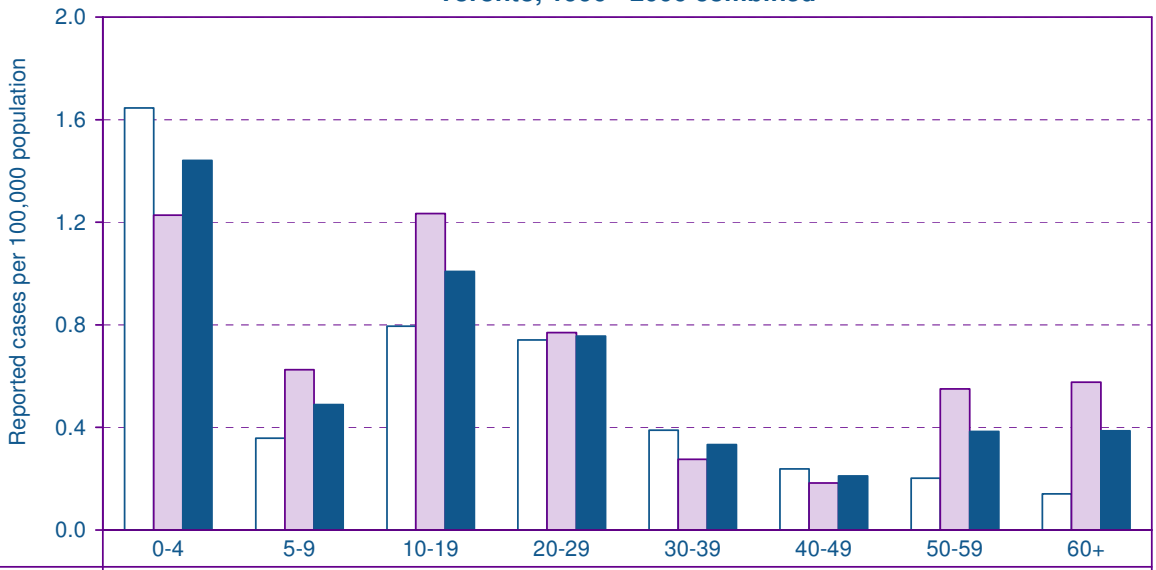
Figure 4.7: Incidence of invasive meningococcal disease by year. Toronto, the rest of Ontario and Canada*, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Toronto cases	20	19	6	21	22	26	13	8	6	3	10
Toronto rates	0.8	0.8	0.2	0.8	0.9	1.0	0.5	0.3	0.2	0.1	0.4
Ontario less Toronto rates	0.9	0.7	0.5	0.7	0.6	0.8	0.5	0.5	0.5	0.4	0.6
Canada rates	0.8	0.8	0.5	0.7	0.8	1.2	0.7	0.5	0.6	0.6	0.6

*Canada data for 2006 do not include Nunavut.

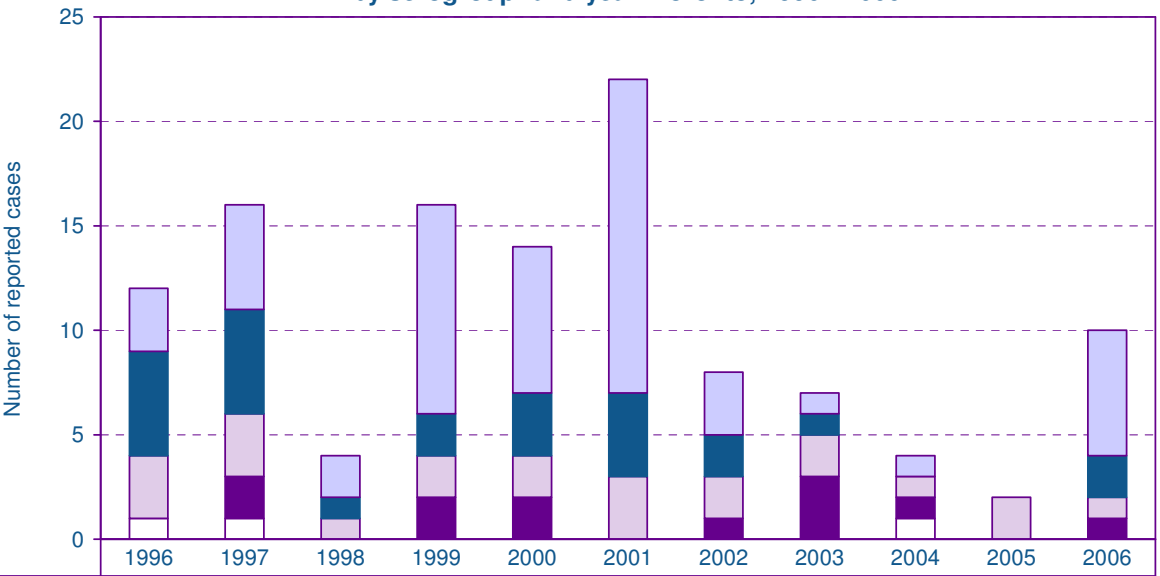
Figure 4.8: Incidence of invasive meningococcal disease by age group and sex. Toronto, 1996 - 2006 combined



	0-4	5-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	1.6	0.4	0.8	0.7	0.4	0.2	0.2	0.1
Female rates	1.2	0.6	1.2	0.8	0.3	0.2	0.6	0.6
Overall rates	1.4	0.5	1.0	0.8	0.3	0.2	0.4	0.4
Male cases	14	3	13	16	10	5	3	3
Female cases	10	5	19	17	7	4	9	16

Age group (years)

Figure 4.9: Number of reported cases of invasive meningococcal disease by serogroup* and year. Toronto, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Group C	3	5	2	10	7	15	3	1	1	0	6
Group B	5	5	1	2	3	4	2	1	0	0	2
Group Y	3	3	1	2	2	3	2	2	1	2	1
Group W-135	0	2	0	2	2	0	1	3	1	0	1
Group A	1	1	0	0	0	0	0	0	1	0	0

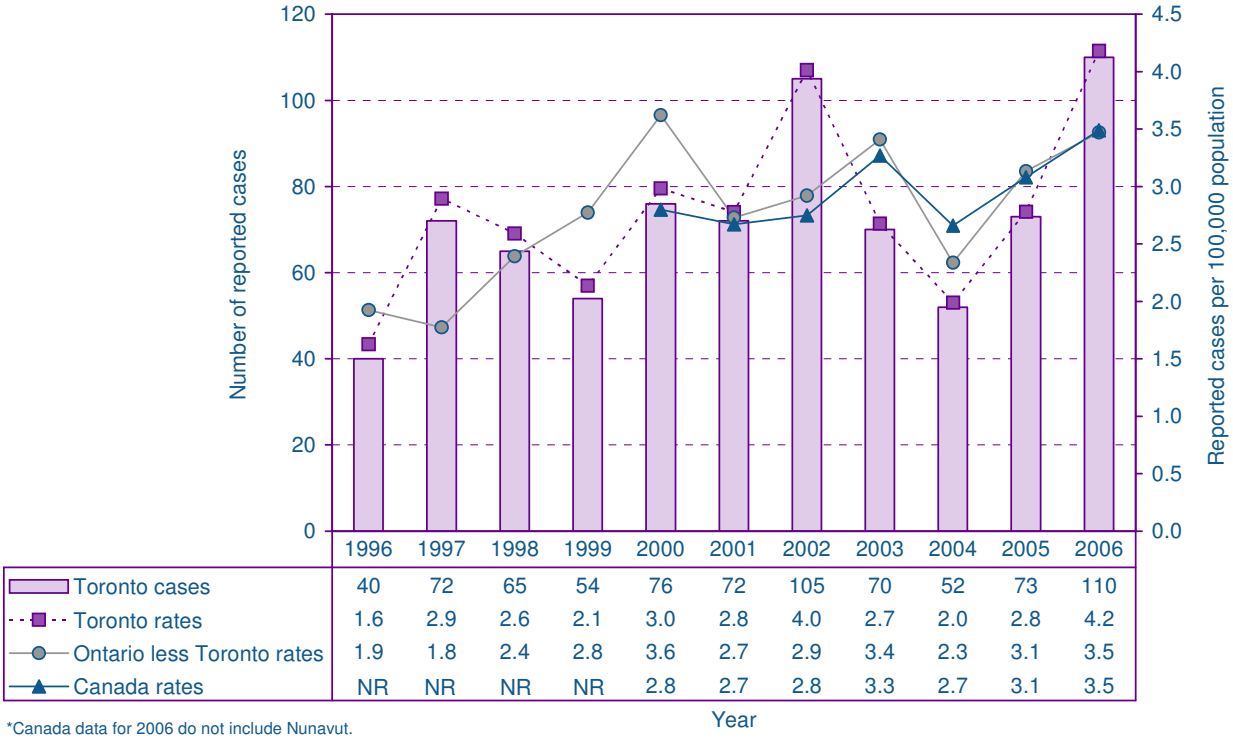
*39 cases were not typed.

Year

Streptococcal infections, Group A invasive

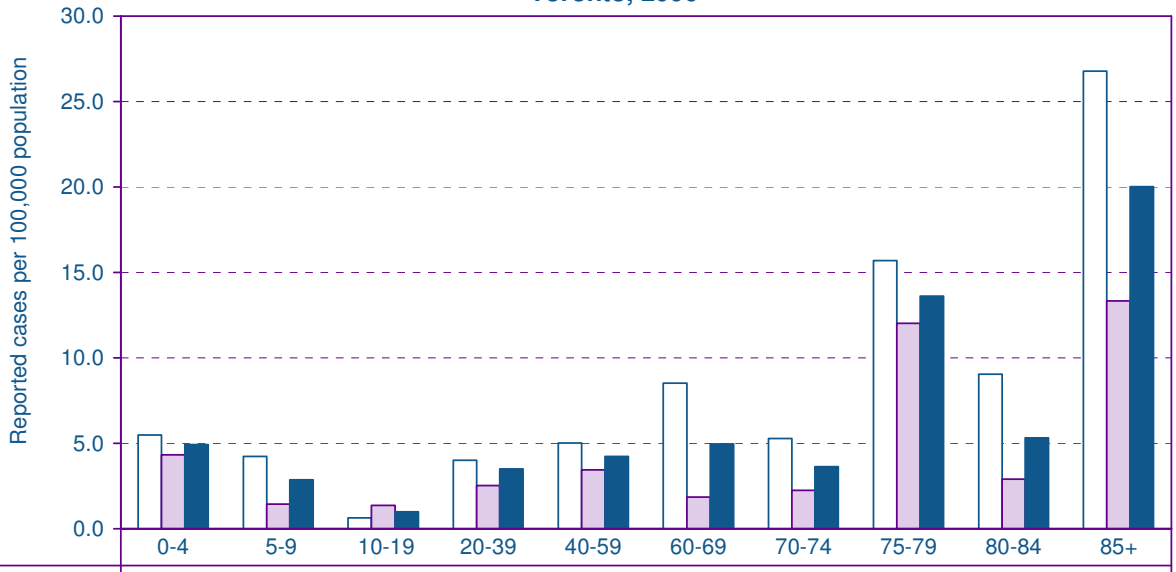
Table 4.5: Invasive group A streptococcal infections summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	110	74	68
Incidence rate (per 100,000 population)			
Overall	4.2	2.8	2.7
Male	5.0	3.1	2.8
Female	3.2	2.6	2.5
Age at onset (years)	Summary statistics		
Mean	47	53	51
Median	45	54	52
Range	<1 96	<1 100	<1 100
Case fatality (%)	9	17	16
Hospitalization rate (%)	78	83	82

Figure 4.10: Incidence of invasive group A streptococcal infections by year. Toronto, the rest of Ontario and Canada*, 1996 - 2006



*Canada data for 2006 do not include Nunavut.
NR: Not reportable. Starting January 1, 2000, invasive group A streptococcal disease was added to the list of national notifiable diseases.

Figure 4.11: Incidence of invasive group A streptococcal infections by age group and sex*. Toronto, 2006



	0-4	5-9	10-19	20-39	40-59	60-69	70-74	75-79	80-84	85+
Male rates	5.5	4.2	0.6	4.0	5.0	8.5	5.3	15.7	9.0	26.8
Female rates	4.3	1.4	1.4	2.5	3.5	1.9	2.2	12.0	2.9	13.3
Overall rates	4.9	2.9	1.0	3.5	4.2	5.0	3.6	13.6	5.3	20.0
Male cases	4	3	1	17	18	8	2	5	2	4
Female cases	3	1	2	11	13	2	1	5	1	4

*The sex of three cases was not reported.

Age group (years)

Table 4.6: Risk factors for reported cases of invasive group A streptococcal infections. Toronto, 2006

Reported risk factor	Number of cases*	Proportion of cases (%)
Chronic illness/underlying medical condition	14	(45)
Dermatological condition/chronic dermatitis	5	(16)
Homeless	4	(13)
Immunocompromised	4	(13)
HIV infection	1	(3)
Illicit drug use - injection/intra nasal	1	(3)
Recent non-invasive strep infection	1	(3)
Other	12	(39)
Total with a known risk factor	**31**	
Number missing or unknown	79	
Total cases	**110**	

*Cases may report more than one risk factor.

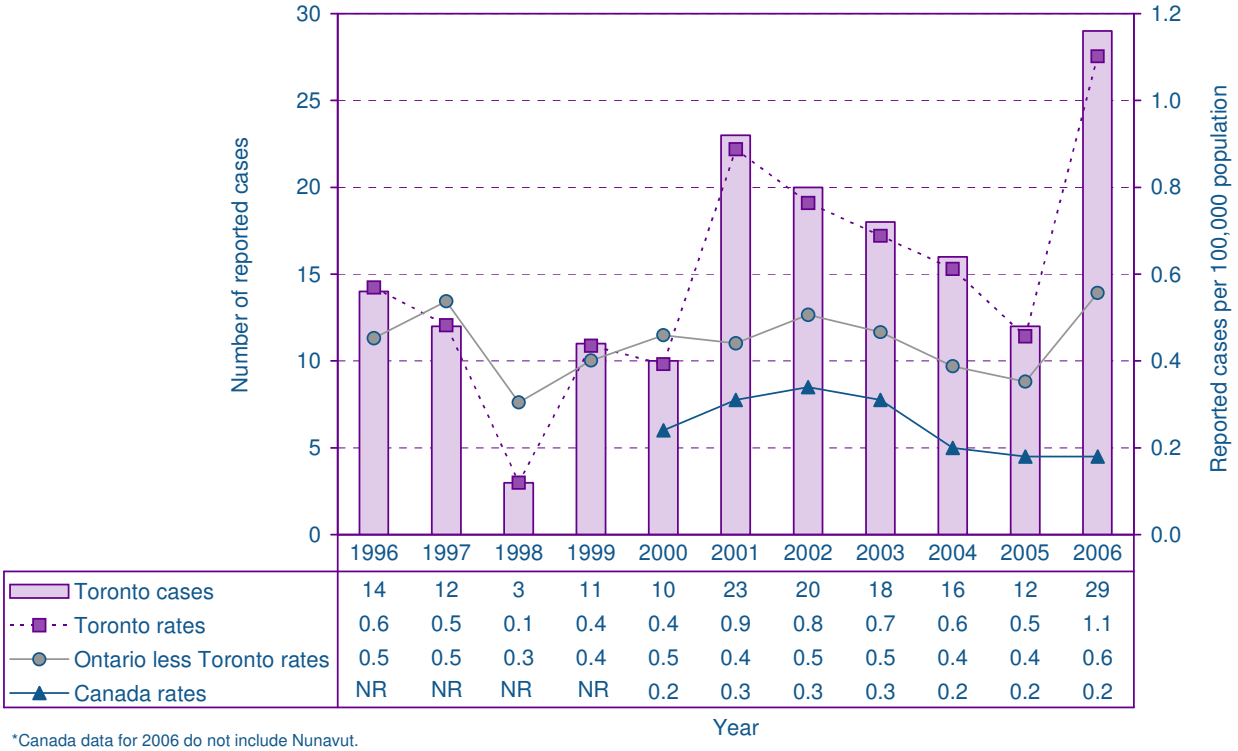
Streptococcal infections, Group B neonatal

Table 4.7: Neonatal group B streptococcal infections summary data*
Toronto

	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	29	18	14
Incidence rate (per 100,000 population)			
Overall	1.1	0.7	0.5
Male	1.1	0.7	0.5
Female	1.1	0.7	0.5
Age at onset (days)	Summary statistics		
Mean	8	6	5
Median	1	0	0
Range	0 27	0 28	0 28
Case fatality (%)	3	8	5

*Only disease occurring within the first 28 days of life is reportable.

Figure 4.12: Incidence of neonatal group B streptococcal infections by year. Toronto, the rest of Ontario and Canada*, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Toronto cases	14	12	3	11	10	23	20	18	16	12	29
Toronto rates	0.6	0.5	0.1	0.4	0.4	0.9	0.8	0.7	0.6	0.5	1.1
Ontario less Toronto rates	0.5	0.5	0.3	0.4	0.5	0.4	0.5	0.5	0.4	0.4	0.6
Canada rates	NR	NR	NR	NR	0.2	0.3	0.3	0.3	0.2	0.2	0.2

*Canada data for 2006 do not include Nunavut.
NR: Not reportable. Starting January 1, 2000, neonatal group B streptococcal disease was added to the list of national notifiable diseases.

Streptococcus pneumoniae, invasive

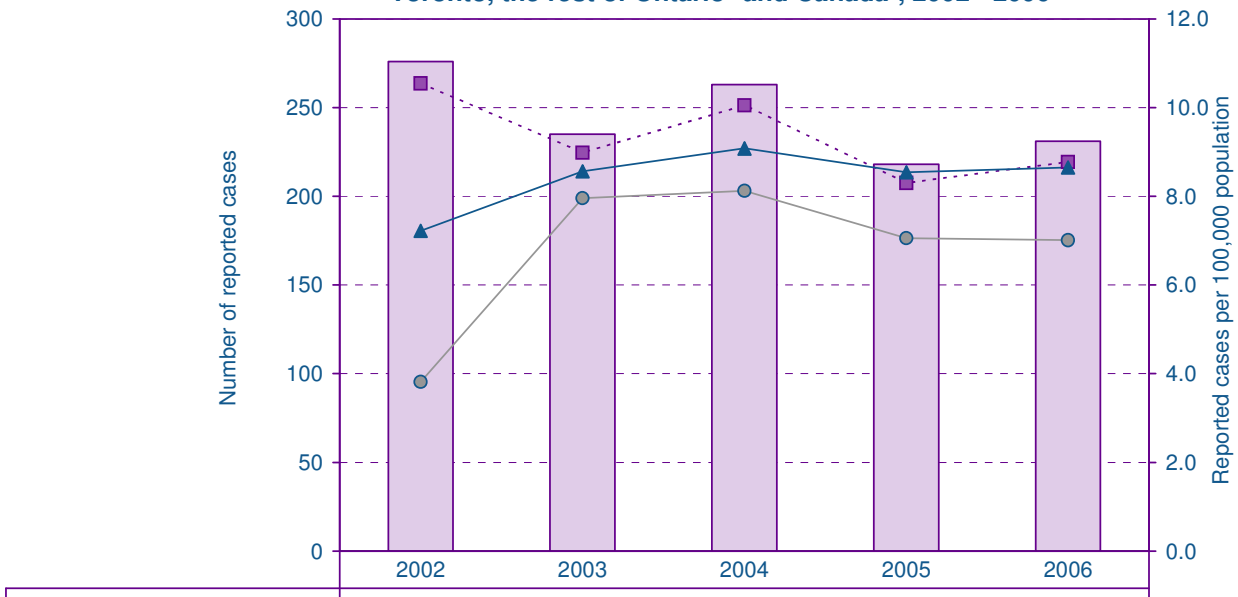
Table 4.8: Invasive *Streptococcus pneumoniae* summary data*

Toronto

	2006	2005	2004	2003	2002
Number of reported cases	231	218	263	235	276
Incidence rate (per 100,000 population)					
Overall	8.8	8.3	10.1	9.0	10.5
Male	9.9	10.2	12.9	9.8	11.8
Female	7.7	6.5	7.3	8.2	9.3
Age at onset (years)	Summary statistics				
Mean	58	53	51	51	51
Median	59	56	56	57	57
Range	1 96	<1 104	<1 97	<1 99	<1 108
Case fatality (%)	10	6	9	6	11
Hospitalization rate (%)	84	84	86	86	91

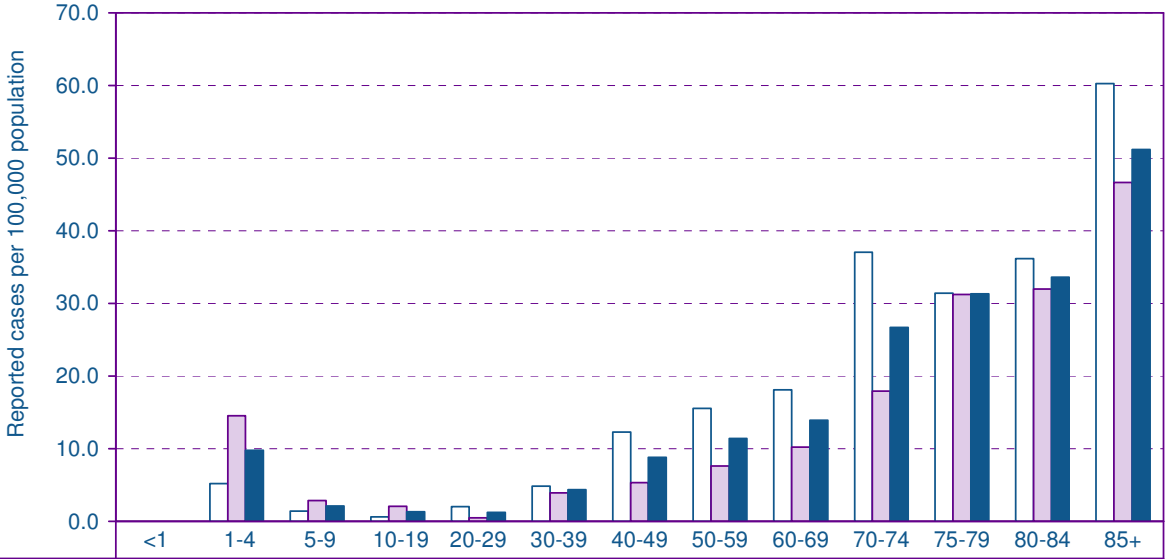
*Invasive *Streptococcus pneumoniae* became reportable in Ontario in fall 2001.

Figure 4.13: Incidence of invasive *Streptococcus pneumoniae* by year. Toronto, the rest of Ontario* and Canada†, 2002 - 2006



*Invasive S*treptococcus pneumoniae* became reportable in Ontario in fall 2001.
†Canada data for 2006 do not include Nunavut.

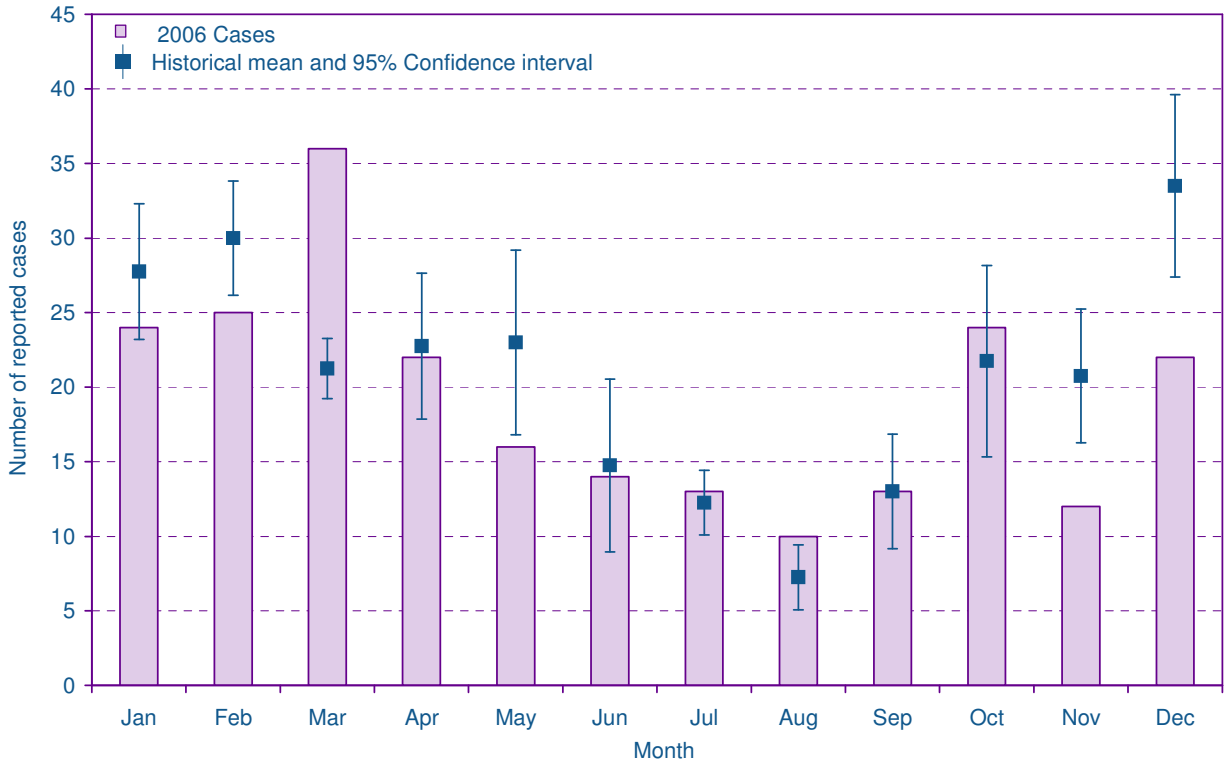
Figure 4.14: Incidence of invasive *Streptococcus pneumoniae* by age group and sex. Toronto, 2006



	<1	1-4	5-9	10-19	20-29	30-39	40-49	50-59	60-69	70-74	75-79	80-84	85+
Male rates	0.0	5.2	1.4	0.6	2.0	4.9	12.3	15.6	18.1	37.0	31.4	36.2	60.3
Female rates	0.0	14.5	2.9	2.1	0.5	3.9	5.3	7.6	10.2	18.0	31.3	32.0	46.7
Overall rates	0.0	9.8	2.1	1.3	1.2	4.4	8.8	11.4	13.9	26.7	31.3	33.6	51.2
Male cases	0	3	1	1	4	11	25	24	17	14	10	8	9
Female cases	0	8	2	3	1	9	11	13	11	8	13	11	14

Age group (years)

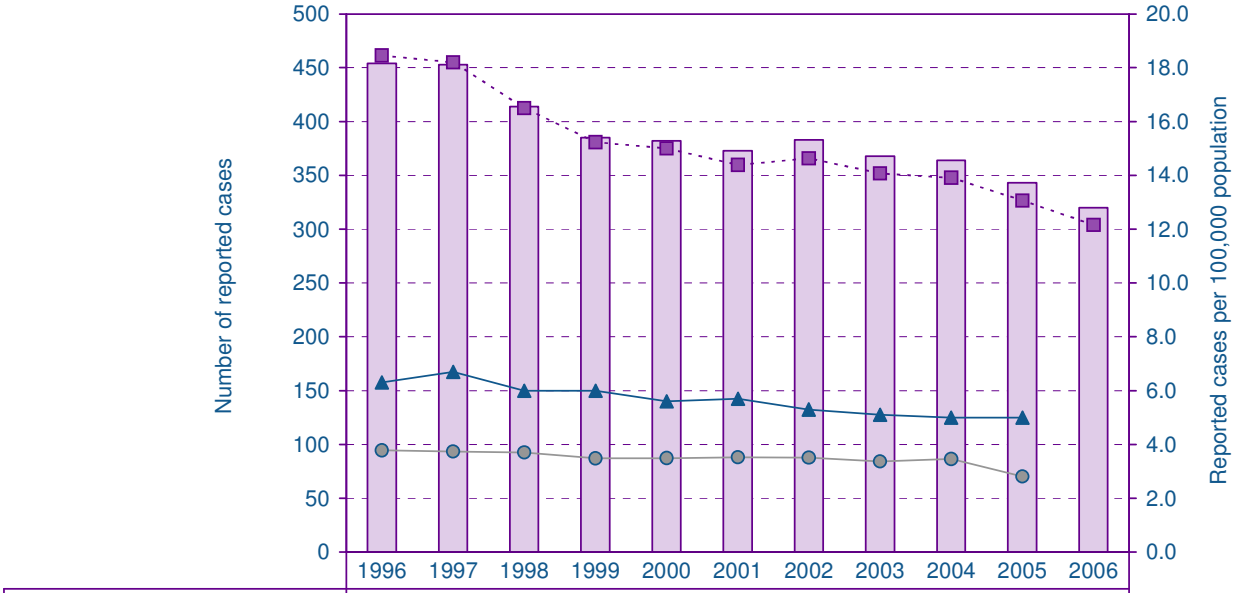
Figure 4.15: Number of reported cases of invasive *Streptococcus pneumoniae* by month. Toronto, 2006 compared to 2002 - 2005 mean



Tuberculosis

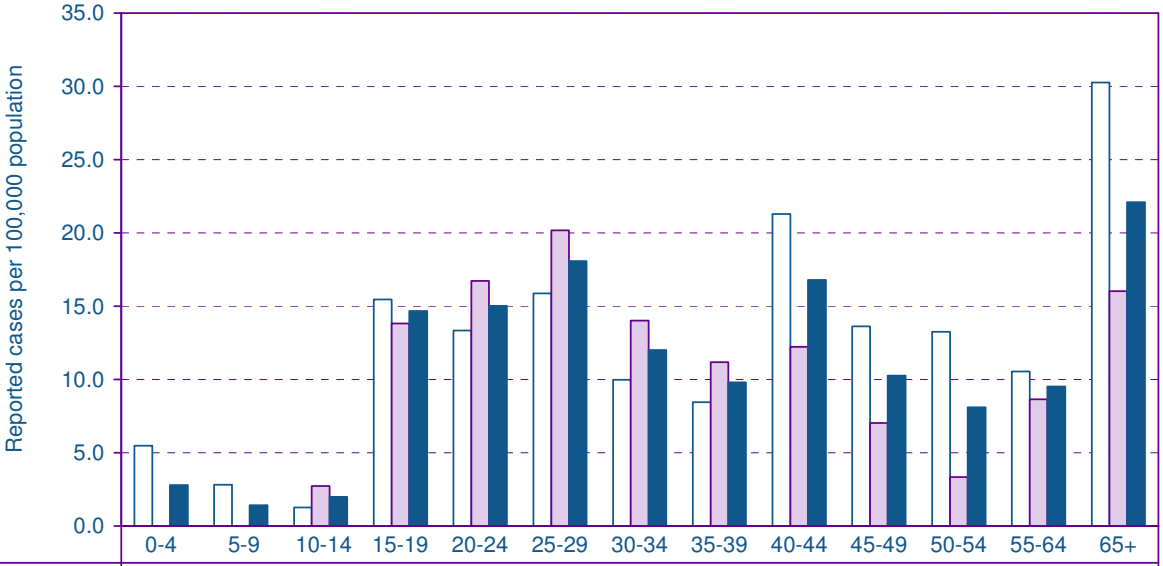
Table 4.9: Tuberculosis summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	320	366	392
Incidence rate (per 100,000 population)			
Overall	12.2	14.0	15.3
Male	13.6	15.5	16.7
Female	10.8	12.6	14.0
Age at onset (years)	Summary statistics		
Mean	45	44	45
Median	42	39	40
Range	2 98	<1 99	<1 106
Case fatality (%)	8	8	9

Figure 4.16: Incidence of tuberculosis by year.
Toronto, the rest of Ontario and Canada, 1996 - 2006



NA: Ontario and Canada for 2006 are not available.

