REPORT ON SEXUALLY TRANSMITTED INFECTIONS IN CANADA: **2010**

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Rapport sur les infections transmissibles sexuellement au Canada : 2010

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Suggested Citation: Public Health Agency of Canada. *Report on Sexually Transmitted Infections in Canada: 2010.* Centre for Communicable Diseases and Infection Control, Infectious Disease Prevention and Control Branch, Public Health Agency of Canada; 2012.

PDF Cat.: HP37-10/2010E-PDF
ISBN: 1923-2977

NOTE TO THE READERS OF THE *REPORT ON SEXUALLY TRANSMITTED INFECTIONS IN CANADA: 2010*

The Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada (PHAC) is pleased to present the 2010 edition of the *Report on Sexually Transmitted Infections in Canada*. This document provides an overview of reported cases and trends in the three nationally reportable bacterial sexually transmitted infections (STIs): chlamydia, gonorrhea, and infectious syphilis by age, sex, and province/territory for Canada for each infection. The surveillance data presented are drawn from reports submitted to PHAC by provincial and territorial epidemiological units.

This report consists of five sections. Sections one to three correspond to the three nationally reportable bacterial STIs. Each section summarizes major findings and trends in the respective infection and the embedded tables and figures are updated from those in earlier publications of these data. Each of the first three sections contains a special focus: for the chlamydia section, a discussion of lymphogranuloma venereum; in the gonorrhea section, trends in antimicrobial resistance; and in the infectious syphilis chapter, data on reported congenital syphilis in Canada. The fourth section features a comparison of the reported STI rates among Canada, Australia, the United Kingdom and the United States. This edition of the *Report on Sexually Transmitted Infections in Canada* contains a fifth section, a special report on non-reportable STIs. Technical notes and explanatory details specific to provincial or territorial surveillance data are presented at the end of this report.

Both absolute and relative rate changes are used to describe trends in reported STI rates in this report. Relative rate changes were calculated on unrounded figures. For gonorrhea and infectious syphilis, data for Nova Scotia and Prince Edward Island (PEI) were combined at the request of PEI due to the small number of reported cases.

The publication of this report would not have been possible without the collaboration of all provinces and territories, whose continuous contribution to national STI surveillance is appreciated and gratefully acknowledged.

Any comments and suggestions that would improve the usefulness of future publications are appreciated and should be sent to the attention of the staff of the Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada at ccdic-clmti@phac-aspc.gc.ca.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge the contributions of data and expertise of the provincial and territorial ministries of health and the Sexually Transmitted and Blood-Borne Infections Surveillance Task Group. We would also like to thank Olivia Remes for writing the section on non-notifiable sexually transmitted infections and Jelena Ivanovic for summarizing national congenital syphilis data for this report. Finally, we acknowledge Bonnie Laing and Annie Boucher for editing the report.

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EXECUTIVE SUMMARY

Sexually transmitted infections (STIs) continue to be a significant public health concern in Canada. Reported rates for chlamydia, gonorrhea and infectious syphilis have been rising continuously since 1997. This report describes the trends in these three nationally reportable STIs in Canada, focusing on the past decade (2001 to 2010) and the preceding year (2009 to 2010). Three non-reportable STIs are also included in the report. Longer term secular trends are presented for context and international comparisons are made.

Chlamydia continues to be the most commonly reported STI in Canada. Since 2001, reported rates of chlamydia infections have increased by 72.0 percent. A steady increase in reported rates has continued in both genders and across all age groups, with the highest relative increase among males. Similar to previous reports' findings, in 2010, the reported rate among females (363.8 per 100,000) was almost twice as high as that among males (189.5 per 100,000). Females and males between the ages of 20 to 24 accounted for the highest reported rates of chlamydia. Geographic variation was observed, with the highest chlamydia rates reported in the Northwest Territories, Yukon and Nunavut.

The overall reported rate of gonorrhea has increased by 53.4 percent since 2001. Similar to previous years' findings, the reported gonorrhea rate was higher among males (37.7 per 100,000 vs. 29.1 per 100,000 in females). Females between the ages of 15 to 19 and males between the ages of 20 to 24 accounted for the highest reported rates of gonorrhea. The distribution of reported cases of gonorrhea varied geographically across Canada, with highest rates reported in the Northwest Territories and Nunavut.

The overall reported rate of infectious syphilis has increased by 456.7 percent since 2001. Similar to previous years' findings, the rate was higher among males than females (9.4 per 100,000 vs. 1.0 per 100,000). Reported rates of infection in men were the highest among those aged 30 to 39, while in women the highest rates were in the 20 to 29 year age group. In 2010, infectious syphilis rates varied geographically, with the highest rates reported by the Northwest Territories, Québec and Ontario.

Reported Cases and Rates (per 100,000 population) of Chlamydia, Gonorrhea and Infectious Syphilis, 2001, 2009 and 2010, Canada

Year	CHLAMYDIA		GONORRHEA		INFECTIOUS SYPHILIS	
	Cases	Rates	Cases	Rates	Cases	Rates
2001	50,077	161.4	6,756	21.8	287	0.9
2009	87,208	258.6	11,166	33.1	1,691	5.0
2010	94,690	277.6	11,397	33.4	1,757	5.2

In general, trends in reportable STI in the United States, the United Kingdom and Australia are similar to those in Canada. Rates of all three bacterial infections increased between 2001 and 2010, with chlamydia being the most commonly reported. In all four countries, reported rates of chlamydia are higher in females than males, while rates of infectious syphilis are higher in males. Reported rates of gonorrhea are more than twice as high in males as in females in Australia and the United Kingdom; in Canada and the United States, rates are more similar between the sexes.

Reported rates of STIs have increased despite numerous public health interventions designed to prevent, diagnose and treat infection. There are various potential factors that may explain these observations. For instance, more sensitive laboratory tests used to detect chlamydia and gonorrhea have increased the number of these infections that are detected. More effective screening and contact tracing methods may also improve case finding. Antimicrobial resistance, a particular concern in gonorrhea, may result in treatment failure and continued transmission of infection. Finally, changes in sexual practices may increase the number of people contracting STIs, as is evidenced by syphilis outbreaks seen across Canada.

Non-reportable STIs trichomoniasis, human papillomavirus (HPV) and herpes simplex virus (HSV) are not subject to the same systematic surveillance that notifiable STIs are. As a result, knowledge about the burden of these infections in Canada is limited to what is gleaned from various prevalence studies. Many studies have observed a high prevalence of these infections, particularly among high-risk groups such as STI clinic attendees and youth; however, women presenting for routine cervical screening and prenatal care have also demonstrated significant rates of infection, particularly for HPV and HSV. Like the three reportable bacterial STIs, non-reportable STIs are of public health concern because of their potentially serious consequences and possible co-infection issues.

National statistics and trends in STIs are used to inform public health programs, guidelines, and recommendations. In response to this growing public health issue, the Public Health Agency of Canada produces guidelines for health professionals and educators on the prevention, diagnosis, and treatment of these infections. They can be accessed at http://www.phac-aspc.gc.ca/std-mts/index-eng.php or http://orders.catie.ca.

1. CHLAMYDIA *(CHLAMYDIA TRACHOMATIS)*

Chlamydia, an infection caused by the bacterium *Chlamydia trachomatis*, has been nationally notifiable since 1990. It is the most commonly reported sexually transmitted infection (STI) in Canada. Infections are often asymptomatic in both males and females. In the absence of screening, these infections go undiagnosed and contribute to the spread of chlamydia in sexually active individuals.

A common complication associated with untreated and recurring chlamydia in females is pelvic inflammatory disease, which can lead to chronic pelvic pain, ectopic pregnancy and infertility. In males, complications are rarer but include epididymoorchitis and infertility. Untreated chlamydia in pregnant women can be transmitted to their newborns, causing neonatal conjunctivitis or pneumonia. As with other STIs, chlamydia increases the risk of HIV infection and transmission. It recruits target cells for HIV to the genital tract and increases the shedding of HIV-infected cells.(1,2)

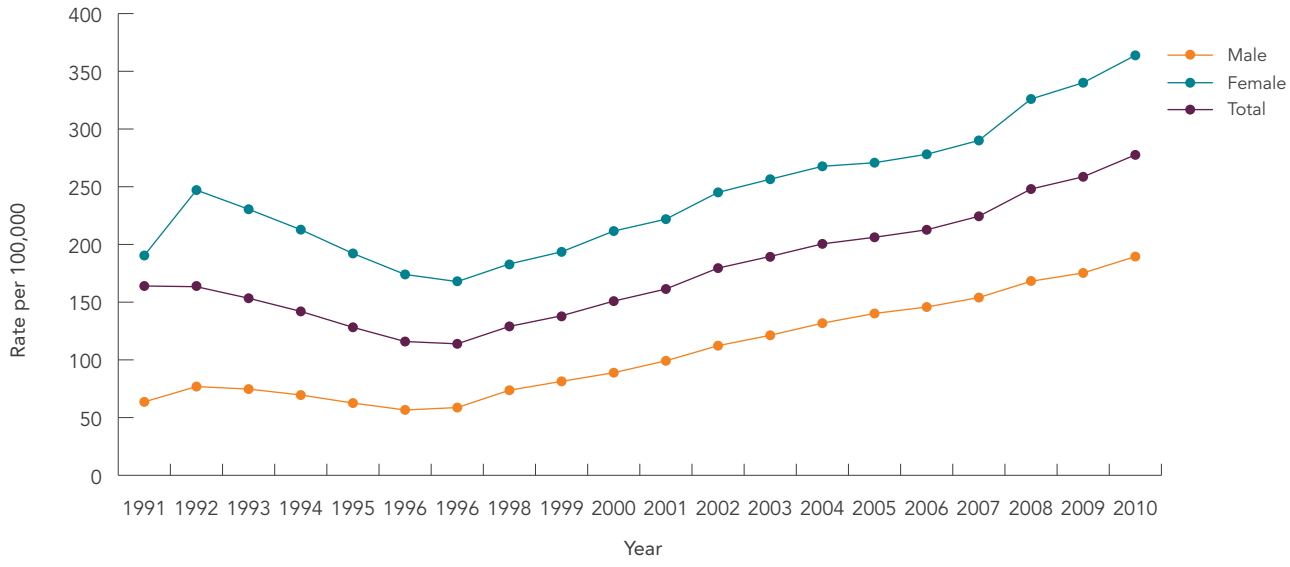
1.1 RATES OF INFECTION

Over the past decade, reported rates of chlamydia infections steadily increased in both males and females in Canada.

The reported rates of chlamydia had decreased steadily in both male and female populations until 1997, when this trend reversed. It has increased ever since (Figure 1). In 2010, 94,690 cases of chlamydia infections were reported. By 2010, the overall reported chlamydia rate reached 277.6 per 100,000, a 72.0 percent relative increase from the rate of 161.4 per 100,000 in 2001. Consistent with historical trends, the reported rate in females remained almost twice as high as that in males (Figure 1).

Between 2001 and 2010, reported rates of chlamydia increased consistently in both males and females. In males, rates increased by 91.1 percent from 99.2 to 189.5 per 100,000. In females, rates increased by 64.0 percent from 221.9 to 363.8 per 100,000 (Figure 1). In both males and females, the rates increased across all ages, particularly in the older age groups. Between 2009 and 2010, there was a relative increase in the reported chlamydia rate of 7.3 percent (8.1 percent in males, 7.0 percent in females).

FIGURE 1: Reported Overall and Sex-Specific Rates of Chlamydia, 1991 to 2010, Canada



1.2 INFECTION RATES BY SEX AND AGE GROUP

In 2010, reported rates of chlamydia infections continued to be highest in the younger age groups, particularly among females.

Similar to previous findings, in 2010 the majority of reported chlamydia infections (62.8 percent) were among those aged 15 to 24 years. The highest reported rates of chlamydia were in those aged 20 to 24, with the rate in females (2005.5 per 100,000) more than twice as high as that in males (961.8 per 100,000) in this age group (Figure 2).

The female-to-male ratio of reported chlamydia rates decreased with age. In those aged 40 to 59 and 60 and older, the reported rates were higher in men than in women (Figure 2).

