Communicable Diseases in Toronto 2005

Annual Report

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Toronto Public Health

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Executive Summary

This summary of reportable communicable diseases in the City of Toronto for 2005 is the fourth in a series of annual reports describing trends in our city. The data in *Communicable Diseases in Toronto 2005* provide updates to previous trends and highlight significant considerations for the practice of communicable disease control in a local public health setting. As in the past, factors related to Toronto's status as Canada's most populated and ethnically diverse urban setting significantly influence the range of communicable disease events faced by the city. While the media focused much attention in 2005 on the threat of avian influenza in parts of Asia, Toronto Public Health dealt with several local communicable disease events.

The most notable communicable disease story in 2005 involved an outbreak of legionellosis in a long term care facility. This presented as a respiratory outbreak with escalating morbidity and mortality. Toronto Public Health worked with the long term care home, acute care leaders as well as provincial and federal health authorities from Canada and the U.S. to investigate and manage the outbreak. Collaboration with the Coroner's Office, laboratories and environmental health leaders led to the detection of *Legionella pneumophila* bacteria from the facility's cooling tower which matched the strain of bacteria isolated from victims of the disease. With a total of 134 cases (including 23 deaths) of legionellosis, Toronto experienced one of the largest known *Legionella* outbreaks in a long term care facility. When commenting on the progress made since SARS, *The Report of the Expert Panel on the Legionnaires' Disease Outbreak in the City of Toronto* stated: "...The system's response to the Legionnaires' outbreak was more organized, efficient and effective…".

There were several other key events and trends in disease reports. These include:

- An outbreak of *Salmonella enteritidis* PT 13 was linked to the consumption of mung bean sprouts from a local producer and distributor. Toronto and 31 other health units in Ontario were affected, with a total of 522 confirmed cases of salmonellosis associated with this outbreak across the province. This was the largest documented *Salmonella* outbreak related to mung bean sprouts.
- A cluster of cyclosporiasis was detected among a Toronto group who attended a high school retreat in April 2005. Illness was linked with the consumption of a pasta salad containing fresh basil, which was believed to be the source of the parasite. The basil originated in a Central American country, underscoring the concerns associated with the globalization of our food supply.
- Increased reports of pertussis were recorded, reaching the highest level since current electronic records were maintained (1991). This increase was related to an outbreak that began in November 2005. There were 177 cases reported in 2005, most of whom were previously vaccinated. The median age of cases was 3 years, lower than in previous years. Increased testing and the concurrent use of a more sensitive PCR test may explain some of the increase.
- As observed in other cities, the number of West Nile virus cases fluctuates from year to year. The number of cases increased to 38 cases in 2005, after only 6 cases reported in 2004.
- While the overall reported HIV incidence rate for Toronto fell for the third consecutive year, specific groups (e.g. males 20 to 24 years) recorded large increases in their rates, underscoring the need for continued vigilance and targeted programs.
- Female rates of chlamydia remained steady, while rates for males continued to creep up for the 9th consecutive year and increased another 7.3% from 2004.
- The infectious syphilis outbreak primarily affecting men who have sex with men (MSM) that began in 2002 showed signs of abating. Case numbers decreased 35% from the previous year.
- 2005 was the first full year of publicly-funded vaccine for chickenpox in Ontario. The number of chickenpox cases reported declined in 2005 to levels similar to those before 2004.

- There were no cases of invasive meningococcal disease due to serogroup C reported in Toronto in 2005 for the first time since 1995. This coincides with the first year of the publicly-funded vaccine campaign for this disease in Ontario which targeted 15 to 20 year olds.

Other communicable disease events that marked 2005 include the implementation of the long-awaited new provincial information system, the integrated Public Health Information System (iPHIS). This replaced the aging Reportable Disease Information System (RDIS). Lack of access to real-time data stored in a province-wide database was seen as a significant hindrance to the investigation and control of the SARS outbreak in 2003. The introduction of iPHIS as the provincially mandated case management and reporting system was an important step in improving the prevention and control of communicable diseases. However, much work remains to be done before we realize a communicable disease information system with both strong case management and surveillance capabilities. It is with great hope that we work with the Province of Ontario to prepare for transition from iPHIS to a Pan-Canadian communicable disease surveillance and management system over the next few years. ❑

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Introduction to Report

This report updates previous annual summaries of reportable communicable diseases for the City of Toronto with 2005 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 2005* 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 foundation of this report. The arduous task of reconciling two disparate information systems for Toronto's extensive communicable disease records caused a delay in the release of these data. Given the ongoing complexities associated with extracting data from iPHIS, subsequent annual report information will be presented in a different format to facilitate a more timely release.

Information in this report is presented in a manner that builds upon the previous three 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 previously used has been retained. Graphs and tables are updated with 2005 case data and key observations for 2005 trends are highlighted for each disease. Rare diseases are 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 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 (2005, most recent previous 5-year mean for 2000-2004, and overall previous 10-year mean for 1995-2004).

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 2005 data and highlights the significance of any changes from the previous year. Key observations and notable changes in trends for each disease are mentioned in a style consistent with past reports. 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 – Toronto cases) by the population in the rest of Ontario (Ontario population – Toronto population) multiplied by 100.

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 (2005). 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 1995 (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 1995 to 2005 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, risk settings and source of infection: Where applicable, the proportion of cases reporting specific risk factors, sources of infection, and risk settings was presented. Categories used are those available in RDIS, which vary by disease and time period. Additional risk factors captured in iPHIS and not in RDIS have been classified as 'Other'. In some circumstances, which have been noted, categories were combined.

Month: Where applicable, the number of cases that occurred during each month of 2005, compared to the previous 10-year (1995-2004 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, antibiotic resistance, and medical surveillance numbers were included. ❑

Table 1.0: Number and proportion of cases for all reportable diseases by ranking. Toronto, 2005

Ranking	Reportable disease	Number of cases	Proportion of cases (%)
1	Chlamydia	6497	30
2	Chickenpox	3668	17
3	Gonorrhea	1659	8
4	Hepatitis B carriers	1469	7
5	Hepatitis C	1165	5
6	*Campylobacter* enteritis	997	5
7	Hepatitis B unclassified reports	852	4
8	Salmonellosis	686	3
9	HIV	555	3
10	Giardiasis	547	3
11	Influenza*	517	2
12	Syphilis, late latent	484	2
13	Amebiasis	376	2
14	Tuberculosis	344	2
15	Syphilis, infectious	250	1
16	*Streptococcus pneumoniae*, invasive	216	1
17	Pertussis	177	<1
18	Yersiniosis	117	<1
19	Shigellosis	100	<1
20	Malaria	90	<1
21	Streptococcal disease, Group A invasive	72	<1
22	Encephalitis/meningitis: viral	55	<1
23	Legionellosis	53	<1
24	Cryptosporidiosis	52	<1
25	Cyclosporiasis	48	<1
25	Hepatitis A	48	<1
27	West Nile Virus	38	<1
28	Hepatitis B cases	34	<1
28	Verotoxin-producing *E. coli* infection	34	<1
30	Typhoid fever	23	<1
31	Lyme disease	13	<1
31	Paratyphoid fever	13	<1
33	Streptococcal disease, Group B neonatal	12	<1
34	Syphilis, other†	11	<1
35	Listeriosis	10	<1
36	Encephalitis/meningitis: unclassified	7	<1
36	Mumps	7	<1
38	Encephalitis/meningitis: other	6	<1
39	Hepatitis D	5	<1
40	Encephalitis/meningitis: bacterial	4	<1
40	Rubella	4	<1
42	Brucellosis	3	<1
42	Cytomegalovirus infection, congenital	3	<1
42	Meningococcal disease, invasive	3	<1
45	Herpes, neonatal	1	<1
45	Leprosy	1	<1
45	Measles	1	<1
	Total	**21327**	**100**

* Seasonal year from July to June (e.g. 2005/06 includes cases from July 1, 2005 to June 30, 2006).

†Excludes infectious, late latent and congenital syphilis.

Communicable diseases without any reported activity in 2005 were not included in this table. These include: anthrax, botulism, chancroid, cholera, diphtheria, hantavirus, *Haemophilus influenzae* b, haemorrhagic fevers, lassa fever, ophthalmia neonatorum, plague, poliomyelitis, psittacosis/ornithosis, Q fever, rabies, rubella-congenital syndrome, severe acute respiratory syndrome (SARS), smallpox, syphilis-congenital, transmissible spongiform encephalopathies, tetanus, trichinosis, tularemia, and yellow fever.

Sexually Transmitted and Bloodborne Diseases

Communicable Diseases in Toronto

2005

Toronto Public Health

Sexually Transmitted and Bloodborne Diseases

This section focuses on 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. In 2005, chlamydia accounted for 50% of reports falling into this category. ❑

Table 1.1: Number and proportion of reported cases of sexually transmitted and bloodborne diseases. Toronto, 2005

Ranking	Reportable disease	Number of cases	Proportion of cases (%)
1	Chlamydia	6497	50
2	Gonorrhea	1659	13
3	Hepatitis B carriers	1469	11
4	Hepatitis C	1165	9
5	Hepatitis B unclassified reports*	852	7
6	HIV	555	4
7	Syphilis, late latent	484	4
8	Syphilis, infectious	250	2
9	Hepatitis B cases	34	<1
10	Syphilis, other†	11	<1
11	Hepatitis D	5	<1
12	Cytomegalovirus infection, congenital	3	<1
13	Herpes, neonatal	1	<1
-	AIDS‡	NA	NA
	Total	**12985**	**100**

Rare reportable diseases not summarized in this section include chancroid, syphilis congenital and ophthalmia neonatorum.

*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.

‡Due to discrepancies associated with data conversion from RDIS to iPHIS, AIDS data are not available for reporting.

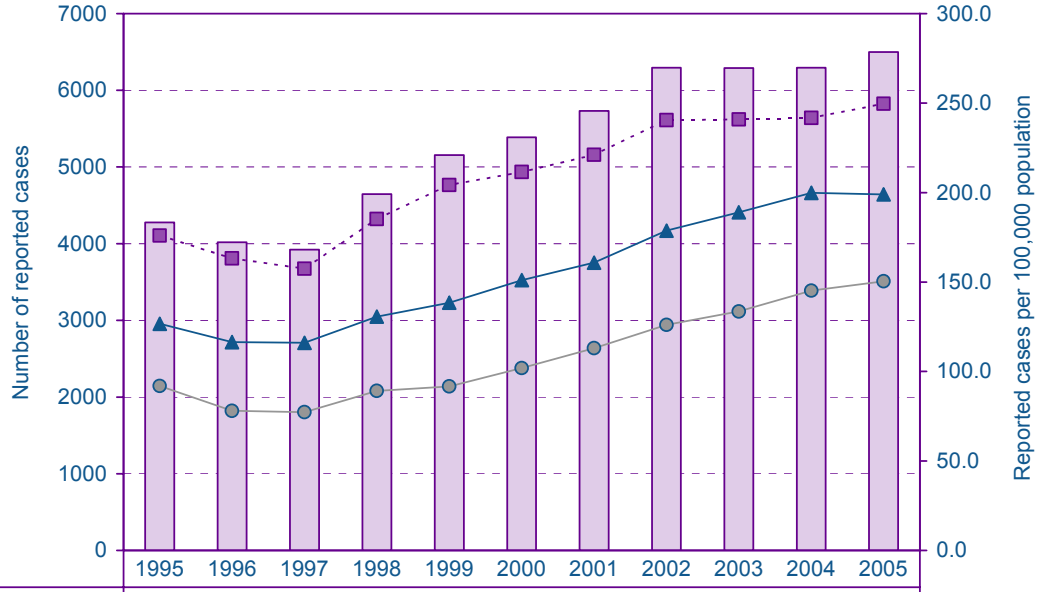
Chlamydia

Table 1.2: Chlamydia summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	6497	5999	5202
Incidence rate (per 100,000 population)			
Overall	249.6	231.2	204.9
Male	212.1	179.6	144.8
Female	285.0	280.2	261.8
Age at onset (years)	Summary Statistics		
Mean	27	26	26
Median	24	24	24
Range	<1 84	<1 80	<1 94

Highlights

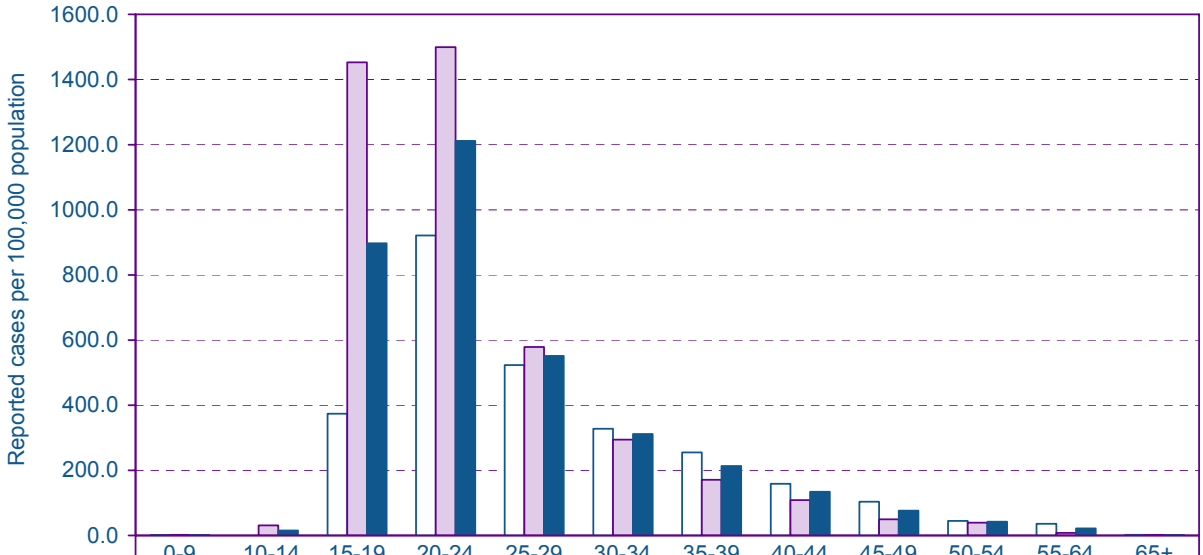
- Chlamydia continues to be the most frequently reported sexually transmitted infection (STI) and reportable disease in Toronto, accounting for 50% of all STI reports (Table 1.1) and 30% of all communicable disease reports (Table 1.0).
- In 2005, there were 6497 reported cases (249.6 cases per 100,000) of chlamydia. This represented an increase of 204 cases (3%) from the 2004 total of 6293 cases (Figure 1.1).
- Female rates of chlamydia continued to exceed male rate. However, since 2002 rates have remained steady among females while male rates continue to increase, further diminishing the gap between sexes (Figure 1.3).
- The incidence rate of chlamydia among males increased 7% from 197.7 cases per 100,000 in 2004 to 212.1 cases per 100,000 in 2005.
- Among the 5575 cases with a known risk factor in 2005, the most commonly reported risk factor for acquiring chlamydia was not using a condom or chemical barrier (89%) (Table 1.3).
- In Toronto, eight probable and 21 confirmed cases of lymphogranuloma venereum (LGV) were reported in 2005. Toronto cases accounted for 100% and 52% of all LGV cases reported in Ontario (N=29) and Canada (N=56), respectively. Among the 20 LGV cases with known HIV status, 80% (n=16) were co-infected with HIV. LGV is a systemic sexually transmitted infection caused by strains of the bacterium *Chlamydia trachomatis* (immunotypes L-1, L-2, L-3). Although rare in industrialized countries, an outbreak among men who have sex with men (MSM) in the Netherlands began in 2003 and cases have since been reported in several European and North American cities.

Figure 1.1: Incidence of chlamydia by year.
Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	4278	4018	3923	4646	5157	5385	5732	6294	6290	6293	6497
Toronto rates	176.0	163.2	157.5	185.2	204.2	211.5	221.1	240.5	240.8	241.7	249.6
Ontario less Toronto rates	91.9	78.0	77.3	89.1	91.7	101.9	113.0	126.0	133.5	145.2	150.5
Canada rates	126.7	116.4	116.1	130.7	138.4	151.1	160.8	178.7	188.9	199.8	198.9

Figure 1.2: Incidence of chlamydia by age group and sex*.
Toronto, 2005



	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	0.7	0.0	373.8	920.9	523.3	328.1	255.1	158.9	103.7	44.6	36.0	2.0
Female rates	0.7	30.8	1452.7	1499.5	578.4	294.4	171.2	108.3	49.7	39.3	7.7	1.0
Overall rates	0.7	14.9	897.0	1211.8	551.4	311.2	213.4	133.7	76.1	41.8	21.0	1.4
Male cases	1	0	283	825	570	383	279	173	96	35	42	3
Female cases	1	22	1030	1353	657	345	185	117	48	34	10	2

*The age of three cases and sex of one case was not reported.

Figure 1.3: Incidence rates of chlamydia by sex and year. Toronto, 1995 - 2005

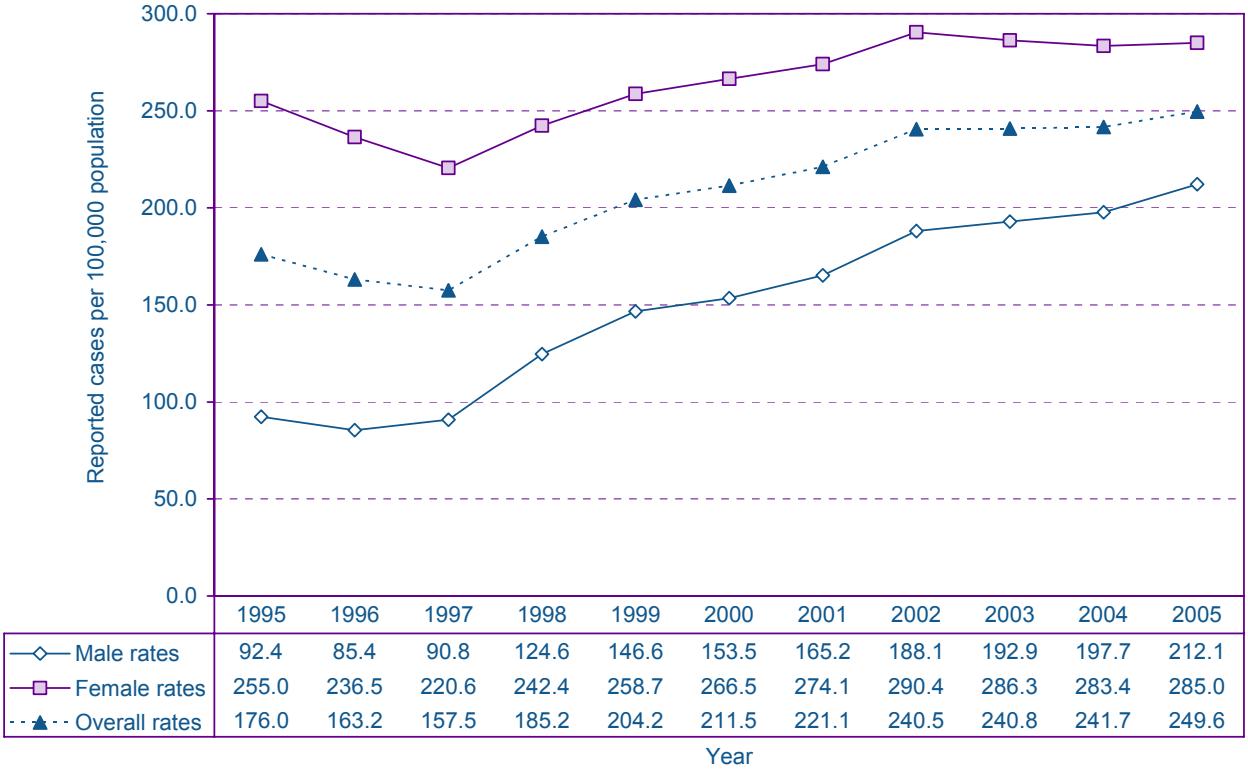


Table 1.3: Risk factors for reported cases of chlamydia by sex*. Toronto, 2005

Reported risk factor	Number of cases† (%)					
	Male		Female		Overall	
No condom or chemical barrier used	1974	(86)	2964	(90)	4939	(89)
New partner in past 2 months	371	(16)	285	(9)	657	(12)
Multiple sexual partners	424	(19)	199	(6)	624	(11)
Sexual contact of a confirmed case	251	(11)	146	(4)	397	(7)
Condom breakage	159	(7)	176	(5)	336	(6)
Homosexual/bisexual	240	(11)	0	(0)	240	(4)
Travel	111	(5)	74	(2)	185	(3)
Partner visiting from outside province/country	18	(<1)	58	(2)	76	(1)
Judgement impaired by alcohol/drugs	25	(1)	17	(<1)	42	(<1)
Homeless	15	(<1)	23	(<1)	38	(<1)
Sex trade worker	10	(<1)	5	(<1)	15	(<1)
Sex for drugs	0	(0)	1	(<1)	1	(<1)
Other	122	(5)	131	(4)	253	(5)
Total with a known risk factor	**2285**		**3288**		**5575**	
Number missing or unknown	405		516		922	
Total cases	**2690**		**3804**		**6497**	

*The sex of three cases was not reported.

†Cases may report more than one risk factor. Risk factors for 65 cases were treated as missing due to multiple STI reports recorded in iPHIS. See technical notes on page 183.

Gonorrhea

Table 1.4: Gonorrhea summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	1659	1776	1630
Incidence rate (per 100,000 population)			
Overall	63.7	68.4	64.2
Male	91.1	94.0	85.1
Female	37.5	44.1	44.3
Age at onset (years)	Summary statistics		
Mean	30	28	28
Median	27	26	25
Range	13 78	<1 85	<1 85

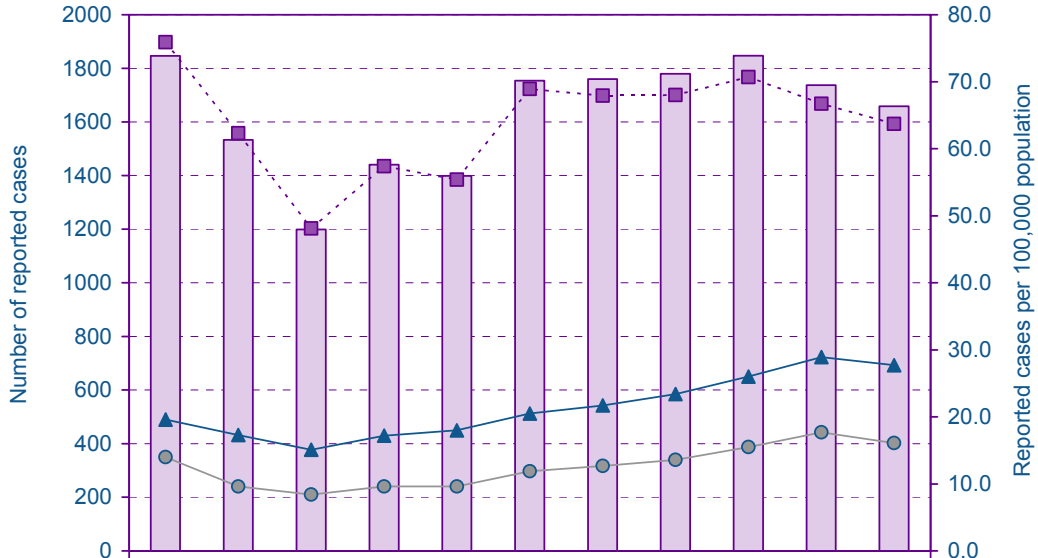
Highlights

- In 2005, there were 1659 reported cases (63.7 cases per 100,000) of gonorrhea. This represented a decrease of 78 cases (4%) from the 2004 total of 1737 cases. (Figure 1.4). The decline in gonorrhea incidence is consistent with a decreased rates observed in the rest of Ontario and Canada in 2005.

- Gonorrhea was reported more frequently in males who accounted for 70% (n=1156) of all cases in 2005. Both male and female rates of gonorrhea declined in 2005 (Figure 1.6). Although women are more likely to be screened routinely for gonorrhea, symptoms occur more commonly in infected males, which may lead them to seek medical care and diagnosis.

- Among the 1359 cases with a known risk factor in 2005, the most commonly reported risk factor for acquiring gonorrhea was not using a condom or chemical barrier (84%) (Table 1.5).

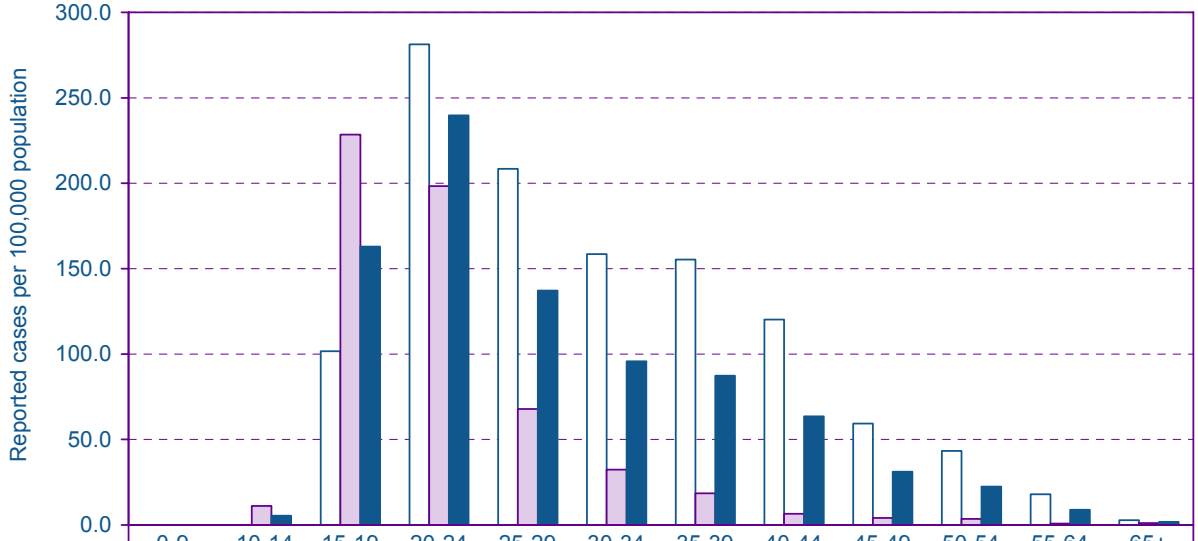
Figure 1.4: Incidence of gonorrhea by year.
Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	1846	1533	1199	1441	1399	1754	1760	1780	1847	1737	1659
Toronto rates	75.9	62.3	48.1	57.4	55.4	68.9	67.9	68.0	70.7	66.7	63.7
Ontario less Toronto rates	14.0	9.6	8.4	9.6	9.6	11.9	12.7	13.6	15.5	17.7	16.1
Canada rates	19.6	17.3	15.1	17.2	18.0	20.5	21.7	23.4	26.0	28.9	27.7

Year

Figure 1.5: Incidence of gonorrhea by age group and sex*.
Toronto, 2005



	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	101.7	281.3	208.4	158.5	155.4	120.3	59.4	43.3	18.0	2.7
Female rates	0.0	11.2	228.5	198.4	67.8	32.4	18.5	6.5	4.1	3.5	0.8	1.0
Overall rates	0.0	5.4	163.0	239.7	137.1	95.8	87.4	63.6	31.2	22.4	8.9	1.7
Male cases	0	0	77	252	227	185	170	131	55	34	21	4
Female cases	0	8	162	179	77	38	20	7	4	3	1	2

*The sex of two cases was not reported.

Age group (years)

Figure 1.6: Incidence rates of gonorrhea by sex and year. Toronto, 1995 - 2005

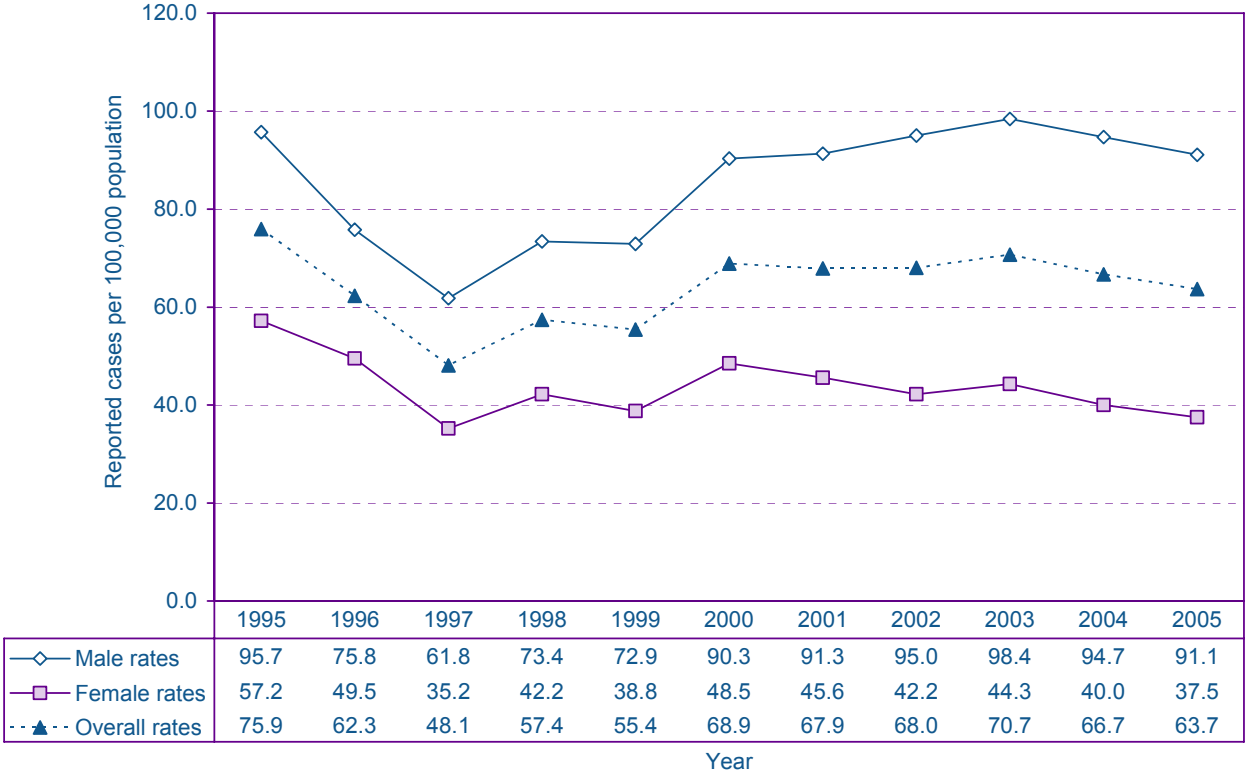


Table 1.5: Risk factors for reported cases of gonorrhea by sex*. Toronto, 2005

Reported risk factor	Number of cases† (%)					
	Male		Female		Overall	
No condom or chemical barrier used	792	(83)	350	(86)	1143	(84)
Multiple sexual partners	324	(34)	34	(8)	358	(26)
Homosexual/bisexual	324	(34)	0	(0)	324	(24)
New partner in past 2 months	245	(26)	49	(12)	294	(22)
Condom breakage	76	(8)	23	(6)	99	(7)
Sexual contact of a confirmed case	52	(5)	25	(6)	77	(6)
Travel	34	(4)	10	(2)	44	(3)
Homeless	19	(2)	10	(2)	29	(2)
Judgement impaired by alcohol/drugs	16	(2)	8	(2)	24	(2)
Sex trade worker	14	(1)	5	(1)	19	(1)
Partner visiting from outside province/country	8	(<1)	2	(<1)	10	(<1)
Sex for drugs	1	(<1)	2	(<1)	3	(<1)
Other	103	(11)	30	(7)	134	(10)
Total with a known risk factor	**950**		**407**		**1359**	
Number missing or unknown	206		94		300	
Total cases	**1156**		**501**		**1659**	

*The sex of two cases was not reported.

†Cases may report more than one risk factor. Risk factors for 29 cases were treated as missing due to multiple STI reports recorded in iPHIS. See technical notes on page 183.

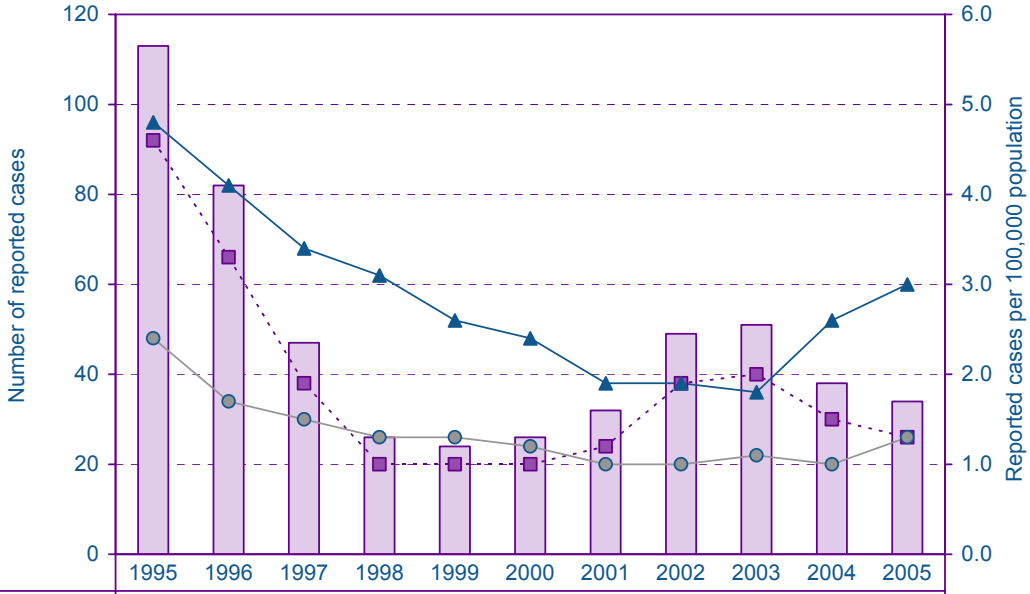
Hepatitis B

Table 1.6: Hepatitis B summary data Toronto						
	2005		5-yr period 2000-2004		10-yr period 1995-2004	
	Total		Means			
	Cases	Carriers	Cases	Carriers	Cases	Carriers
Number of reports	34	1469	39	2120	49	2247
Incidence rate (per 100,000 population)						
Overall	1.3	56.4	1.5	81.7	1.9	88.5
Male	2.0	61.0	2.1	89.8	2.6	97.3
Female	0.6	51.5	1.0	73.0	1.3	78.4
Age at onset (years)	Summary statistics					
Mean	40	38	38	38	37	38
Median	36	35	37	35	35	36
Range	20 - 76	1 - 94	<1 - 85	<1 - 100	<1 - 88	<1 - 100

Highlights

- In 2005, there were 34 reported cases (1.3 cases per 100,000) of acute hepatitis B. This represented a decrease of four (11%) cases from the 2004 total of 38 cases (Figure 1.7).
- There were 1469 hepatitis B carriers and 852 unclassified hepatitis B reports in 2005 (Figure 1.9). Unclassified hepatitis B reports are clients whose laboratory results indicate hepatitis B infection but are lacking sufficient evidence to be classified as cases or carriers. These unclassified case are most likely carriers.
- Acute hepatitis B was reported more frequently in males who accounted for 76% (n=26) of all cases in 2005.
- In 2005, travel to or living in an endemic area (63%) was the most commonly reported risk factor for all acute hepatitis B cases (Table 1.7). Sexual activity with a same sex partner (43%) was the second most commonly reported risk factor among males.

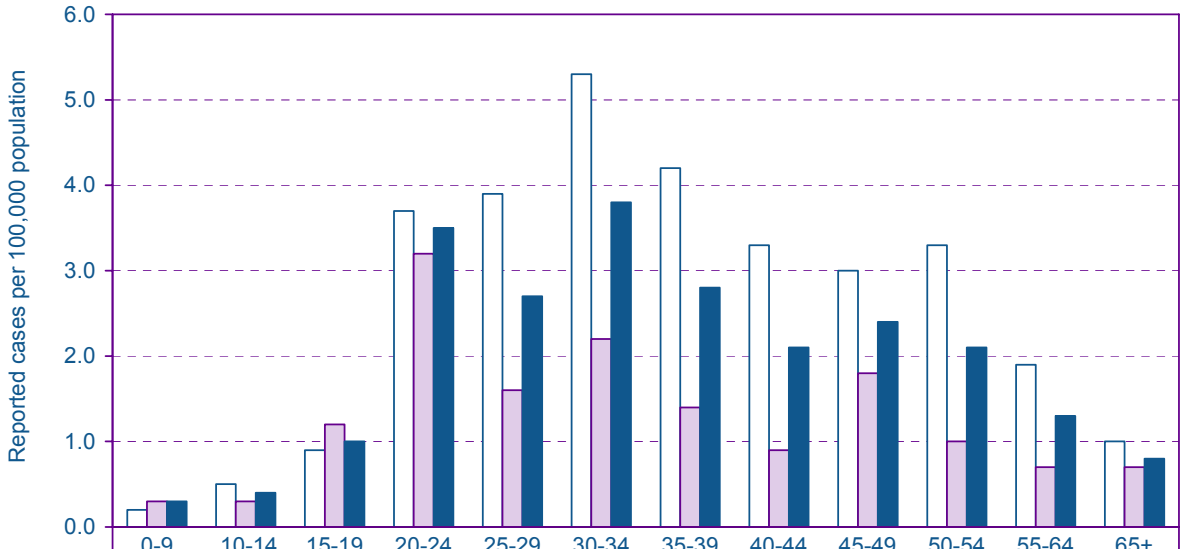
Figure 1.7: Incidence of acute hepatitis B by year.
Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	113	82	47	26	24	26	32	49	51	38	34
Toronto rates	4.6	3.3	1.9	1	1	1	1.2	1.9	2	1.5	1.3
Ontario less Toronto rates	2.4	1.7	1.5	1.3	1.3	1.2	1	1	1.1	1	1.3
Canada rates	4.8	4.1	3.4	3.1	2.6	2.4	1.9	1.9	1.8	2.6	3

Year

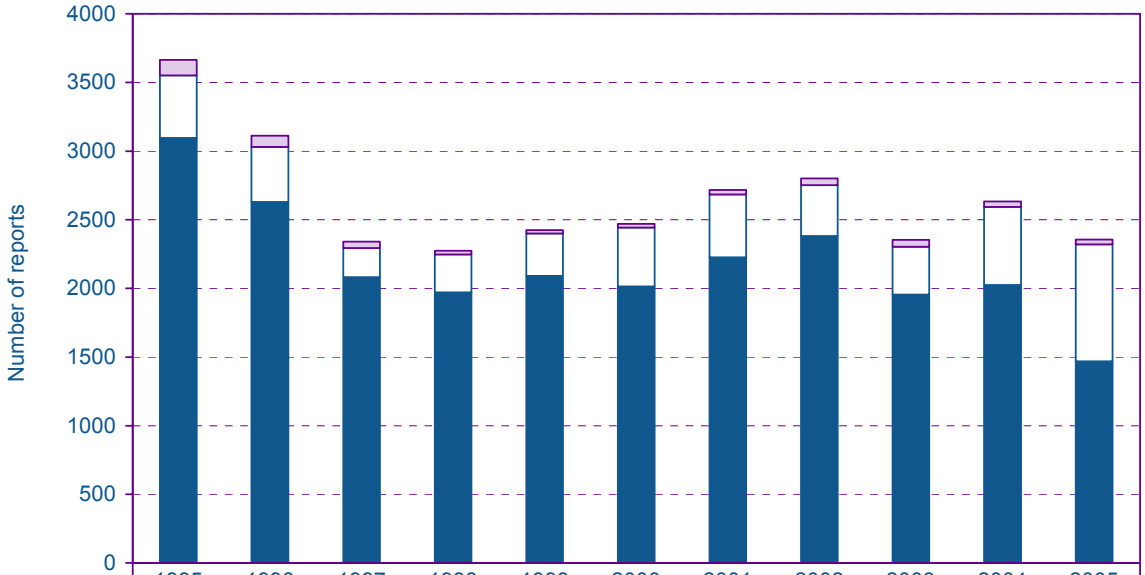
Figure 1.8: Incidence of acute hepatitis B by age group and sex.
Toronto, 1995 - 2005 combined



	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	0.5	0.9	3.7	3.9	5.3	4.2	3.3	3	3.3	1.9	1
Female rates	0.3	0.3	1.2	3.2	1.6	2.2	1.4	0.9	1.8	1	0.7	0.7
Overall rates	0.3	0.4	1	3.5	2.7	3.8	2.8	2.1	2.4	2.1	1.3	0.8
Male cases	4	4	7	36	47	70	52	36	28	26	23	15
Female cases	5	2	9	31	20	29	17	10	18	9	9	15

Age group (years)

Figure 1.9: Number of hepatitis B cases, carriers and unclassified reports* by year. Toronto, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Cases	113	82	47	26	24	26	32	49	51	38	34
Unclassified reports	456	401	212	278	307	429	458	370	349	570	852
Carriers	3096	2629	2082	1970	2092	2015	2227	2381	1954	2024	1469

*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, 2005

Reported risk factor	Number of cases* (%)					
	Male		Female		Overall	
Travel to or living in an endemic area	9	(64)	1	(50)	10	(63)
Homosexual/bisexual	6	(43)	0	(0)	6	(38)
Multiple sexual partners	4	(29)	0	(0)	4	(25)
No condom or chemical barrier used	4	(29)	0	(0)	4	(25)
Sexual contact of a confirmed case	3	(21)	0	(0)	3	(19)
Other	2	(14)	1	(50)	3	(19)
Total with a known risk factor	**14**		**2**		**16**	
Number missing or unknown	12		6		18	
Total cases	**26**		**8**		**34**	

*Cases may report more than one risk factor.

Hepatitis C

Table 1.8: Hepatitis C summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	1165	1430	1846
Incidence rate (per 100,000 population)			
Overall	44.8	55.1	72.7
Male	57.9	69.9	93.9
Female	32.0	40.2	51.7
Age at onset (years)	Summary statistics		
Mean	46	46	44
Median	45	45	42
Range	<1 92	<1 98	<1 110
Case fatality (%)	0.3	<0.1	0.2

Highlights

- In 2005, there were 1165 reported cases (44.8 cases per 100,000) of hepatitis C. This represented a decrease of 171 cases (13%) from the 2004 total of 1336 cases. The incidence rate for hepatitis C in 2005 was the lowest rate observed in the entire 11 year surveillance period (Figure 1.10).

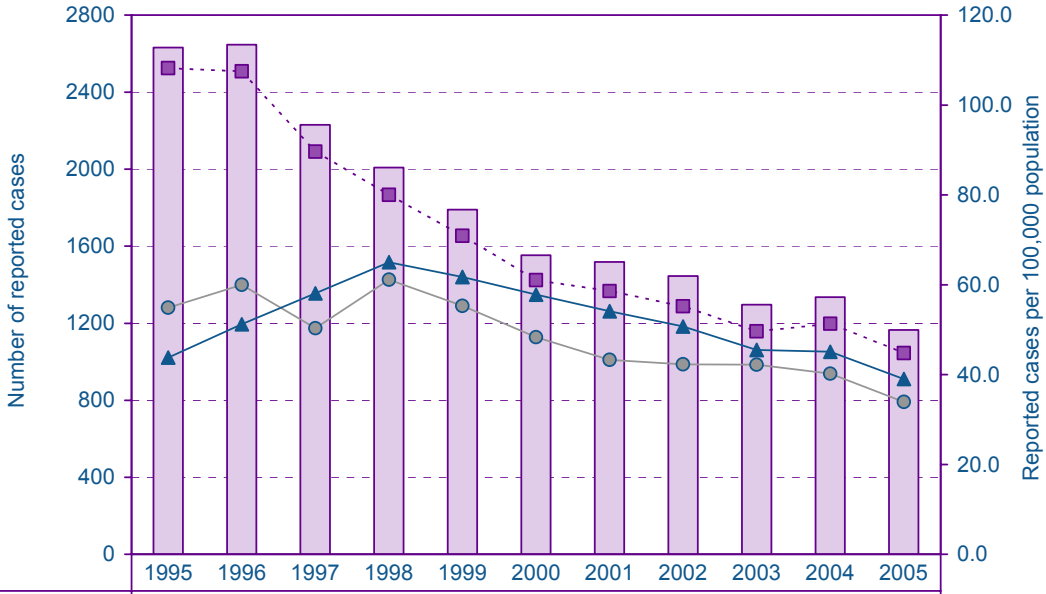
- Toronto's rate of incident hepatitis C exceeded the rate reported in the rest of Ontario in 2005 (Figure 1.10).

- The age group with the highest incidence rate was the 40 to 44 year age group (92.2 cases per 100,000) in 2005 (Figure 1.11).

- Male rates of hepatitis C continued to exceed female rates in all age groups except 0 to 9 and 10 to 19 years old (Figure 1.11). Hepatitis C rates for both females and males decreased in 2005 compared to 2004 (Figure 1.12).

- Among the 621 cases with a known risk factor in 2005, the most commonly reported risk factor for acquiring hepatitis C was injection drug use (47%). Tattoo/acupuncture/earpiercing (24%) became the second most commonly reported risk factor in 2005 replacing the receipt of blood or blood products which was the second most commonly reported risk factor for cases in 2004 (17%) (Table 1.9).

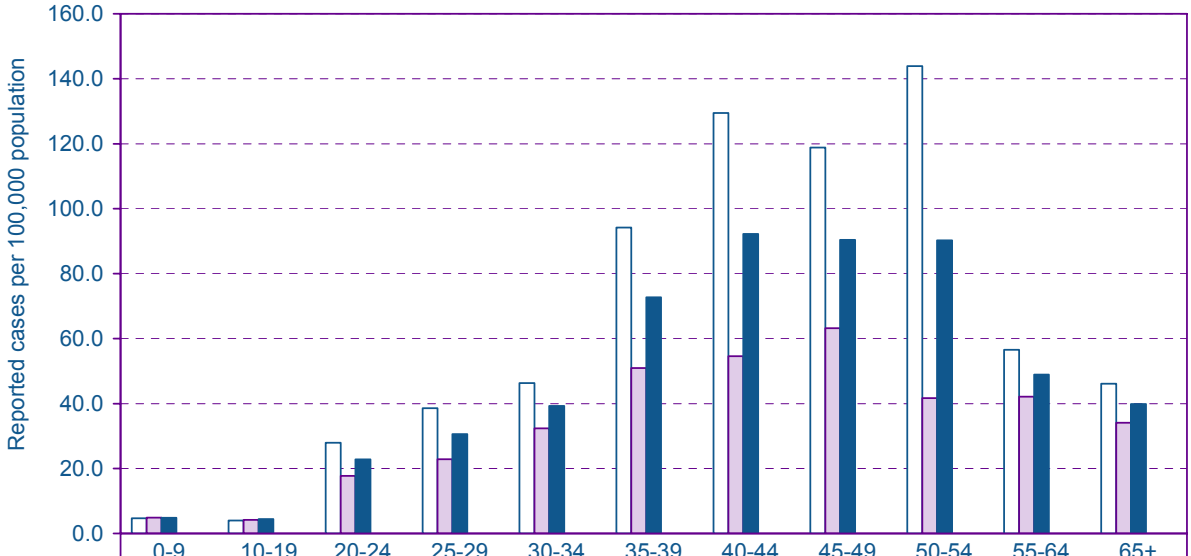
Figure 1.10: Incidence of hepatitis C by year. Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	2631	2647	2231	2008	1790	1553	1518	1445	1296	1336	1165
Toronto rates	108.2	107.5	89.6	80.0	70.9	61.0	58.6	55.2	49.6	51.3	44.8
Ontario less Toronto rates	54.9	60.0	50.3	61.1	55.3	48.3	43.3	42.3	42.2	40.2	33.9
Canada rates	43.8	51.2	58.1	65.0	61.7	57.8	54.1	50.7	45.5	45.1	39.0

Year

Figure 1.11: Incidence of hepatitis C by age group and sex*. Toronto, 2005



	0-9	10-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-64	65+
Male rates	4.7	4.0	27.9	38.6	46.3	94.2	129.5	118.8	143.9	56.6	46.1
Female rates	4.9	4.2	17.7	22.9	32.4	50.9	54.6	63.2	41.7	42.1	34.1
Overall rates	4.8	4.4	22.8	30.6	39.3	72.7	92.2	90.4	90.3	48.9	39.8
Male cases	7	6	25	42	54	103	141	110	113	66	68
Female cases	7	6	16	26	38	55	59	61	36	55	68

*The sex of three cass was not reported.

Year

Figure 1.12: Incidence rates of hepatitis C by sex and year. Toronto, 1995 - 2005

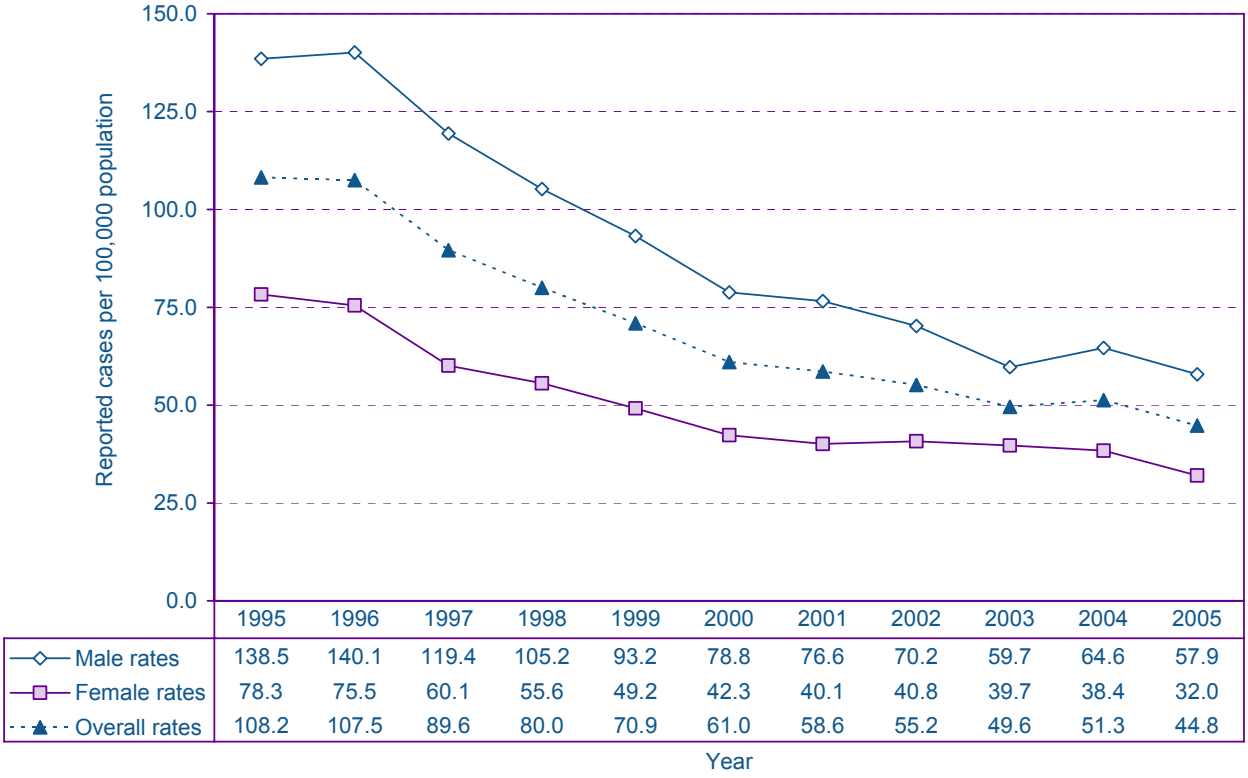


Table 1.9: Risk factors for reported cases of hepatitis C by sex*. Toronto, 2005

Reported risk factor	Number of cases† (%)					
	Male		Female		Overall	
Injection drug user	203	(51)	86	(39)	289	(47)
Tattoo/acupuncture/ear piercing	95	(24)	53	(24)	149	(24)
Recipient of blood or blood products‡	52	(13)	56	(25)	108	(17)
Multiple sexual partners	61	(15)	21	(9)	82	(13)
Sexual contact of a confirmed case	20	(5)	26	(12)	46	(7)
Travel	24	(6)	11	(5)	35	(6)
Homeless	29	(7)	3	(1)	32	(5)
Household contact of a case or carrier	12	(3)	11	(5)	23	(4)
No condom or chemical barrier used	11	(3)	7	(3)	18	(3)
Health care worker	6	(2)	7	(3)	13	(2)
Infant born to case or carrier	4	(1)	4	(2)	8	(1)
Other occupational exposure	2	(<1)	0	(<1)	2	(<1)
Dialysis	0	(<1)	1	(<1)	1	(<1)
Resident of facility for the developmentally disabled	1	(<1)	0	(<1)	1	(<1)
Other	60	(15)	44	(20)	104	(17)
Total with a known risk factor	**398**		**222**		**621**	
Number missing or unknown	337		205		544	
Total cases	**735**		**427**		**1165**	

*The sex of three cases was not reported. †Cases may report more than one risk factor.
‡Cases that reported recipient of blood or blood products as a risk factor were diagnosed but not infected with hepatitis C in 2005.

HIV

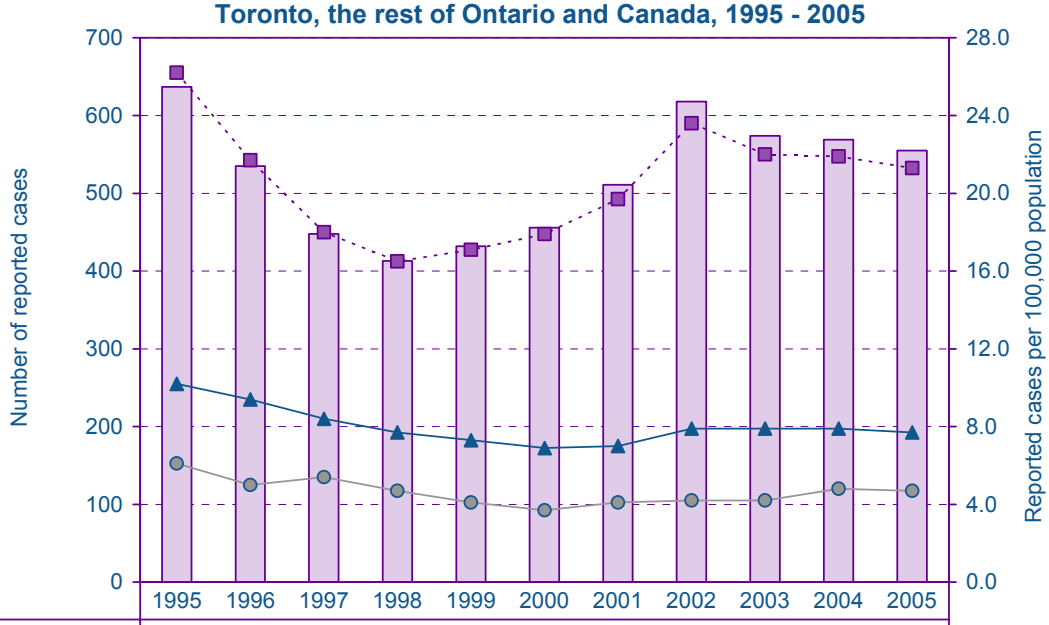
Table 1.10: HIV* summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Totals	Means	
Number of reported cases	555	546	519
Incidence rate (per 100,000 population)			
Overall	21.3	21.0	20.5
Male	35.5	33.6	34.3
Female	7.6	8.9	7.1
Age at onset (years)	Summary statistics		
Mean	37	36	36
Median	37	36	35
Range	12 78	<1 81	<1 81

*Due to discrepancies associated with data conversion from RDIS to iPHIS, AIDS data are not available for reporting.
See the Technical Notes section (page 183) on Data Limitations regarding the omission of AIDS data for 2005.

Highlights: HIV

- In 2005, there were 555 reported cases (21.3 cases per 100,000) of human immunodeficiency virus (HIV). This represented a decrease of 14 cases (2%) from the 2004 total of 569 cases and the third consecutive year of decline in the incidence rate (Figure 1.13).
- HIV continues to be more frequently reported in males who accounted for 81% (n=450) of all HIV cases in 2005. The HIV rate among males increased 4% from 34.2 cases per 100,000 in 2004 to 35.5 cases per 100,000 in 2005, while the HIV rate among females decreased 23% from 10.1 cases per 100,000 in 2004 to 7.6 cases per 100,000 in 2005.
- Among males, the largest increase in HIV occurred in those 20 to 24 years of age. In this age group, rates almost doubled from 27.9 cases per 100,000 in 2004 to 48.0 cases per 100,000 in 2005.
- Among the 412 male cases with a known risk factor in 2005, the most commonly reported risk factor for acquiring HIV was having sex with other men (74% in 2005 as compared with 79% in 2004). (Table 1.11).
- Among the 87 female cases with a known risk factor, the most commonly reported risk factors were living or travelling in an HIV-endemic country (59%) and heterosexual contact with a partner that has no identified risk (NIR-HET) (18%) (Table 1.11).
- There were no reported cases of perinatal transmission among children born in 2005.
- The proportion of HIV infections associated with endemic countries decreased from 21% in 2004 to 19% in 2005. The top three countries of origin for foreign-born HIV cases in 2005 were Zimbabwe, Ethiopia and Jamaica.

Figure 1.13: Incidence of HIV* infection by year. Toronto, the rest of Ontario and Canada, 1995 - 2005

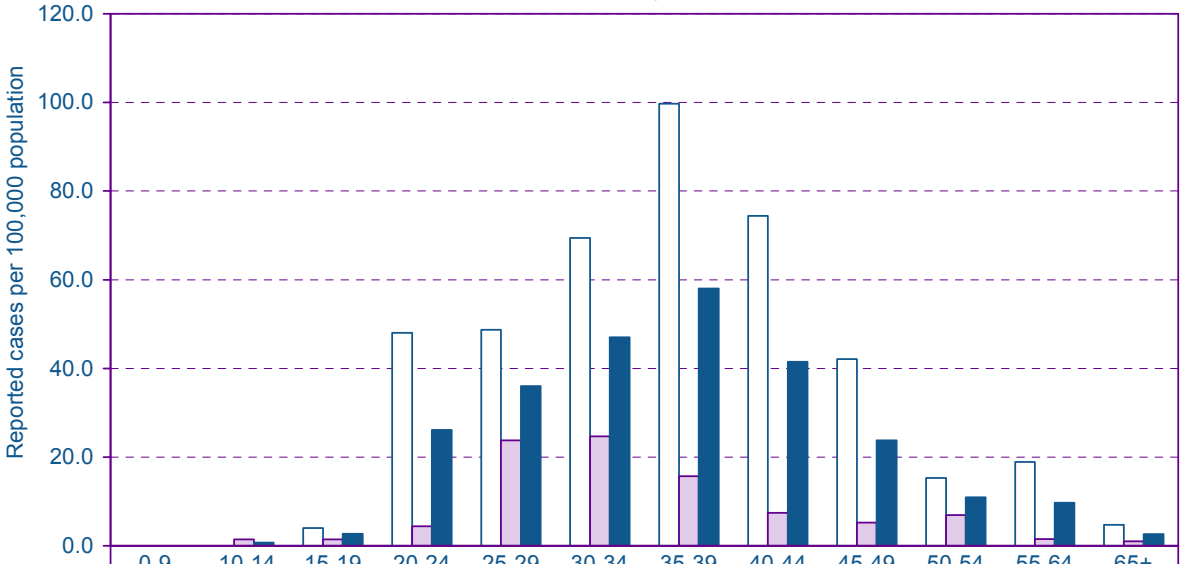


	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	637	535	448	413	432	456	511	618	574	569	555
Toronto rates	26.2	21.7	18.0	16.5	17.1	17.9	19.7	23.6	22.0	21.9	21.3
Ontario less Toronto rates	6.1	5.0	5.4	4.7	4.1	3.7	4.1	4.2	4.2	4.8	4.7
Canada rates	10.2	9.4	8.4	7.7	7.3	6.9	7.0	7.9	7.9	7.9	7.7

Year

*HIV reports have been counted by year of test for Ontario less Toronto and Canada rate calculations.

Figure 1.14: Incidence rates of HIV infection by age group and sex*. Toronto, 2005



	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	4.0	48.0	48.7	69.4	99.7	74.4	42.1	15.3	18.9	4.7
Female rates	0.0	1.4	1.4	4.4	23.8	24.7	15.7	7.4	5.2	6.9	1.5	1.0
Overall rates	0.0	0.7	2.7	26.1	36.0	47.0	58.0	41.5	23.8	10.9	9.7	2.6
Male cases	0	0	3	43	53	81	109	81	39	12	22	7
Female cases	0	1	1	4	27	29	17	8	5	6	2	2

Age group (years)

*The age of one case and sex for three cases was not reported.

Figure 1.15: Incidence rates of HIV infection by sex and year. Toronto, 1995 - 2005

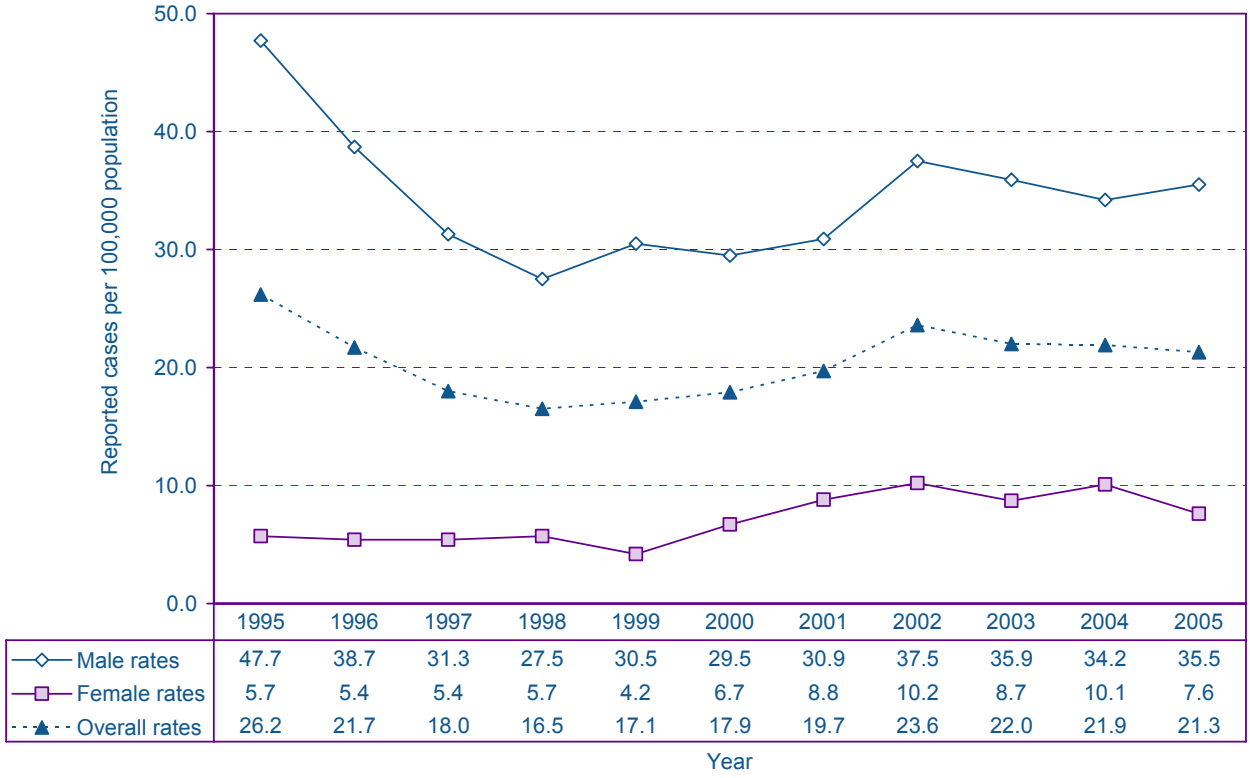


Table 1.11: Number and proportion of HIV-positive diagnoses by exposure category* and sex†. Toronto, 2005

Exposure category*	Number of cases‡ (%)					
	Male		Female		Overall	
MSM	303	(74)	-	-	303	(61)
MSM/IDU	4	(<1)	-	-	4	(<1)
IDU	10	(2)	7	(8)	17	(3)
Clotting factor/transfusion pre 1985	0	(0)	0	(0)	0	(0)
Clotting factor/transfusion post 1985§	0	(0)	1	(1)	1	(<1)
HIV-endemic	43	(10)	51	(59)	94	(19)
HET-partner	20	(5)	11	(13)	31	(6)
NIR-HET	26	(6)	16	(18)	42	(8)
Other	3	(<1)	1	(1)	4	(<1)
No identifiable risk	3	(<1)	0	(0)	3	(<1)
Total with a known exposure	**412**	**(100)**	**87**	**(100)**	**499**	**(100)**
Number missing or unknown	38		15		56	
Total cases	**450**		**102**		**555**	

*See the glossary for definitions of each exposure category.