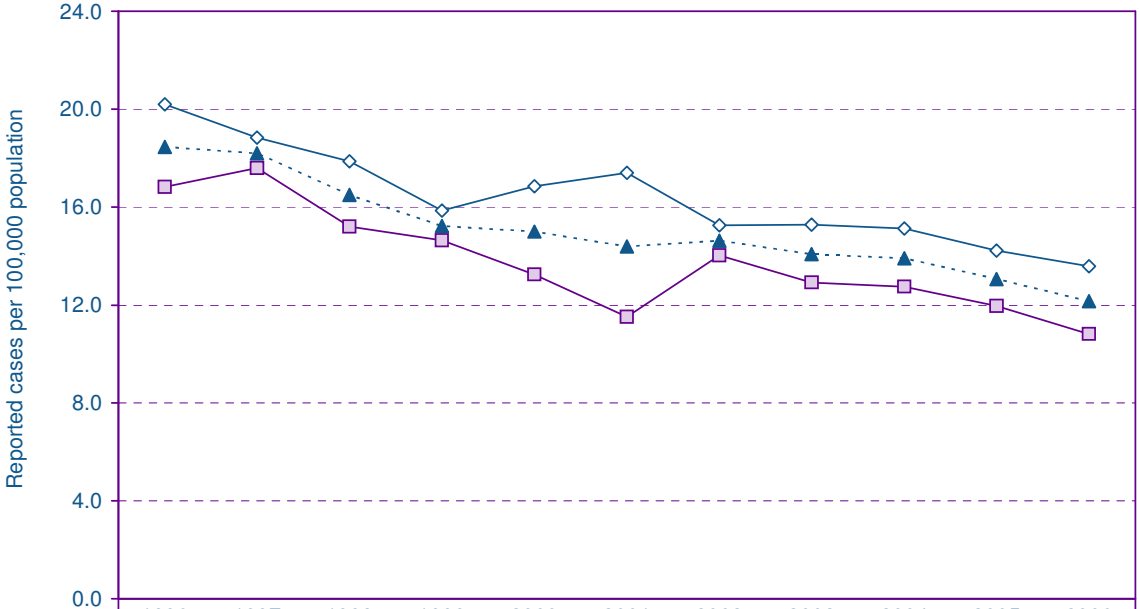
Figure 4.17: Incidence of tuberculosis by age group and sex. Toronto, 2006



	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-64	65+
Male - rates	5.5	2.8	1.3	15.5	13.3	15.9	10.0	8.4	21.3	13.6	13.3	10.6	30.3
Female - rates	0.0	0.0	2.7	13.8	16.7	20.2	14.0	11.2	12.2	7.0	3.3	8.6	16.0
Overall - rates	2.8	1.4	2.0	14.7	15.0	18.1	12.0	9.8	16.8	10.3	8.1	9.5	22.1
Male - cases	4	2	1	12	12	17	12	9	23	13	11	13	45
Female - cases	0	0	2	10	15	23	17	12	13	7	3	12	32

Age group (years)

Figure 4.18: Incidence rates of tuberculosis by sex and year. Toronto, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Male rates	20.2	18.8	17.9	15.9	16.8	17.4	15.3	15.3	15.1	14.2	13.6
Female rates	16.8	17.6	15.2	14.6	13.2	11.5	14.0	12.9	12.8	12.0	10.8
Overall rates	18.5	18.2	16.5	15.2	15.0	14.4	14.6	14.1	13.9	13.1	12.2

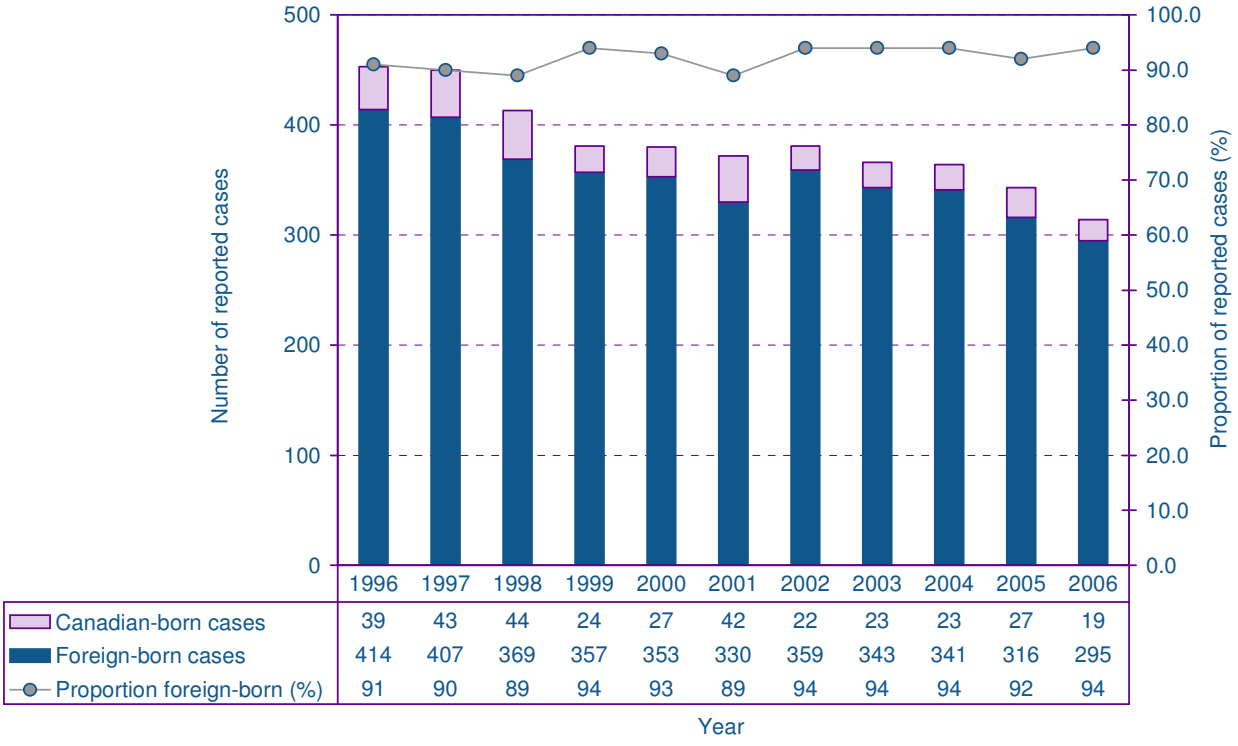
Year

Table 4.10: Exposure setting for reported cases of tuberculosis. Toronto, 2006

Reported exposure setting	Number of cases*	Proportion of cases (%)
Travel or lived in endemic area	303	(84)
Home	11	(3)
Shelter	6	(2)
Other	5	(1)
Correctional facility	4	(1)
Residential/Long-term facility	4	(1)
Workplace	4	(1)
Hospital	3	(<1)
Lived in First Nations community	3	(<1)
School or daycare	1	(<1)
Total with a known exposure setting	**308**	
Missing or unknown	12	
Total cases	**320**	

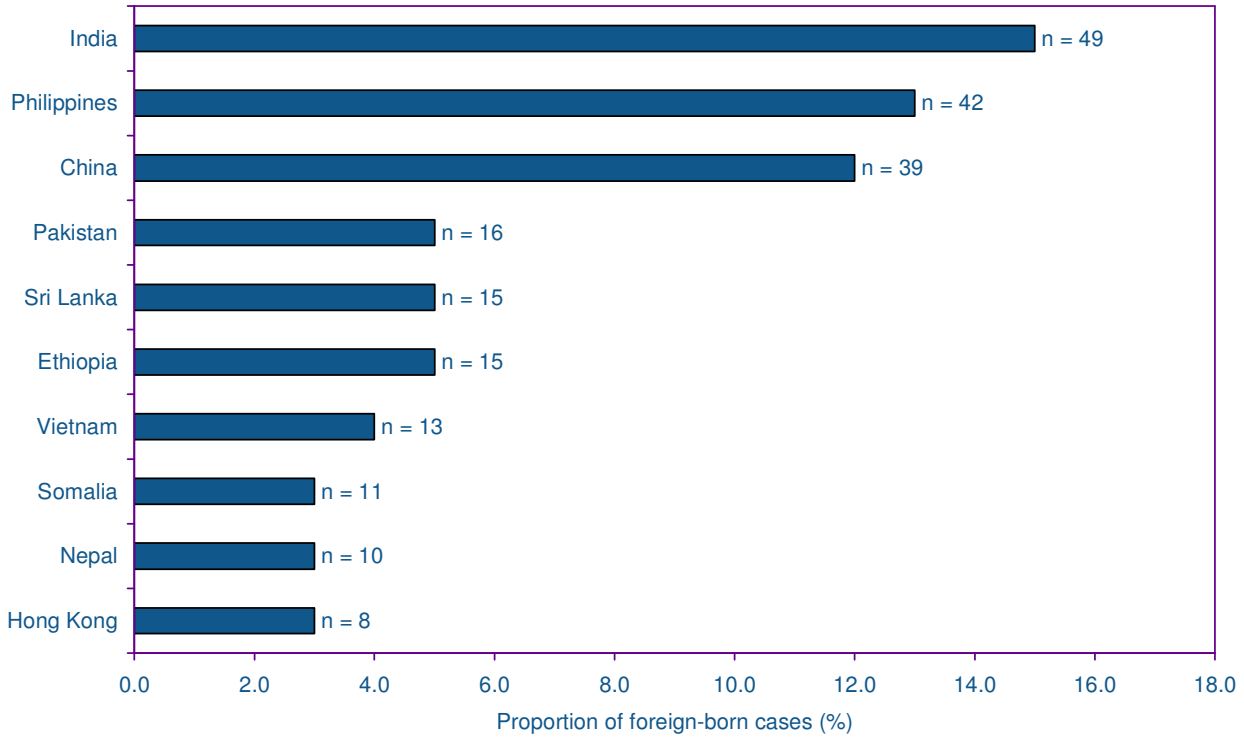
*Cases may report more than one exposure setting.

Figure 4.19: Reported cases of tuberculosis by origin* and year. Toronto, 1996 - 2006



*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 10 countries* of birth. Toronto, 2006



*Other countries of birth were reported by foreign-born tuberculosis cases in 2006.

Table 4.11: Number and proportion of reported cases of tuberculosis by anatomic site and country of origin. Toronto, 2006

Site of tuberculosis*	Canadian-born cases	(%)	Foreign-born cases	(%)	Overall cases†	(%)
Pulmonary	15	(79)	195	(66)	210	(66)
Lymph node	2	(11)	69	(23)	71	(22)
Pleurisy	0	(0)	20	(7)	20	(6)
Genitourinary	3	(16)	8	(3)	11	(3)
Other	0	(0)	10	(3)	10	(3)
Abdominal	0	(0)	8	(3)	8	(3)
Bone and joint	0	(0)	7	(2)	7	(2)
Primary pulmonary	1	(5)	5	(2)	6	(2)
Miliary	0	(0)	5	(2)	5	(2)
Central nervous system	0	(0)	4	(1)	4	(1)
Other respiratory	0	(0)	2	(<1)	2	(<1)
Eye	0	(0)	1	(<1)	1	(<1)
Skin	0	(0)	1	(<1)	1	(<1)
Total sites of infection	**21**		**335**		**356**	
Total cases	**19**		**295**		**320**	

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

†Country of origin was unknown or missing for six cases. The site of tuberculosis for these cases were pulmonary (6).

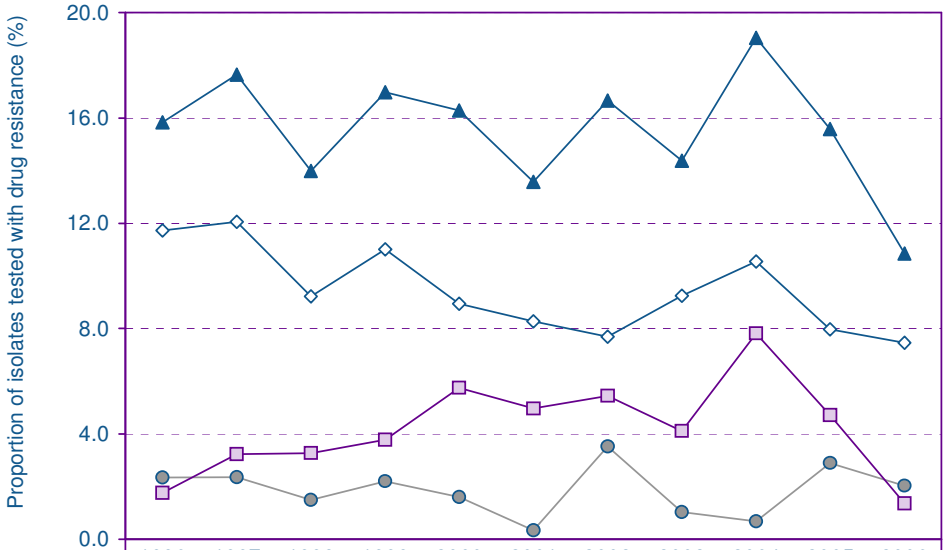
Table 4.12: Reported cases of tuberculosis by treatment status and treatment method. Toronto, 2006*

Treatment status	DOT (%)		Non-DOT (%)	
Successfully treated	156	(83)	113	(84)
Undergoing treatment	19	(10)	5	(4)
Not completed, side effects	0	(0)	1	(<1)
Lost to follow up	0	(0)	3	(2)
Referred to other jurisdiction	8	(4)	6	(4)
Expired	3	(2)	3	(2)
Other	1	(<1)	4	(3)
Total cases†	**187**	**(100)**	**135**	**(100)**

*Treatment status is reported for 2005 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 343 cases in 2005 because 21 cases were excluded, either because they were diagnosed after death, or died after less than one month of treatment.

Figure 4.21: Proportion of drug resistant tuberculosis cases by year. Toronto, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Isoniazid (INH) resistance excluding RMP	12	12	9	11	9	8	8	9	11	8	7
MDR-TB*	2	2	1	2	2	<1	4	1	1	3	2
Other patterns	2	3	3	4	6	5	5	4	8	5	1
Resistance to one or more drugs	16	18	14	17	16	14	17	14	19	16	11

*MDR-TB cases are resistant to at least isoniazid (INH) and rifampin (RMP).

Vectorborne and Zoonotic Diseases

Communicable Diseases in Toronto

2006

Toronto Public Health

Vectorborne and Zoonotic Diseases

These are diseases caused by infectious agents transmitted through contact with an infected animal. Most transmission occurs through the bite of an arthropod (mosquito or tick), which introduces infectious agents into the bloodstream. Given that the vectors and animal reservoirs for many of these diseases are not naturally found in Toronto, this group of diseases is rare. Relative proportions of each disease within this grouping, and their ranking are listed below. ❑

Table 5.1: Number and proportion of reported cases of vectorborne and zoonotic diseases. Toronto, 2006

Ranking	Reportable disease	Number of cases	Proportion of cases (%)
1	Malaria	97	88
2	Lyme disease	7	6
3	West Nile Virus	6	5
	Total	**110**	**100**

Rare reportable diseases not summarized in this section include brucellosis, hantavirus, hemorrhagic fevers, lassa fever, plague, psittacosis/ornithosis, Q fever, rabies, tularemia, yellow fever.

Select highlights

West Nile Virus

- The six West Nile Virus (WNV) reports for 2006 were almost one-sixth the number reported for 2005 (Figure 5.6). For the first time in the 5-year surveillance period, Toronto's rate of WNV in 2006 was lower than the rate reported for the rest of Ontario and Canada (Figure 5.6). There were no reported deaths related to WNV infection in Toronto in 2006. It is unknown at this time whether this trend will continue since WNV is relatively new to Ontario and factors related to annual rates of infection are not yet clearly understood.

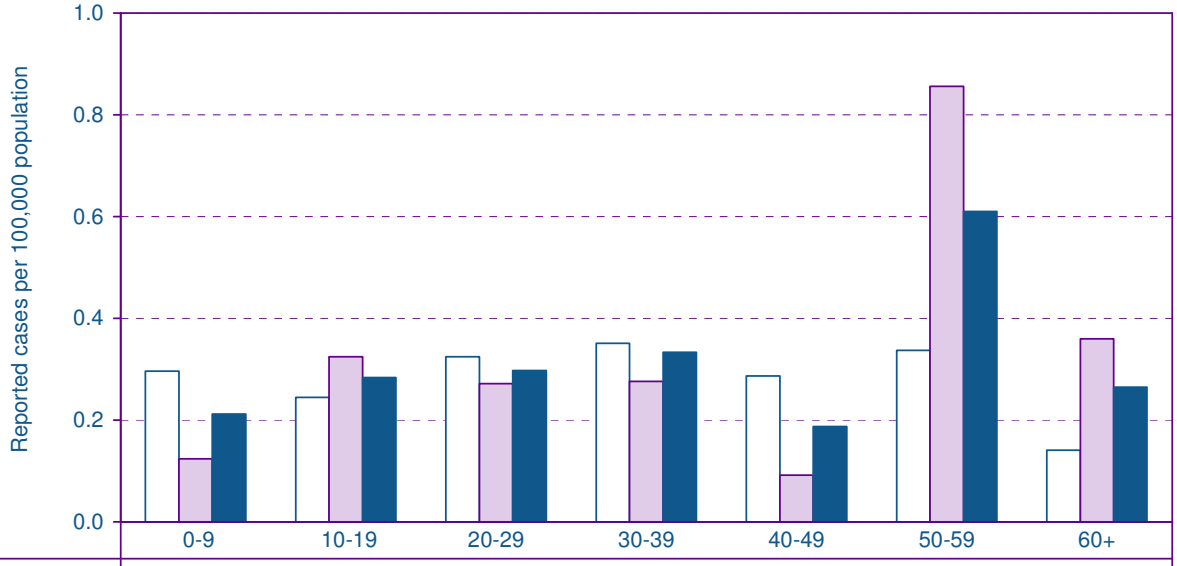
Lyme disease

Table 5.2: Lyme disease summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	7	8	8
Incidence rate (per 100,000 population)			
Overall	0.3	0.3	0.3
Male	0.2	0.3	0.3
Female	0.3	0.3	0.3
Age at onset (years)	Summary statistics		
Mean	44	38	38
Median	50	35	37
Range	22 55	2 76	2 76

Figure 5.1: Incidence of lyme disease by year.
Toronto and the rest of Ontario, 1996 - 2006

Lyme disease is not nationally notifiable.

**Figure 5.2: Incidence of lyme disease by age group and sex*.
Toronto, 1996 - 2006 combined**



	0-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	0.3	0.2	0.3	0.4	0.3	0.3	0.1
Female rates	0.1	0.3	0.3	0.3	<0.1	0.9	0.4
Overall rates	0.2	0.3	0.3	0.3	0.2	0.6	0.3
Male cases	5	4	7	9	6	5	3
Female cases	2	5	6	7	2	14	10

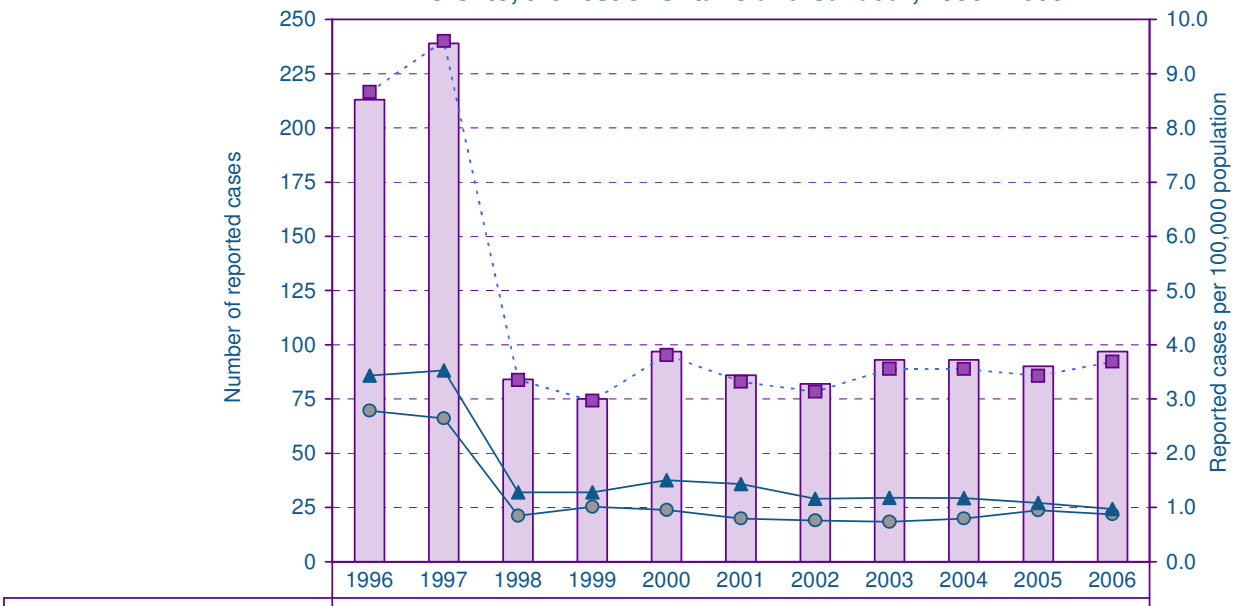
*The sex was not reported for one case.

Age group (years)

Malaria

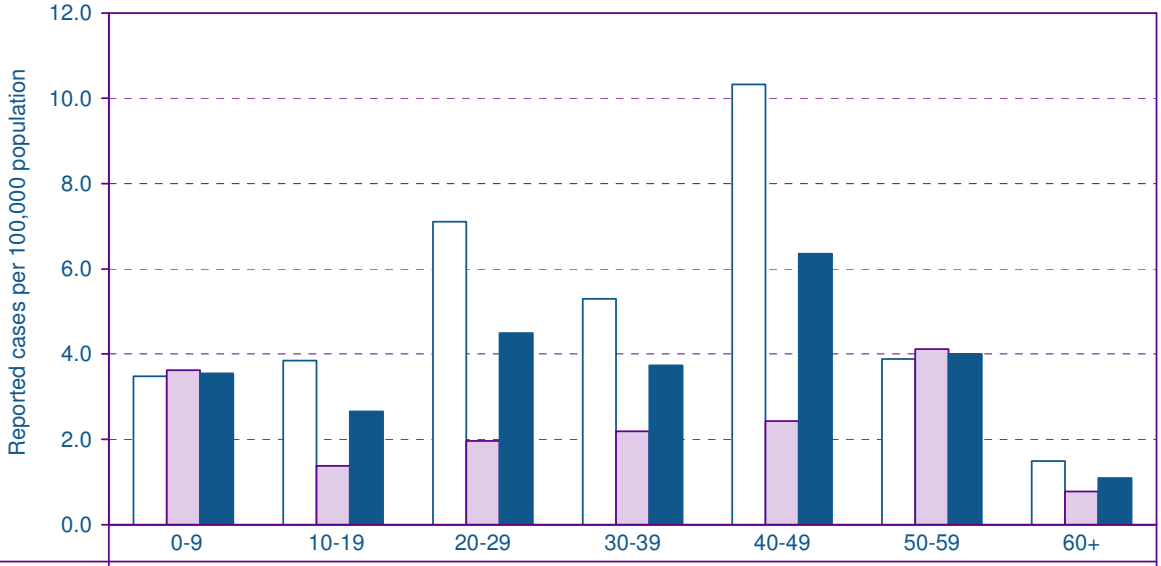
Table 5.3: Malaria summary data Toronto			
	2006	5-yr period 2001-2005	10-yr period 1996-2005
	Total	Means	
Number of reported cases	97	89	115
Incidence rate (per 100,000 population)			
Overall	3.7	3.4	4.5
Male	5.2	5.0	6.1
Female	2.2	1.9	3.0
Age at onset (years)	Summary statistics		
Mean	35	34	34
Median	37	35	34
Range	2 71	<1 83	<1 95

Figure 5.3: Incidence of malaria by year.
Toronto, the rest of Ontario and Canada*, 1996 - 2006



*Canada data for 2006 do not include Nunavut.