FIGURE 2: Reported Rates of Chlamydia by Sex and Age Group, 2010, Canada

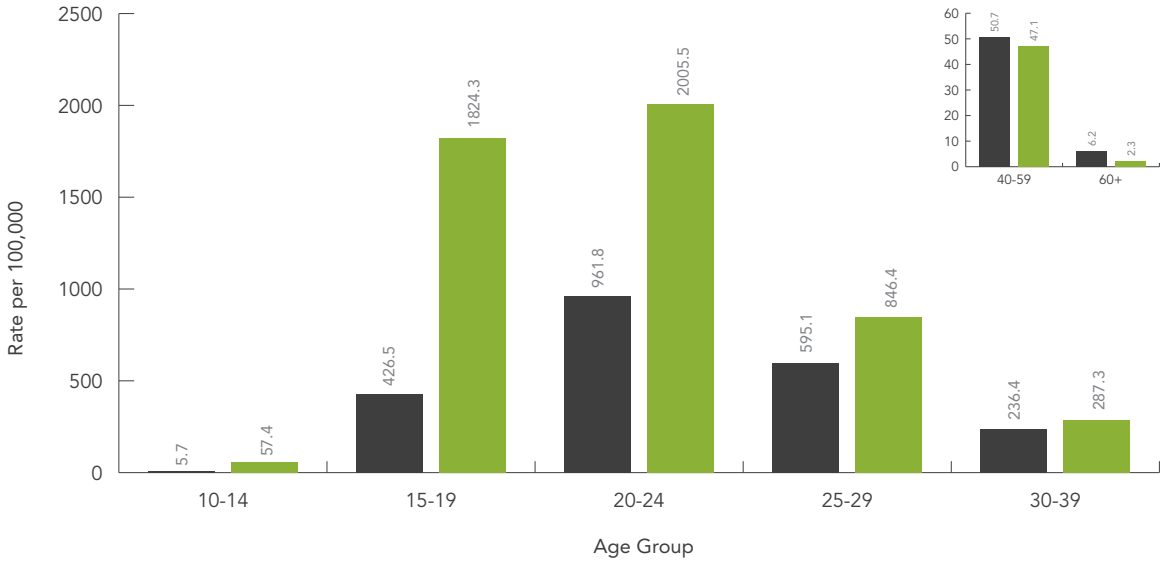
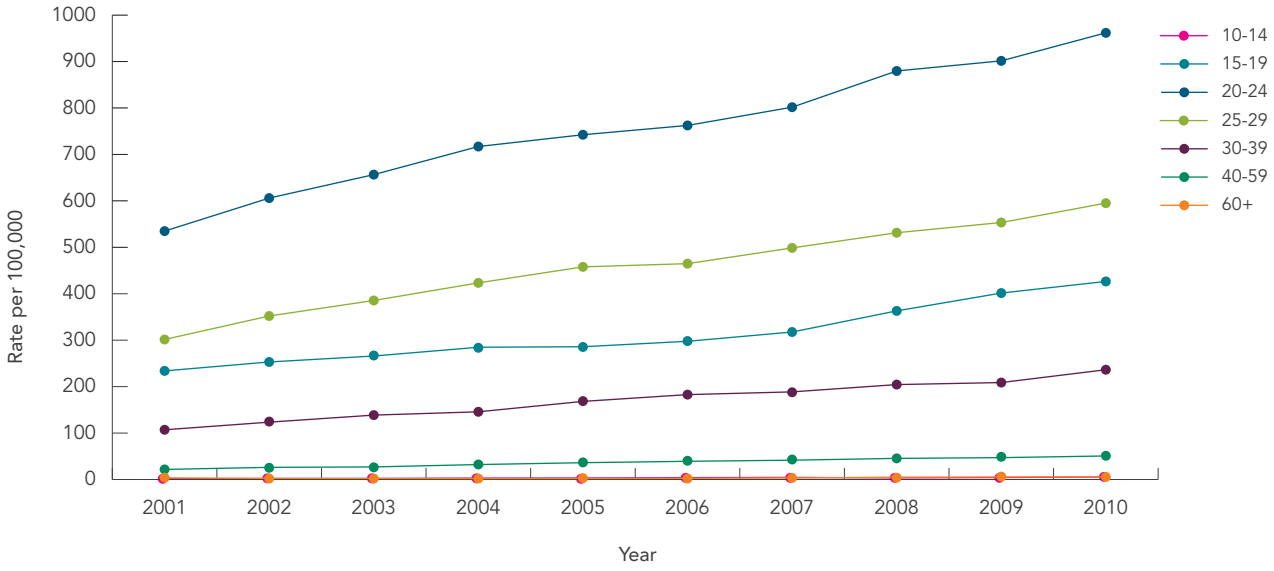


FIGURE 3: Reported Rates of Chlamydia in Males by Age Group, 2001 to 2010, Canada



1.3 INFECTION RATES OF MALES BY AGE GROUP

In males, between 2001 and 2010, the greatest absolute increase in reported rates of chlamydia was seen in 20 to 24 year olds. The rate increased by 426.9 from 534.9 per 100,000 in 2001 to 961.8 per 100,000 in 2010 (Figure 3). During the same period, the highest relative rate increase (180.8 percent) occurred in males of 60 plus years of age. The rate has grown from 2.2 to 6.2 per 100,000.

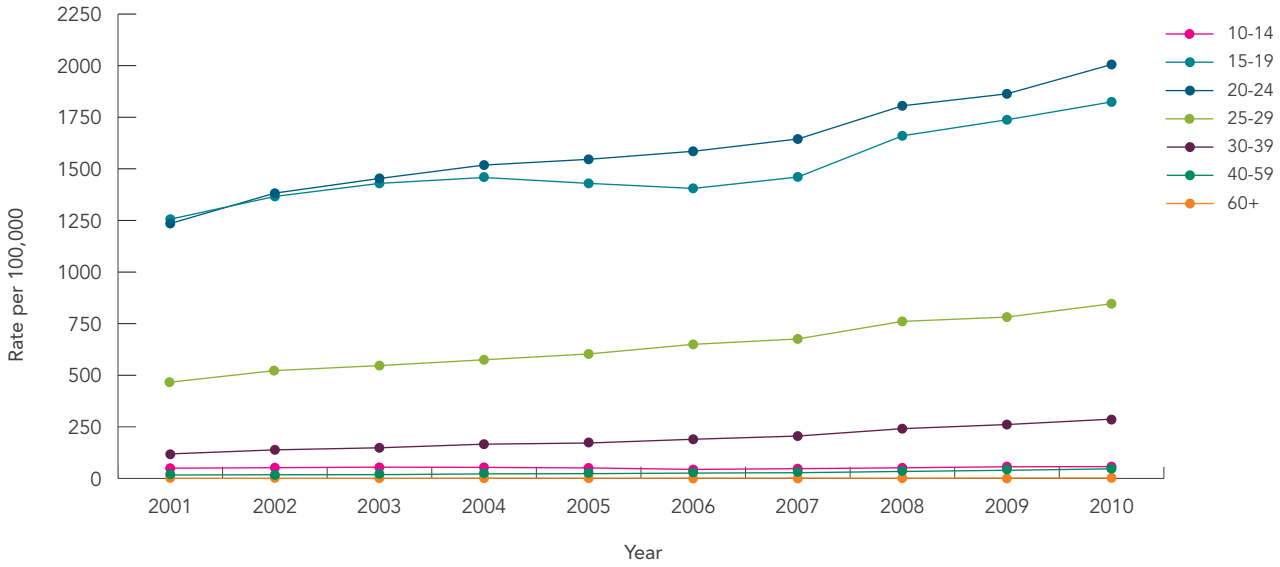
Similar to the 10-year trends, the highest rate increases between 2009 and 2010 in males were observed in the older age groups. In males, the highest increase in the annual rate was observed in those aged 60 plus (25.3 percent).

1.4 INFECTION RATES OF FEMALES BY AGE GROUP

In females, between 2001 and 2010, the greatest absolute increase in reported rates of chlamydia was also seen in 20 to 24 year olds (Figure 4). The rate increased by 770.5 per 100,000, from 1235.1 to 2005.5 per 100,000. During the same time period, the highest relative rate increase (175.5 percent) was observed in females aged 40 to 59 years. The rate rose from 17.1 to 47.1 per 100,000.

Between 2009 and 2010, females aged 40 to 59 had the highest one-year increase in reported chlamydia rates (18.3 percent).

FIGURE 4: Reported Rates of Chlamydia in Females by Age Group, 2001 to 2010, Canada



1.5 INFECTION RATES BY PROVINCES AND TERRITORIES

Similar to previous findings, the majority of chlamydia cases in 2010 occurred in the most populated provinces in Canada. Reported rates of chlamydia infections were highest in the Northern territories.

In 2010, reported chlamydia rates continued to be highest in Nunavut (4193.3 per 100,000), Northwest Territories (2086.4 per 100,000) and Yukon (666.2 per 100,000) (Table 1). Between 2001 and 2010, the highest relative increase in reported chlamydia rates occurred in Nunavut (96.3 percent), Ontario (85.9 percent) and Manitoba (82.2 percent) (Table 1).

Rate changes between 2009 and 2010 varied at the provincial/territorial level, ranging from a decrease of 10.3 percent in the Northwest Territories to an increase of 21.1 percent in Newfoundland and Labrador (Table 1).

TABLE 1: Reported Cases and Rates of Chlamydia by Province/Territory, 2001, 2009, and 2010, Canada

JURISDICTION	NUMBER OF CASES			RATES PER 100,000[1]			RATE CHANGE (%)[2]	
	2001	2009	2010	2001	2009	2010	2001-2010	2009-2010
Canada	50,077	87,208	94,690	161.4	258.6	277.6	72.0	7.3
BC	5,938	11,196	11,867	145.7	251.0	261.9	**79.8**	4.4
AB	6,463	13,503	13,132	211.3	**367.9**	**352.9**	67.0	-4.1
SK	3,170	4,839	5,061	316.9	**470.2**	**484.0**	52.7	2.9
MB	3,261	6,288	6,375	283.2	**515.6**	**516.0**	**82.2**	0.1
ON	16,217	28,760	33,478	136.3	220.1	253.4	**85.9**	**15.1**
QC	10,214	15,880	17,322	138.1	202.9	219.1	58.6	**8.0**
NB	1,202	1,569	1,825	160.3	209.4	242.8	51.4	**15.9**
NS	1,603	1,994	2,237	171.9	212.3	237.3	38.1	**11.8**
PE	150	202	213	109.8	143.2	149.7	36.4	4.6
NL	593	530	644	113.6	104.3	126.3	11.2	**21.1**
YT	132	215	230	437.7	**638.9**	**666.2**	52.2	4.3
NT	533	1,016	913	1305.0	**2326.4**	**2086.4**	59.9	-10.3
NU	601	1,216	1,393	2136.2	**3777.1**	**4193.3**	**96.3**	**11.0**

[1] Bolded values indicate rates and rate changes above the national average.

[2] Rate change calculated using unrounded values.

1.6 FEMALE-TO-MALE RATIO

Nationally, the female-to-male chlamydia rate ratio remained unchanged between 2009 and 2010. The reported rate of chlamydia in females was almost twice as high (1.9) as that reported in males. Between 2001 and 2010, the national female-to-male rate ratio decreased from 2.2 to 1.9. Across the country, the female-to-male rate ratio ranged from 1.7 in the Northwest Territories to 2.9 in Newfoundland and Labrador (Table 2).

TABLE 2: Female-to-Male Ratio of Reported Rates of Chlamydia by Province/Territory, 2001, 2009 and 2010, Canada

JURISDICTION	FEMALE-TO-MALE CHLAMYDIA RATE RATIO		
	2001	2009	2010
Canada	2.2	1.9	1.9
BC	2.4	1.8	1.9
AB	2.4	2.1	2.0
SK	1.9	1.9	1.9
MB	2.5	1.9	1.8
ON	1.9	1.8	1.8
QC	2.5	2.2	2.2
NB	2.8	2.2	2.1
NS	3.2	2.6	2.5
PE	2.5	1.7	2.6
NL	3.5	3.2	2.9
YT	2.4	2.2	1.8
NT	2.4	1.7	1.7
NU	2.1	1.9	2.0

1.7 LYMPHOGRANULOMA VENEREUM

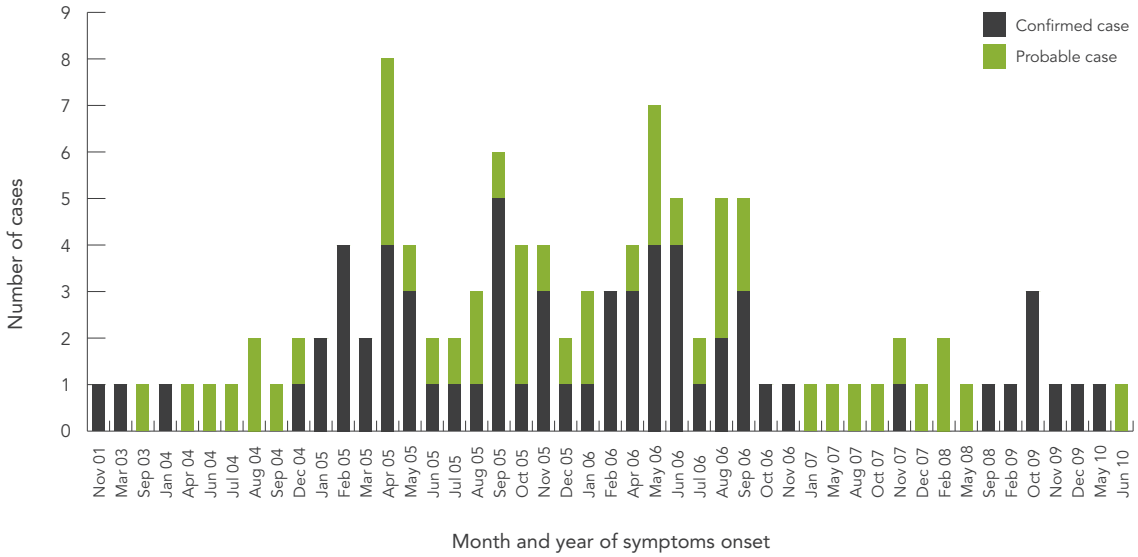
Lymphogranuloma venereum (LGV) is an STI caused by *Chlamydia trachomatis* serovars L1, L2 and L3. Infections caused by these serovars preferentially invade lymph tissue and tend to be more invasive than those caused by non-LGV chlamydia. Complications of untreated LGV infection can be severe and include destruction of rectal and genital tissue. Uncommonly, meningoencephalitis, hepatitis and death can also occur.