†The sex for three cases was not reported.

‡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. Risk factors for five cases were treated as missing due to multiple STI reports recorded in iPHIS. See technical notes on page 183.

§The one case whose exposure to HIV occurred via a blood transfusion after 1985 received the transfusion outside of Canada.

Syphilis, infectious

(Primary, secondary and early latent syphilis)

Table 1.12: Infectious syphilis summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	250	194	118
Incidence rate (per 100,000 population)			
Overall	9.6	7.5	4.6
Male	18.9	14.5	8.5
Female	0.7	0.8	1.0
Age at onset (years)	Summary statistics		
Mean	38	38	38
Median	38	38	38
Range	17 72	15 72	15 73

Highlights

- In 2005, there were 250 reported cases (9.6 cases per 100,000) of infectious syphilis. This represented a decrease of 134 cases (35%) from the 2004 total of 384 cases (Figure 1.16). This marks the first year the rate of infectious syphilis has decreased since an outbreak began in 2002 among men who have sex with men (MSM). This decrease does not appear to be related to syphilis testing since recent data indicate a 1% increase in syphilis testing at the Toronto Public Health Laboratory from 2004 to 2005.

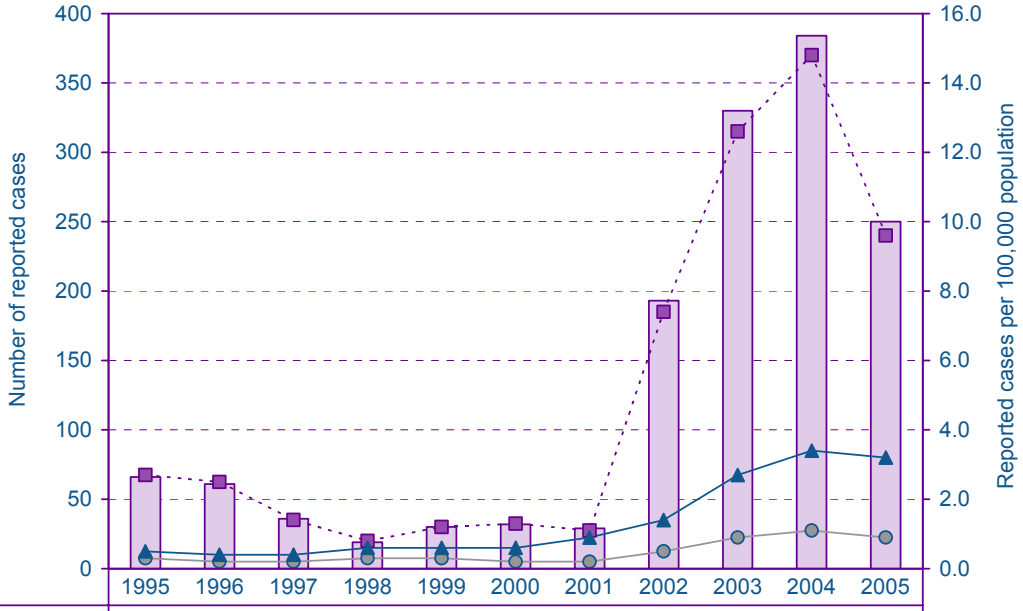
- Males continued to experience the highest burden of infectious syphilis, exceeding the incidence rates of females in all age groups (Figure 1.17), however, the gap between the sexes is narrowing (Figure 1.18). Age specific rates for males decreased from 2004 rates in all age groups except those 20 to 24 and 25 to 29 years of age.

- The majority (41%) of infectious syphilis cases were diagnosed during the secondary stage of syphilis (Figure 1.19).

- In 2005, 30% (n=74) of infectious syphilis cases were co-infected with HIV, which is the lowest level observed since the outbreak began in 2002 (Figure 1.20).

- Among the 204 cases with a known risk factor in 2005, the most commonly reported risk factor for acquiring infectious syphilis was not using a condom or chemical barrier (87%) (Table 1.13). The proportion of male infectious syphilis cases reporting sexual activity with a same sex partner as a risk factor for acquiring syphilis decreased from 79% in 2004 to 69% in 2005.

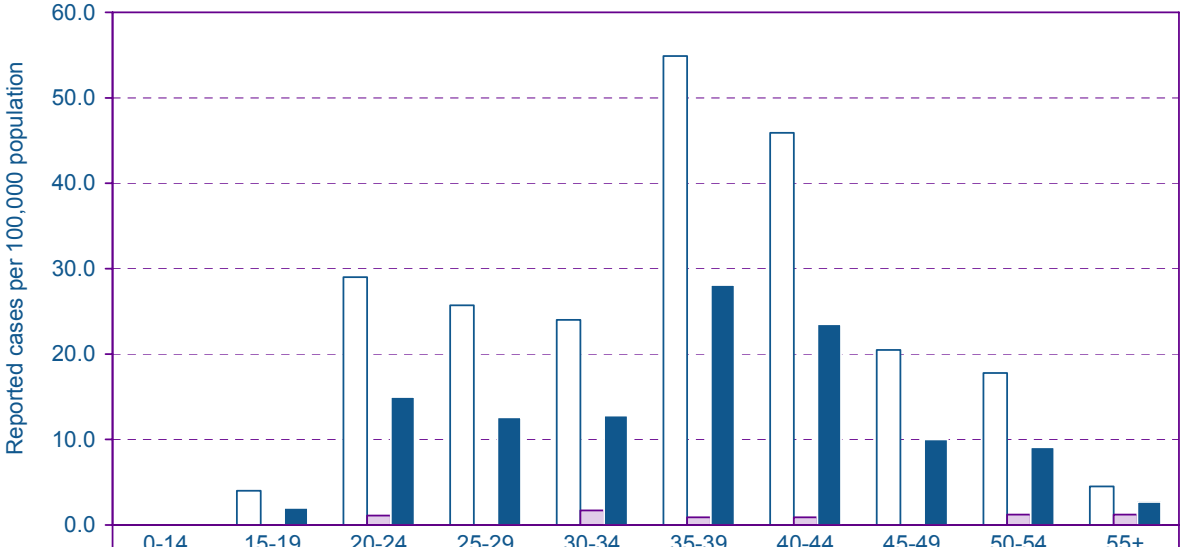
Figure 1.16: Incidence of infectious syphilis by year. Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	66	61	36	19	30	32	29	193	330	384	250
Toronto rates	2.7	2.5	1.4	0.8	1.2	1.3	1.1	7.4	12.6	14.8	9.6
Ontario less Toronto rates	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.5	0.9	1.1	0.9
Canada rates	0.5	0.4	0.4	0.6	0.6	0.6	0.9	1.4	2.7	3.4	3.2

Year

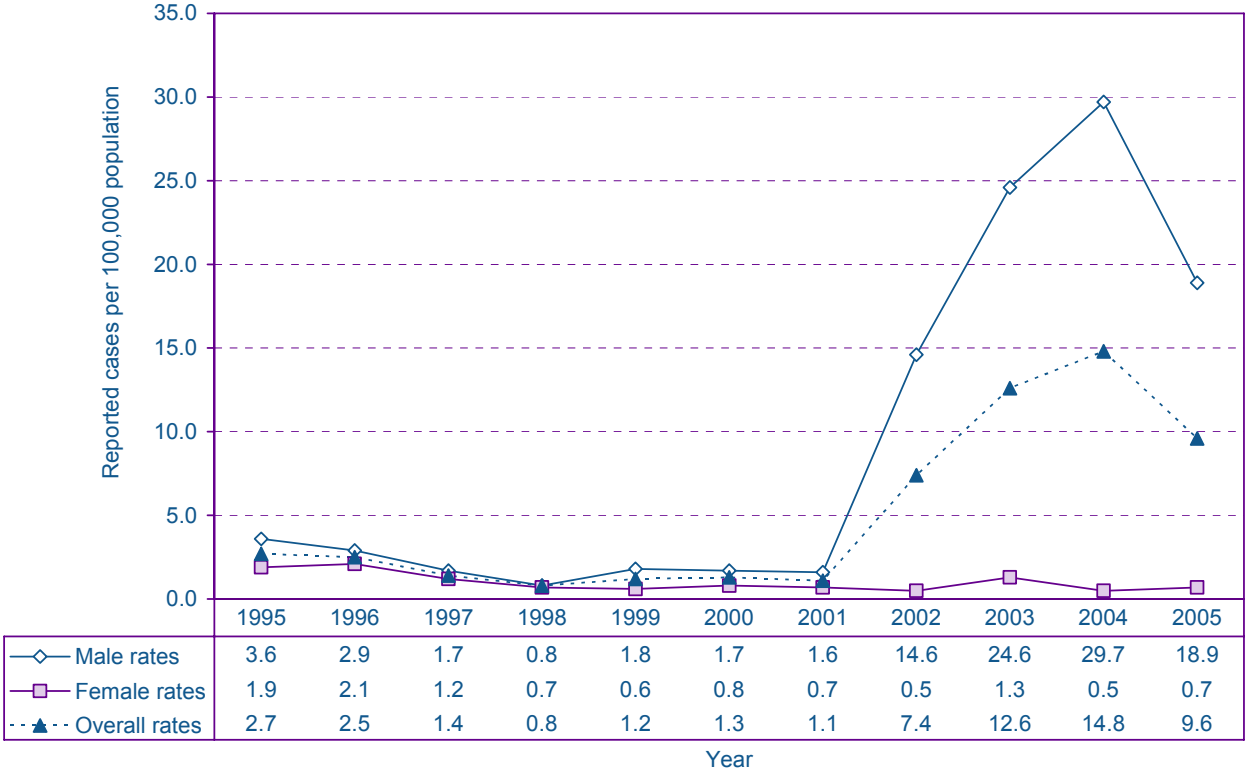
Figure 1.17: Incidence of infectious syphilis by age group and sex. Toronto, 2005



	0-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55+
Male rates	0.0	4.0	29.0	25.7	24.0	54.9	45.9	20.5	17.8	4.5
Female rates	0.0	0.0	1.1	0.0	1.7	0.9	0.9	0.0	1.2	1.2
Overall rates	0.0	2.0	15.0	12.6	12.8	28.1	23.5	10.0	9.1	2.7
Male cases	0	3	26	28	28	60	50	19	14	12
Female cases	0	0	1	0	2	1	1	0	1	4

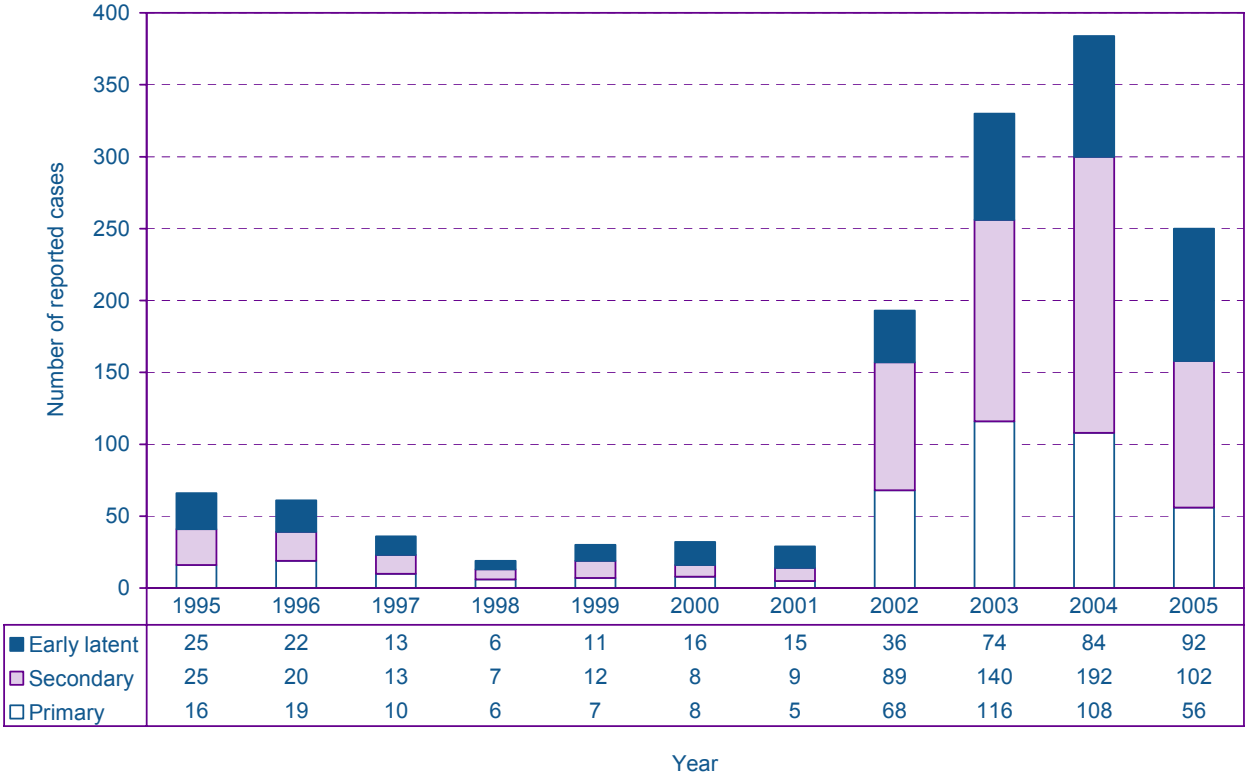
Age group (years)

Figure 1.18: Incidence rates of infectious syphilis by sex and year. Toronto, 1995 - 2005



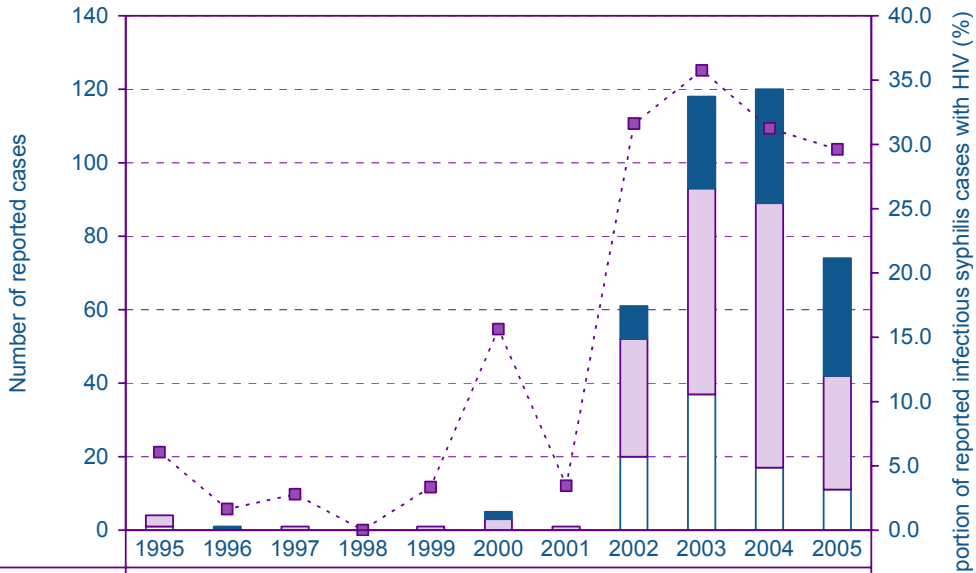
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Male rates	3.6	2.9	1.7	0.8	1.8	1.7	1.6	14.6	24.6	29.7	18.9
Female rates	1.9	2.1	1.2	0.7	0.6	0.8	0.7	0.5	1.3	0.5	0.7
Overall rates	2.7	2.5	1.4	0.8	1.2	1.3	1.1	7.4	12.6	14.8	9.6

Figure 1.19: Incidence of infectious syphilis by staging and year. Toronto, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Early latent	25	22	13	6	11	16	15	36	74	84	92
Secondary	25	20	13	7	12	8	9	89	140	192	102
Primary	16	19	10	6	7	8	5	68	116	108	56

Figure 1.20: Incidence of HIV and infectious syphilis co-infections by year. Toronto, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Early latent	0	1	0	0	0	2	0	9	25	31	32
Secondary	3	0	1	0	1	3	1	32	56	72	31
Primary	1	0	0	0	0	0	0	20	37	17	11
Proportion of reported infectious syphilis cases with HIV (%)	6	2	3	0	3	16	3	32	36	31	30

Table 1.13: Risk factors for reported cases of infectious syphilis by sex. Toronto, 2005

Reported risk factor	Number of cases* (%)					
	Male		Female		Overall	
No condom or chemical barrier used	168	(86)	9	(100)	177	(87)
Homosexual/bisexual	135	(69)	0	(0)	135	(66)
Multiple sexual partners	89	(46)	1	(11)	90	(44)
Sexual contact of a confirmed case	22	(11)	1	(11)	23	(11)
Sex trade worker	3	(2)	0	(0)	3	(1)
Genital ulcers	1	(<1)	0	(0)	1	(<1)
Other	114	(58)	0	(0)	114	(56)
Total with a known risk factor	**195**		**9**		**204**	
Number missing or unknown	45		1		46	
Total cases	**240**		**10**		**250**	

*Cases may report more than one risk factor. Risk factors for seven cases were treated as missing due to multiple STI reports recorded in iPHIS. See technical notes on page 183.

Syphilis, late latent

Table 1.14: Late latent syphilis summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	484	144	135
Incidence rate (per 100,000 population)			
Overall	18.6	5.5	5.3
Male	21.0	6.5	6.0
Female	16.3	4.6	4.6
Age at onset (years)	Summary statistics		
Mean	50	47	47
Median	48	44	43
Range	18 91	15 99	15 99

Highlights

- In 2005, there were 484 reported cases (18.6 cases per 100,000) of late latent syphilis. This represented an increase of 335 cases (225%) over the 2004 total of 149 cases (Figure 1.21). This is the highest incidence of late latent syphilis observed since 1989 (when electronic record keeping was implemented). Recent data indicate only a 1% increase in syphilis testing at the Toronto Public Health Laboratory from 2004 to 2005. However, in August 2005, more sensitive enzyme immunoassay (EIA) testing was introduced and would explain most of the increase in case reports.

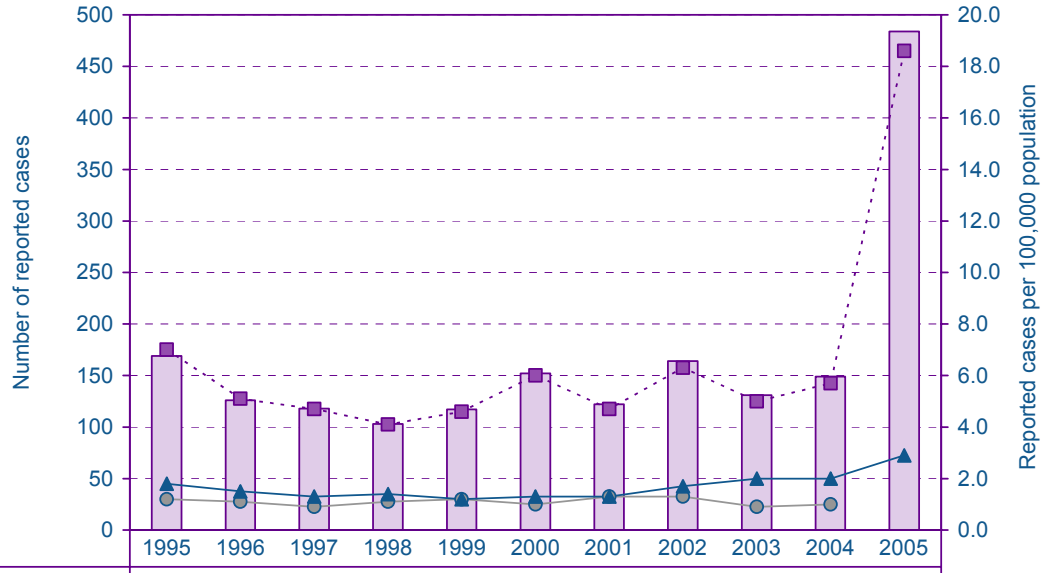
- For males and females respectively, late latent syphilis rates were three and five times higher in 2005 compared to 2004 (Figure 1.23). Sex-specific rates indicate that although male rates of late latent syphilis continue to exceed female rates, the gap between the sexes decreased in 2005 compared to 2004 (Figure 1.23). In 2005, female rates of late latent syphilis surpassed male rates in age groups 25 to 29 and 30 to 34 years (Figure 1.22). This may further reflect the use of a more sensitive lab test during routine pregnancy screening.

- Among males, the largest increases were observed in both age groups 40 to 44 and 65 years and older, where rates were four times higher than in 2004. Among females, the largest increases were observed in age groups 30 to 34 and 35 to 39 years, where rates were 20 and 18 times higher than in 2004.

- Following a peak in the proportion of HIV and late latent syphilis co-infected cases in 2004, the proportion of co-infected cases dropped to levels comparable to earlier years (Figure 1.24).

- Among the 304 late latent syphilis cases with a known risk factor in 2005, the most commonly reported risk factor for acquiring late latent syphilis was not using a condom or chemical barrier (81%) (Table 1.15). The proportion of cases that reported engaging in sexual activity with a same sex partner as a risk factor decreased from 32% in 2004 to 8% in 2005.

Figure 1.21: Incidence of late latent syphilis by year. Toronto, the rest of Ontario and Canada*, 1995 - 2005

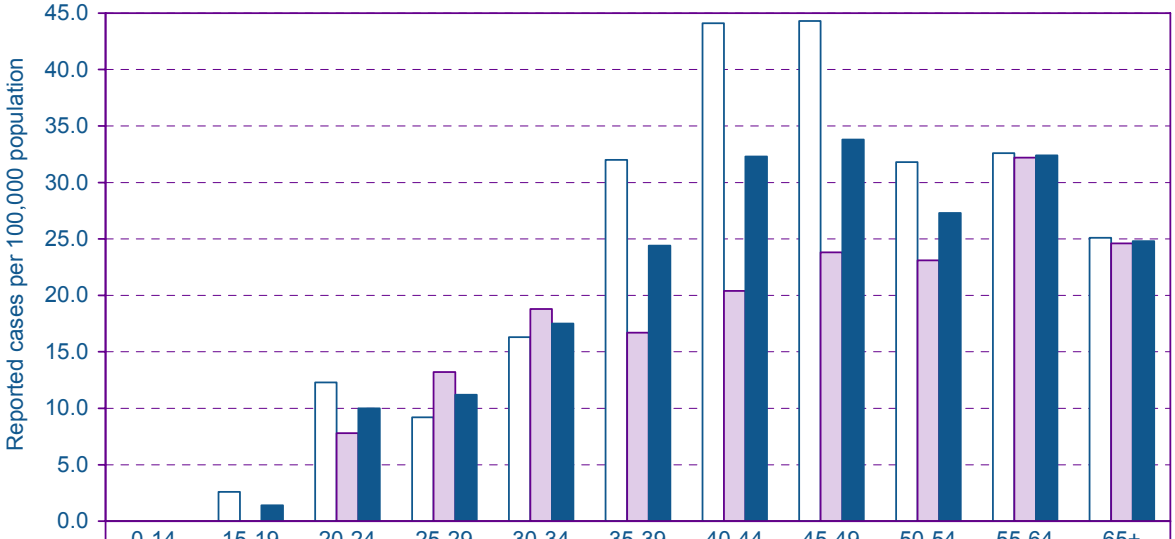


	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	169	126	118	103	117	152	122	164	131	149	484
Toronto rates	7.0	5.1	4.7	4.1	4.6	6.0	4.7	6.3	5.0	5.7	18.6
Ontario less Toronto rates	1.2	1.1	0.9	1.1	1.2	1.0	1.3	1.3	0.9	1.0	NA
Canada rates	1.8	1.5	1.3	1.4	1.2	1.3	1.3	1.7	2.0	2.0	2.9

Year

*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 are not available.

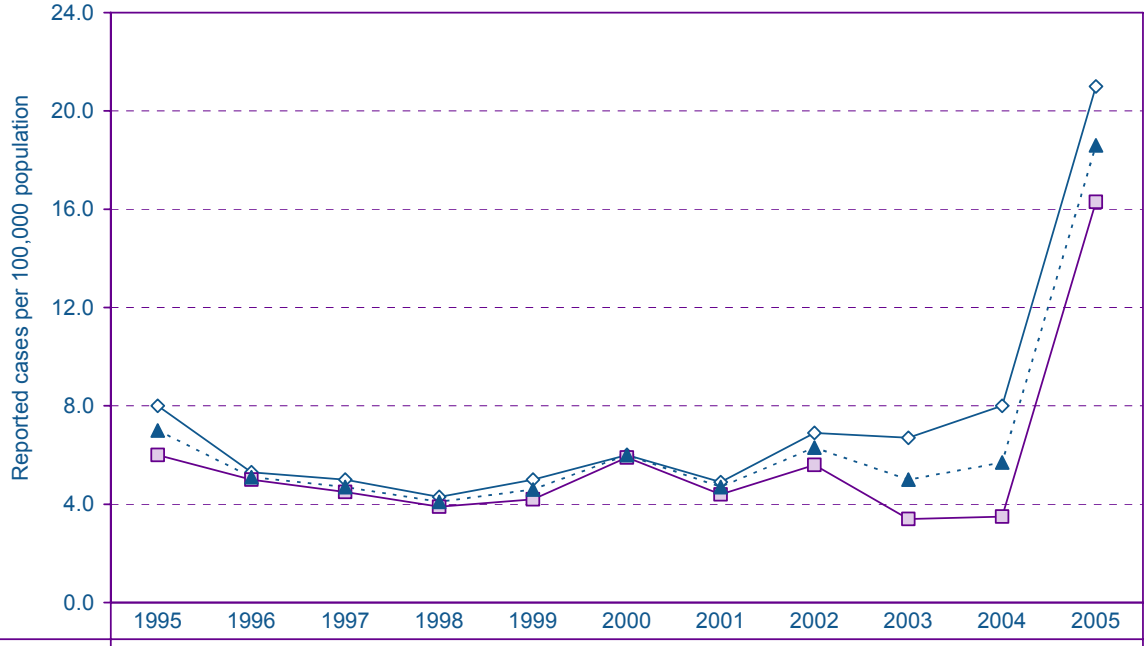
Figure 1.22: Incidence of late latent syphilis by age group and sex. Toronto, 2005



	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	2.6	12.3	9.2	16.3	32.0	44.1	44.3	31.8	32.6	25.1
Female rates	0.0	0.0	7.8	13.2	18.8	16.7	20.4	23.8	23.1	32.2	24.6
Overall rates	0.0	1.4	10.0	11.2	17.5	24.4	32.3	33.8	27.3	32.4	24.8
Male cases	0	2	11	10	19	35	48	41	25	38	37
Female cases	0	0	7	15	22	18	22	23	20	42	49

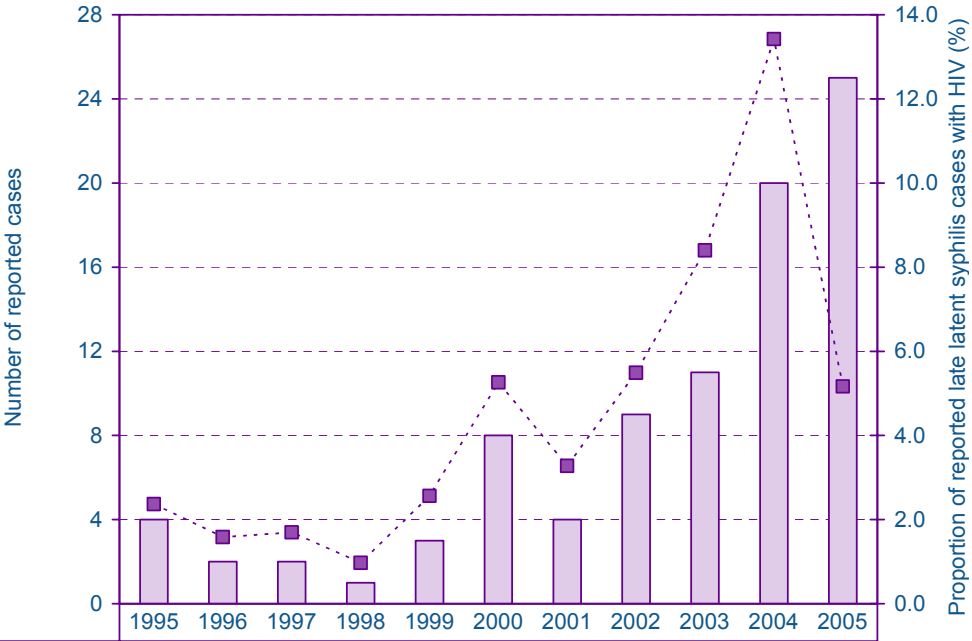
Age group (years)

Figure 1.23: Incidence rates of late latent syphilis by sex and year. Toronto, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Male rates	8.0	5.3	5.0	4.3	5.0	6.0	4.9	6.9	6.7	8.0	21.0
Female rates	6.0	5.0	4.5	3.9	4.2	5.9	4.4	5.6	3.4	3.5	16.3
Overall rates	7.0	5.1	4.7	4.1	4.6	6.0	4.7	6.3	5.0	5.7	18.6

Figure 1.24: Incidence of HIV and late latent syphilis co-infections by year. Toronto, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Cases	4	2	2	1	3	8	4	9	11	20	25
Proportion of late latent syphilis cases with HIV (%)	2	2	2	1	3	5	3	5	8	13	5

Table 1.15: Risk factors for reported cases of late latent syphilis by sex. Toronto, 2005

Reported risk factor	Number of cases* (%)					
	Male		Female		Overall	
No condom or chemical barrier used	133	(76)	113	(88)	246	(81)
Homosexual/bisexual	24	(14)	0	(0)	24	(8)
Multiple sexual partners	19	(11)	1	(<1)	20	(7)
Sexual contact of a confirmed case	4	(2)	1	(<1)	5	(2)
Sex trade worker	3	(2)	0	(0)	3	(1)
Other	79	(45)	34	(26)	113	(37)
Total with a known risk factor	**175**		**129**		**304**	
Number missing or unknown	91		89		180	
Total cases	**266**		**218**		**484**	

*Cases may report more than one risk factor. Risk factors for five cases were treated as missing due to multiple STI reports recorded in iPHIS. See technical notes on page 183.

Enteric, Food and Waterborne Diseases

Communicable Diseases in Toronto

2005

Toronto Public Health

Enteric, Food and Waterborne Diseases

This section focuses on 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. In 2005, there was an 11% increase from 2004 reports of diseases falling in this category. *Campylobacter* enteritis accounted for 33% of reports falling into this category. ❑

Table 2.1: Number and proportion of reported cases of enteric, food and waterborne diseases. Toronto, 2005

Ranking	Reportable disease	Number of cases	Proportion of cases (%)
1	*Campylobacter* enteritis	997	33
2	Salmonellosis	686	22
3	Giardiasis	547	18
4	Amebiasis	376	12
5	Yersiniosis	117	4
6	Shigellosis	100	3
7	Cryptosporidiosis	52	2
8	Cyclosporiasis	48	2
8	Hepatitis A	48	2
10	Verotoxin-producing *E. coli* infection	34	1
11	Typhoid fever	23	<1
12	Paratyphoid fever	13	<1
13	Listeriosis	10	<1
	Total	**3051**	**100**

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

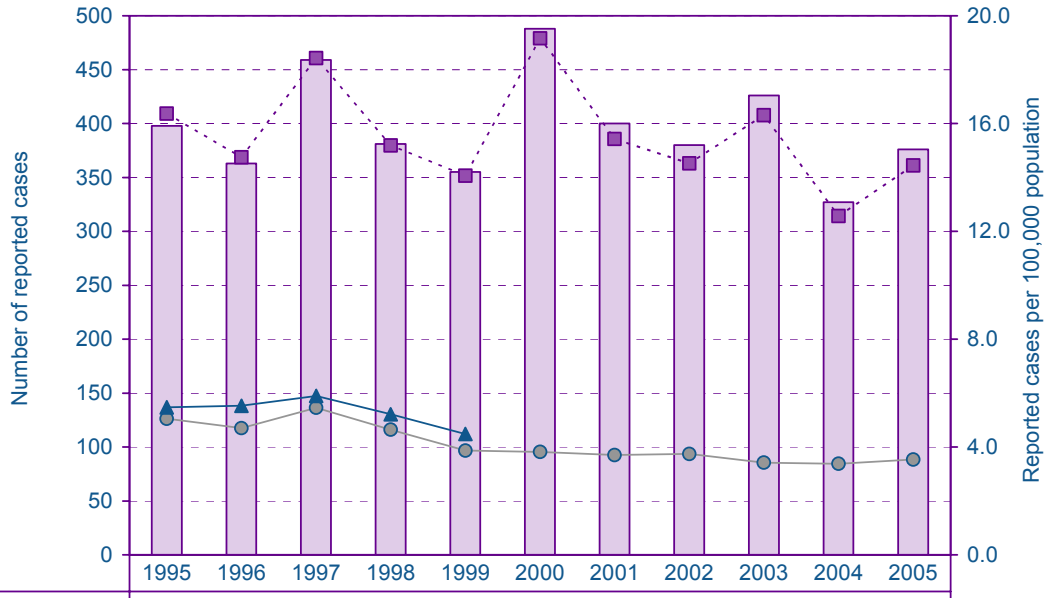
Amebiasis

Table 2.2: Amebiasis summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	376	404	398
Incidence rate (per 100,000 population)			
Overall	14.4	15.6	15.7
Male	22.2	23.6	23.6
Female	7.1	7.9	8.1
Age at onset (years)	Summary statistics		
Mean	39	37	36
Median	39	37	36
Range	1 103	1 93	<1 98

Highlights

- In 2005, there were 376 reported cases (14.4 cases per 100,000) of amebiasis. This represented an increase of 49 cases (15%) from the 2004 total of 327 cases (Figure 2.1).
- Toronto's rate of amebiasis continued to exceed the rate reported in the rest of Ontario. In 2005, Toronto's rate was four times the rate in the rest of Ontario (Figure 2.1).
- The age groups with the highest incidence rates in 2005 were 35 to 39 years (31.7 cases per 100,000) and 40 to 44 years (30.4 cases per 100,000) (Figure 2.2). Males in the 50 to 54 year age group experienced the greatest increase among all subgroups from 2004.
- Males accounted for 75% (n=281) of all cases in 2005 and had a rate (22.2 cases per 100,000) more than three times the rate for females (7.1 cases per 100,000) (Figure 2.3). The rate for males exceeded female rates for all age groups (Figure 2.2). The largest differences were detected in the 35 to 39 and 65 and over age groups, in which males experienced approximately four times the rate of amebiasis. These differences may be related to the increased risk of sexual transmission among men who have sex with men (MSM).
- With the exceptions of January, April, and June, the number of reported cases for each month in 2005 was comparable to, or lower than, the historical mean. (Figure 2.4)
- The most commonly reported sources of infection in 2005 were water (5%) and person-to-person transmission (5%) (Figure 2.5). The most commonly reported risk setting was travel outside of Canada to an endemic area (22%) (Figure 2.6).

Figure 2.1: Incidence of amebiasis by year.
Toronto, the rest of Ontario and Canada, 1995 - 2005

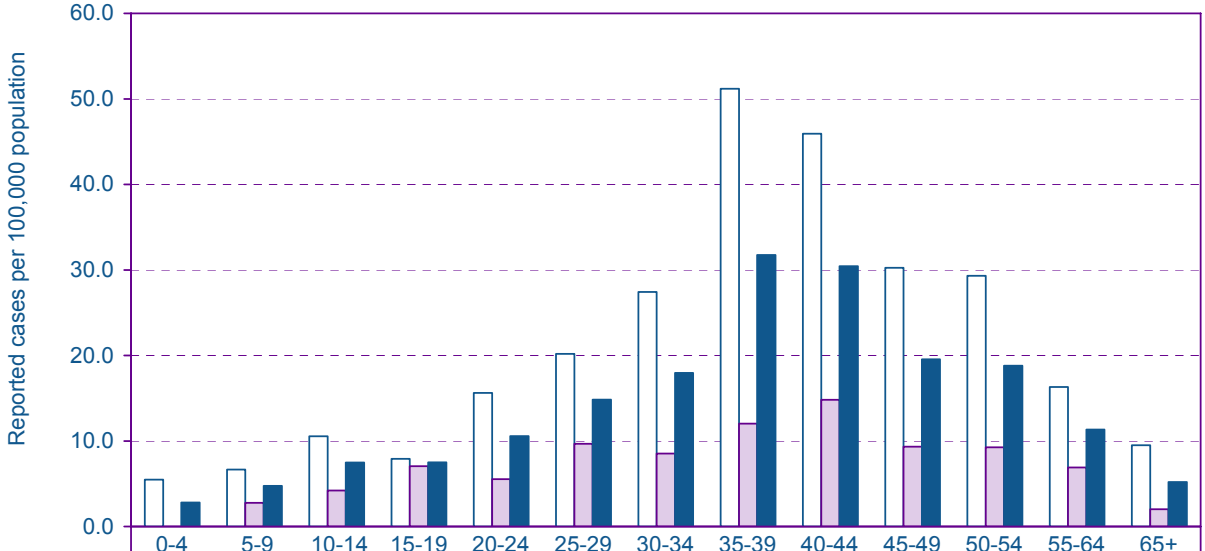


	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	398	363	459	381	355	488	400	380	426	327	376
Toronto rates	16.4	14.7	18.4	15.2	14.1	19.2	15.4	14.5	16.3	12.6	14.4
Ontario less Toronto rates	5.1	4.7	5.5	4.6	3.9	3.8	3.7	3.7	3.4	3.4	3.5
Canada rates	5.5	5.5	5.9	5.2	4.5	NR	NR	NR	NR	NR	NR

Year

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

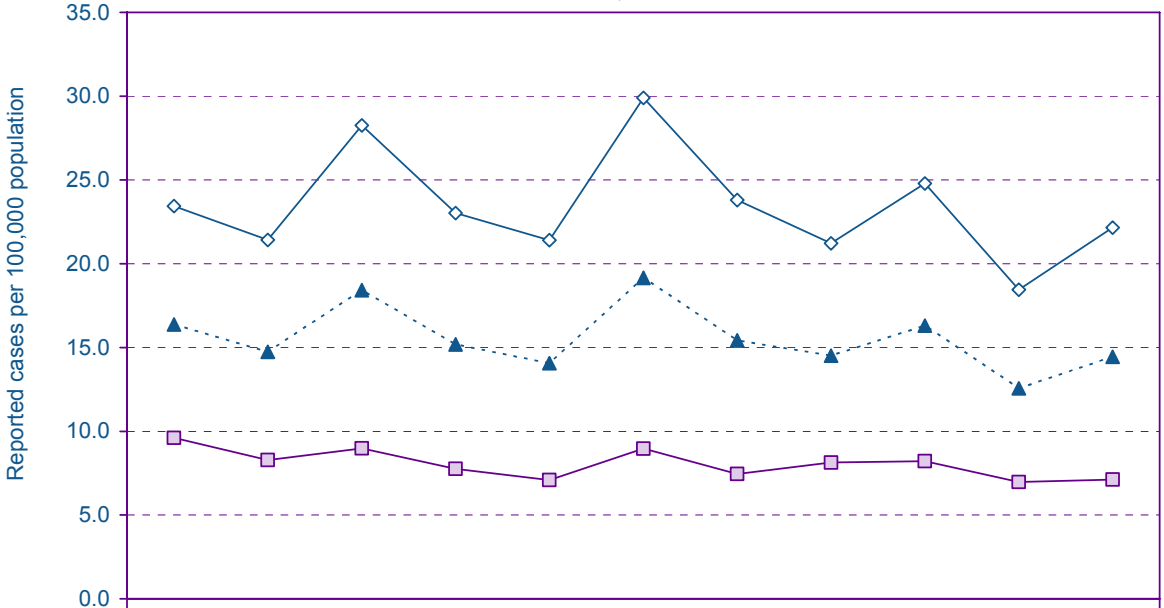
Figure 2.2: Incidence of amebiasis by age group and sex.
Toronto, 2005



	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	6.7	10.5	7.9	15.6	20.2	27.4	51.2	45.9	30.3	29.3	16.3	9.5
Female rates	0.0	2.8	4.2	7.1	5.5	9.7	8.5	12.0	14.8	9.3	9.3	6.9	2.0
Overall rates	2.8	4.7	7.5	7.5	10.6	14.8	18.0	31.7	30.4	19.6	18.8	11.3	5.2
Male cases	4	5	8	6	14	22	32	56	50	28	23	19	14
Female cases	0	2	3	5	5	11	10	13	16	9	8	9	4

Age group (years)

Figure 2.3: Incidence rates of amebiasis by sex and year.
Toronto, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Male rates	23.4	21.4	28.3	23.0	21.4	29.9	23.8	21.2	24.8	18.4	22.2
Female rates	9.6	8.3	9.0	7.8	7.1	9.0	7.5	8.1	8.2	7.0	7.1
Overall rates	16.4	14.7	18.4	15.2	14.1	19.2	15.4	14.5	16.3	12.6	14.4

Year

Figure 2.4: Number of reported cases of amebiasis by month.
Toronto, 2005 compared to 1995 - 2004 mean

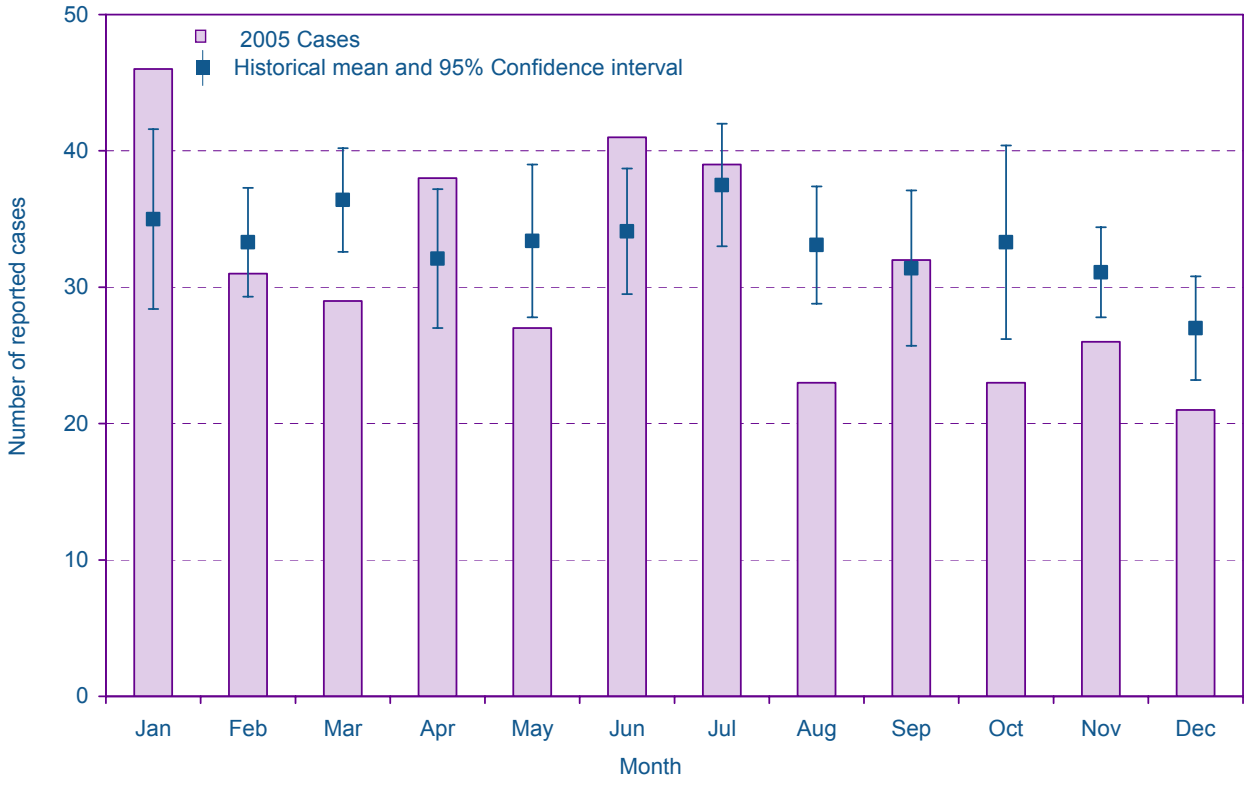


Figure 2.5: Proportion of reported cases of amebiasis by suspected source of infection. Toronto, 2005 (N=376)

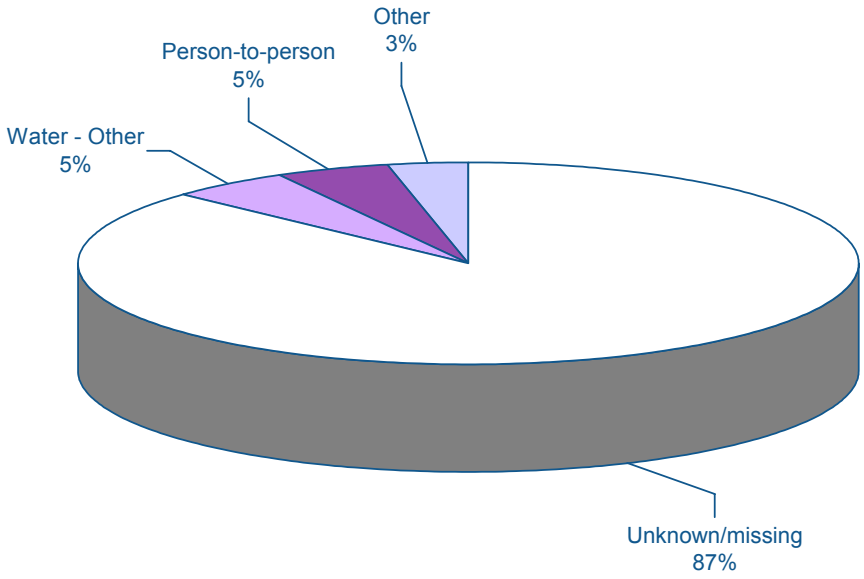
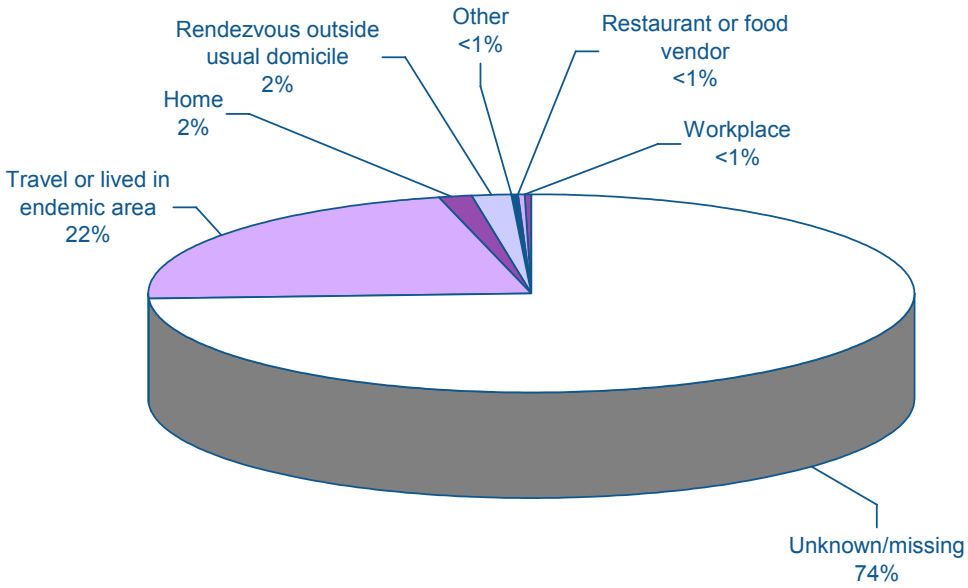


Figure 2.6: Proportion of reported cases of amebiasis by suspected risk setting. Toronto, 2005 (N=376)



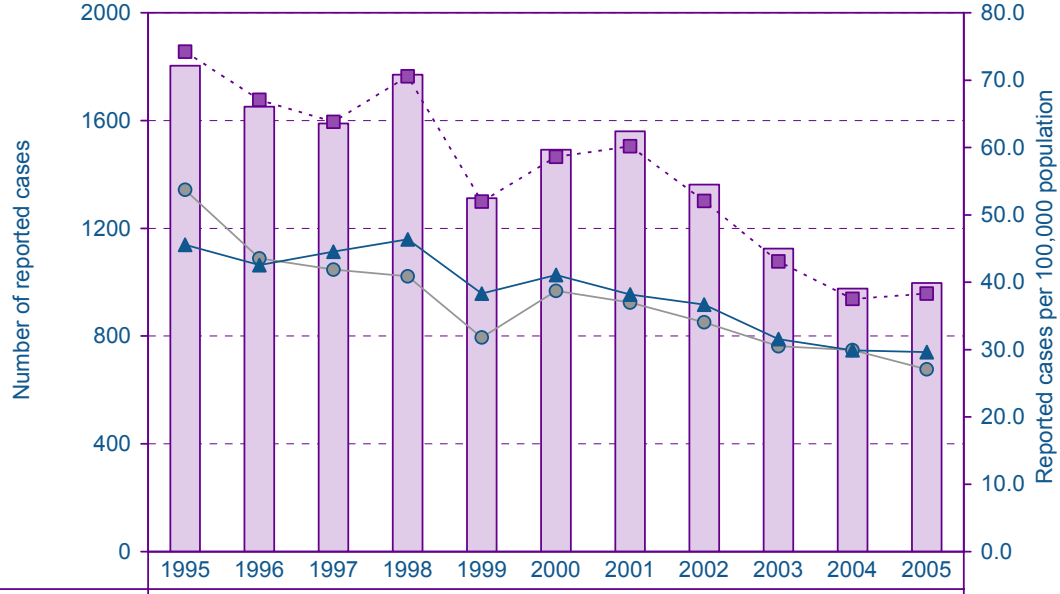
Campylobacter enteritis

Table 2.3: *Campylobacter* enteritis summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	997	1303	1464
Incidence rate (per 100,000 population)			
Overall	38.3	50.2	57.7
Male	43.6	55.9	63.1
Female	33.3	44.7	52.3
Age at onset (years)	Summary statistics		
Mean	35	32	31
Median	34	30	29
Range	<1 96	<1 100	<1 100
Hospitalization rate (%)	6	3	2

Highlights

- *Campylobacter* continues to be the most commonly reported enteric pathogen in Toronto, accounting for 33% of all enteric cases reported in 2005 (Table 2.1).
- In 2005, there were 997 reported cases (38.3 cases per 100,000) of *Campylobacter* enteritis. This represented an increase of 21 cases (2%) from the 2004 total of 976 (Figure 2.7). The rate of hospitalization among cases was higher than in previous 5-year and 10-year surveillance periods (Table 2.3), but in keeping with last year.
- The age groups with the highest incidence rates in 2005 were 0 to 4 years (68.6 cases per 100,000) and 25 to 29 years (49.0 cases per 100,000) (Figure 2.2).
- Males accounted for 55% (n=553) of all cases in 2005 and experienced rates of disease that exceeded female rates in all age groups, except among those 20 to 24 years of age (Figure 2.8). The largest differences were detected in the 40 to 44 year age group, in which males experienced a rate of *Campylobacter* enteritis more than twice that of females.
- The number of reported cases for each month in 2005 was lower than the historical mean (Figure 2.9).
- The most commonly reported source of infection was food (17%) (Figure 2.10). The most commonly reported risk settings were travel outside of Canada to an endemic area (19%) and the home environment (10%) (Figure 2.11).

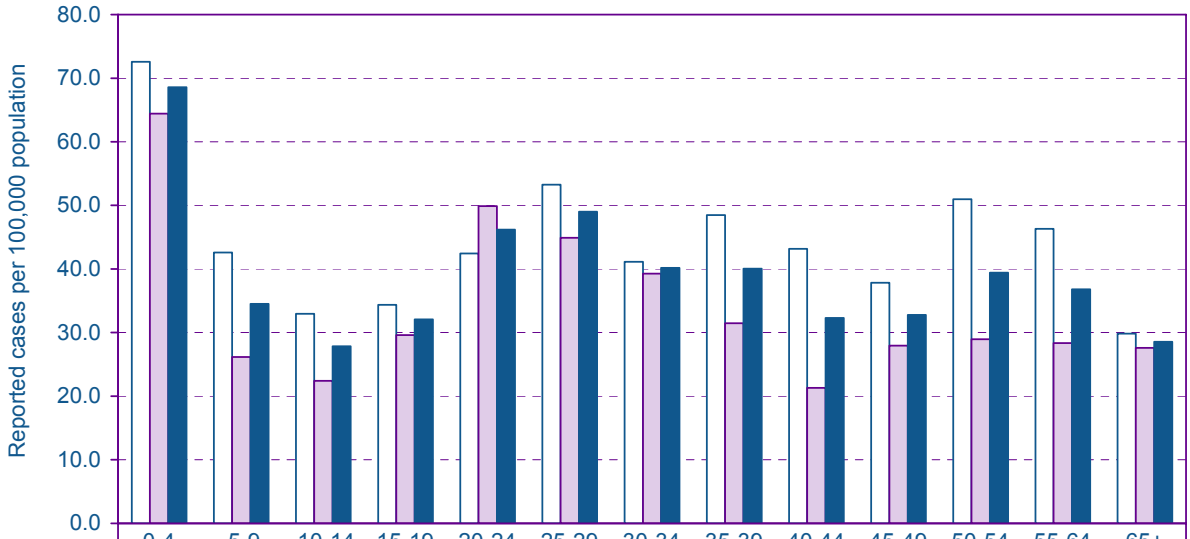
Figure 2.7: Incidence of *Campylobacter* enteritis by year. Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	1804	1651	1589	1770	1312	1492	1560	1362	1125	976	997
Toronto rates	74.2	67.0	63.8	70.5	52.0	58.6	60.2	52.0	43.1	37.5	38.3
Ontario less Toronto rates	53.7	43.5	41.9	40.9	31.8	38.7	37.0	34.1	30.5	29.9	27.1
Canada rates	45.6	42.5	44.5	46.4	38.3	41.1	38.2	36.7	31.6	29.9	29.6

Year

Figure 2.8: Incidence of *Campylobacter* enteritis by age group and sex. Toronto, 2005



	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	72.6	42.6	33.0	34.3	42.4	53.2	41.1	48.5	43.2	37.8	50.9	46.3	29.8
Female rates	64.4	26.1	22.4	29.6	49.9	44.9	39.2	31.5	21.3	28.0	28.9	28.3	27.6
Overall rates	68.6	34.5	27.9	32.1	46.2	49.0	40.2	40.0	32.3	32.8	39.4	36.8	28.5
Male cases	53	32	25	26	38	58	48	53	47	35	40	54	44
Female cases	45	19	16	21	45	51	46	34	23	27	25	37	55

Age group (years)

Figure 2.9: Number of reported cases of *Campylobacter* enteritis by month. Toronto, 2005 compared to 1995 - 2004 mean

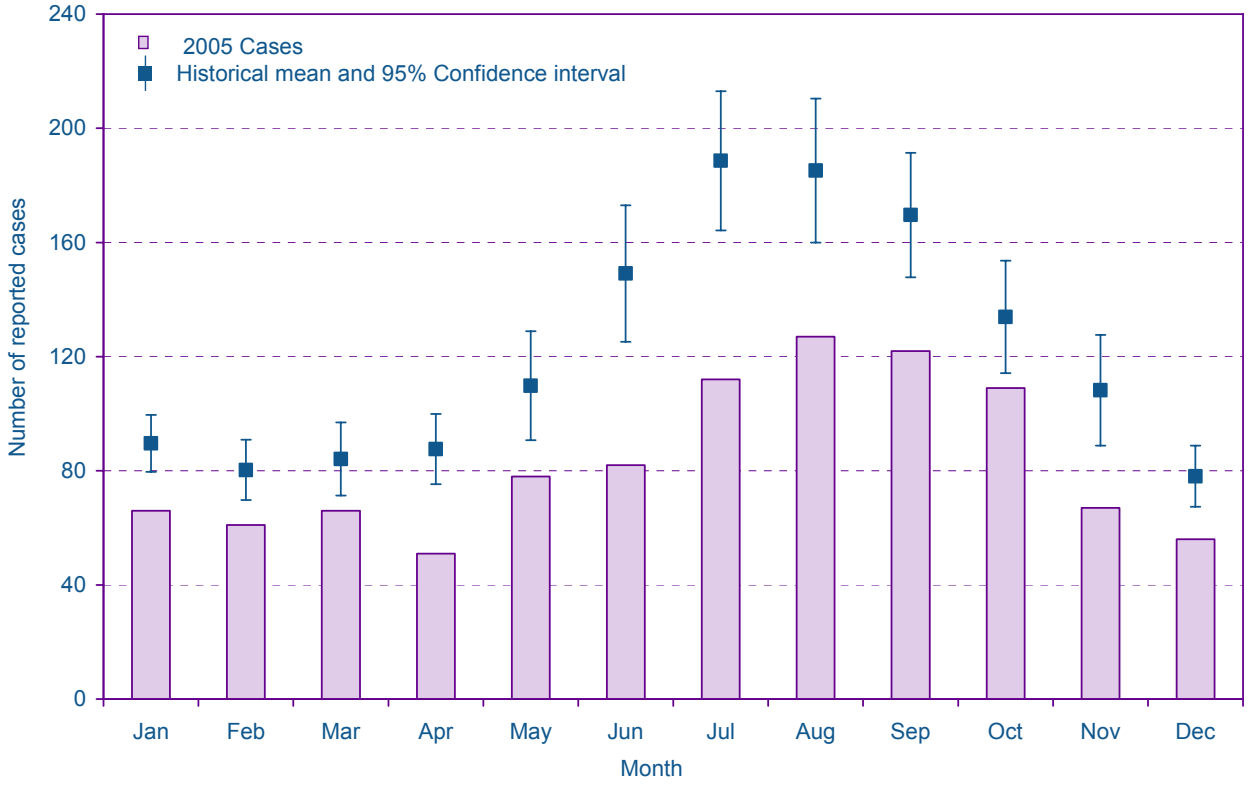
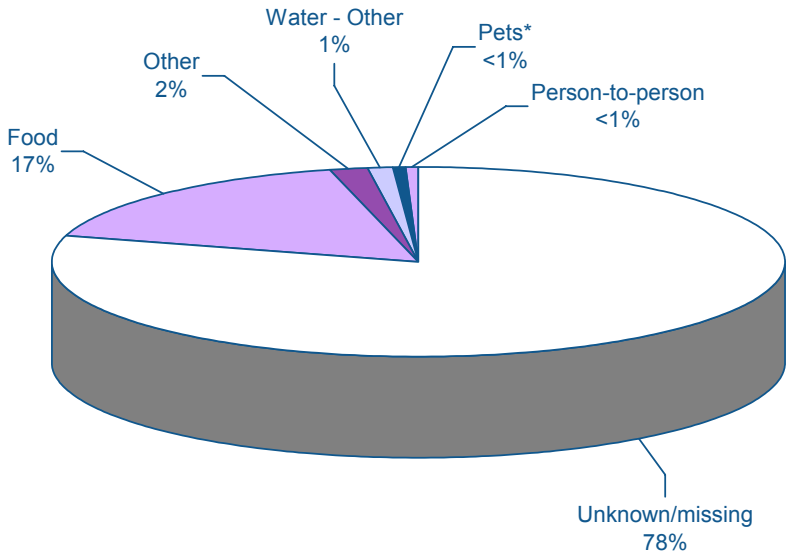
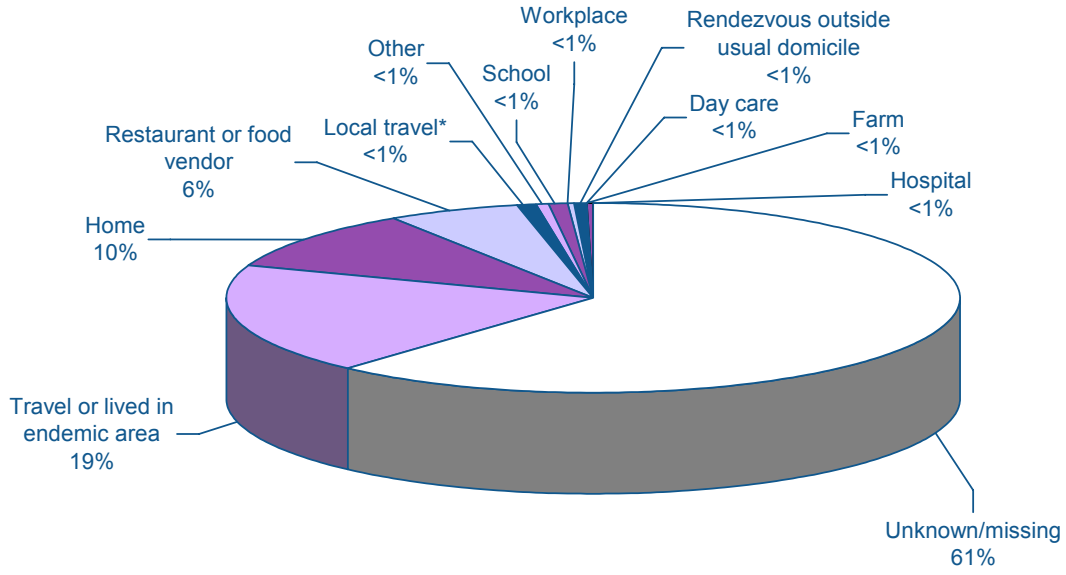


Figure 2.10: Proportion of reported cases of *Campylobacter* enteritis by suspected source of infection. Toronto, 2005 (N=997)



*Includes animal contact.

Figure 2.11: Proportion of reported cases of *Campylobacter* enteritis by suspected risk setting. Toronto, 2005 (N=997)



*Includes travel to a local vacation property and camping.

Cryptosporidiosis

Table 2.4: Cryptosporidiosis summary data* Toronto		
	2005	5-yr period 2000-2004
	Total	Mean
Number of reported cases	52	42
Incidence rate (per 100,000 population)		
Overall	2.0	1.6
Male	3.0	2.4
Female	1.0	0.9
Age at onset (years)	Summary statistics	
Mean	26	22
Median	31	19
Range	<1 84	<1 75

*Cryptosporidiosis became reportable in Ontario in 1996.

Highlights

- In 2005, there were 52 reported cases (2.0 cases per 100,000) of cryptosporidiosis. This represented an increase of three cases (6%) over the 2004 total of 49 cases and the highest annual total reported since 1996 when cryptosporidiosis became reportable in Ontario (Figure 2.12).

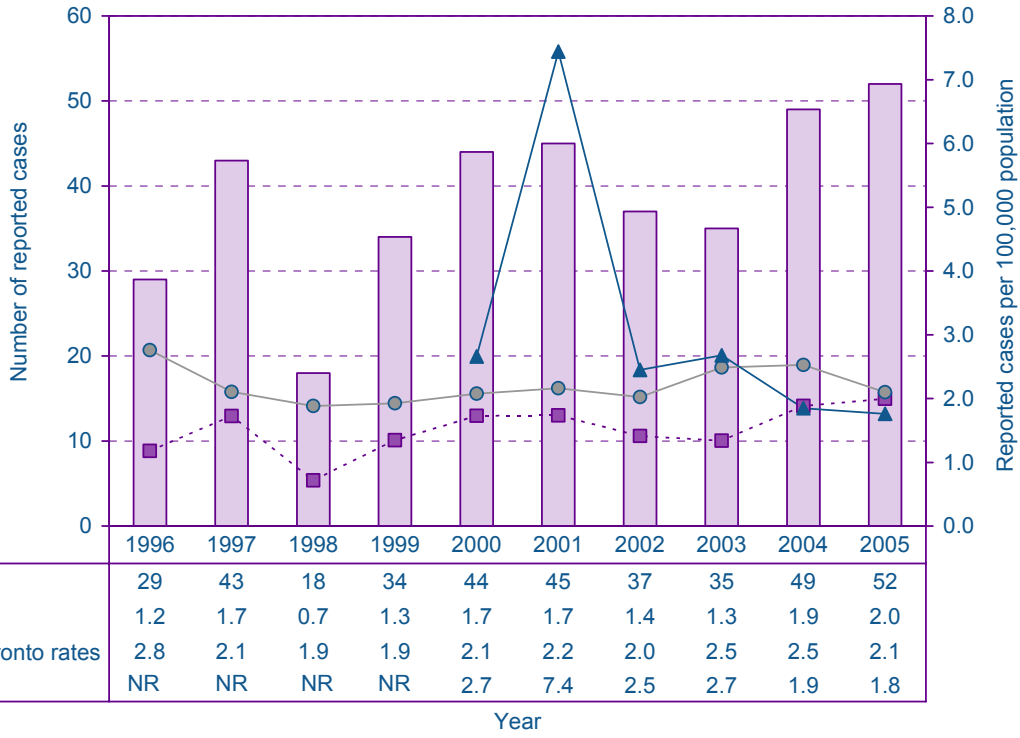
- Males accounted for 73% (n=38) of all cases in 2005 and had a rate (3.0 cases per 100,000) three times the rate for females (1.0 cases per 100,000) (Table 2.4). This difference may be associated with the increased risk of sexual transmission among men who have sex with other men (MSM). Over the 10-year period, the rate for males exceeded female rates for all age groups except the 0 to 4 year and 5 to 9 year age groups. The largest differences were detected in the 30 to 39 and 40 to 49 year age groups in which males experienced more than 10 times the rate of cryptosporidiosis (Figure 2.13).