Figure 5.4: Incidence of malaria by age group and sex. Toronto, 2006



	0-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	3.5	3.8	7.1	5.3	10.3	3.9	1.5
Female rates	3.6	1.4	2.0	2.2	2.4	4.1	0.8
Overall rates	3.5	2.7	4.5	3.7	6.4	4.0	1.1
Male cases	5	6	14	12	21	6	3
Female cases	5	2	4	5	5	7	2

Age group (years)

Figure 5.5: Number of reported cases of malaria by month. Toronto, 2006 compared to 1996 - 2005 mean

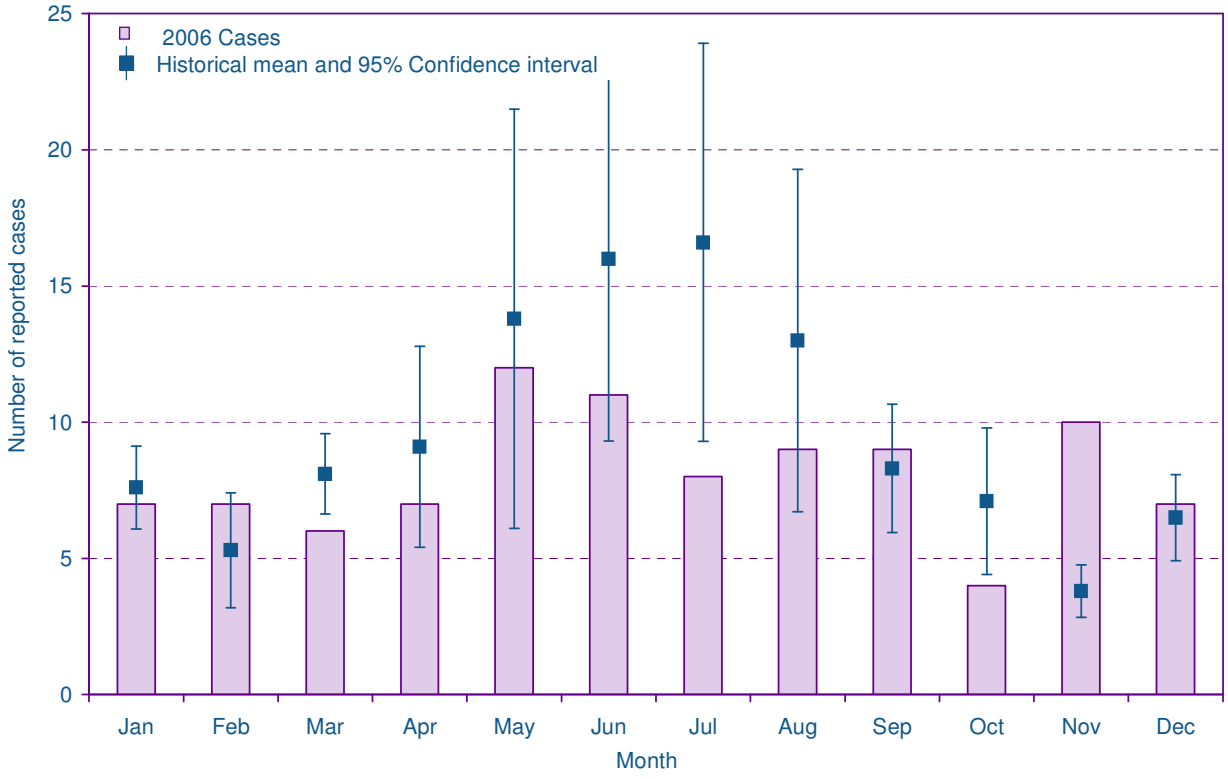


Table 5.4: Travel country for reported cases of malaria with travel related exposure setting. Toronto, 2002 - 2006

Travel country	Number of cases*(%)				
	2006†	2005	2004	2003	2002
Nigeria	26 (30)	15 (18)	19 (22)	12 (15)	10 (14)
Ghana	23 (27)	25 (30)	20 (23)	18 (22)	22 (30)
India	20 (23)	25 (30)	14 (16)	19 (23)	13 (18)
Pakistan	3 (3)	3 (4)	8 (9)	8 (10)	7 (10)
Cameroon	3 (3)	0 (0)	0 (0)	0 (0)	1 (1)
Burma	2 (2)	0 (0)	0 (0)	0 (0)	0 (0)
Thailand	2 (2)	0 (0)	0 (0)	0 (0)	0 (0)
Sierra Leone	1 (1)	1 (1)	3 (3)	4 (5)	1 (1)
Guyana	1 (1)	2 (2)	1 (1)	2 (2)	2 (3)
Uganda	1 (1)	0 (0)	1 (1)	4 (5)	1 (1)
Honduras	1 (1)	0 (0)	1 (1)	0 (0)	1 (1)
Ivory Coast	1 (1)	0 (0)	1 (1)	1 (1)	0 (0)
Angola	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)
Belize	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)
Liberia	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)
Madagascar	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)
Nepal	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)
South Korea	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)
Africa - Continent	0 (0)	9 (11)	4 (5)	4 (5)	4 (5)
Tanzania	0 (0)	0 (0)	2 (2)	2 (2)	0 (0)
Congo	0 (0)	0 (0)	0 (0)	1 (1)	2 (3)
Guatemala	0 (0)	0 (0)	0 (0)	0 (0)	3 (4)
Guinea	0 (0)	0 (0)	3 (3)	0 (0)	0 (0)
Zambia	0 (0)	0 (0)	1 (1)	1 (1)	1 (1)
Afghanistan	0 (0)	0 (0)	1 (1)	1 (1)	0 (0)
Dominican Republic	0 (0)	0 (0)	2 (2)	0 (0)	0 (0)
Ecuador	0 (0)	0 (0)	1 (1)	1 (1)	0 (0)
Ethiopia	0 (0)	0 (0)	1 (1)	1 (1)	0 (0)
Gambia	0 (0)	0 (0)	0 (0)	2 (2)	0 (0)
Mexico	0 (0)	0 (0)	0 (0)	0 (0)	2 (3)
Niger	0 (0)	1 (1)	0 (0)	0 (0)	1 (1)
Sri Lanka	0 (0)	0 (0)	0 (0)	0 (0)	2 (3)
Brazil	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)
Chad	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)
Kenya	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)
Mali	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)
Papua New Guinea	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)
Qatar	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)
South Africa	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)
Sudan	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)
Turkey	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)
United States of America	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)
Uruguay	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)
Venezuela	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)
Zaire	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)
Total with known travel country	**86**	**83**	**87**	**82**	**73**
Number missing or unknown	4	0	2	4	6
Total with travel related exposure setting	**90**	**83**	**89**	**86**	**79**

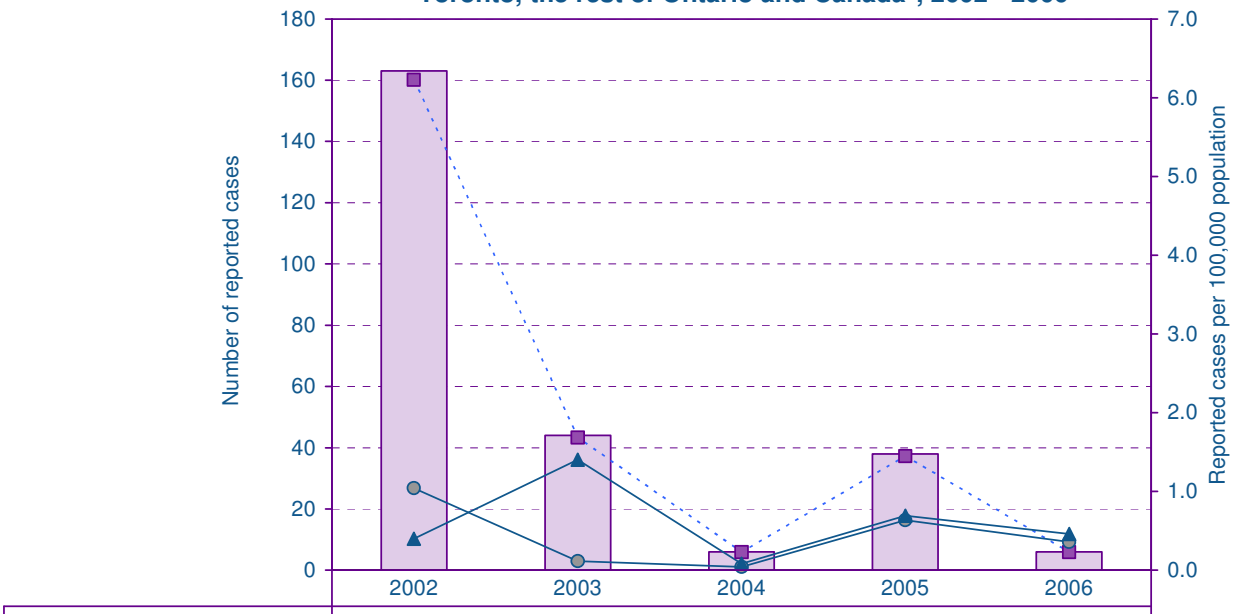
*Cases may report more than one travel country.

†The exposure setting for seven cases without a travel related exposure was unknown in 2006.

West Nile Virus

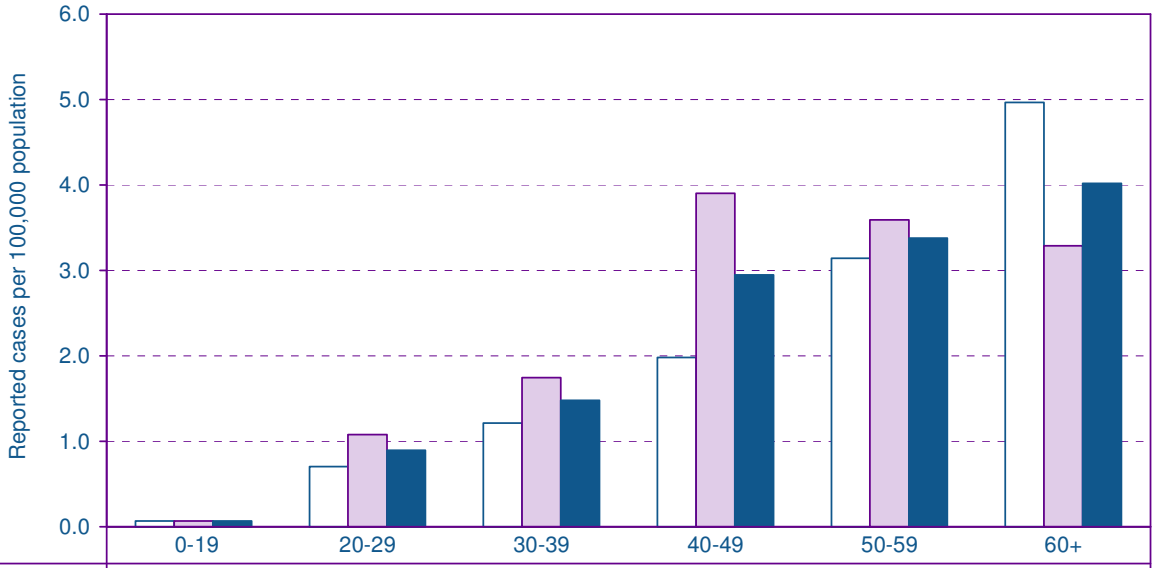
Table 5.5: West Nile Virus summary data Toronto					
	2006	2005	2004	2003	2002
Number of reported cases	6	38	6	44	163
Incidence rate (per 100,000 population)					
Overall	0.2	1.4	0.2	1.7	6.2
Male	0.2	1.3	0.2	1.6	5.8
Female	0.3	1.6	0.3	1.8	6.6
Age at onset (years)	Summary statistics				
Mean	53	56	61	50	54
Median	50	57	59	50	52
Range	34 75	23 92	39 88	13 90	19 89
Hospitalization rate (%)	67	45	50	18	52
Case fatality (%)	0	16	0	0	6

Figure 5.6: Incidence of West Nile Virus by year.
Toronto, the rest of Ontario and Canada*, 2002 - 2006



*Canada data for 2006 do not include Nunavut.

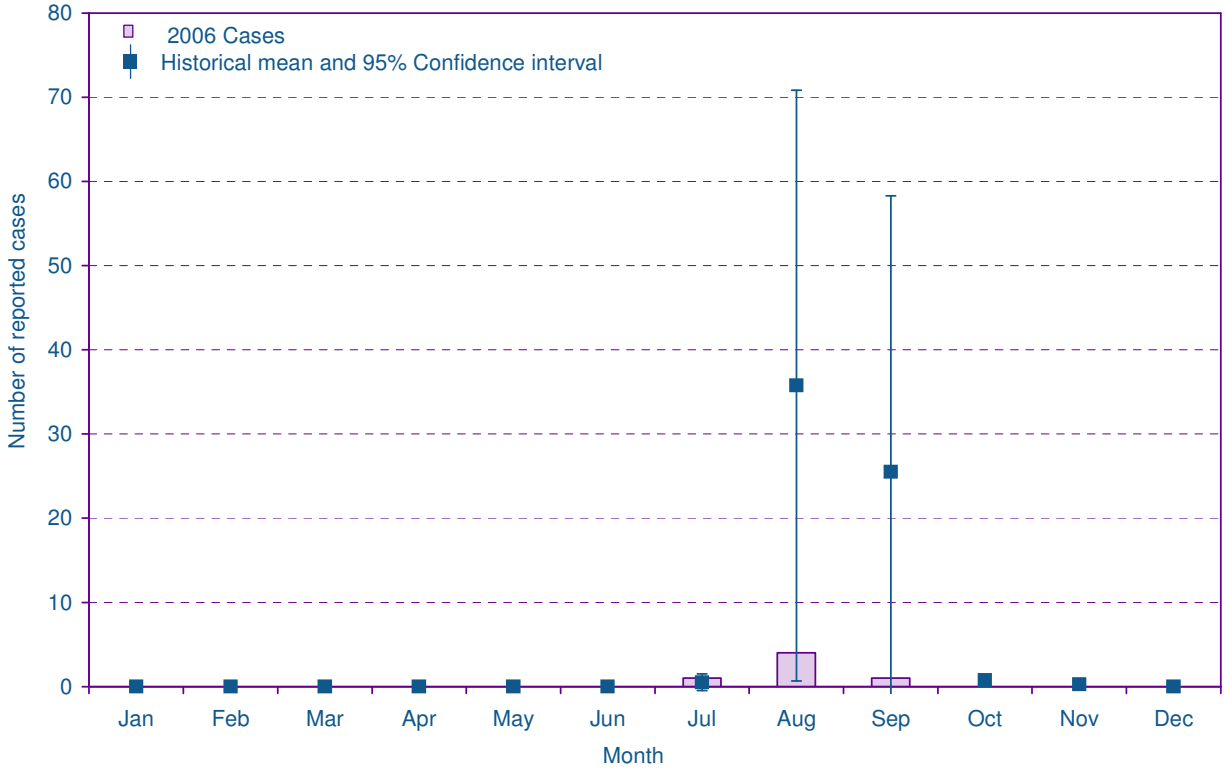
Figure 5.7: Incidence of West Nile Virus by age group and sex. Toronto, 2002 - 2006 combined



	0-19	20-29	30-39	40-49	50-59	60+
Male rates	<0.1	0.7	1.2	2.0	3.1	5.0
Female rates	<0.1	1.1	1.7	3.9	3.6	3.3
Overall rates	<0.1	0.9	1.5	2.9	3.4	4.0
Male cases	1	7	14	20	23	49
Female cases	1	11	20	40	29	42

Age group (years)

Figure 5.8: Number of reported cases of West Nile Virus by month. Toronto, 2006 compared to 2002 - 2005 mean



Encephalitis/ Meningitis

Communicable Diseases in Toronto

2006

Toronto Public Health

Select highlights

Encephalitis/Meningitis - Viral

- The 29 viral encephalitis/meningitis cases reported in 2006 was a decrease of 26 reports (47%) from the 2005 total of 55 reports (Figure 6.1) and lower than the previous 5- and 10-year equivalents (Table 6.1). Much of this decrease can be attributed to the lower number of Enterovirus – unspecified agents identified in 2006.

Encephalitis/Meningitis

(excluding all other reportable diseases known to cause encephalitis/meningitis)

Table 6.1: Encephalitis/meningitis summary data

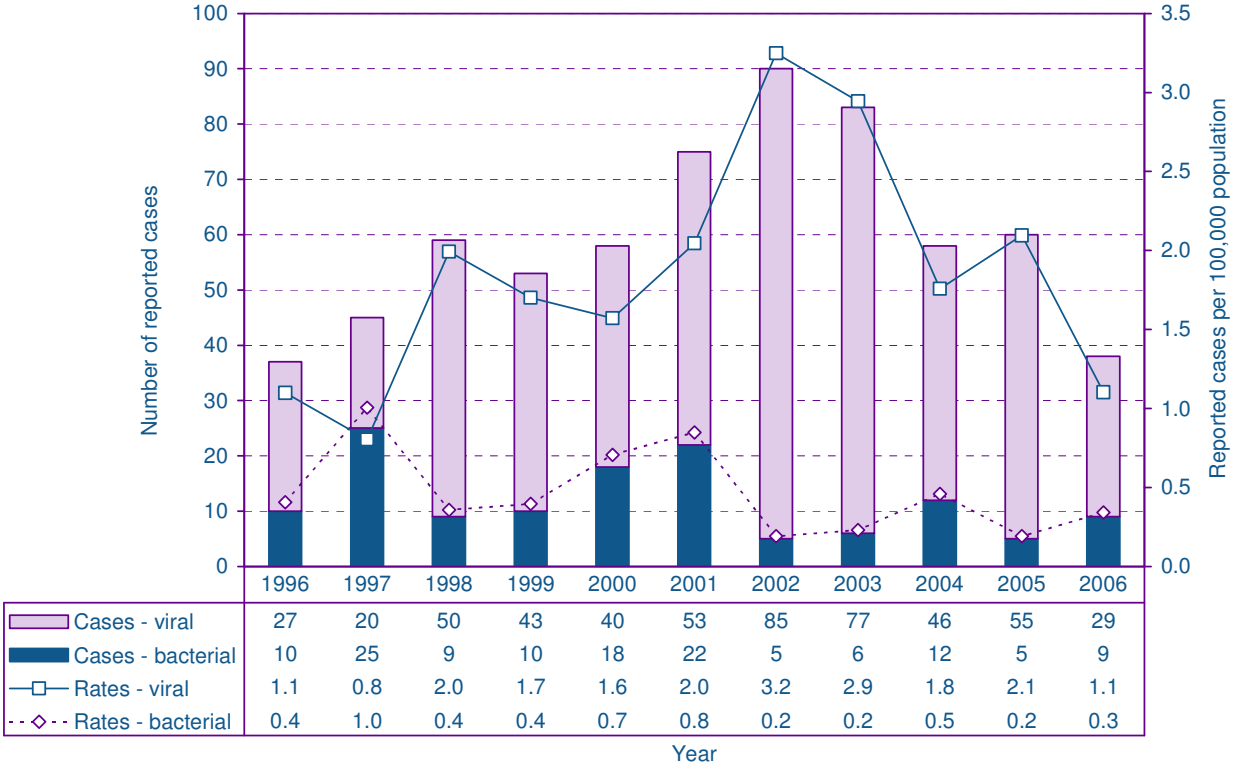
Toronto

	2006		5-yr period 2001-2005		10-yr period 1996-2005	
	Totals		Means			
	Viral	Bacterial	Viral	Bacterial	Viral	Bacterial
Number of reported cases	29	9	63	10	50	12
Incidence rate (per 100,000 population)						
Overall	1.1	0.3	2.4	0.4	1.9	0.5
Male	0.9	0.3	2.8	0.5	2.2	0.5
Female	1.3	0.4	2.0	0.3	1.7	0.5
Age at onset (years)	Summary statistics					
Mean	23	24	25	29	25	32
Median	19	17	23	33	23	35
Range	<1 67	<1 58	<1 88	<1 84	<1 94	<1 84
Case fatality (%)	7	11	2	10	2	14
*Other cases	4		5		4	
†Unclassified cases	17		7		6	

*Cases for which a fungal agent was identified.

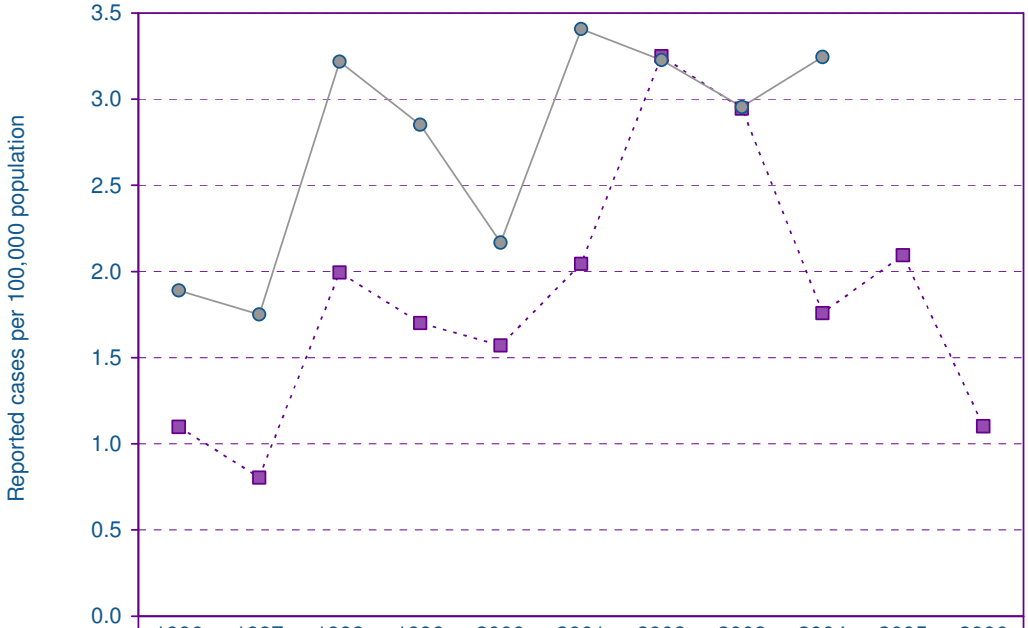
†Cases for which no agent was identified.

Figure 6.1: Incidence of encephalitis/meningitis, viral and bacterial causes by year. Toronto, 1996 - 2006



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Cases - viral	27	20	50	43	40	53	85	77	46	55	29
Cases - bacterial	10	25	9	10	18	22	5	6	12	5	9
Rates - viral	1.1	0.8	2.0	1.7	1.6	2.0	3.2	2.9	1.8	2.1	1.1
Rates - bacterial	0.4	1.0	0.4	0.4	0.7	0.8	0.2	0.2	0.5	0.2	0.3

Figure 6.2: Incidence rates of encephalitis/meningitis, viral by year. Toronto compared to the rest of Ontario, 1996 - 2006

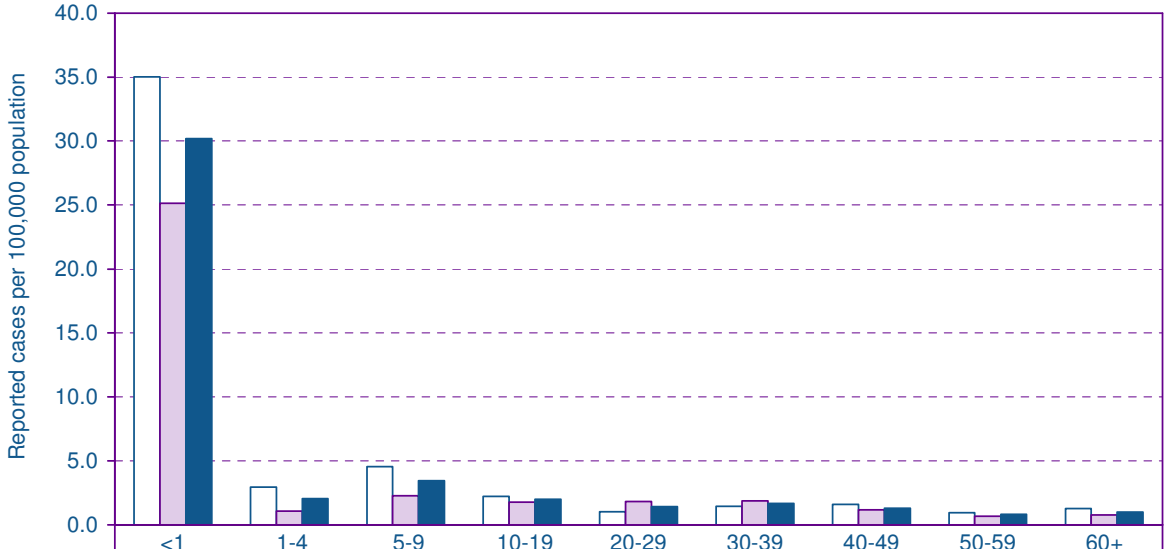


	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Toronto rates	1.1	0.8	2.0	1.7	1.6	2.0	3.2	2.9	1.8	2.1	1.1
Ontario less Toronto rates	1.9	1.8	3.2	2.9	2.2	3.4	3.2	3.0	3.2	NA	NA

NA: Ontario data for 2005 and 2006 are not available.
Encephalitis/meningitis is not nationally notifiable.

Year

Figure 6.3: Incidence of encephalitis/meningitis, viral by age group* and sex. Toronto, 1996 - 2006 combined



	<1	1-4	5-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	35.0	2.9	4.5	2.2	1.0	1.4	1.6	0.9	1.3
Female rates	25.1	1.1	2.3	1.8	1.8	1.9	1.2	0.7	0.8
Overall rates	30.2	2.0	3.4	2.0	1.4	1.6	1.3	0.8	1.0
Male cases	60	20	38	36	22	37	30	14	27
Female cases	41	7	18	27	40	47	25	11	21

*The age of four cases was not reported.

Age group (years)

Figure 6.4: Number of reported cases of encephalitis/meningitis, viral by month. Toronto, 2006 compared to 1996 - 2005 mean

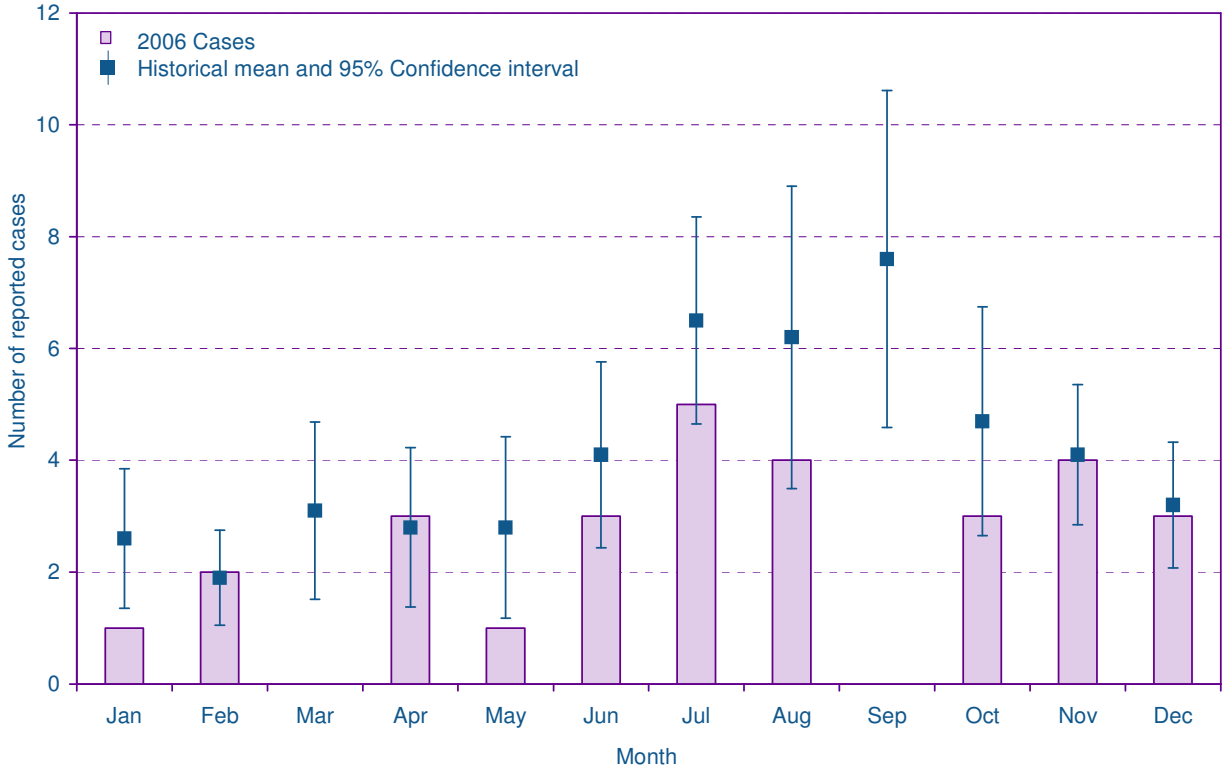
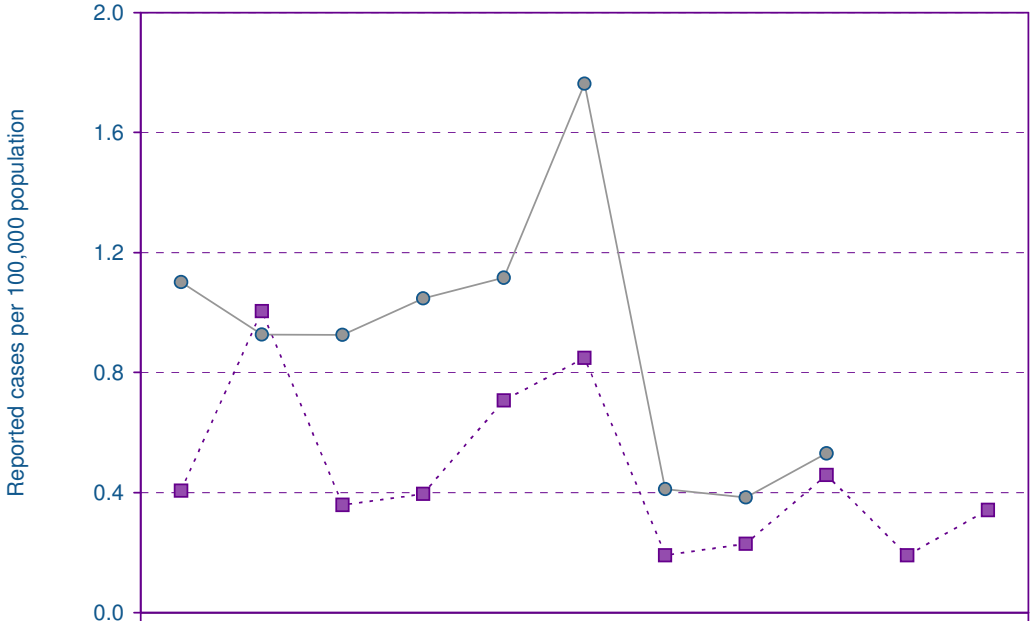


Table 6.2: Incidence of viral encephalitis/meningitis by agent. Toronto, 2006 cases compared to previous 5-year mean

Agent organism	Number of cases (%)	
	2006	5-yr mean 2001-2005
Herpes simplex virus*	10 (34)	10 (16)
Other	6 (21)	7 (11)
Enterovirus - unspecified	5 (17)	18 (29)
Enterovirus - Coxsackievirus	3 (10)	3 (4)
Enterovirus - Echovirus	3 (10)	1 (2)
Suspect viral†	2 (7)	17 (28)
Dengue virus‡	0 (0)	6 (9)
St. Louis virus	0 (0)	1 (2)
Total	**29 (100)**	**63 (100)**

*Includes Herpes simplex virus type 1, type 2 and unspecified.
†Suspect viral cases were those without a confirmed viral agent but with clinical signs and symptoms indicating a viral infection.
‡Not endemic.