LGV is endemic in parts of Africa, Asia, South America and the Caribbean region, but was relatively uncommon in Canada until 2003.(3) At that time, outbreaks of LGV began occurring among men who have sex with men (MSM) in urban centres in Canada.(4) Outbreaks among MSM have also been reported in European countries and the United States.(5-8) Recent data suggest that the infection has become endemic in the MSM population in some countries.(9)

In response to the emergence of LGV in Europe, Canada initiated enhanced surveillance of LGV in 2005. From this time to December 31, 2010, 165 cases of LGV have been reported to the Public Health Agency of Canada (PHAC), with 104 confirmed and 61 probable cases according to the national LGV case definition.(3) Confirmed cases were reported from Québec, Ontario, British Columbia and Alberta. Three of the probable cases were in women; the rest, as well as all confirmed cases, were in men.

Figure 5 presents the distribution of LGV cases reported to PHAC by date of symptom onset or clinical presentation. The earliest report of symptom onset was in November 2001 and the latest was in June 2010.

FIGURE 5: Epidemic Curve for 110 Reported LGV Cases with Known Date of Symptom Onset, Canada



Due to the small number of female LGV cases, risk factors were analyzed in males only. The majority (82.5 percent) of cases were in men aged 30 to 59 years. Approximately one fifth (21.1 percent) of cases reported having had sex while travelling outside of their jurisdiction, or with a partner who was travelling in their jurisdiction. The cases were predominantly MSM (95.8 percent), including all confirmed cases. A small number of probable male cases reported having exclusively female partners (Table 3).

TABLE 3: Selected Characteristics of Reported Confirmed and Probable Male Cases of LGV, 2001-2010, Canada

		PROBABLE		CONFIRMED		TOTAL	
		N	%	N	%	N	%
Age	20-24	2	3.5	3	2.9	5	3.1
	25-29	5	8.8	16	15.5	21	13.1
	30-39	21	36.8	32	31.1	53	33.1
	40-59	28	49.1	51	49.5	79	49.4
	60+	1	1.8	1	1.0	2	1.3
	TOTAL	**57**	**100.0**	**103**	**100.0**	**160**	**100.0**
Travel sex	No	39	76.5	58	80.6	97	78.9
	Yes	12	23.5	14	19.4	26	21.1
	TOTAL	**51**	**100.0**	**72**	**100.0**	**123**	**100.0**
Sex of partners	Male and female	2	4.1	0	0.0	2	1.7
	Male only	44	89.8	70	100.0	114	95.8
	Female only	3	6.1	0	0.0	3	2.5
	TOTAL	**49**	**100.0**	**70**	**100.0**	**119**	**100.0**
HIV co-infection	No	9	25.7	9	25.0	18	25.4
	Yes	26	74.3	27	75.0	53	74.6
	TOTAL	**35**	**100.0**	**36**	**100.0**	**71**	**100.0**

1.8 SUMMARY

Increases in reported rates of chlamydia have been observed despite numerous public health interventions designed to prevent, diagnose and treat infection. However, some theories suggest that these increased rates do not necessarily reflect a rise in infection. Reported rates are impacted not only by incidence of new infections, but also by improved case finding.

The introduction of more sensitive nucleic acid amplification testing (NAAT) in the mid-1990s undoubtedly led to an increase in the number of chlamydia cases detected. In fact, this change in diagnostic practice coincided with the beginning of the rise in reported rates of chlamydia. NAAT allows urine specimens to be used, which are easier to collect and more acceptable to patients than swabs. As a result, the number of people who go for testing has likely increased as well, especially among males. More effective screening and contact tracing may have a similar effect.(10,11)

Another theory that may help explain rising chlamydia rates is the arrested immunity hypothesis. This states that early diagnosis and treatment of chlamydial infections may actually impede the development of an effective immune response. Treated cases, who have not developed an immune response, are then susceptible to re-infection upon returning to their sexual networks (in the absence of any change in behaviour).(12) Evidence supporting this theory has been observed in British Columbia, where the relative risk of re-infection with chlamydia was shown to increase between 1989 and 2003,(13) and in Finland, where reported rates of chlamydia have increased despite a decrease in seroprevalence.(14)

In all, it is difficult to identify what factors are most responsible for the observed increase in chlamydia rates. It is likely a combination of factors and the possibility of a true increase in incidence cannot be ruled out. Continued monitoring of chlamydia rates and research into the reasons for observed changes will help in evaluating the public health response to STIs. National guidelines for the prevention and management of chlamydial infections are updated as new information becomes available, to provide users with the most up–to-date information for the management of STIs in Canada.(1); (15)

2. GONORRHEA *(NEISSERIA GONORRHOEAE)*

Gonorrhea, a bacterial infection caused by *Neisseria gonorrhoeae*, has been nationally notifiable since 1924. It remains the second most commonly reported STI in Canada. Untreated infections can lead to complications for both sexes. There are severe consequences for females, including pelvic inflammatory disease, which often causes chronic abdominal pain, infertility and ectopic pregnancy. In males, untreated infections can result in epididymitis and rare cases of infertility. An uncommon complication of gonorrhea is the spread of infection to the blood stream and joints.(16) Like other STIs, gonorrhea increases the risk of HIV acquisition and transmission, possibly by increasing the concentration of HIV target cells in genital secretions and viral shedding. This increases the risk of acquiring and/or transmitting the virus.(2)

2.1 RATES OF INFECTION

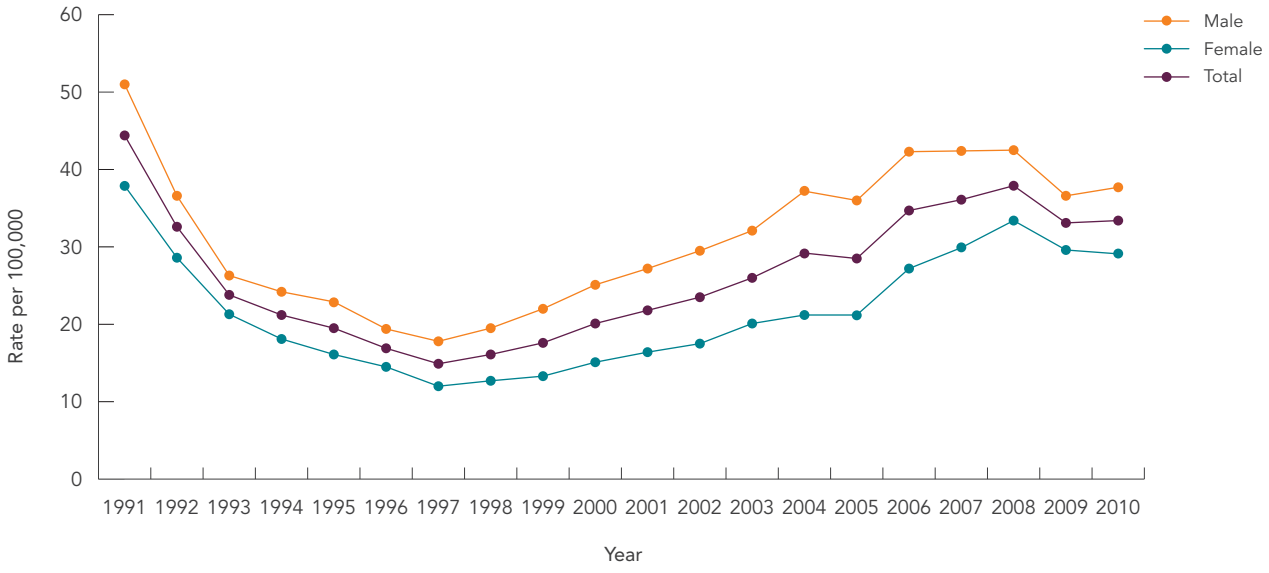
Reported rates of gonorrhea infections increased steadily in Canada between 2001 and 2010. However, 2010 rates were virtually unchanged from the previous year.

From 1991 to 1997, reported rates of gonorrhea infection in males and females decreased dramatically. Following 1997, sex-specific rates increased at a gradual pace until 2008. The 2009 rate decreased 12.6 percent from 2008. In 2010, 11,397 cases of gonorrhea infections were reported nationally, corresponding to a rate of 33.4 per 100,000, a 0.9 percent increase from 2009 (Figure 6).

Between 2001 and 2010, the reported gonorrhea rate increased by 53.4 percent (from 21.8 to 33.4 per 100,000). An increase was observed in both sexes. In females, rates increased by 77.2 percent (from 16.4 to 29.1 per 100,000) and in males by 38.9 percent (from 27.2 to 37.7 per 100,000) (Figure 6).

Between 2009 and 2010, the reported gonorrhea rate increased by 3.0 percent in males and decreased by 1.5 percent in females.

FIGURE 6: Reported Overall and Sex-Specific Rates of Gonorrhea, 1991 to 2010, Canada



2.2 INFECTION RATES BY SEX AND AGE GROUP

Similar to the findings of previous reports, the reported rates of gonococcal infections in 2010 were highest in the younger population.

Similar to chlamydia, people under 30 years of age accounted for the majority (70.5 percent) of reported gonorrhea cases in 2010.

Reported gonorrhea rates are higher in females than males at younger ages; in older age groups, males have higher rates. In 2010, the highest reported rate of gonorrhea infections in females was in those 15 to 19 years old (147.0 per 100,000) and 20 to 24 year olds (133.8 per 100,000) (Figure 8). The highest reported rate in males was in 20 to 24 year olds (134.5 per 100,000) followed by 25 to 29 year olds (109.9 per 100,000) (Figure 7).

FIGURE 7: Reported Rates of Gonorrhea by Sex and Age Group, 2010, Canada

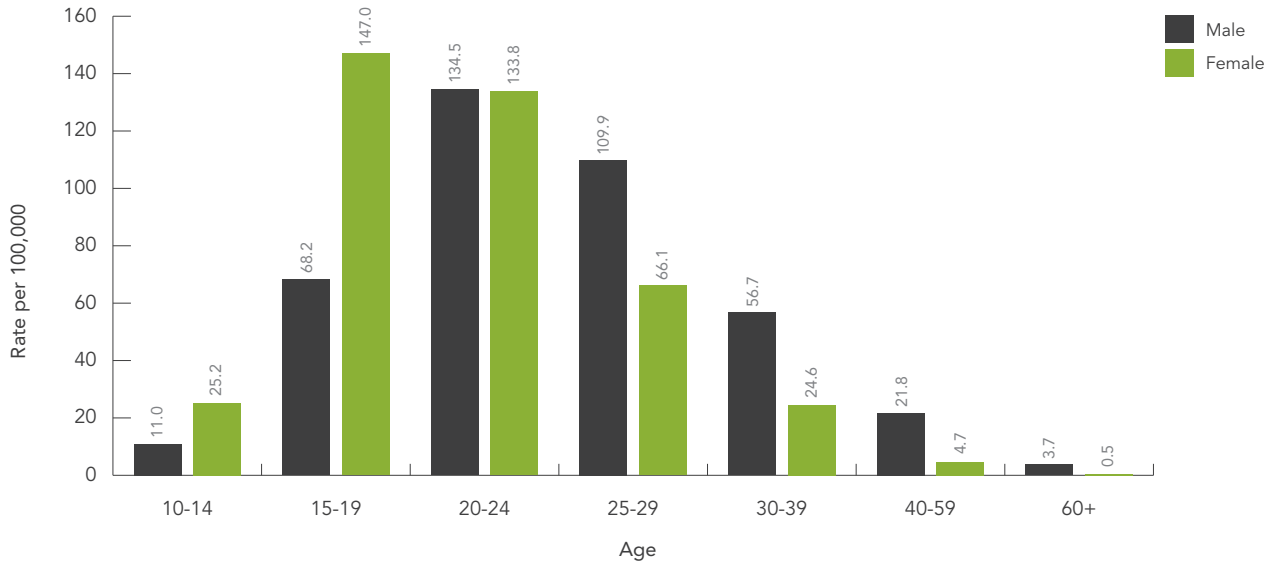
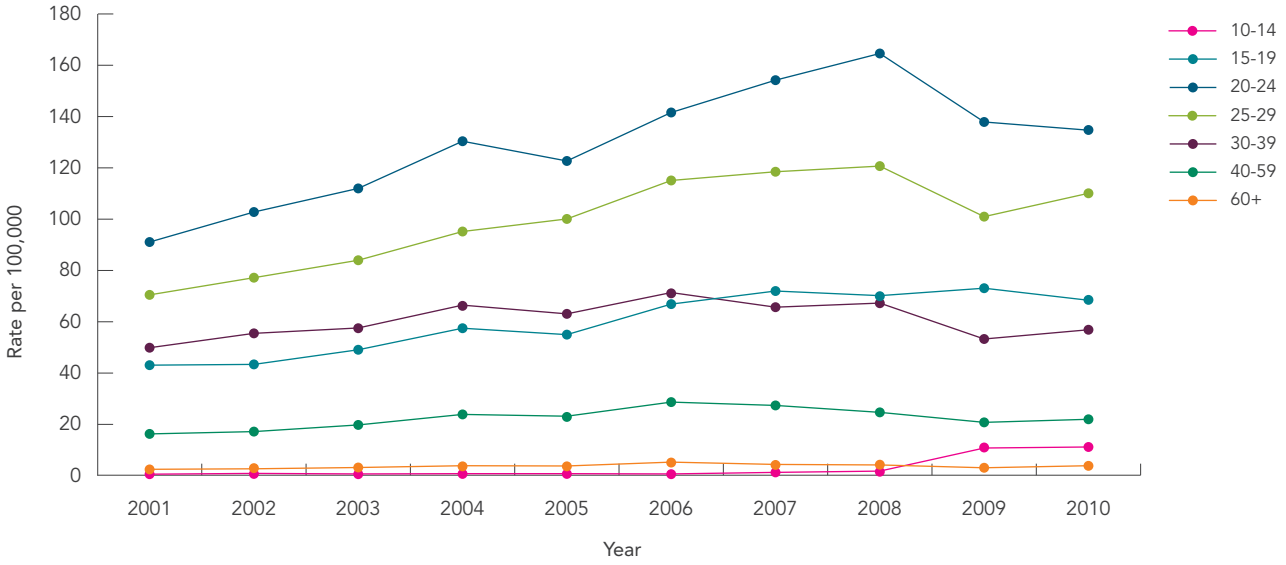


FIGURE 8: Reported Rates of Gonorrhea in Males by Age Group, 2001 to 2010, Canada



2.3 INFECTION RATES OF MALES BY AGE GROUP

After several years of steady increase, reported gonorrhea rates in both males and females appear to be leveling off in most age groups.