- The median age of cases continued to increase to 31 years in 2005 from the 19-year median that was reported during the previous 5-year period (Table 2.4).

- Reports of cryptosporidiosis in 2005 exhibited no marked seasonality. In January, February, April, June, and October the number of reported cases exceeded the historical mean for those months (Figure 2.14).

- The most commonly reported source of infection was person-to-person transmission (6%) (Figure 2.15). As in 2004, the most commonly reported risk setting was travel outside of Canada to an endemic area (31%) (Figure 2.16).

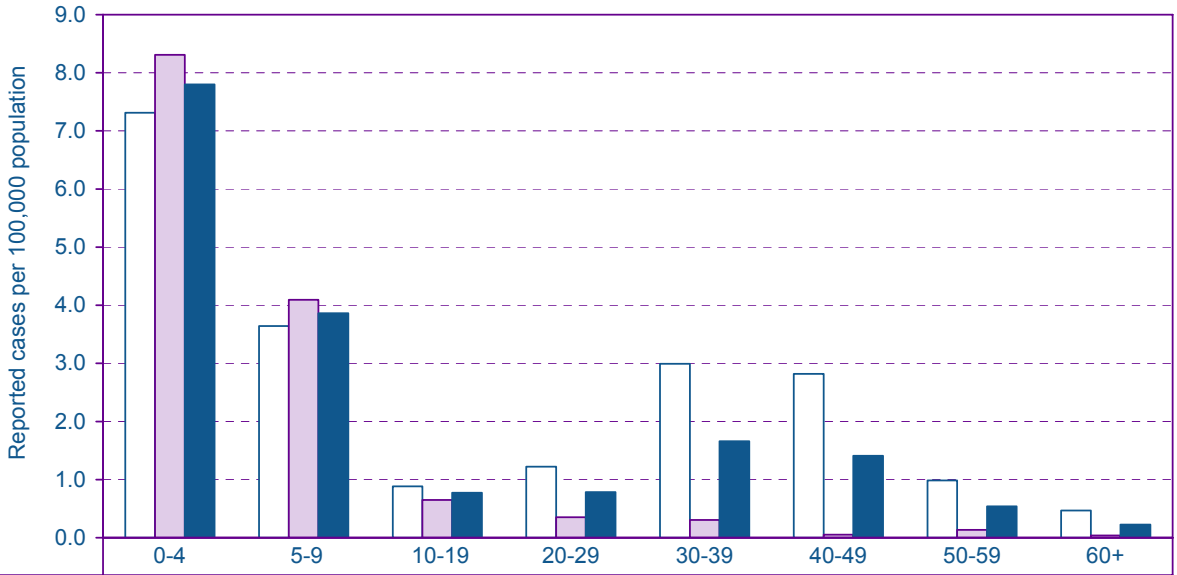
Figure 2.12: Incidence of cryptosporidiosis by year. Toronto, the rest of Ontario* and Canada†, 1996 - 2005



	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	29	43	18	34	44	45	37	35	49	52
Toronto rates	1.2	1.7	0.7	1.3	1.7	1.7	1.4	1.3	1.9	2.0
Ontario less Toronto rates	2.8	2.1	1.9	1.9	2.1	2.2	2.0	2.5	2.5	2.1
Canada rates	NR	NR	NR	NR	2.7	7.4	2.5	2.7	1.9	1.8

*Cryptosporidiosis became reportable in Ontario in 1996.
†Starting January 1, 2000 Cryptosporidiosis became nationally notifiable. Cryptosporidiosis was not reportable in Quebec for 2000 to 2003. NR: Not reportable.

Figure 2.13: Incidence of cryptosporidiosis by age group and sex. Toronto, 1996 - 2005 combined



	0-4	5-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	7.3	3.6	0.9	1.2	3.0	2.8	1.0	0.5
Female rates	8.3	4.1	0.6	0.3	0.3	<0.1	0.1	<0.1
Overall rates	7.8	3.9	0.8	0.8	1.7	1.4	0.5	0.2
Male cases	57	28	13	24	70	53	13	9
Female cases	62	30	9	7	7	1	2	1

Figure 2.14: Number of reported cases of cryptosporidiosis by month. Toronto, 2005 compared to 1996 - 2004 mean

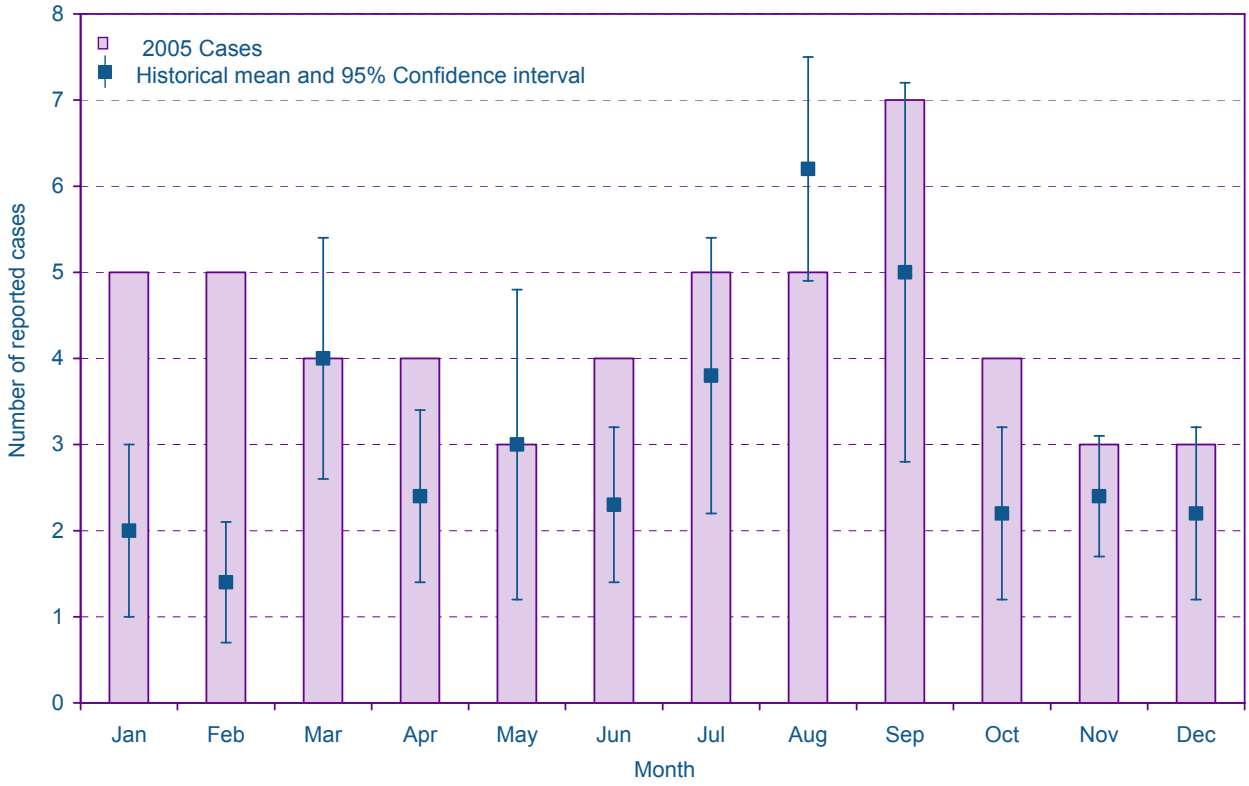


Figure 2.15: Proportion of reported cases of cryptosporidiosis by suspected source of infection. Toronto, 2005 (N=52)

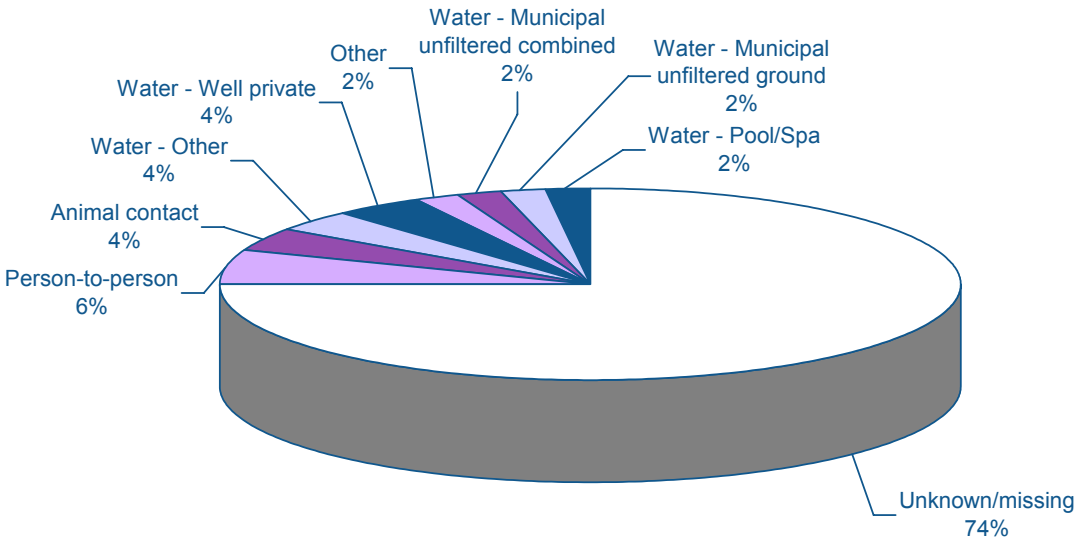
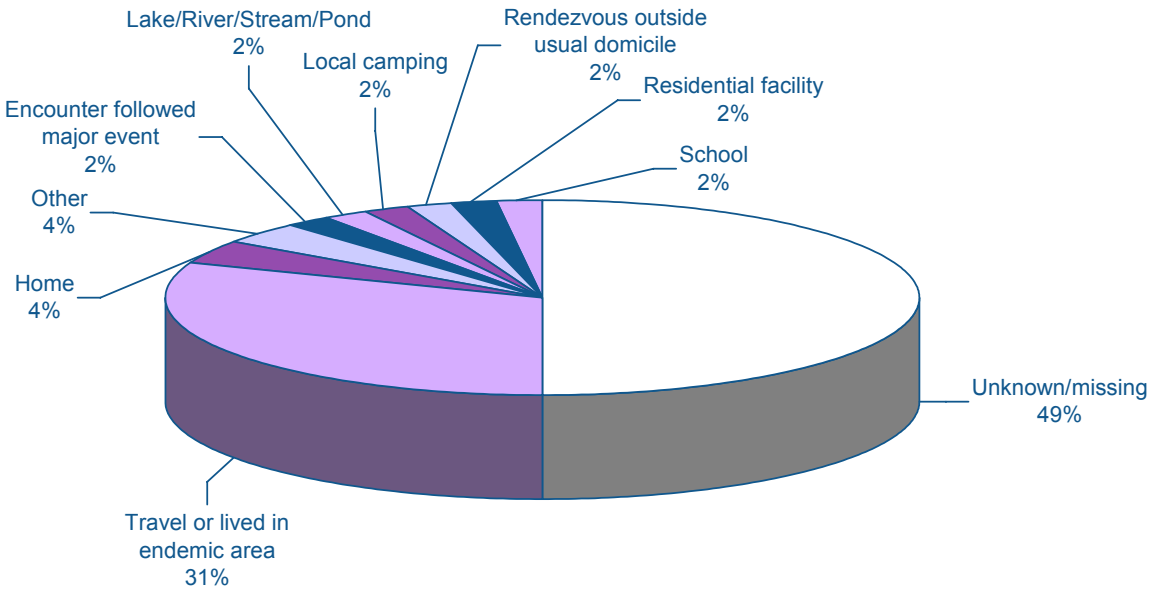


Figure 2.16: Proportion of reported cases of cryptosporidiosis by suspected risk setting. Toronto, 2005 (N=52)



Cyclosporiasis

Table 2.5: Cyclosporiasis summary data* Toronto				
	2005	2004	2003	2002
Number of reported cases	48	30	14	28
Incidence rate (per 100,000 population)				
Overall	1.8	1.2	0.5	1.1
Male	1.9	1.1	0.8	1.1
Female	1.8	1.2	0.3	1.0
Age at onset (years)	Summary statistics			
Mean	38	49	34	40
Median	33	48	33	37
Range	1 79	24 84	2 67	24 80
Outbreak associated cases (%)	33	0	0	4

*Cyclosporiasis became reportable in Ontario in 2002.

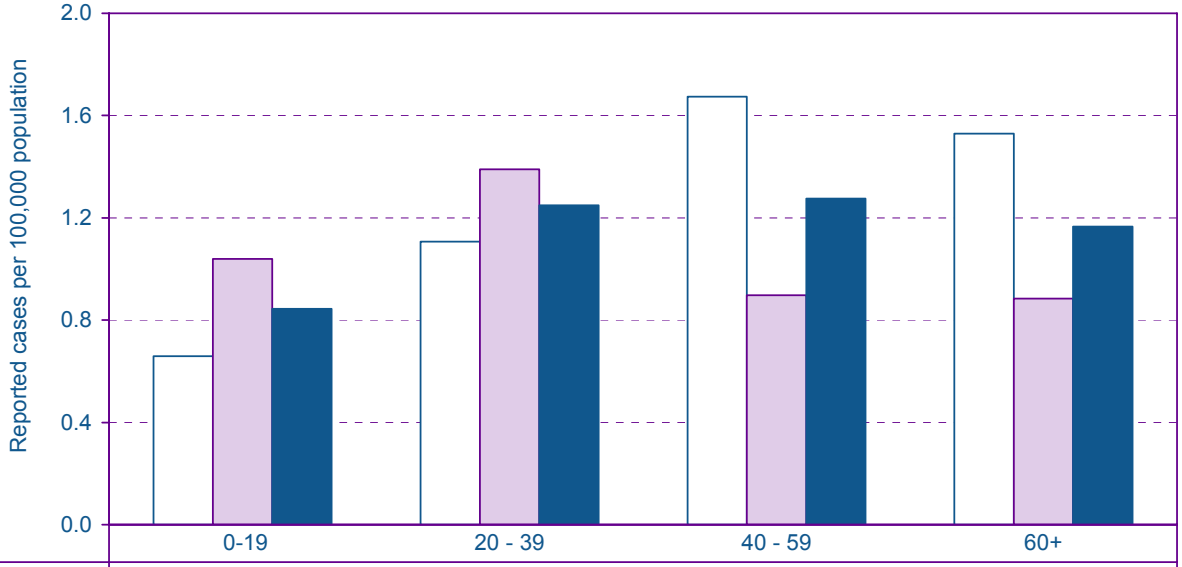
Highlights

- In 2005, there were 48 reported cases of cyclosporiasis (1.8 cases per 100,000). This represented an increase of 18 cases (60%) over the 2004 total of 30 cases and the highest total since it became reportable in 2002 (Table 2.5). Among the reported cases for 2005, 33% (n=16) were associated with food consumed at a three-day high school retreat in early April.

- Reports of cyclospora for April 2005, the month of the outbreak, were almost nine times higher than the previous three-year average for April (Figure 2.18).

- The most commonly identified source of infection was food (25%) (Figure 2.19). The most commonly reported risk settings were travel outside of Canada to an endemic area (53%) and local travel, including local vacation properties and camping (33%) (Figure 2.20).

Figure 2.17: Incidence of cyclosporiasis by age group and sex. Toronto, 2002 - 2005 combined



	0-19	20 - 39	40 - 59	60+
Male rates	0.7	1.1	1.7	1.5
Female rates	1.0	1.4	0.9	0.9
Overall rates	0.8	1.2	1.3	1.2
Male cases	8	19	23	12
Female cases	12	24	13	9

Age group (years)

Figure 2.18: Number of reported cases of cyclosporiasis by month. Toronto, 2005 compared to 2002 - 2004 mean

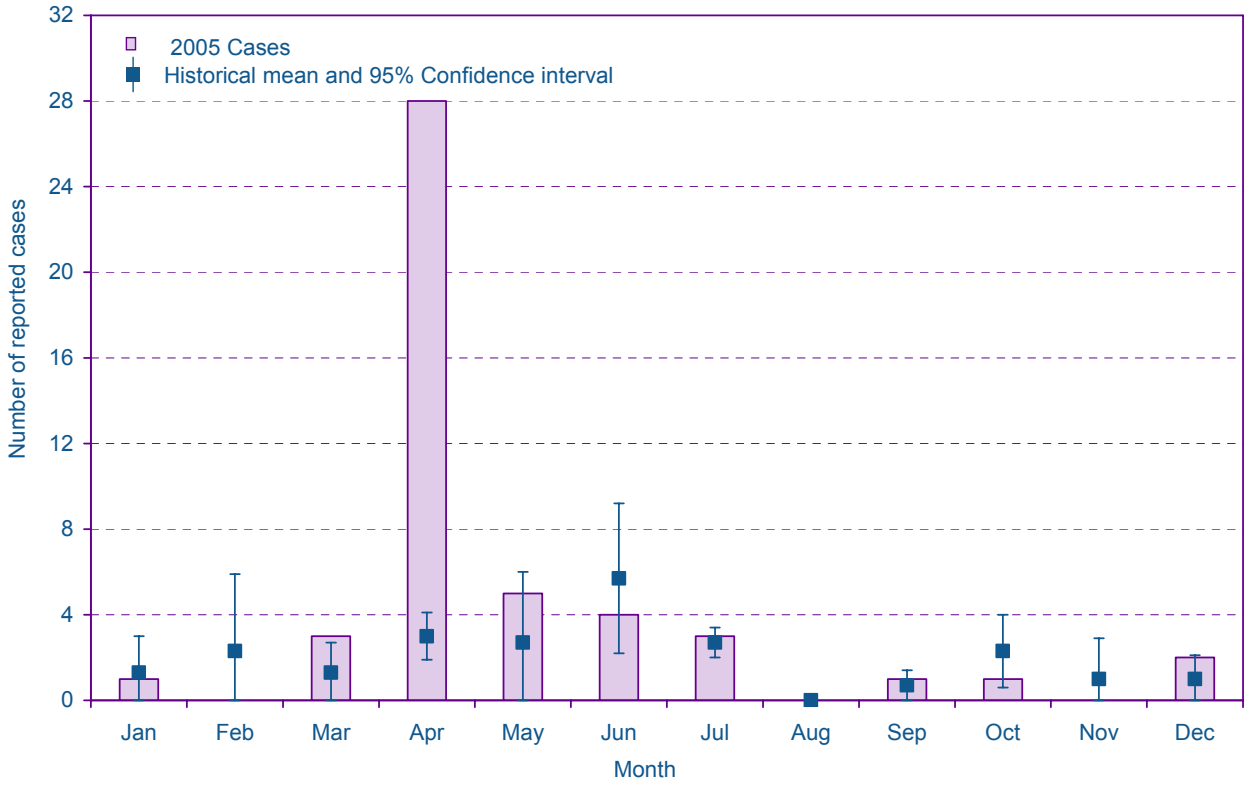


Figure 2.19: Proportion of cases of cyclosporiasis by suspected source of infection. Toronto, 2005 (N=48)

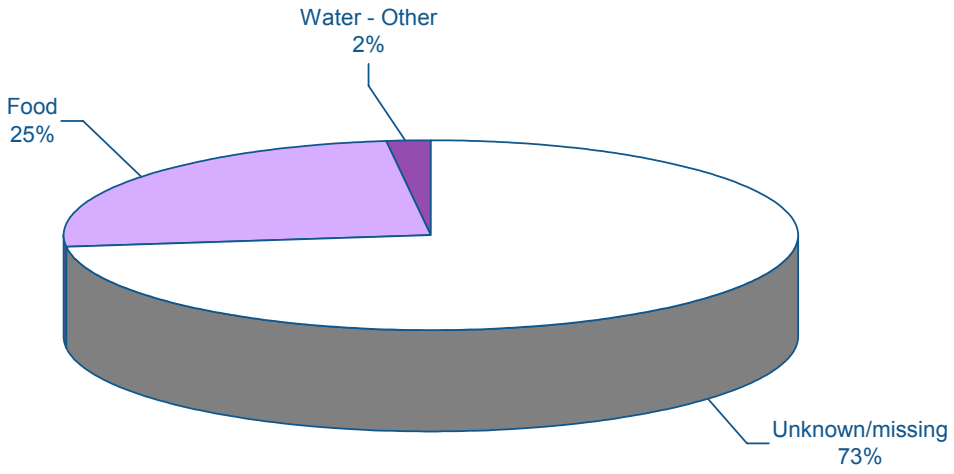
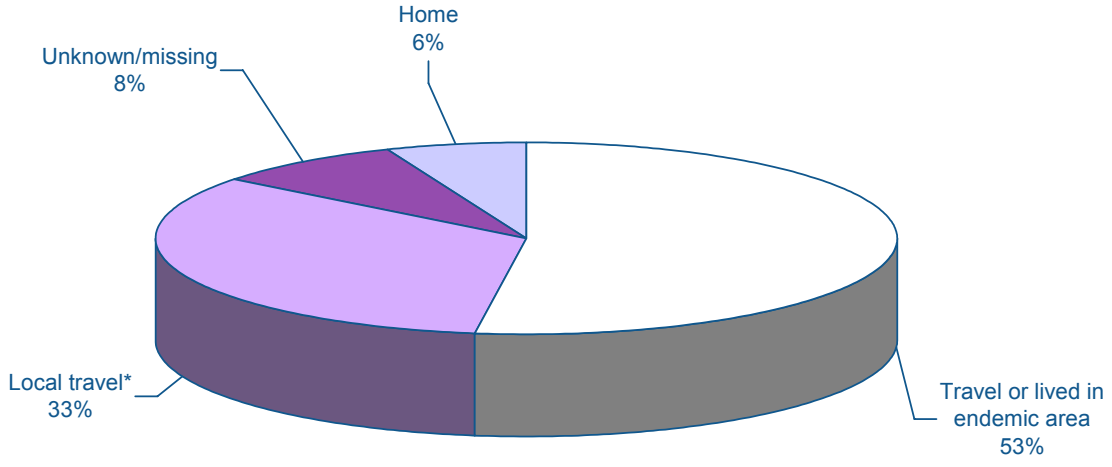


Figure 2.20: Proportion of cases of cyclosporiasis by suspected risk setting. Toronto, 2005 (N=48)



*Includes travel to a local vacation property and camping.

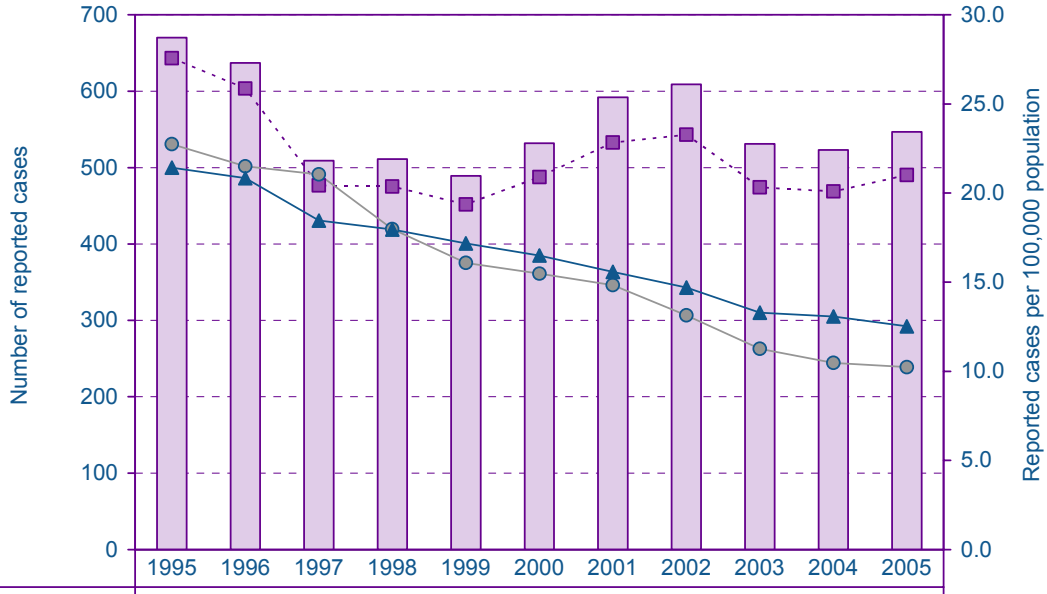
Giardiasis

Table 2.6: Giardiasis summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	547	557	560
Incidence rate (per 100,000 population)			
Overall	21.0	21.5	22.1
Male	28.3	28.2	28.5
Female	14.1	15.1	16.0
Age at onset (years)	Summary statistics		
Mean	30	29	28
Median	31	30	29
Range	<1 84	<1 93	<1 99

Highlights

- In 2005, there were 547 reported cases (21.0 cases per 100,000) of giardiasis. This represented an increase of 24 cases (5%) from the 2004 total of 523 cases (Figure 2.21).
- Toronto's rate of giardiasis continued to exceed the rate reported in the rest of Ontario in 2005 by almost two times (Figure 2.21).
- Males accounted for 66% (n=359) of all cases in 2005. The rate for males exceeded female rates for all age groups (Figure 2.22). The largest difference was observed in the 25 to 29 and 45 to 49 year age groups, for which the male rates were at least three times higher than the rate for females. As with other enteric agents, these gender differences may be related to the increased risk of sexual transmission among men who have sex with men (MSM).
- With the exception of April, August and December, the number of reports for each month in 2005 was either comparable to or lower than the historical mean (Figure 2.23).
- The most commonly reported sources of infection were water (9%) and person-to-person transmission (4%) (Figure 2.24). The most commonly reported risk setting was travel outside of Canada to an endemic area (31%) (Figure 2.25).

Figure 2.21: Incidence of giardiasis by year. Toronto, the rest of Ontario and Canada*, 1995 - 2005

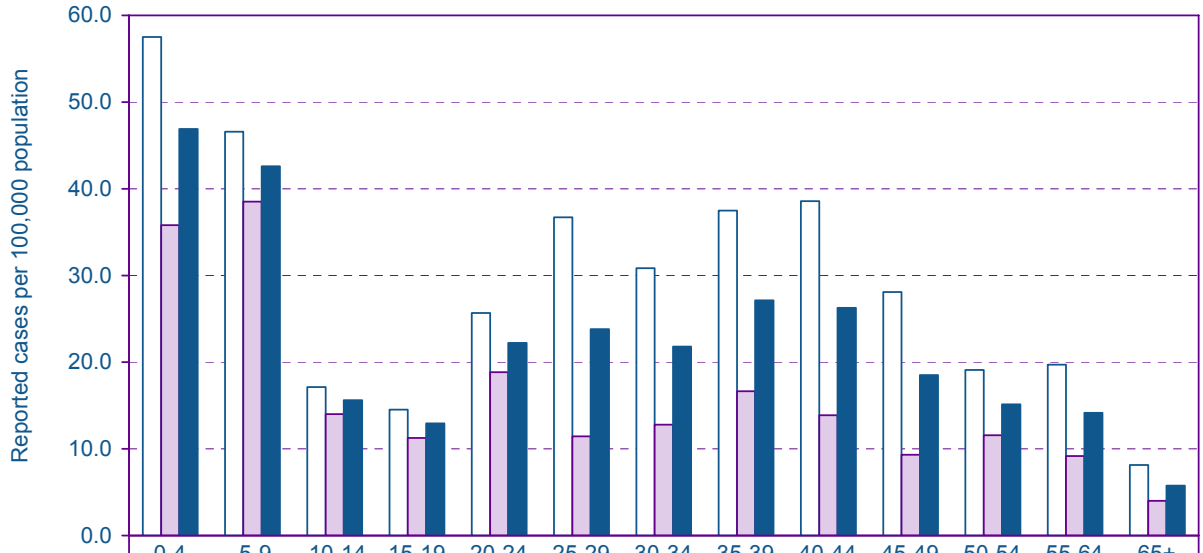


	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	670	637	509	511	489	532	592	609	531	523	547
Toronto rates	27.6	25.9	20.4	20.4	19.4	20.9	22.8	23.3	20.3	20.1	21.0
Ontario less Toronto rates	22.7	21.5	21.1	18.0	16.1	15.5	14.8	13.1	11.3	10.5	10.2
Canada rates	21.4	20.8	18.5	18.0	17.2	16.5	15.6	14.7	13.3	13.1	12.5

*Giardiasis was not reportable in Manitoba for 1995 and 1996.

Year

Figure 2.22: Incidence of giardiasis by age group and sex. Toronto, 2005



	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	57.5	46.6	17.1	14.5	25.7	36.7	30.8	37.5	38.6	28.1	19.1	19.7	8.1
Female rates	35.8	38.5	14.0	11.3	18.8	11.4	12.8	16.7	13.9	9.3	11.6	9.2	4.0
Overall rates	46.9	42.6	15.6	13.0	22.2	23.8	21.8	27.1	26.3	18.5	15.2	14.2	5.8
Male cases	42	35	13	11	23	40	36	41	42	26	15	23	12
Female cases	25	28	10	8	17	13	15	18	15	9	10	12	8

Age group (years)

**Figure 2.23: Number of reported cases of giardiasis by month.
Toronto, 2004 compared to 1995 - 2004 mean**

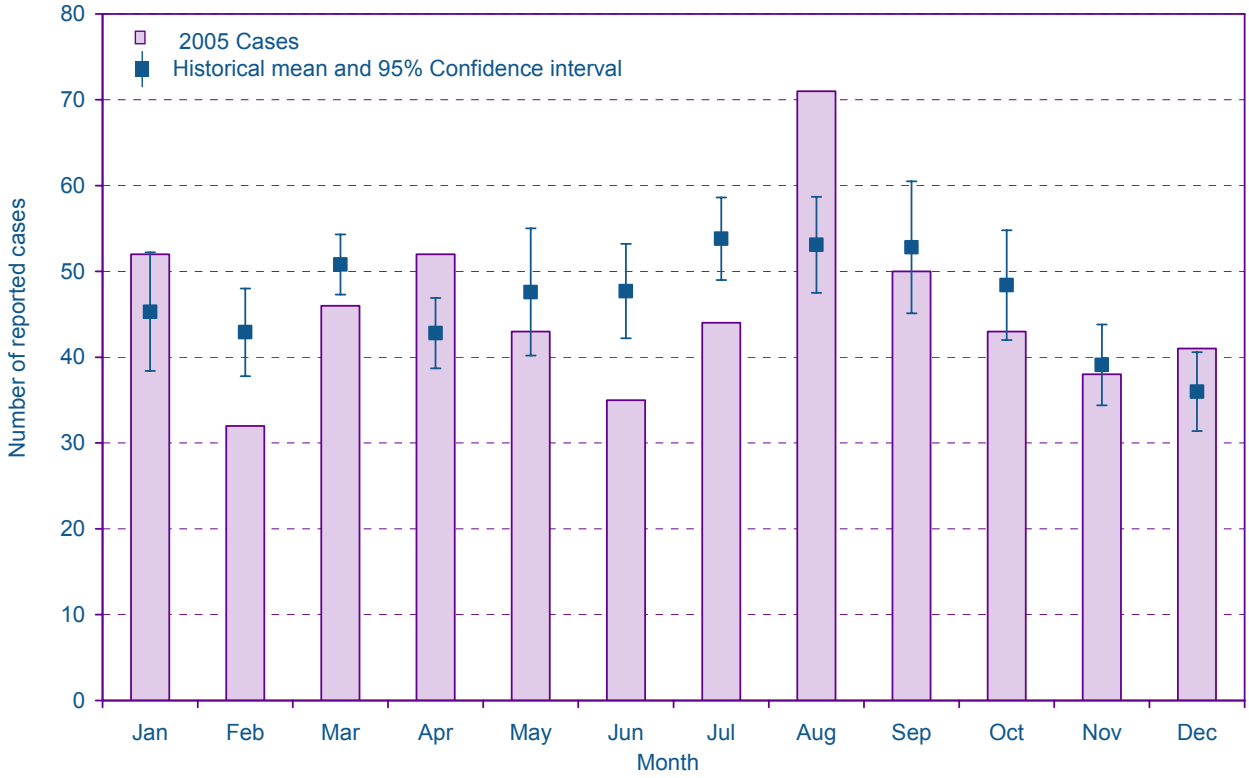


**Figure 2.24: Proportion of reported cases of giardiasis by suspected source of infection.
Toronto, 2005 (N=547)**

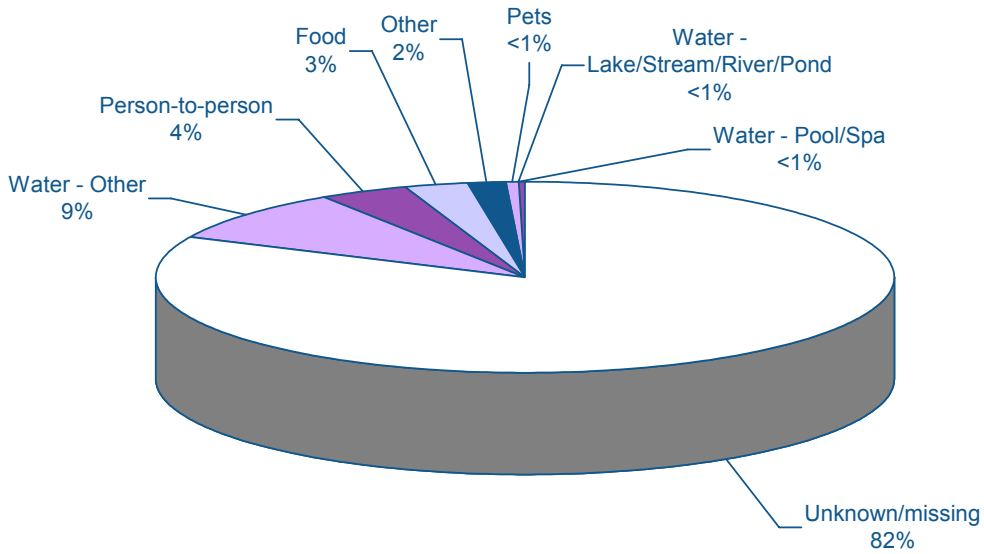
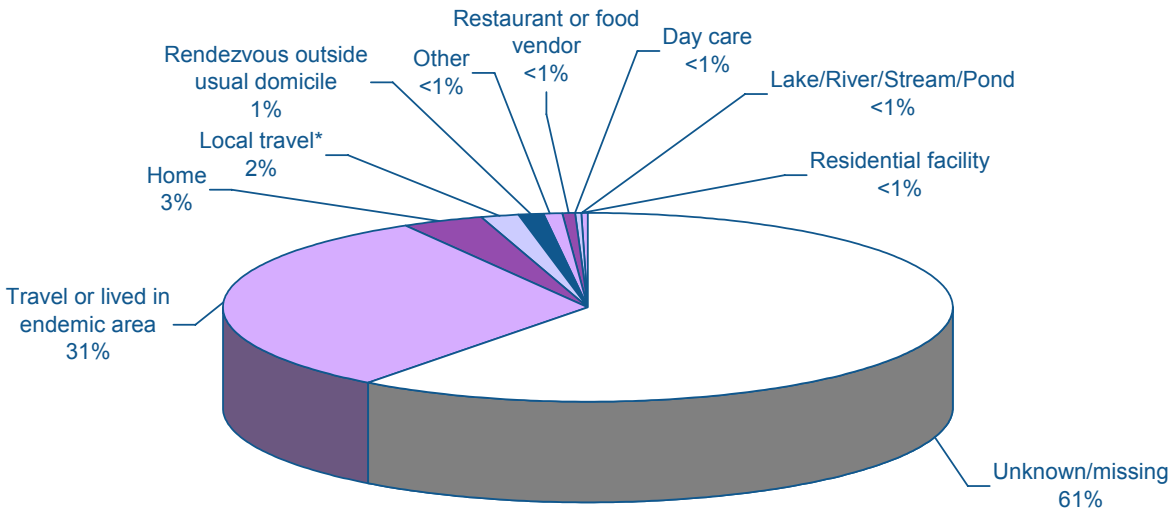


Figure 2.25: Proportion of reported cases of giardiasis by suspected risk setting. Toronto, 2005 (N=547)



*Includes travel to a local vacation property and camping.

Hepatitis A

Table 2.7: Hepatitis A summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	48	55	114
Incidence rate (per 100,000 population)			
Overall	1.8	2.1	4.5
Male	2.4	2.5	6.0
Female	1.3	1.8	3.0
Age at onset (years)	Summary statistics		
Mean	26	25	30
Median	20	22	31
Range	1 76	<1 92	<1 92
Outbreak associated cases (%)	4	12	6
Hospitalization rate (%)	19	14	6

Highlights

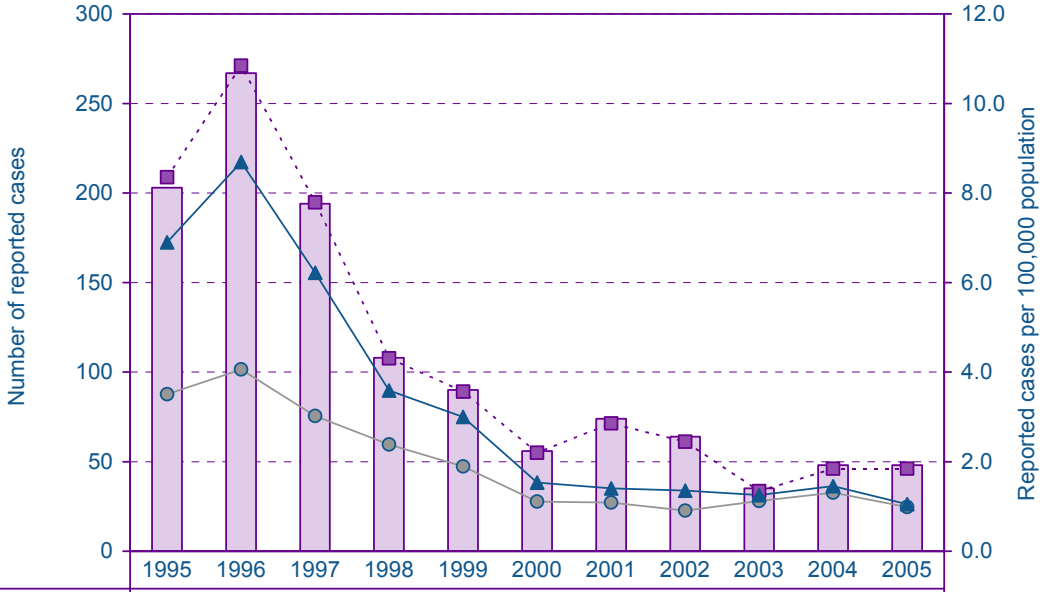
- In 2005, there were 48 reported cases (1.8 cases per 100,000) of hepatitis A. This remains unchanged from 2004 (Figure 2.26). Among these cases, 4% (n=2) were outbreak related and 19% (n=9) were treated in a hospital (Table 2.7). The hospitalization rate in 2005 was higher than the rate for the previous 5-year and 10-year periods, but a decrease from 2004 (25%).

- Males accounted for 63% (n=30) of all cases in 2005. The incidence rate for males exceeded female rates except in the 5 to 9 and 10 to 19 year age groups. The greatest difference was in the 40 to 59 year age groups, for which males had more than eight times the reported rate for females (Figure 2.27). As with other enteric agents, the increased adult male rates may be related to the increased risk of sexual transmission among men who have sex with men (MSM).

- Reports of Hepatitis A cases in 2005 did not follow a seasonal trend (Figure 2.28). The highest numbers of cases were reported in June and September.

- The most commonly reported sources of infection were food (17%) and person-to-person transmission (15%) (Figure 2.29). The most commonly reported risk setting was travel outside of Canada to an endemic area (71%) (Figure 2.30).

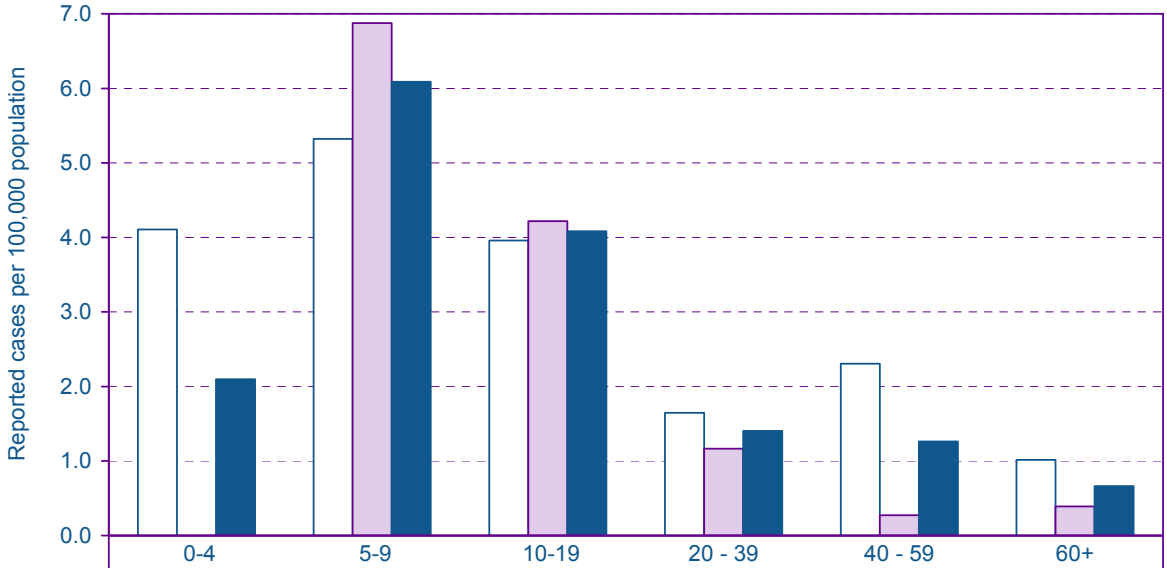
Figure 2.26: Incidence of hepatitis A by year.
Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	203	267	194	108	90	56	74	64	35	48	48
Toronto rates	8.3	10.8	7.8	4.3	3.6	2.2	2.9	2.4	1.3	1.8	1.8
Ontario less Toronto rates	3.5	4.1	3.0	2.4	1.9	1.1	1.1	0.9	1.1	1.3	1.0
Canada rates	6.9	8.7	6.2	3.6	3.0	1.5	1.4	1.4	1.3	1.5	1.1

Year

Figure 2.27: Incidence of hepatitis A by age group and sex.
Toronto, 2005



	0-4	5-9	10-19	20 - 39	40 - 59	60+
Male - rates	4.1	5.3	4.0	1.6	2.3	1.0
Female - rates	0.0	6.9	4.2	1.2	0.3	0.4
Overall - rates	2.1	6.1	4.1	1.4	1.3	0.7
Male - cases	3	4	6	7	8	2
Female - cases	0	5	6	5	1	1

Age group (years)

**Figure 2.28: Number of reported cases of hepatitis A by month.
Toronto, 2005 compared to 1995 - 2004 mean**

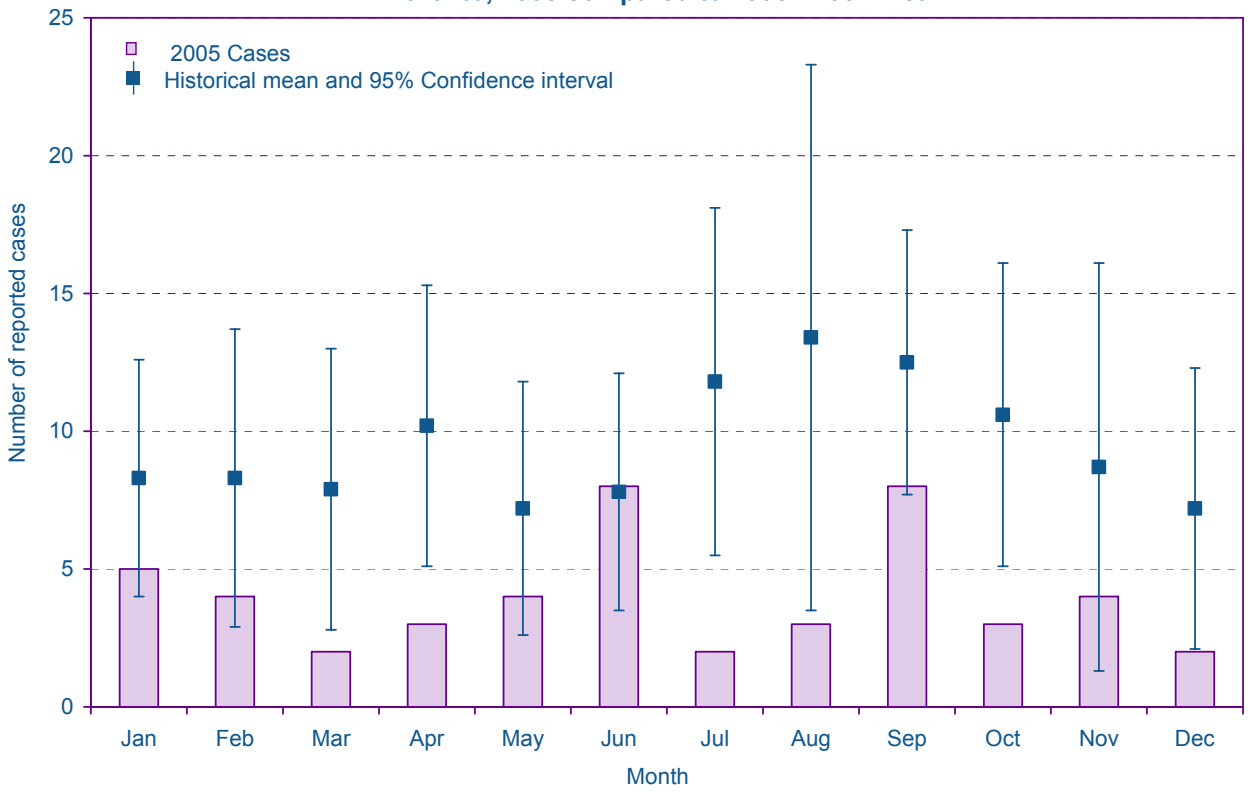


**Figure 2.29: Proportion of reported cases of hepatitis A by suspected source of infection.
Toronto, 2005 (N=48)**

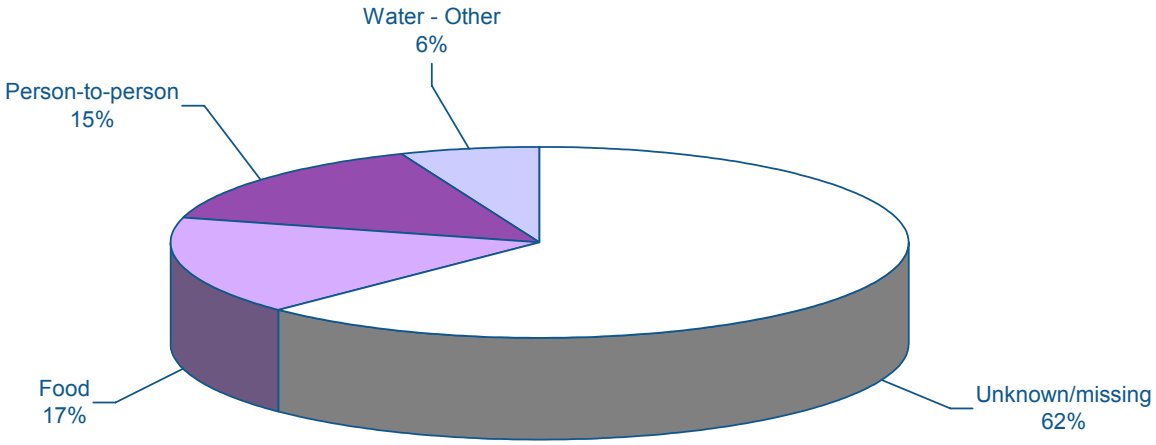
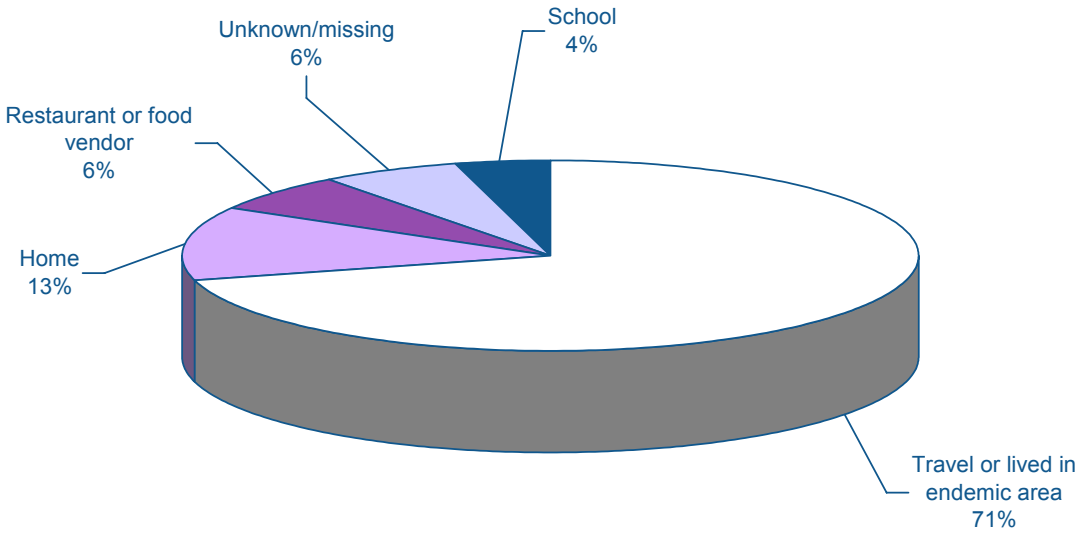


Figure 2.30: Proportion of reported cases of hepatitis A by suspected risk setting. Toronto, 2005 (N=48)



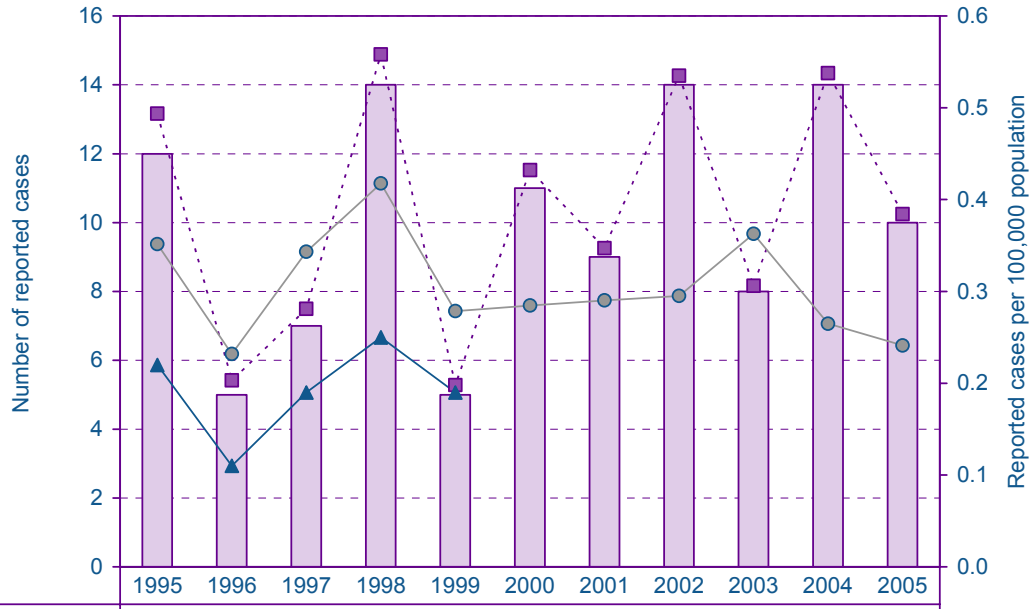
Listeriosis

Table 2.8: Listeriosis summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	10	11	10
Incidence rate (per 100,000 population)			
Overall	0.4	0.4	0.4
Male	0.2	0.3	0.3
Female	0.5	0.5	0.4
Age at onset (years)	Summary statistics		
Mean	69	59	60
Median	76	68	68
Range	25 90	<1 95	<1 95
Hospitalization rate (%)	70	64	69
Case fatality (%)	0	16	20

Highlights

- In 2005, there were 10 reported cases (0.4 cases per 100,000) of listeriosis. This represented a decrease of four cases (29%) from the 2004 total of 14 cases (Figure 2.31).
- Of the 10 cases reported in 2005, seven (70%) were treated in a hospital, and no related deaths were reported (Table 2.8).
- Over the 10-year period, older age groups were particularly vulnerable to listeriosis (Figure 2.32). In 2005, 70% (n=7) of reported cases were over 65 years of age. The median age of cases in 2005 was 76 years of age, older than the previous 5-year and 10-year medians (68 and 68 years, respectively) (Table 2.8). This may explain the higher hospitalization rate observed in 2005 compared to the previous 5-year and 10-year periods.
- The source of infection was unknown in 80% (n=8) of listeriosis cases reported in 2005. Of the cases with a reported source of infection (n=2), food was identified as the source of infection.

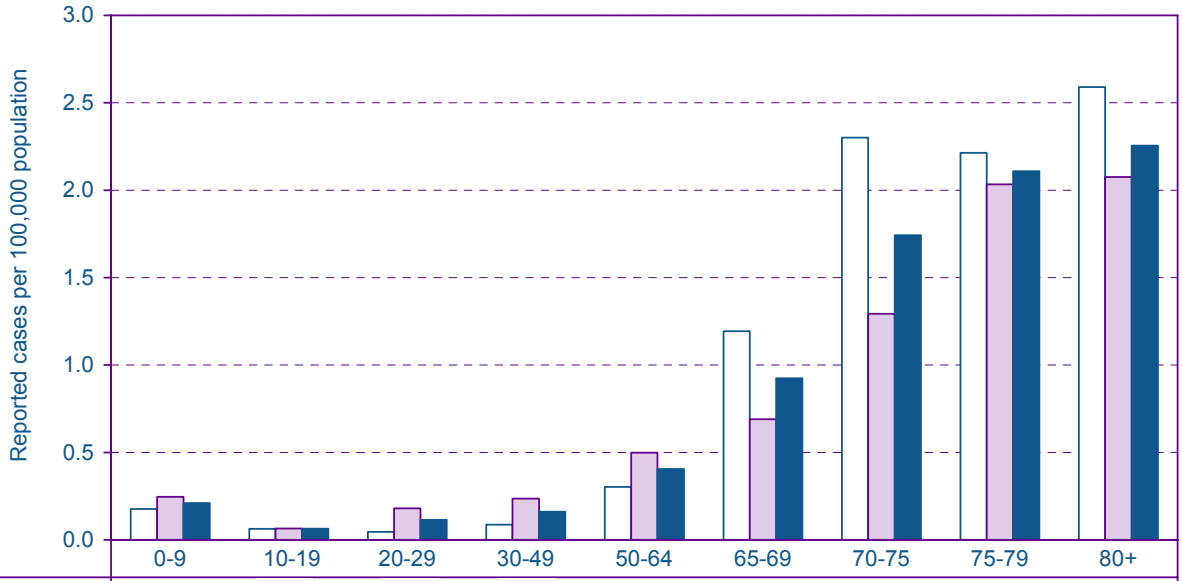
Figure 2.31: Incidence of listeriosis by year. Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	12	5	7	14	5	11	9	14	8	14	10
Toronto rates	0.5	0.2	0.3	0.6	0.2	0.4	0.3	0.5	0.3	0.5	0.4
Ontario less Toronto rates	0.4	0.2	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.2
Canada rates	0.2	0.1	0.2	0.3	0.2	NR	NR	NR	NR	NR	NR

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

Figure 2.32: Incidence of listeriosis by age group and sex. Toronto, 1995 - 2005 combined



	0-9	10-19	20-29	30-49	50-64	65-69	70-75	75-79	80+
Male rates	0.2	<0.1	<0.1	<0.1	0.3	1.2	2.3	2.2	2.6
Female rates	0.2	<0.1	0.2	0.2	0.5	0.7	1.3	2.0	2.1
Overall rates	0.2	<0.1	0.1	0.2	0.4	0.9	1.7	2.1	2.3
Male cases	3	1	1	4	6	6	10	7	8
Female cases	4	1	4	11	11	4	7	9	12

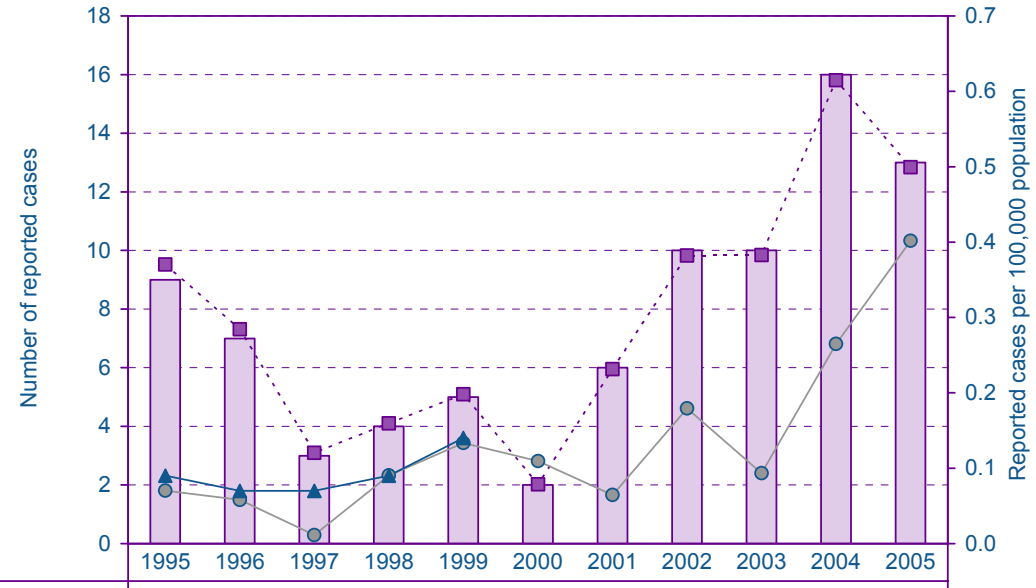
Paratyphoid fever

Table 2.9: Paratyphoid fever summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	13	9	7
Incidence rate (per 100,000 population)			
Overall	0.5	0.3	0.3
Male	0.4	0.4	0.3
Female	0.6	0.3	0.2
Age at onset (years)	Summary statistics		
Mean	30	29	27
Median	30	28	27
Range	3 52	1 87	<1 87

Highlights

- In 2005, there were 13 reported cases (0.5 cases per 100,000) of paratyphoid fever. This represented a decrease of three cases (19%) from the 2004 total of 16 (Figure 2.33).
- Travel outside of Canada to an endemic area was the identified risk setting for 92% (n=12) of cases. Of the 12 cases with a known risk setting, 58% (n=7) travelled to India, 25% (n=3) traveled to Pakistan, and one case each travelled to Bangladesh and Sri Lanka. The risk setting was unknown for the one remaining case (8%).

Figure 2.33: Incidence of paratyphoid fever by year. Toronto, the rest of Ontario and Canada, 1995 - 2005

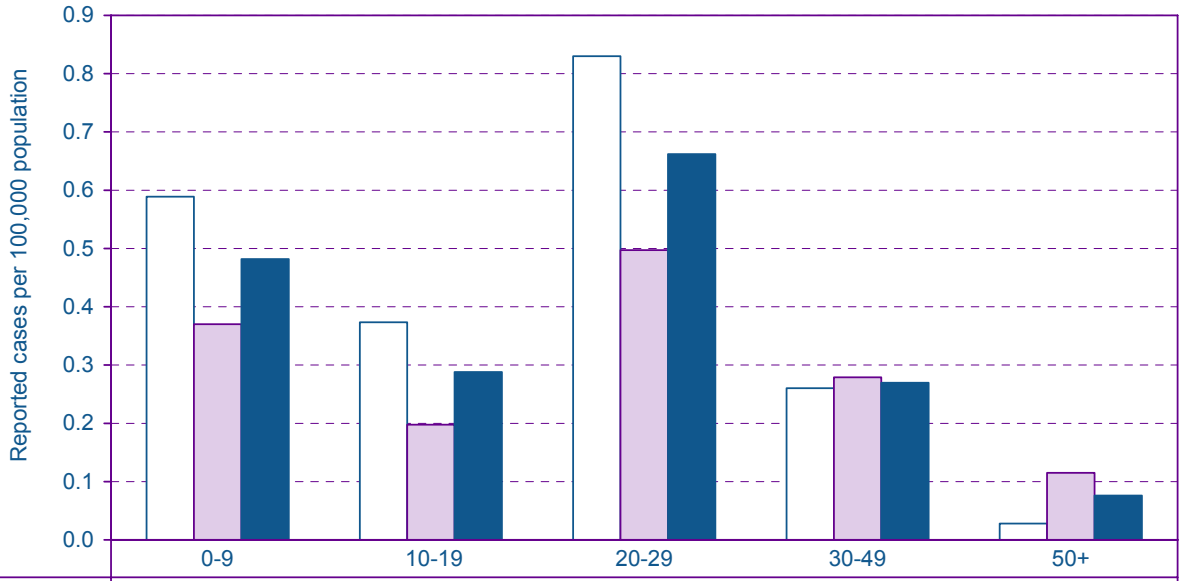


	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	9	7	3	4	5	2	6	10	10	16	13
Toronto rates	0.4	0.3	0.1	0.2	0.2	<0.1	0.2	0.4	0.4	0.6	0.5
Ontario less Toronto rates	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	0.2	<0.1	0.3	0.4
Canada rates	<0.1	<0.1	<0.1	<0.1	0.1	NR	NR	NR	NR	NR	NR

Year

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

Figure 2.34: Incidence of paratyphoid fever by age group and sex. Toronto, 1995 - 2005 combined



	0-9	10-19	20-29	30-49	50+
Male rates	0.6	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	10	6	18	12	1
Female cases	6	3	11	13	5

Age group (years)

Salmonellosis
(non-typhoidal *Salmonella*)

Table 2.10: Salmonellosis summary data
Toronto

	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	686	597	718
Incidence rate (per 100,000 population)			
Overall	26.4	23.0	28.3
Male	27.4	23.6	28.3
Female	25.4	22.4	28.1
Age at onset (years)	Summary statistics		
Mean	31	26	25
Median	28	23	21
Range	<1 101	<1 100	<1 100
Outbreak associated cases (%)	25	3	4
Hospitalization rate (%)	11	6	5

Highlights

- In 2005, there were 686 reported cases (26.4 cases per 100,000) of salmonellosis. This represented an increase of 204 (42%) cases from the 2004 total of 482 cases and the highest number of reported cases since 1998 (Figure 2.35).

- The number of outbreak associated cases was the highest observed in the previous 10-year surveillance period and accounted for 25% (n=172) of salmonellosis cases in 2005 (Table 2.10). The increase in outbreak related cases was due to a province-wide outbreak of *Salmonella enteritidis* PT 13 connected with the consumption of contaminated mung bean sprouts. Eleven percent (n=78) were treated in a hospital and no deaths occurred.

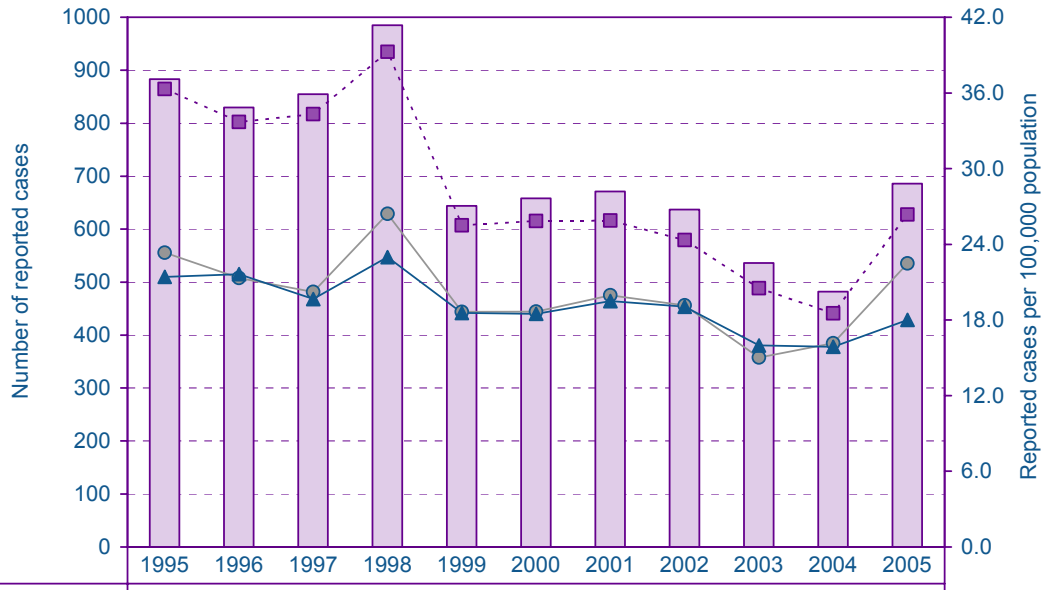
- The age group with the highest incidence rate in 2005 was once again in children under 5 years of age (72.8 cases per 100,000). The largest increases from 2004, however, were recorded in the age groups most affected by the outbreak: 20 to 29 and 30 to 39 year olds (Figure 2.36).