Figure 6.5: Incidence rates of encephalitis/meningitis, bacterial by year. Toronto compared to the rest of Ontario, 1996 - 2006

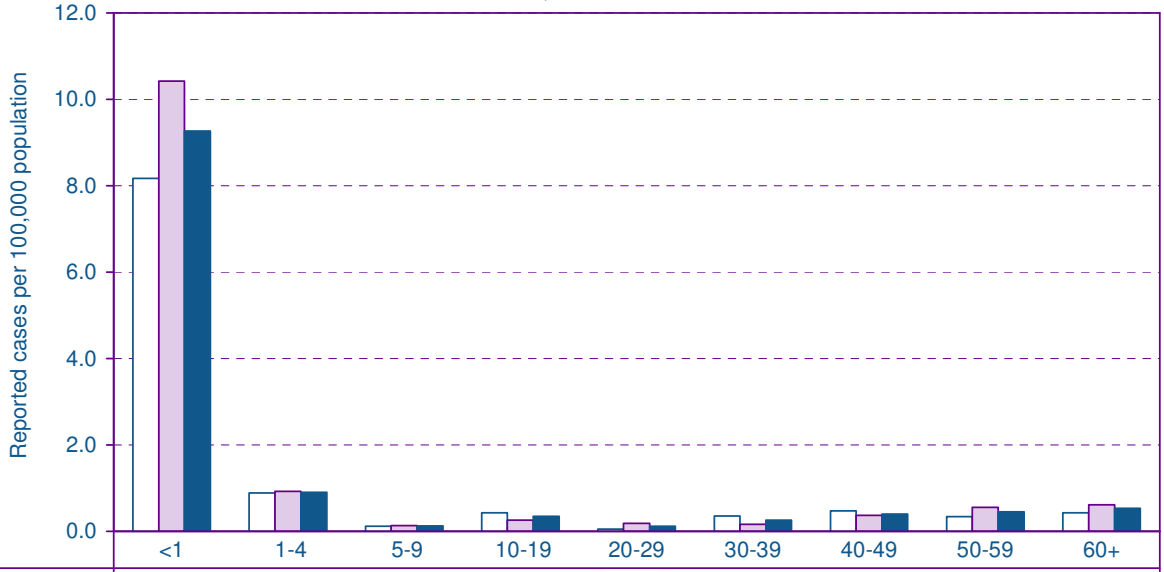


	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Toronto rates	0.4	1.0	0.4	0.4	0.7	0.8	0.2	0.2	0.5	0.2	0.3
Ontario less Toronto rates	1.1	0.9	0.9	1.0	1.1	1.8	0.4	0.4	0.5	NA	NA

Year

NA: Ontario data for 2005 and 2006 are not available.
Encephalitis/meningitis is not nationally notifiable.

Figure 6.6: Incidence of encephalitis/meningitis, bacterial by age group and sex. Toronto, 1996 - 2006 combined



	<1	1-4	5-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	8.2	0.9	0.1	0.4	<0.1	0.4	0.5	0.3	0.4
Female rates	10.4	0.9	0.1	0.3	0.2	0.2	0.4	0.6	0.6
Overall rates	9.3	0.9	0.1	0.3	0.1	0.3	0.4	0.4	0.5
Male cases	14	6	1	7	1	9	9	5	9
Female cases	17	6	1	4	4	4	8	9	17

Age group (years)

Figure 6.7: Number of reported cases of encephalitis/meningitis, bacterial by month. Toronto, 2006 compared to 1996 - 2005 mean

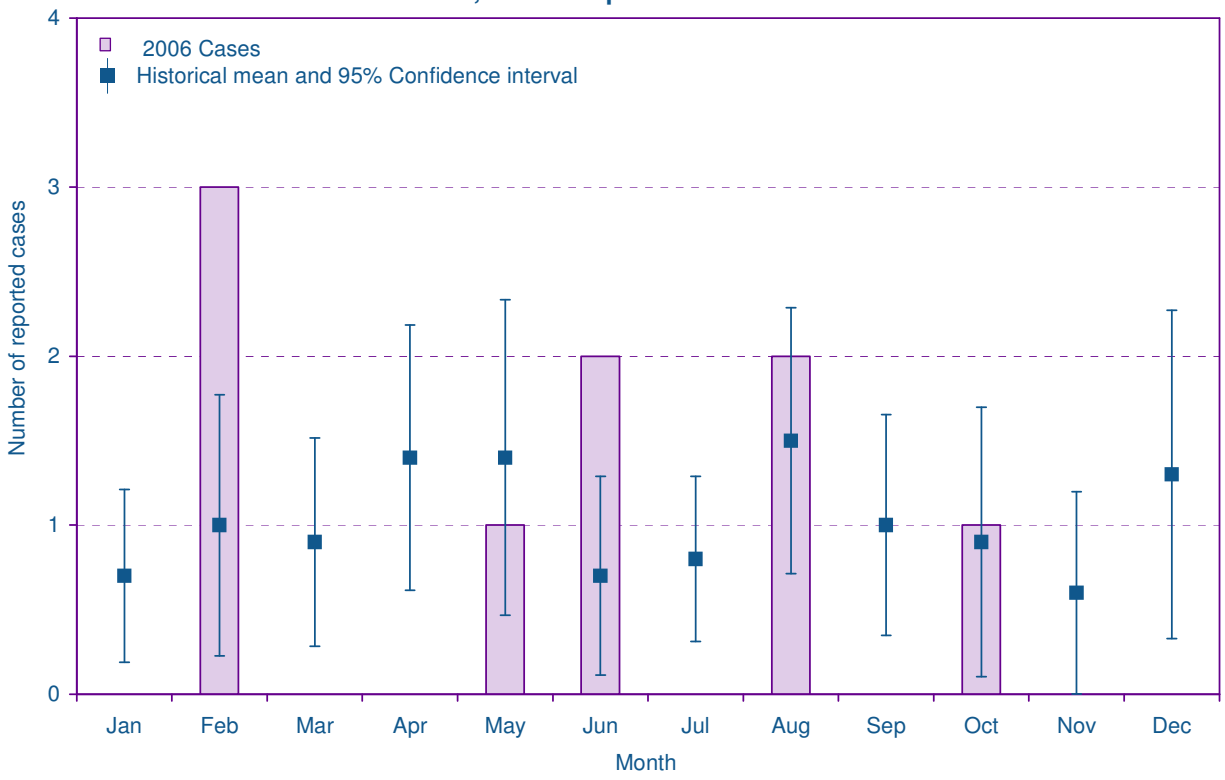


Table 6.3: Incidence of bacterial encephalitis/meningitis by agent. Toronto, 2006 cases compared to previous 5-year mean

Agent organism*	Number of cases (%)	
	2006	5-yr mean 2001-2005
Streptococcus	3 (33)	2 (24)
Staphylococcus aureus	2 (22)	<1 (8)
Other	2 (22)	<1 (4)
Suspect bacterial†	1 (11)	3 (28)
Klebsiella	1 (11)	<1 (2)
Escherichia coli	0 (0)	2 (20)
Pneumococcus‡	0 (0)	<1 (8)
Enterobacter	0 (0)	<1 (4)
Serratia	0 (0)	<1 (2)
Total	**9 (100)**	**10 (100)**

*Excludes encephalitis/meningitis caused by *Neisseria meningitidis.*
†Suspect bacterial cases were those without a confirmed bacterial agent but with clinical signs and symptoms indicating a bacterial infection.
‡Reported as *Streptococcus pneumoniae* since fall 2001.

Rare Diseases

Communicable Diseases in Toronto

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Toronto Public Health

Rare Reportable Communicable Diseases

There are several reportable diseases that are rare in Toronto and have insufficient data to generate rates or trends across time. Some of these diseases were once widespread and have been successfully controlled through public health programs, evolving technologies and development of new medications, and increased awareness. Other diseases are not endemic to North America but contagious enough that their rare appearance is monitored. Table 7.1 summarizes any diseases that had previous cases but no cases reported in 2006 and/or less than 50 cases reported during the 11-year surveillance period (1996 to 2006). These diseases vary in their modes of transmission, but are categorized according to the main chapters and sections of this report to which they correspond. They share several of the attributes of other diseases in these respective sections. ❑

Table 7.1: Summary of rare reportable diseases. Toronto, 1996 - 2006

Disease	Disease category	Year of last report	Total number of cases for period 1996 - 2006
Botulism	Enteric, food and waterborne	2006	8
Brucellosis	Vectorborne and zoonotic	2005	10
Cholera	Enteric, food and waterborne	1998	1
Cytomegalovirus infection, congenital	Sexually transmitted and bloodborne	2006	21
Haemophilus influenzae b disease, invasive	Preventable by routine vaccination	2006	18
Haemorrhagic fevers	Vectorborne and zoonotic	1997	1
Hepatitis D	Sexually transmitted and bloodborne	2006	31
Herpes, neonatal	Sexually transmitted and bloodborne	2006	14
Leprosy	Direct contact and respiratory	2005	15
Mumps	Preventable by routine vaccination	2005	70
Ophthalmia neonatorum	Sexually transmitted and bloodborne	2006	32
Psittacosis/Ornithosis	Vectorborne and zoonotic	1996	3
Q fever	Vectorborne and zoonotic	2004	8
Rubella, congenital syndrome	Preventable by routine vaccination	2004	5
Severe Acute Respiratory Syndrome	Direct contact and respiratory	2003	228
Syphilis, congenital	Sexually transmitted and bloodborne	1999	2
Tetanus	Preventable by routine vaccination	1997	1
Tularemia	Vectorborne and zoonotic	1997	1

Rare reportable diseases not summarized in this section include anthrax, chancroid, diphtheria, hantavirus, lassa fever, plague, poliomyelitis, rabies, smallpox, transmissible spongiform encephalopathies, trichinosis, yellow fever.

Outbreaks

Communicable Diseases in Toronto

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Enteric Outbreaks

Table 8.1: Enteric outbreak summary data Toronto		
	2006	5-yr period 2001-2005
	Total	Mean
Number of reported outbreaks	225	179
Number of cases	5778	4588
Mean number of cases per outbreak	26	26
Number of deaths	23	5

Highlights

- The 225 enteric outbreaks reported in 2006 was an increase of 84 outbreaks (60%) over the 2005 total of 141 outbreaks (Table 8.2) and higher than the 179 average enteric outbreaks reported over the last five years (Table 8.1). Much of this increase can be attributed to the large number of Norovirus outbreaks identified in 2006. Norovirus was again the most commonly identified (19%) causative agent for enteric outbreaks in 2006; 72% of the outbreaks are of unknown etiology.

- Chid Care Centres accounted for the majority (41%) of outbreaks, but Long Term Care Homes (LTCH) accounted for the majority (61%) of enteric outbreak cases (n=5778). The number of LTCH outbreaks increased more than other setting from the 48 reported in 2005 to 87 reported in 2006. The higher number of LTCH outbreaks and cases may account for the increase in enteric outbreak-associated deaths reported (n=23 deaths) in 2006. The 23 deaths were higher than the previous 5-year average of five deaths (Table 8.1) but comparable to the mean number of deaths per outbreak (<1) (Table 8.4).

- In the late summer and fall of 2006, TPH investigated a community-based outbreak of 23 cases of hepatitis A in the west region of Toronto. A total of 23 cases were identified, associated with six households. Children between 5 and 14 years of age accounted for 65% of cases and all but one case was under 19 years of age. TPH conducted six vaccination clinics in the neighbourhood and immunized over 1400 individuals.

- Two adult cases of botulism were reported to Toronto Public Health in October 2006. Both cases were linked to an outbreak of botulism associated with the consumption of carrot juice that was distributed across North America. There were four additional cases in the United States.

Table 8.2: Number and proportion of reported enteric outbreaks by agent. Toronto, 2002 - 2006

Etiological agent/disease	Number of reported outbreaks (%)											
	Overall		2002		2003		2004		2005		2006	
Bacteria												
Campylobacter spp.	5	(1)	2	(1)	0	(0)	2	(1)	0	(0)	1	(<1)
Clostridium perfringens	5	(1)	1	(<1)	1	(<1)	0	(0)	1	(<1)	2	(1)
Shigella spp.	4	(0)	2	(1)	1	(<1)	0	(0)	1	(<1)	0	(0)
Clostridium difficile	3	(0)	0	(0)	1	(<1)	1	(<1)	1	(<1)	0	(0)
Clostridium botulinum	1	(<1)	0	(0)	0	(0)	0	(0)	0	(0)	1	(<1)
Salmonella spp.	1	(<1)	0	(0)	1	(<1)	0	(0)	0	(0)	0	(0)
Total - Bacteria	**19**	**(2)**	**5**	**(2)**	**4**	**(3)**	**3**	**(2)**	**3**	**(2)**	**4**	**(2)**
Viruses												
Norovirus*	209	(22)	102	(34)	25	(20)	28	(15)	11	(8)	43	(19)
Rotavirus	35	(4)	6	(2)	8	(6)	7	(4)	5	(4)	9	(4)
Adenovirus	16	(2)	2	(1)	5	(4)	4	(2)	3	(2)	2	(1)
Astrovirus	7	(1)	4	(1)	1	(<1)	0	(0)	0	(0)	2	(1)
Enterovirus	6	(1)	1	(<1)	3	(2)	2	(1)	0	(0)	0	(0)
Hepatitis A Virus	2	(0)	1	(<1)	0	(0)	0	(0)	0	(0)	1	(<1)
Picorna-like Virus	2	(0)	0	(0)	1	(<1)	1	(<1)	0	(0)	0	(0)
Echovirus	1	(<1)	0	(0)	0	(0)	0	(0)	0	(0)	1	(<1)
Total - Viruses	**278**	**(29)**	**116**	**(39)**	**43**	**(35)**	**42**	**(23)**	**19**	**(13)**	**58**	**(26)**
Parasites												
Cyclospora cayetanensis	1	(<1)	0	(0)	0	(0)	0	(0)	1	(<1)	0	(0)
Giardia lamblia	1	(<1)	1	(<1)	0	(0)	0	(0)	0	(0)	0	(0)
Total - Parasites	**2**	**(<1)**	**1**	**(<1)**	**0**	**(0)**	**0**	**(0)**	**1**	**(<1)**	**0**	**(0)**
Chemical												
Scombroid poisoning	1	(<1)	0	(0)	0	(0)	0	(0)	1	(<1)	0	(0)
Total - Chemical	1	(<1)	0	(0)	0	(0)	0	(0)	1	(<1)	0	(0)
Unknown etiology	672	(69)	176	(59)	77	(62)	139	(76)	117	(83)	163	(72)
Total number of outbreaks	**972**		**298**		**124**		**184**		**141**		**225**	

*Norovirus is the new official genus name for what was previously named 'Norwalk-like virus'. These terms may appear interchangeably in other publications.

Table 8.3: Number and proportion of reported enteric outbreaks by risk setting*. Toronto, 2002 - 2006

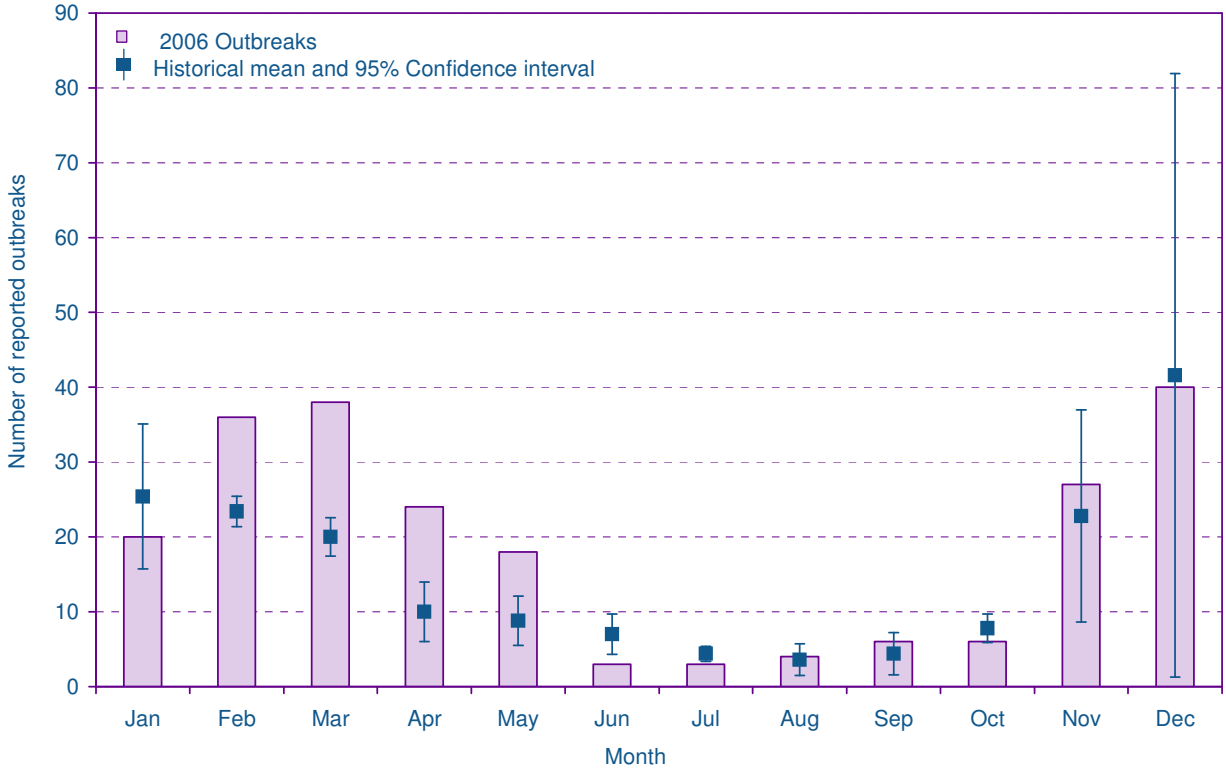
Risk setting	Number of reported outbreaks (%)											
	Overall		2002		2003		2004		2005		2006	
Institutional												
Child care centre	433	(45)	106	(36)	53	(43)	107	(58)	74	(52)	93	(41)
Long term care home	354	(36)	120	(40)	46	(37)	53	(29)	48	(34)	87	(39)
Acute care hospital	56	(6)	18	(6)	10	(8)	8	(4)	7	(5)	13	(6)
Chronic care hospital	35	(4)	14	(5)	2	(2)	5	(3)	3	(2)	11	(5)
School/college/university	18	(2)	10	(3)	2	(2)	3	(2)	3	(2)	0	(0)
Other (e.g. shelter, group home)	10	(1)	5	(2)	0	(0)	0	(0)	0	(0)	5	(2)
Total - Institutional	**906**	**(93)**	**273**	**(92)**	**113**	**(91)**	**176**	**(96)**	**135**	**(96)**	**209**	**(93)**
Community												
Food services	44	(5)	13	(4)	9	(7)	6	(3)	3	(2)	13	(6)
Other (e.g. camping, community centre)	22	(2)	12	(4)	2	(2)	2	(1)	3	(2)	3	(1)
Total - Community	**66**	**(7)**	**25**	**(8)**	**11**	**(9)**	**8**	**(4)**	**6**	**(4)**	**16**	**(7)**
Grand Total	**972**	**(100)**	**298**	**(100)**	**124**	**(100)**	**184**	**(100)**	**141**	**(100)**	**225**	**(100)**

*Excludes family outbreaks.

Table 8.4: Enteric outbreaks by risk setting and average size. Toronto, 2006

Risk setting	Total number			Mean per outbreak	
	Outbreaks	Cases	Deaths	Cases	Deaths
Institutional					
Child care centre	93	1378	0	15	0
Long term care home	87	3523	16	40	<1
Acute care hospital	13	161	6	12	<1
Chronic care hospital	11	372	1	34	<1
School/college/university	0	0	0	NA	NA
Other institution	5	141	0	28	0
Total - Institutional	**209**	**5575**	**23**	**27**	**<1**
Community					
Food services	13	195	0	15	0
Other (e.g. camping, community centre)	3	8	0	3	0
Total - Community	**16**	**203**	**0**	**13**	**0**
Grand Total	**225**	**5778**	**23**	**26**	**<1**

Figure 8.1: Number of reported enteric outbreaks by month.
Toronto, 2006 compared to 2001 - 2005 mean



Respiratory Outbreaks

Table 8.5: Respiratory* outbreak summary data Toronto		
	2006	5-yr period 2001-2005
	Total	Mean
Number of reported outbreaks	126	131
Number of cases	2021	2722
Mean number of cases per outbreak	16	21
Number of deaths	53	67

*Seasonal year from July to June (i.e. 2006/07 includes cases from July 1, 2006 to June 30, 2007).

Highlights

- A total of 126 respiratory outbreaks were reported in the 2006/07 season. This was comparable to the 2005/06 season and the previous 5-year mean (Table 8.5).
- Influenza A continued to be the most reported agent occurring in 37 (29%) outbreaks during the 2006/07 season (Table 8.6).
- Long term care homes (LTCH) accounted for 108 (86%) of the settings from which respiratory outbreaks were reported in 2006/07 (Table 8.7). Both the number of outbreaks and total number of cases related to outbreaks in LTCH decreased from the previous season. This may have contributed to the lower number of deaths reported from respiratory outbreaks in 2006/07 than in the past.
- There were no respiratory outbreaks reported from child care centres for the first time since 1998, when outbreak data for the city of Toronto were first captured.

Table 8.6: Number and proportion of reported respiratory outbreaks by agent*. Toronto, 2002/03 - 2006/07

Etiological agent/disease	Number of reported outbreaks (%)											
	Overall		2002/03		2003/04		2004/05		2005/06		2006/07	
Bacteria												
Bordetella pertussis	7	(1)	2	(3)	2	(1)	1	(<1)	2	(2)	0	(0)
Chlamydia pneumoniae	4	(1)	1	(2)	3	(2)	0	(0)	0	(0)	0	(0)
Mycobacterium tuberculosis	1	(<1)	0	(0)	0	(0)	1	(<1)	0	(0)	0	(0)
Legionella spp.	1	(<1)	0	(0)	0	(0)	0	(0)	1	(<1)	0	(0)
Mycoplasma pneumoniae	1	(<1)	0	(0)	0	(0)	1	(<1)	0	(0)	0	(0)
Streptococcus pneumoniae	1	(<1)	0	(0)	1	(<1)	0	(0)	0	(0)	0	(0)
Total - Bacteria	**15**	(2)	**3**	(<1)	**6**	(3)	**3**	(2)	**3**	(2)	**0**	**(0)**
Viruses												
Influenza A	210	(31)	5	(8)	60	(34)	81	(44)	27	(21)	37	(29)
Respiratory syncytial virus (RSV)	62	(9)	3	(5)	19	(11)	16	(9)	8	(6)	16	(13)
Influenza B	33	(5)	0	(0)	0	(0)	30	(16)	2	(2)	1	(<1)
Parainfluenza virus type 3	30	(4)	5	(8)	5	(3)	7	(4)	5	(4)	8	(6)
Enterovirus	20	(3)	0	(0)	2	(1)	2	(1)	15	(12)	1	(<1)
Rhinovirus	19	(3)	1	(2)	3	(2)	5	(3)	3	(2)	7	(6)
Parainfluenza virus type 1	15	(2)	2	(3)	2	(1)	1	(<1)	8	(6)	2	(2)
Parainfluenza virus type 2	6	(1)	0	(0)	2	(1)	0	(0)	4	(3)	0	(0)
Parainfluenza virus type 4	5	(1)	2	(3)	0	(0)	1	(<1)	0	(0)	2	(2)
Human metapneumovirus	3	(<1)	0	(0)	0	(0)	0	(0)	1	(<1)	2	(2)
Adenovirus	2	(<1)	0	(0)	1	(<1)	0	(0)	0	(0)	1	(<1)
Severe acute respiratory syndrome (SARS) corona virus	1	(<1)	1	(2)	0	(0)	0	(0)	0	(0)	0	(0)
Measles	2	(<1)	1	(2)	1	(<1)	0	(0)	0	(0)	0	(0)
Chickenpox	1	(<1)	0	(0)	0	(0)	1	(<1)	0	(0)	0	(0)
Total - Viruses	**409**	(61)	**20**	(34)	**95**	(54)	**144**	(77)	**73**	(57)	**77**	(61)
Unknown etiology	284	(42)	40	(68)	80	(45)	52	(28)	58	(45)	54	(43)
Total number of outbreaks*	**676**		**59**		**176**		**186**		**129**		**126**	

*Between 2002/03 and 2006/07, multiple agents were isolated from 32 outbreaks. Therefore, the total number of agents (identified and unknown) will differ from the total number of outbreaks.