In males, between 2001 and 2010, the highest absolute increase (43.6 per 100,000) in reported gonorrhea rates was found in 20 to 24 year olds (Figure 8). The rate increased from 90.9 per 100,000 in 2001 to 134.5 per 100,000 in 2010. The highest relative increase (2825.7 percent) was observed in males of 10 to 14 years old. The rate increased from 0.4 to 11.0 per 100,000.

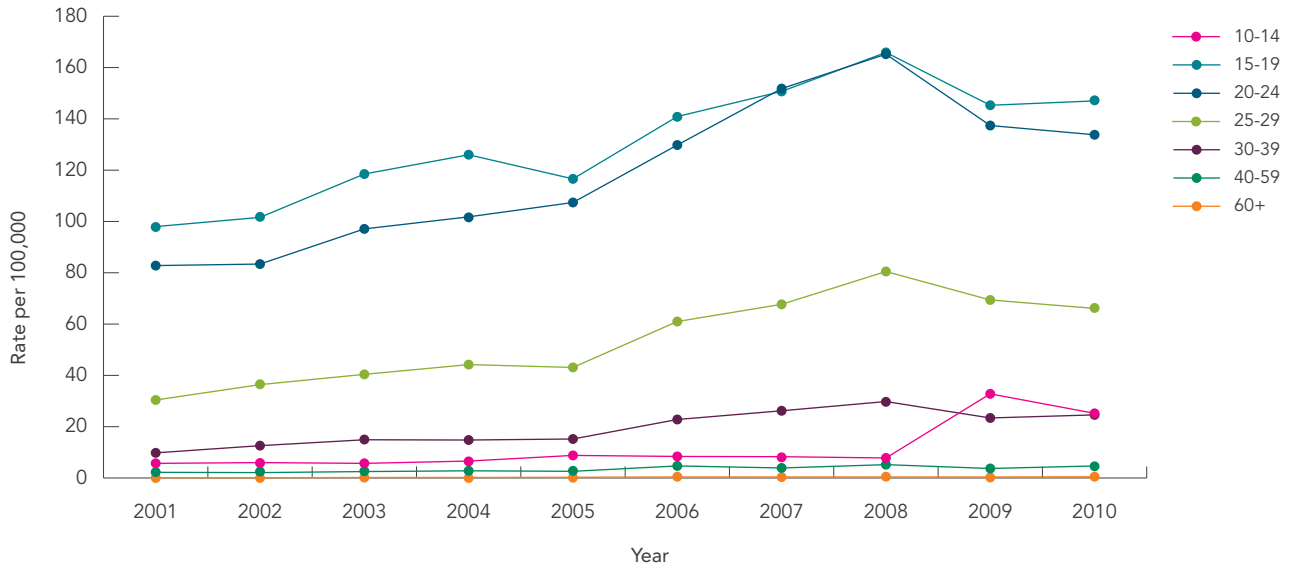
From 2009 to 2010, the overall reported rate of gonorrhea increased slightly in males from 36.6 to 37.7 per 100,000, but there was a variation in the one-year rate change among age groups. In males aged 15 to 19 years, the reported rate decreased by 4.6 per 100,000, while the greatest increase was by 9.0 per 100,000 in males aged 25 to 29 years. The most pronounced relative rate decrease was observed in 15 to 19 year olds (by 6.3 percent), while the highest relative rate increase was in those 60 and older (by 30.3 percent) (Figure 8).

2.4 INFECTION RATES OF FEMALES BY AGE GROUP

From 2001 to 2010, the greatest absolute increase (51.0 per 100,000) in reported rates of gonorrhea infections in females was observed in those aged 20 to 24 years (Figure 9). The rate increased from 82.8 per 100,000 in 2001 to 133.8 per 100,000 in 2010. During the same time period, the highest relative rate increase (341.3 percent) was observed in females aged 10-14 years. The rate has increased from 5.7 to 25.2 per 100,000.

In females, from 2009 to 2010, the reported gonorrhea rate decreased from 29.6 to 29.1 per 100,000. Similar to males, the direction of such change had age-specific variations from a decrease of 7.6 per 100,00 in females aged 10 to 14 years old, to an increase of 1.6 per 100,000 in those in the 15 to 19 age group. The most pronounced relative rate decrease (23.2 percent) was observed in females aged 10 to 14 years, while the highest relative rate increase was in 40 to 59 year olds (by 29.0 percent) (Figure 9).

FIGURE 9: Reported Rates of Gonorrhea in Females by Age Group, 2001 to 2010, Canada



2.5 INFECTION RATES BY PROVINCES AND TERRITORIES

Similar to the findings of previous reports, the majority of cases in 2010 were reported in the most populated provinces in Canada, while reported rates of gonorrhea infections were highest in the Northern and Prairie regions.

In 2010, the highest number of gonorrhea cases was reported in Ontario, followed by Québec and British Columbia. However, reported rates were highest in Nunavut, the Northwest Territories and Yukon (Table 4). Between 2001 and 2010, the greatest relative increase in reported rates was observed in Yukon (802.6 percent), although the overall number of reported cases is low (Table 4).

Between 2009 and 2010, the national reported gonorrhea rate increased by 0.9 percent. The most pronounced relative rate decrease was observed in Alberta (23.8 percent), which was followed by rate reductions in Nova Scotia/Prince Edward Island (21.6 percent) and Saskatchewan (14.6 percent). During the same period, Yukon, Nunavut and Newfoundland and Labrador reported the highest relative increases in reported gonorrhea rates (101.4 percent, 22.7 percent and 32.9 percent respectively).

TABLE 4: Reported Cases and Rates of Gonorrhea by Province/Territory, 2001, 2009 and 2010, Canada

JURISDICTION	NUMBER OF CASES			RATES PER 100,000[1]			RATE CHANGE (%)[2]	
	2001	2009	2010	2001	2009	2010	2001-2010	2009-2010
Canada	6,756	11,166	11,397	21.8	33.1	33.4	53.4	0.9
BC	603	1,350	1,365	14.8	30.3	30.1	**103.7**	-0.5
AB	801	1,538	1,188	26.2	**41.9**	31.9	21.9	-23.8
SK	531	875	759	53.1	**85.0**	**72.6**	36.7	-14.6
MB	701	1,022	982	60.9	**83.8**	**79.5**	30.6	-5.1
ON	2,960	3,541	3,966	24.9	27.1	30.0	20.7	**10.8**
QC	832	1,885	2,065	11.2	24.1	26.1	**132.2**	**8.5**
NB	12	52	61	1.6	6.9	8.1	**407.0**	**16.9**
NS/PE	86	127	100	8.0	11.8	9.2	14.6	-21.6
NL	0	9	12	0.0	1.8	2.4	*	**32.9**
YT	3	15	31	9.9	**44.6**	**89.8**	**802.6**	**101.4**
NT	151	240	220	369.7	**549.5**	**502.8**	36.0	-8.5
NU	76	512	648	270.1	**1590.4**	**1950.6**	**622.1**	**22.7**

[1] Bolded rates indicate rates above national average.
[2] Rate change calculated using unrounded values.
* The rate change cannot be quantified.

NOTE: Due to small counts, NS and PE Cases and Rates have been combined at the request of PE.

2.6 MALE-TO-FEMALE RATIO

In 2010, the national male-to-female rate ratio for gonorrhea was 1.3, meaning that reported rates were slightly higher among males than females (Table 5). However, this average masks variations across the country. In Newfoundland and Labrador, British Columbia, Québec, New Brunswick, Ontario, and Alberta, the reported rates were higher in males, while in Saskatchewan, Manitoba, Nova Scotia/Prince Edward Island, Yukon, Nunavut and the Northwest Territories, higher gonorrhea rates were reported in females. Between 2001 and 2010, the national male-to-female rate ratio decreased from 1.7 to 1.3.

TABLE 5: Male-to-Female Ratio of Reported Rates of Gonorrhea by Province/Territory, 2001, 2009 and 2010, Canada

JURISDICTION	MALE-TO-FEMALE GONORRHEA RATE RATIO		
	2001	2009	2010
Canada	1.7	1.2	1.3
BC	3.0	1.7	2.1
AB	1.4	1.0	1.1
SK	0.9	0.7	0.7
MB	1.1	0.8	0.8
ON	1.6	1.3	1.3
QC	4.2	1.9	2.0
NB	1.4	1.1	1.6
NS/PE	1.2	0.8	0.6
NL	*	3.6	3.1
YT	1.9	1.1	0.8
NT	0.9	0.8	0.9
NU	1.0	1.1	0.9

* Rate ratio could not be calculated

NOTE: Due to small counts, the NS and PE rate ratio has been combined at the request of PE.

2.7 GONORRHEA ANTIMICROBIAL RESISTANCE

Uncomplicated gonorrhea can be treated with a single dose of oral or injected antibiotics. However, strains of gonorrhea have a tendency to evolve and become less susceptible or even resistant to treatment with antibiotics. Challenges to successful treatment arise when gonococcal infections are treated with antibiotics to which the bacteria are resistant or have decreased susceptibility. When this occurs, there is increased likelihood of treatment failure, further transmission of the infection and the development of adverse consequences unless the resistant organism is identified and treated appropriately.

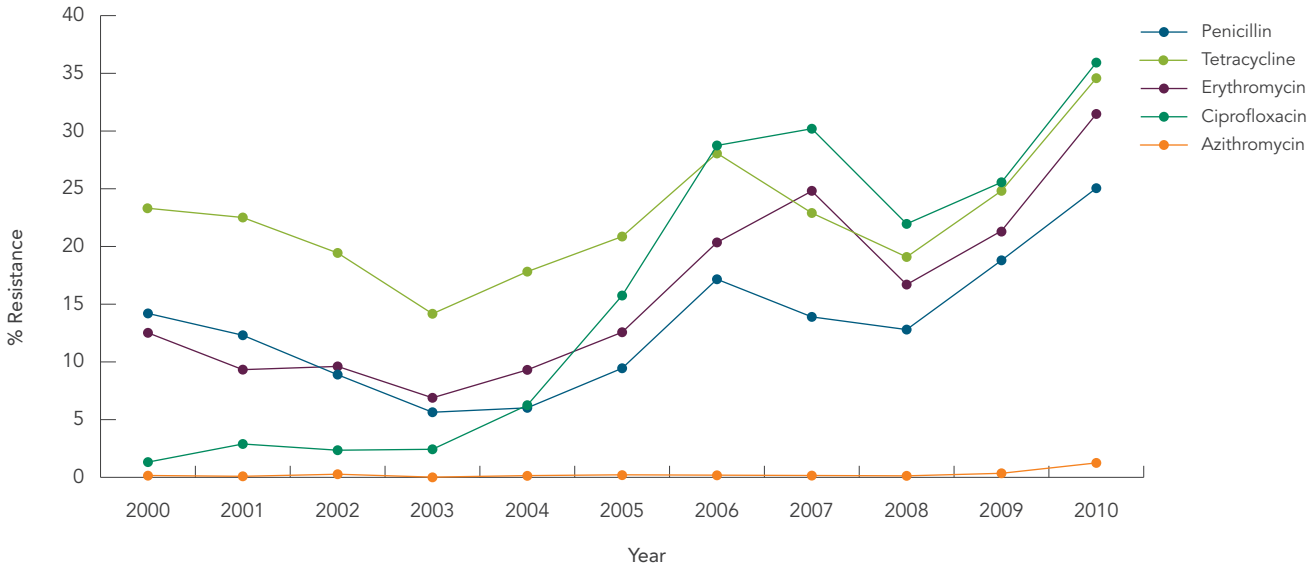
Gonococcal resistance to penicillin, erythromycin and tetracycline is long established, while ciprofloxacin resistance has developed more recently. None of these antibiotics are currently recommended as preferred treatments by the *Canadian Guidelines on Sexually Transmitted Infections*.(17) More recently, treatment failures after use of the internationally recommended first line cephalosporins (cefixime and ceftriaxone) in the absence of any suitable alternatives, have led to fears that extensively drug-resistant gonorrhea is emerging.(18-21)

Canadian gonococcal resistance surveillance is a collaborative effort between the National Microbiology Laboratory (NML) at the Public Health Agency of Canada and provincial and territorial laboratories. Submission to the NML of gonococcal isolates that have decreased susceptibility to at least one antibiotic is voluntary and not standardized across the country.