- With the exception of July, October, November, and December, the number of reports for each month in 2005 was lower than the historical mean (Figure 2.37).

- A specific *Salmonella* species was identified in 84% (n=577) of reported cases in 2005. Among these cases, the most commonly isolated agent was also responsible for the bean sprout outbreak, *S. enteritidis* (47%). *Salmonella typhimurium* (18%), and *S. heidelberg* (8%) were the next two most reported species (Table 2.11).

- The most commonly reported source of infection was food (26%) (Figure 2.38). The most commonly reported risk settings were travel outside of Canada to an endemic area (16%) and a restaurant or food vendor (16%) (Figure 2.39).

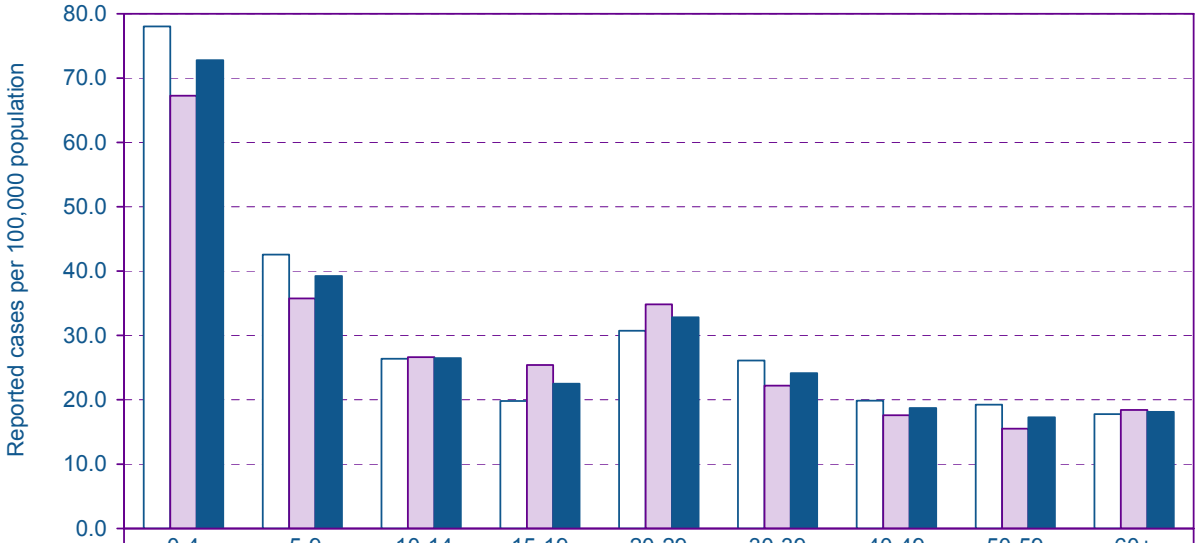
Figure 2.35: Incidence of salmonellosis by year. Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	883	830	855	985	644	658	671	637	536	482	686
Toronto rates	36.3	33.7	34.3	39.3	25.5	25.8	25.9	24.3	20.5	18.5	26.4
Ontario less Toronto rates	23.3	21.3	20.2	26.4	18.6	18.7	20.0	19.2	15.0	16.2	22.5
Canada rates	21.4	21.6	19.7	23.0	18.6	18.5	19.5	19.1	16.0	15.9	18.0

Year

Figure 2.36: Incidence of salmonellosis by age group and sex. Toronto, 2005



	0-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60+
Male rates	78.0	42.6	26.4	19.8	30.7	26.1	19.9	19.2	17.8
Female rates	67.3	35.8	26.6	25.4	34.8	22.2	17.6	15.5	18.4
Overall rates	72.8	39.2	26.5	22.5	32.8	24.2	18.7	17.3	18.1
Male cases	57	32	20	15	61	59	40	28	35
Female cases	47	26	19	18	71	50	36	25	47

Age group (years)

Figure 2.37: Number of reported cases of salmonellosis by month. Toronto, 2005 compared to 1995 - 2004 mean

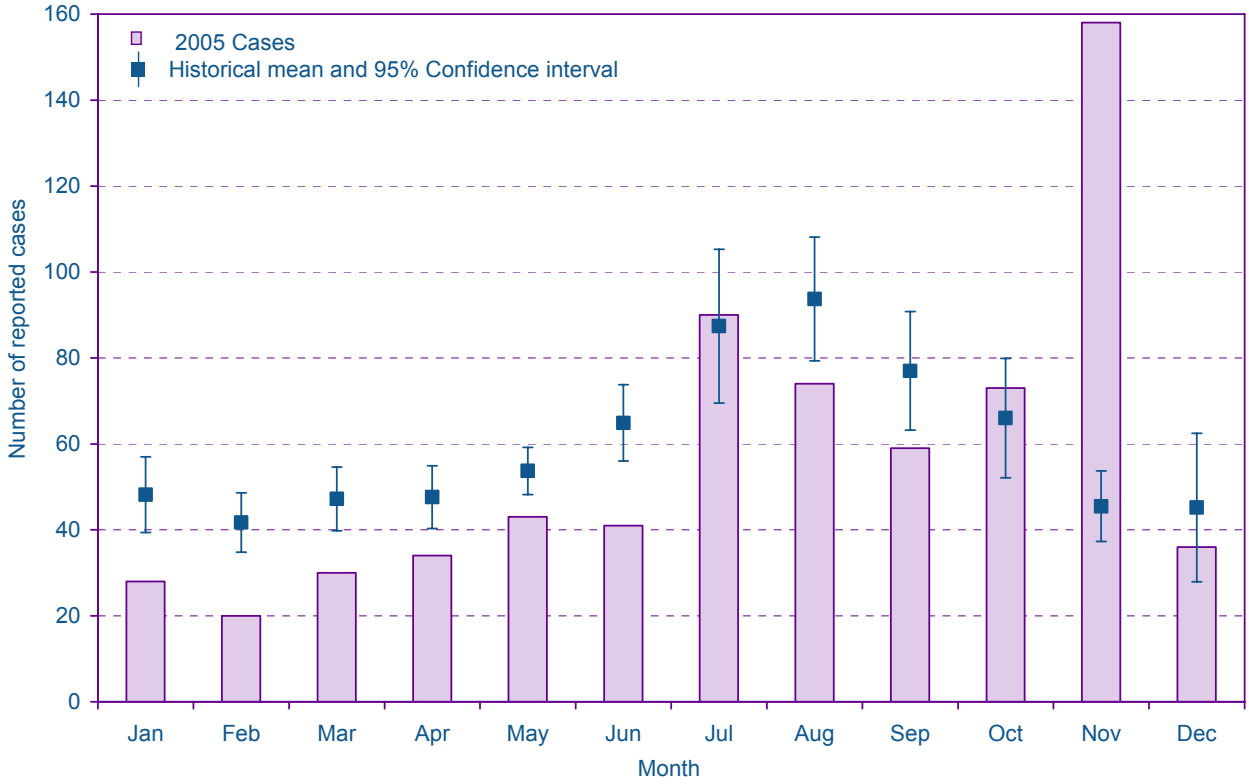


Table 2.11: Ten most prevalent *Salmonella* species. Toronto, 2005 cases compared to previous 5-year mean

***Salmonella* species**	**Number of cases (%)**	
	2005 (N = 577)*	**5-yr mean 2000-2004 (N = 431)***
S. enteritidis	272 (47)	102 (24)
S. typhimurium	105 (18)	109 (25)
S. heidelberg	48 (8)	76 (18)
S. muenchen	22 (4)	4 (1)
S. thompson	16 (3)	22 (5)
S. infantis	13 (2)	15 (3)
S. berta	12 (2)	9 (2)
S. hadar	12 (2)	26 (6)
S. newport	10 (2)	14 (3)
S. schwarzengrund	8 (1)	2 (<1)

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

Figure 2.38: Proportion of reported cases of salmonellosis by suspected source of infection. Toronto, 2005 (N=686)

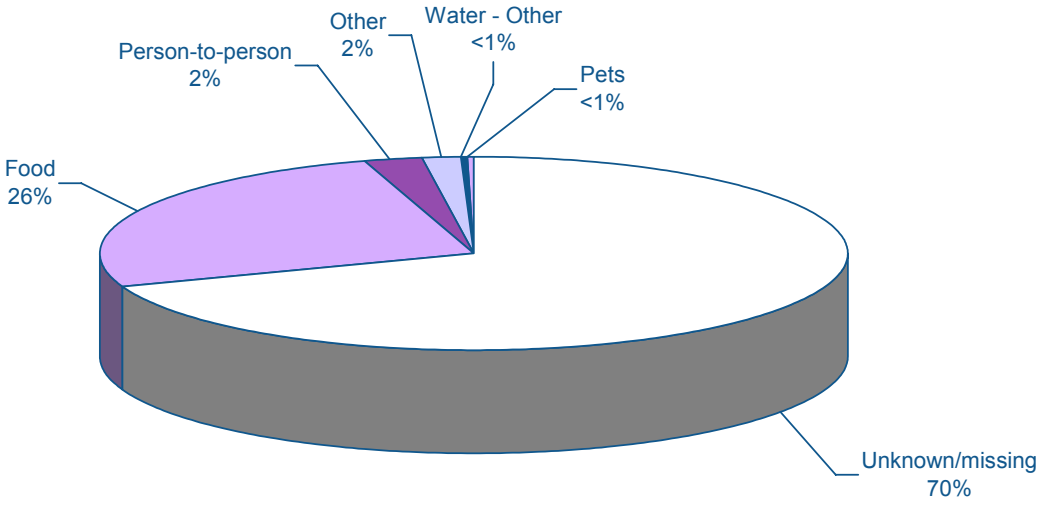
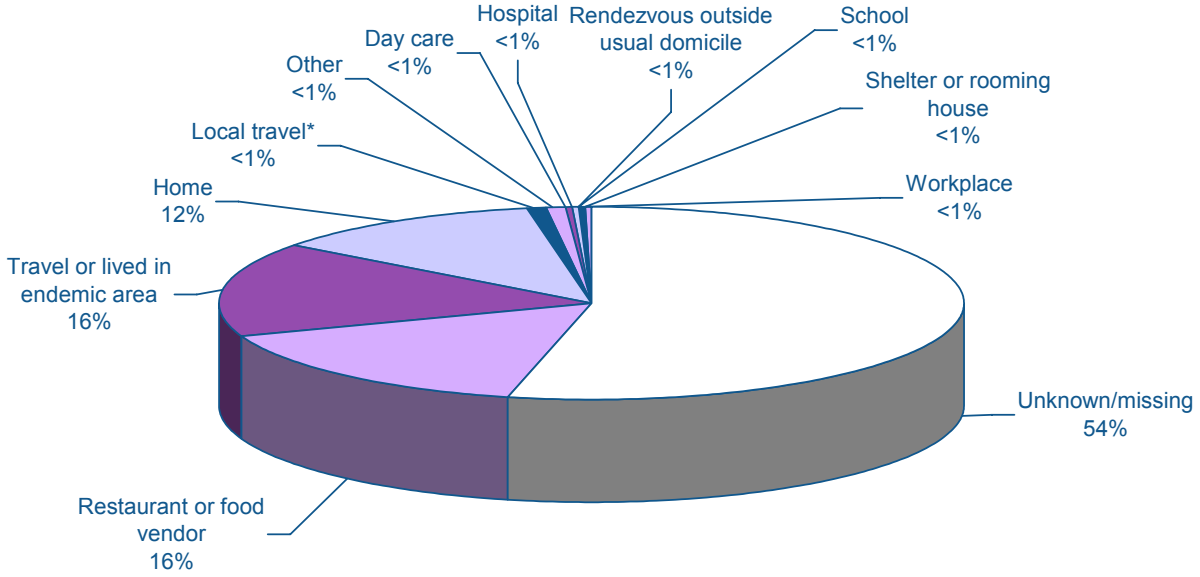


Figure 2.39: Proportion of reported cases of salmonellosis by suspected risk setting. Toronto, 2005 (N=686)



*Includes travel to a local vacation property and camping.

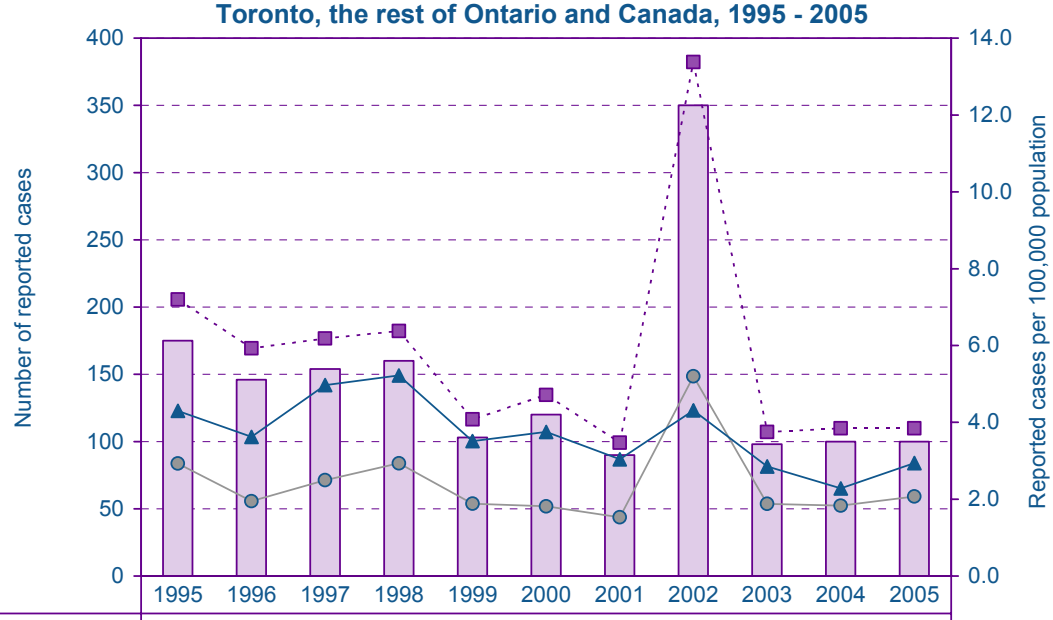
Shigellosis

Table 2.12: Shigellosis summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	100	152	150
Incidence rate (per 100,000 population)			
Overall	3.8	5.8	5.9
Male	4.1	6.5	6.4
Female	3.6	5.2	5.4
Age at onset (years)	Summary statistics		
Mean	27	32	29
Median	30	33	30
Range	1 77	<1 83	<1 84
Outbreak associated cases (%)	0	33	19
Hospitalization rate (%)	14	8	6

Highlights

- In 2005, there were 100 reported cases (3.8 cases per 100,000) of shigellosis. This remained unchanged from the number of cases reported in 2004 (Figure 2.40).
- There were no outbreak related shigellosis cases in 2005 (Table 2.12). Fourteen percent of all cases (n=14) were treated in hospital. This is higher than both the 5-year and 10-year means, but lower than the 2004 hospitalization rate (22%). The increase in hospitalization may be related to the increased proportion of the more virulent *Shigella flexneri* reported in 2005.
- The age group with the highest incidence rate in 2005 was 0 to 4 year olds (11.2 cases per 100,000), followed by 5 to 9 year olds (9.5 cases per 100,000) (Figure 2.41).
- Males accounted for 52% (n=52) of all shigellosis cases in 2005 and had a rate (4.1 cases per 100,000) greater than that of females (3.6 cases per 100,000) (Table 2.12). The greatest differences were seen in the 40 to 49 year age group, with rates in males more than twice that of females (Table 2.41).
- The number of reports for each month in 2005 was comparable to, or lower than, the historical mean (Figure 2.43).
- Among the 100 shigella cases reported in 2005, the most commonly isolated agents were *S. sonnei* (60%) and *S. flexneri* (36%) (Figure 2.44). The proportion of *S. flexneri* cases reported in 2005 represented an increase from 26% in 2004.
- The most commonly reported sources of infection were food (24%) and person-to-person transmission (14%) (Figure 2.45). The most commonly reported risk setting was travel outside of Canada to an endemic area (37%) (Figure 2.46).

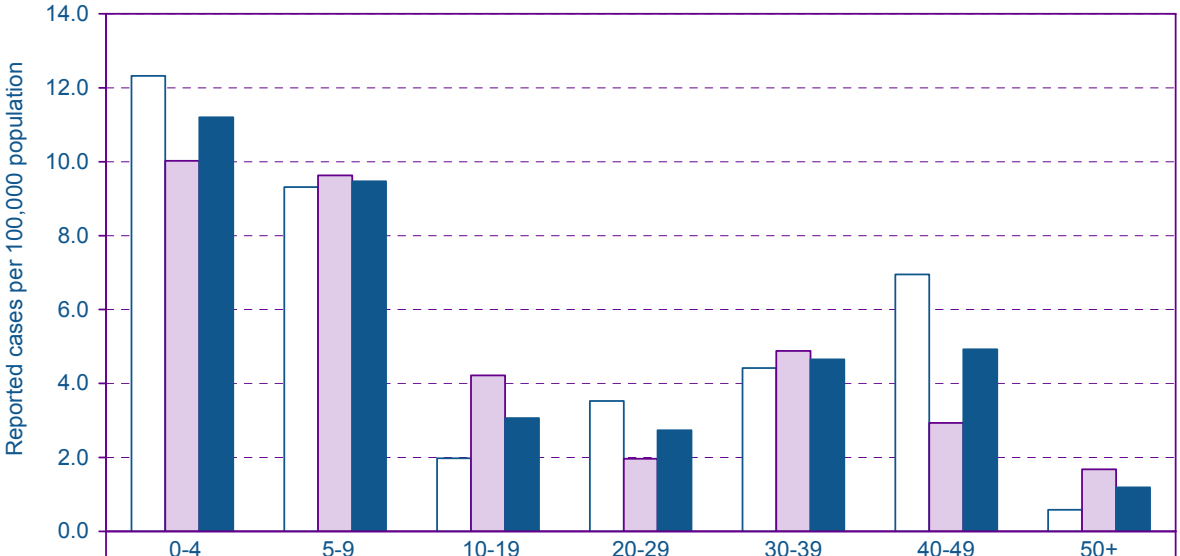
Figure 2.40: Incidence of shigellosis by year.
Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	175	146	154	160	103	120	90	350	98	100	100
Toronto rates	7.2	5.9	6.2	6.4	4.1	4.7	3.5	13.4	3.8	3.8	3.8
Ontario less Toronto rates	2.9	1.9	2.5	2.9	1.9	1.8	1.5	5.2	1.9	1.8	2.1
Canada rates	4.3	3.6	5.0	5.2	3.5	3.8	3.0	4.3	2.9	2.3	2.9

Year

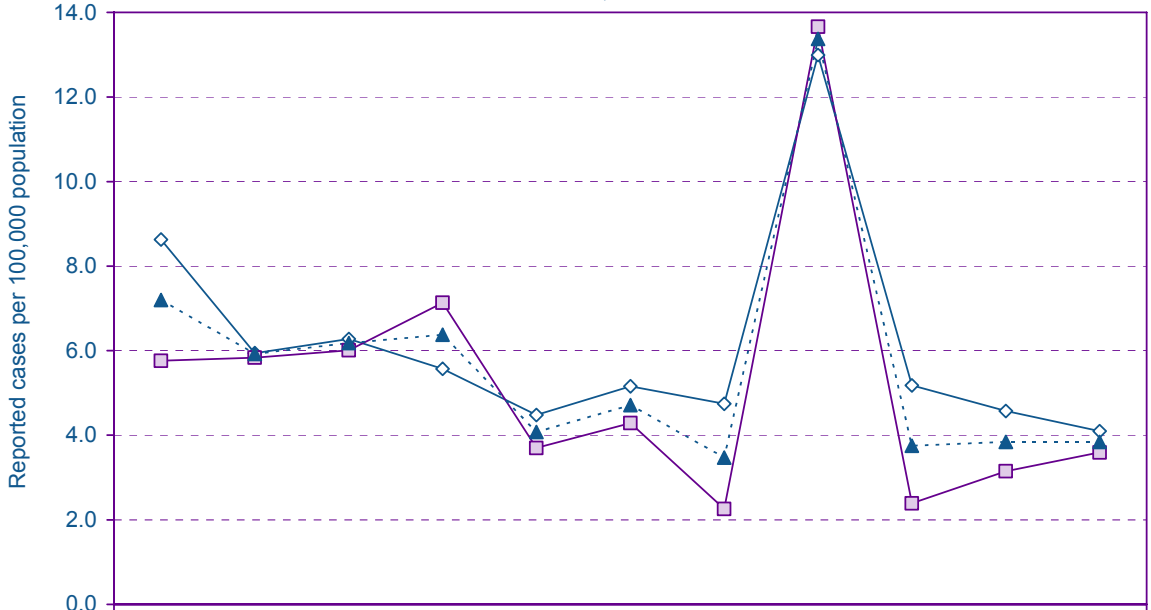
Figure 2.41: Incidence of shigellosis by age group and sex.
Toronto, 2005



	0-4	5-9	10-19	20-29	30-39	40-49	50+
Male rates	12.3	9.3	2.0	3.5	4.4	7.0	0.6
Female rates	10.0	9.6	4.2	2.0	4.9	2.9	1.7
Overall rates	11.2	9.5	3.1	2.7	4.7	4.9	1.2
Male cases	9	7	3	7	10	14	2
Female cases	7	7	6	4	11	6	7

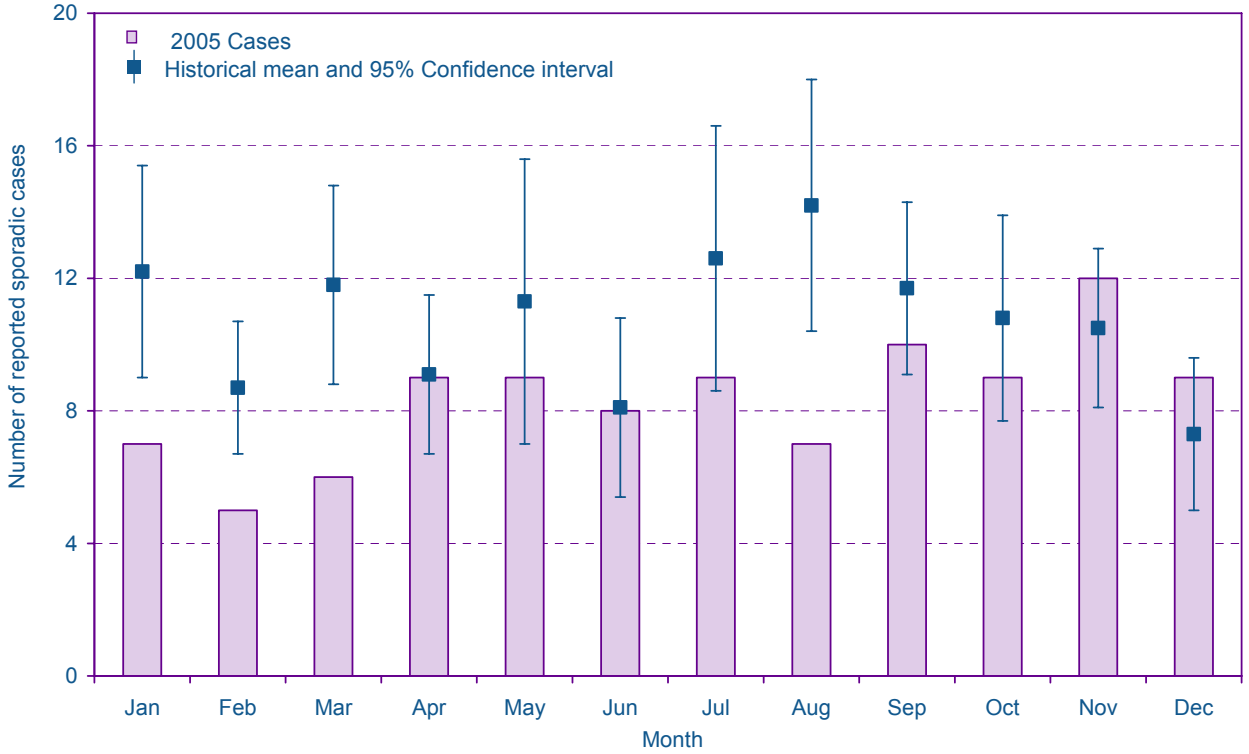
Age group (years)

Figure 2.42: Incidence rates of shigellosis by sex and year. Toronto, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Male rates	8.6	5.9	6.3	5.6	4.5	5.2	4.7	13.0	5.2	4.6	4.1
Female rates	5.8	5.8	6.0	7.1	3.7	4.3	2.3	13.7	2.4	3.1	3.6
Overall rates	7.2	5.9	6.2	6.4	4.1	4.7	3.5	13.4	3.8	3.8	3.8

Figure 2.43: Number of reported cases of shigellosis by month. Toronto 2005 compared to 1995 - 2004 mean*



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

Figure 2.44: Proportion of reported cases of shigellosis by agent. Toronto, 2005 (N=100)

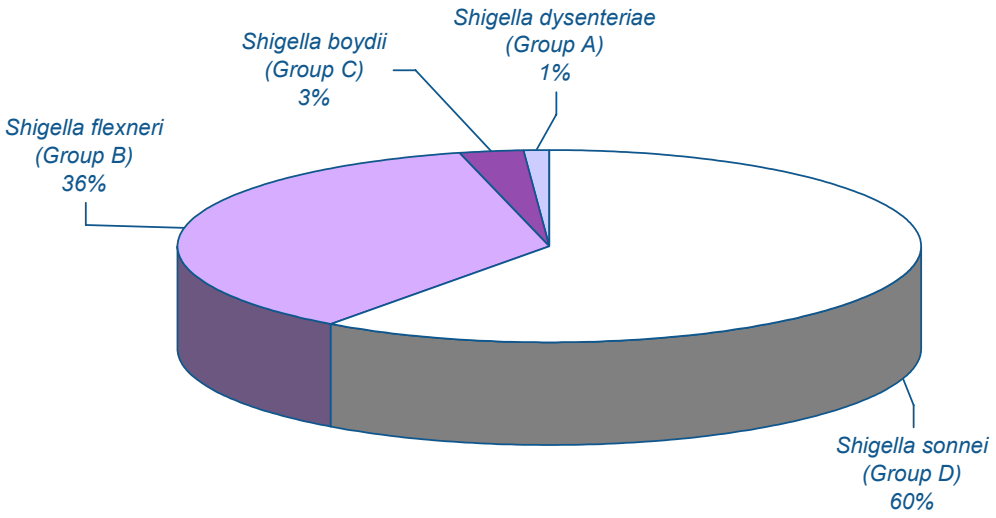


Figure 2.45: Proportion of reported cases of shigellosis by suspected source of infection. Toronto, 2005 (N=100)

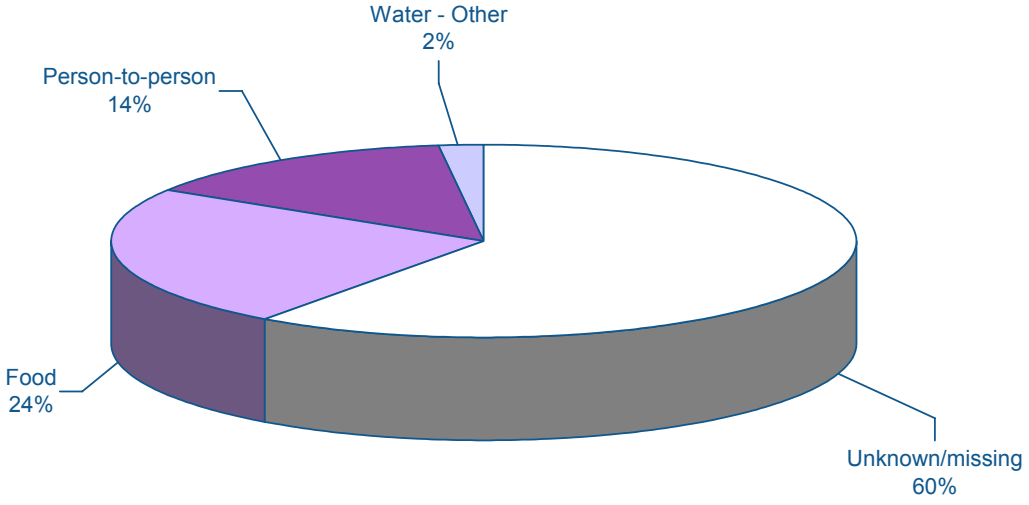
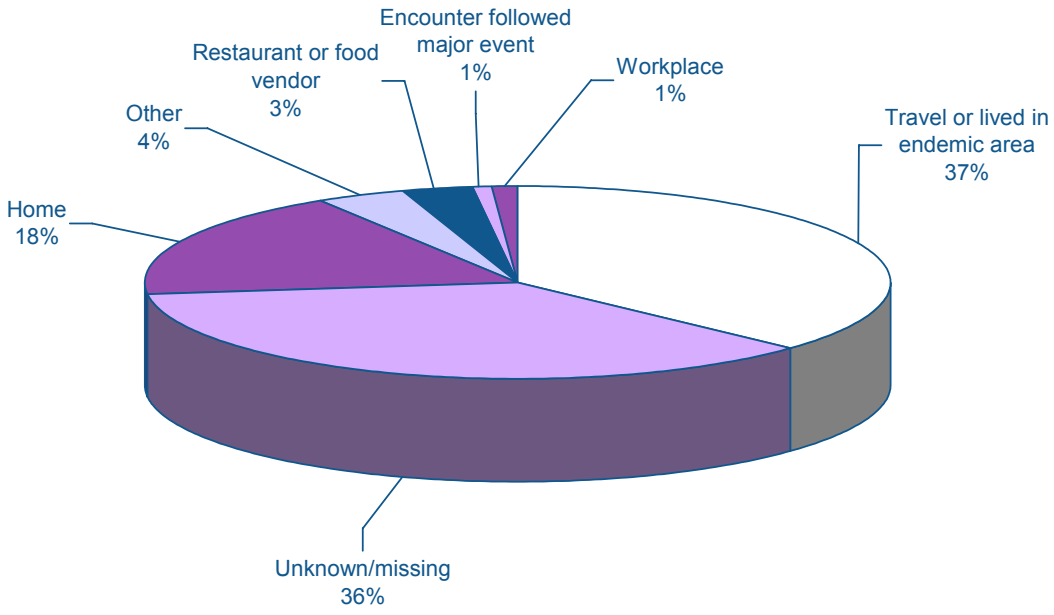


Figure 2.46: Proportion of reported cases of shigellosis by suspected risk setting. Toronto, 2005 (N=100)



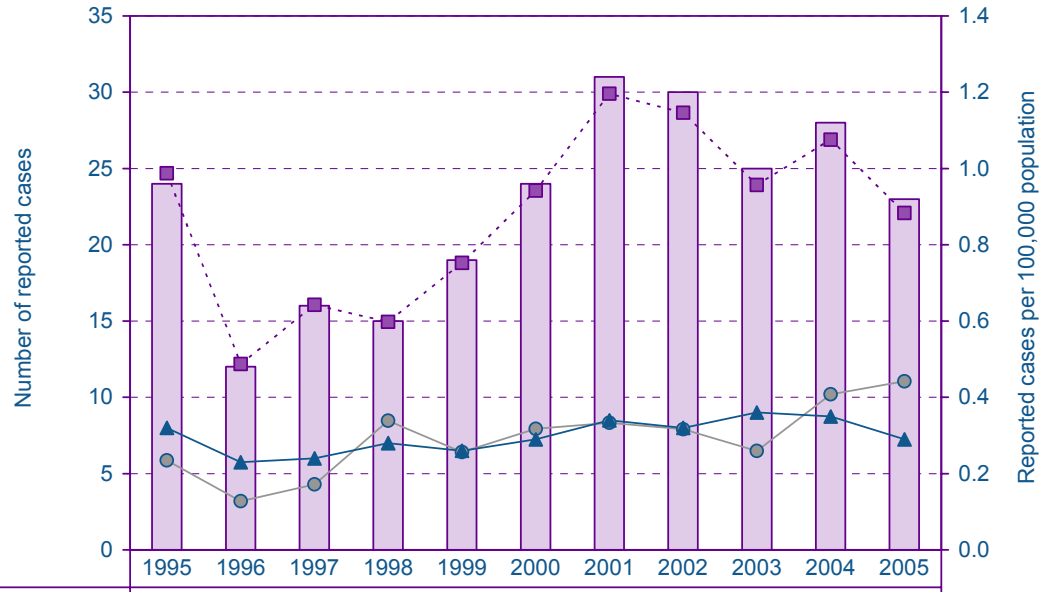
Typhoid fever

Table 2.13: Typhoid fever summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	23	28	22
Incidence rate (per 100,000 population)			
Overall	0.9	1.1	0.9
Male	0.8	1.0	0.9
Female	1.0	1.1	0.8
Age at onset (years)	Summary statistics		
Mean	24	22	22
Median	20	20	20
Range	1 60	<1 58	<1 83

Highlights

- In 2005, there were 23 reported cases (0.9 cases per 100,000) of typhoid fever. This represented a decrease of five cases (18%) from the 2004 total of 28 cases (Figure 2.47).
- The number of reports in June, August, October and November exceeded the historical means for those months (Figure 2.49). The highest numbers of cases were reported in June, August, and October.
- The source of infection was unknown in 83% (n=19) of typhoid fever cases reported in 2005. Of the cases with a recorded source of infection, the most commonly reported sources of infection were water (13%) and food (4%) (Figure 2.50). Travel outside of Canada to an endemic area was the most common risk setting for acquiring typhoid fever (87%) (Figure 2.51). Of the 20 cases with known travel destinations, 45% (n=9) travelled to India, 25% (n=5) traveled to Bangladesh, 20% (n=4) travelled to Pakistan, and one case reported travel to each of Afghanistan and the Philippines.

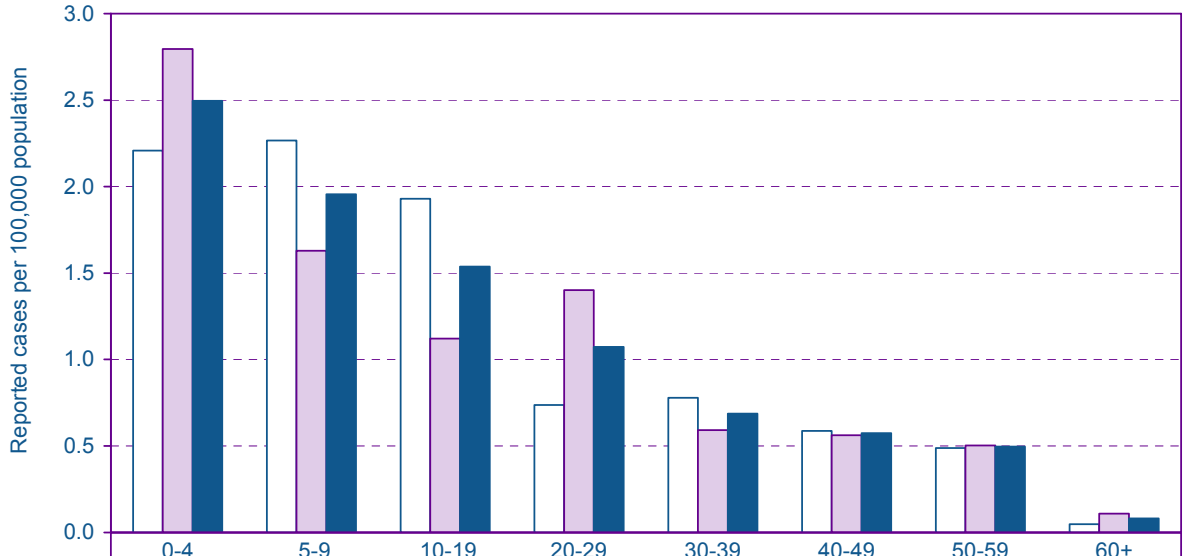
Figure 2.47: Incidence of typhoid fever by year.
Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	24	12	16	15	19	24	31	30	25	28	23
Toronto rates	1.0	0.5	0.6	0.6	0.8	0.9	1.2	1.1	1.0	1.1	0.9
Ontario less Toronto rates	0.2	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4
Canada rates	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3

Year

Figure 2.48: Incidence of typhoid fever by age group and sex.
Toronto, 1995 - 2005 combined



	0-4	5-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	2.2	2.3	1.9	0.7	0.8	0.6	0.5	<0.1
Female rates	2.8	1.6	1.1	1.4	0.6	0.6	0.5	0.1
Overall rates	2.5	2.0	1.5	1.1	0.7	0.6	0.5	<0.1
Male cases	19	19	31	16	20	12	7	1
Female cases	23	13	17	31	15	12	8	3

Age group (years)

Figure 2.49: Number of reported cases of typhoid fever by month. Toronto, 2005 compared to 1995 - 2004 mean

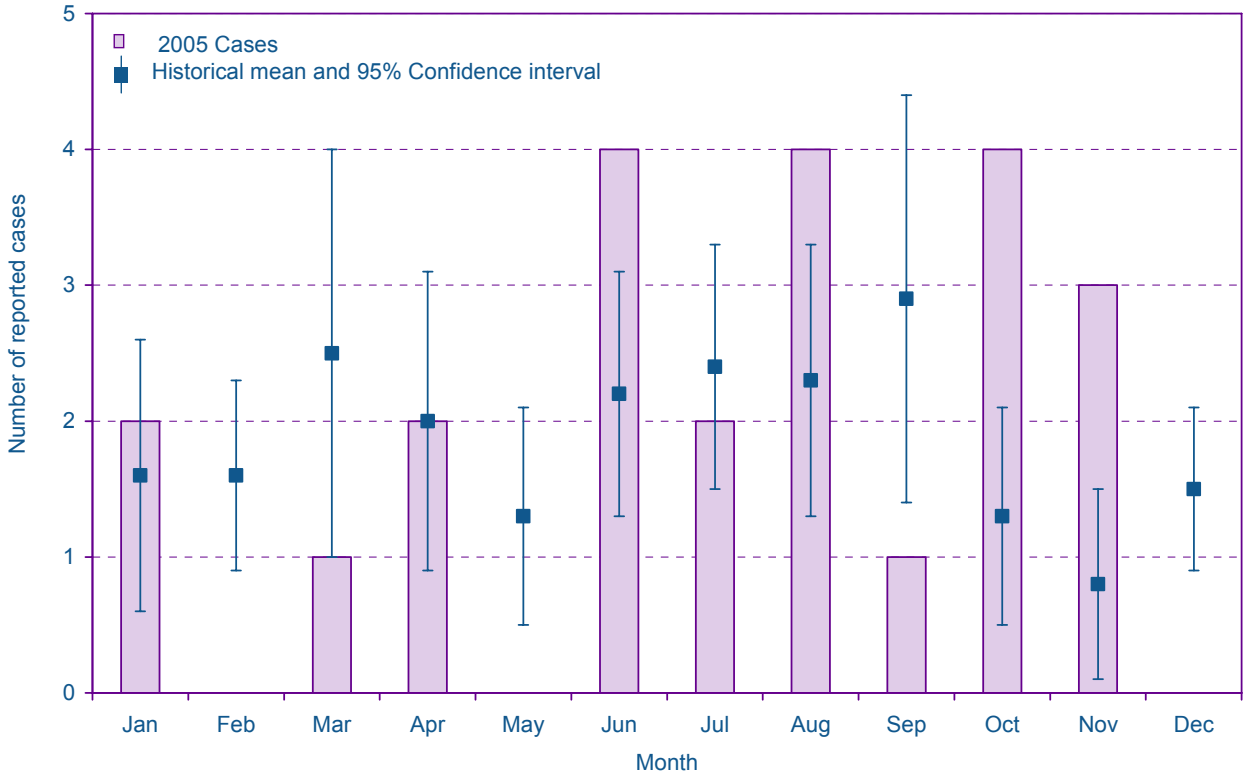


Figure 2.50: Proportion of reported cases of typhoid fever by suspected source of infection. Toronto, 2005 (N=23)

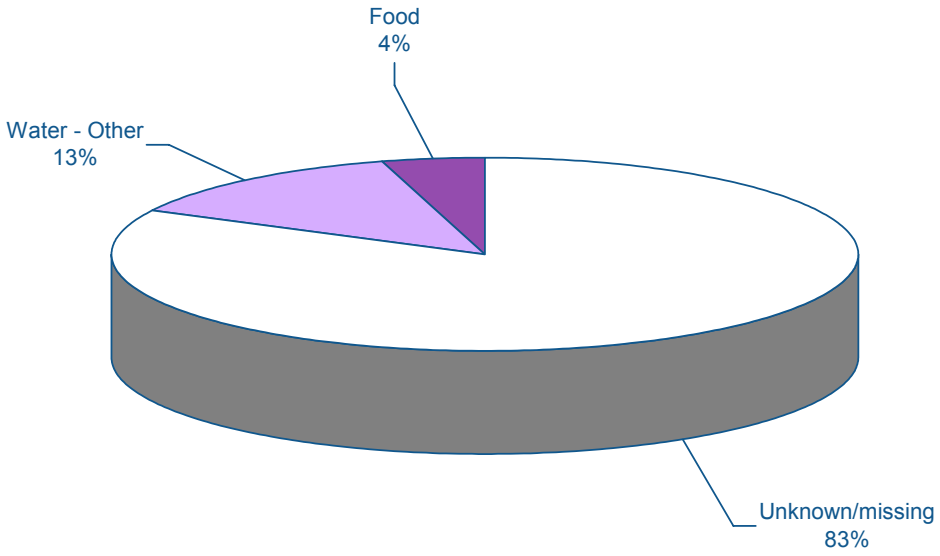
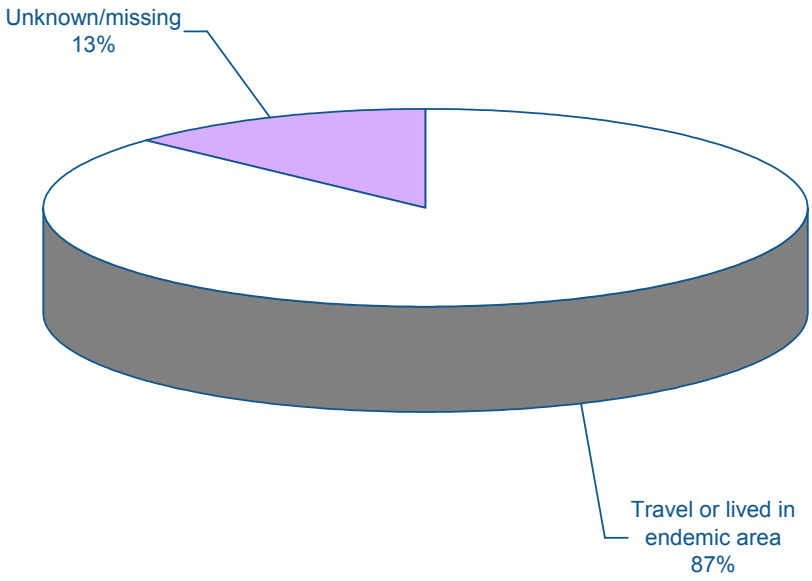


Figure 2.51: Proportion of reported cases of typhoid fever by suspected risk setting. Toronto, 2005 (N=23)



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

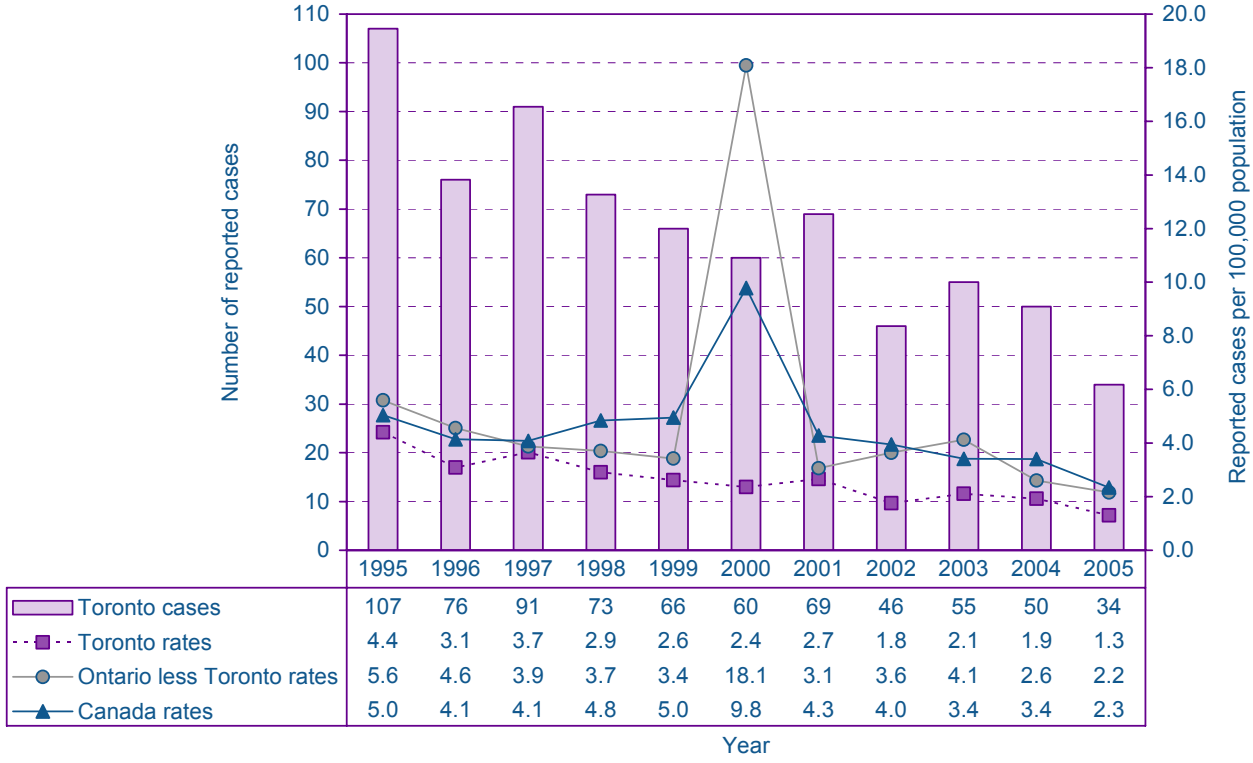
Table 2.14: Verotoxin-producing *E. coli* infection summary data
Toronto

	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	34	56	69
Incidence rate (per 100,000 population)			
Overall	1.3	2.2	2.7
Male	1.2	2.1	2.7
Female	1.4	2.2	2.7
Age at onset (years)	Summary statistics		
Mean	29	27	26
Median	18	16	15
Range	2 82	<1 87	<1 92
Outbreak associated cases (%)	0	14	7
Hospitalization rate (%)	38	23	23

Highlights

- In 2005, there were 34 reported cases (1.3 cases per 100,000) of verotoxin-producing *E. coli* (VTEC). This represented a decrease of 16 cases (32%) from the 2004 total of 50 cases (Figure 2.52). This was the lowest number of reported cases in the previous 10-year surveillance period.
- Of the 34 reported cases, 38% (n=13) were treated in a hospital and no related deaths were reported (Table 2.14). The hospitalization rate in 2005 was higher than the rate in previous 5-year and 10-year periods. Hemolytic–uremic syndrome (HUS) was reported in two cases (6%). No cases were outbreak associated.
- In 2005, 32% (n=11) of reported cases were under 10 years of age. This is expected, as VTEC typically affects younger age groups disproportionately.
- The number of reports for each month in 2005 was comparable to, or lower than, the historical mean (Figure 2.54). The highest number of cases was reported in July.
- The most commonly reported source of infection was food (24%) (Figure 2.55). The most commonly reported risk setting was the home environment (12%) and local travel (12%) (Figure 2.56).

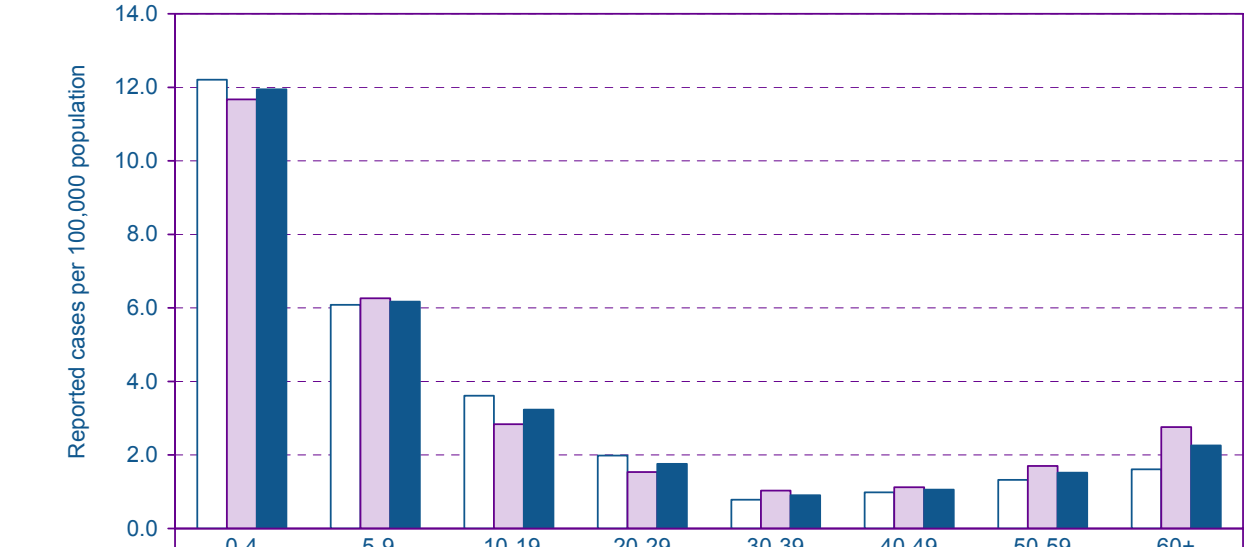
Figure 2.52: Incidence of verotoxin-producing *E. coli* infection by year. Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	107	76	91	73	66	60	69	46	55	50	34
Toronto rates	4.4	3.1	3.7	2.9	2.6	2.4	2.7	1.8	2.1	1.9	1.3
Ontario less Toronto rates	5.6	4.6	3.9	3.7	3.4	18.1	3.1	3.6	4.1	2.6	2.2
Canada rates	5.0	4.1	4.1	4.8	5.0	9.8	4.3	4.0	3.4	3.4	2.3

Year

Figure 2.53: Incidence of verotoxin-producing *E. coli* infection by age group* and sex. Toronto, 1995 - 2005 combined



	0-4	5-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	12.2	6.1	3.6	2.0	0.8	1.0	1.3	1.6
Female rates	11.7	6.3	2.8	1.5	1.0	1.1	1.7	2.8
Overall rates	11.9	6.2	3.2	1.8	0.9	1.1	1.5	2.3
Male cases	105	51	58	43	20	20	19	34
Female cases	96	50	43	34	26	24	27	76

*The age of one case was not reported.

Age group (years)

Figure 2.54: Number of reported cases of verotoxin-producing *E. coli* infection by month. Toronto, 2005 compared to 1995 - 2004 mean

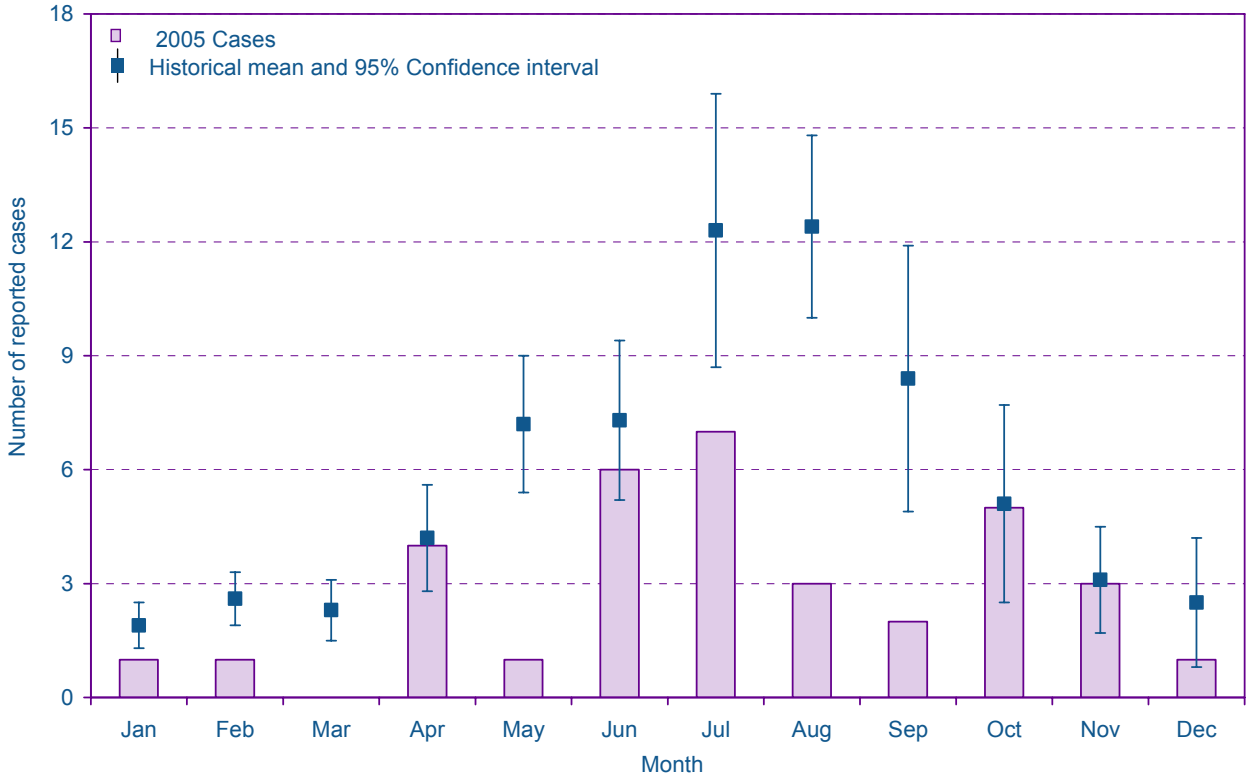


Figure 2.55: Proportion of reported cases of verotoxin-producing *E. coli* infection by suspected source of infection. Toronto, 2005 (N=34)

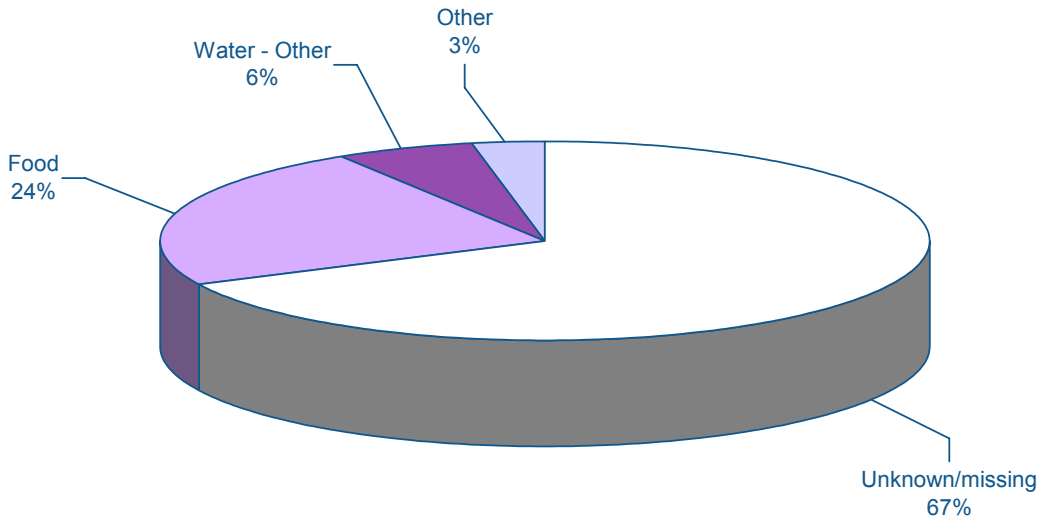
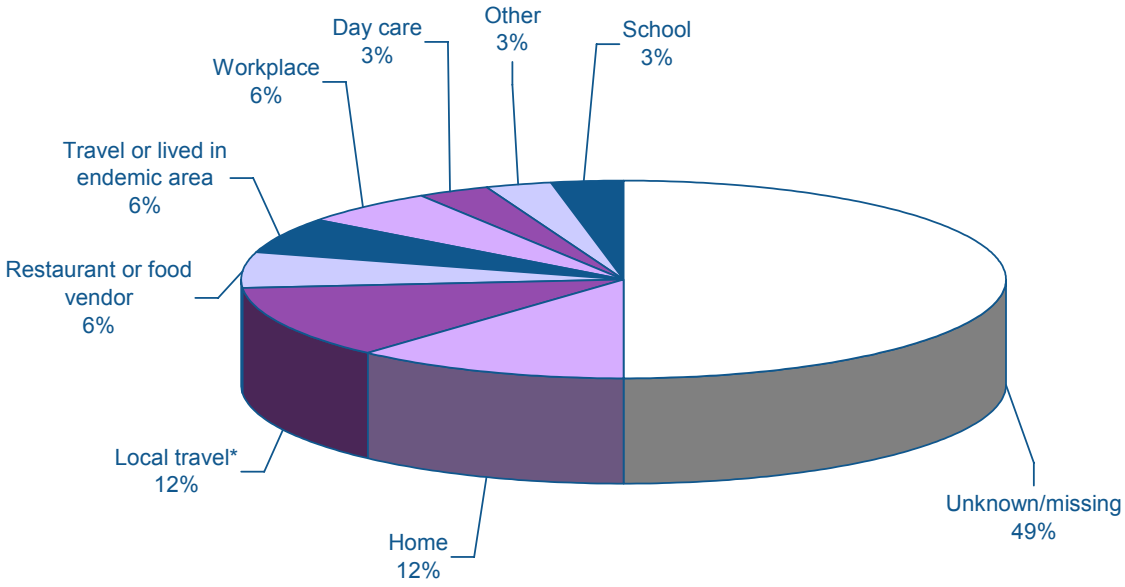


Figure 2.56: Proportion of reported cases of verotoxin-producing *E. coli* infection by suspected risk setting. Toronto, 2005 (N=34)



*Includes travel to a local vacation property and camping.

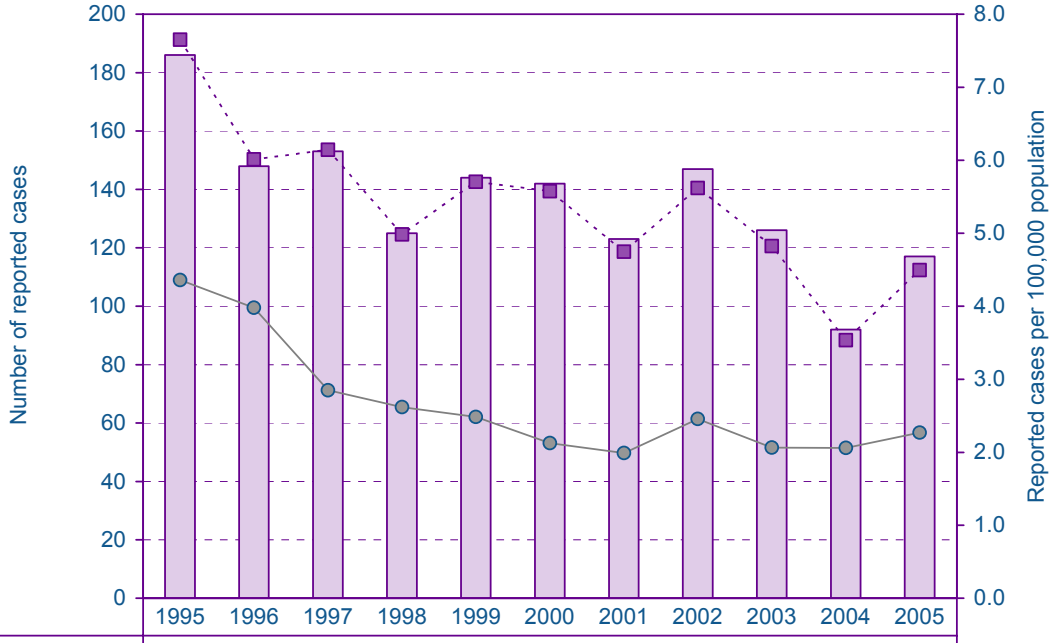
Yersiniosis

Table 2.15: Yersiniosis summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	117	126	139
Incidence rate (per 100,000 population)			
Overall	4.5	4.9	5.5
Male	5.8	5.5	6.3
Female	3.2	4.2	4.7
Age at onset (years)	Summary statistics		
Mean	18	20	20
Median	10	11	10
Range	<1 89	<1 101	<1 101

Highlights

- In 2005, there were 117 reported cases (4.5 cases per 100,000) of yersiniosis. This represented an increase of 25 cases (27%) from the 2004 total of 92 cases (Figure 2.57).
- Males accounted for 63% (n=74) of all yersiniosis cases in 2005 and experienced higher or comparable rates of disease than females in all age groups (Figure 2.58). The largest difference was detected in the 5 to 9 year age groups, in which males experienced more than four times the rate of yersiniosis than females.
- The numbers of reported cases in April and May were higher than the historical mean (Figure 2.59). The highest number of cases was reported in April.
- The most commonly reported source of infection was food (10%) (Figure 2.60). The most commonly reported risk setting was the home environment (22%) (Figure 2.61).

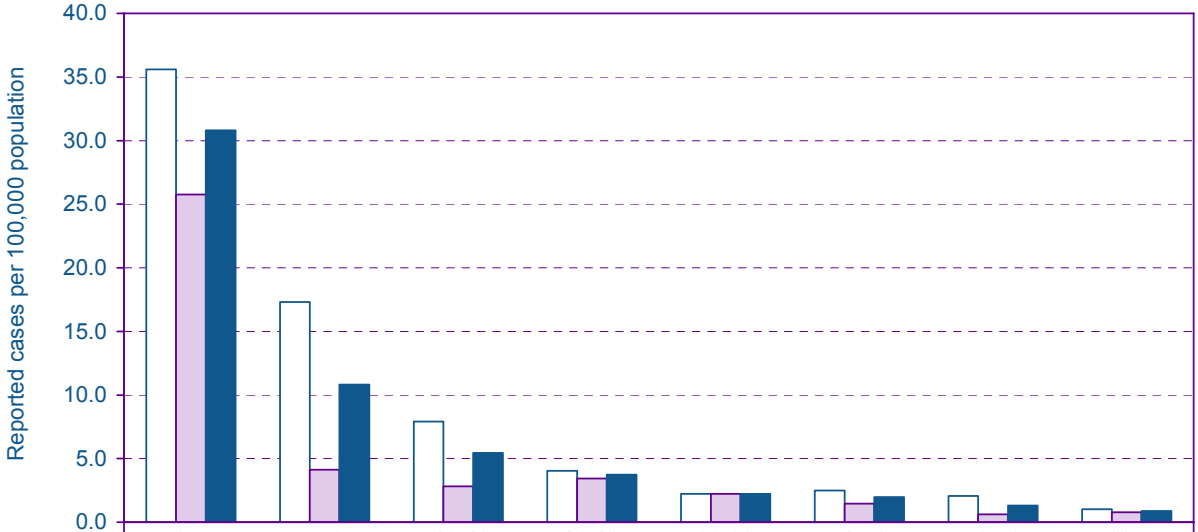
Figure 2.57: Incidence of yersiniosis by year.
Toronto and the rest of Ontario, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	186	148	153	125	144	142	123	147	126	92	117
Toronto rates	7.7	6.0	6.1	5.0	5.7	5.6	4.7	5.6	4.8	3.5	4.5
Ontario less Toronto rates	4.4	4.0	2.8	2.6	2.5	2.1	2.0	2.5	2.1	2.1	2.3

Yersiniosis is not nationally notifiable.