Table 8.7: Number and proportion of reported respiratory outbreaks* by risk setting. Toronto, 2002/03 - 2006/07

Risk setting	Number of reported outbreaks (%)											
	Overall		2002/03		2003/04		2004/05		2005/06		2006/07	
Institutional												
Long term care home	571	(84)	48	(81)	151	(86)	148	(80)	116	(90)	108	(86)
Chronic care hospital	54	(8)	4	(7)	15	(9)	16	(9)	7	(5)	12	(10)
Acute care hospital†	27	(4)	2	(3)	2	(1)	13	(7)	4	(3)	6	(5)
Child care centre	13	(2)	1	(2)	5	(3)	5	(3)	2	(2)	0	(0)
School/college /university	7	(1)	4	(7)	1	(1)	2	(1)	0	(0)	0	(0)
Other (e.g. shelter, group home)	4	(1)	0	(0)	2	(1)	2	(1)	0	(0)	0	(0)
Total - Institutional	**676**	**(100)**	**59**	**(100)**	**176**	**(100)**	**186**	**(100)**	**129**	**(100)**	**126**	**(100)**

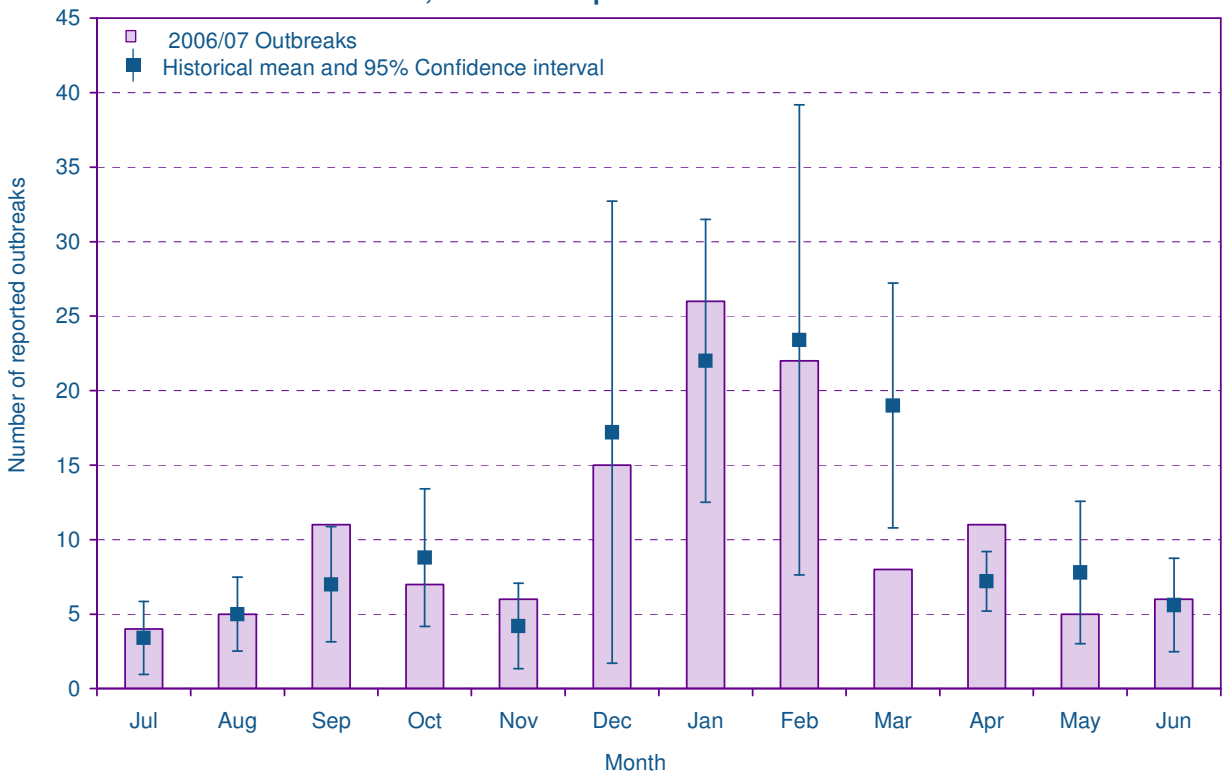
*No community respiratory outbreaks were reported.

†Although SARS transmission was reported in chronic care hospital and community settings, given that the majority of SARS transmission occurred within acute care hospitals, the SARS outbreak has been included as a single outbreak occurring within this risk setting category.

Table 8.8: Respiratory outbreaks by risk setting and average size. Toronto, 2006/07

Risk setting	Total number			Mean per outbreak	
	Outbreaks	Cases	Deaths	Cases	Deaths
Institutional					
Long term care home	108	1786	49	17	<1
Chronic care hospital	12	195	1	16	<1
Acute care hospital	6	40	3	7	<1
Total - Institutional	**126**	**2021**	**53**	**16**	**<1**

**Figure 8.2: Number of reported respiratory outbreaks by month.
Toronto, 2006/07 compared to 2001/02 - 2005/06 mean**



Other Outbreaks

Table 8.9: Other outbreak summary data Toronto		
	2006	5-yr period 2001-2005
	Total	Mean
Number of reported outbreaks	2	4
Number of cases	14	48
Mean number of cases per outbreak	7	12
Number of deaths	0	<1

Highlights

Hemodialysis unit HBV and HCV outbreak

- An outbreak of hepatitis B (HBV) and hepatitis C (HCV) was detected in May 2006 among a population of patients receiving dialysis treatment at a hospital-based hemodialysis program in Toronto's east region. After active case finding among over 350 patients in the dialysis program, five cases of HBV were identified, three (60%) of which were co-infected with HCV and an additional four cases of only hepatitis C infection were detected. Genetic testing showed that all cases of HBV and four of the HCV cases were a match to a previously identified infectious case (a returning traveller who had received dialysis while on vacation in SE Asia). In these cases, HBV and HCV were likely transmitted during breaches in infection control.

Hepatitis B outbreak in a long term care home

- A long term care home was the site of an outbreak that involved five cases of HBV. All five cases were genotypically identical and therefore likely shared a common source. The most probable exposure may have involved an invasive medical procedure (blood glucose monitoring), however a definitive source for the outbreak was not identified.

Table 8.10: Other reported outbreaks by agent/disease.
Toronto, 2002 - 2006

Agent/disease	Number of reported outbreaks					
	Overall	2002	2003	2004	2005	2006
Streptococcus pyogenes, group A streptococci (GAS)	4	2	1	1	0	0
Methicillin-resistant *Staphylococcus aureus* (MRSA)	5	0	1	0	4	0
Vancomycin-resistant enterococci	3	0	2	0	1	0
Hepatitis B Virus	1	0	0	0	0	1
Hepatitis B Virus and Hepatitis C Virus*	1	0	0	0	0	1
Infectious syphilis	1	1	0	0	0	0
Mycobacterium abscessus	1	1	0	0	0	0
West Nile virus	1	1	0	0	0	0
Total	**17**	**5**	**4**	**1**	**5**	**2**

*Note that this was an outbreak with a co-infection.

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Appendices

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Data Sources and Technical Notes

Data Sources

Toronto data

Legal authority to collect

All reports of communicable disease for Toronto included in this summary were collected by Toronto Public Health (TPH) under the authority of the Health Protection and Promotion Act, Ontario Regulations 559/91, which mandates notification of all confirmed or suspect reportable diseases to the Medical Officer of Health where the patient resides. (See page 183 for latest list). Reports of diseases included in this document are for individuals who lived in Toronto at the time of their illness.

Dates

Information on past episodes of disease can be added or updated at any time. The information summarized in this report represents what was known to TPH at the following times, by disease(s):

1) Sexually Transmitted Infection (STI) data were extracted on June 27th, 2007.

2) Bloodborne disease data were extracted on August 13th, 2007.

3) Enteric, Food and Waterborne disease data were extracted on June 21st, 2007.

4) Vaccine Preventable Diseases (VPD) data were extracted on July 23rd, 2007.

5) With the exception of Tuberculosis (TB), Direct Contact and Respiratory Disease data were extracted on July 30th, 2007.

6) TB data were extracted on August 1st, 2007.

7) Vectorborne and Zoonotic Diseases data were extracted on August 13th, 2007.

8) Encephalitis/Meningitis data were extracted on August 21st, 2007.

9) Enteric, Respiratory, and Other outbreak data were extracted on August 7th, 2007.

Information Systems

Reportable Disease Information System (RDIS)

In 2005, each public health unit in Ontario utilized the Ministry of Health and Long-Term Care's (MOHTLC) Reportable Disease Information System (RDIS) to record and transmit aggregate-level information to the Province's Infectious Disease Branch for the purpose of provincial and national surveillance. RDIS was first introduced in Ontario in 1990 and had been used to store all reportable disease information for the city of Toronto up until and including November 27, 2005. This system was used to record information for all reportable diseases except SARS.

integrated Public Health Information System (iPHIS)

As of November 28, 2005, Toronto Public Health joined the other 35 health units in Ontario in fully implementing the new provincial communicable disease information system, Integrated Public Health Information System (iPHIS). Each public health unit in Ontario utilized iPHIS to record and share reportable disease data with the province's Infectious Disease Branch for the purpose of provincial and national surveillance. With the exception of chickenpox all reportable iPHIS disease data are stored in and retrieved from

Case and Contact Management System (CCMS)

During the SARS outbreak in 2003, Toronto developed an interim database to assist staff with tracking the large volumes of suspect cases and contacts that were being reported and needed follow-up. All SARS data summarized in this report are stored in the CCMS.

CDSU Outbreak Log Database (COLD)

The data presented in the Outbreak section of this report were retrieved from COLD, which was created in 1998. Summary data for all institutional and non-institutional outbreaks in Toronto are captured in the database. It was redesigned in 2004 to automatically report on active daily institutional and weekly non-institutional outbreaks. In Ontario, respiratory outbreaks in institutions became formally reportable in 2001. Toronto Public Health, however, began routine collection of these data in 1998.

Ministry of Health and Long-Term Care's Summary Chickenpox Reporting System

(Used to report chickenpox cases from November 2005 to August 2006).

The MOHLTC implemented a new system to capture aggregate data on chickenpox cases with a date of onset on or after November 1, 2005 as

iPHIS did not offer the ability to collect aggregate information on chickenpox cases.

Ontario and Canadian data

Ontario and Canadian data summarized in this report were acquired from multiple sources:

Ontario

With the exception of HIV and tuberculosis, all disease incidence data for 1996 through 2006 were provided directly by the MOHLTC (as of June 11th, 2007) with the proviso that they are provisional and subject to change. All STI data for 2006 exclude cases under ten years of age. HIV data were obtained from the *Ontario HIV Epidemiologic Monitoring Unit*. Tuberculosis data for 1996 to 2005 were obtained from *Tuberculosis in Canada: Pre-release 2005*. In this report 2005 TB cases and rates are provisional until publication of the *Tuberculosis in Canada - 2005 Annual Report*. The disease incidence rate for 2006 was not available for influenza and malaria. Disease incidence data for 2005 and 2006 were not available from the MOHLTC for both viral and bacterial encephalitis/meningitis.

Canada

With the exception of HIV and tuberculosis, all disease incidence rates for 1996 through 2006 were provided directly by the Public Health Agency of Canada (PHAC) – Population and Public Health Branch (PPHB) (as of June 11th, 2007) with the proviso that summaries for 2006 are provisional and subject to change. HIV data for 1996 to 2005 were obtained from *HIV and AIDS in Canada, Surveillance Report to June 30, 2006*. At the time of publication, Canadian disease incidence rates for 2006 were not available for STIs. Disease incidence rates for 2006 was not available for tuberculosis, and for chickenpox from 2004 to 2006. Tuberculosis data for 1996 to 2005 were obtained from *Tuberculosis in Canada: Pre-release 2005*. In this report, 2005 cases and rates are provisional until publication of the *Tuberculosis in Canada - 2005 Annual Report*.

Population data

Incidence rates for Toronto and Ontario were calculated using population estimates provided by Statistics Canada. These estimates adjust for census under-coverage, and include non-permanent residents (e.g. visa students, refugee claimants). Toronto rates calculated for 1996-2000 were based on the January 2007 final intercensal estimates and Toronto rates calculated for 2001-2006 were based on the January 2007 postcensal estimates. Ontario rates calculated for 1996-2000 were based on the March 2007 final intercensal population estimates and Ontario rates calculated for 2001-2006 were based on the March 2007 postcensal estimates.

Data Limitations and Technical Notes

RDIS to iPHIS conversion

Some of the information recorded in RDIS was not converted to iPHIS, therefore RDIS data was used for cases reported prior to November 28th, 2005. RDIS data were used to report:

- Agent organism
- Birth origin
- Deaths
- Hospitalized cases
- Outbreak associated cases
- Travel history
- TB drug resistance, treatment status and method of diagnosis

iPHIS data were selected over RDIS data where both were available.

Amendments from the previous annual report

General considerations

Unlike previous report publications where risk factor, risk setting and source of infection categories captured in RDIS were reported, risk factor, exposure setting and exposure source categories captured in iPHIS have been used in this report. In some circumstances, previously defined risk factors in RDIS have been renamed. For example, the risk factor category, 'Homosexual/bisexual' is now captured as 'Sex with same sex'. In addition, newly defined risk factors such as 'Met partner through internet', 'Sex for drugs' are now captured in iPHIS.

Exposure setting and exposure source

Unlike in RDIS where only one risk setting could be captured, more than one exposure setting can now be captured in iPHIS.

Reporting of disease

The number of cases and rates are underreported for several reasons including:

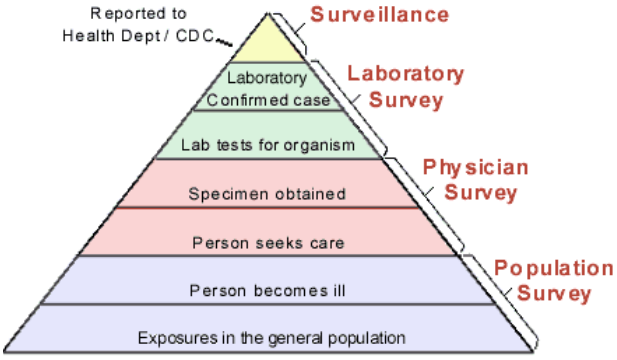
Not all infections with a reportable communicable disease cause clinical signs and symptoms.

Individuals who do experience illness do not all seek medical care.

Health care providers do not always recognize that a diagnostic laboratory test is warranted.

Reports rely on a passive surveillance system, wherein laboratories, physicians, other health care providers, and institution administrators are entrusted to know the regulations, recognize a disease they are suspecting is on the reportable disease list, and promptly inform public health.

The following burden of illness pyramid is often used to illustrate the fraction of communicable diseases that may actually get reported through traditional surveillance, and the type of surveys that might be useful to gain a better understanding of true disease burden.



Source: CDC web site http://www.cdc.gov/foodnet/Surveys.htm

The proportion of cases that are not reported varies for each disease. For diseases with mild clinical manifestations such as some of the enteric diseases, the proportion of unreported cases may be quite high. More clinically severe infectious, such as meningococcal disease and invasive group A streptococcus are likely more accurately reflected in surveillance data.

Case definitions

Suspect cases of a reportable communicable disease are most commonly identified through laboratory notification of confirmed test results. Physicians are also required to report cases that fulfill laboratory and/or clinical case definitions.

Public health staff assesses all suspect cases to see if they meet a case definition provided by the MOHLTC for the purposes of reporting. Case definitions are based on laboratory test results and/or clinical diagnostic criteria. Consistent application of the MOHLTC case definitions ensures that disease rates are comparable from region to region within Ontario, but does not necessarily apply to other provinces or the rest of Canada.

Episode dates

Dates for episodes of diseases refer to the best estimates for when the disease was acquired. The date of symptom onset is usually the preferred date, but when that is unavailable the date a specimen was collected or the date the report was made to TPH are used.

Data revisions

In some instances, the annual number of reported cases may change in succeeding annual publications due to periodic data quality assurance checks and corrections that result in the reclassification of individual reports.

Lag in reporting

Although theoretically the lag in reporting of disease can be as short as the time it takes to collect a specimen, carry out a diagnostic test, and inform the MOHLTC, this is not the case for some diseases. As such, historical data for Toronto, Ontario and Canada may change in future publications to reflect additional reports that are made for diseases that were acquired in previous years. For example, AIDS diagnoses can take up to two years to be reported from the time the disease was known to be acquired.

Place disease acquired

It should be recognized that the city where a disease was diagnosed may differ from where it was acquired. The known epidemiology and geographic distribution of each disease should be considered to truly understand the likelihood of community transmission (e.g. there is no evidence that malaria has been transmitted locally in recent years, due to the natural habitat of its vector). Cases summarized in this report reflect the city of residence of each individual at the time of their diagnosis, not necessarily where they acquired the disease.

Reliability of rare reports

Rates based on large numbers generally yield stable estimates of the true underlying rate. Conversely, rates based on small numbers may fluctuate widely from year to year, even when there is no meaningful change in the true rate. Therefore, rates based on small numbers of reports, and instances of rare events, are more likely to be unstable, and hence less reliable. The observation of zero reports in a specific sub-group or category can be especially uncertain. As such, rates based on diseases, years, and categories (e.g. males of a certain age group) with few or no reports should be interpreted with caution. Diseases that were seldom reported over a long

period of time have been presented separately in this report.

Crude rates

Rates of disease are reported as crude rates. Although it may be more epidemiologically sound, rates were not adjusted to reflect the age distribution effects for Toronto's population. Crude rates and numbers were reported to allow a direct comparison with the relevant published data from the MOHLTC and PHAC.

Underestimated case fatality rates

Data for the field capturing deceased status were frequently missing. This was taken to indicate no death occurred, but may have resulted in an underestimate in the calculation of some case fatality rates.

With the exception of AIDS, cases of most diseases are not followed indefinitely by public health and illness may be a contributing factor in deaths that occur in much later years. Public health authorities are not notified of these deaths and as a result case fatality rates may be underestimated.

Underestimated hospitalization rates and proportion of outbreak associated cases

Data for the fields capturing hospitalization and outbreak association status were frequently missing. For these fields, missing data were assumed to indicate negative entries. This may have resulted in an underestimate in the calculation of hospitalization rates and the proportion of outbreak associated cases.

Population estimates

The population estimates used to calculate rates are based on a set of assumptions on the patterns of fertility, mortality, immigration, refugees, and internal mobility of population.

Therefore, the quality of the population estimates is dependent on the validity of these assumptions over time.

Missing data

Instances with large proportions of missing information for a particular data field (e.g. risk factors for some diseases), could lead to summaries that may not be representative of the community. The proportions of available and missing data are indicated for each variable summarized.

Etiologic agents and outbreaks

In over half of the outbreaks reported to Toronto Public Health in each of the last five years, the responsible agent was unknown. There are many possible explanations why a responsible agent is not identified during an outbreak investigation. It is possible that for some of these outbreaks the agents known to cause illness may not have been identified because laboratory investigations were late or incomplete. In others, the responsible pathogen may have escaped detection even after thorough laboratory investigation, either because the pathogen may not have been recognized as a cause of disease or because the pathogen could not be identified by available laboratory techniques.

Exposure Setting, exposure source, and risk factors

In iPHIS, the exposure setting and exposure source in the STD module, behavioural social factor and medical risk factor variables provide investigators with a pre-defined set of categories from which to choose. The specific subset of categories varies by disease but is often not adequate or specific enough. In some cases, the available categories are not consistent with standard categories used by the larger public health surveillance community or they may not be consistent with categories used by members of the community in which the disease is occurring.

Unlike in RDIS where risk factors were specific to a disease episode, in iPHIS, risk factors are client specific. As a result, for clients with more than one disease episode it is not possible to determine which risk factors are related to which disease episode and in some circumstances, risk factors may be over reported.

Interpreting differences between rates

Any differences noted between groups of data (years, age groups, sex, etc) are not implied to be statistically significant. Instead this report describes trends and compares crude rates and numbers. All comparative words are intended to describe absolute differences (e.g. four reports were less than five) with no statistical meaning. Any extrapolations about statistical inferences and decisions that might require this level of comparison are not warranted by what is presented in this report.

HIV infections and AIDS cases

Prior to 2002, only AIDS cases and not HIV infections were reportable in Ontario. In response to this change TPH is continuing to review all of the

HIV infections and AIDS cases that were entered in RDIS and now iPHIS. In addition, TPH is in the process of identifying duplicate HIV client records that were created following RDIS to iPHIS conversion and the merging of client records across the province. The results of these reviews may lead to changes in the number of HIV infections and AIDS cases reported in future reports.

This report includes HIV infections that have occurred among Toronto residents and those positive anonymous HIV test results that were identified in iPHIS as having been received from Toronto- area official anonymous test sites. Historical AIDS data are not summarized in this year's report because the AIDS diagnosis date was not converted from RDIS to iPHIS. This date is used in surveillance to signify the beginning of illness for AIDS cases.

Outbreak associated cases

The number of outbreak associated cases reported in this disease section may not match the number reported in the outbreak section. The outbreak associated cases reported in this section are primarily laboratory confirmed cases. In addition, some cases were part of family outbreaks that were not included in the outbreak section. ❑

Reportable Diseases 2006

The following specified Reportable Communicable Diseases (Ontario Regulations 559/91 and amendments under the Health Protection and Promotion Act) are to be reported to the local Medical Officer of Health:

Acquired Immunodeficiency Syndrome (AIDS)
Amebiasis
- **Anthrax**
- **Botulism**
- **Brucellosis**

Campylobacter enteritis
Chancroid
Chickenpox (Varicella)
Chlamydia trachomatis infections
- **Cholera**
- **Cryptosporidiosis**
- **Cyclosporiasis**

Cytomegalovirus infection, congenital
- **Diphtheria**
- **Encephalitis, including:**
- **1. Primary, viral**
  2. Post-infectious
  3. Vaccine-related
  4. Subacute sclerosing panencephalitis
  5. Unspecified
- **Food poisoning, all causes**
- **Gastroenteritis, institutional outbreaks**
- **Giardiasis, except asymptomatic cases**

Gonorrhea
- ***Haemophilus influenzae* b disease, invasive**
- **Hantavirus Pulmonary Syndrome**
- **Hemorrhagic fevers, including:**
  1. Ebola virus disease
  2. Marburg virus disease
  3. Other viral causes
- **Hepatitis, viral**
- **1. Hepatitis A**
  2. Hepatitis B
  3. Hepatitis C
  4. Hepatitis D (Delta hepatitis)

Herpes, neonatal
Influenza
- **Lassa fever**
- **Legionellosis**

Leprosy
- **Listeriosis**

Lyme disease
Malaria
- **Measles**
- **Meningitis, acute**
- **1. Bacterial**
  2. Viral
  3. Other
- **Meningococcal disease, invasive**

Mumps
Ophthalmia neonatorum
- **Paratyphoid fever**

Pertussis (Whooping Cough)
- **Plague**
- **Poliomyelitis, acute**

Psittacosis/Ornithosis
- **Q Fever**
- **Rabies**
- **Respiratory infection outbreaks in institutions**

Rubella
Rubella, congenital syndrome
Salmonellosis
- **Severe Acute Respiratory Syndrome (SARS)**
- **Shigellosis**
- **Smallpox**
- **Streptococcal infections, Group A invasive**

Streptococcal infections, Group B neonatal
Streptococcus pneumoniae, invasive
Syphilis
Tetanus
Transmissible Spongiform Encephalopathy, including:
1. Creutzfeldt-Jakob Disease
2. Gerstsmann-Strassler-Scheinker Syndrome
3. Fatal Familiar Insomnia
4. Kuru

Trichinosis
Tuberculosis
- **Tularemia**

Typhoid Fever
- **Verotoxin-producing *E. coli* infection indicator conditions including Hemolytic Uremic Syndrome (HUS)**
- **West Nile virus illness, including:**
  1. West Nile fever
  2. West Nile neurological manifestations
- **Yellow fever**

Yersiniosis

Note: Diseases marked "•" (and influenza in institutions) should be reported immediately to the Medical Officer of Health by telephone. Other diseases are to be reported by the next working day by fax or mail.

Glossary of Terms

ACTIVE TRANSMISSION
The spread of an infectious agent from one person to another.

CARRIER
A person or animal without evident clinical disease who harbours an infectious agent and is able to transmit the agent to others.

CASE
A case is an episode of disease. Each reportable disease has a case definition, created by the Ministry of Health and Long-Term Care, which outlines the criteria necessary to confirm that episode of disease.

CASE-FATALITY RATE
The proportion of persons with a particular condition (cases) who die from that condition in a given period of time. The denominator is the total number of cases in the time period; the numerator is the number of deaths among those cases and is determined for each disease based on RDIS category.

CO-INFECTION
Having two infections at the same time. For example, a person infected with both human immunodeficiency virus (HIV) and syphilis has a co-infection. With co-infection, the progression of both or either disease can potentially be accelerated as a result of infection with the other disease.

CONFIDENCE INTERVAL (CI)
In this report, 95% confidence intervals are used to demonstrate the annual variation in the mean number of cases for a particular disease, for a given month, during the period 1995 - 2004. The term confidence interval is abbreviated as CI.

CONTACT
A person who has been exposed to an infected person or contaminated item (e.g. food, medical equipment) so as to have had an opportunity to acquire the infection.

DIRECT TRANSMISSION
The immediate transfer of an infectious agent from a reservoir to a host by direct contact or droplet spread (short-ranged large droplets produced by sneezing, coughing or talking).

ENDEMIC
The constant presence of a disease in a given geographic area or within a given population. It may also refer to a disease that is usually present at a relatively high prevalence and incidence rate in comparison with other areas or populations.

In the area of HIV/AIDS surveillance, there is another definition of the term endemic that is often used. Endemic may be used to refer to a country where the principal way people become infected with HIV is through heterosexual contact.

EXPOSURE CATEGORY
In HIV/AIDS surveillance, exposure category refers to the most likely way a person became infected with the HIV virus.

The exposure categories used in this report are explained below:

IDU
People who inject drugs, also called injection drug users.

MSM/IDU
Men who have had sex with men and have injected drugs.

MSM
Men who report having had sex with men; this includes men who report either homosexual or bisexual behaviour.

Perinatal transmission
The transmission of HIV from an HIV-infected mother to her child either
- during pregnancy
- during labour
- at birth
- after birth through breastfeeding

Received blood or blood products
A person who acquired HIV through the transfusion of blood or blood products.

HIV-endemic
People who were born in a country in which the principal means of HIV transmission is heterosexual contact.

HET-partner
Heterosexual contact with a person at risk: a person who reports heterosexual contact with another person who is either HIV-infected or who is at an increased risk for HIV infection. A person at an increased risk for HIV infection would include someone who is an injection drug user, a bisexual man, a person born in a country in which the predominant means of HIV transmission is heterosexual contact, a person with hemophilia/coagulation disorder, or a person with suspected HIV infection or AIDS.

NIR-HET
If heterosexual contact is the only risk factor reported and nothing is known about the HIV-related risk factor(s) associated with the partner, the case would be classified as No Identified Risk-Heterosexual (NIR-HET).

Other
Used to classify a person whose mode of HIV transmission is known but who cannot be classified into any of the major exposure categories listed above (e.g. occupational exposure, non-medical or non-occupational exposure).

EXPOSURE SETTING
The place or environment where the case acquired the infection

GROUPED MEAN
The mean for grouped data is

Mean = $\Sigma xf \div \Sigma f$

where:

The midpoint of each class interval is denoted by x1,x2…..xn.
The frequencies for each interval are denoted by f1,f2…..fn.

xf is the product of the midpoint of the interval, **x**, multiplied by the frequency, **f**, of the same interval. This approximation is required because we do not know the exact age of each case. As a result, we must treat all of the ages as if they were midpoints for their interval.

For example in the case where the grouped mean is calculated for a variable with 7 intervals:

$$\textbf{Mean} = \frac{(xf1 + xf2 + xf3 + xf4 + xf5 + xf6 + xf7)}{(f1 + f2 + f3 + f4 + f5 + f6 + f7)}$$

GROUPED MEDIAN
The median is the value that divides a set of numbers exactly in half when they are placed in order from lowest to highest. The grouped median can be calculated as follows:

$$\textbf{Median} = L + I * \frac{(N/2 - F)}{f}$$

where:

L = lower limit of the interval containing the median

I = width of the interval containing the median

N = total number of respondents

F = cumulative frequency corresponding to the lower limit

f = number of cases in the interval containing the median

INCIDENCE
Incidence is the number of new events of a specific disease during a specified period of time in a specified population.

INCIDENCE RATE
The incidence rate is the rate at which new events, or new cases, occur in a specified time in a defined population that is “at risk” of experiencing the condition or event.

$$\text{Incidence rate} = \frac{\text{Number of new events in a specified period}}{\text{Number of people at risk in this period}}$$

INDIRECT TRANSMISSION
The transmission of an infectious agent carried from a reservoir to a susceptible host by air particles or by living (vector) or non-living (vehicle) intermediaries.