There is an increasing trend to diagnose gonorrhea using urine specimens analyzed with the Nucleic Acid Amplification Test (NAAT). These specimens are easier to obtain and more acceptable to patients than traditional genital specimens (swabs). The laboratory test is more sensitive, yielding fewer false negatives than culture. This shift in diagnostic techniques has created challenges in monitoring antimicrobial resistance as the number of specimens available for testing is more limited.

Gonococcal isolates are tested at the NML for resistance to the antibiotics penicillin, tetracycline, spectinomycin, erythromycin, azithromycin, ciprofloxacin, cefixime and ceftriaxone. Using the most current data available for 2010, 35.9 percent of cultured strains showed resistance to ciprofloxacin, and 1.25 percent showed resistance to azithromycin (Figure 10). There were no resistant strains for spectinomycin, cefixime, and ceftriaxone.

FIGURE 10: Antimicrobial Susceptibility of *Neisseria Gonorrhoeae* Strains Tested in Canada, 2000 to 2010



* Percentages are calculated using the number of all cultures tested in each province/territory, including susceptible and resistant cultures, as the denominator.

2.8 SUMMARY

Although the reported gonorrhea rate is considerably lower than that of chlamydia, there are similar overall trends in reported cases. The increases in rates since the late 1990s may be at least partly explained by the factors thought to impact chlamydia, such as the move to more sensitive testing methods and improved case finding.(11)

Antimicrobial resistance may also play a significant role in the increase in reported rates of gonorrhea, as the proportion of isolates resistant to a number of antibiotics has increased over time, which may lead to treatment failure and a longer duration of infectiousness in affected patients. The susceptibility of *N. gonorrhoeae* to first-line treatments has decreased.(22,23) The emerging antimicrobial resistance in gonorrhea has led to changes in treatment recommendations across Canada.(17,24,25) The link between antimicrobial resistance and rising reported rates of gonorrhea has not been definitively made, but this possibility remains a concern.

Since 2008, there has been an apparent decrease or slowing of the increase in reported gonorrhea rates. Continued monitoring will be needed to determine if this is indeed a new trend or an aberration, which is sometimes seen with surveillance data. At this time, it is difficult to hypothesize what may be causing these observations.

3. INFECTIOUS SYPHILIS *(TREPONEMA PALLIDUM)*

Syphilis, an infection caused by the bacterium *Treponema pallidum*, has been nationally notifiable since 1924. If left untreated, it progresses through primary, secondary, latent and tertiary stages. While all stages of syphilis are nationally notifiable, only primary, secondary and early latent syphilis (less than one year after the point of infection) are considered infectious and therefore are of major public health significance. Only these stages are included in national reports.

After several years (or even decades), untreated syphilis can progress to tertiary syphilis, in which serious complications causing damage to the central nervous system, cardiovascular system, eyes, skin and other internal organs occur. It may even be fatal.(26) Individuals infected with syphilis are also at an increased risk of contracting HIV and those co-infected with both pathogens are more likely to transmit HIV to their sexual partners.(2) Co-infected individuals are more likely to progress rapidly to serious consequential conditions, such as neurosyphilis, often while still infectious.(27-29)

3.1 RATES OF INFECTION

From 1993 to 2000, reported rates of infectious syphilis were relatively stable and similar between males and females (Figure 10). Reported rates started to climb sharply in 2001, more so in men than in women.

In 2010, 1,757 cases of infectious syphilis were reported to the Public Health Agency of Canada with an overall population rate of 5.2 per 100,000. Historically, there have been a greater number of reported cases in men than in women. In 2010, men accounted for 90.5 percent of all reported cases.

Between 2001 and 2010, the overall increase in reported syphilis rates was 456.7 percent or 4.3 per 100,000 from 0.9 to 5.2 per 100,000 respectively (Figure 11). There were rate increases for both sexes. Female rates increased by 45.9 percent (from 0.7 to 1.0 per 100,000) and males by 684.9 percent (from 1.2 to 9.4 per 100,000) (Figure 11).

Between 2009 and 2010, the overall increase in infectious syphilis rate was 2.7 percent. Reported rates increased in males by 4.4 percent (from 9.0 to 9.4 per 100,000) but slightly decreased in females from 1.1 to 1.0 100,000 (Figure 11).

FIGURE 11: Reported Overall and Sex-Specific Rates of Infectious Syphilis, 1993 to 2010, Canada

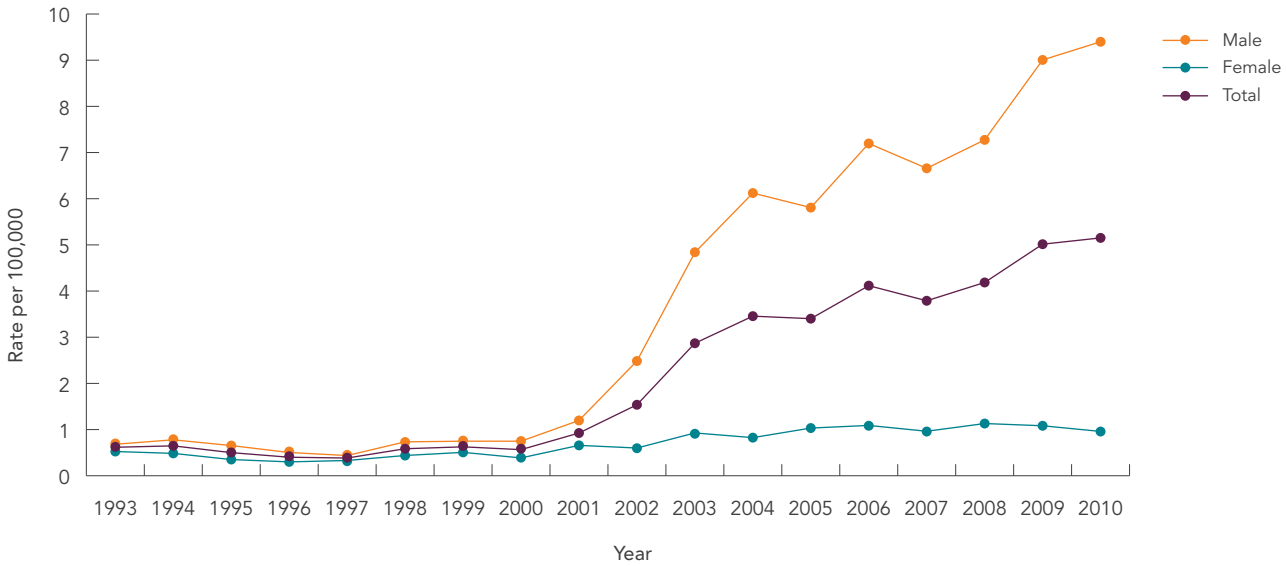
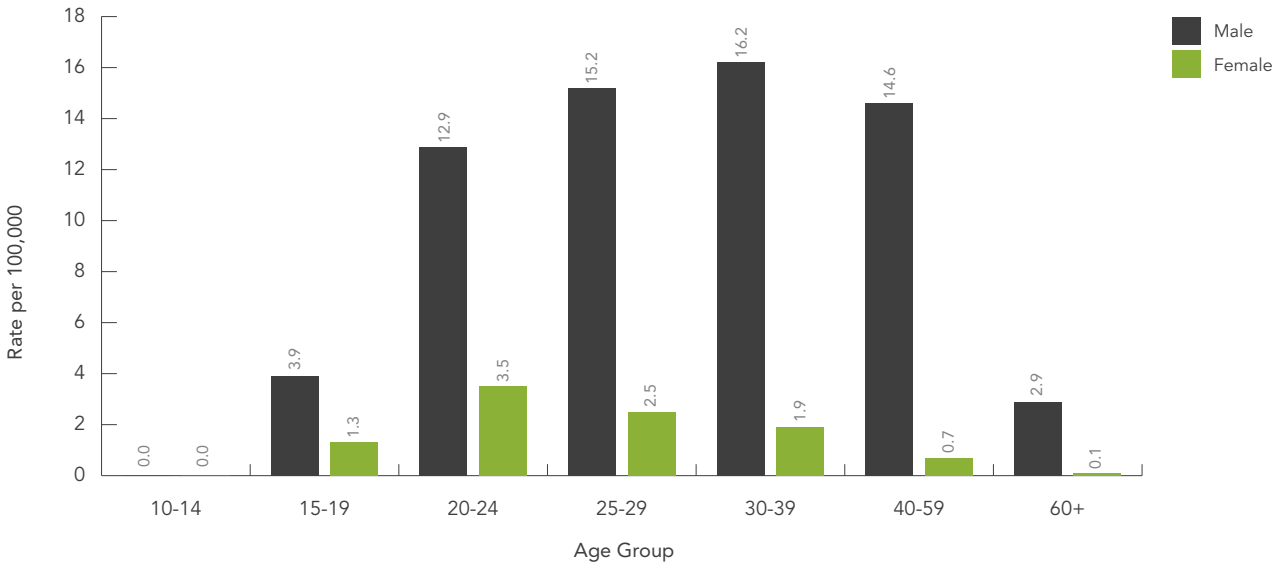


FIGURE 12: Reported Rates of Infectious Syphilis by Sex and Age Group, 2010, Canada



In 2010, reported rates of infectious syphilis were highest in males aged 30 to 39, while in females, the highest rates were reported in those aged 20 to 24 years.

3.2 INFECTION RATES BY SEX AND AGE GROUP

Similar to the findings of the 2008 and 2009 STI surveillance reports, men aged 30 years and older accounted for 75.7 percent of all reported male cases in 2010. The highest reported rates of infectious syphilis were among men aged 30 to 39 and 25 to 29 years (16.2 and 15.2 per 100,000 respectively) (Figure 12). In women, the highest reported rates were in those aged 20 to 24 and 25 to 29 years (3.5 and 2.5 per 100,000 respectively) (Figure 12).

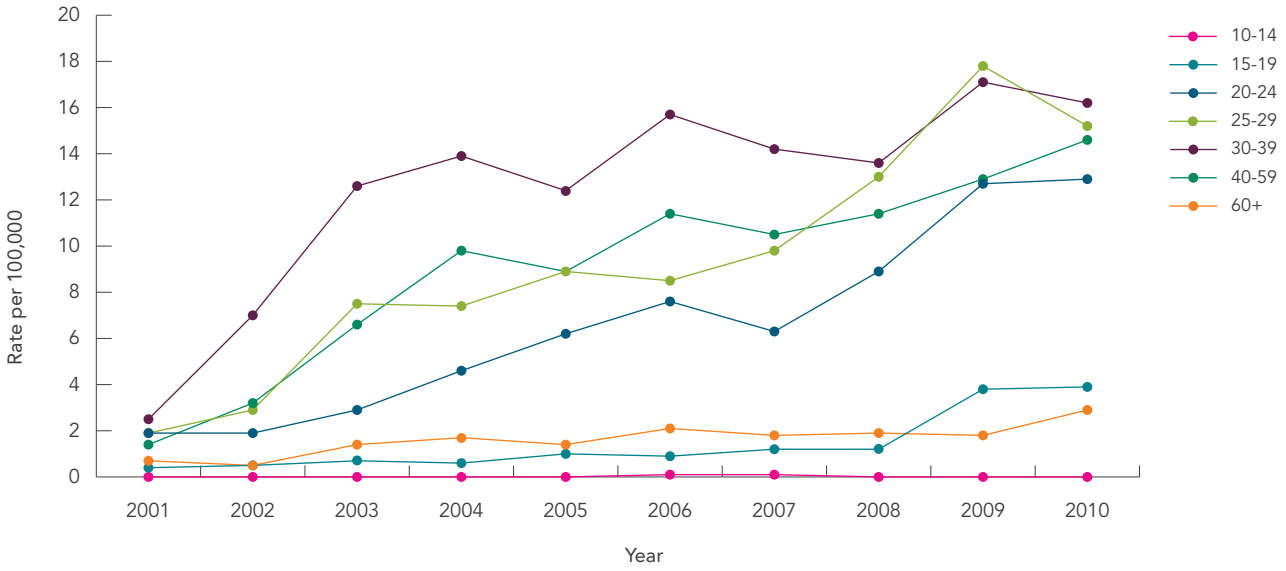
3.3 INFECTION RATES OF MALES BY AGE GROUP

Between 2001 and 2010, substantial increases in reported rates of infectious syphilis were observed in men aged 20 to 59.