Figure 2.58: Incidence of yersiniosis by age group and sex.
Toronto, 2005



	0-4	5-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	35.6	17.3	7.9	4.0	2.2	2.5	2.1	1.0
Female rates	25.8	4.1	2.8	3.4	2.2	1.5	0.6	0.8
Overall rates	30.8	10.8	5.4	3.7	2.2	2.0	1.3	0.9
Male cases	26	13	12	8	5	5	3	2
Female cases	18	3	4	7	5	3	1	2

**Figure 2.59: Number of reported cases of yersiniosis by month.
Toronto, 2005 compared to 1995 - 2004 mean**

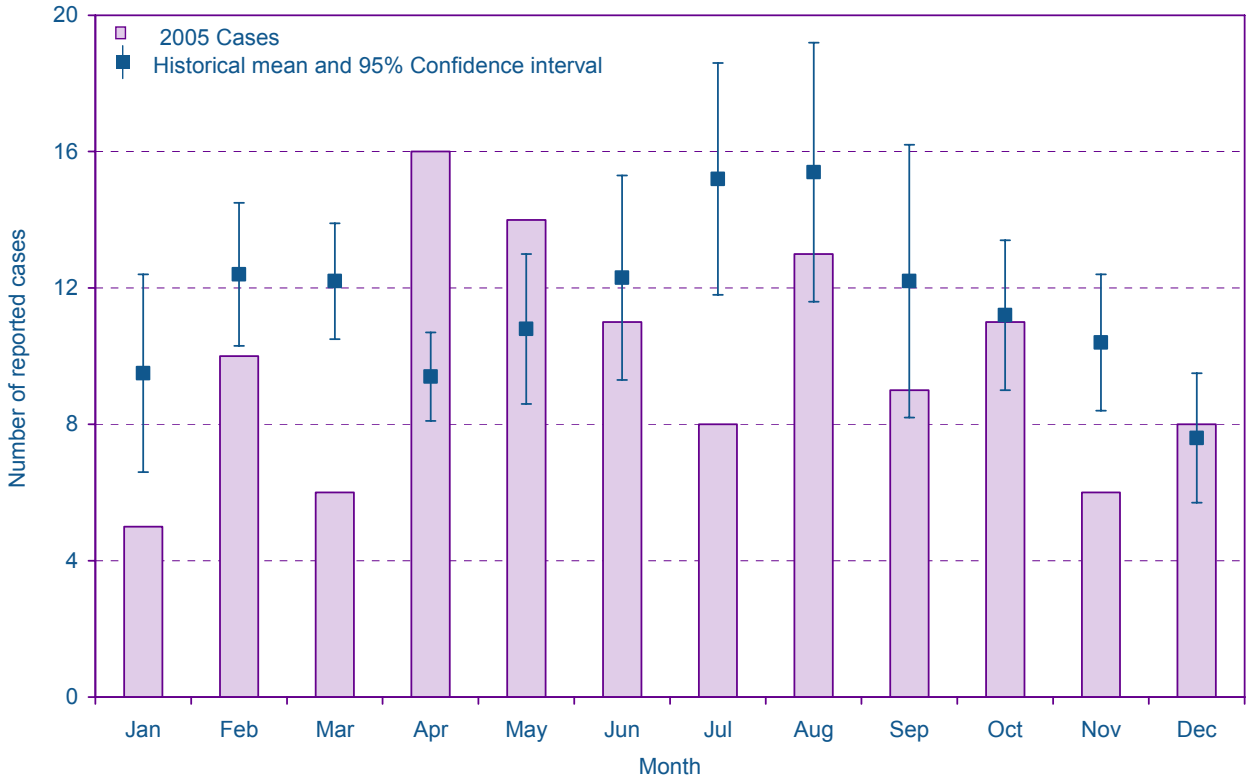


**Figure 2.60: Proportion of reported cases of yersiniosis by suspected source of infection.
Toronto, 2005 (N=117)**

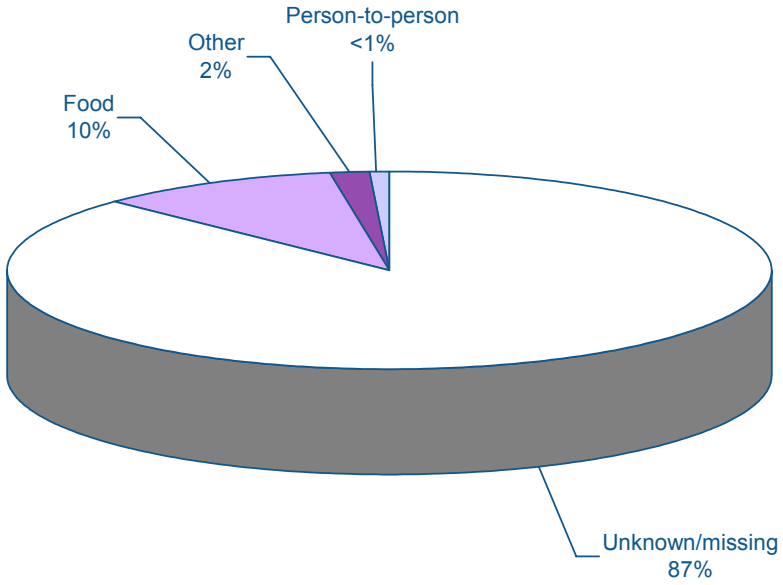
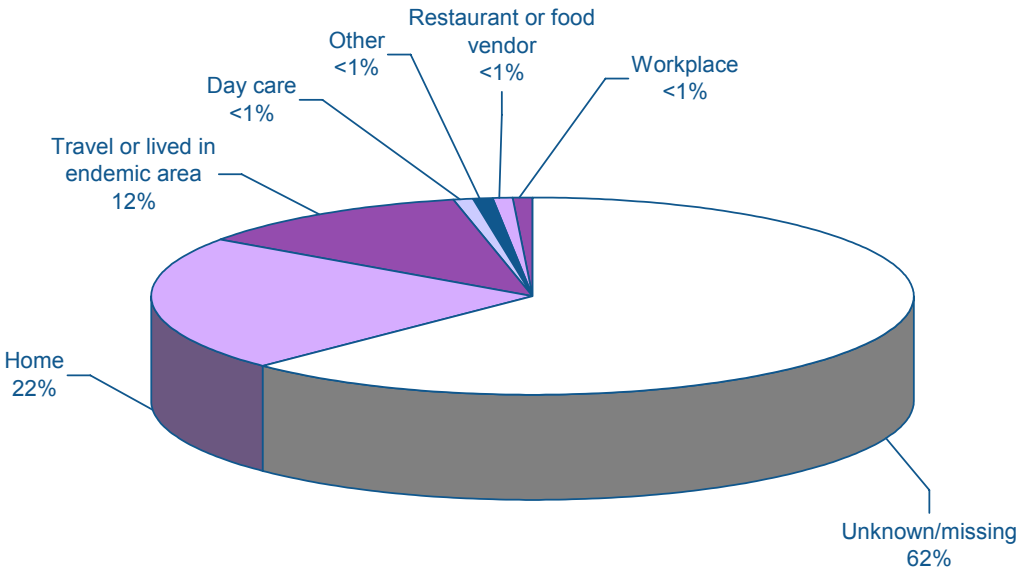


Figure 2.61: Proportion of reported cases of yersiniosis by suspected risk setting. Toronto, 2005 (N=117)



Diseases Preventable by Routine Vaccination

Communicable Diseases in Toronto

2005

Toronto Public Health

Diseases Preventable by Routine Vaccination

This section focuses on 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. In 2005, influenza accounted for 73% of reports falling into this category. ❑

Table 3.1: Number and proportion of reported cases of vaccine preventable diseases. Toronto, 2005

Ranking	Reportable disease	Number of cases	Proportion of cases (%)
1	Influenza*	517	73
2	Pertussis	177	25
3	Mumps	7	1
4	Rubella	4	<1
5	Measles	1	<1
	Total	**706**	**100**

*Seasonal year from July to June (e.g. 2005/06 includes cases from July 1, 2005 to June 30, 2006)
Rare reportable diseases not summarized in this section include diphtheria, Haemophilus influenzae type b disease (invasive), poliomyelitis, rubella (congenital syndrome), smallpox and tetanus.

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

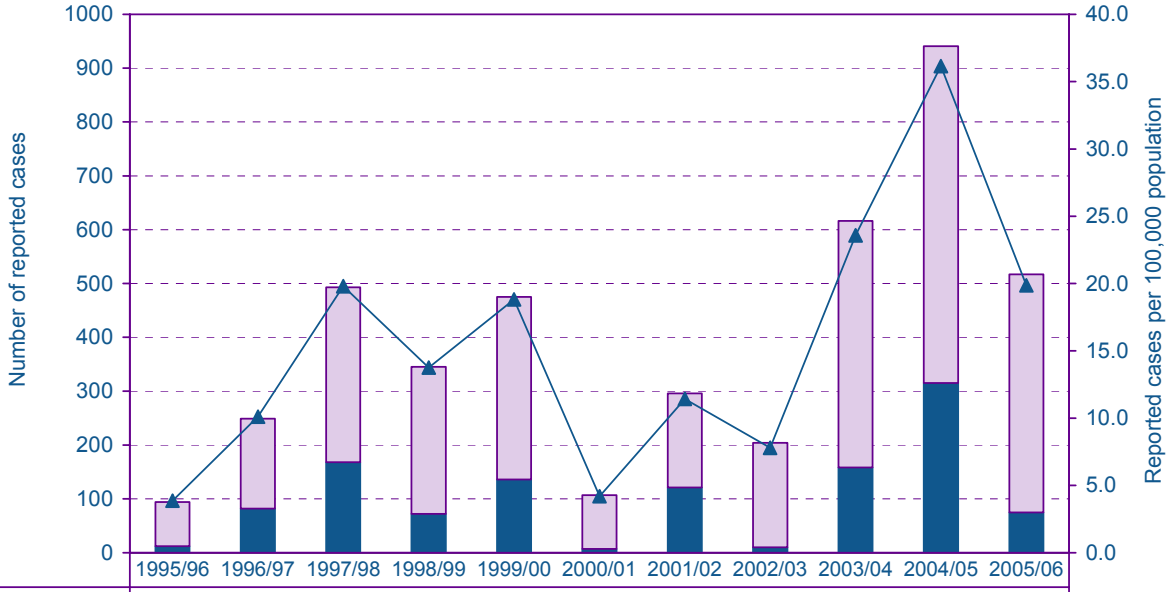
	2005/06	5-yr period 2000/01-2004/05	10-yr period 1995/96-2004/05
	Total	Means	
Number of reported cases	517	433	382
Incidence rate (per 100,000 population)			
Overall	19.9	16.7	15.0
Male	21.1	15.9	14.8
Female	18.6	17.4	15.2
Age at onset (years)	Summary statistics		
Mean	29	41	38
Median	8	34	23
Range	<1 110	<1 104	<1 106
Case fatality (%)	1	1	1
Influenza outbreaks	29	41	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.

Highlights

- In the 2005/06 season, there were 517 reported laboratory-confirmed cases (19.9 cases per 100,000) of influenza. This represented a decrease of 424 cases (45%) from the previous season total of 941 cases (Figure 3.1).
- As in the previous season, influenza type A was the predominant strain reported in Toronto during the 2005/06 season. It accounted for 61% (n=316) of all the laboratory-confirmed cases and was identified as the etiologic agent in 96% (n=72) of outbreak associated cases.
- In the 2005/06 season, there were 29 influenza outbreaks reported and they were all institutional (Table 3.2). This represented a decrease of 74 outbreaks (72%) from the 103 outbreaks during the previous season.
- As in the previous two seasons, Toronto's rate of influenza was lower than the rate reported for the rest of Ontario during the 2005/06 season (Figure 3.2).
- Compared to the 2004/05 season, influenza rates decreased in all age groups except those 1 to 4, 5 to 9 and 10 to 14 years of age. Although the lowest rate was among those 30 to 39 years of age, the largest decrease was noted among those 70 to 74 years of age (almost one-seventh the rate reported for 2004/05 season). The young age of those affected by influenza during this season was further reflected in the low median age of eight years, compared to the 65 year median in 2004 and the 5-year median of 34 years.
- During the 2005/06 season, the seasonal distribution of cases shifted to later in the year than 2004/05 season. The first laboratory-confirmed case for the 2005/06 season had a later onset date (December 6, 2005) than what was reported in the previous season (October 2, 2004). The number of reports for each month from March to May exceeded historical means for those months (Figure 3.4). Influenza reports for March were four times the 10-year historical mean.

Figure 3.1: Incidence of influenza by seasonal year*. Toronto, 1995/96 - 2005/06

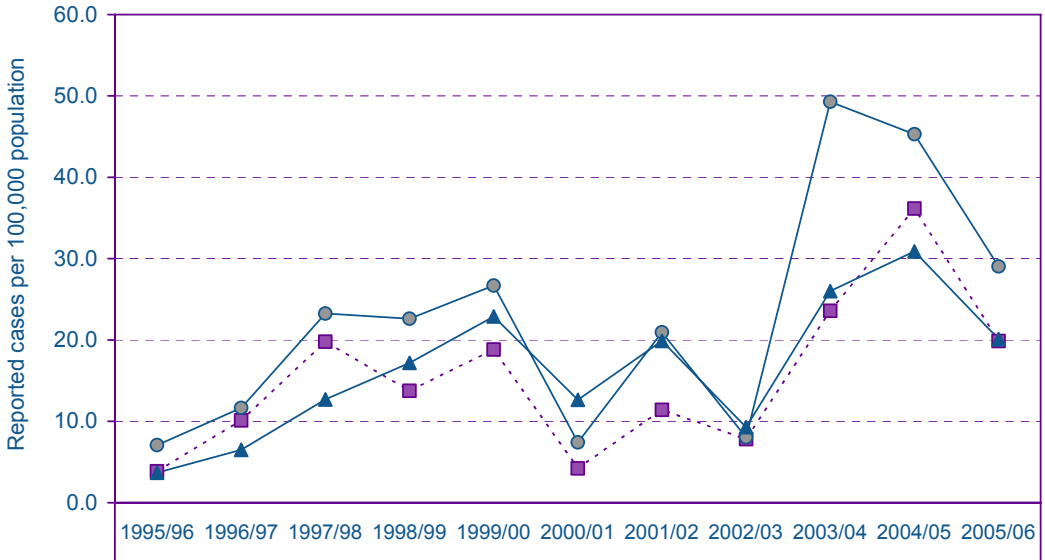


	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Sporadic cases	82	167	325	273	339	100	175	194	458	626	442
Outbreak cases	12	82	168	72	136	7	121	10	158	315	75
Overall cases	94	249	493	345	475	107	296	204	616	941	517
Overall rates	3.9	10.1	19.8	13.7	18.8	4.2	11.4	7.8	23.6	36.1	19.9

Seasonal year

*Seasonal year from July to June (i.e. 2005/06 includes cases from July 1, 2005 to June 30, 2006).

Figure 3.2: Incidence of influenza by seasonal year*. Toronto, the rest of Ontario and Canada†, 1995/96 - 2005/06

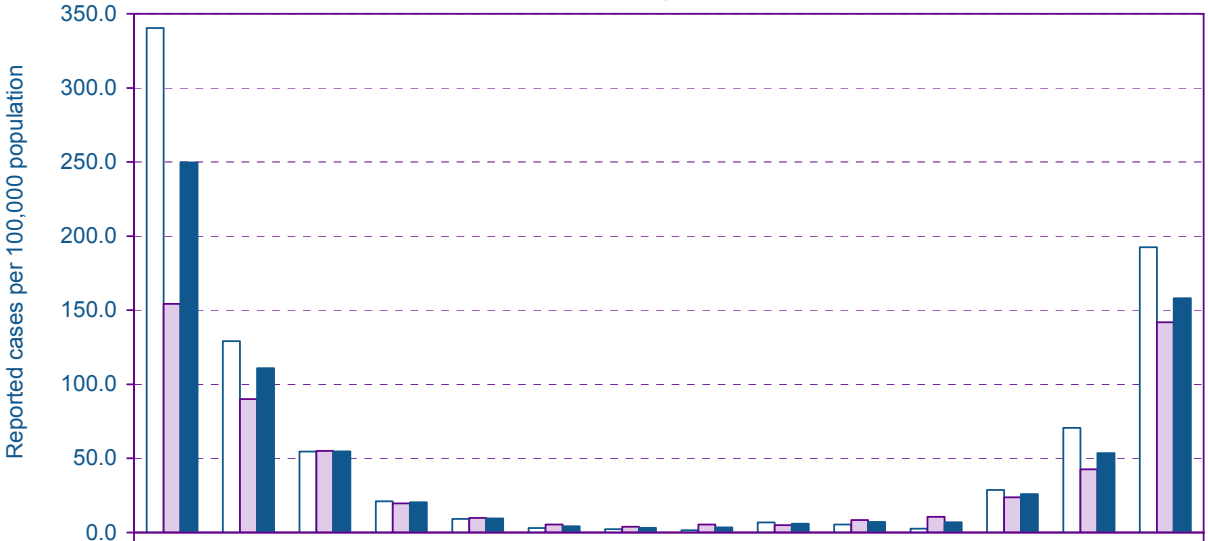


	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Toronto rates	3.9	10.1	19.8	13.7	18.8	4.2	11.4	7.8	23.6	36.1	19.9
Ontario less Toronto rates	7.1	11.6	23.3	22.6	26.7	7.4	20.9	8.0	49.3	45.3	29.0
Canada rates	3.7	6.5	12.7	17.2	22.9	12.6	19.9	9.3	26.0	30.9	20.1

Year

*For Toronto, the seasonal year includes July to June (e.g. 2005/06 includes cases from July 1, 2005 to June 30, 2006).
For Ontario, the seasonal year is from October to June (e.g. 2005/06 includes cases from October 1, 2005 to June 30, 2006).
For Canada, the seasonal year is from August to August (e.g. 2005/06 includes cases from August 28, 2005 to August 26, 2006).
†Canadian data for 2003/04 does not include New Brunswick.

**Figure 3.3: Incidence of influenza by age group and sex*.
Toronto, 2005/06**

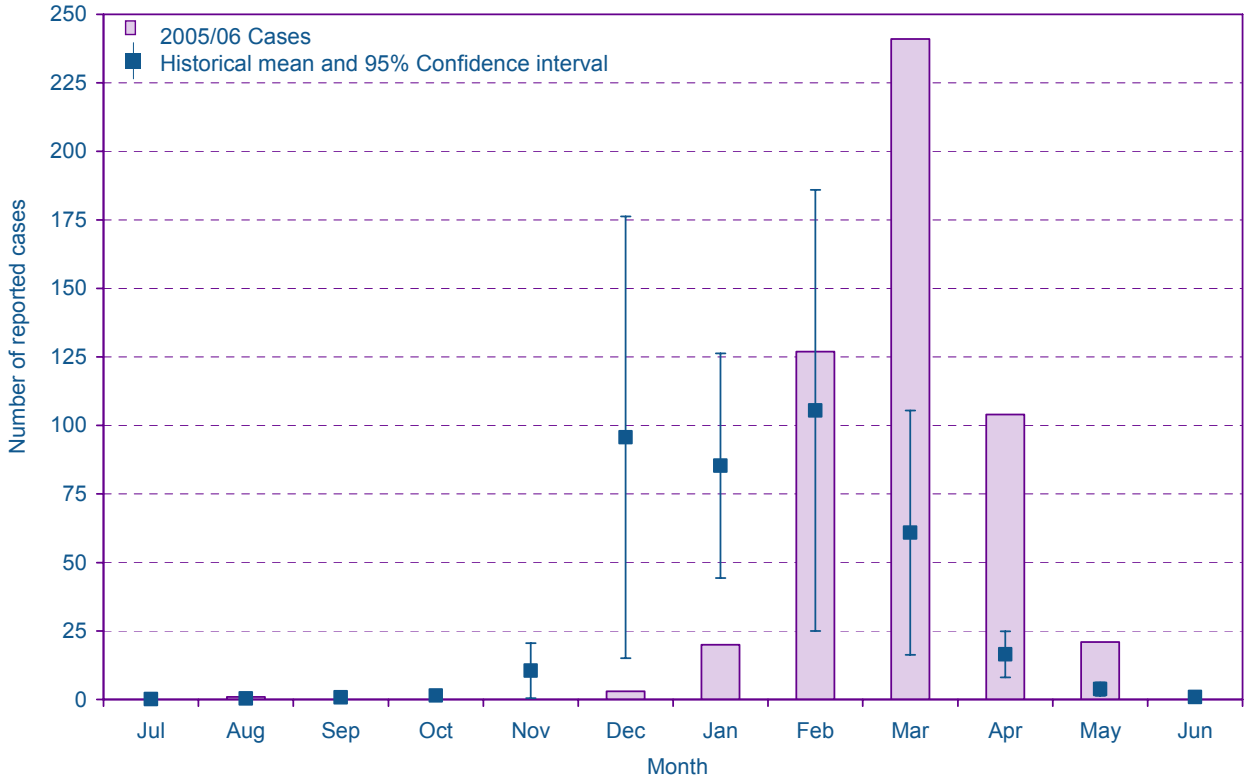


	<1	1-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60-69	70-74	75-79	80-84	85+
Male rates	340.5	129.2	54.6	21.1	9.2	3.0	2.2	1.5	6.9	5.4	2.5	28.7	70.7	192.5
Female rates	154.3	89.9	55.0	19.6	9.9	5.4	4.0	5.4	5.0	8.5	10.6	23.7	42.6	141.9
Overall rates	249.7	110.9	54.8	20.4	9.5	4.2	3.1	3.4	5.9	7.1	6.9	25.8	53.6	158.0
Male cases	51	75	41	16	7	6	5	3	10	5	1	9	15	24
Female cases	22	50	40	14	7	11	9	11	8	9	5	10	14	38

*The sex of one case was not reported.

Age group (years)

**Figure 3.4: Number of reported cases of influenza by month.
Toronto, 2005/06 compared to 1995/96 - 2004/05 mean**



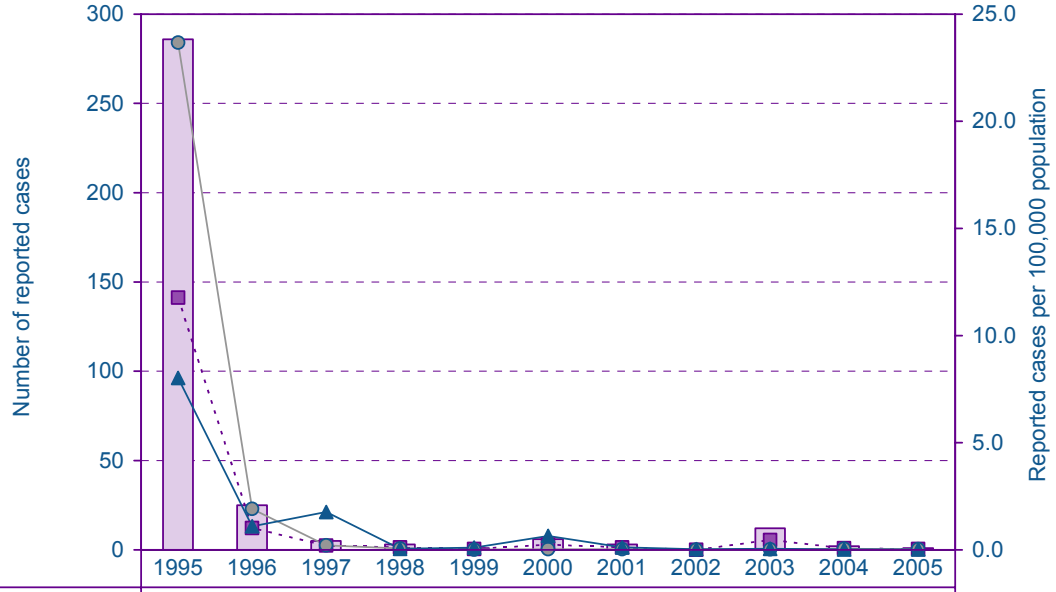
Measles

Table 3.3: Measles summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	1	5	34
Incidence rate (per 100,000 population)			
Overall	<0.1	0.2	1.4
Male	0.0	0.2	1.5
Female	<0.1	0.2	1.2
Age at onset (years)	Summary statistics		
Mean	<1	14	12
Median	<1	8	12
Range	<1 <1	<1 42	<1 42

Highlights

- In 2005, there was one reported case (<0.1 cases per 100,000) of measles. This represented a decrease of one case (50%) from the 2004 total of two cases (Figure 3.5), and is more in keeping with numbers reported in the recent past.
- This measles case was an unvaccinated infant 10 months of age who was born in Canada. This case had no history of travel to an endemic country and was not related to an outbreak. An investigation failed to determine the source of this infection.
- Toronto's rate of measles was comparable to the rate reported for the rest of Ontario and Canada in 2005 (Figure 3.5).

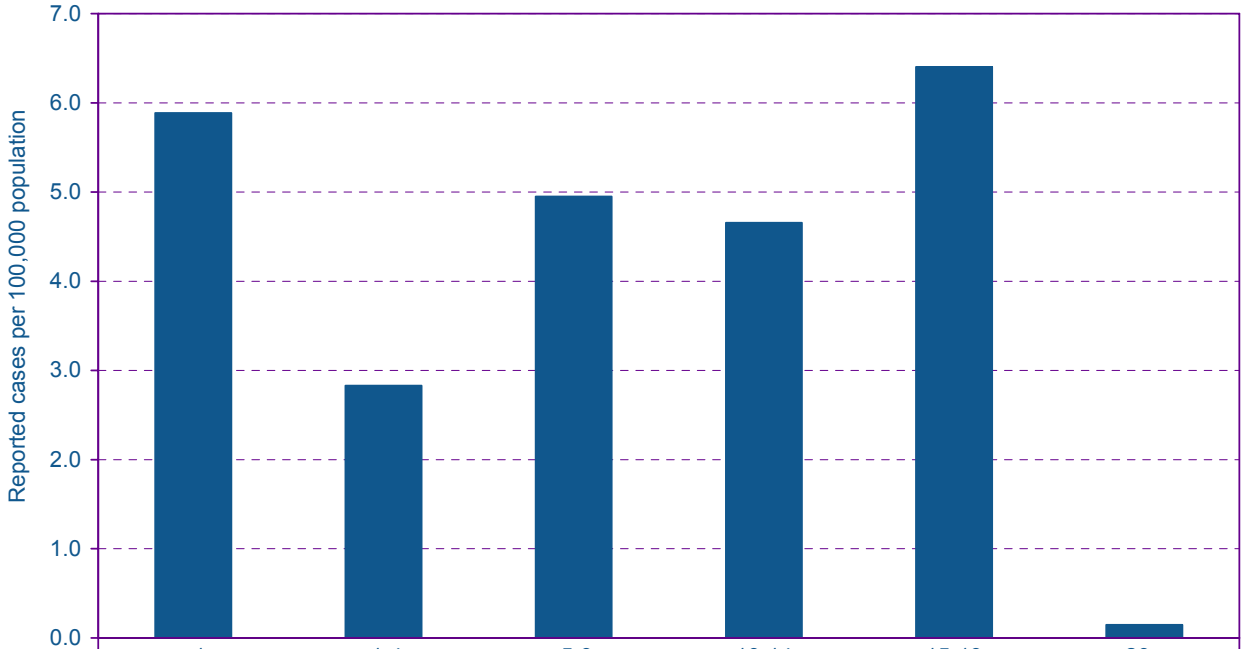
Figure 3.5: Incidence of measles by year.
Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	286	25	5	3	1	6	3	0	12	2	1
Toronto rates	11.8	1.0	0.2	0.1	<0.1	0.2	0.1	0.0	0.5	<0.1	<0.1
Ontario less Toronto rates	23.7	1.9	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Canada rates	8.0	1.1	1.8	<0.1	0.1	0.7	0.1	<0.1	0.1	<0.1	<0.1

Year

Figure 3.6: Incidence of measles by age group.
Toronto, 1995 - 2005 combined



	<1	1-4	5-9	10-14	15-19	20+
Rates	5.9	2.8	5.0	4.7	6.4	0.1
Cases	20	38	81	72	101	32

Age group (years)

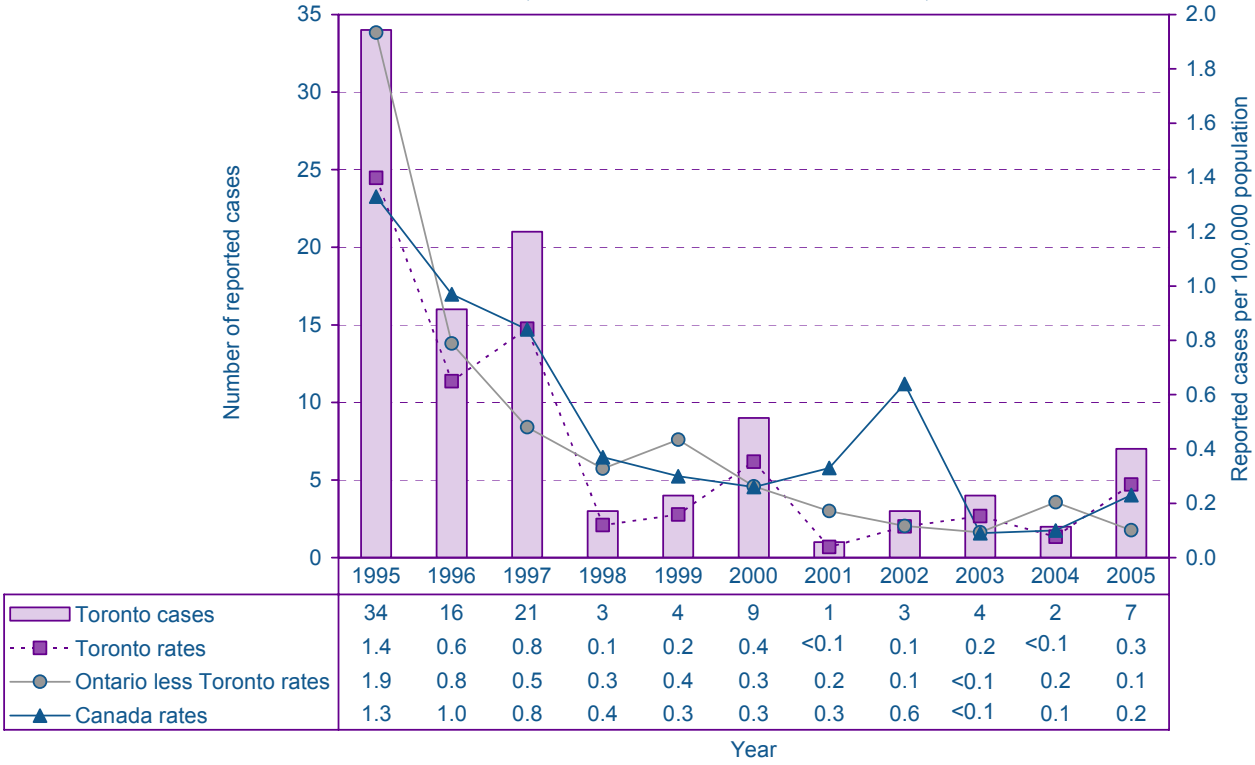
Mumps

Table 3.4: Mumps summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	7	4	10
Incidence rate (per 100,000 population)			
Overall	0.3	0.1	0.4
Male	0.4	0.1	0.4
Female	0.1	0.2	0.4
Age at onset (years)	Summary statistics		
Mean	22	26	19
Median	20	25	12
Range	5 40	2 63	1 67

Highlights

- In 2005, there were seven reported cases (0.3 cases per 100,000) of mumps. This represented an increase of five cases (250%) over the 2004 total of two cases (Figure 3.7).
- Toronto's rate of mumps was higher than the rate reported for the rest of Ontario and Canada in 2005 (Figure 3.7).
- Six (86%) of the seven mumps cases were born outside of Canada. Only three cases had previously received the MMR vaccination and two of these cases traveled to the Philippines prior to developing symptoms. The Canadian born case with no travel history completed two doses of the MMR vaccination as recommended but acquired mumps in school. One of the four unvaccinated mumps cases also traveled to the Philippines prior to developing mumps.

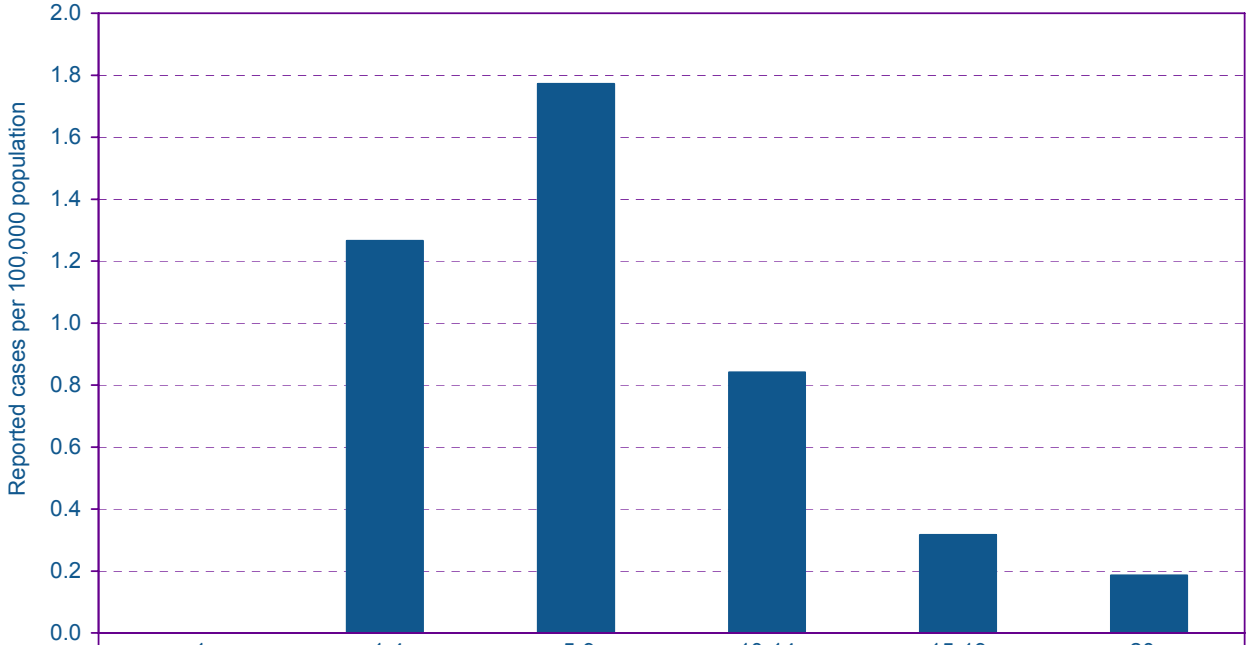
Figure 3.7: Incidence of mumps by year.
Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	34	16	21	3	4	9	1	3	4	2	7
Toronto rates	1.4	0.6	0.8	0.1	0.2	0.4	<0.1	0.1	0.2	<0.1	0.3
Ontario less Toronto rates	1.9	0.8	0.5	0.3	0.4	0.3	0.2	0.1	<0.1	0.2	0.1
Canada rates	1.3	1.0	0.8	0.4	0.3	0.3	0.3	0.6	<0.1	0.1	0.2

Year

Figure 3.8: Incidence of mumps by age group.
Toronto, 1995 - 2005 combined



	<1	1-4	5-9	10-14	15-19	20+
Rates	0.0	1.3	1.8	0.8	0.3	0.2
Cases	0	17	29	13	5	40

Age group (years)

Pertussis

Table 3.5: Pertussis summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	177	89	107
Incidence rate (per 100,000 population)			
Overall	6.8	3.4	4.2
Male	6.8	3.4	4.2
Female	6.8	3.4	4.2
Age at onset (years)	Summary statistics		
Mean	9	14	11
Median	3	10	8
Range	<1 83	<1 78	<1 78
Outbreak associated cases (%)	14	6	5

Highlights

- In 2005, there were 177 reported cases (6.8 cases per 100,000) of pertussis. This represented an increase of 83 cases (88%) over the 2004 total of 94 cases (Figure 3.9), and the highest number of cases during the 11-year surveillance period (Figure 3.9). This increase in reports was related to a pertussis outbreak that began in Toronto in November 2005. Increased testing and a more sensitive PCR test to detect pertussis may also explain some of the increase in cases seen across Toronto.

- For the first time in the 11-year surveillance period, Toronto's rate of pertussis in 2005 was higher (1.5 times) than the rate reported for the rest of Ontario. As in all other years covered by this report Toronto's rate in 2005 was lower than the rate for Canada (Figure 3.9).

- The median age of pertussis cases in 2005 was three years, lower than the previous 5- and 10-year medians of 10 and eight years respectively. This reflected the age groups most affected by the outbreak.

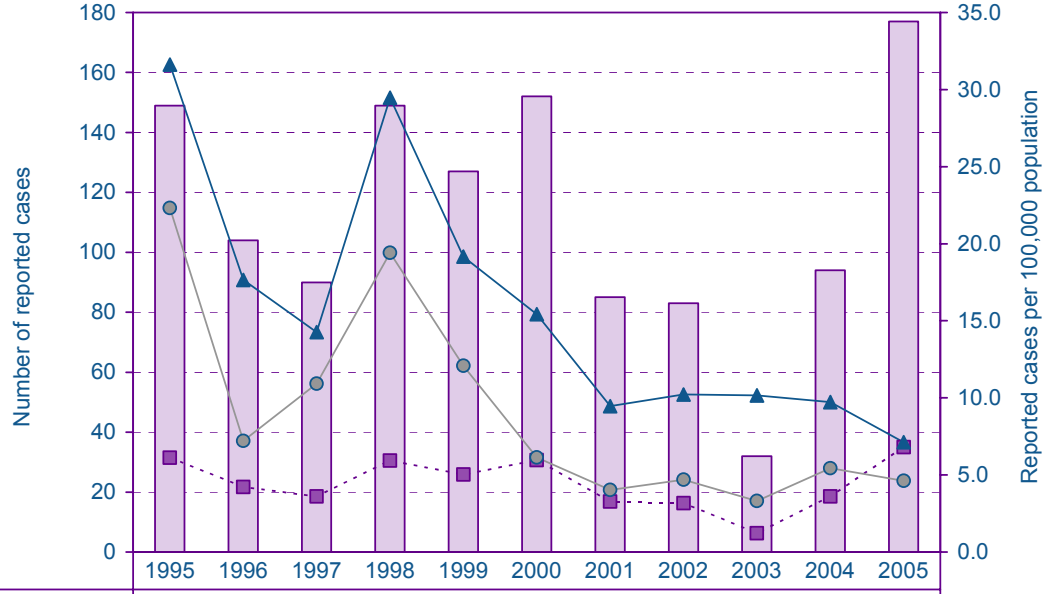
- The age groups with the highest incidence rates in 2005 were children under one year of age (164.2 cases per 100,000) and those 1 to 4 years of age (59.0 cases per 100,000) (Figure 3.10).

- The most commonly reported risk settings in 2005 were the home environment (14%) and school (8%).

- One hundred and fifty-six (88%) of the 177 pertussis cases had a known vaccination history, of which 89% (n=139) had received at least one dose of pertussis vaccine.

- Pertussis reports for November and December were three and eight times higher, respectively, than the previous 10-year historical means for those months (Figure 3.11).

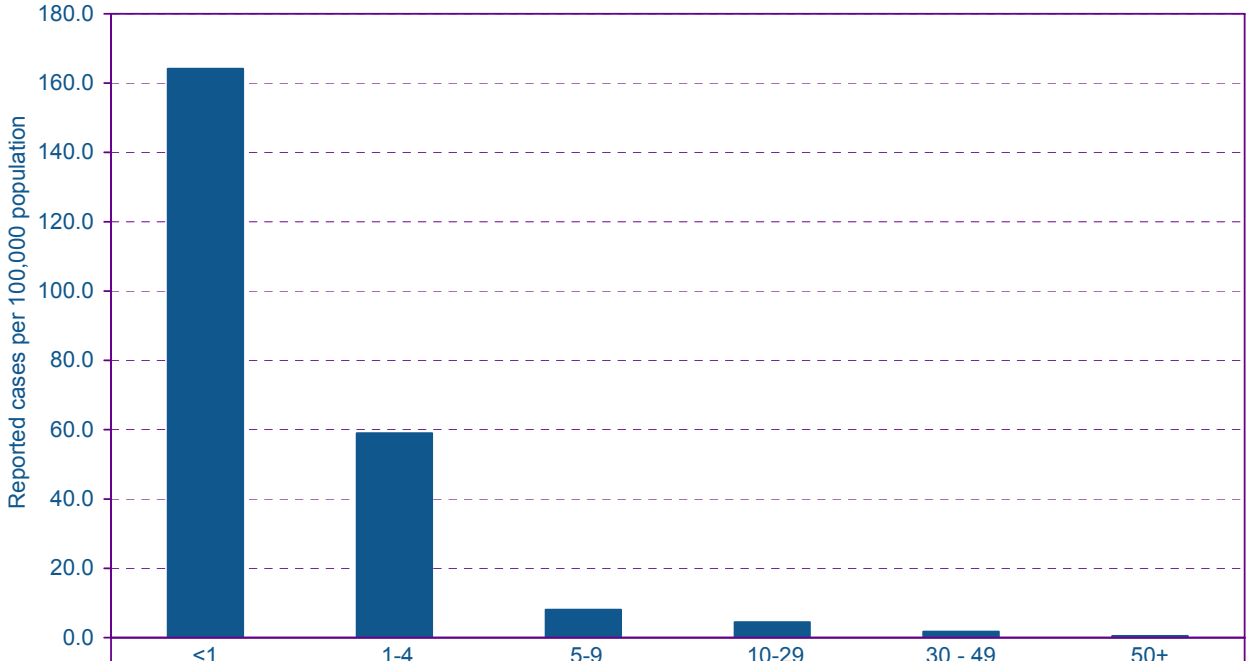
Figure 3.9: Incidence of pertussis by year.
Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	149	104	90	149	127	152	85	83	32	94	177
Toronto rates	6.1	4.2	3.6	5.9	5.0	6.0	3.3	3.2	1.2	3.6	6.8
Ontario less Toronto rates	22.3	7.2	10.9	19.4	12.1	6.1	4.0	4.7	3.3	5.4	4.6
Canada rates	31.6	17.7	14.3	29.5	19.2	15.4	9.5	10.2	10.2	9.7	7.1

Year

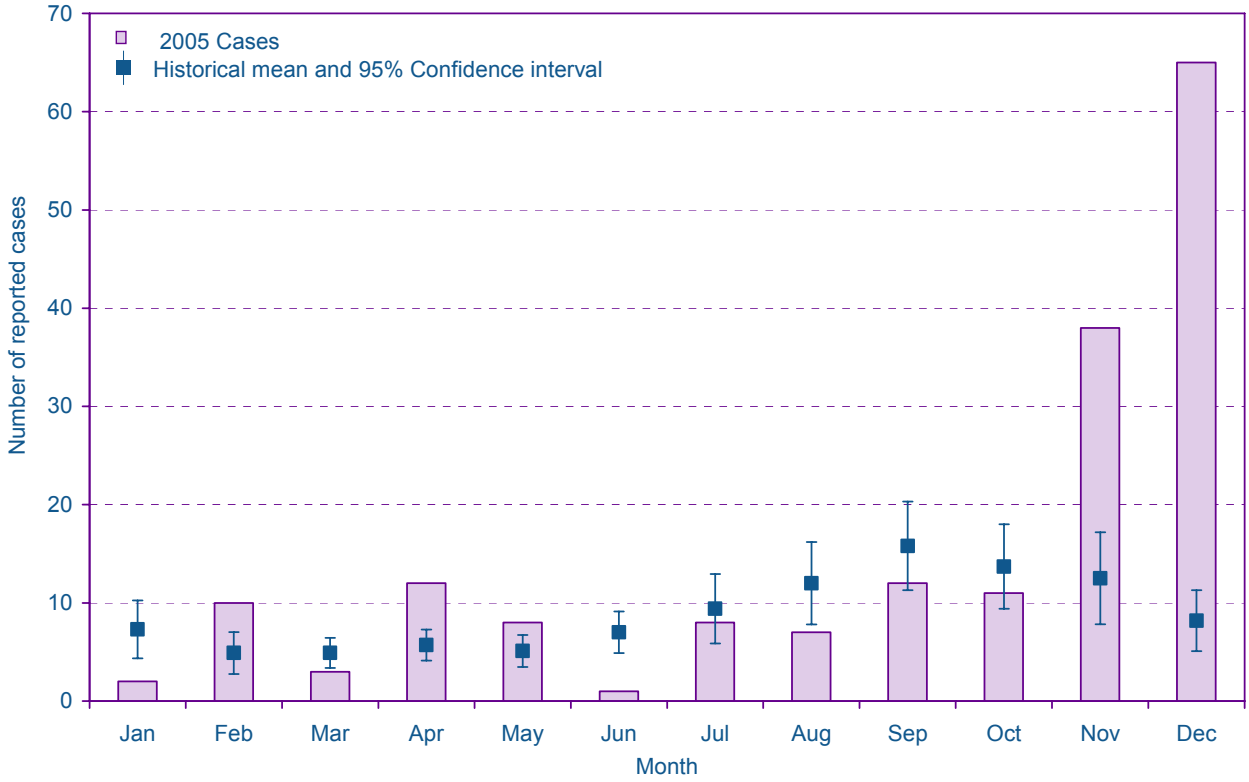
Figure 3.10: Incidence of pertussis by age group.
Toronto, 2005



	<1	1-4	5-9	10-29	30 - 49	50+
Rates	164.2	59.0	8.1	4.5	1.7	0.5
Cases	48	67	12	31	15	4

Age group (years)

**Figure 3.11: Number of reported cases of pertussis by month.
Toronto, 2005 compared to 1995 - 2004 mean**



Rubella

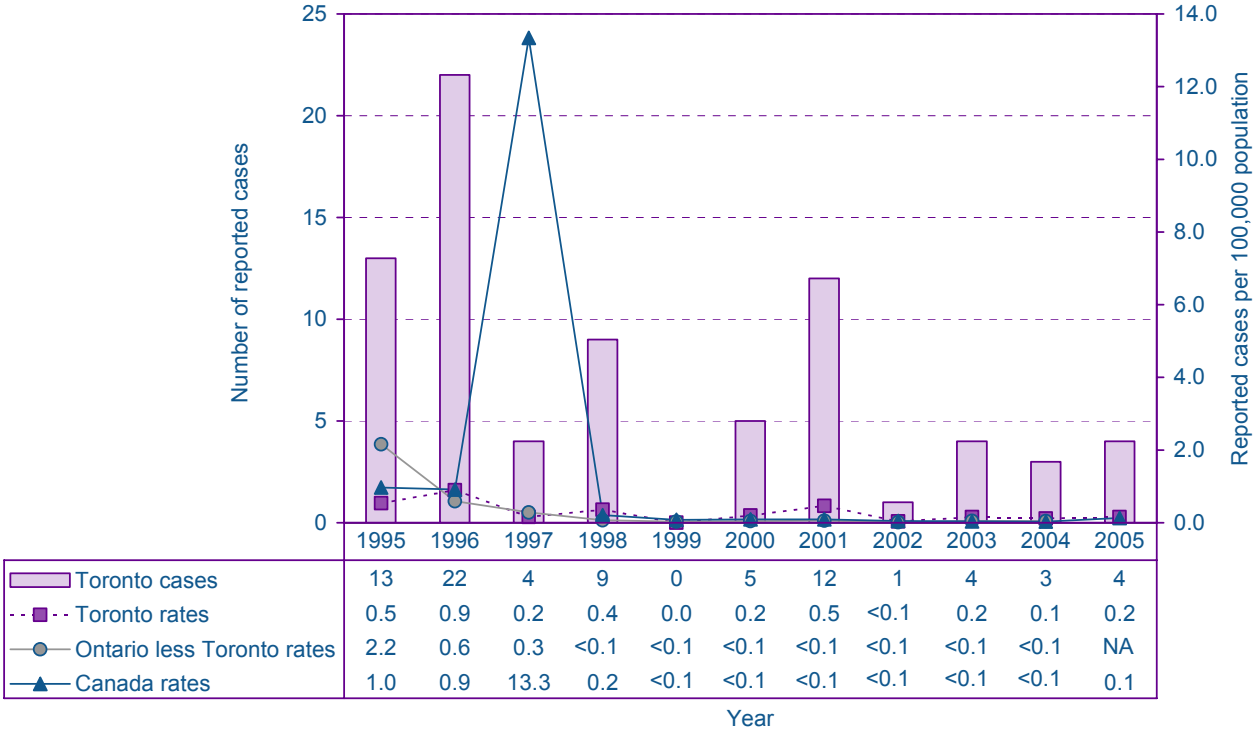
Table 3.6: Rubella summary data* Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	4	5	7
Incidence rate (per 100,000 population)			
Overall	0.2	0.2	0.3
Male	0.0	0.2	0.3
Female	0.3	0.2	0.3
Age at onset (years)	Summary statistics		
Mean	38	34	27
Median	47	41	30
Range	5 53	2 65	<1 65

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

Highlights

- In 2005, there were four reported cases (0.2 cases per 100,000) of rubella. This represented an increase of one case (33%) over the 2004 total of three cases (Figure 3.12).
- Toronto's rate of rubella was higher than the rate reported for Canada in 2005 (Figure 3.12).
- One of the four rubella cases was in a Canadian born individual who had previously received one dose of the MMR vaccination. The remaining three cases were foreign born; one had no prior vaccination and the vaccination history of the other two was unknown.
- None of the rubella cases were travel-related; one case each was associated with a daycare, the home environment and a hospital, and the risk setting for the remaining case was unknown.

Figure 3.12: Incidence of rubella* by year. Toronto, the rest of Ontario and Canada, 1995 - 2005

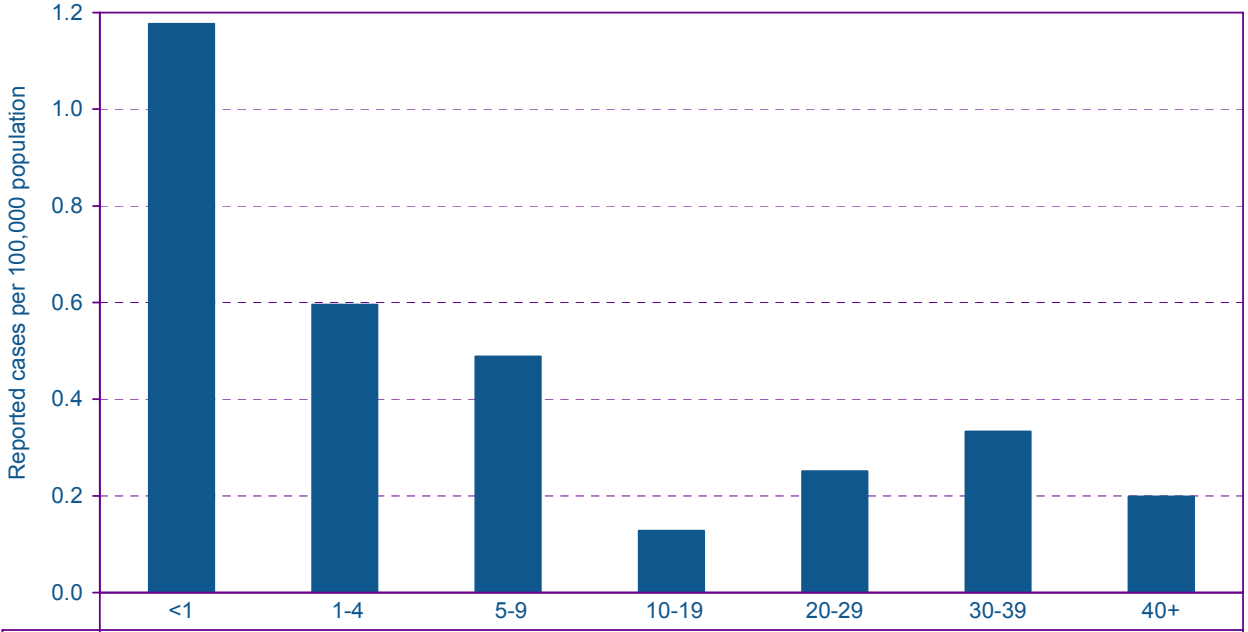


	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	13	22	4	9	0	5	12	1	4	3	4
Toronto rates	0.5	0.9	0.2	0.4	0.0	0.2	0.5	<0.1	0.2	0.1	0.2
Ontario less Toronto rates	2.2	0.6	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA
Canada rates	1.0	0.9	13.3	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1

Year

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

Figure 3.13: Incidence of rubella* by age group†. Toronto, 1995 - 2005 combined



	<1	1-4	5-9	10-19	20-29	30-39	40+
Rates	1.2	0.6	0.5	0.1	0.3	0.3	0.2
Cases	4	8	8	4	11	17	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

2005

Toronto Public Health

Diseases Transmitted by Direct Contact and Respiratory Routes

This section focuses on 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. In 2005, chickenpox accounted for 84% of reports falling into this category. ❑

Table 4.1: Number and proportion of reported cases of direct contact and respiratory diseases. Toronto, 2005

Ranking	Reportable disease	Number of cases	Proportion of cases (%)
1	Chickenpox	3668	84
2	Tuberculosis	344	8
3	*Streptococcus pneumoniae* , invasive	216	5
4	Streptococcal disease, Group A invasive	72	2
5	Legionellosis	53	1
6	Streptococcal disease, Group B neonatal	12	<1
7	Meningococcal disease, invasive	3	<1
8	Leprosy	1	<1
	Total	**4369**	**100**

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

Chickenpox (Varicella Zoster virus)

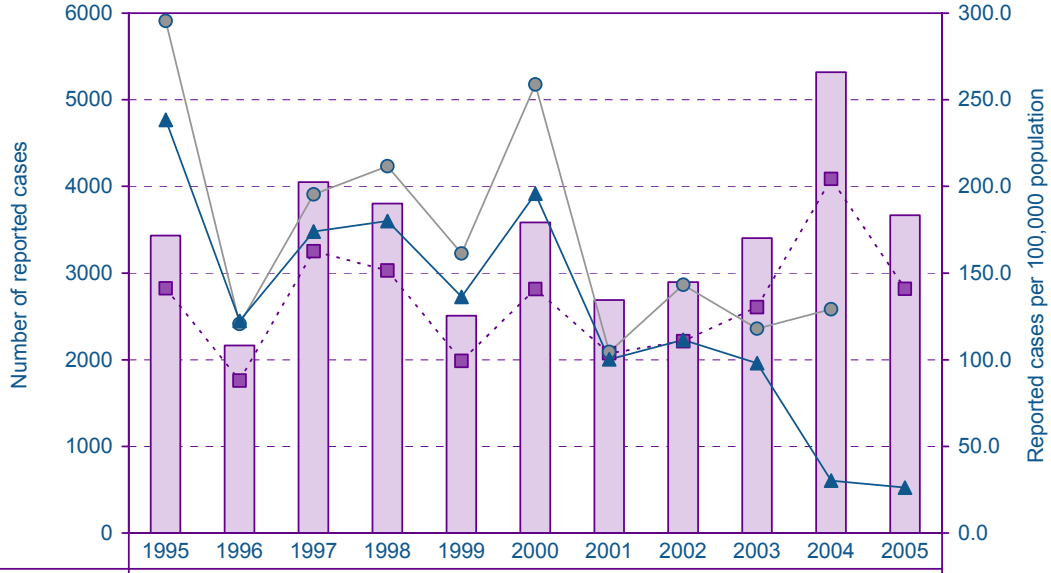
Table 4.2: Chickenpox summary data* Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	3668	3578	3385
Incidence rate (per 100,000 population)	140.9	137.9	133.3
Age at onset (years)	Summary statistics		
Grouped mean	7	7	7
Grouped median	7	7	7
Range	<1 > 60	<1 29	<1 29

*Reports of chickenpox are received in aggregate numbers based on defined age categories.

Highlights

- In September 2004, chickenpox vaccine became publicly funded for all one year old children born after September 1, 2003. All individuals with high risk medical conditions were eligible to receive this vaccine free beginning in January 2005. Thus 2005 was the first complete year of public funding for this vaccine.
- In 2005, there were 3668 reported cases (140.9 cases per 100,000) of chickenpox. This represented a decrease of 1649 cases (31%) from the 2004 total of 5317 cases (Figure 4.1).
- Toronto's rate of chickenpox was five times the rate reported for Canada in 2005 (Figure 4.1).
- The highest incidence rates of chickenpox were seen in those ages 1 to 4 years (680.2 cases per 100,000) and 5 to 9 years (1411.0 cases per 100,000) (Figure 4.2).
- In 2005, cases of chickenpox were reported in older age groups (those from 30 years and older) (Figure 4.2). There were no reports recorded in these age groups in 2004.
- With the exception of January and February, the number of reports for each month in 2005 was either comparable to or lower than the historical mean. The highest number of cases was reported in January 2005.

Figure 4.1: Incidence of chickenpox by year. Toronto, the rest of Ontario and Canada*, 1995 - 2005

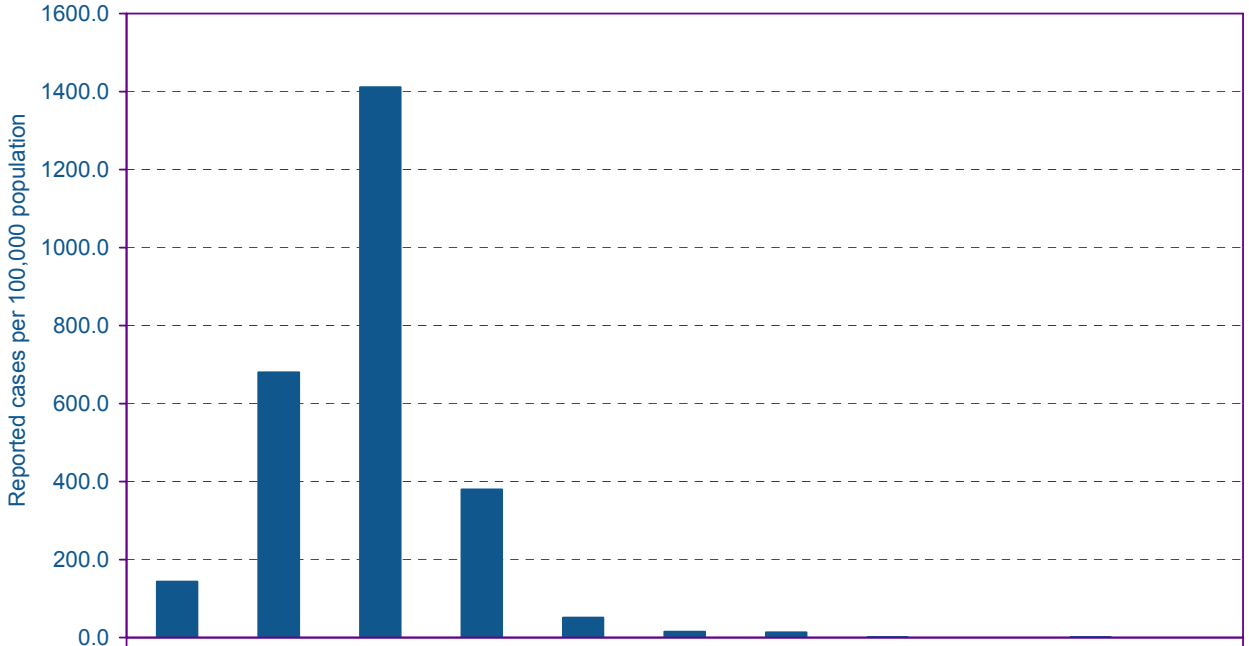


	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	3433	2165	4049	3801	2509	3586	2689	2895	3403	5317	3668
Toronto rates	141.2	87.9	162.6	151.5	99.4	140.8	103.7	110.6	130.3	204.3	140.9
Ontario less Toronto rates	295.4	120.6	195.3	211.7	161.3	258.8	104.5	143.2	117.9	129.1	NA
Canada rates	238.4	122.4	173.9	180.1	136.3	195.8	100.2	111.4	98.0	30.2	26.3

Year

*From 1993 to 2001 Chickenpox was not reportable in British Columbia, Manitoba, and Quebec. Saskatchewan provided data only for 1995, 1998, 1999 and 2000. NA: Ontario data for 2005 are not available.

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

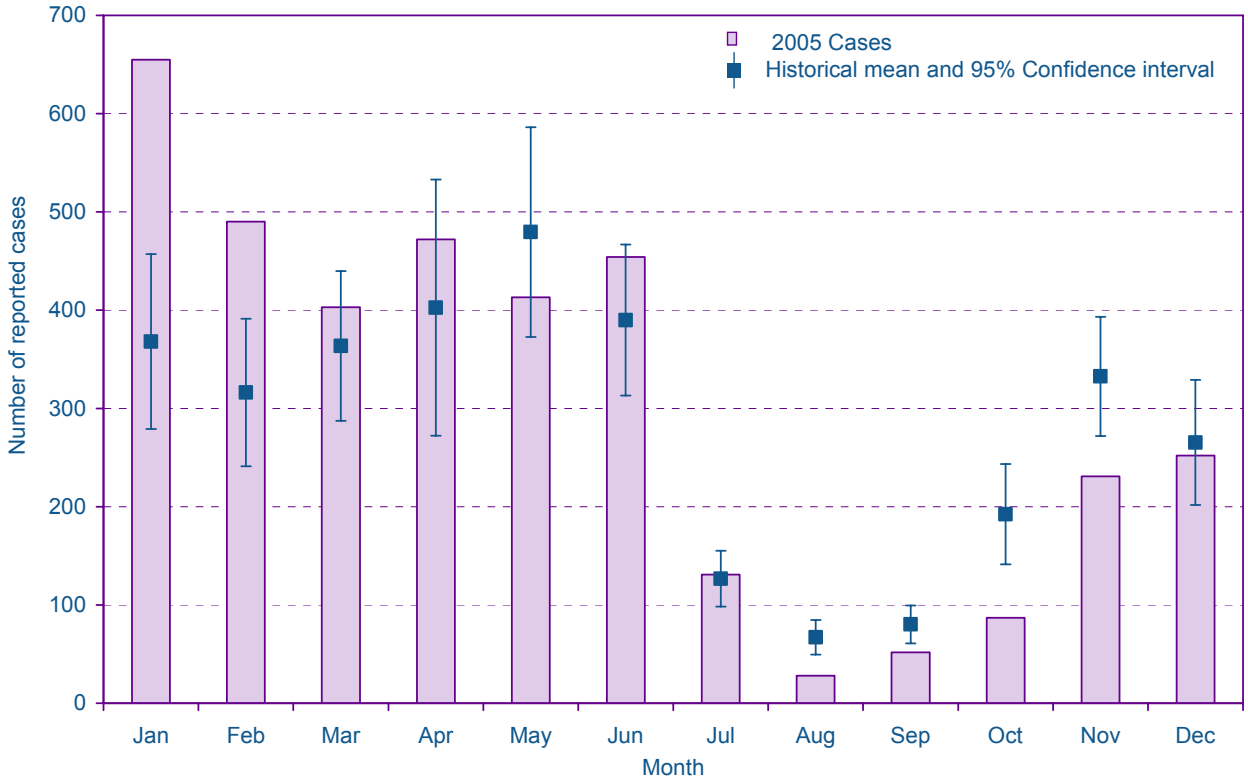


	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-49	50-59	60+
Rates	143.6	680.2	1411.0	379.8	51.2	15.0	13.0	0.7	0.2	0.3	0.2
Cases	42	773	2086	559	75	27	29	3	1	1	1

*The age group was not reported for 71 cases.

Age group (years)

**Figure 4.3: Number of reported cases of chickenpox by month.
Toronto, 2005 compared to 1995 - 2004 mean**



Legionellosis

Table 4.3: Legionellosis summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	53	9	13
Incidence rate (per 100,000 population)			
Overall	2.0	0.4	0.5
Male	1.8	0.5	0.7
Female	2.2	0.3	0.4
Age at onset (years)	Summary statistics		
Mean	76	68	65
Median	81	72	68
Range	28 99	32 87	2 93
Case fatality (%)	40	26	25

Highlights

- In 2005, there were 53 lab-confirmed reported cases (2.0 cases per 100,000) of legionellosis. This represented an increase of 50 cases over the 2004 total of three cases (Figure 4.4) and the highest rate reported in the 11-year surveillance period. Thirty-eight of these lab-confirmed cases were associated with a large outbreak at a long term care facility, which involved a total of 134 people who met the outbreak case definition (details in the Outbreaks Highlight section, page 169).