LUNG TUBERCULOSIS
This term refers to tuberculosis that was reported as pulmonary, primary pulmonary, miliary, or any other respiratory tuberculosis.

MDR-TB
Tuberculosis (TB) bacteria with resistance to the two front-line drugs, isoniazid and rifampin, with or without resistance to other drugs.

MEAN
The mean or average is calculated by adding the individual results of the item being measured and then dividing by the total number of results.

MEDIAN
The median is the value that divides a set of numbers exactly in half when they are placed in order from lowest to highest. In other words, half of the values occur before the median and half of the values occur after the median.

MEN WHO REPORT HAVING SEX WITH MEN (MSM)
Includes men who report either homosexual or bisexual behaviour.

NACI
The Canadian National Advisory Committee on Immunization.

NOTIFIABLE DISEASE or REPORTABLE DISEASE
A reportable disease is a disease that is considered to be of such importance to public health that its occurrence is required to be reported to public health authorities. In Ontario, regulation 599/91 under the Health Protection and Promotion Act, defines the diseases that are designated as reportable. Under this legislation, these diseases must be reported to the local public health unit by physicians, laboratories, hospitals, principals of schools, and superintendents of institutions.

OUTBREAK
When the rate of infection or illness is above what is expected for a certain place and time, and this is localized to smaller areas.

PROPORTION
A proportion is a type of ratio in which the numerator is included in the denominator. A proportion is calculated by dividing the number of people with a common characteristic at a given time period by the total population that shares the same event in the same time period. This is usually multiplied by 100 and reported as a percentage.

RANGE
The range describes the spread of values. In this report it is used to describe the highest and lowest values (e.g. youngest and oldest ages).

RATE
A rate is an expression of the frequency with which an event occurs in a defined population in a specified period of time. A rate can be calculated by dividing the number of cases in a given time period by the population at risk in the same time period and then usually multiplying the result by a multiple of ten. In this report, 100,000 is used as this number. The rate can then be expressed as the number of people with the "disease" per 100,000 population.

RISK FACTOR
A risk factor is an aspect of someone's behaviour or lifestyle, a characteristic that a person was born with, or an event that he or she has been exposed to, that is associated with acquiring a disease.

RISK SETTING
The place or environment where the case acquired the infection.

SPORADIC
A disease that occurs infrequently and irregularly. This term is also used to refer to non-outbreak associated cases.

TRENDS
Trends are changes in frequencies, proportions or rates of a disease, or an event observed over time. Trends may be irregular, flat or move in one direction. Trends can be expressed in many forms, including tables, graphs and pie charts.

VECTOR
An animate intermediary in the indirect transmission of an agent that carries the agent from a reservoir to a susceptible host. ❑

Errata

Please note the following errata and amendments for the *Communicable Diseases in Toronto 2005* report.

Chickenpox (Varicella Zoster virus)

On page 113, **Table 4.2 Chickenpox summary data**, the grouped means and ranges were incorrectly calculated. Table 4.2 should read as follows:

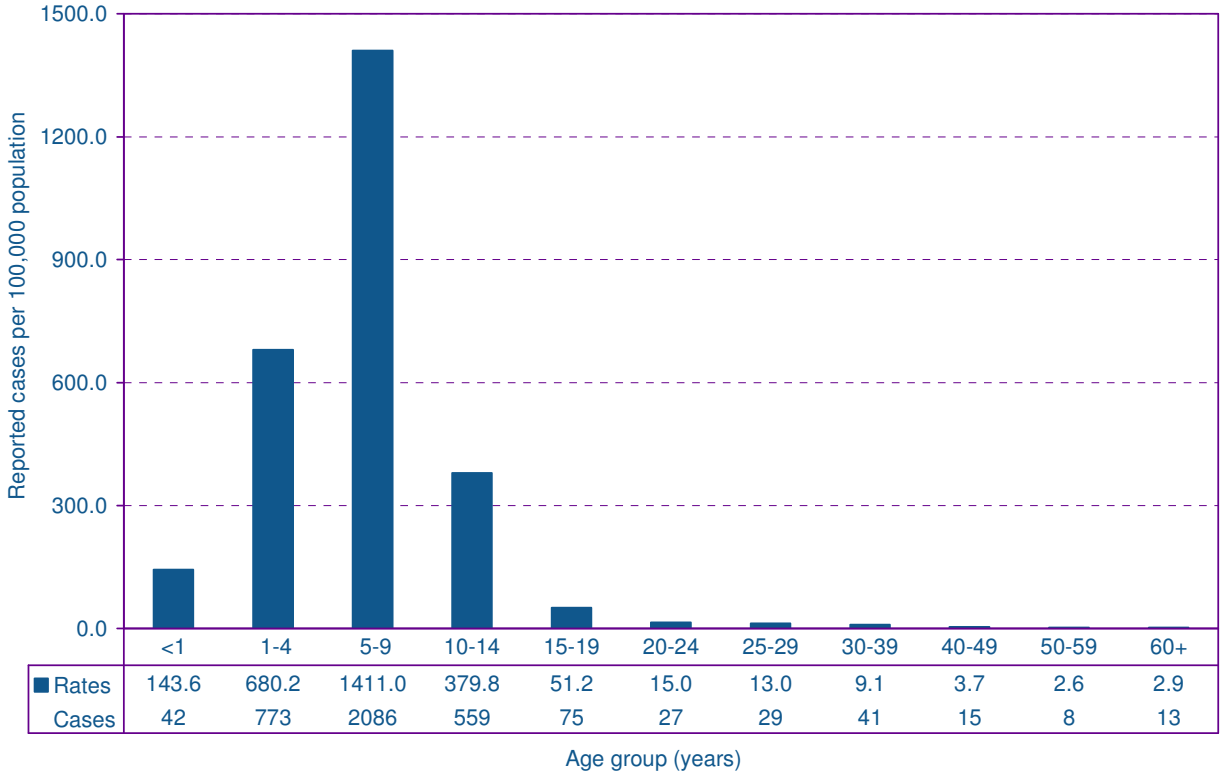
Table 4.2: Chickenpox summary data*
Toronto

	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	3668	3578	3385
Incidence rate (per 100,000 population)	140.9	137.9	133.3
Age at onset (years)	Summary statistics		
Grouped mean	8	8	8
Grouped median	7	7	7
Range	<1 >60	<1 >60	<1 >60

*Chickenpox cases are recorded as aggregated age categories.

On page 114, **Figure 4.2 Incidence of chickenpox by age group**, the age group was reported for all chickenpox cases. Figure 4.2 should read as follows:

Figure 4.2: Incidence of chickenpox by age group.
Toronto, 2005



Appendix Table 1: Number of cases and incidence rates* by disease. Toronto, 1996 - 2006

Disease	1996		1997		1998		1999		2000		2001		2002		2003		2004		2005		2006	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
AIDS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		65	2.5
HIV	533	21.7	447	18.0	415	16.5	429	17.0	457	17.9	511	19.7	621	23.7	569	21.8	572	21.9	554	21.1	652	24.8
Amebiasis	364	14.8	459	18.4	381	15.2	355	14.0	489	19.2	400	15.4	380	14.5	426	16.3	326	12.5	382	14.5	319	12.1
Botulism	0	0.0	0	0.0	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	<0.1	2	<0.1	0	0.0	3	0.1
Brucellosis	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	<0.1	2	<0.1	2	<0.1	3	0.1	0	0.0
Campylobacter enteritis	1651	67.1	1589	63.8	1770	70.6	1312	51.9	1492	58.6	1560	60.2	1361	52.0	1125	43.0	976	37.3	999	38.0	965	36.7
Chickenpox	2165	88.0	4049	162.7	3801	151.5	2509	99.3	3586	140.8	2689	103.7	2895	110.6	3403	130.1	5317	203.2	3668	139.7	2129	80.9
Chlamydia	4018	163.4	3924	157.7	4640	185.0	5157	204.0	5379	211.2	5727	220.9	6294	240.5	6286	240.4	6291	240.4	6487	247.1	6807	258.7
Cholera	0	0.0	0	0.0	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Cryptosporidiosis	29	1.2	43	1.7	18	0.7	34	1.3	44	1.7	45	1.7	37	1.4	35	1.3	49	1.9	51	1.9	85	3.2
Cyclosporiasis	NR		NR		NR		NR		NR		NR		28	1.1	14	0.5	30	1.1	47	1.8	25	0.9
Cytomegalovirus infection, congenital	3	0.1	2	<0.1	3	0.1	3	0.1	1	<0.1	0	0.0	0	0.0	2	<0.1	0	0.0	3	0.1	4	0.2
Encephalitis/ Meningitis: bacterial	10	0.4	25	1.0	9	0.4	10	0.4	18	0.7	22	0.8	5	0.2	6	0.2	12	0.5	5	0.2	9	0.3
Encephalitis/ Meningitis: viral	27	1.1	20	0.8	50	2.0	43	1.7	40	1.6	53	2.0	85	3.2	77	2.9	46	1.8	55	2.1	29	1.1
Encephalitis/ Meningitis: other	9	0.4	1	<0.1	5	0.2	3	0.1	2	<0.1	5	0.2	4	0.2	3	0.1	7	0.3	5	0.2	4	0.2
Encephalitis/ Meningitis: unclassified	2	<0.1	7	0.3	1	<0.1	6	0.2	6	0.2	5	0.2	8	0.3	9	0.3	8	0.3	5	0.2	17	0.6
Giardiasis	637	25.9	509	20.5	511	20.4	489	19.3	532	20.9	592	22.8	609	23.3	531	20.3	523	20.0	557	21.2	519	19.7
Gonorrhea	1533	62.3	1199	48.2	1441	57.4	1399	55.3	1753	68.8	1758	67.8	1779	68.0	1846	70.6	1736	66.3	1661	63.3	1819	69.1
Haemophilus influenzae b disease, invasive	1	<0.1	1	<0.1	0	0.0	0	0.0	5	0.2	3	0.1	0	0.0	3	0.1	3	0.1	0	0.0	2	<0.1
Hemorrhagic fevers	0	0.0	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hepatitis A	267	10.9	194	7.8	108	4.3	90	3.6	56	2.2	74	2.9	64	2.4	35	1.3	47	1.8	47	1.8	91	3.5
Hepatitis B cases	82	3.3	48	1.9	25	1.0	25	1.0	26	1.0	32	1.2	51	1.9	51	2.0	37	1.4	34	1.3	22	0.8
Hepatitis B carriers	2623	106.6	2083	83.7	1972	78.6	2096	82.9	2035	79.9	2243	86.5	2395	91.5	1976	75.6	2101	80.3	1812	69.0	1418	53.9
Hepatitis B unclassified reports	396	16.1	205	8.2	275	11.0	297	11.8	400	15.7	438	16.9	344	13.1	320	12.2	479	18.3	519	19.8	672	25.5
Hepatitis C	2642	107.4	2226	89.4	2004	79.9	1792	70.9	1552	60.9	1517	58.5	1443	55.1	1297	49.6	1338	51.1	1171	44.6	981	37.3
Hepatitis D	3	0.1	3	0.1	0	0.0	3	0.1	5	0.2	5	0.2	4	0.2	1	<0.1	1	<0.1	5	0.2	1	<0.1
Herpes, neonatal	0	0.0	0	0.0	1	<0.1	3	0.1	0	0.0	1	<0.1	2	<0.1	0	0.0	5	0.2	1	<0.1	1	<0.1
Influenza†	249	10.1	493	19.8	345	13.8	475	18.8	107	4.2	296	11.4	204	7.8	616	23.6	941	36.0	516	19.7	531	20.2
Legionellosis	11	0.4	20	0.8	18	0.7	23	0.9	19	0.7	10	0.4	4	0.2	10	0.4	3	0.1	53	2.0	19	0.7
Leprosy	3	0.1	2	<0.1	1	<0.1	3	0.1	0	0.0	2	<0.1	1	<0.1	2	<0.1	0	0.0	1	<0.1	0	0.0
Listeriosis	5	0.2	7	0.3	14	0.6	5	0.2	11	0.4	9	0.3	14	0.5	8	0.3	14	0.5	10	0.4	13	0.5
Lyme disease	9	0.4	6	0.2	6	0.2	10	0.4	10	0.4	5	0.2	12	0.5	4	0.2	4	0.2	13	0.5	7	0.3
Malaria	213	8.7	239	9.6	84	3.3	75	3.0	97	3.8	86	3.3	82	3.1	93	3.6	93	3.6	90	3.4	97	3.7
Measles	25	1.0	5	0.2	3	0.1	1	<0.1	6	0.2	3	0.1	0	0.0	10	0.4	1	<0.1	1	<0.1	3	0.1
Meningococcal disease, invasive	20	0.8	19	0.8	6	0.2	21	0.8	22	0.9	26	1.0	13	0.5	8	0.3	6	0.2	3	0.1	10	0.4
Mumps	16	0.7	21	0.8	3	0.1	4	0.2	9	0.4	1	<0.1	3	0.1	4	0.2	2	<0.1	7	0.3	0	0.0

*Rates per 100,000 population. NR = Not reportable. NA = Not available.

†Seasonal year from July to June (eg. 2006/07 includes cases from July 1, 2006 to June 30, 2007).

Continued

Appendix Table 1: Number of cases and incidence rates* by disease. Toronto, 1996 - 2006

Disease	1996		1997		1998		1999		2000		2001		2002		2003		2004		2005		2006	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Ophthalmia neonatorum	6	0.2	3	0.1	4	0.2	4	0.2	7	0.3	1	<0.1	1	<0.1	2	<0.1	3	0.1	0	0.0	1	<0.1
Paratyphoid fever	7	0.3	3	0.1	4	0.2	5	0.2	2	<0.1	6	0.2	10	0.4	10	0.4	16	0.6	13	0.5	15	0.6
Pertussis	104	4.2	90	3.6	149	5.9	127	5.0	152	6.0	85	3.3	83	3.2	31	1.2	92	3.5	178	6.8	698	26.5
Psittacosis/ Ornithosis	3	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Q fever	0	0.0	0	0.0	1	<0.1	3	0.1	0	0.0	1	<0.1	0	0.0	2	<0.1	1	<0.1	0	0.0	0	0.0
Rubella	22	0.9	4	0.2	9	0.4	0	0.0	5	0.2	12	0.5	1	<0.1	4	0.2	1	<0.1	3	0.1	2	<0.1
Rubella, congenital syndrome	0	0.0	0	0.0	0	0.0	0	0.0	1	<0.1	0	0.0	1	<0.1	1	<0.1	2	<0.1	0	0.0	0	0.0
Salmonellosis	830	33.7	855	34.4	985	39.3	644	25.5	658	25.8	671	25.9	637	24.3	536	20.5	482	18.4	688	26.2	526	20.0
Severe acute respiratory syndrome (SARS)	NR		NR		NR		NR		NR		NR		NR		228	8.7	0	0.0	0	0.0	0	0.0
Shigellosis	146	5.9	154	6.2	160	6.4	103	4.1	120	4.7	89	3.4	350	13.4	98	3.7	100	3.8	101	3.8	57	2.2
Streptococcal infections, Group A invasive	40	1.6	72	2.9	65	2.6	54	2.1	76	3.0	72	2.8	105	4.0	70	2.7	52	2.0	73	2.8	110	4.2
Streptococcal infections, Group B neonatal	14	0.6	12	0.5	3	0.1	11	0.4	10	0.4	23	0.9	20	0.8	18	0.7	16	0.6	12	0.5	29	1.1
Streptococcus pneumoniae, invasive	NR		NR		NR		NR		NR		NR		276	10.5	235	9.0	263	10.1	218	8.3	231	8.8
Syphilis, infectious	60	2.4	35	1.4	19	0.8	29	1.1	34	1.3	29	1.1	193	7.4	329	12.6	377	14.4	256	9.8	247	9.4
Syphilis, late latent	122	5.0	115	4.6	100	4.0	120	4.7	152	6.0	121	4.7	164	6.3	134	5.1	148	5.7	522	19.9	1018	38.7
Syphilis, congenital	0	0.0	0	0.0	1	<0.1	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Syphilis, other‡	3	0.1	2	<0.1	3	0.1	3	0.1	3	0.1	1	<0.1	11	0.4	14	0.5	17	0.6	13	0.5	9	0.3
Tetanus	0	0.0	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tuberculosis	454	18.5	453	18.2	414	16.5	385	15.2	382	15.0	373	14.4	383	14.6	368	14.1	364	13.9	343	13.1	320	12.2
Tularemia	0	0.0	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Typhoid fever	12	0.5	16	0.6	15	0.6	19	0.8	24	0.9	31	1.2	30	1.1	25	1.0	28	1.1	22	0.8	37	1.4
Verotoxin-producing *E.coli* infection	76	3.1	91	3.7	73	2.9	66	2.6	60	2.4	69	2.7	46	1.8	55	2.1	50	1.9	36	1.4	43	1.6
West Nile Virus	NR		NR		NR		NR		NR		NR		163	6.2	44	1.7	6	0.2	38	1.4	6	0.2
Yersiniosis	148	6.0	153	6.1	125	5.0	144	5.7	142	5.6	123	4.7	147	5.6	126	4.8	92	3.5	118	4.5	107	4.1

*Rates per 100,000 population. NR = Not reportable. NA = Not available.

‡Excludes infectious, late latent and congenital syphilis.

Appendix Table 2: Number of cases and incidence rates* by disease and sex†. Toronto, 1996 - 2006

Disease	Sex	1996		1997		1998		1999		2000		2001		2002		2003		2004		2005		2006	
		#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
AIDS	Female	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		14	1.0
	Male	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		51	4.0
	Total	**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**65**	**2.5**
HIV	Female	68	5.4	67	5.2	72	5.6	55	4.2	85	6.5	116	8.7	139	10.4	116	8.7	136	10.1	101	7.5	151	11.2
	Male	460	38.6	380	31.4	340	27.9	372	30.2	369	29.7	392	31.0	480	37.6	452	35.4	436	34.2	450	35.2	500	39.0
	Total	**533**	**21.7**	**447**	**18.0**	**415**	**16.5**	**429**	**17.0**	**457**	**17.9**	**511**	**19.7**	**621**	**23.7**	**569**	**21.8**	**572**	**21.9**	**554**	**21.1**	**652**	**24.8**
Amebiasis	Female	106	8.4	115	9.0	100	7.8	92	7.1	117	9.0	99	7.5	109	8.1	110	8.2	92	6.9	97	7.2	97	7.2
	Male	256	21.5	342	28.3	280	23.0	263	21.4	372	30.0	301	23.8	271	21.2	316	24.8	234	18.3	285	22.3	222	17.3
	Total	**364**	**14.8**	**459**	**18.4**	**381**	**15.2**	**355**	**14.0**	**489**	**19.2**	**400**	**15.4**	**380**	**14.5**	**426**	**16.3**	**326**	**12.5**	**382**	**14.5**	**319**	**12.1**
Botulism	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1	1	<0.1	0	0.0	1	<0.1
	Male	0	0.0	0	0.0	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	<0.1	0	0.0	2	0.2
	Total	**0**	**0.0**	**0**	**0.0**	**1**	**<0.1**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**2**	**<0.1**	**2**	**<0.1**	**0**	**0.0**	**3**	**0.1**
Brucellosis	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	<0.1	0	0.0	0	0.0	2	0.1	0	0.0
	Male	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	<0.1	2	0.2	2	0.2	1	<0.1	0	0.0
	Total	**1**	**<0.1**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**2**	**<0.1**	**2**	**<0.1**	**2**	**<0.1**	**3**	**0.1**	**0**	**0.0**
Campylobacter enteritis	Female	770	60.8	746	58.3	799	62.0	642	49.5	711	54.4	693	52.2	632	47.2	487	36.4	447	33.3	445	33.1	446	33.0
	Male	879	73.7	838	69.3	969	79.5	669	54.4	780	62.9	864	68.3	729	57.1	638	50.0	528	41.4	554	43.3	518	40.4
	Total	**1651**	**67.1**	**1589**	**63.8**	**1770**	**70.6**	**1312**	**51.9**	**1492**	**58.6**	**1560**	**60.2**	**1361**	**52.0**	**1125**	**43.0**	**976**	**37.3**	**999**	**38.0**	**965**	**36.7**
Chickenpox	**Total**	**2165**	**88.0**	**4049**	**162.7**	**3801**	**151.5**	**2509**	**99.3**	**3586**	**140.8**	**2689**	**103.7**	**2895**	**110.6**	**3403**	**130.1**	**5317**	**203.2**	**3668**	**139.7**	**2129**	**80.9**
Chlamydia	Female	2997	236.6	2824	220.8	3123	242.3	3355	258.5	3476	266.2	3637	273.9	3891	290.4	3830	286.0	3783	282.1	3789	281.5	4052	300.1
	Male	1020	85.5	1100	90.9	1515	124.2	1801	146.5	1902	153.3	2087	165.0	2403	188.1	2456	192.5	2506	196.4	2695	210.6	2754	214.9
	Total	**4018**	**163.4**	**3924**	**157.7**	**4640**	**185.0**	**5157**	**204.0**	**5379**	**211.2**	**5727**	**220.9**	**6294**	**240.5**	**6286**	**240.4**	**6291**	**240.4**	**6487**	**247.1**	**6807**	**258.7**
Cholera	Female	0	0.0	0	0.0	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Total	**0**	**0.0**	**0**	**0.0**	**1**	**<0.1**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**
Cryptosporidiosis	Female	10	0.8	9	0.7	12	0.9	17	1.3	3	0.2	19	1.4	8	0.6	17	1.3	10	0.7	13	1.0	35	2.6
	Male	19	1.6	34	2.8	6	0.5	17	1.4	41	3.3	26	2.1	29	2.3	18	1.4	39	3.1	38	3.0	50	3.9
	Total	**29**	**1.2**	**43**	**1.7**	**18**	**0.7**	**34**	**1.3**	**44**	**1.7**	**45**	**1.7**	**37**	**1.4**	**35**	**1.3**	**49**	**1.9**	**51**	**1.9**	**85**	**3.2**
Cyclosporiasis	Female	NR		NR		NR		NR		NR		NR		14	1.0	4	0.3	16	1.2	24	1.8	15	1.1
	Male	NR		NR		NR		NR		NR		NR		14	1.1	10	0.8	14	1.1	23	1.8	10	0.8
	Total	**NR**		**NR**		**NR**		**NR**		**NR**		**NR**		**28**	**1.1**	**14**	**0.5**	**30**	**1.1**	**47**	**1.8**	**25**	**0.9**
Cytomegalovirus infection, congenital	Female	1	<0.1	2	0.2	2	0.2	3	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	<0.1	0	0.0
	Male	2	0.2	0	0.0	1	<0.1	0	0.0	1	<0.1	0	0.0	0	0.0	2	0.2	0	0.0	2	0.2	4	0.3
	Total	**3**	**0.1**	**2**	**<0.1**	**3**	**0.1**	**3**	**0.1**	**1**	**<0.1**	**0**	**0.0**	**0**	**0.0**	**2**	**<0.1**	**0**	**0.0**	**3**	**0.1**	**4**	**0.2**
Encephalitis/ Meningitis: bacterial	Female	5	0.4	17	1.3	6	0.5	8	0.6	8	0.6	7	0.5	2	0.1	1	<0.1	8	0.6	3	0.2	5	0.4
	Male	5	0.4	8	0.7	3	0.2	2	0.2	10	0.8	15	1.2	3	0.2	5	0.4	4	0.3	2	0.2	4	0.3
	Total	**10**	**0.4**	**25**	**1.0**	**9**	**0.4**	**10**	**0.4**	**18**	**0.7**	**22**	**0.8**	**5**	**0.2**	**6**	**0.2**	**12**	**0.5**	**5**	**0.2**	**9**	**0.3**
Encephalitis/ Meningitis: viral	Female	19	1.5	10	0.8	18	1.4	18	1.4	20	1.5	22	1.7	39	2.9	38	2.8	13	1.0	24	1.8	17	1.3
	Male	8	0.7	10	0.8	32	2.6	25	2.0	20	1.6	31	2.5	46	3.6	39	3.1	33	2.6	31	2.4	12	0.9
	Total	**27**	**1.1**	**20**	**0.8**	**50**	**2.0**	**43**	**1.7**	**40**	**1.6**	**53**	**2.0**	**85**	**3.2**	**77**	**2.9**	**46**	**1.8**	**55**	**2.1**	**29**	**1.1**
Encephalitis/ Meningitis: other	Female	2	0.2	0	0.0	1	<0.1	0	0.0	0	0.0	1	<0.1	2	0.1	0	0.0	2	0.1	0	0.0	2	0.1
	Male	7	0.6	1	<0.1	4	0.3	3	0.2	2	0.2	4	0.3	2	0.2	3	0.2	5	0.4	5	0.4	2	0.2
	Total	**9**	**0.4**	**1**	**<0.1**	**5**	**0.2**	**3**	**0.1**	**2**	**<0.1**	**5**	**0.2**	**4**	**0.2**	**3**	**0.1**	**7**	**0.3**	**5**	**0.2**	**4**	**0.2**

*Rates per 100,000 population. NR = Not reportable. NA = Not available.

†Due to missing sex data, the total number of cases reported by sex may not correspond with the total number of cases reported for a disease.