In males, the greatest absolute increase in reported rates of infectious syphilis between 2001 and 2010 was observed in 30 to 39 year olds (the rate increased by 13.7 per 100,000 from 2.5 to 16.2 per 100,000). This increase was followed by an absolute rise by 13.3 per 100,000 in males aged 25 to 29 (from 1.9 to 15.2 per 100,000) and those aged 40 to 59 (from 1.4 to 14.6 per 100,000). In relative terms, between 2001 and 2010, the highest increase (by 973.7 percent) was observed in males aged 15 to 19, which was followed by increases in men aged 40 to 59 (by 967.6 percent) and 25 to 29 years (by 698.5 percent) (Figure 13).

Between 2009 and 2010, reported rates of infectious syphilis varied. There was an absolute rate reduction by 2.6 per 100,000 in those 25 to 29 years old but an increase by 1.7 per 100,000 in those aged 40 to 59 years. Similarly, during the same period, the relative annual change in rates varied from a 14.7 percent decrease in 25 to 29 years old to a 58.0 percent increase in those 60 years and older (Figure 13).

FIGURE 13: Reported Rates of Infectious Syphilis in Males by Age Group, 2001 to 2010, Canada



3.4 INFECTION RATES OF FEMALES BY AGE GROUP

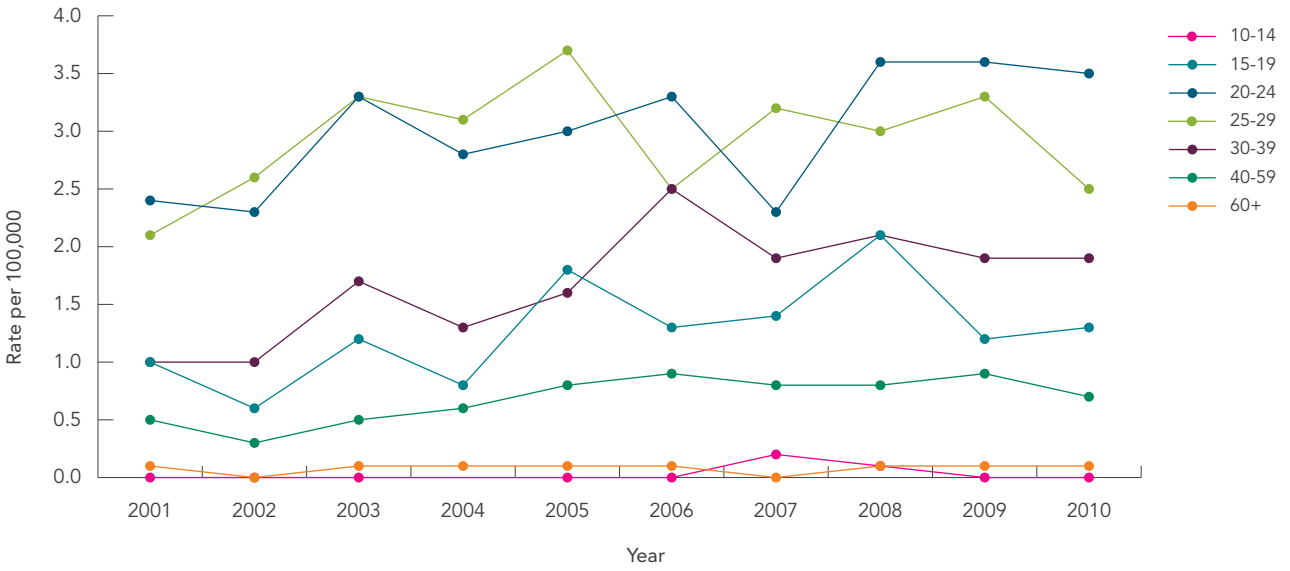
In females, increases in reported infectious syphilis rates were more modest and variable than in males, concentrating in those aged 20 to 39.

Because the reported number of infectious syphilis cases is low in females, rates are quite variable. Between 2001 and 2010, the greatest absolute increase in reported rates of infectious syphilis in females was in those aged 20 to 24 years old, from 2.4 to 3.5 per 100,000 (Figure 14).

In relative terms, the highest increase during that period was observed in those aged 30 to 39 years where the rate increased by 101.7 percent. This was followed by increases in the 20 to 24 age group (by 43.2 percent) and those 40 to 59 (by 38.5 percent).

Between 2009 and 2010, reported rates of infectious syphilis in females demonstrated slight changes, ranging from a reduction by 0.8 per 100,000 in those 25 to 29 years old (from 3.3 to 2.5 per 100,000) to an increase of 0.1 per 100,000 (from 1.2 to 1.3 per 100,000) in those aged 15 to 19 years (Figure 14).

FIGURE 14: Reported Rates of Infectious Syphilis in Females by Age Group, 2001 to 2010, Canada



3.5 INFECTION RATES BY PROVINCES AND TERRITORIES

The majority of cases of infectious syphilis were reported by Canada's most populous provinces; however, the highest reported rate was reported in the Northwest Territories.

In 2010, the highest reported rate of infectious syphilis was reported in the Northwest Territories (18.3 per 100,000), followed by Québec (6.8 per 100,000) and Ontario (5.9 per 100,000) (Table 6).

Because the numbers of cases of infectious syphilis in Canada are low relative to other STIs, population rates tend to be variable and unstable, rendering changes over time difficult to interpret. Between 2001 and 2010, reported rates of infectious syphilis increased in six jurisdictions and decreased in two; rate changes could not be calculated for the other provinces and territories due to zero counts in 2001 (Table 6). During the same period, outbreaks of infectious syphilis were reported across Canada, in Halifax, Vancouver, Edmonton, Calgary, Winnipeg, Toronto, Ottawa, Montréal, Yukon and Northwest Territories.(30-35)

Between 2009 and 2010, the reported rate change for infectious syphilis varied geographically from an 80.5 percent reduction in the Northwest Territories to a 276.6 percent increase in New Brunswick. Manitoba, Saskatchewan and Québec all reported rate increases, while Yukon, Alberta and British Columbia reported decreases in rates during the same period.

TABLE 6: Reported Cases and Rates of Infectious Syphilis by Province/Territory, 2001, 2009 and 2010, Canada

JURISDICTION	NUMBER OF CASES			RATES PER 100,000[1]			RATE CHANGE (%)[2]	
	2001	2009	2010	2001	2009	2010	2001-2010	2009-2010
Canada	287	1,691	1,757	0.9	5.0	5.2	456.7	2.7
BC	179	216	155	4.4	4.8	3.4	-22.1	-29.4
AB	20	279	168	0.7	**7.6**	4.5	**590.3**	**-40.6**
SK	3	23	36	0.3	2.2	3.4	**1047.9**	**54.1**
MB	1	8	17	0.1	0.7	1.4	**1484.4**	**109.8**
ON	46	711	774	0.4	**5.4**	**5.9**	**1415.2**	**7.7**
QC	15	374	539	0.2	4.8	**6.8**	**3261.1**	**42.7**
NB	0	9	34	0.0	1.2	4.5	*	**276.6**
NS/PE	0	24	21	0.0	2.2	1.9	*	-12.9
NL	1	3	4	0.2	0.6	0.8	309.6	**32.9**
YT	22	3	1	73.0	**8.9**	2.9	-96.0	-67.5
NT	0	41	8	0.0	**93.9**	**18.3**	*	-80.5
NU	0	0	0	0.0	0.0	0.0	*	*

[1] Bolded rates indicate rates and rate changes above national average.
[2] Rate change calculated using unrounded values.
* The rate change cannot be quantified.

NOTE: Due to small counts, NS and PE Cases and Rates have been combined at the request of PE.

3.6 MALE-TO-FEMALE RATIO

Nationally, the male-to-female rate ratio for infectious syphilis increased from 1.8 in 2001 to 9.8 in 2010, reflecting that disproportionately more reported cases were in males than females. This disparity increased over time (Table 7).

TABLE 7: Male-to-Female Ratio of Reported Rates of Infectious Syphilis by Province/Territory, 2001, 2009 and 2010, Canada

JURISDICTION	MALE-TO-FEMALE SYPHILIS RATE RATIO		
	2001	2009	2010
Canada	1.8	8.3	9.8
BC	1.4	6.8	10.2
AB	1.8	2.0	2.0
SK	2.0	2.3	3.0
MB	*	*	1.1
ON	4.2	32.2	16.3
QC	*	21.3	20.0
NB	*	8.3	16.6
NS/PE	*	24.3	21.2
NL	*	*	*
YT	1.4	*	*
NT	*	1.2	0.6
NU	*	*	*

* Rate ratio could not be calculated

NOTE: Due to small counts, the NS and PE rate ratio has been combined at the request of PE.

3.7 CONGENITAL SYPHILIS

Congenital syphilis is caused by the vertical transmission of *Treponema pallidum* from an infected mother to her fetus. The majority of infants with congenital syphilis are infected *in utero*, but they can also be infected by contact with an active genital lesion at the time of delivery. The risk of transmission in untreated pregnant women is 70 to 100 percent with primary or secondary syphilis, 40 percent with early latent syphilis and 10 percent in late latent stages of syphilis.(26) Routine prenatal screening for syphilis is an important way to prevent congenital syphilis. Inappropriate prenatal care or the absence of prenatal care is the primary factor for the failure to prevent congenital syphilis infection.(36,37)

Syphilis can result in serious complications in pregnancy, such as spontaneous abortion, stillbirth or perinatal death. Live-born infected children can suffer serious consequences, usually within the first three months of life. Consequences include cerebral palsy, hydrocephalus, sensorineural hearing loss and musculoskeletal deformity, all of which may be prevented with timely treatment during pregnancy.(38) However, some manifestations develop much later. Only early congenital syphilis cases (diagnosed in infants less than two years of age) are currently reported nationally.

Reported rates of congenital syphilis increased between 2000 and 2010. Data suggest that the increase in reported congenital syphilis cases is linked to the areas that have reported outbreaks of syphilis among heterosexuals.(39) In 2010, the reported rate of congenital syphilis nationally was 1.6 per 100,000 live births, a decrease from 2009 (Table 8). Alberta, Saskatchewan and Ontario were the provinces that reported congenital syphilis cases.

TABLE 8: Reported Cases and Rates of Confirmed Early Congenital Syphilis[1], 2000 to 2010, Canada

			NUMBER OF REPORTED CASES[1]												
Year	Total reported cases	Rate (per 100,000 live births)[2]	BC	AB	SK	MB	ON	QC	NB	NS	PE	NL	YT	NT	NU
2000	2	0.610	1	0	0	0	0	1	0	0	0	0	0	0	0
2001	1	0.300	1	0	0	0	0	0	0	0	0	0	0	0	0
2002	3	0.912	0	1	1	0	1	0	0	0	0	0	0	0	0
2003	2	0.597	0	0	0	0	0	2	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	8	2.338	3	5	0	0	0	0	0	0	0	0	0	0	0
2006	7	1.974	2	4	0	0	1	0	0	0	0	0	0	0	0
2007	8	2.175	2	5	0	0	1	0	0	0	0	0	0	0	0
2008	6	1.588	2	2	0	0	1	0	0	0	0	0	0	1	0
2009	10	2.629	2	7	0	0	0	0	0	0	0	0	0	1	0
2010	6	1.561	0	2	2	0	2	0	0	0	0	0	0	0	0

[1] Refers to laboratory confirmed case of early congenital syphilis (within 2 years of birth)
[2] Source: Statistics Canada, Canadian Vital Statistics, Birth Database

3.8 SUMMARY

After years of near-zero incidence of infectious syphilis, reported rates of this STI have increased dramatically. This resurgence is due largely to transmission among men who have sex with men (MSM). Increasing STI rates in MSM have also been observed in the United States and Europe; the causes for these increases are complex and include demographic shifts, as well as changing sexual attitudes and social contexts related to increased risky sexual behaviour(40). Practices related to the emergence of syphilis outbreaks in MSM include the use of "club drugs" and other substances that decrease inhibitions and impair decision making during sexual activity, as well as seeking sex partners on the Internet and in venues such as bathhouses that are associated with higher-risk sexual activity(40-43). In some studies, increased rates of syphilis and other STI among MSM have been associated with the practice of serosorting, i.e. the choosing of sexual partners who have the same HIV status as one's own(44-46).

Co-infection with syphilis among HIV-positive MSM is common and of considerable concern. HIV accelerates the progression of syphilis infection and increases the likelihood of neurological manifestations, particularly in the early stages of infection. Increases in early neurosyphilis have been noted in HIV-positive MSM(47,48).

Heterosexual outbreaks of syphilis have been observed mainly among sex workers and their clients, and street-involved people(30,31,43). Syphilis in women of childbearing age is of particular concern due to the potential of vertical transmission leading to congenital syphilis in infants born to infected mothers. Prenatal screening for syphilis in all pregnant women is a standard of care across Canada(26).

4. INTERNATIONAL COMPARISON

This section compares trends in STI rates and rate ratios in Canada with those in the United States,(49,50) Australia(51) and the United Kingdom.(52) These countries were chosen for their similar (although not identical) socio-economic status and ethno-cultural makeup to Canada's. The statistics presented below are either drawn from published health reports or were provided directly by respective national health departments. Any differences observed in reported rates and rate ratios should be interpreted with caution due to differences in case definitions, reporting sources, screening programs and screening rates, age groupings and other factors.