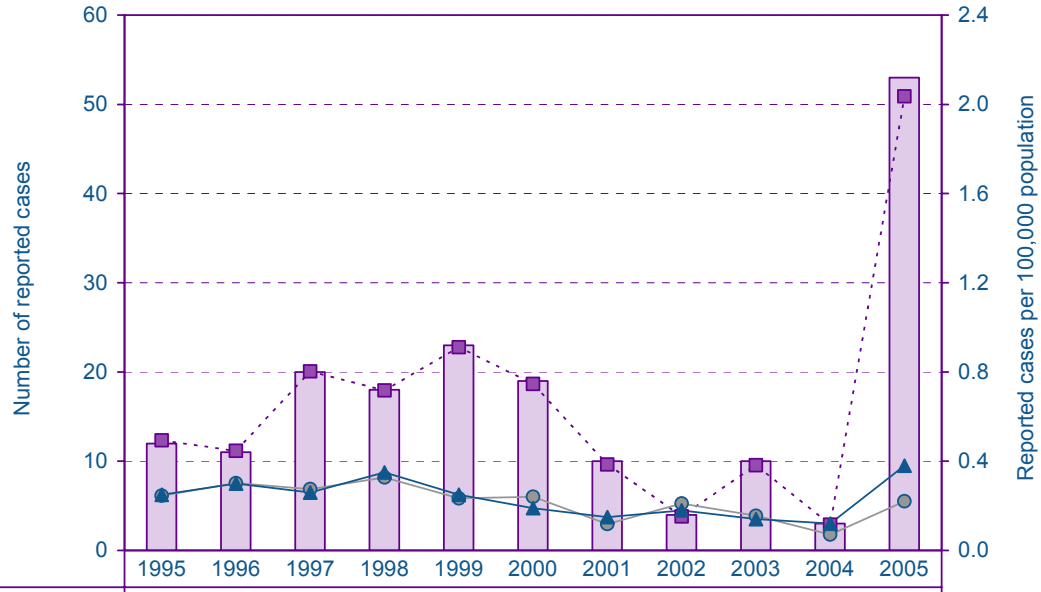
- The case fatality (40%) was higher than in past years due to the large number of high risk elderly cases involved in the outbreak (Table 4.3). Nineteen (90%) of the 21 deaths were in outbreak-associated cases. While the proportion of deaths among the 38 lab-confirmed cases was 50%, there was only a 13% mortality rate among the 15 sporadic cases.

- Toronto's rate of legionellosis was 10 times the rate reported for the rest of Ontario in 2005 and five times the rate reported for Canada (Figure 4.4).

- Heating/ventilation/air conditioning was the only source of infection associated with the large scale outbreak. When data from this outbreak were excluded, the most commonly reported sources of infection among the remaining 15 cases in 2005 were water (43%) and heating/ventilation/air conditioning (7%).

- In 2005, all of the 38 cases associated with the large outbreak occurred in either September or October. For all the remaining cases, with the exception of February and November, the number of reports for each month in 2005 was either comparable to or lower than the historical mean. The highest number of cases was reported in November.

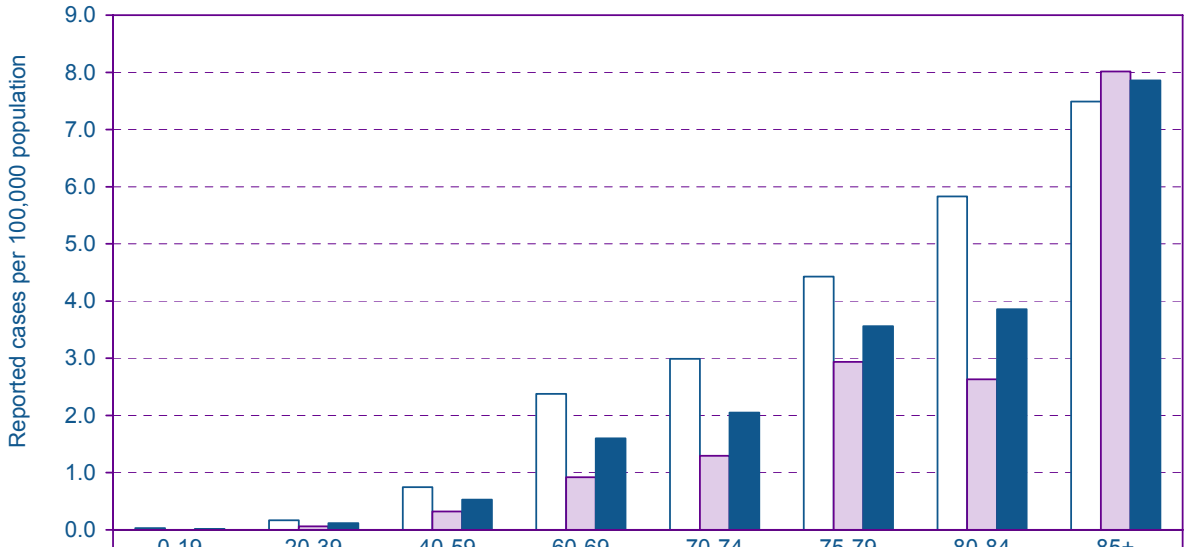
Figure 4.4: Incidence of legionellosis by year.
Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	12	11	20	18	23	19	10	4	10	3	53
Toronto rates	0.5	0.4	0.8	0.7	0.9	0.7	0.4	0.2	0.4	0.1	2.0
Ontario less Toronto rates	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.2	0.2	<0.1	0.2
Canada rates	0.3	0.3	0.3	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.4

Year

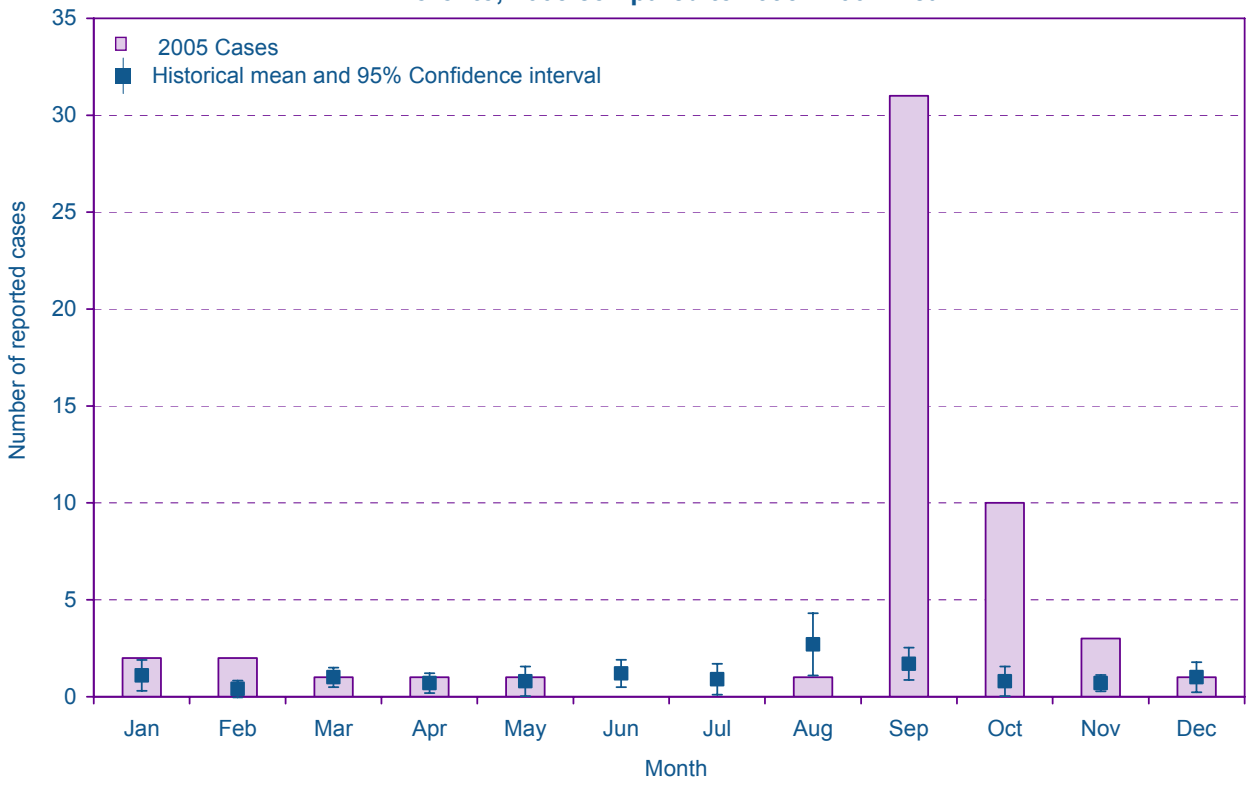
Figure 4.5: Incidence of legionellosis by age group and sex.
Toronto, 1995 - 2005 combined



	0-19	20-39	40-59	60-69	70-74	75-79	80-84	85+
Male rates	<0.1	0.2	0.7	2.4	3.0	4.4	5.8	7.5
Female rates	0.0	<0.1	0.3	0.9	1.3	2.9	2.6	8.0
Overall rates	<0.1	0.1	0.5	1.6	2.0	3.6	3.9	7.9
Male cases	1	8	26	25	13	14	11	9
Female cases	0	3	12	11	7	13	8	22

Age group (years)

Figure 4.6: Number of reported cases of legionellosis by month. Toronto, 2005 compared to 1995 - 2004 mean



Meningococcal disease, invasive

Table 4.4: Invasive meningoccocal disease summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	3	15	16
Incidence rate (per 100,000 population)			
Overall	0.1	0.6	0.6
Male	<0.1	0.5	0.6
Female	0.1	0.6	0.7
Age at onset (years)	Summary statistics		
Mean	21	33	29
Median	20	28	23
Range	17 26	<1 79	<1 88
Case fatality (%)	0	14	14

Highlights

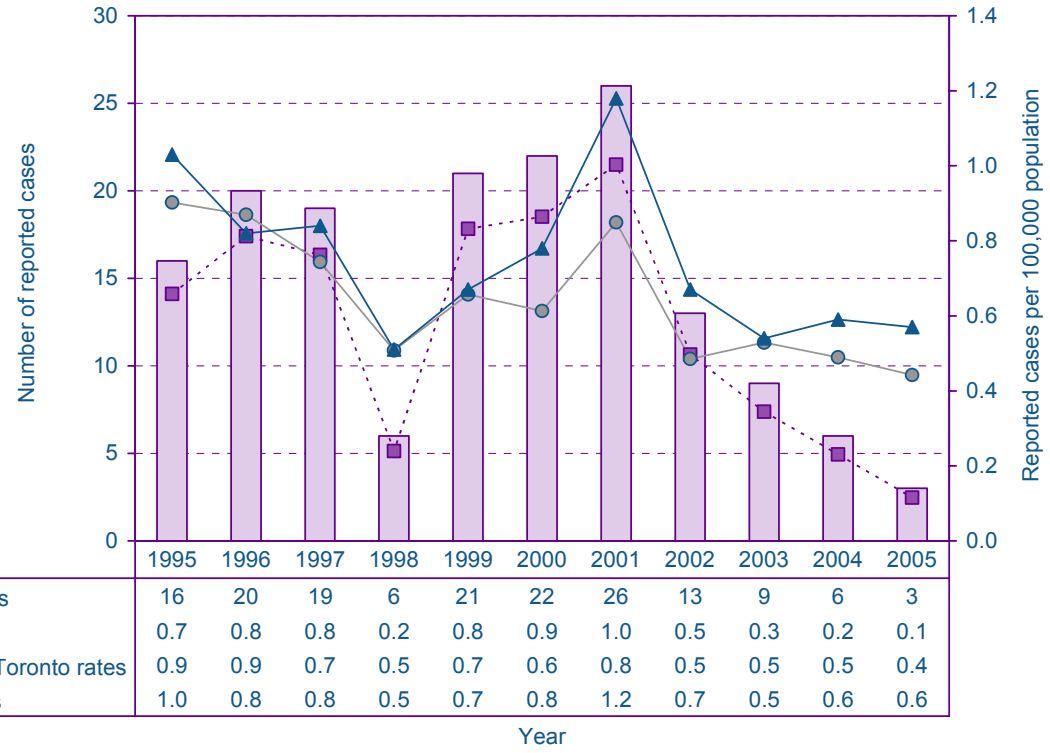
- In 2005, there were three reported cases (0.1 cases per 100,000) of invasive meningococcal disease (IMD). This represented a decrease of three cases (50%) from the 2004 total of six cases and the lowest incidence of IMD in the 11-year surveillance period (Figure 4.7). There were no reported deaths related to IMD in 2005 (Table 4.4).

- Toronto's rate of IMD has continued to decline since 2001, and has remained lower than the rates reported for the rest of Ontario and Canada since 2003 (Figure 4.7).

- Among the three reported cases in 2005, only meningococcal serogroup Y was identified (Figure 4.9). This was the first year in the 11-year surveillance period (1995-2005) that a case of serogroup C was not reported. In 2005, the Ontario government funded a meningococcal serogroup C vaccine campaign for group C meningococcal disease targeted at people born between January 1, 1985 and December 31, 1990 (15 to 20 year olds).

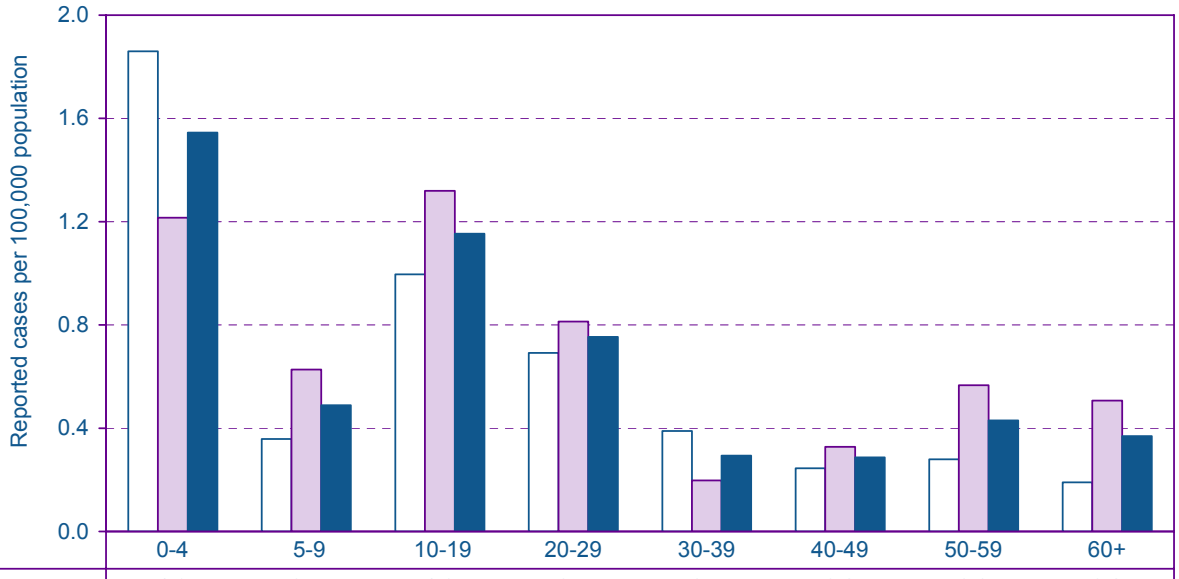
- In 2005, the youngest reported case of IMD was 17 years of age; the mean and median ages of cases in 2005 were lower than both the previous 5- and 10-year equivalents (Table 4.4).

Figure 4.7: Incidence of invasive meningococcal disease by year. Toronto, the rest of Ontario and Canada*, 1995 - 2005



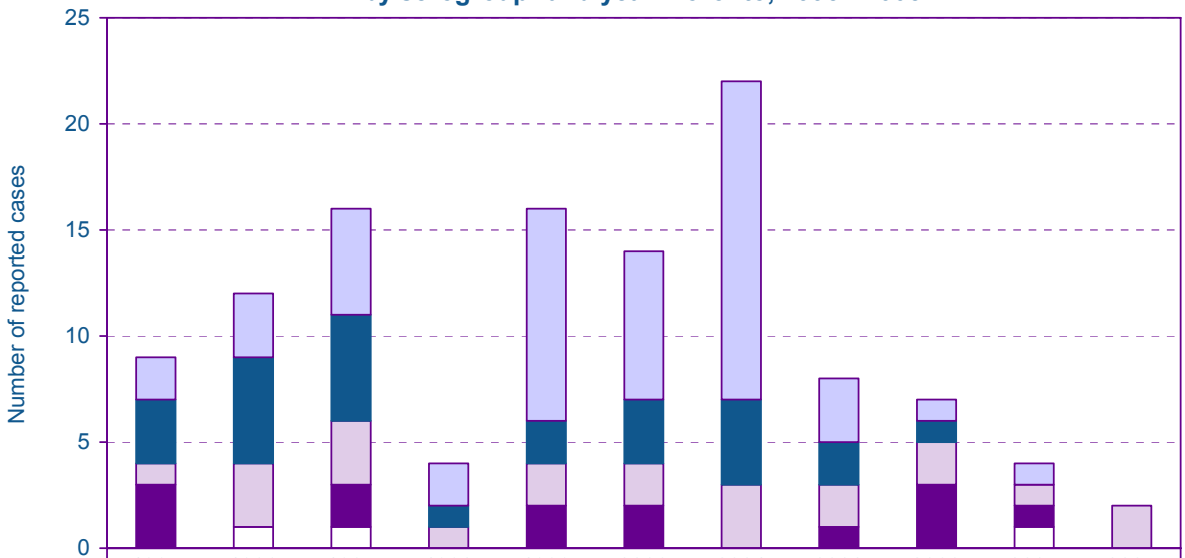
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	16	20	19	6	21	22	26	13	9	6	3
Toronto rates	0.7	0.8	0.8	0.2	0.8	0.9	1.0	0.5	0.3	0.2	0.1
Ontario less Toronto rates	0.9	0.9	0.7	0.5	0.7	0.6	0.8	0.5	0.5	0.5	0.4
Canada rates	1.0	0.8	0.8	0.5	0.7	0.8	1.2	0.7	0.5	0.6	0.6

Figure 4.8: Incidence of invasive meningococcal disease by age group and sex. Toronto, 1995 - 2005 combined



	0-4	5-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	1.9	0.4	1.0	0.7	0.4	0.2	0.3	0.2
Female rates	1.2	0.6	1.3	0.8	0.2	0.3	0.6	0.5
Overall rates	1.5	0.5	1.2	0.8	0.3	0.3	0.4	0.4
Male cases	16	3	16	15	10	5	4	4
Female cases	10	5	20	18	5	7	9	14

Figure 4.9: Number of reported cases of invasive meningococcal disease by serogroup* and year. Toronto, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Group C	2	3	5	2	10	7	15	3	1	1	0
Group B	3	5	5	1	2	3	4	2	1	0	0
Group Y	1	3	3	1	2	2	3	2	2	1	2
Group W-135	3	0	2	0	2	2	0	1	3	1	0
Group A	0	1	1	0	0	0	0	0	0	1	0

Year

*47 cases were not typed.

Streptococcal infections, Group A invasive

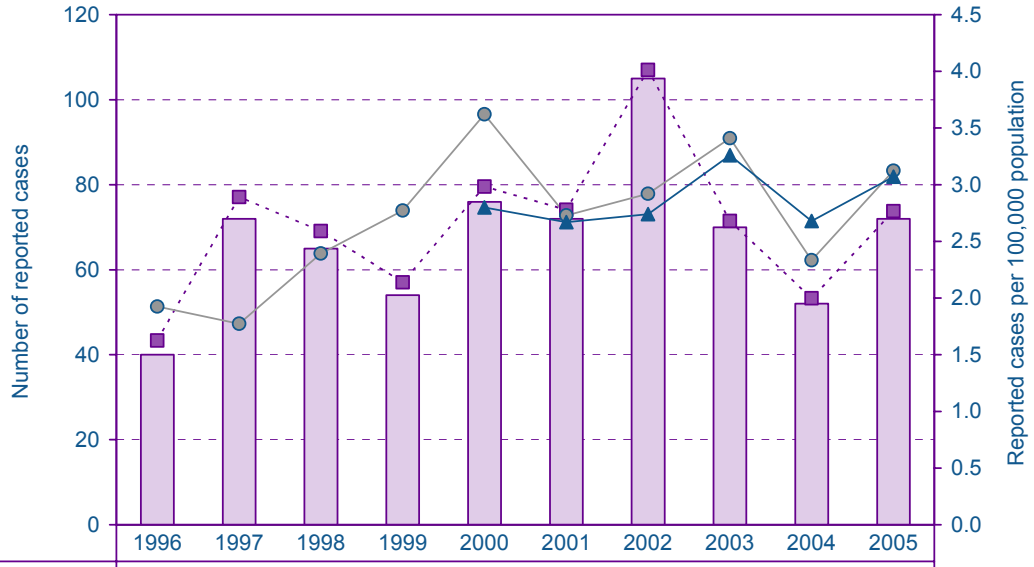
Table 4.5: Invasive group A streptococcal infections summary data* Toronto		
	2005	5-yr period 2000-2004
	Total	Mean
Number of reported cases	72	75
Incidence rate (per 100,000 population)		
Overall	2.8	2.9
Male	3.2	3.1
Female	2.3	2.7
Age at onset (years)	Summary statistics	
Mean	56	51
Median	58	52
Range	<1 94	<1 100
Case fatality (%)	15	17
Hospitalization rate (%)	85	81

*Since April 1995 all forms of invasive GAS were reportable to Toronto Public Health.

Highlights

- In 2005, there were 72 reported cases (2.8 cases per 100,000) of invasive group A streptococcal (GAS) disease. This represented an increase of 20 cases (38%) over the 2004 total of 52 cases (Figure 4.10).
- The hospitalization rate for GAS decreased from 94% in 2004 to 85% in 2005. Necrotizing fascitis was reported in 8% (n=6) of reported cases.
- Compared to 2004, incidence rates of GAS infection either increased or remained unchanged in all age groups except those 5 to 9 and 80 to 84 years of age. Although the highest age-specific rate occurred among those 85 years and older, the largest rate increase, for 2005 compared to 2004, was noted in the 75 to 79 year age group (four-fold increase).
- The most commonly reported risk factor for acquiring GAS was the presence of an underlying medical condition (53%) (Table 4.6).
- Risk setting information was available for 57% (n=41) of cases reported in 2005. Among these cases, the most commonly reported risk settings were the home environment (44%), hospitals (10%) and residential facilities (10%).

Figure 4.10: Incidence of invasive group A streptococcal infections by year. Toronto*, the rest of Ontario and Canada, 1996 - 2005

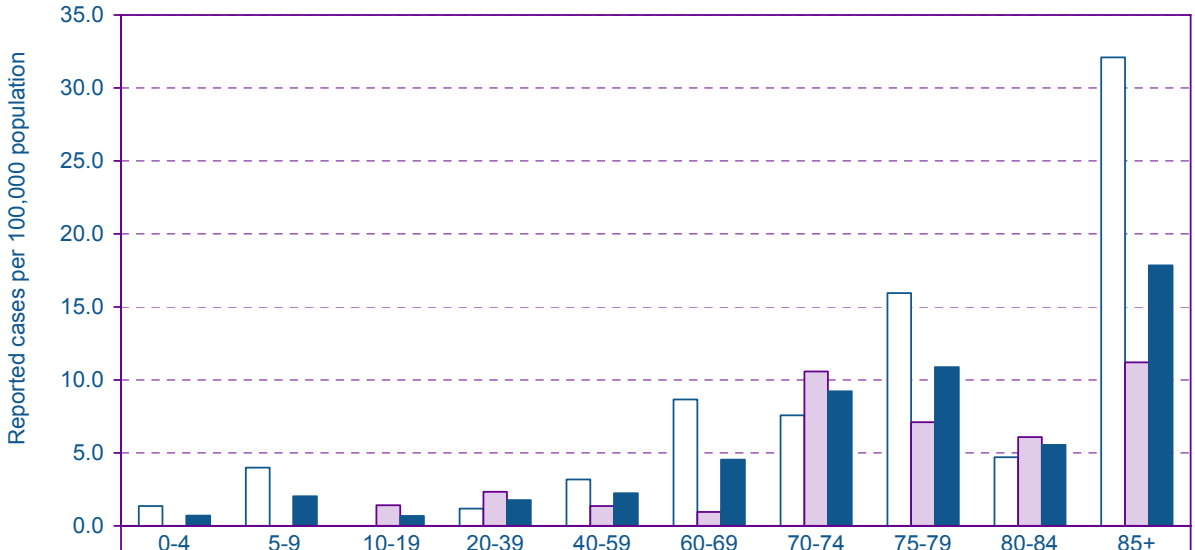


	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	40	72	65	54	76	72	105	70	52	72
Toronto rates	1.6	2.9	2.6	2.1	3.0	2.8	4.0	2.7	2.0	2.8
Ontario less Toronto rates	1.9	1.8	2.4	2.8	3.6	2.7	2.9	3.4	2.3	3.1
Canada rates	NR	NR	NR	NR	2.8	2.7	2.7	3.3	2.7	3.1

Year

*Since April 1995 all forms of invasive GAS were reportable to Toronto Public Health.
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, 2005



	0-4	5-9	10-19	20-39	40-59	60-69	70-74	75-79	80-84	85+
Male rates	1.4	4.0	0.0	1.2	3.2	8.7	7.6	15.9	4.7	32.1
Female rates	0.0	0.0	1.4	2.3	1.4	0.9	10.6	7.1	6.1	11.2
Overall rates	0.7	2.0	0.7	1.8	2.2	4.5	9.2	10.9	5.5	17.8
Male cases	1	3	0	5	11	8	3	5	1	4
Female cases	0	0	2	10	5	1	5	3	2	3

Age group (years)

Table 4.6: Risk factors for reported cases of invasive group A streptococcal infections. Toronto, 2005

Reported risk factor	Number of cases*	Proportion of cases (%)
Underlying medical conditions	19	(53)
Trauma within past month	7	(19)
Homeless	4	(11)
Illicit drug user	4	(11)
Chronic dermatological condition	3	(8)
Dialysis	3	(8)
Other	3	(8)
Total with a known risk factor	**36**	
Number missing or unknown	36	
Total cases	**72**	

*Cases may report more than one risk factor.

Streptococcal infections, Group B neonatal

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

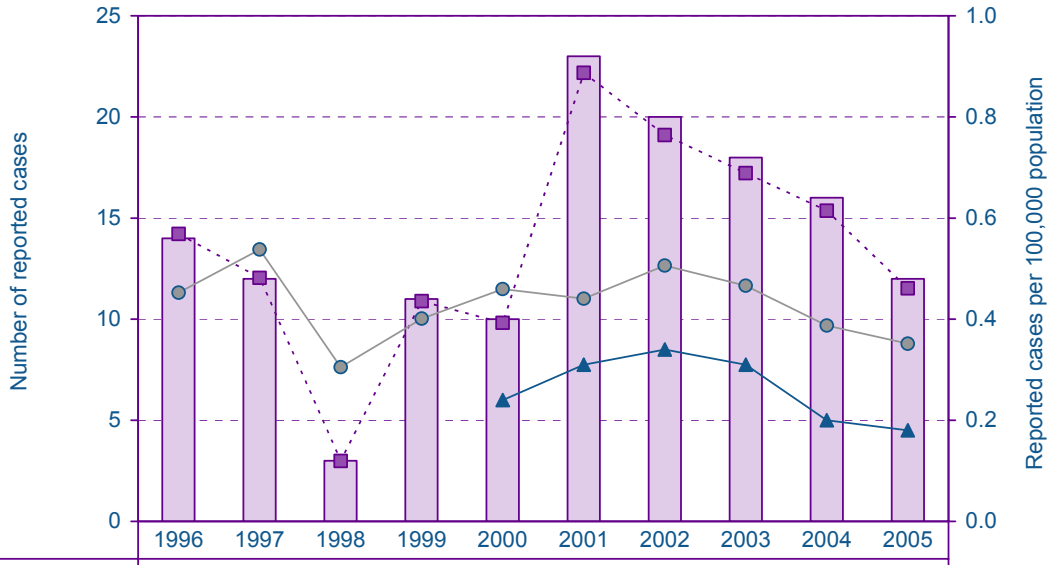
	2005	5-yr period 2000-2004
	Total	Mean
Number of reported cases	12	17
Incidence rate (per 100,000 population)		
Overall	0.5	0.7
Male	0.6	0.7
Female	0.3	0.6
Age at onset (days)	Summary statistics	
Mean	4	6
Median	0	0
Range	0 20	0 28
Case fatality (%)	0	9

*Neonatal group B streptococcal infections first became reportable in Ontario in 1996. Only disease occurring within the first 28 days of life is reportable.

Highlights

- In 2005, there were 12 reported cases (0.5 cases per 100,000) of neonatal group B streptococcal (GBS) infections. This represented a decrease of four cases (25%) from the 2004 total of 16 cases (Figure 4.12).
- Toronto's rate of GBS has continued to decline since 2001, however, it remains 1.3 and 2.5 times the rate in the rest of Ontario and Canada, respectively (Figure 4.12).
- The most commonly reported type of GBS in 2005 was early onset (0 to 7 days) disease, which accounted for 83% (n=10) of cases. The remaining two reported cases were late onset disease (8 to 28 days).
- There were no reported deaths related to GBS in 2005.

Figure 4.12: Incidence of neonatal group B streptococcal infections by year. Toronto, the rest of Ontario* and Canada, 1996 - 2005



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

Year

*Neonatal group B streptococcal infections became reportable in Ontario in 1996.
Starting January 1, 2000, neonatal group B streptococcal disease was added to the list of national notifiable diseases.
NR: Not reportable

Streptococcus pneumoniae, invasive

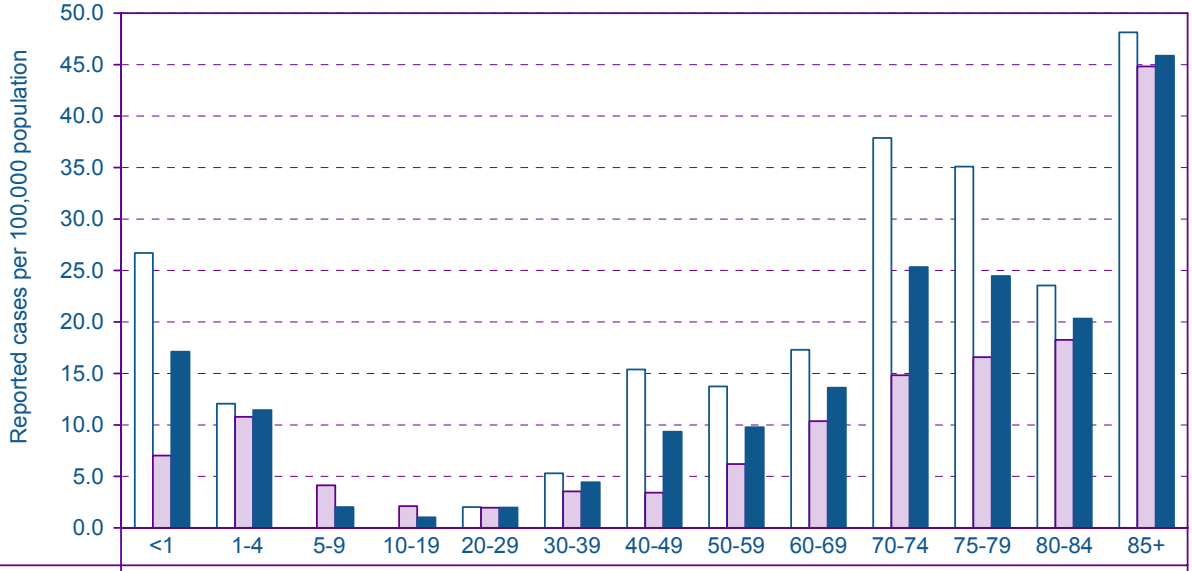
Table 4.8: Invasive *Streptococcus pneumoniae* summary data* Toronto				
	2005	2004	2003	2002
Number of reported cases	216	263	235	276
Incidence rate (per 100,000 population)				
Overall	8.3	10.1	9.0	10.5
Male	10.3	12.9	9.8	11.8
Female	6.4	7.3	8.2	9.3
Age at onset (years)	Summary statistics			
Mean	54	52	51	51
Median	56	57	58	58
Range	<1 104	<1 97	<1 99	<1 108
Case fatality (%)	6	9	6	11
Hospitalization rate (%)	84	86	86	91

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

Highlights

- In 2005, there were 216 reported cases (8.3 cases per 100,000) of invasive *Streptococcus pneumoniae* (ISP) (Table 4.8). This represented a decrease of 47 cases (18%) from the 2004 total of 263 cases.
- Eighty-four percent (n=182) of ISP cases were hospitalized. This represented the lowest hospitalization rate during the surveillance period 2002 to 2005 (Table 4.8).
- Males accounted for 61% (n=131) of ISP cases in 2005 and exceeded the female rates for all age groups except those 5 to 9 and 10 to 19 years of age (Figure 4.13).
- Compared to 2004, ISP rates decreased in all age groups except those 20 to 29, 40 to 49 and 70 to 74 years of age. Although the lowest rate was among those 10 to 19 years of age, the largest decrease was noted in the 5 to 9 year age group (almost one-third the rate reported for 2004).

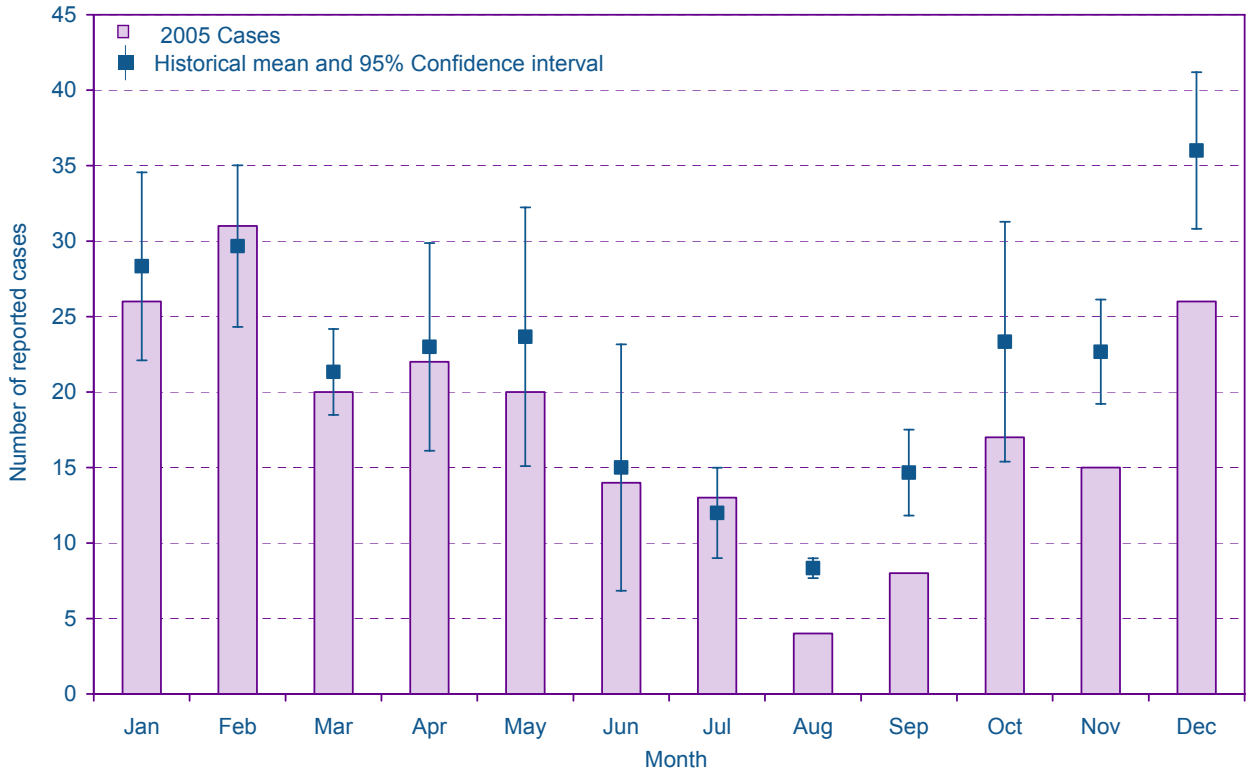
Figure 4.13: Incidence of invasive *Streptococcus pneumoniae* by age group and sex. Toronto, 2005



	<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	26.7	12.1	0.0	0.0	2.0	5.3	15.4	13.7	17.3	37.9	35.1	23.6	48.1
Female rates	7.0	10.8	4.1	2.1	2.0	3.6	3.4	6.2	10.4	14.8	16.6	18.3	44.8
Overall rates	17.1	11.4	2.0	1.0	2.0	4.4	9.4	9.8	13.6	25.3	24.5	20.3	45.9
Male cases	4	7	0	0	4	12	31	20	16	15	11	5	6
Female cases	1	6	3	3	4	8	7	10	11	7	7	6	12

Age group (years)

Figure 4.14: Number of reported cases of invasive *Streptococcus pneumoniae* by month. Toronto, 2005 compared to 2002 - 2004 mean



Tuberculosis

Table 4.9: Tuberculosis summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	344	373	406
Incidence rate (per 100,000 population)			
Overall	13.2	14.4	16.0
Male	14.2	16.0	17.5
Female	12.3	12.8	14.6
Age at onset (years)	Summary statistics		
Mean	43	44	45
Median	41	40	39
Range	2 98	< 1 106	< 1 106
Case fatality (%)	8	8	9

Highlights

- In 2005, there were 344 cases (13.2 cases per 100,000) of tuberculosis (TB) reported. This represented a decrease of 17 cases (5%) from the 2004 total of 361 cases. Incidence rates for TB have been decreasing steadily in Toronto, reaching the lowest level for the 11-year surveillance period in 2005 (Figure 4.15).

- Toronto's rate of TB continued to exceed the rate reported in the rest of Ontario by a factor of almost five (Figure 4.15). Toronto cases accounted for 55% of all TB cases in Ontario (N=623).

- The age groups with the highest incidence rates of disease were 20 to 24 year olds (20.0 cases per 100,000) followed by both those between 30 to 34 years old (18.8 cases per 100,000) and those 65 years and older (18.5 cases per 100,000) (Figure 4.16). The highest age-specific increase in rates in 2005 occurred in the 10 to 14 year age group, which increased almost 10-fold from 2004, although the overall number of cases in that age group remains small.

- In 2005, males accounted for 52% (n=180) of all TB cases. The male rates of TB were more than double the female rates among those aged 45-49, and significantly higher in all ages over 40 (Figure 4.16). Overall rates for males remained higher than rates for females, as in 2004 (Figure 4.17).

- As in 2004, travel to or residence outside of Canada in an endemic area was the most commonly reported risk setting for cases of tuberculosis in 2005 (Table 4.10). This risk setting was reported by 91% (n=306) of all cases with a known risk setting. Risk setting captures the site where transmission most likely occurred.

- In 2005, only 10 (3%) of the TB cases reported a shelter/rooming house as a risk setting for acquiring TB, a slight decrease from the 15 such cases in 2004 (Table 4.10). Toronto Public Health conducted an active case finding initiative with large scale screening in Toronto shelters in 2004, which may account for the larger number of shelter-associated cases in that year.

- The proportion of TB cases who were foreign-born was 92% in 2005 (Figure 4.18). Given that approximately 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 origin for TB cases were similar to last year, with Hong Kong and Bangladesh appearing in the place of South Korea and Portugal (Figure 4.19).

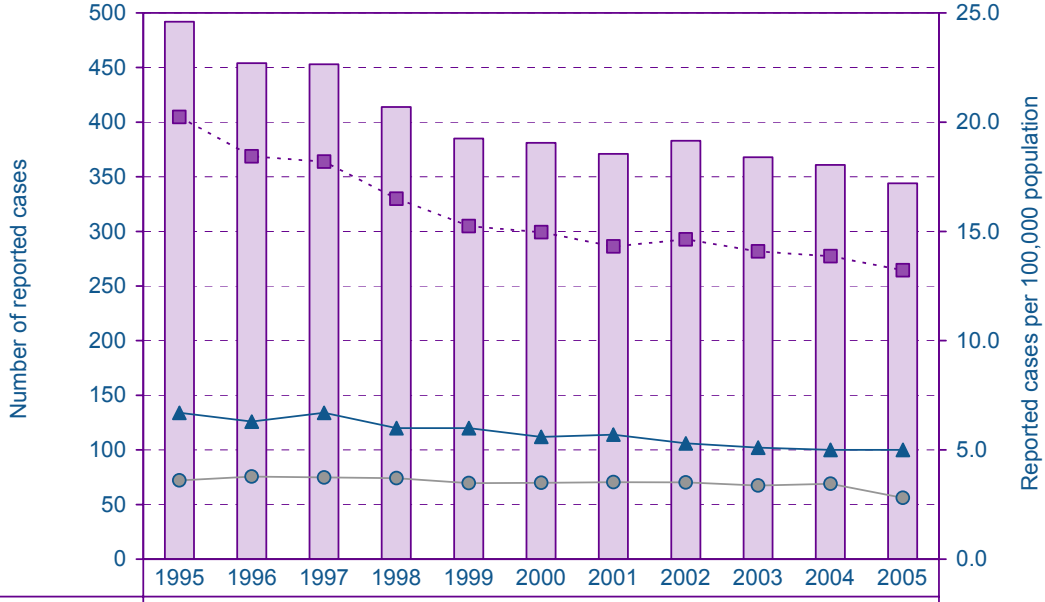
- Of the 344 reported TB cases in 2005, 20 (6%) were known to be co-infected with HIV, similar to the 4% reported in 2004.

- In 2005, the lungs continued to be the most commonly reported anatomic site of tuberculosis (69%) (Table 4.11).

- Overall, 56% (n=194) of TB cases treated in 2004 (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-seven percent (n=169) of those cases successfully completed treatment as compared with 73% of the cases not on DOT. Seventy-two percent (n=167) of pulmonary cases in 2004 were enrolled in DOT.

- In 2005, the proportion of isolates resistant to one or more drugs was 16%, a slight decrease from the 19% resistant in 2004 (Figure 4.20). A total of 276 cases (80%) were culture confirmed in 2005. The largest proportion of drug resistant isolates continued to be those exhibiting any INH resistance pattern (excluding rifampin), which accounted for 8% of all isolates that were tested. The proportion of multidrug-resistant TB strains (i.e. strains resistant to at least rifampin and isoniazid) has continued to fluctuate and accounted for 3% of all isolates that were tested in 2005. The proportion of isolates exhibiting other patterns of resistance has decreased slightly to 5%.

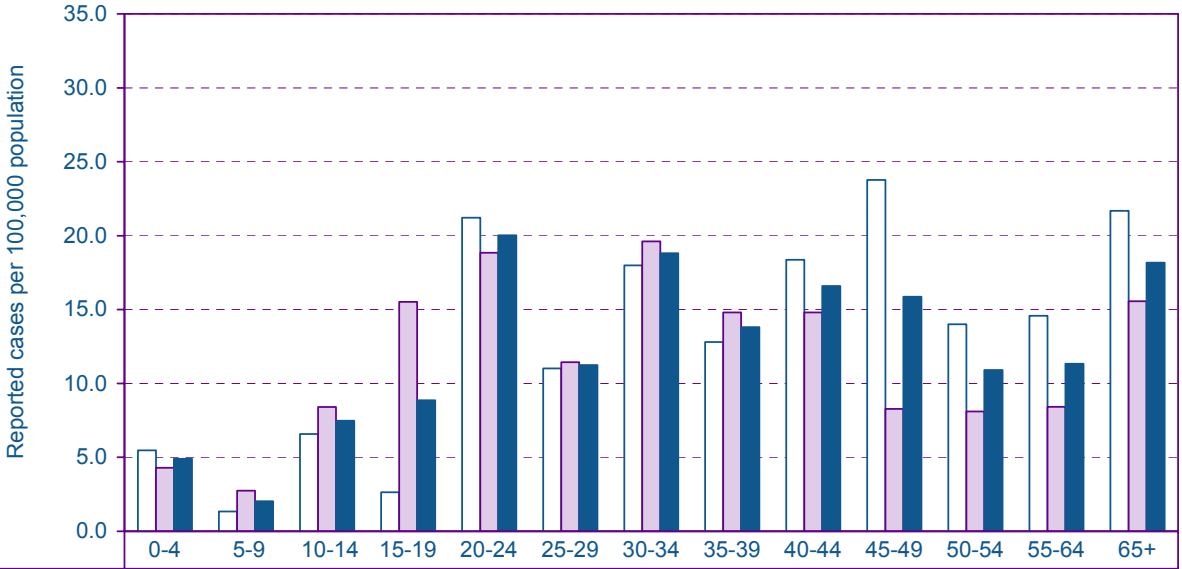
Figure 4.15: Incidence of tuberculosis by year. Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto Cases	492	454	453	414	385	381	371	383	368	361	344
Toronto Rates	20.2	18.4	18.2	16.5	15.2	15.0	14.3	14.6	14.1	13.9	13.2
Ontario less Toronto Rates	3.6	3.8	3.7	3.7	3.5	3.5	3.5	3.5	3.4	3.5	2.8
Canada Rates	6.7	6.3	6.7	6.0	6.0	5.6	5.7	5.3	5.1	5.0	5.0

Year

Figure 4.16: Incidence of tuberculosis by age group and sex. Toronto, 2005



	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	1.3	6.6	2.6	21.2	11.0	18.0	12.8	18.4	23.8	14.0	14.6	21.7
Female - rates	4.3	2.8	8.4	15.5	18.8	11.4	19.6	14.8	14.8	8.3	8.1	8.4	15.6
Overall - rates	4.9	2.0	7.5	8.9	20.0	11.2	18.8	13.8	16.6	15.9	10.9	11.3	18.2
Male - cases	4	1	5	2	19	12	21	14	20	22	11	17	32
Female - cases	3	2	6	11	17	13	23	16	16	8	7	11	31

Age group (years)

Figure 4.17: Incidence rates of tuberculosis by sex and year. Toronto, 1995- 2005

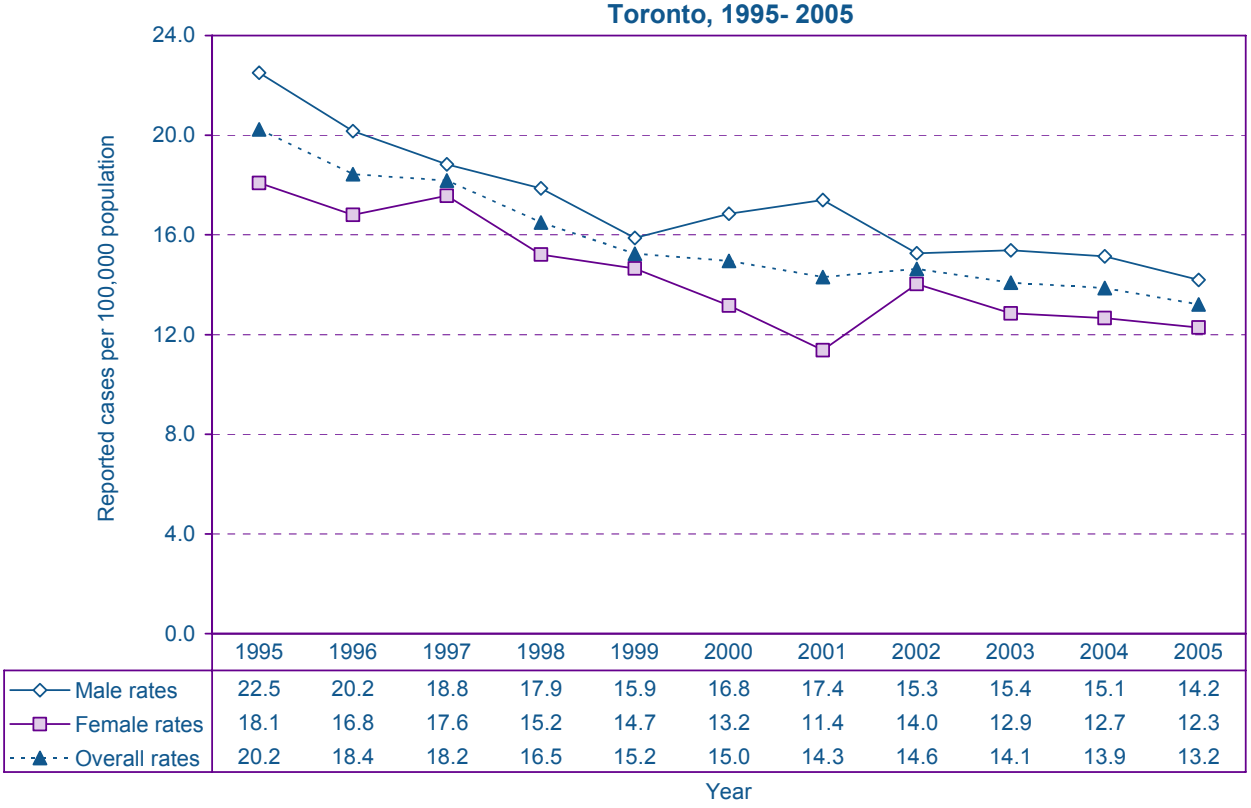
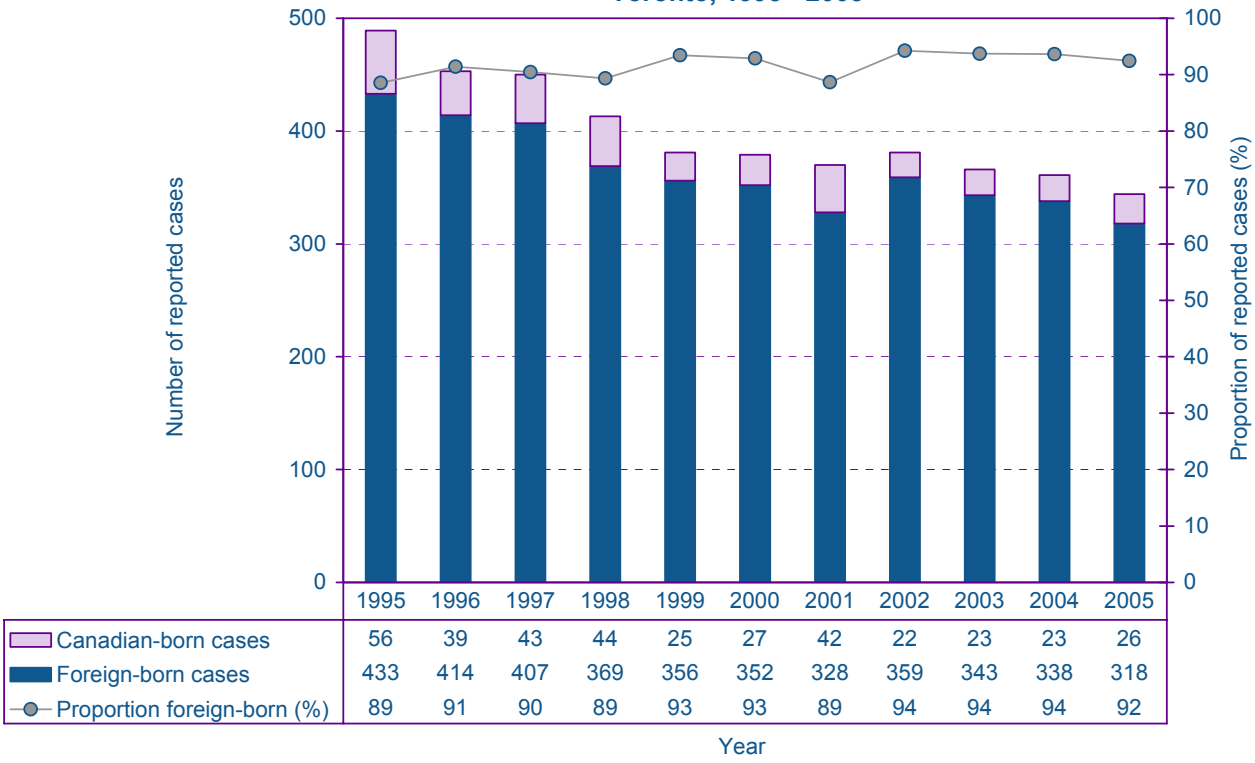


Table 4.10: Risk settings of reported cases of tuberculosis. Toronto, 2005

Reported risk setting	Number of cases	Proportion of cases (%)
Travel or lived in endemic area	306	91
Home	12	4
Shelter or rooming house	10	3
Residential/Long-term care facility	2	<1
Hospital	2	<1
Workplace	1	<1
Correctional facility	1	<1
Other	1	<1
Total with a known risk setting	**335**	**100**
Number missing or unknown	9	
Total cases	**344**	

Figure 4.18: Reported cases of tuberculosis by origin* and year. Toronto, 1995 - 2005

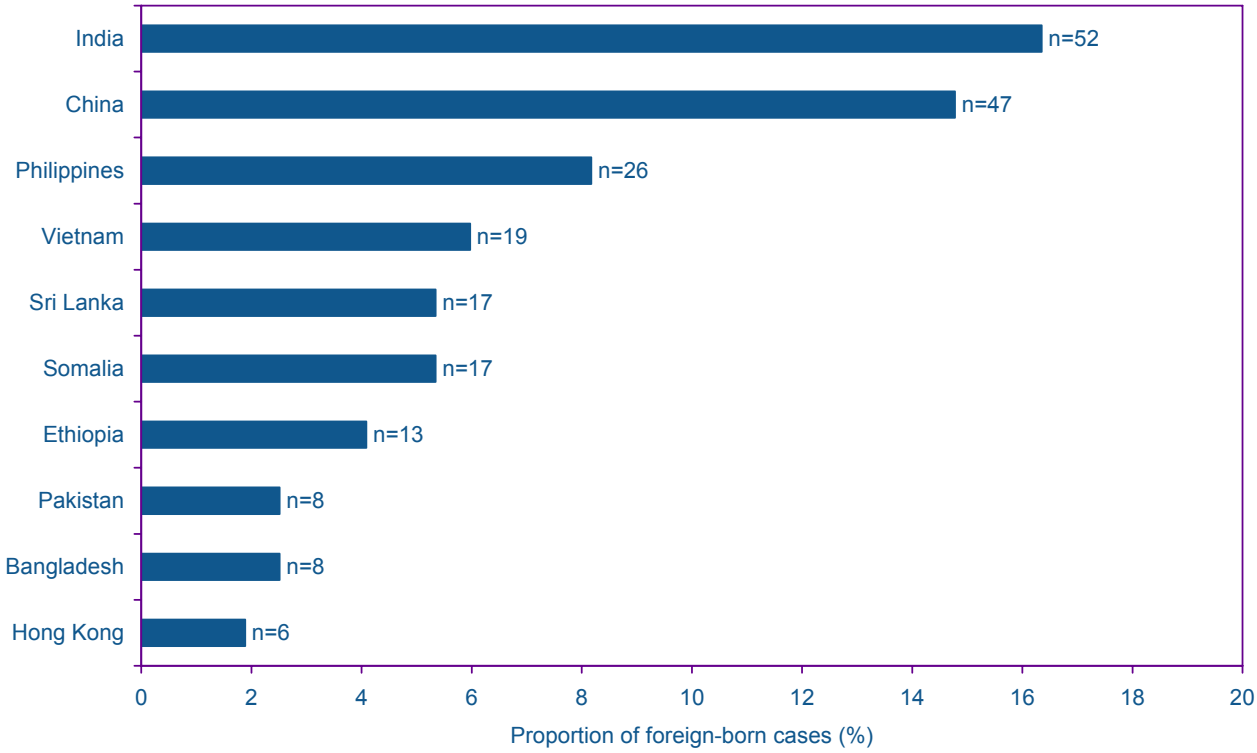


	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Canadian-born cases	56	39	43	44	25	27	42	22	23	23	26
Foreign-born cases	433	414	407	369	356	352	328	359	343	338	318
Proportion foreign-born (%)	89	91	90	89	93	93	89	94	94	94	92

Year

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

Figure 4.19: Proportion of foreign-born tuberculosis cases by top 10 countries* of birth. Toronto, 2005



*Other countries of birth were reported by foreign-born tuberculosis cases in 2005.

Table 4.11: Number and proportion of reported cases of tuberculosis by anatomic site and country of origin. Toronto, 2005

Site of tuberculosis*	Canadian-born cases	(%)	Foreign-born cases	(%)	Overall cases†	(%)
Pulmonary	17	(65)	186	(58)	203	(59)
Lymph node	1	(4)	91	(29)	92	(27)
Pleurisy	1	(4)	15	(5)	16	(5)
Primary pulmonary	6	(23)	13	(4)	19	(6)
Abdominal	0	(0)	11	(3)	11	(3)
Genitourinary	0	(0)	8	(3)	8	(2)
Central nervous system	0	(0)	9	(3)	9	(3)
Miliary	0	(0)	7	(2)	7	(2)
Bone and joint	0	(0)	8	(3)	8	(2)
Skin	0	(0)	1	(<1)	1	(<1)
Other respiratory	0	(0)	2	(<1)	2	(<1)
Other	1	(4)	8	(3)	9	(3)
Total sites of infection	**26**		**359**		**385**	
Total cases	**26**		**318**		**344**	

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

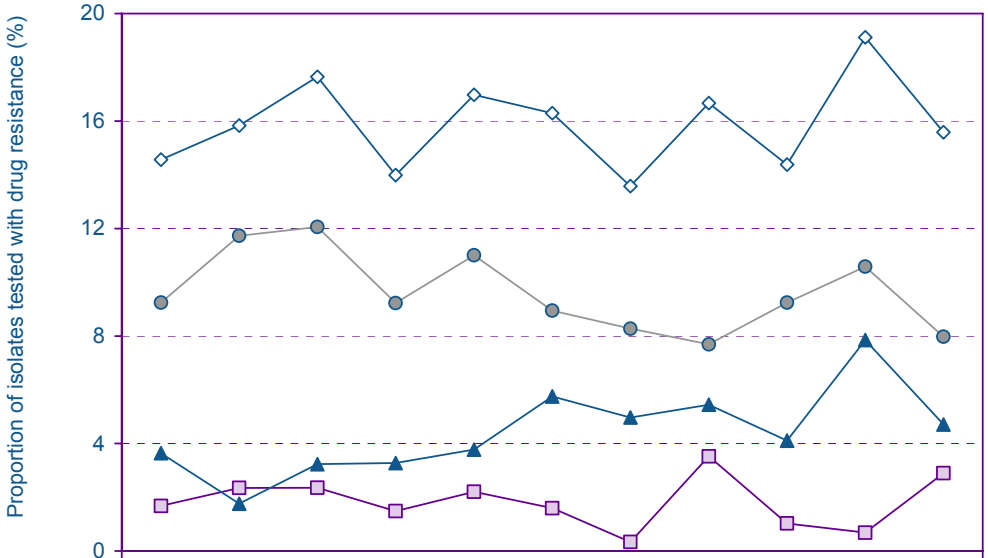
Table 4.12: Reported cases of tuberculosis by treatment status and treatment method. Toronto, 2005*

Treatment status	DOT	(%)	Non-DOT	(%)
Successfully treated	169	(87)	111	(73)
Undergoing treatment	19	(10)	25	(16)
Not completed, side effects	0	(0)	1	(<1)
Not completed, non-compliant	0	(0)	1	(<1)
Referred to another jurisdiction	3	(2)	3	(2)
Lost to follow up	1	(<1)	4	(3)
Expired	2	(1)	7	(5)
Total cases†	**194**	**(100)**	**152**	**(100)**

*Treatment status is reported for 2004 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 because 15 cases never started treatment, either because of diagnosis after death, or due to another serious condition.

Figure 4.20: Proportion of drug resistant tuberculosis cases by year. Toronto, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Resistance to one or more drugs	15	16	18	14	17	16	14	17	14	19	16
INH resistance excluding RMP	9	12	12	9	11	9	8	8	9	11	8
MDR-TB*	2	2	2	1	2	2	<1	4	1	1	3
Other patterns	4	2	3	3	4	6	5	5	4	8	5

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

Vectorborne and Zoonotic Diseases

Communicable Diseases in Toronto

2005

Toronto Public Health

Vectorborne and Zoonotic Diseases

This section focuses on 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. In 2005, malaria accounted for 63% of reports falling into this category. ❑

Table 5.1: Number and proportion of reported cases of vectorborne and zoonotic diseases. Toronto, 2005

Ranking	Reportable disease	Number of cases	Proportion of cases (%)
1	Malaria	90	63
2	West Nile Virus	38	26
3	Lyme disease	13	9
4	Brucellosis	3	2
	Total	**144**	**100**

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

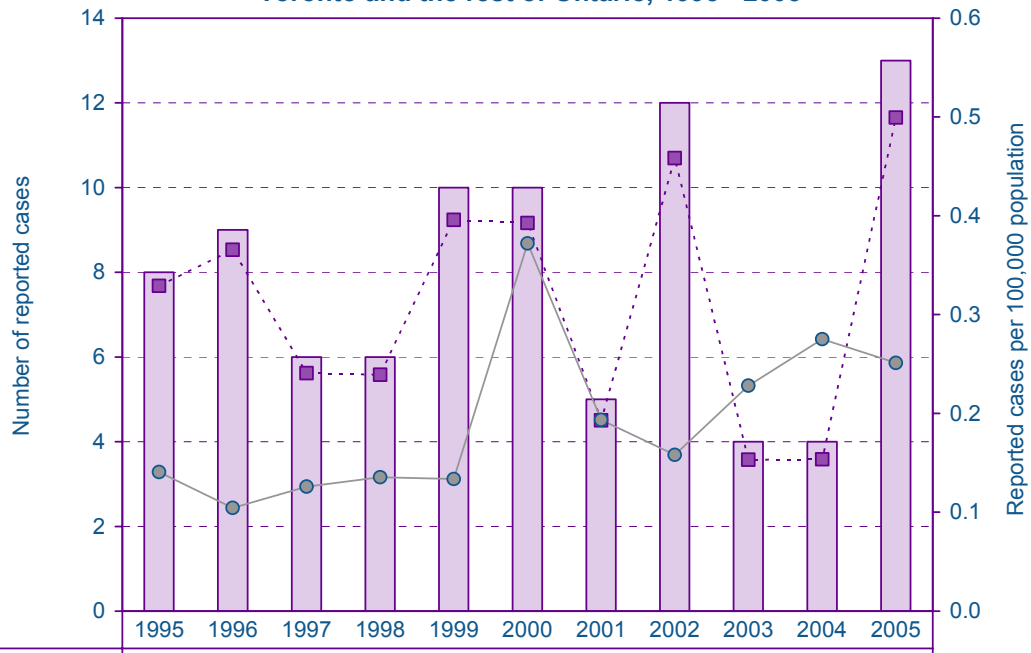
Lyme disease

Table 5.2: Lyme disease summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	13	7	7
Incidence rate (per 100,000 population)			
Overall	0.5	0.3	0.3
Male	0.6	0.2	0.2
Female	0.4	0.3	0.3
Age at onset (years)	Summary statistics		
Mean	37	36	38
Median	37	32	37
Range	6 76	3 67	3 76

Highlights

- In 2005, there were 13 reported cases (0.5 cases per 100,000) of lyme disease. This represented an increase of nine cases over the 2004 total of four cases and the highest incidence of lyme disease in the 11-year surveillance period (Figure 5.1).
- The median age of lyme disease in 2005 was 37 years. This median age was lower than for 2004 (49 years) but comparable to the previous 5-and 10-year medians (Table 5.2).
- In the 12 cases where risk setting was identified, 11 cases (92%) reported travel outside of Canada.

Figure 5.1: Incidence of lyme disease by year. Toronto and the rest of Ontario, 1995 - 2005

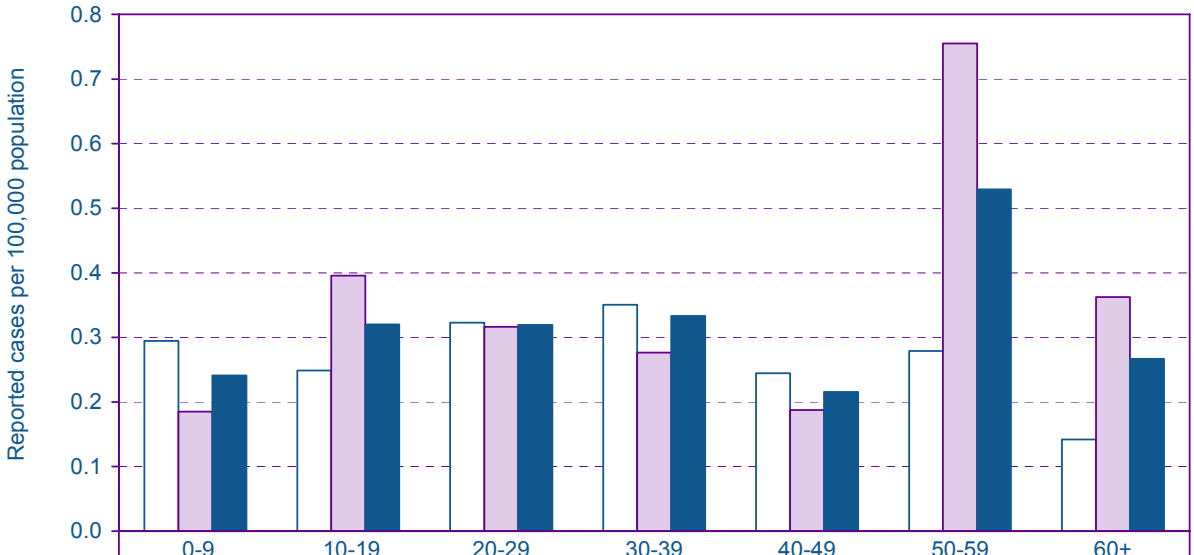


	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	8	9	6	6	10	10	5	12	4	4	13
Toronto rates	0.3	0.4	0.2	0.2	0.4	0.4	0.2	0.5	0.2	0.2	0.5
Ontario less Toronto rates	0.1	0.1	0.1	0.1	0.1	0.4	0.2	0.2	0.2	0.3	0.3

Year

Lyme disease is not nationally notifiable.