Continued

Appendix Table 2: Number of cases and incidence rates* by disease and sex†. Toronto, 1996 - 2006

Disease	Sex	1996		1997		1998		1999		2000		2001		2002		2003		2004		2005		2006	
		#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Encephalitis/ Meningitis: unclassified	Female	1	<0.1	2	0.2	0	0.0	2	0.2	4	0.3	2	0.2	3	0.2	6	0.4	3	0.2	2	0.1	12	0.9
	Male	1	<0.1	5	0.4	1	<0.1	4	0.3	2	0.2	3	0.2	5	0.4	3	0.2	5	0.4	3	0.2	5	0.4
	Total	**2**	**<0.1**	**7**	**0.3**	**1**	**<0.1**	**6**	**0.2**	**6**	**0.2**	**5**	**0.2**	**8**	**0.3**	**9**	**0.3**	**8**	**0.3**	**5**	**0.2**	**17**	**0.6**
Giardiasis	Female	246	19.4	188	14.7	190	14.7	177	13.6	195	14.9	225	16.9	204	15.2	187	14.0	192	14.3	190	14.1	199	14.7
	Male	391	32.8	321	26.5	321	26.3	312	25.4	337	27.2	367	29.0	405	31.7	344	27.0	331	25.9	367	28.7	320	25.0
	Total	**637**	**25.9**	**509**	**20.5**	**511**	**20.4**	**489**	**19.3**	**532**	**20.9**	**592**	**22.8**	**609**	**23.3**	**531**	**20.3**	**523**	**20.0**	**557**	**21.2**	**519**	**19.7**
Gonorrhea	Female	626	49.4	451	35.3	544	42.2	503	38.8	634	48.5	605	45.6	565	42.2	593	44.3	534	39.8	501	37.2	499	37.0
	Male	907	76.0	748	61.8	896	73.5	896	72.9	1119	90.2	1153	91.2	1213	94.9	1253	98.2	1201	94.1	1158	90.5	1319	102.9
	Total	**1533**	**62.3**	**1199**	**48.2**	**1441**	**57.4**	**1399**	**55.3**	**1753**	**68.8**	**1758**	**67.8**	**1779**	**68.0**	**1846**	**70.6**	**1736**	**66.3**	**1661**	**63.3**	**1819**	**69.1**
Haemophilus influenzae b disease, invasive	Female	1	<0.1	1	<0.1	0	0.0	0	0.0	2	0.2	1	<0.1	0	0.0	1	<0.1	1	<0.1	0	0.0	1	<0.1
	Male	0	0.0	0	0.0	0	0.0	0	0.0	3	0.2	2	0.2	0	0.0	2	0.2	2	0.2	0	0.0	1	<0.1
	Total	**1**	**<0.1**	**1**	**<0.1**	**0**	**0.0**	**0**	**0.0**	**5**	**0.2**	**3**	**0.1**	**0**	**0.0**	**3**	**0.1**	**3**	**0.1**	**0**	**0.0**	**2**	**<0.1**
Hemorrhagic fevers	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Male	0	0.0	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Total	**0**	**0.0**	**1**	**<0.1**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**
Hepatitis A	Female	82	6.5	44	3.4	33	2.6	31	2.4	27	2.1	29	2.2	29	2.2	19	1.4	16	1.2	18	1.3	43	3.2
	Male	184	15.4	150	12.4	75	6.1	59	4.8	29	2.3	45	3.6	35	2.7	16	1.3	31	2.4	29	2.3	48	3.7
	Total	**267**	**10.9**	**194**	**7.8**	**108**	**4.3**	**90**	**3.6**	**56**	**2.2**	**74**	**2.9**	**64**	**2.4**	**35**	**1.3**	**47**	**1.8**	**47**	**1.8**	**91**	**3.5**
Hepatitis B cases	Female	24	1.9	20	1.6	11	0.9	10	0.8	7	0.5	13	1.0	14	1.0	18	1.3	13	1.0	5	0.4	13	1.0
	Male	58	4.9	28	2.3	14	1.1	15	1.2	19	1.5	19	1.5	37	2.9	33	2.6	24	1.9	29	2.3	9	0.7
	Total	**82**	**3.3**	**48**	**1.9**	**25**	**1.0**	**25**	**1.0**	**26**	**1.0**	**32**	**1.2**	**51**	**1.9**	**51**	**2.0**	**37**	**1.4**	**34**	**1.3**	**22**	**0.8**
Hepatitis B carriers	Female	1145	90.4	960	75.1	889	69.0	981	75.6	935	71.6	1018	76.7	1049	78.3	929	69.4	987	73.6	839	62.3	625	46.3
	Male	1438	120.5	1100	90.9	1064	87.2	1101	89.5	1084	87.4	1200	94.9	1331	104.2	1039	81.4	1110	87.0	966	75.5	792	61.8
	Total	**2623**	**106.6**	**2083**	**83.7**	**1972**	**78.6**	**2096**	**82.9**	**2035**	**79.9**	**2243**	**86.5**	**2395**	**91.5**	**1976**	**75.6**	**2101**	**80.3**	**1812**	**69.0**	**1418**	**53.9**
Hepatitis B unclassfied reports	Female	180	14.2	94	7.4	117	9.1	137	10.6	169	12.9	182	13.7	129	9.6	131	9.8	195	14.5	222	16.5	274	20.3
	Male	212	17.8	106	8.8	153	12.5	159	12.9	217	17.5	249	19.7	210	16.4	185	14.5	283	22.2	293	22.9	396	30.9
	Total	**396**	**16.1**	**205**	**8.2**	**275**	**11.0**	**297**	**11.8**	**400**	**15.7**	**438**	**16.9**	**344**	**13.1**	**320**	**12.2**	**479**	**18.3**	**519**	**19.8**	**672**	**25.5**
Hepatitis C	Female	955	75.4	768	60.1	717	55.6	638	49.2	551	42.2	531	40.0	545	40.7	532	39.7	517	38.6	429	31.9	371	27.5
	Male	1671	140.0	1441	119.1	1280	104.9	1147	93.3	979	78.9	968	76.6	896	70.1	761	59.6	817	64.0	739	57.8	610	47.6
	Total	**2642**	**107.4**	**2226**	**89.4**	**2004**	**79.9**	**1792**	**70.9**	**1552**	**60.9**	**1517**	**58.5**	**1443**	**55.1**	**1297**	**49.6**	**1338**	**51.1**	**1171**	**44.6**	**981**	**37.3**
Hepatitis D	Female	0	0.0	1	<0.1	0	0.0	0	0.0	2	0.2	0	0.0	2	0.1	0	0.0	1	<0.1	2	0.1	1	<0.1
	Male	3	0.3	2	0.2	0	0.0	3	0.2	3	0.2	5	0.4	2	0.2	1	<0.1	0	0.0	3	0.2	0	0.0
	Total	**3**	**0.1**	**3**	**0.1**	**0**	**0.0**	**3**	**0.1**	**5**	**0.2**	**5**	**0.2**	**4**	**0.2**	**1**	**<0.1**	**1**	**<0.1**	**5**	**0.2**	**1**	**<0.1**
Herpes, neonatal	Female	0	0.0	0	0.0	1	<0.1	2	0.2	0	0.0	0	0.0	1	<0.1	0	0.0	4	0.3	0	0.0	1	<0.1
	Male	0	0.0	0	0.0	0	0.0	1	<0.1	0	0.0	1	<0.1	1	<0.1	0	0.0	1	<0.1	1	<0.1	0	0.0
	Total	**0**	**0.0**	**0**	**0.0**	**1**	**<0.1**	**3**	**0.1**	**0**	**0.0**	**1**	**<0.1**	**2**	**<0.1**	**0**	**0.0**	**5**	**0.2**	**1**	**<0.1**	**1**	**<0.1**
Influenza‡	Female	125	9.9	255	19.9	169	13.1	237	18.3	52	4.0	163	12.3	90	6.7	331	24.7	520	38.8	247	18.4	257	19.0
	Male	124	10.4	238	19.7	175	14.3	237	19.3	55	4.4	133	10.5	114	8.9	285	22.3	421	33.0	268	20.9	272	21.2
	Total	**249**	**10.1**	**493**	**19.8**	**345**	**13.8**	**475**	**18.8**	**107**	**4.2**	**296**	**11.4**	**204**	**7.8**	**616**	**23.6**	**941**	**36.0**	**516**	**19.7**	**531**	**20.2**
Legionellosis	Female	2	0.2	6	0.5	10	0.8	8	0.6	5	0.4	3	0.2	2	0.1	5	0.4	2	0.1	30	2.2	7	0.5
	Male	9	0.8	14	1.2	8	0.7	15	1.2	14	1.1	7	0.6	2	0.2	5	0.4	1	<0.1	23	1.8	12	0.9
	Total	**11**	**0.4**	**20**	**0.8**	**18**	**0.7**	**23**	**0.9**	**19**	**0.7**	**10**	**0.4**	**4**	**0.2**	**10**	**0.4**	**3**	**0.1**	**53**	**2.0**	**19**	**0.7**

*Rates per 100,000 population. NR = Not reportable. NA = Not available.

†Due to missing sex data, the total number of cases reported by sex may not correspond with the total number of cases reported for a disease.

‡Seasonal year from July to June (eg. 2006/07 includes cases from July 1, 2006 to June 30, 2007).

Continued

Appendix Table 2: Number of cases and incidence rates* by disease and sex†. Toronto, 1996 - 2006

Disease	Sex	1996		1997		1998		1999		2000		2001		2002		2003		2004		2005		2006	
		#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Leprosy	Female	0	0.0	0	0.0	0	0.0	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Male	3	0.3	2	0.2	1	<0.1	2	0.2	0	0.0	2	0.2	1	<0.1	2	0.2	0	0.0	1	<0.1	0	0.0
	Total	**3**	**0.1**	**2**	**<0.1**	**1**	**<0.1**	**3**	**0.1**	**0**	**0.0**	**2**	**<0.1**	**1**	**<0.1**	**2**	**<0.1**	**0**	**0.0**	**1**	**<0.1**	**0**	**0.0**
Listeriosis	Female	1	<0.1	3	0.2	7	0.5	4	0.3	6	0.5	7	0.5	10	0.7	3	0.2	10	0.7	7	0.5	4	0.3
	Male	4	0.3	4	0.3	7	0.6	1	<0.1	5	0.4	2	0.2	4	0.3	5	0.4	4	0.3	3	0.2	9	0.7
	Total	**5**	**0.2**	**7**	**0.3**	**14**	**0.6**	**5**	**0.2**	**11**	**0.4**	**9**	**0.3**	**14**	**0.5**	**8**	**0.3**	**14**	**0.5**	**10**	**0.4**	**13**	**0.5**
Lyme disease	Female	5	0.4	4	0.3	4	0.3	4	0.3	7	0.5	2	0.2	7	0.5	2	0.1	2	0.1	5	0.4	4	0.3
	Male	4	0.3	2	0.2	2	0.2	6	0.5	2	0.2	3	0.2	5	0.4	2	0.2	2	0.2	8	0.6	3	0.2
	Total	**9**	**0.4**	**6**	**0.2**	**6**	**0.2**	**10**	**0.4**	**10**	**0.4**	**5**	**0.2**	**12**	**0.5**	**4**	**0.2**	**4**	**0.2**	**13**	**0.5**	**7**	**0.3**
Malaria	Female	86	6.8	96	7.5	34	2.6	21	1.6	26	2.0	23	1.7	21	1.6	25	1.9	31	2.3	26	1.9	30	2.2
	Male	122	10.2	142	11.7	50	4.1	54	4.4	71	5.7	63	5.0	61	4.8	68	5.3	62	4.9	64	5.0	67	5.2
	Total	**213**	**8.7**	**239**	**9.6**	**84**	**3.3**	**75**	**3.0**	**97**	**3.8**	**86**	**3.3**	**82**	**3.1**	**93**	**3.6**	**93**	**3.6**	**90**	**3.4**	**97**	**3.7**
Measles	Female	9	0.7	2	0.2	2	0.2	0	0.0	3	0.2	1	<0.1	0	0.0	5	0.4	1	<0.1	1	<0.1	1	<0.1
	Male	16	1.3	3	0.2	1	<0.1	1	<0.1	3	0.2	2	0.2	0	0.0	5	0.4	0	0.0	0	0.0	2	0.2
	Total	**25**	**1.0**	**5**	**0.2**	**3**	**0.1**	**1**	**<0.1**	**6**	**0.2**	**3**	**0.1**	**0**	**0.0**	**10**	**0.4**	**1**	**<0.1**	**1**	**<0.1**	**3**	**0.1**
Meningococcal disease, invasive	Female	10	0.8	9	0.7	3	0.2	14	1.1	13	1.0	13	1.0	8	0.6	3	0.2	5	0.4	2	0.1	7	0.5
	Male	10	0.8	10	0.8	3	0.2	7	0.6	9	0.7	13	1.0	5	0.4	5	0.4	1	<0.1	1	<0.1	3	0.2
	Total	**20**	**0.8**	**19**	**0.8**	**6**	**0.2**	**21**	**0.8**	**22**	**0.9**	**26**	**1.0**	**13**	**0.5**	**8**	**0.3**	**6**	**0.2**	**3**	**0.1**	**10**	**0.4**
Mumps	Female	5	0.4	11	0.9	1	<0.1	2	0.2	6	0.5	1	<0.1	2	0.1	1	<0.1	2	0.1	2	0.1	0	0.0
	Male	11	0.9	10	0.8	2	0.2	2	0.2	3	0.2	0	0.0	1	<0.1	3	0.2	0	0.0	5	0.4	0	0.0
	Total	**16**	**0.7**	**21**	**0.8**	**3**	**0.1**	**4**	**0.2**	**9**	**0.4**	**1**	**<0.1**	**3**	**0.1**	**4**	**0.2**	**2**	**<0.1**	**7**	**0.3**	**0**	**0.0**
Ophthalmia neonatorum	Female	3	0.2	0	0.0	3	0.2	1	<0.1	2	0.2	1	<0.1	1	<0.1	1	<0.1	2	0.1	0	0.0	1	<0.1
	Male	3	0.3	3	0.2	1	<0.1	3	0.2	5	0.4	0	0.0	0	0.0	1	<0.1	1	<0.1	0	0.0	0	0.0
	Total	**6**	**0.2**	**3**	**0.1**	**4**	**0.2**	**4**	**0.2**	**7**	**0.3**	**1**	**<0.1**	**1**	**<0.1**	**2**	**<0.1**	**3**	**0.1**	**0**	**0.0**	**1**	**<0.1**
Paratyphoid fever	Female	1	<0.1	0	0.0	2	0.2	4	0.3	0	0.0	1	<0.1	5	0.4	5	0.4	8	0.6	8	0.6	5	0.4
	Male	6	0.5	3	0.2	2	0.2	1	<0.1	2	0.2	5	0.4	5	0.4	5	0.4	8	0.6	5	0.4	10	0.8
	Total	**7**	**0.3**	**3**	**0.1**	**4**	**0.2**	**5**	**0.2**	**2**	**<0.1**	**6**	**0.2**	**10**	**0.4**	**10**	**0.4**	**16**	**0.6**	**13**	**0.5**	**15**	**0.6**
Pertussis	Female	60	4.7	44	3.4	73	5.7	56	4.3	76	5.8	50	3.8	42	3.1	12	0.9	45	3.4	91	6.8	370	27.4
	Male	44	3.7	46	3.8	76	6.2	71	5.8	76	6.1	35	2.8	41	3.2	19	1.5	46	3.6	87	6.8	327	25.5
	Total	**104**	**4.2**	**90**	**3.6**	**149**	**5.9**	**127**	**5.0**	**152**	**6.0**	**85**	**3.3**	**83**	**3.2**	**31**	**1.2**	**92**	**3.5**	**178**	**6.8**	**698**	**26.5**
Psittacosis/ Ornithosis	Female	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Male	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Total	**3**	**0.1**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**
Q fever	Female	0	0.0	0	0.0	0	0.0	1	<0.1	0	0.0	1	<0.1	0	0.0	1	<0.1	0	0.0	0	0.0	0	0.0
	Male	0	0.0	0	0.0	1	<0.1	2	0.2	0	0.0	0	0.0	0	0.0	1	<0.1	1	<0.1	0	0.0	0	0.0
	Total	**0**	**0.0**	**0**	**0.0**	**1**	**<0.1**	**3**	**0.1**	**0**	**0.0**	**1**	**<0.1**	**0**	**0.0**	**2**	**<0.1**	**1**	**<0.1**	**0**	**0.0**	**0**	**0.0**
Rubella	Female	9	0.7	3	0.2	6	0.5	0	0.0	2	0.2	6	0.5	0	0.0	2	0.1	0	0.0	3	0.2	0	0.0
	Male	13	1.1	1	<0.1	3	0.2	0	0.0	3	0.2	6	0.5	1	<0.1	2	0.2	1	<0.1	0	0.0	2	0.2
	Total	**22**	**0.9**	**4**	**0.2**	**9**	**0.4**	**0**	**0.0**	**5**	**0.2**	**12**	**0.5**	**1**	**<0.1**	**4**	**0.2**	**1**	**<0.1**	**3**	**0.1**	**2**	**<0.1**
Rubella, congenital syndrome	Female	0	0.0	0	0.0	0	0.0	0	0.0	1	<0.1	0	0.0	1	<0.1	1	<0.1	1	<0.1	0	0.0	0	0.0
	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	<0.1	0	0.0	0	0.0
	Total	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**1**	**<0.1**	**0**	**0.0**	**1**	**<0.1**	**1**	**<0.1**	**2**	**<0.1**	**0**	**0.0**	**0**	**0.0**

*Rates per 100,000 population. NR = Not reportable. NA = Not available.

†Due to missing sex data, the total number of cases reported by sex may not correspond with the total number of cases reported for a disease.

Continued

Appendix Table 2: Number of cases and incidence rates* by disease and sex†. Toronto, 1996 - 2006

Disease	Sex	1996		1997		1998		1999		2000		2001		2002		2003		2004		2005		2006	
		#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Salmonellosis	Female	428	33.8	429	33.5	540	41.9	308	23.7	355	27.2	316	23.8	318	23.7	272	20.3	229	17.1	341	25.3	267	19.8
	Male	397	33.3	424	35.0	443	36.3	332	27.0	303	24.4	355	28.1	319	25.0	264	20.7	252	19.8	347	27.1	259	20.2
	Total	**830**	**33.7**	**855**	**34.4**	**985**	**39.3**	**644**	**25.5**	**658**	**25.8**	**671**	**25.9**	**637**	**24.3**	**536**	**20.5**	**482**	**18.4**	**688**	**26.2**	**526**	**20.0**
Severe acute respiratory syndrome (SARS)	Female	NR		NR		NR		NR		NR		NR		NR		147	11.0	0	0.0	0	0.0	0	0.0
	Male	NR		NR		NR		NR		NR		NR		NR		81	6.3	0	0.0	0	0.0	0	0.0
	Total	**NR**		**NR**		**NR**		**NR**		**NR**		**NR**		**NR**		**228**	**8.7**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**
Shigellosis	Female	74	5.8	77	6.0	92	7.1	48	3.7	56	4.3	30	2.3	183	13.7	32	2.4	42	3.1	49	3.6	26	1.9
	Male	71	6.0	76	6.3	68	5.6	55	4.5	64	5.2	59	4.7	166	13.0	66	5.2	58	4.5	52	4.1	31	2.4
	Total	**146**	**5.9**	**154**	**6.2**	**160**	**6.4**	**103**	**4.1**	**120**	**4.7**	**89**	**3.4**	**350**	**13.4**	**98**	**3.7**	**100**	**3.8**	**101**	**3.8**	**57**	**2.2**
Streptococcal infections, Group A invasive	Female	17	1.3	34	2.7	34	2.6	30	2.3	35	2.7	31	2.3	45	3.4	39	2.9	28	2.1	31	2.3	43	3.2
	Male	23	1.9	37	3.1	31	2.5	24	2.0	40	3.2	41	3.2	59	4.6	31	2.4	24	1.9	42	3.3	64	5.0
	Total	**40**	**1.6**	**72**	**2.9**	**65**	**2.6**	**54**	**2.1**	**76**	**3.0**	**72**	**2.8**	**105**	**4.0**	**70**	**2.7**	**52**	**2.0**	**73**	**2.8**	**110**	**4.2**
Streptococcal infections, Group B neonatal	Female	9	0.7	5	0.4	3	0.2	8	0.6	3	0.2	11	0.8	12	0.9	10	0.7	7	0.5	4	0.3	15	1.1
	Male	5	0.4	7	0.6	0	0.0	3	0.2	7	0.6	11	0.9	8	0.6	8	0.6	9	0.7	8	0.6	14	1.1
	Total	**14**	**0.6**	**12**	**0.5**	**3**	**0.1**	**11**	**0.4**	**10**	**0.4**	**23**	**0.9**	**20**	**0.8**	**18**	**0.7**	**16**	**0.6**	**12**	**0.5**	**29**	**1.1**
Streptococcus pneumoniae, invasive	Female	NR		NR		NR		NR		NR		NR		124	9.3	110	8.2	98	7.3	87	6.5	104	7.7
	Male	NR		NR		NR		NR		NR		NR		151	11.8	125	9.8	164	12.9	131	10.2	127	9.9
	Total	**NR**		**NR**		**NR**		**NR**		**NR**		**NR**		**276**	**10.5**	**235**	**9.0**	**263**	**10.1**	**218**	**8.3**	**231**	**8.8**
Syphilis, infectious	Female	25	2.0	15	1.2	9	0.7	9	0.7	11	0.8	9	0.7	7	0.5	17	1.3	7	0.5	10	0.7	12	0.9
	Male	35	2.9	20	1.7	10	0.8	20	1.6	23	1.9	20	1.6	186	14.6	312	24.5	370	29.0	246	19.2	235	18.3
	Total	**60**	**2.4**	**35**	**1.4**	**19**	**0.8**	**29**	**1.1**	**34**	**1.3**	**29**	**1.1**	**193**	**7.4**	**329**	**12.6**	**377**	**14.4**	**256**	**9.8**	**247**	**9.4**
Syphilis, late latent	Female	60	4.7	55	4.3	47	3.6	54	4.2	77	5.9	58	4.4	75	5.6	46	3.4	47	3.5	240	17.8	422	31.3
	Male	62	5.2	60	5.0	53	4.3	65	5.3	75	6.0	62	4.9	88	6.9	88	6.9	101	7.9	282	22.0	594	46.3
	Total	**122**	**5.0**	**115**	**4.6**	**100**	**4.0**	**120**	**4.7**	**152**	**6.0**	**121**	**4.7**	**164**	**6.3**	**134**	**5.1**	**148**	**5.7**	**522**	**19.9**	**1018**	**38.7**
Syphilis, congenital	Female	0	0.0	0	0.0	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Male	0	0.0	0	0.0	0	0.0	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Total	**0**	**0.0**	**0**	**0.0**	**1**	**<0.1**	**1**	**<0.1**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**
Syphilis, other§	Female	1	<0.1	1	<0.1	1	<0.1	2	0.2	0	0.0	0	0.0	2	0.1	4	0.3	1	<0.1	1	<0.1	2	0.1
	Male	2	0.2	1	<0.1	2	0.2	1	<0.1	3	0.2	1	<0.1	9	0.7	10	0.8	16	1.3	12	0.9	7	0.5
	Total	**3**	**0.1**	**2**	**<0.1**	**3**	**0.1**	**3**	**0.1**	**3**	**0.1**	**1**	**<0.1**	**11**	**0.4**	**14**	**0.5**	**17**	**0.6**	**13**	**0.5**	**9**	**0.3**
Tetanus	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Male	0	0.0	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Total	**0**	**0.0**	**1**	**<0.1**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**
Tuberculosis	Female	213	16.8	225	17.6	196	15.2	190	14.6	173	13.2	153	11.5	188	14.0	173	12.9	171	12.8	161	12.0	146	10.8
	Male	241	20.2	228	18.8	218	17.9	195	15.9	209	16.8	220	17.4	195	15.3	195	15.3	193	15.1	182	14.2	174	13.6
	Total	**454**	**18.5**	**453**	**18.2**	**414**	**16.5**	**385**	**15.2**	**382**	**15.0**	**373**	**14.4**	**383**	**14.6**	**368**	**14.1**	**364**	**13.9**	**343**	**13.1**	**320**	**12.2**
Tularemia	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Male	0	0.0	1	<0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Total	**0**	**0.0**	**1**	**<0.1**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**
Typhoid fever	Female	5	0.4	6	0.5	6	0.5	8	0.6	15	1.1	13	1.0	15	1.1	14	1.0	16	1.2	12	0.9	22	1.6
	Male	7	0.6	10	0.8	9	0.7	11	0.9	9	0.7	18	1.4	15	1.2	11	0.9	12	0.9	10	0.8	15	1.2
	Total	**12**	**0.5**	**16**	**0.6**	**15**	**0.6**	**19**	**0.8**	**24**	**0.9**	**31**	**1.2**	**30**	**1.1**	**25**	**1.0**	**28**	**1.1**	**22**	**0.8**	**37**	**1.4**

*Rates per 100,000 population. NR = Not reportable. NA = Not available.

†Due to missing sex data, the total number of cases reported by sex may not correspond with the total number of cases reported for a disease.

§Excludes infectious, late latent and congenital syphilis.

Continued

Appendix Table 2: Number of cases and incidence rates* by disease and sex†. Toronto, 1996 - 2006

Disease	Sex	1996		1997		1998		1999		2000		2001		2002		2003		2004		2005		2006	
		#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Verotoxin-producing *E. coli* infection	Female	34	2.7	50	3.9	39	3.0	37	2.9	29	2.2	40	3.0	26	1.9	25	1.9	29	2.2	20	1.5	24	1.8
	Male	42	3.5	41	3.4	34	2.8	29	2.4	31	2.5	29	2.3	20	1.6	30	2.4	21	1.6	16	1.3	19	1.5
	Total	**76**	**3.1**	**91**	**3.7**	**73**	**2.9**	**66**	**2.6**	**60**	**2.4**	**69**	**2.7**	**46**	**1.8**	**55**	**2.1**	**50**	**1.9**	**36**	**1.4**	**43**	**1.6**
West Nile Virus	Female	NR		NR		NR		NR		NR		NR		89	6.6	24	1.8	4	0.3	22	1.6	4	0.3
	Male	NR		NR		NR		NR		NR		NR		74	5.8	20	1.6	2	0.2	16	1.3	2	0.2
	Total	**NR**		**NR**		**NR**		**NR**		**NR**		**NR**		**163**	**6.2**	**44**	**1.7**	**6**	**0.2**	**38**	**1.4**	**6**	**0.2**
Yersiniosis	Female	70	5.5	63	4.9	43	3.3	69	5.3	62	4.7	50	3.8	71	5.3	58	4.3	40	3.0	43	3.2	39	2.9
	Male	78	6.5	90	7.4	82	6.7	75	6.1	80	6.4	73	5.8	76	5.9	68	5.3	52	4.1	75	5.9	68	5.3
	Total	**148**	**6.0**	**153**	**6.1**	**125**	**5.0**	**144**	**5.7**	**142**	**5.6**	**123**	**4.7**	**147**	**5.6**	**126**	**4.8**	**92**	**3.5**	**118**	**4.5**	**107**	**4.1**

*Rates per 100,000 population. NR = Not reportable. NA = Not available.

†Due to missing sex data, the total number of cases reported by sex may not correspond with the total number of cases reported for a disease.

Appendix Table 3: Number of cases by disease, sex* and age group. Toronto, 2006

Disease	Sex	Age group (years)																				
		Total	<1	01-04	05-09	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Unk.
AIDS	Female	14	0	0	0	0	0	0	2	3	2	2	1	1	2	0	0	0	0	1	0	0
	Male	51	0	1	0	0	0	1	8	5	4	14	5	8	3	1	1	0	0	0	0	0
	Total	**65**	**0**	**1**	**0**	**0**	**0**	**1**	**10**	**8**	**6**	**16**	**6**	**9**	**5**	**1**	**1**	**0**	**0**	**1**	**0**	**0**
HIV	Female	151	0	0	2	0	2	11	29	32	29	24	7	7	5	1	2	0	0	0	0	0
	Male	500	1	1	0	0	4	29	73	87	98	94	56	37	16	3	1	0	0	0	0	0
	Total	**652**	**1**	**1**	**2**	**0**	**6**	**40**	**102**	**119**	**127**	**118**	**63**	**45**	**21**	**4**	**3**	**0**	**0**	**0**	**0**	**0**
Amebiasis	Female	97	0	0	12	2	1	9	18	12	11	14	5	6	0	4	1	1	0	0	1	0
	Male	222	0	1	3	11	5	9	19	22	40	35	25	17	19	6	7	1	0	1	0	1
	Total	**319**	**0**	**1**	**15**	**13**	**6**	**18**	**37**	**34**	**51**	**49**	**30**	**23**	**19**	**10**	**8**	**2**	**0**	**1**	**1**	**1**
Botulism	Female	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	Male	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	Total	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
Brucellosis	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Campylobacter enteritis	Female	446	2	26	26	14	25	35	43	54	28	22	27	27	20	21	18	21	18	12	7	0
	Male	518	11	39	33	26	26	50	42	42	35	36	42	39	30	21	15	12	5	9	5	0
	Total	**965**	**13**	**65**	**59**	**40**	**51**	**85**	**85**	**96**	**63**	**59**	**69**	**66**	**50**	**42**	**33**	**33**	**23**	**21**	**12**	**0**
Chickenpox†	**Total**	**2129**	**20**	**303**	**1244**	**416**	**57**	**22**	**22**	**17**		**15**		**8**				**5**				**0**
Chlamydia	Female	4052	0	1	0	13	1001	1423	736	393	228	137	64	34	12	5	5	0	0	0	0	0
	Male	2754	0	0	0	0	266	785	581	404	312	209	96	45	35	10	6	2	1	1	1	0
	Total	**6807**	**0**	**1**	**0**	**13**	**1267**	**2209**	**1317**	**797**	**540**	**346**	**160**	**79**	**47**	**15**	**11**	**2**	**1**	**1**	**1**	**0**
Cholera	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Cryptosporidiosis	Female	35	2	6	5	2	4	4	3	2	5	0	1	1	0	0	0	0	0	0	0	0
	Male	50	2	13	12	4	0	1	2	6	5	3	0	1	1	0	0	0	0	0	0	0
	Total	**85**	**4**	**19**	**17**	**6**	**4**	**5**	**5**	**8**	**10**	**3**	**1**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Cyclosporiasis	Female	15	0	0	0	0	1	1	3	1	1	1	1	3	1	0	0	0	2	0	0	0
	Male	10	0	1	0	0	0	0	2	2	0	2	0	0	1	0	1	1	0	0	0	0
	Total	**25**	**0**	**1**	**0**	**0**	**1**	**1**	**5**	**3**	**1**	**3**	**1**	**3**	**2**	**0**	**1**	**1**	**2**	**0**	**0**	**0**
Cytomegalovirus infection, congenital	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**4**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Encephalitis/ Meningitis: bacterial	Female	5	1	0	0	1	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0
	Male	4	2	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	Total	**9**	**3**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Encephalitis/ Meningitis: viral	Female	17	4	1	0	1	1	0	2	2	2	1	2	0	0	0	1	0	0	0	0	0
	Male	12	5	0	1	1	1	0	0	0	0	2	0	0	1	0	1	0	0	0	0	0
	Total	**29**	**9**	**1**	**1**	**2**	**2**	**0**	**2**	**2**	**2**	**3**	**2**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**
Encephalitis/ Meningitis: other	Female	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
	Male	2	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
	Total	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**

*Due to missing sex data, the total number of cases reported by sex may not correspond with the total number of cases reported for a disease.