4.1 CHLAMYDIA

Similar to Canada, chlamydia was the most commonly reported bacterial STI in all three countries of comparison in 2010. In males, the reported rates of chlamydia infections ranged from 233.7 per 100,000 in the United States to 298.2 per 100,000 in the United Kingdom. In females, corresponding rates varied between 384.4 per 100,000 in Australia to 610.6 in the United States (Table 9). Between 2001 and 2010, the reported chlamydia rates increased substantially in both males and females in all four countries.

Between 2009 and 2010, chlamydia rates increased in both males and females in Canada, the United States and Australia; in the United Kingdom, the rate increased in males but decreased slightly in females. Increases were most pronounced in Australia, and lowest in the United Kingdom (Table 9). In all of the countries, reported rates of chlamydia for 2010 were highest among youth aged 15 to 24.

In 2010, the highest female-to-male reported rate ratio for chlamydia was reported in the United States (2.6), while the lowest rate ratios were observed in Australia and United Kingdom (1.4). In spite of the differences in reported chlamydia rate ratios among countries, females accounted for the majority of all reported cases in all countries of comparison (Table 9).

TABLE 9: Reported Sex-Specific Rates and Rate Ratios of Chlamydia in Canada, Australia, United Kingdom and the United States, 2001, 2009 and 2010

REPORTED RATES (PER 100,000) OF CHLAMYDIA AND FEMALE-TO-MALE RATE RATIOS (F:M)									
Country	2001			2009			2010		
	Female	Male	F:M	Female	Male	F:M	Female	Male	F:M
Canada	221.9	99.2	2.2	340.1	175.3	1.9	358.6	186.7	1.9
Australia	124.3	84.2	1.5	334.7	234.4	1.4	384.4	278.8	1.4
United Kingdom	149.5	120.3	1.2	420.7	289.0	1.5	417.1	298.2	1.4
United States	522.1	141.4	3.7	586.7	217.1	2.7	610.6	233.7	2.6

SOURCES:

Canada: Surveillance and Epidemiology Division, Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada
Australia: National Notifiable Disease Surveillance, Department of Health and Ageing
United Kingdom: HIV and Sexually Transmitted Infections Department, Health Protection Agency
United States: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention

TABLE 10: Reported Sex-Specific Rates and Rate Ratios of Gonorrhea in Canada, Australia, United Kingdom and the United States, 2001, 2009 and 2010

REPORTED RATES (PER 100,000) OF GONORRHEA AND MALE-TO-FEMALE RATE RATIOS (M:F)									
Country	2001			2009			2010		
	Male	Female	M:F	Male	Female	M:F	Male	Female	M:F
Canada	27.2	16.4	1.7	36.7	29.6	1.2	35.9	27.1	1.3
Australia	44.0	20.6	2.1	49.0	23.7	2.1	61.9	27.9	2.2
United Kingdom	63.4	25.9	2.4	41.4	19.0	2.2	44.2	18.3	2.4
United States	160.3	152.9	1.0	91.0	104.5	0.9	94.1	106.5	0.9

SOURCES:

Canada: Surveillance and Epidemiology Division, Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada
Australia: National Notifiable Disease Surveillance, Department of Health and Ageing
United Kingdom: HIV and Sexually Transmitted Infections Department, Health Protection Agency
United States: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention

4.2 GONORRHEA

The reported rates of gonococcal infections in both males and females were higher in the United States than in other countries (Table 10). Between 2001 and 2010, reported gonorrhea rates have increased significantly in both males and females in all countries of comparison.

Between 2009 and 2010, gonorrhea rates increased in all countries of comparison, except for the female rate in the United Kingdom, which decreased slightly. Again, reported rate increases were highest in Australia, by 26.3 percent in males and 17.7 percent in females. In 2010, reported rates of gonorrhea in the United States and Canada were similar across sexes, while in Australia and the United Kingdom, reported rates were twice as high in males as in females. The male-to-female rate ratio ranged from 0.9 in the United States to 2.4 in the United Kingdom (Table 10).

4.3 INFECTIOUS SYPHILIS

As with chlamydia, the case definition for infectious syphilis varied across the countries. In both the United States and the United Kingdom, only primary and secondary stages are included in the case definition. In Australia and Canada, early latent cases are also included in reporting. However, in Australia, early latent syphilis is defined as asymptomatic infection acquired within the past two years, in contrast to Canada's definition that includes only cases acquired within the past 12 months.

In all four countries, men accounted for the majority of reported cases of infectious syphilis in 2010. The disparity in reported rates between men and women varied by country. The male-to-female rate ratio ranged from 7.2 in the United States to 10.0 in the United Kingdom (Table 11).

Between 2001 and 2010, the reported syphilis rates increased in males and females in Australia, Canada and the United Kingdom. In the United States, the syphilis rate has increased substantially among males, but decreased in the female population.

Between 2009 and 2010, reported infectious syphilis rates decreased in Australia and the United Kingdom in both males and females. In the United States, similar to Canada, the rates have slightly increased in males and decreased in females (Table 11).

TABLE 11: Reported Sex-Specific Rates and Rate Ratios of Infectious Syphilis (Primary, Secondary, Early Latent Syphilis) in Canada and Australia and Primary and Secondary Syphilis in United Kingdom and the United States, 2001, 2009 and 2010

REPORTED RATES (PER 100,000) OF INFECTIOUS SYPHILIS AND MALE-TO-FEMALE RATE RATIOS (M:F)

Country	2001			2009			2010		
	Male	Female	M:F	Male	Female	M:F	Male	Female	M:F
Canada[+]	1.2	0.7	1.8	9.0	1.1	8.3	9.4	1.0	9.8
Australia[+]	0.0	0.0	-	10.9	1.1	9.9	9.0	1.0	9.0
United Kingdom[^]	2.4	0.4	6.6	7.3	0.7	10.1	6.5	0.7	10.0
United States[^]	3.8	1.7	2.2	7.8	1.4	5.6	7.9	1.1	7.2

[+] Includes reported cases of primary, secondary and early latent syphilis.
[^] Includes only reported cases of primary and secondary syphilis cases

SOURCES:

Canada: Surveillance and Epidemiology Division, Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada
Australia: National Notifiable Disease Surveillance, Department of Health and Ageing
United Kingdom: HIV and Sexually Transmitted Infections Department, Health Protection Agency
United States: US Department of Health and Human Services, Centers for Disease Control and Prevention

4.4 SUMMARY

In general, trends in reportable STIs in the United States, the United Kingdom and Australia are similar to those in Canada. Rates of all three bacterial infections increased between 2001 and 2010, with chlamydia being the most commonly reported. In all four countries, reported rates of chlamydia are higher in females than males, while rates of infectious syphilis are higher in males. Reported rates of gonorrhea are more than twice as high in males than in females in Australia and the United Kingdom; in Canada and the United States, rates are more similar between the sexes.

5. NON-NOTIFIABLE SEXUALLY TRANSMITTED INFECTIONS

Non-notifiable STIs are those that do not have to be reported to public health authorities when they are diagnosed by health providers or laboratories. Because of this, there is a lack of national-level data on these infections and the burden of disease is largely unknown. Most published Canadian data are from seroprevalence studies rather than reports of active genital infections. This review's primary objective is to synthesize available evidence on three non-notifiable conditions:

- Genital herpes simplex virus (HSV) infections
- Trichomoniasis *(Trichomonas vaginalis)*
- Genital human papillomavirus (HPV) infections

This will provide insight on disease burden and trends in Canada while placing emphasis on groups at highest risk for each infection. An understanding of the descriptive epidemiology of these diseases is fundamental to their subsequent prevention.

5.1 GENITAL HERPES SIMPLEX VIRUS INFECTIONS

Genital herpes, caused by the herpes simplex virus (HSV), is a common STI that has important public health implications. Undiagnosed cases of HSV contribute to the reservoir of infection and facilitate HIV transmission.(53) Perinatal HSV transmission can result in neurologic damage and possible infant death.(54)

Genital herpes infections are caused mainly by HSV-2, although a growing proportion of infections are attributed to HSV-1 (most HSV-1 infections affect the mouth). Co-infection with both viral types is common. A first episode of primary genital herpes has prolonged symptoms, marked by painful genital lesions. Systemic symptoms such as fever, head and body aches, and malaise are common. Following the primary episode, the infection becomes latent, with recurrences typically being less severe. Asymptomatic infection is also common.(55) Antiviral treatment can lessen the severity of symptoms and prevent recurrences.(53)

Newborns may acquire HSV infections *in utero* or via the maternal genital tract during delivery. In rare instances, they can be postnatally infected by hospital healthcare providers. The case-fatality rate is estimated to be 15.5 percent. Infants infected with HSV-2 are at significantly higher risk of dying compared to those positive for HSV-1 (33.3 percent versus 6.7 percent). Moreover, newborns with HSV disseminated to the central nervous system (CNS) and/or visceral organs are significantly more likely to die compared to those with localized infection involving only the skin, eyes or mouth(53,54).

Despite the high prevalence of infection and public health consequences, very few studies have examined the epidemiology and time trends of HSV-1 and HSV-2 in Canada. As a result, population-based, national-level data on genital HSV infections are limited. However, there are several noteworthy studies that examined HSV seroprevalence in specific populations and regions of Canada. Because not all HSV infections affect the genital tract (particularly those caused by HSV-1), the results of these studies must be interpreted with caution.

In those attending an Alberta sexually transmitted infection (STI) clinic in 1994 and 1995, the seroprevalence of HSV-1 and HSV-2 in leftover sera was 56.0 percent and 19.0 respectively. Risk factors for infection included increasing age, having a history of STI, and being female and non-white.(56)

Because they can transmit HSV infection to their offspring, pregnant women are a group of particular interest to public health. Among a non-high-risk, healthy group of individuals in Ontario who provided specimens from January to December 2000, the age-standardized seroprevalence rate of HSV-1 was highest in females under prenatal care at 66.8 percent, followed by females not under prenatal care at 63.0 percent and finally by males at 48.1percent. Similar infection patterns were noted for HSV-2 for all three groups.(57)

In British Columbia in 1999, the age-adjusted sero-prevalence rates for HSV-1 and HSV-2 among pregnant women aged 15 to 44 years were 58.9 percent and 17.3 percent respectively. Age-specific patterns of infection showed that HSV-2 infections increased significantly across age groups from 7.0 percent for 15 year-old girls to 28.0 percent for 44 year-old women. Trends did not vary by age for HSV-1.(58)

According to the Canadian Pediatric Surveillance Program, the overall incidence of neonatal HSV in Canada is 5.9 cases per 100,000 live births, with 62.5 percent of cases attributed to HSV-1 and 37.5 percent to HSV-2. Cases are predominantly reported from Central Canada (5.8 per 100,000) and Western Canada (6.0/100,000). No cases have been documented for Northern Canada.(54)

Among Canadian street-involved youth, the seroprevalence of HSV-1 is substantially higher than HSV-2. Among this group, the seroprevalence of HSV-2 has remained consistent. It was 14.8 percent in 2001 and 14.5 percent in 2005. Similarly, the seroprevalence of HSV-1 has remained consistently high. It was 57.4 percent in 2001 and 56.7 percent in 2005.(59)

5.2 TRICHOMONIASIS *(TRICHOMONAS VAGINALIS)*

Trichomoniasis is caused by the protozoan parasite, *Trichomonas vaginalis*, which is almost exclusively sexually transmitted. While infections are not always clinically apparent, symptoms of infections in women include mild to severe vaginitis with a characteristic foamy discharge, and cervicitis with occasional evidence of punctate hemorrhages, giving the cervix a reddened, or "strawberry" appearance. In men, mild urethritis is the most common clinical symptom.(60)

There are very few recent Canadian studies on the prevalence of trichomoniasis. Older studies showed a high rate of infection in a variety of regions and populations, including:

- men and women in Halifax(61)
- women attending an STI clinic(62)
- female juvenile detainees in Montréal(63)

Between 2003 and 2006, a prevalence rate of 5.0 percent was documented for young females admitted to the Juvenile Detention Centre in Kingston, Ontario.(64) The rate of trichomoniasis among adolescent obstetric patients attending a young prenatal program in Toronto between January 2003 and December 2007 was reported to be 8.5 percent.(65)

5.3 GENITAL HUMAN PAPILLOMAVIRUS INFECTIONS

Human papillomavirus (HPV) infects the cells of the skin and mucous membranes. There are over 130 types of the virus, 40 of which preferentially target the genital area.(66) The virus is spread primarily through skin-to-skin contact, including sexual contact.