Figure 5.2: Incidence of lyme disease by age group and sex*. Toronto, 1995 - 2005 combined



	0-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	0.3	0.2	0.3	0.4	0.2	0.3	0.1
Female rates	0.2	0.4	0.3	0.3	0.2	0.8	0.4
Overall rates	0.2	0.3	0.3	0.3	0.2	0.5	0.3
Male cases	5	4	7	9	5	4	3
Female cases	3	6	7	7	4	12	10

*The sex was not reported for one case.

Age group (years)

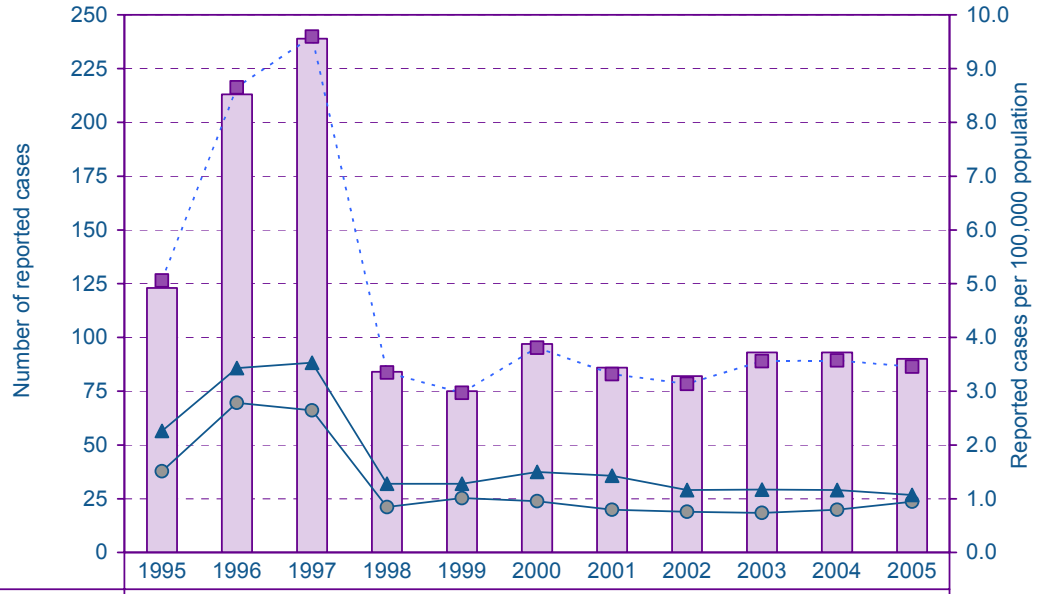
Malaria

Table 5.3: Malaria summary data Toronto			
	2005	5-yr period 2000-2004	10-yr period 1995-2004
	Total	Means	
Number of reported cases	90	90	119
Incidence rate (per 100,000 population)			
Overall	3.5	3.5	4.7
Male	5.0	5.1	6.2
Female	1.9	1.9	3.2
Age at onset (years)	Summary statistics		
Mean	38	34	34
Median	39	36	34
Range	1 68	<1 83	<1 96

Highlights

- In 2005, there were 90 reported cases (3.5 cases per 100,000) of malaria. This represented a decrease of three cases (3%) from the 2004 total of 93 cases (Figure 5.3).
- Toronto's rate of malaria was almost four times the rate reported for the rest of Ontario in 2005 and three times the rate reported for Canada (Figure 5.3). This may reflect Toronto's large immigrant population and associated travel to malaria endemic areas of the world. In 2005, cases from Toronto accounted for 49% of all malaria cases reported in Ontario (n=184).
- The age groups with the highest incidence rates of malaria included all three groups from 30 to 59 year olds (Figure 5.4).
- Males accounted for 71% (n=64) of all malaria cases in 2005 and experienced age-specific rates which exceeded their female counterparts in the age groups from 30 to 60 years and older (Figure 5.4).
- With the exception of December, the number of reports for each month in 2005 was either comparable to or lower than the historical mean (Figure 5.5).
- Of the 83 cases where a travel destination was reported, 30% (n=25) traveled to Ghana, 30% (n=25) traveled to India, 17% (n=14) traveled to Nigeria, 11% (n=9) traveled to the African continent, and 4% (n=3) traveled to Pakistan. The remaining seven reported cases traveled to six different countries. The risk setting for seven cases where no travel was reported is unknown.

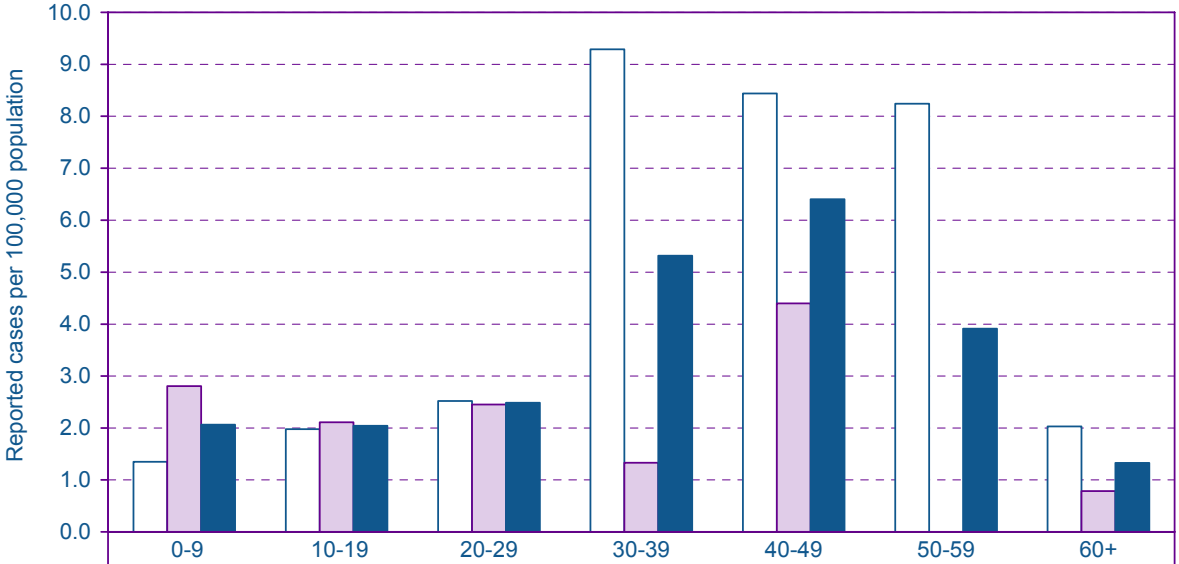
Figure 5.3: Incidence of malaria by year.
Toronto, the rest of Ontario and Canada, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto cases	123	213	239	84	75	97	86	82	93	93	90
Toronto rates	5.1	8.6	9.6	3.3	3.0	3.8	3.3	3.1	3.6	3.6	3.5
Ontario less Toronto rates	1.5	2.8	2.6	0.8	1.0	1.0	0.8	0.8	0.7	0.8	0.9
Canada rates	2.3	3.4	3.5	1.3	1.3	1.5	1.4	1.2	1.2	1.2	1.1

Year

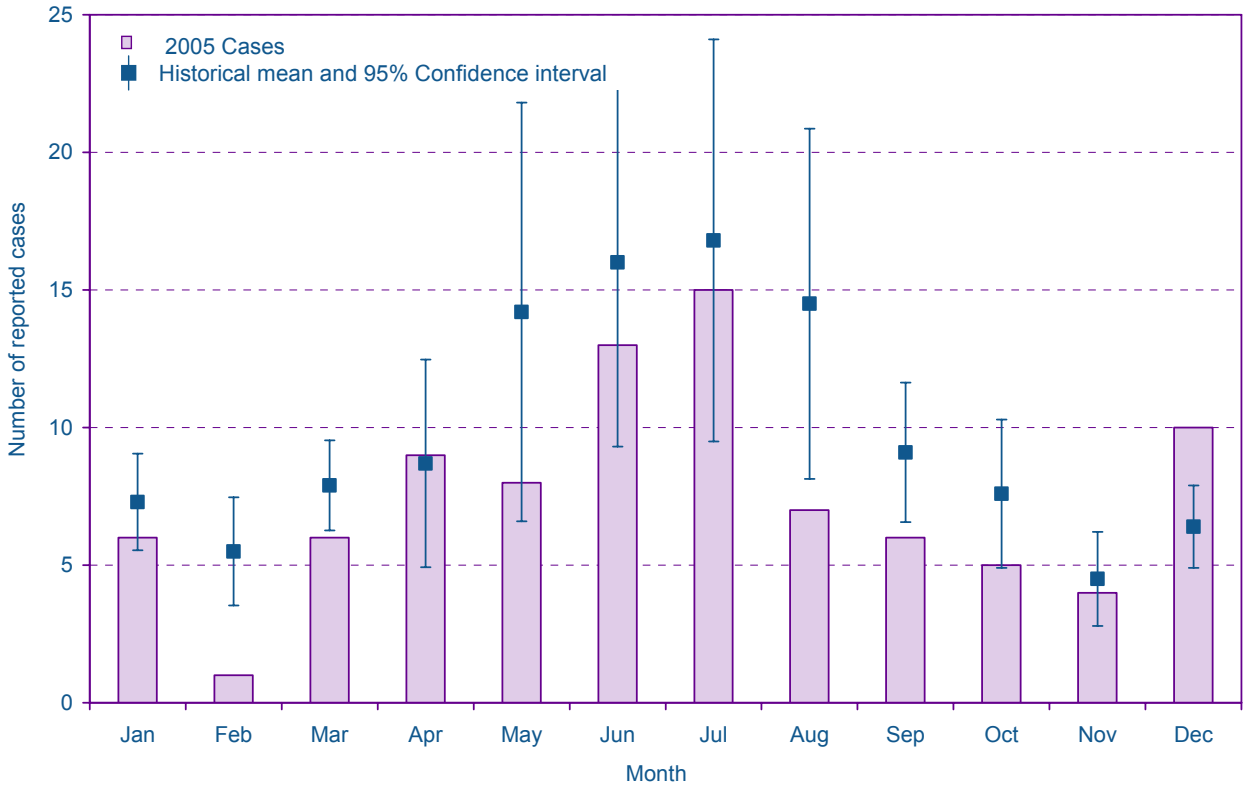
Figure 5.4: Incidence of malaria by age group and sex.
Toronto, 2005



	0-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	1.3	2.0	2.5	9.3	8.4	8.2	2.0
Female rates	2.8	2.1	2.5	1.3	4.4	0.0	0.8
Overall rates	2.1	2.0	2.5	5.3	6.4	3.9	1.3
Male cases	2	3	5	21	17	12	4
Female cases	4	3	5	3	9	0	2

Age group (years)

**Figure 5.5: Number of reported cases of malaria by month.
Toronto, 2005 compared to 1995 - 2004 mean**



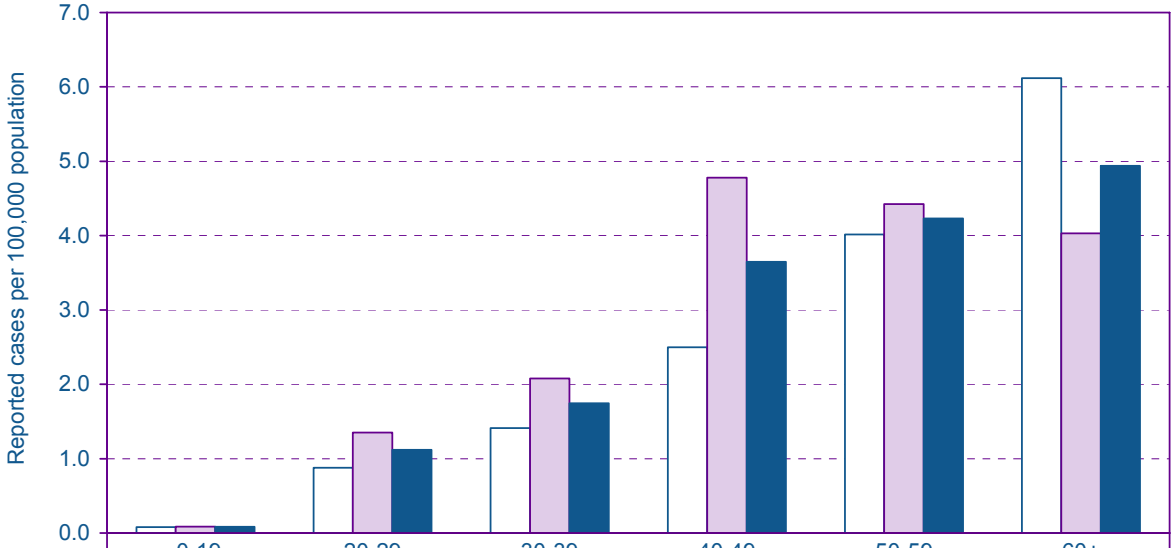
West Nile Virus (WNV)

Table 5.4: West Nile Virus summary data Toronto				
	2005	2004	2003	2002
Number of reported cases	38	6	44	163
Incidence rate (per 100,000 population)				
Overall	1.5	0.2	1.7	6.2
Male	1.3	0.2	1.6	5.8
Female	1.6	0.3	1.8	6.6
Age at onset (years)	Summary statistics			
Mean	57	62	51	54
Median	57	60	51	52
Range	23 92	39 88	13 90	19 89
Hospitalization rate (%)	45	50	18	52
Case fatality (%)	16	0	0	6

Highlights

- In 2005, there were 38 reported cases of West Nile Virus (WNV). This represented an increase of 32 cases, more than six times the 2004 total of six cases (Table 5.4).
- Among WNV cases reported in 2005, 45% of all cases (n=17) were hospitalized (Table 5.4). There were six reported deaths related to WNV infection in 2005. This represented a case fatality rate of 16%.
- The age group with the highest incidence rate of WNV in the combined years (2002-2005) continued to be 60 years and older (4.9 cases per 100,000) (Figure 5.6).
- With the exception of July, the number of reports for each month in 2005 was either comparable to or lower than the historical mean (Figure 5.7).
- The most commonly reported risk settings were the home environment (70%), visiting a local park or recreational area (11%) and visiting a local vacation property (11%) (Figure 5.8).

Figure 5.6: Incidence of West Nile Virus by age group and sex. Toronto, 2002 - 2005 combined



	0-19	20-29	30-39	40-49	50-59	60+
Male rates	<0.1	0.9	1.4	2.5	4.0	6.1
Female rates	<0.1	1.4	2.1	4.8	4.4	4.0
Overall rates	<0.1	1.1	1.7	3.6	4.2	4.9
Male cases	1	7	13	20	23	48
Female cases	1	11	19	39	28	41

Age group (years)

Figure 5.7: Number of reported cases of West Nile Virus by month. Toronto, 2005 compared to 2002 - 2004 mean

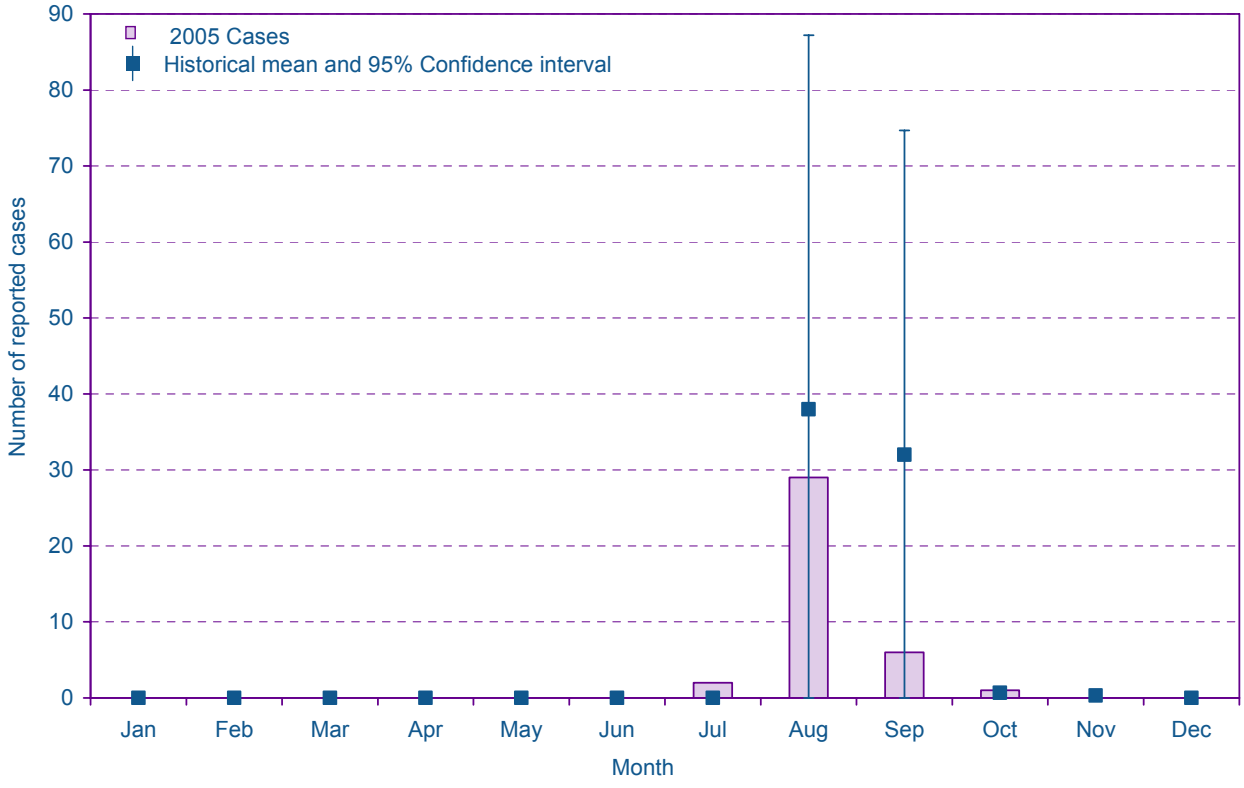
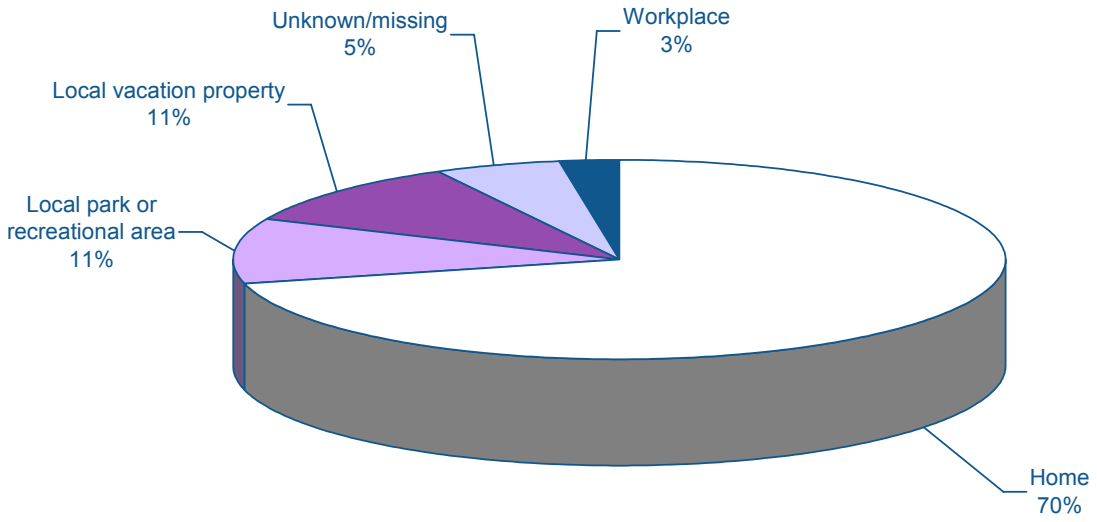


Figure 5.8: Proportion of reported cases of West Nile Virus by reported risk setting. Toronto, 2005 (N=38)



Encephalitis/ Meningitis

Communicable Diseases in Toronto

2005

Toronto Public Health

Encephalitis/Meningitis

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

Table 6.1: Encephalitis/meningitis summary data

Toronto

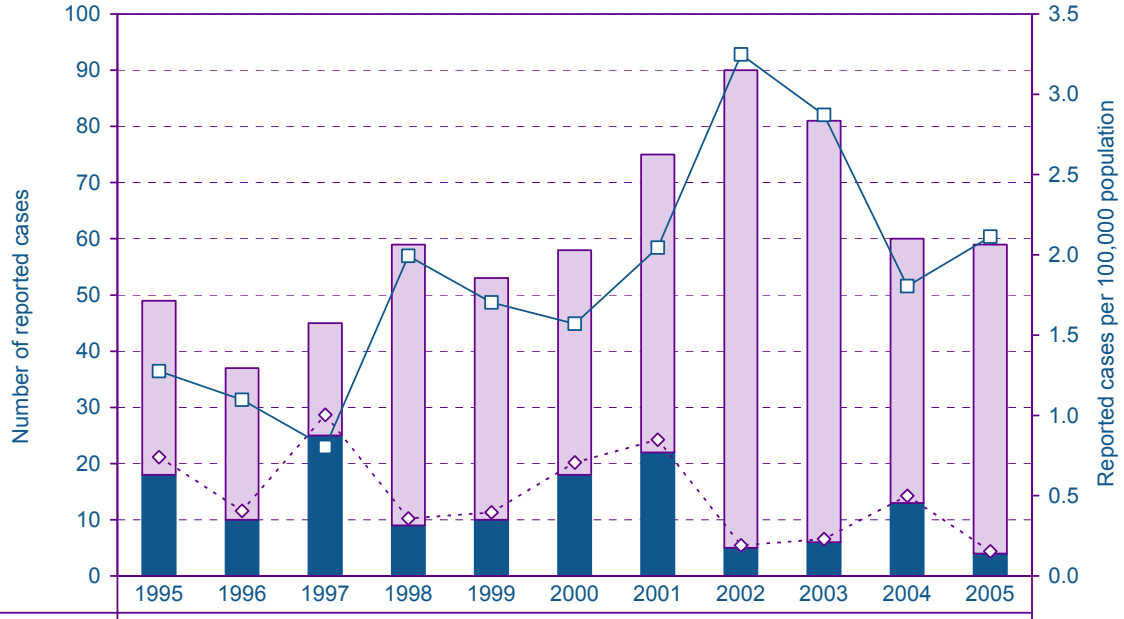
	2005		5-yr period 2000-2004		10-yr period 1995-2004	
	Totals		Means			
	Viral	Bacterial	Viral	Bacterial	Viral	Bacterial
Number of reported cases	55	4	60	13	47	14
Incidence rate (per 100,000 population)						
Overall	2.1	0.2	2.3	0.5	1.9	0.5
Male	2.4	0.2	2.7	0.6	2.1	0.6
Female	1.8	0.1	2.0	0.4	1.6	0.5
Age at onset (years)	Summary statistics					
Mean	17	43	27	28	26	33
Median	12	44	24	24	24	35
Range	<1 - 88	<1 - 83	<1 - 94	<1 - 84	<1 - 94	<1 - 84
Case fatality (%)	0	0	2	8	2	14
*Other cases	6		5		6	
†Unclassified cases	7		7		6	

*Cases for which a fungal agent was identified.
†Cases for which no agent was identified.

Highlights: Viral

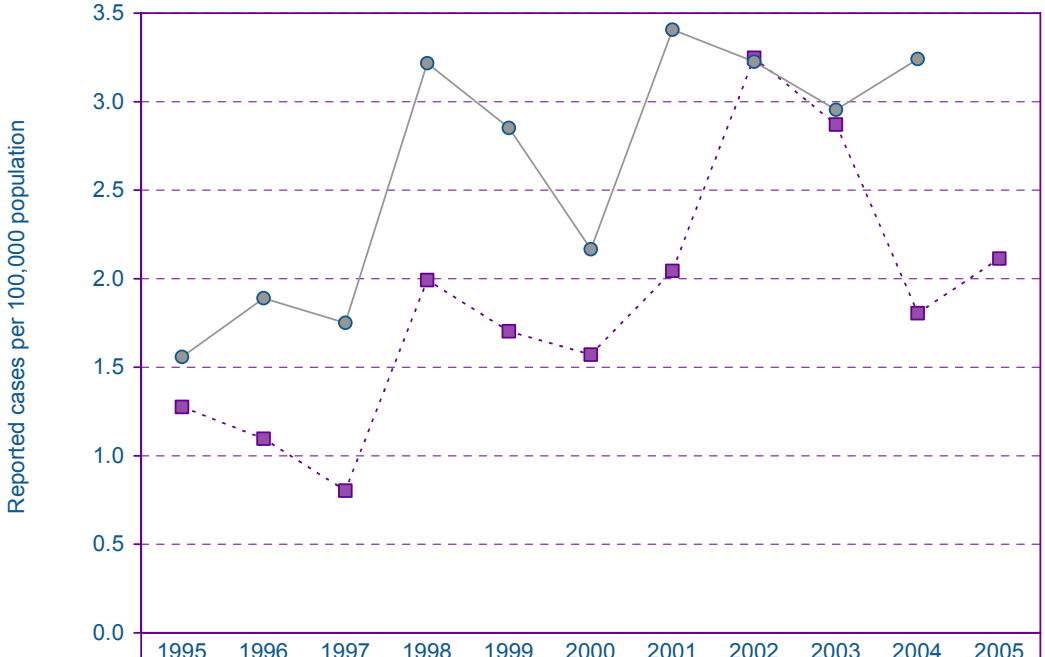
- In 2005, there were 55 reported cases (2.1 cases per 100,000) of viral encephalitis/meningitis. This represented an increase of eight cases (17%) over the 2004 total of 47 cases (Figure 6.1).
- The number of cases reported for each month except June and July was comparable to or lower than the historical mean.
- The most commonly identified viral agents in 2005 were Enterovirus - unspecified (47%) and Herpes simplex virus (16%) (Table 6.2).

Figure 6.1: Incidence of encephalitis/meningitis, viral and bacterial causes by year. Toronto, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Cases - viral	31	27	20	50	43	40	53	85	75	47	55
Cases - bacterial	18	10	25	9	10	18	22	5	6	13	4
Rates - viral	1.3	1.1	0.8	2.0	1.7	1.6	2.0	3.2	2.9	1.8	2.1
Rates - bacterial	0.7	0.4	1.0	0.4	0.4	0.7	0.8	0.2	0.2	0.5	0.2

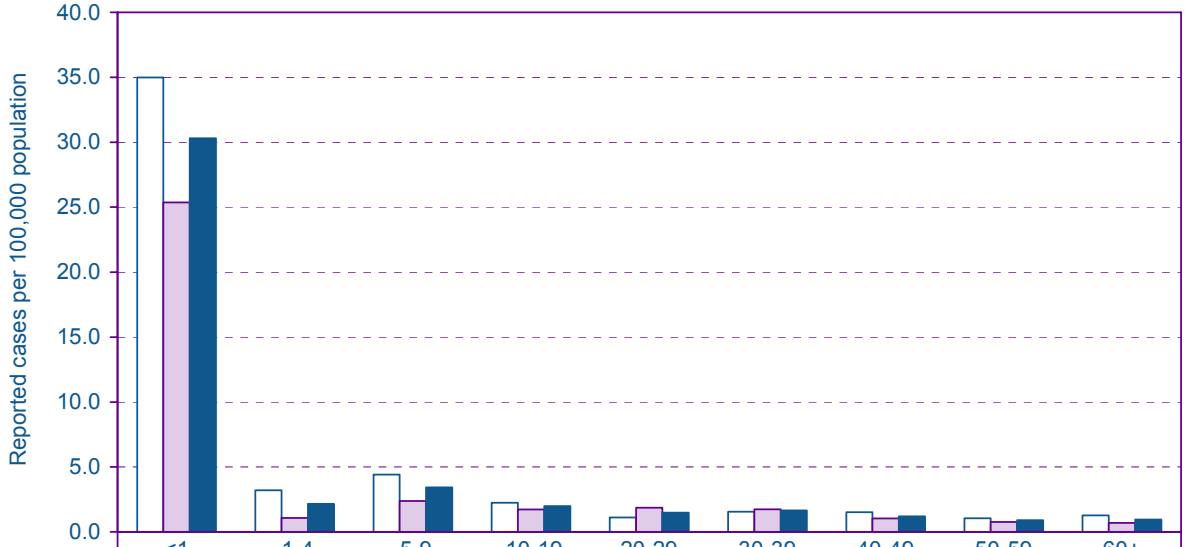
Figure 6.2: Incidence rates of encephalitis/meningitis, viral by year. Toronto compared to the rest of Ontario, 1995 - 2005



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto rates	1.3	1.1	0.8	2.0	1.7	1.6	2.0	3.2	2.9	1.8	2.1
Ontario less Toronto rates	1.6	1.9	1.8	3.2	2.9	2.2	3.4	3.2	3.0	3.2	NA

NA: Ontario data for 2005 are not available.

Figure 6.3: Incidence of encephalitis/meningitis, viral by age group* and sex. Toronto, 1995 - 2005 combined



	<1	1-4	5-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	35.0	3.2	4.4	2.2	1.1	1.6	1.5	1.0	1.3
Female rates	25.4	1.1	2.4	1.7	1.9	1.7	1.0	0.8	0.7
Overall rates	30.3	2.2	3.4	2.0	1.5	1.6	1.2	0.9	0.9
Male cases	61	22	37	36	24	40	28	15	27
Female cases	42	7	19	26	41	44	22	12	19

*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, 2005 compared to 1995 - 2004 mean

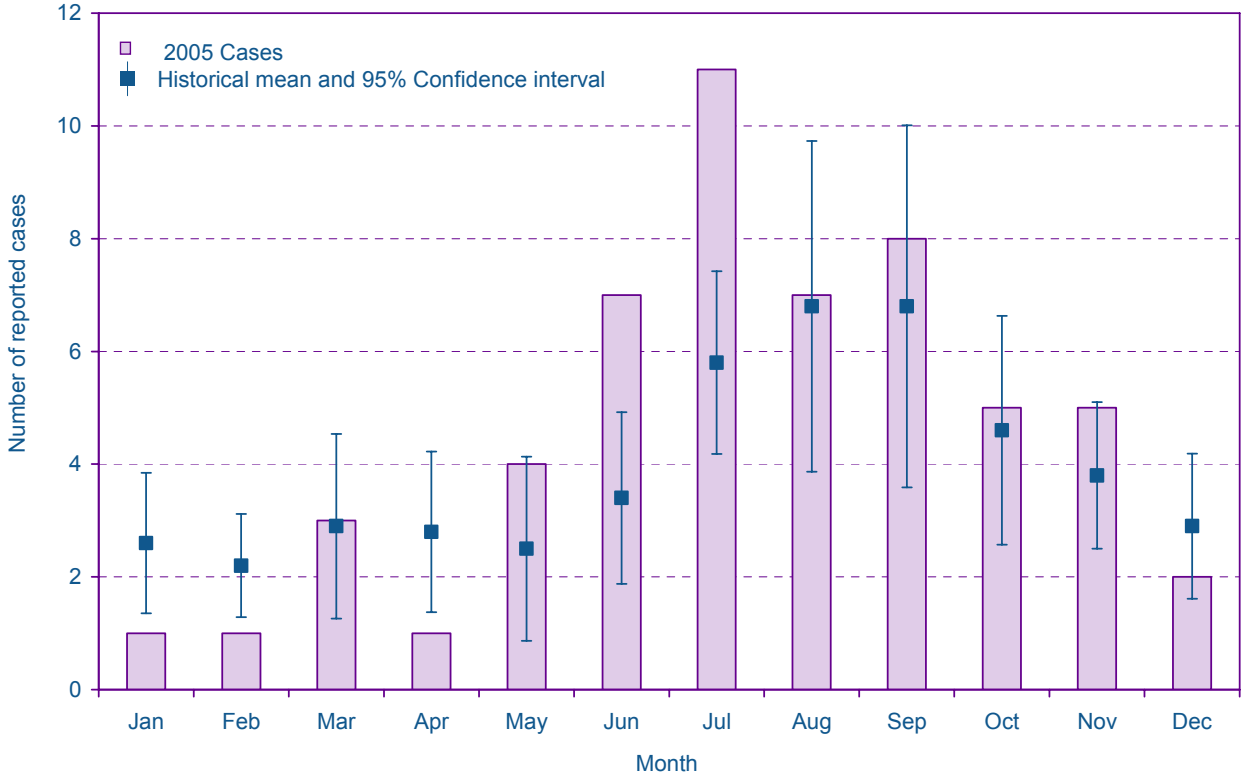


Table 6.2: Incidence of viral encephalitis/meningitis by agent. Toronto, 2005 cases compared to previous 5-year mean

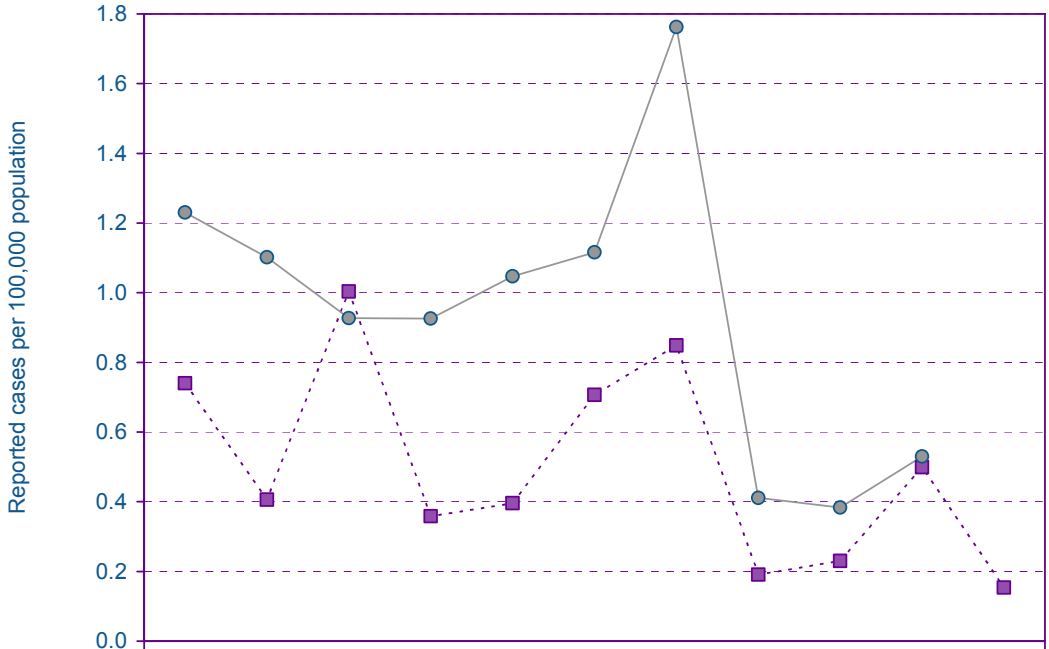
Agent organism	Number of cases (%)	
	2005 (N=55)	5-yr mean 2000-2004 (N=60)
Enterovirus - unspecified	26 (47)	14 (23)
Suspect viral*	14 (25)	18 (29)
Herpes simplex virus†	9 (16)	11 (18)
Enterovirus - Coxsackievirus	3 (5)	2 (4)
Enterovirus - Echovirus	2 (4)	1 (2)
Other	1 (2)	7 (12)
Dengue virus‡	0 (0)	6 (10)
St. Louis virus	0 (0)	1 (2)
Total	**55 (100)**	**60 (100)**

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

Highlights: Bacterial

- In 2005, there were four cases (0.2 cases per 100,000) of bacterial encephalitis/meningitis reported. The incidence rate of bacterial encephalitis/meningitis was less than half the rate reported for 2004 (Figure 6.1).
- The number of reports for each month in 2005 was either comparable to or lower than the historical mean (Figure 6.7).
- The most common bacterial encephalitis/meningitis agent identified in 2005 was *Escherichia coli* (50%) (Table 6.3).

Figure 6.5: Incidence rates of encephalitis/meningitis, bacterial by year. Toronto compared to the rest of Ontario, 1995 - 2005

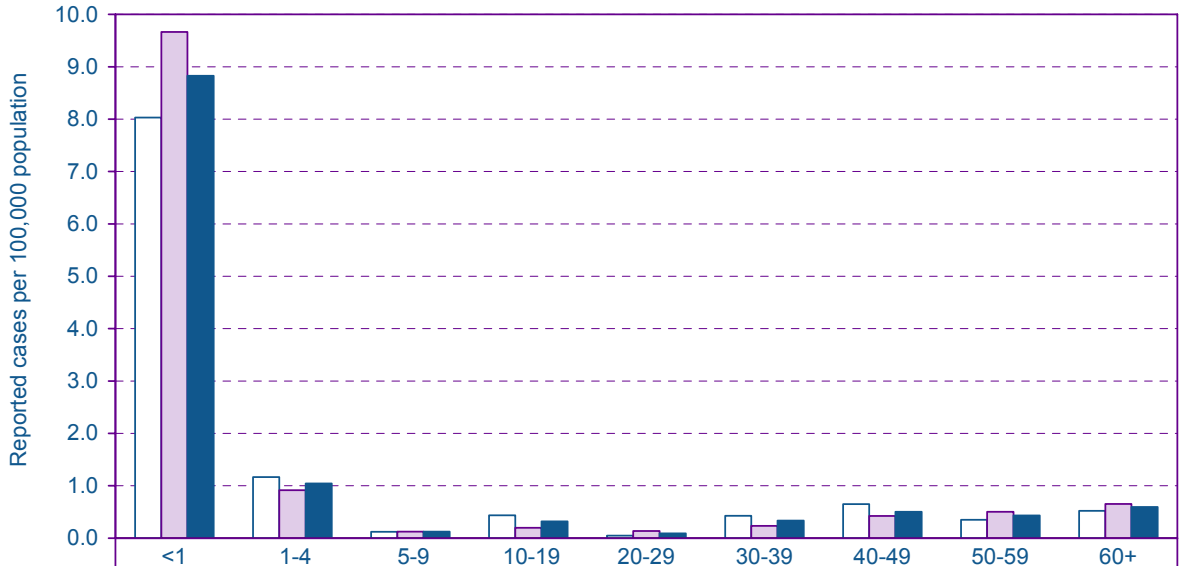


	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Toronto rates	0.7	0.4	1.0	0.4	0.4	0.7	0.8	0.2	0.2	0.5	0.2
Ontario less Toronto rates	1.2	1.1	0.9	0.9	1.0	1.1	1.8	0.4	0.4	0.5	NA

Year

NA: Ontario data for 2005 are not available.

Figure 6.6: Incidence of encephalitis/meningitis, bacterial by age group and sex. Toronto, 1995 - 2005 combined



	<1	1-4	5-9	10-19	20-29	30-39	40-49	50-59	60+
Male rates	8.0	1.2	0.1	0.4	<0.1	0.4	0.7	0.3	0.5
Female rates	9.7	0.9	0.1	0.2	0.1	0.2	0.4	0.5	0.7
Overall rates	8.8	1.0	0.1	0.3	<0.1	0.3	0.5	0.4	0.6
Male cases	14	8	1	7	1	11	12	5	11
Female cases	16	6	1	3	3	6	9	8	18

Age group (years)

Figure 6.7: Number of reported cases of encephalitis/meningitis, bacterial by month. Toronto, 2005 compared to 1995 - 2004 mean

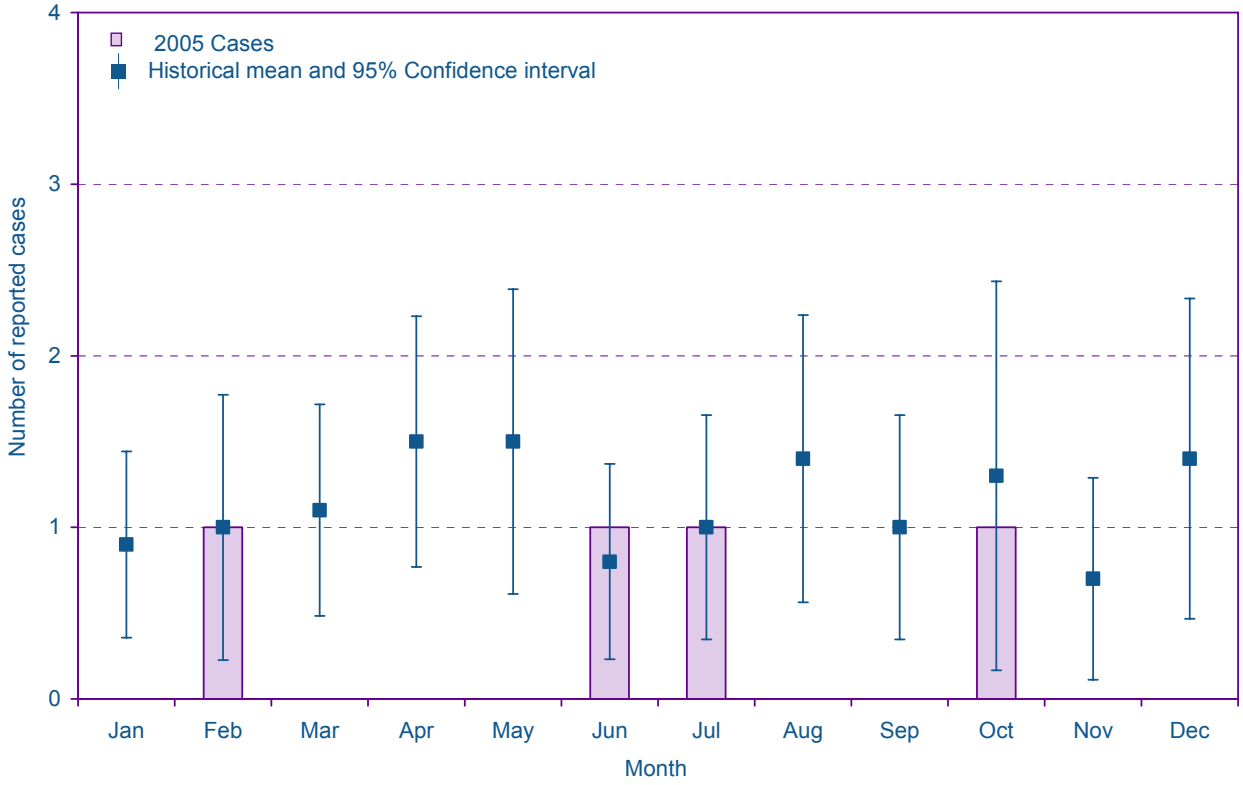


Table 6.3: Incidence of bacterial encephalitis/meningitis by agent. Toronto, 2005 cases compared to previous 5-year mean

Agent organism*	Number of cases (%)	
	2005 (N=4)	5-yr mean 2000-2004 (N=13)
Suspect bacterial†	2 (50)	4 (30)
Escherichia coli	2 (50)	2 (13)
Streptococcus	0 (0)	4 (30)
Pneumococcus‡	0 (0)	1 (9)
Klebsiella	0 (0)	<1 (5)
Staphylococcus aureus	0 (0)	<1 (5)
Enterobacter	0 (0)	<1 (3)
Serratia	0 (0)	<1 (2)
Salmonella	0 (0)	<1 (2)
Other	0 (0)	<1 (3)
Total	**4 (100)**	**13 (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

2005

Toronto Public Health

Rare Communicable Reportable 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 SARS and all those diseases that had less than 50 cases reported during the 11-year surveillance period 1995 to 2005. 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, 1995 - 2005

Disease	Disease category	Year of last report	Total number of cases for period 1995 - 2005
Botulism	Enteric, food and waterborne	2004	6
Brucellosis	Vectorborne and zoonotic	2005	11
Cholera	Enteric, food and waterborne	1998	3
Cytomegalovirus infection, congenital	Sexually transmitted and bloodborne	2005	19
Haemophilus influenzae b disease, invasive	Preventable by routine vaccination	2004	19
Haemorrhagic fevers	Vectorborne and zoonotic	1997	2
Hepatitis D	Sexually transmitted and bloodborne	2005	31
Herpes, neonatal	Sexually transmitted and bloodborne	2005	13
Leprosy	Direct contact and respiratory	2005	19
Ophthalmia neonatorum	Sexually transmitted and bloodborne	2004	34
Psittacosis/Ornithosis	Vectorborne and zoonotic	1996	3
Q fever	Vectorborne and zoonotic	2004	10
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	2
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

2005

Toronto Public Health

Outbreaks

Table 8.1: Outbreak summary data Toronto						
	2005			5-yr period 2000-2004		
	Total			Mean		
	Enteric	Respiratory*	Other	Enteric	Respiratory*	Other
Number of reported outbreaks	139	129	5	183	123	3
Number of cases	3030	2321	17	4886	2709	25
Mean number of cases per outbreak	22	18	3	27	22	10
Number of deaths	1	71	0	10	66	1

*Seasonal year from July to June (i.e. 2005/06 includes cases from July 1, 2005 to June 30, 2006).

Highlights: Enteric Outbreaks

- There were 139 enteric outbreaks reported in 2005. This represented a decrease of 45 outbreaks (24%) from the 2004 total of 184 outbreaks (Table 8.2). There was one enteric outbreak-related death reported in 2005. This was a decrease from the 16 reported deaths for 2004 and the mean of 10 deaths for the previous 5-year period.

- Although the proportion of Norovirus outbreaks was lower in 2005 than any year during the surveillance period (2001 to 2005), Norovirus continued to be the most commonly identified agent (8%) associated with enteric outbreaks in 2005 (Table 8.2).

- Just over half (53%) the enteric outbreaks reported in Toronto were from child care centres (Table 8.3).

- There were 3,030 individuals identified as cases in enteric outbreaks reported in 2005 (Table 8.4). This represented a decrease of 113 cases (4%) from the 3,143 reported cases in 2004. However, the mean and median number of cases per enteric outbreak increased from 17 and 12 in 2004 to 22 and 14, respectively for 2005. Long term care facilities reported the highest number of cases (n=1,788) and cases per outbreak (n=38) in 2005 (Table 8.4).

- The number of enteric outbreaks reported for each month of 2005 was either comparable to or lower than the historical mean (Figure 8.1).

Table 8.2: Number and proportion of reported enteric outbreaks by agent. Toronto, 2001 - 2005

Etiological agent/disease	Number of reported outbreaks (%)											
	Overall		2001		2002		2003		2004		2005	
Bacteria												
Clostridium difficile	7	(<1)	4	(3)	0	(0)	1	(<1)	1	(<1)	1	(<1)
Campylobacter spp.	6	(<1)	2	(1)	2	(<1)	0	(0)	2	(1)	0	(0)
Clostridium perfringens	5	(<1)	2	(1)	1	(<1)	1	(<1)	0	(0)	1	(<1)
Salmonella spp.	4	(<1)	3	(2)	0	(0)	1	(<1)	0	(0)	0	(0)
Shigella spp.	4	(<1)	0	(0)	2	(<1)	1	(<1)	0	(0)	1	(<1)
E. coli 0157:H7	2	(<1)	2	(1)	0	(0)	0	(0)	0	(0)	0	(0)
Bacillus cereus	1	(<1)	1	(<1)	0	(0)	0	(0)	0	(0)	0	(0)
Salmonella typhi	1	(<1)	1	(<1)	0	(0)	0	(0)	0	(0)	0	(0)
Scrombroid poisoning	1	(<1)	0	(0)	0	(0)	0	(0)	0	(0)	1	(<1)
Total - Bacteria	**31**	**(3)**	**15**	**(10)**	**5**	**(2)**	**4**	**(3)**	**3**	**(2)**	**4**	**(3)**
Viruses												
Norovirus*	184	(21)	18	(12)	102	(34)	25	(20)	28	(15)	11	(8)
Rotavirus	34	(4)	8	(5)	6	(2)	8	(6)	7	(4)	5	(4)
Adenovirus	19	(2)	5	(3)	2	(1)	5	(4)	4	(2)	3	(2)
Enterovirus	6	(<1)	0	(0)	1	(<1)	3	(2)	2	(1)	0	(0)
Astrovirus	5	(<1)	0	(0)	4	(1)	1	(<1)	0	(0)	0	(0)
Hepatitis A Virus	3	(<1)	2	(1)	1	(<1)	0	(0)	0	(0)	0	(0)
Picorna-like Virus	3	(<1)	1	(<1)	0	(0)	1	(<1)	1	(<1)	0	(0)
Echovirus	1	(<1)	1	(<1)	0	(0)	0	(0)	0	(0)	0	(0)
Total - Viruses	**255**	**(29)**	**35**	**(23)**	**116**	**(39)**	**43**	**(35)**	**42**	**(23)**	**19**	**(14)**
Parasites												
Cyclospora cayetanensis	1	(<1)	0	(0)	0	(0)	0	(0)	0	(0)	1	(<1)
Giardia lamblia	1	(<1)	0	(0)	1	(<1)	0	(0)	0	(0)	0	(0)
Total - Parasites	**2**	**(<1)**	**0**	**(0)**	**1**	**(<1)**	**0**	**(0)**	**0**	**(0)**	**1**	**(<1)**
Unknown etiology	606	(68)	99	(66)	176	(59)	77	(62)	139	(76)	115	(83)
Total number of outbreaks	**894**		**149**		**298**		**124**		**184**		**139**	

*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, 2001 - 2005

Risk setting	Number of reported outbreaks (%)											
	Overall		2001		2002		2003		2004		2005	
Institutional												
Child care centre	384	(43)	44	(30)	106	(36)	53	(43)	107	(58)	74	(53)
Long term care facility	332	(37)	66	(44)	120	(40)	46	(37)	53	(29)	47	(34)
Acute care hospital	50	(6)	7	(5)	18	(6)	10	(8)	8	(4)	7	(5)
Chronic care hospital	25	(3)	1	(<1)	14	(5)	2	(2)	5	(3)	3	(2)
School/college/university	22	(2)	4	(3)	10	(3)	2	(2)	3	(2)	3	(2)
Other (e.g. shelter, group home)	8	(<1)	3	(2)	5	(2)	0	(0)	0	(0)	0	(0)
Total - Institutional	**821**	**(92)**	**125**	**(84)**	**273**	**(92)**	**113**	**(91)**	**176**	**(96)**	**134**	**(96)**
Community												
Food services	47	(5)	16	(11)	13	(4)	9	(7)	7	(4)	2	(1)
Other (e.g. camping, community centre)	26	(3)	8	(5)	12	(4)	2	(2)	1	(<1)	3	(2)
Total - Community	**73**	**(8)**	**24**	**(16)**	**25**	**(8)**	**11**	**(9)**	**8**	**(4)**	**5**	**(4)**
Grand Total	**894**	**(100)**	**149**	**(100)**	**298**	**(100)**	**124**	**(100)**	**184**	**(100)**	**139**	**(100)**

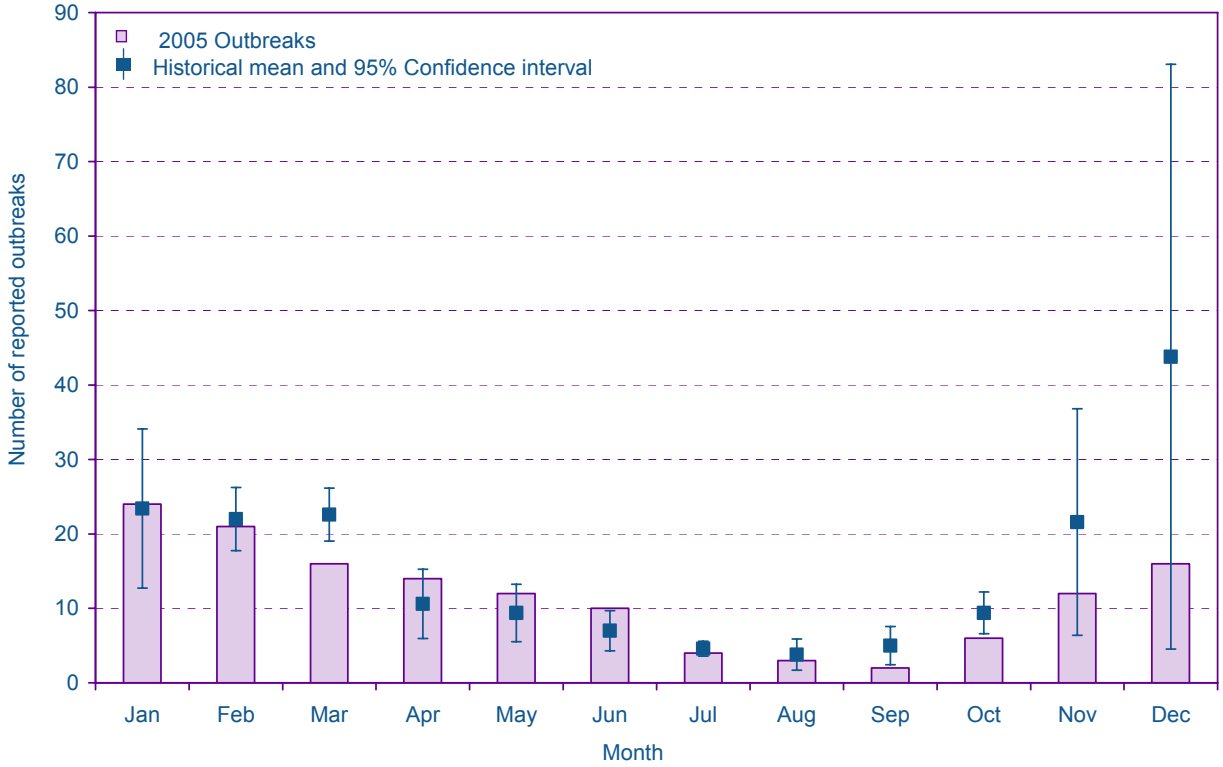
*Excludes family outbreaks.

Table 8.4: Enteric outbreaks by risk setting and average size. Toronto, 2005

Risk setting	Total number			Mean per outbreak	
	Outbreaks	Cases	Deaths	Cases	Deaths
Institutional					
Child care centre	74	976	0	13	0
Long term care facility	47	1788	1	38	<1
Acute care hospital	7	87	0	12	0
Chronic care hospital	3	50	0	17	0
School/college/university	3	93	0	31	0
Total - Institutional	**134**	**2994**	**1**	**22**	**<1**
Community					
Food services	3	36	0	12	0
Other (e.g. camping, community centre)†	2	NA	NA	NA	NA
Total - Community	**5**	**36**	**0**	**7**	**0**
Grand Total	**139**	**3030**	**1**	**22**	**<1**

†Number of cases was not available

Figure 8.1: Number of reported enteric outbreaks by month.
Toronto, 2005 compared to 2000 - 2004 mean



Highlights: Respiratory Outbreaks

- There were 129 respiratory outbreaks reported during the 2005/06 season. This represented a decrease of 57 outbreaks (31%) from the 2004/05 season total of 186 outbreaks (Table 8.5).

- Influenza A was the most commonly identified agent in 21% (n=27) of respiratory outbreaks reported during the 2005/06 season (Table 8.5). This was a decrease from the 44% (n=81) of outbreaks reported for the 2004/05 season. Enterovirus (12%) and RSV (6%) both surpassed Influenza B (2%) and were the next most identified agents in respiratory outbreaks, respectively.

- Long term care facilities (LTCF) accounted for the majority (90%) of outbreak reports in the 2005/06 season and the highest proportion reported for the surveillance period (Table 8.6).

- The continued occurrence of outbreaks among the elderly in LTCFs contributed to a death rate of 3.1%. This represented no change from the death rate reported last season.

- There were 2,321 people identified as cases in respiratory outbreaks reported in 2005/06 season (Table 8.7). This was a decrease of 1,373 (37%) from the 2004/05 season total of 3,694 cases. The mean and median number of cases per respiratory outbreak in 2005/06 season was 18 and 14, respectively.

- With the exception of April and October, the number of respiratory outbreaks reported for each month in 2005/06 season was either comparable to or lower than the historical mean (Figure 8.2).

Table 8.5: Number and proportion of reported respiratory outbreaks by agent*. Toronto, 2001/02 - 2005/06

Etiological agent/disease	Number of reported outbreaks (%)											
	Overall		2001/02		2002/03		2003/04		2004/05		2005/06	
Bacteria												
Bordetella pertussis	7	(1)	0	(0)	2	(3)	2	(1)	1	(<1)	2	(2)
Chlamydia pneumoniae	4	(<1)	0	(0)	1	(2)	3	(2)	0	(0)	0	(0)
Mycobacterium tuberculosis	2	(<1)	1	(<1)	0	(0)	0	(0)	1	(<1)	0	(0)
Legionella spp.	1	(<1)	0	(0)	0	(0)	0	(0)	0	(0)	1	(<1)
Mycoplasma pneumoniae	1	(<1)	0	(0)	0	(0)	0	(0)	1	(<1)	0	(0)
Streptococcus pneumoniae	1	(<1)	0	(0)	0	(0)	1	(<1)	0	(0)	0	(0)
Total - Bacteria	**16**	(2)	**1**	(<1)	**3**	(5)	**6**	(3)	**3**	(2)	**3**	**(2)**
Viruses												
Influenza A	205	(31)	32	(31)	5	(8)	60	(34)	81	(44)	27	(21)
Respiratory syncytial virus (RSV)	55	(8)	9	(9)	3	(5)	19	(11)	16	(9)	8	(6)
Influenza B	34	(5)	2	(2)	0	(0)	0	(0)	30	(16)	2	(2)
Parainfluenza virus type 3	24	(4)	2	(2)	5	(8)	5	(3)	7	(4)	5	(4)
Enterovirus	19	(3)	0	(0)	0	(0)	2	(1)	2	(1)	15	(12)
Parainfluenza virus type 1	15	(2)	2	(2)	2	(3)	2	(1)	1	(<1)	8	(6)
Rhinovirus	13	(2)	1	(<1)	1	(2)	3	(2)	5	(3)	3	(2)
Parainfluenza virus type 2	6	(1)	0	(0)	0	(0)	2	(1)	0	(0)	4	(3)
Parainfluenza virus type 4	3	(<1)	0	(0)	2	(3)	0	(0)	1	(<1)	0	(0)
Measles	2	(<1)	0	(0)	1	(2)	1	(<1)	0	(0)	0	(0)
Adenovirus	1	(<1)	0	(0)	0	(0)	1	(<1)	0	(0)	0	(0)
Chickenpox	1	(<1)	0	(0)	0	(0)	0	(0)	1	(<1)	0	(0)
Human metapneumovirus	1	(<1)	0	(0)	0	(0)	0	(0)	0	(0)	1	(<1)
Severe acute respiratory syndrome (SARS) corona virus	1	(<1)	0	(0)	1	(2)	0	(0)	0	(0)	0	(0)
Total - Viruses	**380**	(58)	**48**	(47)	**20**	(34)	**95**	(54)	**144**	(77)	**73**	(57)
Unknown etiology	285	(44)	56	(54)	40	(68)	79	(45)	52	(28)	58	(45)
Total number of outbreaks	**652**		**103**		**59**		**175**		**186**		**129**	

*Between 2001/02 and 2005/06, multiple agents were isolated from 29 outbreaks. Therefore, the total number of agents (identified and unknown) will differ from the total number of outbreaks.

Table 8.6: Number and proportion of reported respiratory outbreaks* by risk setting. Toronto, 2001/02 - 2005/06

Risk setting	Number of reported outbreaks (%)											
	Overall		2001/02		2002/03		2003/04		2004/05		2005/06	
Institutional												
Long term care facility	533	(82)	71	(69)	48	(81)	150	(86)	148	(80)	116	(90)
Chronic care hospital	45	(7)	3	(3)	4	(7)	15	(9)	16	(9)	7	(5)
Child care centre	35	(5)	22	(21)	1	(2)	5	(3)	5	(3)	2	(2)
Acute care hospital	28	(4)	7	(7)	2	(3)	2	(1)	13	(7)	4	(3)
School/college /university	7	(1)	0	(0)	4	(7)	1	(<1)	2	(1)	0	(0)
Other (e.g. shelter, group home)	4	(<1)	0	(0)	0	(0)	2	(1)	2	(1)	0	(0)
Total - Institutional	**652**	**(99)**	**103**	**(100)**	**59**	**(100)**	**175**	**(99)**	**186**	**(100)**	**129**	**(100)**

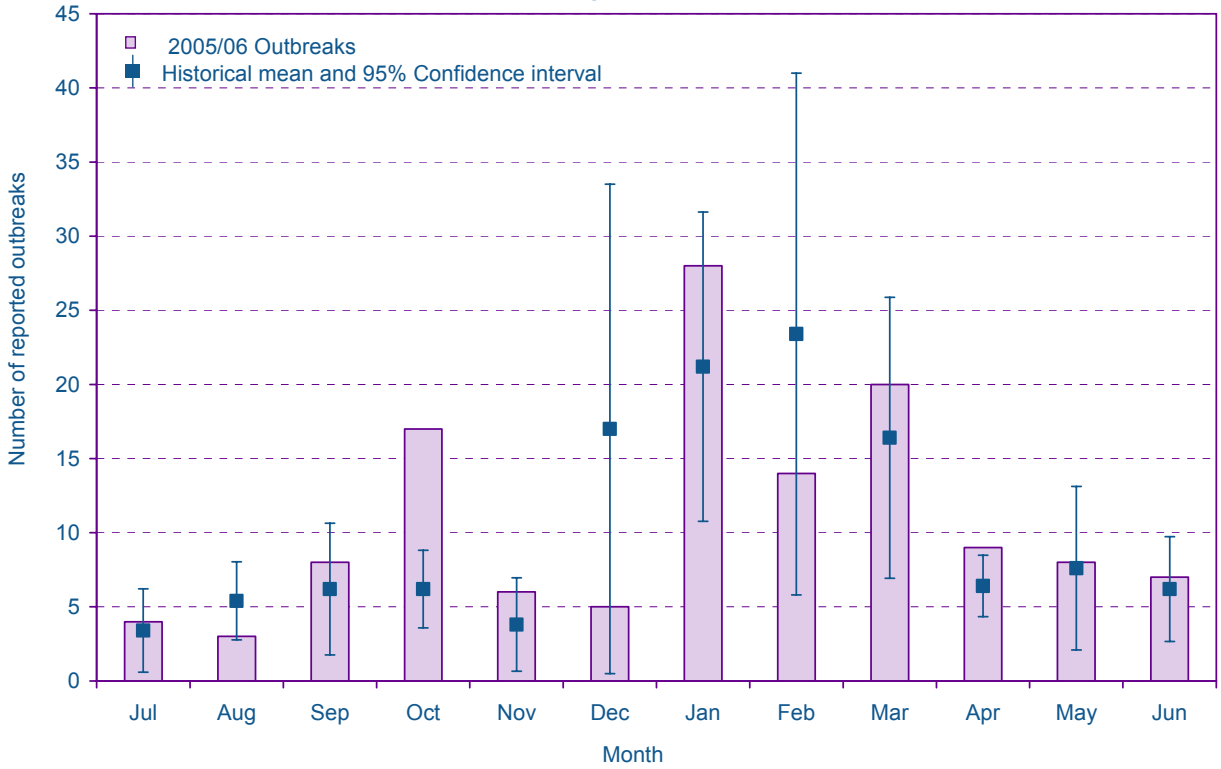
*Although SARS transmission was reported in chronic care hospital and community settings, given that the majority of SARS transmission occurred within acute care hospitals, the SARS outbreak has been included as a single outbreak occurring within this risk setting category.

*No community respiratory outbreaks were reported

Table 8.7: Respiratory outbreaks by risk setting and average size. Toronto, 2005/06

Risk setting	Total number			Mean per outbreak	
	Outbreaks	Cases	Deaths	Cases	Deaths
Institutional					
Long term care facility	116	2199	67	19	<1
Chronic care hospital	7	81	1	12	<1
Acute care hospital	4	38	3	10	<1
Child care centre	2	3	0	2	0
Total - Institutional	**129**	**2321**	**71**	**18**	**<1**

**Figure 8.2: Number of reported respiratory outbreaks by month.
Toronto, 2005/06 compared to 2000/01 - 2004/05 mean**



Highlights: Other Outbreaks

- There were five other outbreaks reported in Toronto in 2005 (Table 8.8). Four were caused by Methicillin-resistant *Staphylococcus aureus* (MRSA) and the fifth was caused by Vancomycin-resistant enterococci.