†Reports of chickenpox are received in aggregate numbers based on the following defined age categories: <1, 1-4, 5-9, 10-14, 15-19, 20-24, 25-29, 30-39, 40-49, 50-59, 60+.

Continued

Appendix Table 3: Number of cases by disease, sex* and age group. Toronto, 2006

Disease	Sex	Age group (years)																				
		Total	<1	01-04	05-09	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Unk.
Encephalitis/ Meningitis: unclassified	Female	12	2	1	0	0	1	2	1	2	0	0	1	0	1	0	0	0	0	1	0	0
	Male	5	0	1	0	0	0	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0
	Total	**17**	**2**	**2**	**0**	**0**	**1**	**2**	**2**	**3**	**0**	**1**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**
Giardiasis	Female	199	5	32	25	12	11	16	13	23	19	12	6	7	4	4	4	2	3	1	0	0
	Male	320	0	35	38	18	9	22	28	31	26	43	19	15	12	8	7	4	3	2	0	0
	Total	**519**	**5**	**67**	**63**	**30**	**20**	**38**	**41**	**54**	**45**	**55**	**25**	**22**	**16**	**12**	**11**	**6**	**6**	**3**	**0**	**0**
Gonorrhea	Female	499	0	0	0	2	148	166	78	40	24	15	11	12	3	0	0	0	0	0	0	0
	Male	1319	0	0	0	0	89	252	227	195	206	172	91	46	21	12	6	1	1	0	0	0
	Total	**1819**	**0**	**0**	**0**	**2**	**237**	**418**	**306**	**235**	**230**	**187**	**102**	**58**	**24**	**12**	**6**	**1**	**1**	**0**	**0**	**0**
Haemophilus influenzae b disease, invasive	Female	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	Male	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	Total	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**
Hemorrhagic fevers	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hepatitis A	Female	43	0	7	12	8	4	5	0	2	1	1	1	1	0	0	0	1	0	0	0	0
	Male	48	0	3	8	12	5	3	2	6	0	3	1	1	1	0	1	1	1	0	0	0
	Total	**91**	**0**	**10**	**20**	**20**	**9**	**8**	**2**	**8**	**1**	**4**	**2**	**2**	**1**	**0**	**1**	**2**	**1**	**0**	**0**	**0**
Hepatitis B cases	Female	13	0	0	0	0	0	2	1	2	0	0	1	0	0	0	1	0	1	2	3	0
	Male	9	0	0	0	0	0	0	2	0	3	1	1	0	1	0	0	0	0	1	0	0
	Total	**22**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**2**	**3**	**1**	**2**	**0**	**1**	**0**	**1**	**0**	**1**	**3**	**3**	**0**
Hepatitis B carriers	Female	625	0	2	0	4	22	85	112	103	80	70	48	24	24	16	19	8	4	3	1	0
	Male	792	2	2	2	8	29	77	109	134	125	105	73	37	21	22	24	15	5	2	0	0
	Total	**1418**	**2**	**4**	**2**	**12**	**51**	**163**	**221**	**237**	**205**	**175**	**121**	**61**	**45**	**38**	**43**	**23**	**9**	**5**	**1**	**0**
Hepatitis B unclassfied reports	Female	274	1	2	0	4	14	44	42	50	24	26	16	10	12	5	4	12	5	2	1	0
	Male	396	3	1	1	5	24	36	61	69	47	42	41	20	17	7	8	4	5	4	1	0
	Total	**672**	**4**	**3**	**1**	**9**	**38**	**80**	**103**	**119**	**71**	**69**	**58**	**30**	**29**	**12**	**12**	**16**	**10**	**6**	**2**	**0**
Hepatitis C	Female	371	4	1	0	1	10	22	31	34	34	52	45	39	31	21	19	9	7	6	5	0
	Male	610	5	1	0	2	5	20	25	45	85	102	97	99	56	26	14	12	6	4	5	1
	Total	**981**	**9**	**2**	**0**	**3**	**15**	**42**	**56**	**79**	**119**	**154**	**142**	**138**	**87**	**47**	**33**	**21**	**13**	**10**	**10**	**1**
Hepatitis D	Female	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Herpes, neonatal	Female	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Influenza‡	Female	257	12	36	12	10	10	5	9	6	9	4	6	8	6	6	7	12	23	22	54	0
	Male	272	35	54	19	8	8	10	7	4	12	5	10	4	2	5	7	12	27	24	19	0
	Total	**531**	**47**	**90**	**32**	**18**	**18**	**15**	**16**	**10**	**21**	**9**	**16**	**13**	**8**	**11**	**14**	**24**	**50**	**46**	**73**	**0**
Legionellosis	Female	7	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	1	1	1	0	0
	Male	12	0	0	0	0	0	0	0	0	1	0	1	1	0	1	4	1	2	1	0	0
	Total	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**1**	**1**	**1**	**5**	**2**	**3**	**2**	**0**	**0**

*Due to missing sex data, the total number of cases reported by sex may not correspond with the total number of cases reported for a disease.

‡Seasonal year from July to June (eg. 2006/07 includes cases from July 1, 2006 to June 30, 2007).

Continued

Appendix Table 3: Number of cases by disease, sex* and age group. Toronto, 2006

Disease	Sex	Age group (years)																				
		Total	<1	01-04	05-09	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Unk.
Leprosy	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Listeriosis	Female	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0
	Male	9	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	5	1	0
	Total	**13**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**1**	**2**	**6**	**1**	**0**
Lyme disease	Female	4	0	0	0	0	0	1	0	0	0	0	0	2	1	0	0	0	0	0	0	0
	Male	3	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0
	Total	**7**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Malaria	Female	30	0	2	3	1	1	2	2	3	2	2	3	6	1	0	2	0	0	0	0	0
	Male	67	0	3	2	0	6	5	9	6	6	13	8	4	2	1	0	2	0	0	0	0
	Total	**97**	**0**	**5**	**5**	**1**	**7**	**7**	**11**	**9**	**8**	**15**	**11**	**10**	**3**	**1**	**2**	**2**	**0**	**0**	**0**	**0**
Measles	Female	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**3**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Meningococcal disease, invasive	Female	7	0	1	0	0	0	0	1	1	1	0	0	0	1	0	0	0	2	0	0	0
	Male	3	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**10**	**1**	**1**	**0**	**0**	**0**	**2**	**1**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**
Mumps	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ophthalmia neonatorum	Female	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Paratyphoid fever	Female	5	0	1	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0
	Male	10	0	0	1	2	0	1	0	1	0	0	2	2	0	0	0	1	0	0	0	0
	Total	**15**	**0**	**1**	**2**	**2**	**0**	**1**	**1**	**2**	**0**	**0**	**2**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**
Pertussis	Female	370	76	174	48	25	5	3	3	13	7	4	5	4	1	2	0	0	0	0	0	0
	Male	327	66	159	39	32	9	2	2	2	3	4	3	3	1	2	0	0	0	0	0	0
	Total	**698**	**143**	**333**	**87**	**57**	**14**	**5**	**5**	**15**	**10**	**8**	**8**	**7**	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**0**
Psittacosis/ Ornithosis	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Q fever	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Rubella	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	2	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Rubella, congenital syndrome	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

*Due to missing sex data, the total number of cases reported by sex may not correspond with the total number of cases reported for a disease.

Continued

Appendix Table 3: Number of cases by disease, sex* and age group. Toronto, 2006

Disease	Sex	Age group (years)																				
		Total	<1	01-04	05-09	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Unk.
Salmonellosis	Female	267	10	39	24	8	11	28	30	24	9	9	13	7	16	6	11	9	5	5	3	0
	Male	259	7	47	30	16	19	24	15	15	11	9	13	10	13	6	10	5	3	4	2	0
	Total	**526**	**17**	**86**	**54**	**24**	**30**	**52**	**45**	**39**	**20**	**18**	**26**	**17**	**29**	**12**	**21**	**14**	**8**	**9**	**5**	**0**
Severe acute respiratory syndrome (SARS)	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Shigellosis	Female	26	0	2	4	1	1	3	3	2	3	0	1	2	1	1	0	0	2	0	0	0
	Male	31	0	2	4	2	1	0	2	4	3	5	4	1	1	0	1	0	1	0	0	0
	Total	**57**	**0**	**4**	**8**	**3**	**2**	**3**	**5**	**6**	**6**	**5**	**5**	**3**	**2**	**1**	**1**	**0**	**3**	**0**	**0**	**0**
Streptococcal infections, Group A invasive	Female	43	2	1	1	1	1	4	2	2	3	6	3	2	2	1	1	1	5	1	4	0
	Male	64	1	3	3	0	1	3	3	3	8	3	7	6	2	4	4	2	5	2	4	0
	Total	**110**	**3**	**4**	**4**	**1**	**2**	**8**	**5**	**6**	**11**	**9**	**10**	**8**	**4**	**5**	**5**	**3**	**10**	**3**	**9**	**0**
Streptococcal infections, Group B neonatal	Female	15	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**29**	**29**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Streptococcus pneumoniae, invasive	Female	104	0	8	2	1	2	0	1	4	5	7	4	4	9	1	10	8	13	11	14	0
	Male	127	0	3	1	1	0	0	4	2	9	12	13	12	12	9	8	14	10	8	9	0
	Total	**231**	**0**	**11**	**3**	**2**	**2**	**0**	**5**	**6**	**14**	**19**	**17**	**16**	**21**	**10**	**18**	**22**	**23**	**19**	**23**	**0**
Syphilis, infectious	Female	12	0	0	0	0	2	2	0	0	2	4	1	0	1	0	0	0	0	0	0	0
	Male	235	0	0	0	0	2	24	24	31	61	38	31	9	11	2	2	0	0	0	0	0
	Total	**247**	**0**	**0**	**0**	**0**	**4**	**26**	**24**	**31**	**63**	**42**	**32**	**9**	**12**	**2**	**2**	**0**	**0**	**0**	**0**	**0**
Syphilis, late latent	Female	422	0	0	0	0	2	4	20	39	47	41	54	45	48	42	22	26	17	7	8	0
	Male	594	0	0	0	0	0	11	28	39	60	81	75	89	58	53	39	25	17	14	5	0
	Total	**1018**	**0**	**0**	**0**	**0**	**2**	**15**	**48**	**78**	**107**	**124**	**129**	**134**	**106**	**95**	**61**	**51**	**34**	**21**	**13**	**0**
Syphilis, congenital	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Syphilis, other[§]	Female	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	Male	7	0	0	0	0	0	1	0	1	1	3	0	1	0	0	0	0	0	0	0	0
	Total	**9**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**3**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
Tetanus	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Tuberculosis	Female	146	0	0	0	2	10	15	23	17	12	13	7	3	4	8	8	10	6	5	3	0
	Male	174	1	3	2	1	12	12	17	12	9	23	13	11	9	4	10	10	12	8	5	0
	Total	**320**	**1**	**3**	**2**	**3**	**22**	**27**	**40**	**29**	**21**	**36**	**20**	**14**	**13**	**12**	**18**	**20**	**18**	**13**	**8**	**0**
Tularemia	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Typhoid fever	Female	22	0	4	4	1	4	2	2	1	2	1	0	0	0	0	0	1	0	0	0	0
	Male	15	1	3	2	2	0	2	1	1	1	0	0	2	0	0	0	0	0	0	0	0
	Total	**37**	**1**	**7**	**6**	**3**	**4**	**4**	**3**	**2**	**3**	**1**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**

*Due to missing sex data, the total number of cases reported by sex may not correspond with the total number of cases reported for a disease.

[§]Excludes infectious, late latent and congenital syphilis.

Continued

Appendix Table 3: Number of cases by disease, sex* and age group. Toronto, 2006

Disease	Sex	Age group (years)																			
		Total	<1	01-04	05-09	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Unk.
Verotoxin-producing *E. coli* infections	Female	24	0	2	4	2	0	1	3	0	0	1	1	1	1	2	2	1	0	1	2	0
	Male	19	0	4	3	4	2	1	1	0	0	0	0	0	1	1	0	1	1	0	0	0
	Total	**43**	**0**	**6**	**7**	**6**	**2**	**2**	**4**	**0**	**0**	**1**	**1**	**1**	**2**	**3**	**2**	**2**	**1**	**1**	**2**	**0**
West Nile Virus	Female	4	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	1	0	0	0
	Male	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
	Total	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**
Yersiniosis	Female	39	3	11	6	0	0	0	6	2	4	3	0	1	1	0	0	1	0	0	1	0
	Male	68	4	11	11	9	3	7	4	4	6	2	2	1	2	0	1	0	1	0	0	0
	Total	**107**	**7**	**22**	**17**	**9**	**3**	**7**	**10**	**6**	**10**	**5**	**2**	**2**	**3**	**0**	**1**	**1**	**1**	**0**	**1**	**0**

*Due to missing sex data, the total number of cases reported by sex may not correspond with the total number of cases reported for a disease.

Appendix Table 4: 5-year and 10-year means and incidence rates* by disease and sex†. Toronto, 1996 - 2005

Disease	Sex	5-year mean 1996-2000		5-year mean 2001-2005		10-year mean 1996-2005	
		#	Rate	#	Rate	#	Rate
AIDS	Female	NA	-	NA	-	NA	-
	Male	NA	-	NA	-	NA	-
	Total	**NA**	**-**	**NA**	**-**	**NA**	**-**
HIV	Female	69	5.4	122	9.1	96	7.3
	Male	384	31.5	442	34.7	413	33.1
	Total	**456**	**18.2**	**565**	**21.6**	**511**	**20.0**
Amebiasis	Female	106	8.2	101	7.6	104	7.9
	Male	303	24.8	281	22.1	292	23.4
	Total	**410**	**16.3**	**383**	**14.6**	**396**	**15.5**
Botulism	Female	0	0.0	<1	<0.1	<1	<0.1
	Male	<1	<0.1	<1	<0.1	<1	<0.1
	Total	**<1**	**<0.1**	**<1**	**<0.1**	**<1**	**<0.1**
Brucellosis	Female	0	0.0	<1	<0.1	<1	<0.1
	Male	<1	<0.1	1	<0.1	<1	<0.1
	Total	**<1**	**<0.1**	**2**	**<0.1**	**<1**	**<0.1**
Campylobacter enteritis	Female	734	57.0	541	40.4	637	48.5
	Male	827	67.9	663	52.0	745	59.7
	Total	**1563**	**62.4**	**1204**	**46.1**	**1384**	**54.0**
Chickenpox	**Total**	**3222**	**128.6**	**3594**	**137.5**	**3408**	**133.1**
Chlamydia	Female	3155	245.0	3786	282.8	3471	264.3
	Male	1468	120.4	2429	190.6	1949	156.3
	Total	**4624**	**184.5**	**6217**	**237.9**	**5420**	**211.7**
Cholera	Female	<1	<0.1	0	0.0	<1	<0.1
	Male	0	0.0	0	0.0	0	0.0
	Total	**<1**	**<0.1**	**0**	**0.0**	**<1**	**<0.1**
Cryptosporidiosis	Female	10	0.8	13	1.0	12	0.9
	Male	23	1.9	30	2.4	27	2.1
	Total	**34**	**1.3**	**43**	**1.7**	**39**	**1.5**
Cyclosporiasis	Female	NR	-	NR	-	NR	-
	Male	NR	-	NR	-	NR	-
	Total	**NR**	**-**	**NR**	**-**	**NR**	**-**
Cytomegalovirus infection, congenital	Female	2	0.1	<1	<0.1	<1	<0.1
	Male	<1	<0.1	<1	<0.1	<1	<0.1
	Total	**2**	**<0.1**	**1**	**<0.1**	**2**	**<0.1**
Encephalitis/Meningitis: bacterial	Female	9	0.7	4	0.3	7	0.5
	Male	6	0.5	6	0.5	6	0.5
	Total	**14**	**0.6**	**10**	**0.4**	**12**	**0.5**
Encephalitis/Meningitis: viral	Female	17	1.3	27	2.0	22	1.7
	Male	19	1.6	36	2.8	28	2.2
	Total	**36**	**1.4**	**63**	**2.4**	**50**	**1.9**
Encephalitis/Meningitis: other	Female	<1	<0.1	1	<0.1	<1	<0.1
	Male	3	0.3	4	0.3	4	0.3
	Total	**4**	**0.2**	**5**	**0.2**	**4**	**0.2**

* Rates per 100,000 population. NR = Not reportable. NA = Not available.

† Due to missing sex data, the total number of cases reported by sex may not correspond with the total number of cases reported for a disease.

Continued

Appendix Table 4: 5-year and 10-year means and incidence rates* by disease and sex†. Toronto, 1996 - 2005

Disease	Sex	5-year mean 1996-2000		5-year mean 2001-2005		10-year mean 1996-2005	
		#	Rate	#	Rate	#	Rate
Encephalitis/Meningitis: unclassified	Female	2	0.1	3	0.2	3	0.2
	Male	3	0.2	4	0.3	3	0.3
	Total	**4**	**0.2**	**7**	**0.3**	**6**	**0.2**
Giardiasis	Female	199	15.5	200	14.9	199	15.2
	Male	336	27.6	363	28.5	350	28.0
	Total	**536**	**21.4**	**562**	**21.5**	**549**	**21.4**
Gonorrhea	Female	552	42.8	560	41.8	556	42.3
	Male	913	74.9	1196	93.8	1054	84.6
	Total	**1465**	**58.5**	**1756**	**67.2**	**1611**	**62.9**
Haemophilus influenzae b disease, invasive	Female	<1	<0.1	<1	<0.1	<1	<0.1
	Male	<1	<0.1	1	<0.1	<1	<0.1
	Total	**1**	**<0.1**	**2**	**<0.1**	**2**	**<0.1**
Hemorrhagic fevers	Female	0	0.0	0	0.0	0	0.0
	Male	<1	<0.1	0	0.0	<1	<0.1
	Total	**<1**	**<0.1**	**0**	**0.0**	**<1**	**<0.1**
Hepatitis A	Female	43	3.4	22	1.7	33	2.5
	Male	99	8.2	31	2.4	65	5.2
	Total	**143**	**5.7**	**53**	**2.0**	**98**	**3.8**
Hepatitis B cases	Female	14	1.1	13	0.9	14	1.0
	Male	27	2.2	28	2.2	28	2.2
	Total	**41**	**1.6**	**41**	**1.6**	**41**	**1.6**
Hepatitis B carriers	Female	982	76.3	964	72.0	973	74.1
	Male	1157	95.0	1129	88.6	1143	91.7
	Total	**2162**	**86.3**	**2105**	**80.6**	**2134**	**83.3**
Hepatitis B unclassified reports	Female	139	10.8	172	12.8	156	11.8
	Male	169	13.9	244	19.1	207	16.6
	Total	**315**	**12.6**	**420**	**16.1**	**367**	**14.3**
Hepatitis C	Female	726	56.4	511	38.2	618	47.1
	Male	1304	107.0	836	65.6	1070	85.8
	Total	**2043**	**81.5**	**1353**	**51.8**	**1698**	**66.3**
Hepatitis D	Female	<1	<0.1	1	<0.1	<1	<0.1
	Male	2	0.2	2	0.2	2	0.2
	Total	**3**	**0.1**	**3**	**<0.1**	**3**	**0.1**
Herpes, neonatal	Female	<1	<0.1	1	<0.1	<1	<0.1
	Male	<1	<0.1	<1	<0.1	<1	<0.1
	Total	**<1**	**<0.1**	**2**	**0.1**	**1**	**<0.1**
Influenza‡	Female	168	13.0	270	20.2	219	16.7
	Male	166	13.6	244	19.2	205	16.4
	Total	**334**	**13.3**	**515**	**19.7**	**424**	**16.6**
Legionellosis	Female	6	0.5	8	0.6	7	0.6
	Male	12	1.0	8	0.6	10	0.8
	Total	**18**	**0.7**	**16**	**0.6**	**17**	**0.7**

* Rates per 100,000 population. NR = Not reportable. NA = Not available.

† Due to missing sex data, the total number of cases reported by sex may not correspond with the total number of cases reported for a disease.

‡ Seasonal year from July to June (eg. 2006/07 includes cases from July 1, 2006 to June 30, 2007).

Continued

Appendix Table 4: 5-year and 10-year means and incidence rates* by disease and sex†. Toronto, 1996 - 2005

Disease	Sex	5-year mean 1996-2000		5-year mean 2001-2005		10-year mean 1996-2005	
		#	Rate	#	Rate	#	Rate
Leprosy	Female	<1	<0.1	0	0.0	<1	<0.1
	Male	2	0.1	1	<0.1	1	0.1
	Total	**2**	**0.1**	**1**	**<0.1**	**2**	**<0.1**
Listeriosis	Female	4	0.3	7	0.6	6	0.4
	Male	4	0.3	4	0.3	4	0.3
	Total	**8**	**0.3**	**11**	**0.4**	**10**	**0.4**
Lyme disease	Female	5	0.4	4	0.3	4	0.3
	Male	3	0.3	4	0.3	4	0.3
	Total	**8**	**0.3**	**8**	**0.3**	**8**	**0.3**
Malaria	Female	53	4.1	25	1.9	39	3.0
	Male	88	7.2	64	5.0	76	6.1
	Total	**142**	**5.6**	**89**	**3.4**	**115**	**4.5**
Measles	Female	3	0.2	2	0.1	2	0.2
	Male	5	0.4	1	0.1	3	0.2
	Total	**8**	**0.3**	**3**	**0.1**	**6**	**0.2**
Meningococcal disease, invasive	Female	10	0.8	6	0.5	8	0.6
	Male	8	0.6	5	0.4	6	0.5
	Total	**18**	**0.7**	**11**	**0.4**	**14**	**0.6**
Mumps	Female	5	0.4	2	0.1	3	0.3
	Male	6	0.5	2	0.1	4	0.3
	Total	**11**	**0.4**	**3**	**0.1**	**7**	**0.3**
Ophthalmia neonatorum	Female	2	0.1	1	<0.1	1	<0.1
	Male	3	0.2	<1	<0.1	2	0.1
	Total	**5**	**0.2**	**1**	**<0.1**	**3**	**0.1**
Paratyphoid fever	Female	1	0.1	5	0.4	3	0.3
	Male	3	0.2	6	0.4	4	0.3
	Total	**4**	**0.2**	**11**	**0.4**	**8**	**0.3**
Pertussis	Female	62	4.8	48	3.6	55	4.2
	Male	63	5.1	46	3.6	54	4.3
	Total	**124**	**5.0**	**94**	**3.6**	**109**	**4.3**
Psittacosis/Ornithosis	Female	<1	<0.1	0	0.0	<1	<0.1
	Male	<1	<0.1	0	0.0	<1	<0.1
	Total	**<1**	**<0.1**	**0**	**0.0**	**<1**	**<0.1**
Q fever	Female	<1	<0.1	<1	<0.1	<1	<0.1
	Male	<1	<0.1	<1	<0.1	<1	<0.1
	Total	**<1**	**<0.1**	**<1**	**<0.1**	**<1**	**<0.1**
Rubella	Female	4	0.3	2	0.2	3	0.2
	Male	4	0.3	2	0.2	3	0.2
	Total	**8**	**0.3**	**4**	**0.2**	**6**	**0.2**
Rubella, congenital syndrome	Female	<1	<0.1	<1	<0.1	<1	<0.1
	Male	0	0.0	<1	<0.1	<1	<0.1
	Total	**<1**	**<0.1**	**<1**	**<0.1**	**<1**	**<0.1**

* Rates per 100,000 population. NR = Not reportable. NA = Not available.

† Due to missing sex data, the total number of cases reported by sex may not correspond with the total number of cases reported for a disease.

Continued

Appendix Table 4: 5-year and 10-year means and incidence rates* by disease and sex†. Toronto, 1996 - 2005

Disease	Sex	5-year mean 1996-2000		5-year mean 2001-2005		10-year mean 1996-2005	
		#	Rate	#	Rate	#	Rate
Salmonellosis	Female	412	32.0	295	22.1	354	26.9
	Male	380	31.2	307	24.1	344	27.6
	Total	**794**	**31.7**	**603**	**23.1**	**699**	**27.3**
Severe acute respiratory syndrome (SARS)	Female	NR	-	NR	-	NR	-
	Male	NR	-	NR	-	NR	-
	Total	**NR**	**-**	**NR**	**-**	**NR**	**-**
Shigellosis	Female	69	5.4	67	5.0	68	5.2
	Male	67	5.5	80	6.3	74	5.9
	Total	**137**	**5.5**	**148**	**5.6**	**142**	**5.6**
Streptococcal infections, Group A invasive	Female	30	2.3	35	2.6	32	2.5
	Male	31	2.5	39	3.1	35	2.8
	Total	**61**	**2.4**	**74**	**2.8**	**68**	**2.7**
Streptococcal infections, Group B neonatal	Female	6	0.4	9	0.7	7	0.5
	Male	4	0.4	9	0.7	7	0.5
	Total	**10**	**0.4**	**18**	**0.7**	**14**	**0.5**
Streptococcus pneumoniae, invasive	Female	NR	-	NR	-	NR	-
	Male	NR	-	NR	-	NR	-
	Total	**NR**	**-**	**NR**	**-**	**NR**	**-**
Syphilis, infectious	Female	14	1.1	10	0.7	12	0.9
	Male	22	1.8	227	17.8	124	10.0
	Total	**35**	**1.4**	**237**	**9.1**	**136**	**5.3**
Syphilis, late latent	Female	59	4.6	93	7.0	76	5.8
	Male	63	5.2	124	9.7	94	7.5
	Total	**122**	**4.9**	**218**	**8.3**	**170**	**6.6**
Syphilis, congenital	Female	<1	<0.1	0	0.0	<1	<0.1
	Male	<1	<0.1	0	0.0	<1	<0.1
	Total	**<1**	**<0.1**	**0**	**0.0**	**<1**	**<0.1**
Syphilis, other§	Female	1	<0.1	2	0.1	1	<0.1
	Male	2	0.1	10	0.8	6	0.5
	Total	**3**	**0.1**	**11**	**0.4**	**7**	**0.3**
Tetanus	Female	0	0.0	0	0.0	0	0.0
	Male	<1	<0.1	0	0.0	<1	<0.1
	Total	**<1**	**<0.1**	**0**	**0.0**	**<1**	**<0.1**
Tuberculosis	Female	199	15.5	169	12.6	184	14.0
	Male	218	17.9	197	15.5	208	16.7
	Total	**418**	**16.7**	**366**	**14.0**	**392**	**15.3**
Tularemia	Female	0	0.0	0	0.0	0	0.0
	Male	<1	<0.1	0	0.0	<1	<0.1
	Total	**<1**	**<0.1**	**0**	**0.0**	**<1**	**<0.1**
Typhoid fever	Female	8	0.6	14	1.0	11	0.8
	Male	9	0.8	13	1.0	11	0.9
	Total	**17**	**0.7**	**27**	**1.0**	**22**	**0.9**

* Rates per 100,000 population. NR = Not reportable. NA = Not available.

† Due to missing sex data, the total number of cases reported by sex may not correspond with the total number of cases reported for a disease.

§ Excludes infectious, late latent and congenital syphilis.

Continued

Appendix Table 4: 5-year and 10-year means and incidence rates* by disease and sex†. Toronto, 1996 - 2005

Disease	Sex	5-year mean 1996-2000		5-year mean 2001-2005		10-year mean 1996-2005	
		#	Rate	#	Rate	#	Rate
Verotoxin-producing *E.coli* infection	Female	38	2.9	28	2.1	33	2.5
	Male	35	2.9	23	1.8	29	2.4
	Total	**73**	**2.9**	**51**	**2.0**	**62**	**2.4**
West Nile Virus	Female	NR	-	NR	-	NR	-
	Male	NR	-	NR	-	NR	-
	Total	**NR**	**-**	**NR**	**-**	**NR**	**-**
Yersiniosis	Female	61	4.8	52	3.9	57	4.3
	Male	81	6.6	69	5.4	75	6.0
	Total	**142**	**5.7**	**121**	**4.6**	**132**	**5.1**

* Rates per 100,000 population. NR = Not reportable. NA = Not available.

† Due to missing sex data, the total number of cases reported by sex may not correspond with the total number of cases reported for a disease.