**Table 8.8: Other reported outbreaks by agent/disease.
Toronto, 2001 - 2005**

Agent/disease	Number of reported outbreaks					
	Overall	2001	2002	2003	2004	2005
Streptococcus pyogenes, group A streptococci (GAS)	6	2	2	1	1	0
Methicillin-resistant *Staphylococcus aureus* (MRSA)	5	0	0	1	0	4
Vancomycin-resistant enterococci	3	0	0	2	0	1
Infectious syphilis	1	0	1	0	0	0
Mycobacterium abscessus	1	0	1	0	0	0
Neisseria meningitidis	1	1	0	0	0	0
Stenotrophomonas maltophilia	1	1	0	0	0	0
West Nile virus	1	0	1	0	0	0
Total	**19**	**4**	**5**	**4**	**1**	**5**

Highlights: Disease Specific Outbreak Investigation

Cyclosporiasis

A cluster of cyclosporiasis cases was detected in Toronto in April of 2005. Cyclsoporiasis is caused by infection with the rare parasite *Cyclospora cayetanensis*, which is acquired through ingesting fecally contaminated fresh produce or water. There were 40 cases detected and all were part of a group who attended a Toronto school retreat just west of the City. Epidemiologic analyses revealed a significant association with consumption of a pasta salad dish which contained fresh basil. The basil was believed to have originated in a Latin American country.

Legionellosis

A respiratory outbreak reported to TPH in September of 2005 from a long term care facility was caused by exposure to *Legionella pneumophila* bacteria. The confirmation of bacteria in the cooling tower that matched clinical isolates confirmed the source of the outbreak. There were 134 identified cases of legionellosis linked to this outbreak (38 were lab-confirmed), making it one of the largest documented *Legionella* outbreaks affecting a long term care facility. A total of 23 deaths were reported among the frail and elderly population exposed in this outbreak.

Salmonella Phage Type (PT) 13

A total of 32 health units and 522 (162 were Toronto residents) laboratory confirmed cases of *Salmonella enteriditis* PT13 were part of a province-wide outbreak related to consumption of mung bean sprouts. A sole local supplier of the sprouts was implicated as the source of contamination for what is the largest documented salmonellosis outbreak related to mung bean sprouts.

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Communicable Diseases in Toronto

2005

Toronto Public Health

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Appendices

Communicable Diseases in Toronto

2005

Toronto Public Health

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 189 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) HIV data were extracted in August 2006,
2) All other Toronto data summarized in this report were extracted in May 2006.

Information Systems

Note: the publication of this report was delayed due to the adoption of a new information system and the associated reconciliation issues when converting data between two disparate 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 disease data are stored in and retrieved from iPHIS.

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 November and December 2005 chickenpox cases).
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 1995 through 2005 were provided directly by the MOHLTC (as of September 2006) with the proviso that they are provisional and subject to change. Disease

incidence data for 2005 was not available from the MOHLTC for HIV, chickenpox, encephalitis, rubella, syphilis late latent and tuberculosis. HIV data for 2005 were obtained from the *Ontario HIV Epidemiologic Monitoring Unit*. Tuberculosis data for 1995 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*.

With the exception of HIV, all STI data for 2005 exclude cases under ten years of age.

Canada

With the exception of HIV, tuberculosis and influenza, all disease incidence rates for 1995 through 2005 were provided directly by the Public Health Agency of Canada (PHAC) – Population and Public Health Branch (PPHB) (as of October 2006) with the proviso that summaries for 2005 are provisional and subject to change. HIV data for 1995 to 2005 were obtained from *HIV and AIDS in Canada, Surveillance Report to June 30, 2005*. Tuberculosis data for 1995 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*. Influenza data for 1995 through 2005 were provided directly by PHAC-PPHB (as of November 2006) with the proviso that summaries for 2004 to 2005 are provisional and subject to change.

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). Ontario and Toronto rates calculated for 1995-1999 were based on the July 2002 postcensal population estimates, while Toronto rates calculated for 2000-2005 were based on the February 2005 postcensal estimates, and Ontario rates calculated for 2003-2005 were based on the September 2006 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:

- Birth origin
- Complications
- Deaths
- Hospitalized cases
- Outbreak associated cases
- Risk factors
- Risk setting
- Source of infection
- TB drug resistance, treatment status and method of diagnosis
- Travel history
- Vaccination history

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

To report source of infection, risk factors and risk settings in a manner that was consistent with previous annual reports the exposures, behavioural and medical risk factor categories recorded in iPHIS were matched to the comparable categories of source of infection, risk setting and risk factors in RDIS. Those categories of iPHIS that did not match to RDIS were then reclassified as 'other'.

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.

Amendments from the previous annual report

General considerations

Canadian rates may differ from the preceding 2004 report since the calculated rates were received directly from PHAC-PPHB for this report. Previous reports were based on case counts received by PHAC that were calculated by TPH.

Sexually Transmitted and Bloodborne Diseases

Syphilis and HIV coinfection rate calculations

were corrected to ensure that only syphilis episodes reported *following* the HIV episode date were included as coinfected cases. As a result, HIV coinfection rates for infectious syphilis and late latent syphilis in previous reports may differ from those reported in the present report.

Reporting of disease

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

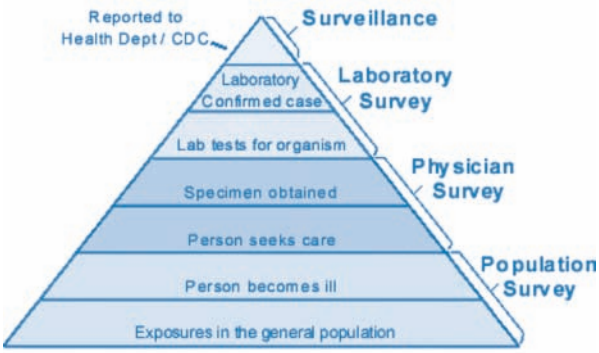
Not all infections with a reportable communicable disease cause clinical signs and symptoms.

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 website:
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 MOH, 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, tuberculosis (TB)

can take up to two years to be reported from the time they were 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 (risk factor, risk setting, or source of infection 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.

Risk settings/risk factors

In RDIS, the risk setting and 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. For example, the risk

factor category 'Homosexual/Bisexual' was not available as a valid RDIS risk factor category for gonorrhea until 2002.

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. These clients have been excluded from the risk factor summary tables. Therefore, risk factors associated with multiple infections may be underestimated.

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.

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 Toronto Public Health is continuing to review all of the HIV infections and AIDS cases that have ever been entered in RDIS. The results of this review 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 RDIS or iPHIS as having been received from Toronto-area official anonymous test sites. Due to discrepancies associated with data conversion from RDIS to iPHIS, AIDS data are not available for reporting.

Outbreak associated cases

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

Reportable Diseases 2005

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-Sträussler-Scheinker Syndrome
3. Fatal Familial 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.

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.

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

COINFECTION
Having two infections at the same time. For example, a person infected with both human immunodeficiency virus (HIV) and tuberculosis (TB), has a coinfection. With coinfection 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 in association with an infected person 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:

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

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

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

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

Clotting factor/transfusion pre 1985
- Recipient of Blood/Blood Products before 1985
- Recipient of Clotting Factor before 1985

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, other medical procedure, non-medical or non-occupational exposure, blood transfusion after 1985, clotting factor after 1985).

Unknown
Where the history of exposure to HIV through any of the other categories is unknown, or there is no reported history. This exposure category may include:

- people who are currently being followed up
- people whose exposure history is incomplete because they have died
- people whose exposure history is incomplete because they declined to be interviewed or were lost to follow-up
- people who cannot identify any mode of transmission

GROUPED MEAN

The mean for grouped data is

Mean = Σ**xf** ÷ Σ**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 other respiratory tuberculosis.

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.

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

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. A list of diseases that are reportable in Ontario is provided on page 189 of this report.

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.

- *Enteric Outbreaks*: Outbreaks that involve instances of acute gastroenteritis (e.g. nausea, vomiting, diarrhea, etc.) and/or laboratory confirmation of agents known to cause these signs and symptoms.

- *Respiratory Outbreaks:* Outbreaks that involve instances of respiratory tract signs and symptoms (e.g. cough, congestion, malaise, etc.) and/or laboratory confirmation of agents known to cause these signs and symptoms.

- *Other Outbreaks:* Outbreaks that involve agents and/or signs and symptoms that cannot be classified as either enteric or respiratory.

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. The risk settings reported by cases include:

Risk Setting	Definition
Encounter following major event	Disease acquired following attendance of a large event such as a sporting event or concert.
Day care	These include day care centre and nursery school.
Home	The location where the case resides.

Hospital	This category includes: acute care hospital, psychiatric hospital, rehabilitation hospital and chronic care hospital.
Local camping	Camping within Canada.
Local vacation property	Cottage
Local park or recreational area	Any outdoor area or designated park or recreational facility
Medical office	Medical office
Rendezvous outside usual domicile	A sexual encounter that occurs at a public place or environment (e.g. club, bar or bathhouse) typically used as a meeting place that is not someone's home.
Residential facility	A residential facility can include long-term care facilities, group home or a retirement home.
Restaurant or food vendor	A business establishment where meals or refreshments are served. In this report, restaurant or food vendor may also include banquet hall, catered event, social event and wedding reception.
School	Elementary or secondary school, college or university
Shelter/rooming house	Shelter/rooming house
Travel	Visiting or recently living in another country where the given disease is endemic
Workplace	The place or environment where the case works.

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. ❑

Appendix Table 1: Number of cases and incidence rates* by disease. Toronto, 1995 - 2005

Disease	1995		1996		1997		1998		1999		2000		2001		2002		2003		2004		2005	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
AIDS	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
HIV	637	26.2	535	21.7	448	18.0	413	16.5	432	17.1	456	17.9	511	19.7	618	23.6	574	22.0	569	21.9	555	21.3
Amebiasis	398	16.4	363	14.7	459	18.4	381	15.2	355	14.1	488	19.2	400	15.4	380	14.5	426	16.3	327	12.6	376	14.4
Botulism	1	<0.1	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
Brucellosis	1	<0.1	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
Campylobacter enteritis	1804	74.2	1651	67.0	1589	63.8	1770	70.5	1312	52.0	1492	58.6	1560	60.2	1362	52.0	1125	43.1	976	37.5	997	38.3
Chickenpox	3433	141.2	2165	87.9	4049	162.6	3801	151.5	2509	99.4	3586	140.8	2689	103.7	2895	110.6	3403	130.3	5317	204.3	3668	140.9
Chlamydia	4278	176.0	4018	163.2	3923	157.5	4646	185.2	5157	204.2	5385	211.5	5732	221.1	6294	240.5	6290	240.8	6293	241.7	6497	249.6
Cholera	2	<0.1	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
Cryptosporidiosis	NR		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	52	2.0
Cyclosporiasis	NR		NR		NR		NR		NR		NR		NR		28	1.1	14	0.5	30	1.2	48	1.8
Cytomegalovirus infection, congenital	1	<0.1	3	0.1	2	<0.1	3	0.1	3	0.1	1	<0.1	0	0.0	0	0.0	3	0.1	0	0.0	3	0.1
Encephalitis/ Meningitis: bacterial	18	0.7	10	0.4	25	1.0	9	0.4	10	0.4	18	0.7	22	0.8	5	0.2	6	0.2	13	0.5	4	0.2
Encephalitis/ Meningitis: viral	31	1.3	27	1.1	20	0.8	50	2.0	43	1.7	40	1.6	53	2.0	85	3.2	75	2.9	47	1.8	55	2.1
Encephalitis/ Meningitis: other	19	0.8	9	0.4	1	<0.1	5	0.2	3	0.1	2	<0.1	5	0.2	4	0.2	5	0.2	7	0.3	6	0.2
Encephalitis/ Meningitis: unclassified	6	0.2	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	7	0.3
Giardiasis	670	27.6	637	25.9	509	20.4	511	20.4	489	19.4	532	20.9	592	22.8	609	23.3	531	20.3	523	20.1	547	21.0
Gonorrhea	1846	75.9	1533	62.3	1199	48.1	1441	57.4	1399	55.4	1754	68.9	1760	67.9	1780	68.0	1847	70.7	1737	66.7	1659	63.7
Haemophilus influenzae b disease, invasive	2	<0.1	1	<0.1	1	<0.1	0	0.0	0	0.0	5	0.2	3	0.1	0	0.0	3	0.1	4	0.2	0	0.0
Hemorrhagic fevers	1	<0.1	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
Hepatitis A	203	8.3	267	10.8	194	7.8	108	4.3	90	3.6	56	2.2	74	2.9	64	2.4	35	1.3	48	1.8	48	1.8
Hepatitis B cases	113	4.6	82	3.3	47	1.9	26	1.0	24	1.0	26	1.0	32	1.2	49	1.9	51	2.0	38	1.5	34	1.3
Hepatitis B carriers	3096	127.3	2629	106.8	2082	83.6	1970	78.5	2092	82.8	2015	79.1	2227	85.9	2381	91.0	1954	74.8	2024	77.8	1469	56.4
Hepatitis B unclassified reports	456	18.8	401	16.3	212	8.5	278	11.1	307	12.2	429	16.8	458	17.7	370	14.1	349	13.4	570	21.9	852	32.7
Hepatitis C	2631	108.2	2647	107.5	2231	89.6	2008	80.0	1790	70.9	1553	61.0	1518	58.6	1445	55.2	1296	49.6	1336	51.3	1165	44.8
Hepatitis D	1	<0.1	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
Herpes, neonatal	0	0.0	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
Influenza†	94	3.9	249	10.1	493	19.8	345	13.7	475	18.8	107	4.2	296	11.4	204	7.8	616	23.6	941	36.1	517	19.9
Legionellosis	12	0.5	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
Leprosy	4	0.2	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
Listeriosis	12	0.5	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
Lyme disease	8	0.3	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
Malaria	123	5.1	213	8.6	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	3.5
Measles	286	11.8	25	1.0	5	0.2	3	0.1	1	<0.1	6	0.2	3	0.1	0	0.0	12	0.5	2	<0.1	1	<0.1
Meningococcal disease, invasive	16	0.7	20	0.8	19	0.8	6	0.2	21	0.8	22	0.9	26	1.0	13	0.5	9	0.3	6	0.2	3	0.1
Mumps	34	1.4	16	0.6	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

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

†Seasonal year from July to June (eg. 2005/06 includes cases from July 1, 2005 to June 30, 2006).

Continued

Appendix Table 1: Number of cases and incidence rates* by disease. Toronto, 1995 - 2005

Disease	1995		1996		1997		1998		1999		2000		2001		2002		2003		2004		2005	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Ophthalmia neonatorum	3	0.1	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
Paratyphoid fever	9	0.4	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
Pertussis	149	6.1	104	4.2	90	3.6	149	5.9	127	5.0	152	6.0	85	3.3	83	3.2	32	1.2	94	3.6	177	6.8
Psittacosis/ Ornithosis	0	0.0	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
Q fever	2	<0.1	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
Rubella	13	0.5	22	0.9	4	0.2	9	0.4	0	0.0	5	0.2	12	0.5	1	<0.1	4	0.2	3	0.1	4	0.2
Rubella, congenital syndrome	0	0.0	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
Salmonellosis	883	36.3	830	33.7	855	34.3	985	39.3	644	25.5	658	25.8	671	25.9	637	24.3	536	20.5	482	18.5	686	26.4
Severe acute respiratory syndrome (SARS)	NR		NR		NR		NR		NR		NR		NR		NR		228	8.7	0	0.0	0	0.0
Shigellosis	175	7.2	146	5.9	154	6.2	160	6.4	103	4.1	120	4.7	90	3.5	350	13.4	98	3.8	100	3.8	100	3.8
Streptococcal infections, Group A invasive	NR		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	72	2.8
Streptococcal infections, Group B neonatal	NR		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
Streptococcus pneumoniae, invasive	NR		NR		NR		NR		NR		NR		NR		276	10.5	235	9.0	263	10.1	216	8.3
Syphilis, infectious	66	2.7	61	2.5	36	1.4	19	0.8	30	1.2	32	1.3	29	1.1	193	7.4	330	12.6	384	14.8	250	9.6
Syphilis, late latent	169	7.0	126	5.1	118	4.7	103	4.1	117	4.6	152	6.0	122	4.7	164	6.3	131	5.0	149	5.7	484	18.6
Syphilis, congenital	0	0.0	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
Syphilis, other‡	8	0.3	3	0.1	2	<0.1	4	0.2	4	0.2	3	0.1	1	<0.1	11	0.4	14	0.5	19	0.7	11	0.4
Tetanus	1	<0.1	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
Tuberculosis	492	20.2	454	18.4	453	18.2	414	16.5	385	15.2	381	15.0	371	14.3	383	14.6	368	14.1	361	13.9	344	13.2
Tularemia	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
Typhoid fever	24	1.0	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	23	0.9
Verotoxin-producing *E.coli* infection	107	4.4	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	34	1.3
West Nile Virus	NR		NR		NR		NR		NR		NR		NR		163	6.2	44	1.7	6	0.2	38	1.5
Yersiniosis	186	7.7	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	117	4.5

*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, 1995 - 2005

Disease	Sex	1995		1996		1997		1998		1999		2000		2001		2002		2003		2004		2005	
		#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
AIDS	Female	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Male	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
	Total	**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**		**NA**	
HIV	Female	71	5.7	68	5.4	69	5.4	74	5.7	55	4.2	87	6.7	117	8.8	137	10.2	116	8.7	135	10.1	102	7.6
	Male	564	47.7	462	38.7	379	31.3	336	27.5	375	30.5	366	29.5	391	30.9	479	37.5	457	35.9	434	34.2	450	35.5
	Total	**637**	**26.2**	**535**	**21.7**	**448**	**18.0**	**413**	**16.5**	**432**	**17.1**	**456**	**17.9**	**511**	**19.7**	**618**	**23.6**	**574**	**22.0**	**569**	**21.9**	**555**	**21.3**
Amebiasis	Female	120	9.6	105	8.3	115	9.0	100	7.8	92	7.1	117	9.0	99	7.5	109	8.1	110	8.2	93	7.0	95	7.1
	Male	277	23.4	256	21.4	342	28.3	281	23.0	263	21.4	371	29.9	301	23.8	271	21.2	316	24.8	234	18.4	281	22.2
	Total	**398**	**16.4**	**363**	**14.7**	**459**	**18.4**	**381**	**15.2**	**355**	**14.1**	**488**	**19.2**	**400**	**15.4**	**380**	**14.5**	**426**	**16.3**	**327**	**12.6**	**376**	**14.4**
Botulism	Female	1	<0.1	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
	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	1	<0.1	0	0.0
	Total	**1**	**<0.1**	**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**
Brucellosis	Female	1	<0.1	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
	Male	0	0.0	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
	Total	**1**	**<0.1**	**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**
Campylobacter *enteritis*	Female	884	70.7	770	60.8	746	58.3	799	62.0	642	49.5	711	54.4	693	52.2	633	47.2	487	36.4	447	33.5	444	33.3
	Male	911	77.1	879	73.6	838	69.2	969	79.4	669	54.5	780	62.9	864	68.3	729	57.1	638	50.1	528	41.6	553	43.6
	Total	**1804**	**74.2**	**1651**	**67.0**	**1589**	**63.8**	**1770**	**70.5**	**1312**	**52.0**	**1492**	**58.6**	**1560**	**60.2**	**1362**	**52.0**	**1125**	**43.1**	**976**	**37.5**	**997**	**38.3**
Chickenpox	**Total**	**3433**	**141.2**	**2165**	**87.9**	**4049**	**162.6**	**3801**	**151.5**	**2509**	**99.4**	**3586**	**140.8**	**2689**	**103.7**	**2895**	**110.6**	**3403**	**130.3**	**5317**	**204.3**	**3668**	**140.9**
Chlamydia	Female	3186	255.0	2997	236.5	2824	220.6	3124	242.4	3355	258.7	3480	266.5	3640	274.1	3891	290.4	3831	286.3	3783	283.4	3804	285.0
	Male	1092	92.4	1020	85.4	1099	90.8	1520	124.6	1801	146.6	1904	153.5	2089	165.2	2403	188.1	2459	192.9	2508	197.7	2690	212.1
	Total	**4278**	**176.0**	**4018**	**163.2**	**3923**	**157.5**	**4646**	**185.2**	**5157**	**204.2**	**5385**	**211.5**	**5732**	**221.1**	**6294**	**240.5**	**6290**	**240.8**	**6293**	**241.7**	**6497**	**249.6**
Cholera	Female	1	<0.1	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	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	**2**	**<0.1**	**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**
Cryptosporidiosis	Female	NR		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	14	1.0
	Male	NR		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
	Total	**NR**		**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**	**52**	**2.0**
Cyclosporiasis	Female	NR		NR		NR		NR		NR		NR		NR		14	1.0	4	0.3	16	1.2	24	1.8
	Male	NR		NR		NR		NR		NR		NR		NR		14	1.1	10	0.8	14	1.1	24	1.9
	Total	**NR**		**NR**		**NR**		**NR**		**NR**		**NR**		**NR**		**28**	**1.1**	**14**	**0.5**	**30**	**1.2**	**48**	**1.8**
Cytomegalovirus infection, congenital	Female	1	<0.1	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
	Male	0	0.0	2	0.2	0	0.0	1	<0.1	0	0.0	1	<0.1	0	0.0	0	0.0	3	0.2	0	0.0	2	0.2
	Total	**1**	**<0.1**	**3**	**0.1**	**2**	**<0.1**	**3**	**0.1**	**3**	**0.1**	**1**	**<0.1**	**0**	**0.0**	**0**	**0.0**	**3**	**0.1**	**0**	**0.0**	**3**	**0.1**
Encephalitis/ Meningitis: bacterial	Female	5	0.4	5	0.4	17	1.3	6	0.5	8	0.6	8	0.6	7	0.5	2	0.1	1	<0.1	9	0.7	2	0.1
	Male	13	1.1	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
	Total	**18**	**0.7**	**10**	**0.4**	**25**	**1.0**	**9**	**0.4**	**10**	**0.4**	**18**	**0.7**	**22**	**0.8**	**5**	**0.2**	**6**	**0.2**	**13**	**0.5**	**4**	**0.2**
Encephalitis/ Meningitis: viral	Female	14	1.1	19	1.5	10	0.8	18	1.4	18	1.4	20	1.5	22	1.7	39	2.9	36	2.7	13	1.0	24	1.8
	Male	17	1.4	8	0.7	10	0.8	32	2.6	25	2.0	20	1.6	31	2.5	46	3.6	39	3.1	34	2.7	31	2.4
	Total	**31**	**1.3**	**27**	**1.1**	**20**	**0.8**	**50**	**2.0**	**43**	**1.7**	**40**	**1.6**	**53**	**2.0**	**85**	**3.2**	**75**	**2.9**	**47**	**1.8**	**55**	**2.1**
Encephalitis/ Meningitis: other	Female	0	0.0	2	0.2	0	0.0	1	<0.1	0	0.0	0	0.0	1	<0.1	2	0.1	2	0.1	2	0.1	2	0.1
	Male	19	1.6	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	4	0.3
	Total	**19**	**0.8**	**9**	**0.4**	**1**	**<0.1**	**5**	**0.2**	**3**	**0.1**	**2**	**<0.1**	**5**	**0.2**	**4**	**0.2**	**5**	**0.2**	**7**	**0.3**	**6**	**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, 1995 - 2005

Disease	Sex	1995		1996		1997		1998		1999		2000		2001		2002		2003		2004		2005	
		#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Encephalitis/ Meningitis: unclassified	Female	4	0.3	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
	Male	2	0.2	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	5	0.4
	Total	**6**	**0.2**	**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**	**7**	**0.3**
Giardiasis	Female	279	22.3	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	14.4	188	14.1
	Male	391	33.1	391	32.7	321	26.5	321	26.3	312	25.4	337	27.2	367	29.0	405	31.7	344	27.0	331	26.1	359	28.3
	Total	**670**	**27.6**	**637**	**25.9**	**509**	**20.4**	**511**	**20.4**	**489**	**19.4**	**532**	**20.9**	**592**	**22.8**	**609**	**23.3**	**531**	**20.3**	**523**	**20.1**	**547**	**21.0**
Gonorrhea	Female	715	57.2	627	49.5	451	35.2	544	42.2	503	38.8	634	48.5	605	45.6	565	42.2	593	44.3	534	40.0	501	37.5
	Male	1131	95.7	906	75.8	748	61.8	896	73.4	896	72.9	1120	90.3	1155	91.3	1214	95.0	1254	98.4	1201	94.7	1156	91.1
	Total	**1846**	**75.9**	**1533**	**62.3**	**1199**	**48.1**	**1441**	**57.4**	**1399**	**55.4**	**1754**	**68.9**	**1760**	**67.9**	**1780**	**68.0**	**1847**	**70.7**	**1737**	**66.7**	**1659**	**63.7**
Haemophilus influenzae b disease, invasive	Female	2	0.2	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
	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.2	2	0.2	0	0.0	2	0.2	3	0.2	0	0.0
	Total	**2**	**<0.1**	**1**	**<0.1**	**1**	**<0.1**	**0**	**0.0**	**0**	**0.0**	**5**	**0.2**	**3**	**0.1**	**0**	**0.0**	**3**	**0.1**	**4**	**0.2**	**0**	**0.0**
Hemorrhagic fevers	Female	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
	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	0	0.0	0	0.0	0	0.0
	Total	**1**	**<0.1**	**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**
Hepatitis A	Female	83	6.6	82	6.5	44	3.4	33	2.6	31	2.4	27	2.1	29	2.2	29	2.2	19	1.4	17	1.3	18	1.3
	Male	119	10.1	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	30	2.4
	Total	**203**	**8.3**	**267**	**10.8**	**194**	**7.8**	**108**	**4.3**	**90**	**3.6**	**56**	**2.2**	**74**	**2.9**	**64**	**2.4**	**35**	**1.3**	**48**	**1.8**	**48**	**1.8**
Hepatitis B cases	Female	38	3.0	24	1.9	19	1.5	11	0.9	8	0.6	6	0.5	13	1.0	13	1.0	19	1.4	15	1.1	8	0.6
	Male	75	6.3	58	4.9	28	2.3	15	1.2	16	1.3	20	1.6	19	1.5	36	2.8	32	2.5	23	1.8	26	2.0
	Total	**113**	**4.6**	**82**	**3.3**	**47**	**1.9**	**26**	**1.0**	**24**	**1.0**	**26**	**1.0**	**32**	**1.2**	**49**	**1.9**	**51**	**2.0**	**38**	**1.5**	**34**	**1.3**
Hepatitis B carriers	Female	1384	110.8	1152	90.9	961	75.1	887	68.8	979	75.5	927	71.0	1008	75.9	1044	77.9	920	68.8	950	71.2	688	51.5
	Male	1653	139.9	1435	120.1	1098	90.7	1064	87.2	1098	89.4	1072	86.4	1193	94.3	1322	103.5	1026	80.5	1069	84.3	774	61.0
	Total	**3096**	**127.3**	**2629**	**106.8**	**2082**	**83.6**	**1970**	**78.5**	**2092**	**82.8**	**2015**	**79.1**	**2227**	**85.9**	**2381**	**91.0**	**1954**	**74.8**	**2024**	**77.8**	**1469**	**56.4**
Hepatitis B unclassfied reports	Female	187	15.0	181	14.3	98	7.7	119	9.2	144	11.1	183	14.0	192	14.5	143	10.7	143	10.7	237	17.8	372	27.9
	Male	260	22.0	216	18.1	109	9.0	154	12.6	162	13.2	231	18.6	259	20.5	222	17.4	202	15.9	331	26.1	476	37.5
	Total	**456**	**18.8**	**401**	**16.3**	**212**	**8.5**	**278**	**11.1**	**307**	**12.2**	**429**	**16.8**	**458**	**17.7**	**370**	**14.1**	**349**	**13.4**	**570**	**21.9**	**852**	**32.7**
Hepatitis C	Female	979	78.3	957	75.5	769	60.1	717	55.6	638	49.2	552	42.3	532	40.1	546	40.8	531	39.7	513	38.4	427	32.0
	Male	1637	138.5	1674	140.1	1445	119.4	1284	105.2	1145	93.2	978	78.8	968	76.6	897	70.2	761	59.7	819	64.6	735	57.9
	Total	**2631**	**108.2**	**2647**	**107.5**	**2231**	**89.6**	**2008**	**80.0**	**1790**	**70.9**	**1553**	**61.0**	**1518**	**58.6**	**1445**	**55.2**	**1296**	**49.6**	**1336**	**51.3**	**1165**	**44.8**
Hepatitis D	Female	0	0.0	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
	Male	1	<0.1	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
	Total	**1**	**<0.1**	**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**
Herpes, neonatal	Female	0	0.0	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
	Male	0	0.0	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
	Total	**0**	**0.0**	**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**
Influenza‡	Female	42	3.4	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	39.0	248	18.6
	Male	51	4.3	124	10.4	238	19.7	175	14.3	237	19.3	55	4.4	133	10.5	114	8.9	285	22.4	421	33.2	268	21.1
	Total	**94**	**3.9**	**249**	**10.1**	**493**	**19.8**	**345**	**13.7**	**475**	**18.8**	**107**	**4.2**	**296**	**11.4**	**204**	**7.8**	**616**	**23.6**	**941**	**36.1**	**517**	**19.9**
Legionellosis	Female	3	0.2	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
	Male	9	0.8	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
	Total	**12**	**0.5**	**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**

*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. 2005/06 includes cases from July 1, 2005 to June 30, 2006).

Continued

Appendix Table 2: Number of cases and incidence rates* by disease and sex†. Toronto, 1995 - 2005

Disease	Sex	1995		1996		1997		1998		1999		2000		2001		2002		2003		2004		2005	
		#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Leprosy	Female	0	0.0	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
	Male	4	0.3	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
	Total	**4**	**0.2**	**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**
Listeriosis	Female	5	0.4	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
	Male	7	0.6	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
	Total	**12**	**0.5**	**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**
Lyme disease	Female	7	0.6	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
	Male	1	<0.1	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
	Total	**8**	**0.3**	**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**
Malaria	Female	54	4.3	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
	Male	69	5.8	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
	Total	**123**	**5.1**	**213**	**8.6**	**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**	**3.5**
Measles	Female	128	10.2	9	0.7	2	0.2	2	0.2	0	0.0	3	0.2	1	<0.1	0	0.0	6	0.4	1	<0.1	1	<0.1
	Male	158	13.4	16	1.3	3	0.2	1	<0.1	1	<0.1	3	0.2	2	0.2	0	0.0	6	0.5	1	<0.1	0	0.0
	Total	**286**	**11.8**	**25**	**1.0**	**5**	**0.2**	**3**	**0.1**	**1**	**<0.1**	**6**	**0.2**	**3**	**0.1**	**0**	**0.0**	**12**	**0.5**	**2**	**<0.1**	**1**	**<0.1**
Meningococcal disease, invasive	Female	7	0.6	10	0.8	9	0.7	3	0.2	14	1.1	13	1.0	13	1.0	8	0.6	4	0.3	5	0.4	2	0.1
	Male	9	0.8	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
	Total	**16**	**0.7**	**20**	**0.8**	**19**	**0.8**	**6**	**0.2**	**21**	**0.8**	**22**	**0.9**	**26**	**1.0**	**13**	**0.5**	**9**	**0.3**	**6**	**0.2**	**3**	**0.1**
Mumps	Female	16	1.3	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
	Male	18	1.5	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
	Total	**34**	**1.4**	**16**	**0.6**	**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**
Ophthalmia neonatorum	Female	3	0.2	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
	Male	0	0.0	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
	Total	**3**	**0.1**	**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**
Paratyphoid fever	Female	4	0.3	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
	Male	5	0.4	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
	Total	**9**	**0.4**	**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**
Pertussis	Female	81	6.5	60	4.7	44	3.4	73	5.7	56	4.3	76	5.8	50	3.8	42	3.1	12	0.9	47	3.5	91	6.8
	Male	67	5.7	44	3.7	46	3.8	76	6.2	71	5.8	76	6.1	35	2.8	41	3.2	20	1.6	46	3.6	86	6.8
	Total	**149**	**6.1**	**104**	**4.2**	**90**	**3.6**	**149**	**5.9**	**127**	**5.0**	**152**	**6.0**	**85**	**3.3**	**83**	**3.2**	**32**	**1.2**	**94**	**3.6**	**177**	**6.8**
Psittacosis/ Ornithosis	Female	0	0.0	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
	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**	**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**
Q fever	Female	0	0.0	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
	Male	2	0.2	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
	Total	**2**	**<0.1**	**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**
Rubella	Female	7	0.6	9	0.7	3	0.2	6	0.5	0	0.0	2	0.2	6	0.5	0	0.0	2	0.1	1	<0.1	4	0.3
	Male	6	0.5	13	1.1	1	<0.1	3	0.2	0	0.0	3	0.2	6	0.5	1	<0.1	2	0.2	2	0.2	0	0.0
	Total	**13**	**0.5**	**22**	**0.9**	**4**	**0.2**	**9**	**0.4**	**0**	**0.0**	**5**	**0.2**	**12**	**0.5**	**1**	**<0.1**	**4**	**0.2**	**3**	**0.1**	**4**	**0.2**
Rubella, congenital syndrome	Female	0	0.0	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
	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	1	<0.1	0	0.0
	Total	**0**	**0.0**	**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**

*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, 1995 - 2005

Disease	Sex	1995		1996		1997		1998		1999		2000		2001		2002		2003		2004		2005	
		#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Salmonellosis	Female	467	37.4	428	33.8	429	33.5	540	41.9	308	23.8	355	27.2	316	23.8	318	23.7	272	20.3	229	17.2	339	25.4
	Male	409	34.6	397	33.2	424	35.0	443	36.3	332	27.0	303	24.4	355	28.1	319	25.0	264	20.7	252	19.9	347	27.4
	Total	**883**	**36.3**	**830**	**33.7**	**855**	**34.3**	**985**	**39.3**	**644**	**25.5**	**658**	**25.8**	**671**	**25.9**	**637**	**24.3**	**536**	**20.5**	**482**	**18.5**	**686**	**26.4**
Severe acute respiratory syndrome (SARS)	Female	NR		NR		NR		NR		NR		NR		NR		NR		147	11.0	0	0.0	0	0.0
	Male	NR		NR		NR		NR		NR		NR		NR		NR		81	6.4	0	0.0	0	0.0
	Total	**NR**		**NR**		**NR**		**NR**		**NR**		**NR**		**NR**		**NR**		**228**	**8.7**	**0**	**0.0**	**0**	**0.0**
Shigellosis	Female	72	5.8	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	48	3.6
	Male	102	8.6	71	5.9	76	6.3	68	5.6	55	4.5	64	5.2	60	4.7	166	13.0	66	5.2	58	4.6	52	4.1
	Total	**175**	**7.2**	**146**	**5.9**	**154**	**6.2**	**160**	**6.4**	**103**	**4.1**	**120**	**4.7**	**90**	**3.5**	**350**	**13.4**	**98**	**3.8**	**100**	**3.8**	**100**	**3.8**
Streptococcal infections, Group A invasive	Female	NR		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
	Male	NR		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	41	3.2
	Total	**NR**		**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**	**72**	**2.8**
Streptococcal infections, Group B neonatal	Female	NR		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
	Male	NR		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
	Total	**NR**		**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**
Streptococcus pneumoniae, invasive	Female	NR		NR		NR		NR		NR		NR		NR		124	9.3	110	8.2	98	7.3	85	6.4
	Male	NR		NR		NR		NR		NR		NR		NR		151	11.8	125	9.8	164	12.9	131	10.3
	Total	**NR**		**NR**		**NR**		**NR**		**NR**		**NR**		**NR**		**276**	**10.5**	**235**	**9.0**	**263**	**10.1**	**216**	**8.3**
Syphilis, infectious	Female	24	1.9	26	2.1	16	1.2	9	0.7	8	0.6	11	0.8	9	0.7	7	0.5	17	1.3	7	0.5	10	0.7
	Male	42	3.6	35	2.9	20	1.7	10	0.8	22	1.8	21	1.7	20	1.6	186	14.6	313	24.6	377	29.7	240	18.9
	Total	**66**	**2.7**	**61**	**2.5**	**36**	**1.4**	**19**	**0.8**	**30**	**1.2**	**32**	**1.3**	**29**	**1.1**	**193**	**7.4**	**330**	**12.6**	**384**	**14.8**	**250**	**9.6**
Syphilis, late latent	Female	75	6.0	63	5.0	57	4.5	50	3.9	54	4.2	77	5.9	59	4.4	75	5.6	45	3.4	47	3.5	218	16.3
	Male	94	8.0	63	5.3	61	5.0	53	4.3	62	5.0	75	6.0	62	4.9	88	6.9	86	6.7	102	8.0	266	21.0
	Total	**169**	**7.0**	**126**	**5.1**	**118**	**4.7**	**103**	**4.1**	**117**	**4.6**	**152**	**6.0**	**122**	**4.7**	**164**	**6.3**	**131**	**5.0**	**149**	**5.7**	**484**	**18.6**
Syphilis, congenital	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	0	0.0	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
	Total	**0**	**0.0**	**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**
Syphilis, other§	Female	3	0.2	1	<0.1	1	<0.1	2	0.2	2	0.2	0	0.0	0	0.0	2	0.1	5	0.4	1	<0.1	1	<0.1
	Male	5	0.4	2	0.2	1	<0.1	2	0.2	2	0.2	3	0.2	1	<0.1	9	0.7	9	0.7	18	1.4	10	0.8
	Total	**8**	**0.3**	**3**	**0.1**	**2**	**<0.1**	**4**	**0.2**	**4**	**0.2**	**3**	**0.1**	**1**	**<0.1**	**11**	**0.4**	**14**	**0.5**	**19**	**0.7**	**11**	**0.4**
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	1	<0.1	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
	Total	**1**	**<0.1**	**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**
Tuberculosis	Female	226	18.1	213	16.8	225	17.6	196	15.2	190	14.7	172	13.2	151	11.4	188	14.0	172	12.9	169	12.7	164	12.3
	Male	266	22.5	241	20.2	228	18.8	218	17.9	195	15.9	209	16.8	220	17.4	195	15.3	196	15.4	192	15.1	180	14.2
	Total	**492**	**20.2**	**454**	**18.4**	**453**	**18.2**	**414**	**16.5**	**385**	**15.2**	**381**	**15.0**	**371**	**14.3**	**383**	**14.6**	**368**	**14.1**	**361**	**13.9**	**344**	**13.2**
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	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
	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**
Typhoid fever	Female	11	0.9	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	13	1.0
	Male	13	1.1	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
	Total	**24**	**1.0**	**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**	**23**	**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 2: Number of cases and incidence rates* by disease and sex†. Toronto, 1995 - 2005

Disease	Sex	1995		1996		1997		1998		1999		2000		2001		2002		2003		2004		2005	
		#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Verotoxin-producing *E. coli* infection	Female	49	3.9	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	19	1.4
	Male	58	4.9	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	1.7	15	1.2
	Total	**107**	**4.4**	**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**	**34**	**1.3**
West Nile Virus	Female	NR		NR		NR		NR		NR		NR		NR		89	6.6	24	1.8	4	0.3	22	1.6
	Male	NR		NR		NR		NR		NR		NR		NR		74	5.8	20	1.6	2	0.2	16	1.3
	Total	**NR**		**NR**		**NR**		**NR**		**NR**		**NR**		**NR**		**163**	**6.2**	**44**	**1.7**	**6**	**0.2**	**38**	**1.5**
Yersiniosis	Female	84	6.7	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
	Male	102	8.6	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	74	5.8
	Total	**186**	**7.7**	**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**	**117**	**4.5**

*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, 2005

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	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Male	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**NA**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
HIV	Female	102	0	0	0	1	1	4	27	29	17	8	5	6	0	2	1	0	1	0	0	0
	Male	450	0	0	0	0	3	43	53	81	109	81	39	12	13	9	5	0	2	0	0	0
	Total	**555**	**0**	**0**	**0**	**1**	**4**	**47**	**80**	**110**	**126**	**90**	**45**	**18**	**13**	**11**	**6**	**0**	**3**	**0**	**0**	**1**
Amebiasis	Female	95	0	0	2	3	5	5	11	10	13	16	9	8	7	2	1	1	2	0	0	0
	Male	281	0	4	5	8	6	14	22	32	56	50	28	23	18	1	8	3	2	0	1	0
	Total	**376**	**0**	**4**	**7**	**11**	**11**	**19**	**33**	**42**	**69**	**66**	**37**	**31**	**25**	**3**	**9**	**4**	**4**	**0**	**1**	**0**
Botulism	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**
Brucellosis	Female	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Male	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**3**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Campylobacter *enteritis*	Female	444	4	41	19	16	21	45	51	46	34	23	27	25	18	19	12	15	13	11	4	0
	Male	553	5	48	32	25	26	38	58	48	53	47	35	40	35	19	15	11	11	2	5	0
	Total	**997**	**9**	**89**	**51**	**41**	**47**	**83**	**109**	**94**	**87**	**70**	**62**	**65**	**53**	**38**	**27**	**26**	**24**	**13**	**9**	**0**
Chickenpox†	**Total**	**3668**	**42**	**773**	**2086**	**559**	**75**	**27**	**29**	**3**		**1**		**1**				**1**				**71**
Chlamydia	Female	3804	1	0	0	22	1030	1353	657	345	185	117	48	34	4	6	2	0	0	0	0	0
	Male	2690	1	0	0	0	283	825	570	383	279	173	96	35	36	6	1	1	0	1	0	0
	Total	**6497**	**2**	**0**	**0**	**22**	**1315**	**2179**	**1227**	**728**	**464**	**290**	**144**	**69**	**40**	**12**	**3**	**1**	**0**	**1**	**0**	**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	14	1	5	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	Male	38	1	1	5	1	0	1	3	11	4	6	1	2	0	1	1	0	0	0	0	0
	Total	**52**	**2**	**6**	**12**	**1**	**0**	**1**	**3**	**11**	**4**	**6**	**1**	**2**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**
Cyclosporiasis	Female	24	0	1	0	0	10	1	2	0	1	1	1	2	2	2	0	0	1	0	0	0
	Male	24	0	0	0	0	5	3	0	2	2	1	3	1	1	1	1	2	2	0	0	0
	Total	**48**	**0**	**1**	**0**	**0**	**15**	**4**	**2**	**2**	**3**	**2**	**4**	**3**	**3**	**3**	**1**	**2**	**3**	**0**	**0**	**0**
Cytomegalovirus infection, congenital	Female	1	1	0	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**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Encephalitis/ Meningitis: bacterial	Female	2	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Male	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0
	Total	**4**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**
Encephalitis/ Meningitis: viral	Female	24	9	1	1	2	0	2	6	0	1	1	0	1	0	0	0	0	0	0	0	0
	Male	31	9	3	3	3	3	1	2	2	0	3	0	0	0	0	0	1	0	0	1	0
	Total	**55**	**18**	**4**	**4**	**5**	**3**	**3**	**8**	**2**	**1**	**4**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**
Encephalitis/ Meningitis: other	Female	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
	Male	4	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0
	Total	**6**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**1**	**0**	**1**	**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.

†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, 2005

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	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	5	0	0	1	1	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0
	Total	**7**	**0**	**0**	**1**	**1**	**1**	**2**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Giardiasis	Female	188	2	23	28	10	8	17	13	15	18	15	9	10	5	7	1	2	3	2	0	0
	Male	359	1	41	35	13	11	23	40	36	41	42	26	15	17	6	5	3	3	1	0	0
	Total	**547**	**3**	**64**	**63**	**23**	**19**	**40**	**53**	**51**	**59**	**57**	**35**	**25**	**22**	**13**	**6**	**5**	**6**	**3**	**0**	**0**
Gonorrhea	Female	501	0	0	0	8	162	179	77	38	20	7	4	3	1	0	1	0	1	0	0	0
	Male	1156	0	0	0	0	77	252	227	185	170	131	55	34	14	7	3	1	0	0	0	0
	Total	**1659**	**0**	**0**	**0**	**8**	**239**	**431**	**305**	**224**	**190**	**138**	**59**	**37**	**15**	**7**	**4**	**1**	**1**	**0**	**0**	**0**
Haemophilus influenzae b disease, invasive	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**
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	18	0	0	5	2	4	3	1	1	0	0	1	0	0	0	1	0	0	0	0	0
	Male	30	0	3	4	5	1	1	3	2	1	2	3	1	2	1	0	0	1	0	0	0
	Total	**48**	**0**	**3**	**9**	**7**	**5**	**4**	**4**	**3**	**1**	**2**	**4**	**1**	**2**	**1**	**1**	**0**	**1**	**0**	**0**	**0**
Hepatitis B cases	Female	8	0	0	0	0	0	4	0	0	2	0	0	0	2	0	0	0	0	0	0	0
	Male	26	0	0	0	0	0	2	3	6	4	3	1	1	3	2	0	0	1	0	0	0
	Total	**34**	**0**	**0**	**0**	**0**	**0**	**6**	**3**	**6**	**6**	**3**	**1**	**1**	**5**	**2**	**0**	**0**	**1**	**0**	**0**	**0**
Hepatitis B carriers	Female	688	0	1	4	4	30	98	113	125	86	76	46	30	17	22	14	8	7	4	3	0
	Male	774	0	1	1	8	30	59	98	138	129	107	65	53	35	23	8	10	7	2	0	0
	Total	**1469**	**0**	**2**	**5**	**12**	**60**	**159**	**213**	**264**	**215**	**184**	**111**	**83**	**53**	**45**	**22**	**18**	**14**	**6**	**3**	**0**
Hepatitis B unclassfied reports	Female	372	1	1	2	5	24	58	65	64	35	39	23	16	11	10	6	5	3	3	1	0
	Male	476	0	3	2	5	22	58	54	79	68	57	52	38	15	9	5	4	4	1	0	0
	Total	**852**	**1**	**4**	**4**	**10**	**46**	**117**	**119**	**143**	**106**	**96**	**75**	**54**	**26**	**19**	**11**	**9**	**7**	**4**	**1**	**0**
Hepatitis C	Female	427	7	0	0	1	5	16	26	38	55	59	61	36	32	23	18	16	20	11	3	0
	Male	735	5	0	2	1	5	25	42	54	103	141	110	113	51	15	22	14	16	11	5	0
	Total	**1165**	**12**	**0**	**2**	**2**	**11**	**41**	**68**	**92**	**158**	**200**	**171**	**149**	**83**	**38**	**40**	**30**	**38**	**22**	**8**	**0**
Hepatitis D	Female	2	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Male	3	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0
	Total	**5**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Herpes, neonatal	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	1	1	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	248	22	50	40	14	7	8	3	8	1	8	3	4	4	4	5	5	10	14	38	0
	Male	268	51	75	41	16	7	4	2	2	3	2	1	3	7	3	2	1	9	15	24	0
	Total	**517**	**73**	**126**	**81**	**30**	**14**	**12**	**5**	**10**	**4**	**10**	**4**	**7**	**11**	**7**	**7**	**6**	**19**	**29**	**62**	**0**
Legionellosis	Female	30	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	4	5	17	0
	Male	23	0	0	0	0	0	0	1	0	1	1	1	4	3	0	0	1	4	3	4	0
	Total	**53**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**2**	**1**	**4**	**3**	**1**	**1**	**2**	**8**	**8**	**21**	**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. 2005/06 includes cases from July 1, 2005 to June 30, 2006).

Continued

Appendix Table 3: Number of cases by disease, sex* and age group. Toronto, 2005

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	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	Total	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Listeriosis	Female	7	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	1	0	2	0
	Male	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0
	Total	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**2**	**3**	**0**	**2**	**0**
Lyme disease	Female	5	0	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	0	0	0	0
	Male	8	0	0	1	1	0	1	0	1	1	1	0	1	0	0	0	0	1	0	0	0
	Total	**13**	**0**	**0**	**1**	**2**	**0**	**1**	**0**	**2**	**2**	**1**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**
Malaria	Female	26	0	1	3	2	1	1	4	1	2	5	4	0	0	0	2	0	0	0	0	0
	Male	64	0	1	1	1	2	4	1	11	10	5	12	6	6	1	3	0	0	0	0	0
	Total	**90**	**0**	**2**	**4**	**3**	**3**	**5**	**5**	**12**	**12**	**10**	**16**	**6**	**6**	**1**	**5**	**0**	**0**	**0**	**0**	**0**
Measles	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**
Meningococcal disease, invasive	Female	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**3**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Mumps	Female	2	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	Male	5	0	0	1	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0
	Total	**7**	**0**	**0**	**2**	**1**	**0**	**1**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ophthalmia neonatorum	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**
Paratyphoid fever	Female	8	0	1	1	0	0	0	2	1	2	0	0	1	0	0	0	0	0	0	0	0
	Male	5	0	0	0	0	0	1	2	0	1	0	1	0	0	0	0	0	0	0	0	0
	Total	**13**	**0**	**1**	**1**	**0**	**0**	**1**	**4**	**1**	**3**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Pertussis	Female	91	24	39	4	7	2	2	0	1	4	0	5	0	0	0	0	1	1	1	0	0
	Male	86	24	28	8	17	2	0	1	2	2	1	0	1	0	0	0	0	0	0	0	0
	Total	**177**	**48**	**67**	**12**	**24**	**4**	**2**	**1**	**3**	**6**	**1**	**5**	**1**	**0**	**0**	**0**	**1**	**1**	**1**	**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	4	0	0	1	0	0	0	0	0	0	0	2	1	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	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**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, 2005

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	339	11	36	26	19	18	35	36	33	17	21	15	17	8	11	9	12	7	6	2	0
	Male	347	15	42	32	20	15	25	36	36	23	23	17	15	13	5	12	6	4	5	3	0
	Total	**686**	**26**	**78**	**58**	**39**	**33**	**60**	**72**	**69**	**40**	**44**	**32**	**32**	**21**	**16**	**21**	**18**	**11**	**11**	**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	48	0	7	7	6	0	2	2	6	5	3	3	2	3	0	0	1	1	0	0	0
	Male	52	0	9	7	2	1	4	3	4	6	7	7	0	1	0	0	0	1	0	0	0
	Total	**100**	**0**	**16**	**14**	**8**	**1**	**6**	**5**	**10**	**11**	**10**	**10**	**2**	**4**	**0**	**0**	**1**	**2**	**0**	**0**	**0**
Streptococcal infections, Group A invasive	Female	31	0	0	0	1	1	1	1	3	5	1	0	2	2	0	1	5	3	2	3	0
	Male	41	1	0	3	0	0	0	0	1	4	5	3	2	1	5	3	3	5	1	4	0
	Total	**72**	**1**	**0**	**3**	**1**	**1**	**1**	**1**	**4**	**9**	**6**	**3**	**4**	**3**	**5**	**4**	**8**	**8**	**3**	**7**	**0**
Streptococcal infections, Group B neonatal	Female	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	**12**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Streptococcus pneumoniae, invasive	Female	85	1	6	3	3	0	1	3	3	5	3	4	2	8	6	5	7	7	6	12	0
	Male	131	4	7	0	0	0	0	4	7	5	17	14	11	9	6	10	15	11	5	6	0
	Total	**216**	**5**	**13**	**3**	**3**	**0**	**1**	**7**	**10**	**10**	**20**	**18**	**13**	**17**	**12**	**15**	**22**	**18**	**11**	**18**	**0**
Syphilis, infectious	Female	10	0	0	0	0	0	1	0	2	1	1	0	1	4	0	0	0	0	0	0	0
	Male	240	0	0	0	0	3	26	28	28	60	50	19	14	6	5	0	1	0	0	0	0
	Total	**250**	**0**	**0**	**0**	**0**	**3**	**27**	**28**	**30**	**61**	**51**	**19**	**15**	**10**	**5**	**0**	**1**	**0**	**0**	**0**	**0**
Syphilis, late latent	Female	218	0	0	0	0	0	7	15	22	18	22	23	20	18	24	20	8	10	8	3	0
	Male	266	0	0	0	0	2	11	10	19	35	48	41	25	25	13	12	8	8	5	4	0
	Total	**484**	**0**	**0**	**0**	**0**	**2**	**18**	**25**	**41**	**53**	**70**	**64**	**45**	**43**	**37**	**32**	**16**	**18**	**13**	**7**	**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	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	Male	10	0	0	0	0	0	0	0	2	2	3	0	1	0	0	1	0	1	0	0	0
	Total	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**3**	**0**	**2**	**0**	**0**	**1**	**0**	**1**	**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	164	0	3	2	6	11	17	13	23	16	16	8	7	3	8	3	9	5	7	7	0
	Male	180	0	4	1	5	2	19	12	21	14	20	22	11	10	7	7	9	6	5	5	0
	Total	**344**	**0**	**7**	**3**	**11**	**13**	**36**	**25**	**44**	**30**	**36**	**30**	**18**	**13**	**15**	**10**	**18**	**11**	**12**	**12**	**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	13	0	4	1	1	1	1	2	0	0	1	0	0	1	1	0	0	0	0	0	0
	Male	10	0	0	2	1	2	0	1	1	1	0	0	2	0	0	0	0	0	0	0	0
	Total	**23**	**0**	**4**	**3**	**2**	**3**	**1**	**3**	**1**	**1**	**1**	**0**	**2**	**1**	**1**	**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.

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

Continued

Appendix Table 3: Number of cases by disease, sex* and age group. Toronto, 2005

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	19	0	3	4	3	1	1	0	0	1	0	0	0	1	1	0	1	2	1	0	0
	Male	15	0	1	3	2	2	2	1	0	1	0	0	1	0	0	0	1	0	1	0	0
	Total	**34**	**0**	**4**	**7**	**5**	**3**	**3**	**1**	**0**	**2**	**0**	**0**	**1**	**1**	**1**	**0**	**2**	**2**	**2**	**0**	**0**
West Nile Virus	Female	22	0	0	0	0	0	2	0	2	0	3	4	1	1	4	0	2	1	0	2	0
	Male	16	0	0	0	0	0	0	2	1	0	0	2	1	2	2	1	1	1	1	2	0
	Total	**38**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**3**	**0**	**3**	**6**	**2**	**3**	**6**	**1**	**3**	**2**	**1**	**4**	**0**
Yersiniosis	Female	43	7	11	3	2	2	5	2	4	1	1	2	0	1	0	1	0	0	0	1	0
	Male	74	6	20	13	8	4	2	6	2	3	2	3	2	1	2	0	0	0	0	0	0
	Total	**117**	**13**	**31**	**16**	**10**	**6**	**7**	**8**	**6**	**4**	**3**	**5**	**2**	**2**	**2**	**1**	**0**	**0**	**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, 1995 - 2004

Disease	Sex	5-year mean 1995-1999		5-year mean 2000-2004		10-year mean 1995-2004	
		#	Rate	#	Rate	#	Rate
AIDS	Female	NA	-	NA	-	NA	-
	Male	NA	-	NA	-	NA	-
	Total	**NA**	**-**	**NA**	**-**	**NA**	**-**
HIV	Female	67	5.3	118	8.9	93	7.1
	Male	423	35.1	425	33.6	424	34.3
	Total	**493**	**19.8**	**546**	**21.0**	**519**	**20.5**
Amebiasis	Female	106	8.3	106	7.9	106	8.1
	Male	284	23.5	299	23.6	291	23.6
	Total	**391**	**15.8**	**404**	**15.6**	**398**	**15.7**
Botulism	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**
Brucellosis	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**
Campylobacter enteritis	Female	768	60.2	594	44.7	681	52.3
	Male	853	70.7	708	55.9	781	63.1
	Total	**1625**	**65.4**	**1303**	**50.2**	**1464**	**57.7**
Chickenpox	**Total**	**3191**	**128.5**	**3578**	**137.9**	**3385**	**133.3**
Chlamydia	Female	3097	242.6	3725	280.2	3411	261.8
	Male	1306	108.2	2273	179.6	1790	144.8
	Total	**4404**	**177.3**	**5999**	**231.2**	**5202**	**204.9**
Cholera	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**
Cryptosporidiosis	Female	NR	-	11	0.9	NR	-
	Male	NR	-	31	2.4	NR	-
	Total	**NR**	**-**	**42**	**1.6**	**NR**	**-**
Cyclosporiasis	Female	NR	-	NR	-	NR	-
	Male	NR	-	NR	-	NR	-
	Total	**NR**	**-**	**NR**	**-**	**NR**	**-**
Cytomegalovirus infection, congenital	Female	2	0.1	0	0.0	<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	8	0.6	5	0.4	7	0.5
	Male	6	0.5	7	0.6	7	0.6
	Total	**14**	**0.6**	**13**	**0.5**	**14**	**0.5**
Encephalitis/Meningitis: viral	Female	16	1.2	26	2.0	21	1.6
	Male	18	1.5	34	2.7	26	2.1
	Total	**34**	**1.4**	**60**	**2.3**	**47**	**1.9**
Encephalitis/Meningitis: other	Female	<1	<0.1	1	0.1	1	<0.1
	Male	7	0.6	3	0.3	5	0.4
	Total	**7**	**0.3**	**5**	**0.2**	**6**	**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, 1995 - 2004

Disease	Sex	5-year mean 1995-1999		5-year mean 2000-2004		10-year mean 1995-2004	
		#	Rate	#	Rate	#	Rate
Encephalitis/Meningitis: unclassified	Female	2	0.1	4	0.3	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	216	16.9	201	15.1	208	16.0
	Male	347	28.8	357	28.2	352	28.5
	Total	**563**	**22.7**	**557**	**21.5**	**560**	**22.1**
Gonorrhea	Female	568	44.5	586	44.1	577	44.3
	Male	915	75.8	1189	94.0	1052	85.1
	Total	**1484**	**59.7**	**1776**	**68.4**	**1630**	**64.2**
Haemophilus influenzae b disease, invasive	Female	<1	<0.1	1	<0.1	<1	<0.1
	Male	0	0.0	2	0.2	1	<0.1
	Total	**<1**	**<0.1**	**3**	**0.1**	**2**	**<0.1**
Hemorrhagic fevers	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**
Hepatitis A	Female	55	4.3	24	1.8	39	3.0
	Male	117	9.7	31	2.5	74	6.0
	Total	**172**	**6.9**	**55**	**2.1**	**114**	**4.5**
Hepatitis B cases	Female	20	1.6	13	1.0	17	1.3
	Male	38	3.2	26	2.1	32	2.6
	Total	**58**	**2.4**	**39**	**1.5**	**49**	**1.9**
Hepatitis B carriers	Female	1073	84.0	970	73.0	1021	78.4
	Male	1270	105.2	1136	89.8	1203	97.3
	Total	**2374**	**95.6**	**2120**	**81.7**	**2247**	**88.5**
Hepatitis B unclassified reports	Female	146	11.4	180	13.5	163	12.5
	Male	180	14.9	249	19.7	215	17.4
	Total	**331**	**13.3**	**435**	**16.8**	**383**	**15.1**
Hepatitis C	Female	812	63.6	535	40.2	673	51.7
	Male	1437	119.0	885	69.9	1161	93.9
	Total	**2261**	**91.0**	**1430**	**55.1**	**1846**	**72.7**
Hepatitis D	Female	<1	<0.1	1	<0.1	<1	<0.1
	Male	2	0.1	2	0.2	2	0.2
	Total	**2**	**<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	166	13.0	231	17.4	198	15.2
	Male	165	13.7	202	15.9	183	14.8
	Total	**331**	**13.3**	**433**	**16.7**	**382**	**15.0**
Legionellosis	Female	6	0.5	3	0.3	5	0.4
	Male	11	0.9	6	0.5	8	0.7
	Total	**17**	**0.7**	**9**	**0.4**	**13**	**0.5**

* 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. 2005/06 includes cases from July 1, 2005 to June 30, 2006).

Continued

Appendix Table 4: 5-year and 10-year means and incidence rates* by disease and sex†. Toronto, 1995 - 2004

Disease	Sex	5-year mean 1995-1999		5-year mean 2000-2004		10-year mean 1995-2004	
		#	Rate	#	Rate	#	Rate
Leprosy	Female	<1	<0.1	0	0.0	<1	<0.1
	Male	2	0.2	1	<0.1	2	0.1
	Total	**3**	**0.1**	**1**	**<0.1**	**2**	**<0.1**
Listeriosis	Female	4	0.3	7	0.5	6	0.4
	Male	5	0.4	4	0.3	4	0.3
	Total	**9**	**0.3**	**11**	**0.4**	**10**	**0.4**
Lyme disease	Female	5	0.4	4	0.3	4	0.3
	Male	3	0.2	3	0.2	3	0.2
	Total	**8**	**0.3**	**7**	**0.3**	**7**	**0.3**
Malaria	Female	58	4.6	25	1.9	42	3.2
	Male	87	7.2	65	5.1	76	6.2
	Total	**147**	**5.9**	**90**	**3.5**	**119**	**4.7**
Measles	Female	28	2.2	2	0.2	15	1.2
	Male	36	3.0	2	0.2	19	1.5
	Total	**64**	**2.6**	**5**	**0.2**	**34**	**1.4**
Meningococcal disease, invasive	Female	9	0.7	9	0.6	9	0.7
	Male	8	0.6	7	0.5	7	0.6
	Total	**16**	**0.7**	**15**	**0.6**	**16**	**0.6**
Mumps	Female	7	0.5	2	0.2	5	0.4
	Male	9	0.7	1	0.1	5	0.4
	Total	**16**	**0.6**	**4**	**0.1**	**10**	**0.4**
Ophthalmia neonatorum	Female	2	0.2	1	0.1	2	0.1
	Male	2	0.2	1	0.1	2	0.1
	Total	**4**	**0.2**	**3**	**0.1**	**3**	**0.1**
Paratyphoid fever	Female	2	0.2	4	0.3	3	0.2
	Male	3	0.3	5	0.4	4	0.3
	Total	**6**	**0.2**	**9**	**0.3**	**7**	**0.3**
Pertussis	Female	63	4.9	45	3.4	54	4.2
	Male	61	5.0	44	3.4	52	4.2
	Total	**124**	**5.0**	**89**	**3.4**	**107**	**4.2**
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	5	0.4	2	0.2	4	0.3
	Male	5	0.4	3	0.2	4	0.3
	Total	**10**	**0.4**	**5**	**0.2**	**7**	**0.3**
Rubella, congenital syndrome	Female	0	0.0	<1	<0.1	<1	<0.1
	Male	0	0.0	<1	<0.1	<1	<0.1
	Total	**0**	**0.0**	**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, 1995 - 2004

Disease	Sex	5-year mean 1995-1999		5-year mean 2000-2004		10-year mean 1995-2004	
		#	Rate	#	Rate	#	Rate
Salmonellosis	Female	434	34.0	298	22.4	366	28.1
	Male	401	33.2	299	23.6	350	28.3
	Total	**839**	**33.8**	**597**	**23.0**	**718**	**28.3**
Severe acute respiratory syndrome (SARS)	Female	NR	-	NR	-	NR	-
	Male	NR	-	NR	-	NR	-
	Total	**NR**	**-**	**NR**	**-**	**NR**	**-**
Shigellosis	Female	73	5.7	69	5.2	71	5.4
	Male	74	6.2	83	6.5	79	6.4
	Total	**148**	**5.9**	**152**	**5.8**	**150**	**5.9**
Streptococcal infections, Group A invasive	Female	NR	-	36	2.7	NR	-
	Male	NR	-	39	3.1	NR	-
	Total	**NR**	**-**	**75**	**2.9**	**NR**	**-**
Streptococcal infections, Group B neonatal	Female	NR	-	9	0.6	NR	-
	Male	NR	-	9	0.7	NR	-
	Total	**NR**	**-**	**17**	**0.7**	**NR**	**-**
Streptococcus pneumoniae, invasive	Female	NR	-	NR	-	NR	-
	Male	NR	-	NR	-	NR	-
	Total	**NR**	**-**	**NR**	**-**	**NR**	**-**
Syphilis, infectious	Female	17	1.3	10	0.8	13	1.0
	Male	26	2.1	183	14.5	105	8.5
	Total	**42**	**1.7**	**194**	**7.5**	**118**	**4.6**
Syphilis, late latent	Female	60	4.7	61	4.6	60	4.6
	Male	67	5.5	83	6.5	75	6.0
	Total	**127**	**5.1**	**144**	**5.5**	**135**	**5.3**
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	2	0.1	2	0.1	2	0.1
	Male	2	0.2	8	0.6	5	0.4
	Total	**4**	**0.2**	**10**	**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	210	16.4	170	12.8	190	14.6
	Male	230	19.0	202	16.0	216	17.5
	Total	**440**	**17.7**	**373**	**14.4**	**406**	**16.0**
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	7	0.6	15	1.1	11	0.8
	Male	10	0.8	13	1.0	12	0.9
	Total	**17**	**0.7**	**28**	**1.1**	**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, 1995 - 2004

Disease	Sex	5-year mean 1995-1999		5-year mean 2000-2004		10-year mean 1995-2004	
		#	Rate	#	Rate	#	Rate
Verotoxin-producing *E.coli* infection	Female	42	3.3	30	2.2	36	2.7
	Male	41	3.4	26	2.1	34	2.7
	Total	**83**	**3.3**	**56**	**2.2**	**69**	**2.7**
West Nile Virus	Female	NR	-	NR	-	NR	-
	Male	NR	-	NR	-	NR	-
	Total	**NR**	**-**	**NR**	**-**	**NR**	**-**
Yersiniosis	Female	66	5.2	56	4.2	61	4.7
	Male	85	7.1	70	5.5	78	6.3
	Total	**151**	**6.1**	**126**	**4.9**	**139**	**5.5**

* 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.