Symptoms of sexually transmitted HPV include anogenital warts and lesions of the cervix that can develop into invasive cervical cancer.(67) Virtually all cervical cancers and approximately 90.0 percent of anal cancers are attributable to HPV. Cancers of the vulva, vagina, penis, and oropharynx are also associated with HPV infection, but to a lesser degree.(68,69) Two HPV vaccines have been developed to protect against infection with high-risk types 16 and 18, one of which also protects against low-risk types 6 and 11, which are associated with anogenital warts.(70)

Estimates of HPV prevalence in Canada have ranged from 10.0 to 33.0 percent.(71-79) In one study, vaccine-preventable genotypes 16 and 18 were found in 70.2 percent of invasive cervical cancer cases.(71) In a group of British Columbia women undergoing routine cytology screening, the prevalence of HPV16 was 8.7 percent in normal specimens, 35.2 percent in those with low-grade cervical lesions and 52.4 percent in specimens with high-grade lesions.(74,79) In Ontario, young women under the age of 25 had higher overall HPV positivity, as well as higher prevalence of both high-risk and low-risk genotypes than older women. Those aged 20 to 24 years were nine times more likely to test positive for oncogenic HPV than women 45 to 49 years of age.(77,78)

Young adults are at high risk for contracting HPV and there has been an upward climb in the prevalence of infection in this population over time. The overall HPV prevalence among female university students in Montréal ranged from 21.8 percent to 29.0 percent.(76,80) Student heterosexual couples had a high rate of infection in 2005, with 64.0 percent of the partnerships having at least one individual test positive for one or more HPV genotypes.(81)

In some studies, Aboriginal women in Canada have had higher rates of HPV infection than their non-Aboriginal counterparts, but these results have not been consistent. One study found that Aboriginal women in the Northwest Territories had a prevalence of HPV of 30.1 percent, while the prevalence in non-Aboriginal women was 18.5 percent.(73) But a Manitoba study did not detect any significant difference in HPV prevalence between Aboriginal and non-Aboriginal women.(79)

Men who have sex with men (MSM) are a group at high risk for HPV infection. In Montréal, a study conducted among HIV-positive MSM isolated HPV in 97.9 percent of anal specimens tested. In contrast to female-specific patterns, prevalence did not vary with age in this study.(82)

5.4 SUMMARY

Although it is difficult to adequately describe the incidence, prevalence, or burden of disease related to non-reportable STIs at the national level, available data indicate that these infections remain an important public health issue in Canada. Prevention measures that are effective for other STIs (e.g., condoms, abstinence) are of value to control the spread of trichomoniasis, HPV and HSV. Although treatment of viral STIs is more complicated than for infections caused by bacteria, the *Canadian Guidelines on Sexually Transmitted Infections* contain recommendations for the management of HPV and HSV.(53,66)

APPENDIX A: TECHNICAL NOTES

Case reporting: Currently, some jurisdictions report to the Public Health Agency of Canada (PHAC) using aggregate case counts instead of case-by-case reporting. The following selected variables are submitted by all 13 jurisdictions: age at diagnosis, year of diagnosis, province/territory of diagnosis and sex. As such, national reporting is limited to analyses of these variables.

Reporting delay: A time delay may occur between when a person is tested positive for a sexually transmitted infection (STI) and when the report is received at PHAC. This time lag is referred to as a reporting delay. In cases where there are discrepancies between data reported by PHAC and those reported by individual provinces and territories, provincial/territorial data should be considered to be more accurate as they are the most current. The 2010 data presented in this report are also preliminary and subject to change.

Underreporting: The number of reported cases likely underestimates the true burden of infection in a given population for a variety of reasons. For example, many people who are infected with STIs do not have symptoms and therefore may not go to a healthcare practitioner for testing. The other reason is due to gender differences in health-seeking behaviour, with fewer men coming forward for testing reported elsewhere(83,84).

Annual trends: Observed trends must be interpreted with caution since there are a number of factors that contribute to changes:

- rates based on small numbers are more prone to fluctuation over time; and
- there may be changes to testing patterns due to improved diagnostic capabilities, improved duplicate removal, and reporting delay.

Population data source: Statistics Canada, Demography Division, Demographic Estimates Section, July Population Estimates, 1997-2005 final intercensal estimates, 2006 final postcensal estimates, 2007-2008 updated postcensal estimates, 2009 preliminary postcensal estimates, 2010 preliminary postcensal estimates.

APPENDIX B: OVERVIEW OF STI SURVEILLANCE IN CANADA

In Canada, national routine surveillance is generally conducted according to longstanding standard operating procedures between the provinces/territories and the Public Health Agency of Canada (PHAC). As part of the plan to develop more formal processes, the first of a series of data sharing agreements was signed between Ontario and PHAC in 2007.

Provinces and territories collect and manage surveillance data using a variety of mechanisms (e.g., paper-based reporting, proprietary databases, iPHIS) and submit these data to PHAC regularly. The content of the various data submissions depends on each jurisdiction's ability to collect the data elements, privacy legislation and technological capacity. Data are submitted in a variety of formats (e.g., line-listed electronic, paper-based case reports, or aggregate data) and entered or directly loaded (depending on format) into the national Canadian Notifiable Disease Surveillance System (CNDSS) by PHAC personnel.

Extracts from CNDSS are used as the basis of national data tables and surveillance reports. Tables containing data for each province or territory are sent to their respective jurisdiction for verification. Small discrepancies between PHAC and provincial or territorial numbers are expected as a result of comparing dynamic databases and differences less than five percent are not corrected at the national level. However, larger differences (greater than five percent) require further investigation and national figures are updated accordingly. If a jurisdiction revises data during the verification process, a re-submission of data to CNDSS is required.

Upon validation of provincial and territorial data, Centre for Communicable Diseases and Infection Control staff recreates data tables and post them to the PHAC website. Finalized data tables also form the basis of annual surveillance reports, which provide a more in-depth analysis and interpretation of the data trends. These data are used by public health planners, academics and media, both nationally and internationally.

APPENDIX C: REPORTED CASES AND RATES OF CHLAMYDIA, GONORRHEA, AND INFECTIOUS SYPHILIS

TABLE 12: Reported Cases and Rates[1] of Chlamydia by Province/Territory and Sex, 1991 to 2010[2]

			CHLAMYDIA													
YEAR		SEX	NL	PE	NS	NB	QC	ON	MB	SK	AB	BC	YT	NT	NU[3]	Total
1991	Cases	Male	74	22	395	0	3311	2592	1213	903	0	0	53	272		8835
		Female	518	73	1832	0	9334	8515	3338	2388	0	0	144	776		26918
		Unspecified	2	1	3	0	36	3	0	0	6909	3261	1	0		10216
		Total	594	96	2230	0	12681	11110	4551	3291	6909	3261	198	1048		45969
	Rates	Male	25.5	34.2	87.5	0.0	95.2	50.3	220.5	180.8	0.0	0.0	350.3	850.1		63.6
		Female	179.3	110.8	395.1	0.0	260.3	161.5	596.7	474.4	0.0	0.0	1044.7	2681.9		190.4
		Total	102.5	73.7	243.7	0.0	179.5	106.5	410.2	328.2	266.5	96.7	684.8	1720.0		164.0
1992	Cases	Male	32	43	325	230	2737	2905	865	594	1431	1386	46	217		10811
		Female	417	148	1321	1109	7595	9915	2425	1814	4881	4910	146	682		35363
		Unspecified	1	13	0	0	29	10	0	0	0	138	0	0		191
		Total	450	204	1646	1339	10361	12830	3290	2408	6312	6434	192	899		46365
	Rates	Male	11.0	66.5	71.7	62.0	78.1	55.6	156.7	118.8	107.8	80.1	290.8	662.5		76.9
		Female	144.0	223.5	283.3	293.9	210.5	185.4	432.1	359.8	373.5	282.2	1012.0	2299.7		247.1
		Total	77.6	155.9	179.0	178.9	145.7	121.4	295.6	239.8	239.6	185.4	634.9	1440.4		163.4
1993	Cases	Male	51	24	324	179	2513	3504	859	644	1190	1051	36	246		10621
		Female	412	110	1134	887	7129	10529	2400	1665	4006	4251	130	726		33379
		Unspecified	0	5	1	0	5	8	0	0	3	0	0	0		22
		Total	463	139	1459	1066	9647	14041	3259	2309	5199	5302	166	972		44022
	Rates	Male	17.6	36.7	71.3	48.1	71.2	66.4	154.9	128.5	88.4	59.0	225.0	738.0		74.7
		Female	142.1	164.2	241.8	234.8	196.2	194.5	425.6	329.2	302.3	237.3	889.4	2402.8		230.5
		Total	79.8	105.0	158.0	142.2	134.6	131.3	291.4	229.3	194.7	148.5	542.1	1529.5		153.4
1994	Cases	Male	60	22	392	174	2043	3257	815	665	1164	1126	37	251		10006
		Female	296	85	1052	743	5783	10196	2260	1832	3845	4217	116	751		31176
		Unspecified	0	2	2	0	11	12	0	0	1	25	0	0		53
		Total	356	109	1446	917	7837	13465	3075	2497	5010	5368	153	1002		41235
	Rates	Male	20.9	33.3	86.1	46.7	57.5	61.0	146.3	132.3	85.4	61.4	235.8	734.8		69.6
		Female	102.9	125.6	223.4	196.4	158.2	185.9	398.8	361.2	286.5	228.3	808.2	2422.7		212.8
		Total	61.9	81.5	156.1	122.1	108.7	124.4	273.6	247.3	185.2	145.8	509.2	1537.8		142.0

CHLAMYDIA

YEAR		SEX	NL	PE	NS	NB	QC	ON	MB	SK	AB	BC	YT	NT	NU[3]	Total
1995	Cases	Male	45	27	282	164	1759	2931	782	612	1167	1057	34	225		9085
		Female	227	85	884	598	5276	9154	2226	1737	3851	3602	122	689		28451
		Unspecified	0	0	1	0	11	2	0	0	0	1	0	0		15
		Total	272	112	1167	762	7046	12087	3008	2349	5018	4660	156	914		37551
	Rates	Male	15.9	40.8	61.9	44.0	49.5	54.3	139.8	121.4	84.8	56.1	216.8	1044.4		62.6
		Female	79.8	124.5	187.2	158.0	144.0	164.8	390.8	340.6	283.6	190.3	826.7	3464.4		192.2
		Total	47.9	83.3	125.7	101.5	97.6	110.4	266.4	231.6	183.5	123.4	512.4	2206.0		128.2
1996	Cases	Male	60	34	200	168	1640	2578	598	659	1183	917	39	241		8317
		Female	219	97	873	665	5006	8025	1961	1577	3685	3191	105	658		26062
		Unspecified	0	0	1	0	9	2	0	0	0	8	0	0		20
		Total	279	131	1074	833	6655	10605	2559	2236	4868	4116	144	899		34399
	Rates	Male	21.5	50.6	43.8	44.9	45.7	47.1	106.3	129.9	84.5	47.4	234.1	681.1		56.6
		Female	77.9	140.6	184.0	175.4	135.8	142.5	342.8	307.8	267.0	163.8	687.3	2044.4		174.0
		Total	49.8	96.2	115.3	110.6	91.5	95.5	225.6	219.3	175.1	106.0	450.9	1330.5		115.9
1997	Cases	Male	57	39	241	191	1608	2807	601	716	1101	1002	34	317		8714
		Female	278	100	885	625	4758	7750	1986	1601	3446	3110	139	728		25406
		Unspecified	0	0	1	3	14	2	0	0	0	4	0	0		24
		Total	335	139	1127	819	6380	10559	2587	2317	4547	4116	173	1045		34144
	Rates	Male	20.7	57.8	52.6	51.0	44.6	50.6	106.6	140.8	77.0	50.8	202.4	894.0		58.7
		Female	99.9	144.1	185.9	164.4	128.6	135.9	346.7	311.7	244.8	156.4	900.4	2255.4		167.8
		Total	60.5	101.6	120.6	108.6	87.4	93.9	227.6	226.7	160.3	103.9	536.6	1542.8		113.9
1998	Cases	Male	81	34	271	224	1982	3727	804	787	1361	1340	53	377		11041
		Female	294	110	938	735	5268	8724	2148	1612	3834	3422	124	747		27956
		Unspecified	0	0	7	0	14	7	2	0	0	7	0	0		37
		Total	375	144	1216	959	7264	12458	2954	2399	5195	4769	177	1124		39034
	Rates	Male	29.9	50.5	59.0	60.0	54.9	66.4	142.5	154.5	92.8	67.4	323.5	1070.6		73.7
		Female	107.0	158.1	196.6	193.4	142.0	151.2	374.4	312.8	266.2	170.3	819.1	2315.2		183.1
		Total	68.8	105.2	129.9	127.3	99.2	109.4	259.6	234.1	178.7	119.3	561.5	1665.7		129.0
1999	Cases	Male	98	43	296	323	2136	4220	865	871	1472	1504	49	410		12287
		Female	335	105	1055	813	5813	9030	2102	1785	3944	3895	127	809		29813
		Unspecified	0	0	13	0	19	6	0	0	0	3	0	0		41
		Total	433	148	1364	1136	7968	13256	2967	2656	5416	5402	176	1219		42141
	Rates	Male	36.6	63.6	64.2	86.5	58.9	74.3	152.7	170.9	98.5	75.1	305.4	1161.2		81.4
		Female	122.8	149.9	220.3	213.4	156.1	154.6	365.0	346.0	269.1	192.2	847.2	2485.3		193.6
		Total	80.1	107.6	145.1	150.6	108.4	115.0	259.7	259.0	183.0	134.1	567.0	1796.4		138.2
2000	Cases	Male	103	69	298	327	2199	4799	967	968	1705	1691	45	140	228	13539
		Female	451	162	1103	916	6461	9796	2296	1968	4296	4498	101	344	476	32868
		Unspecified	0	0	4	0	18	8	0	0	0	2	0	0	0	32
		Total	554	231	1405	1243	8678	14603	3263	2936	6001	6191	146	484	704	46439
	Rates	Male	38.7	101.8	64.6	87.5	60.4	83.3	170.2	190.8	112.3	83.9	285.3	662.6	1591.2	88.9
		Female	166.4	230.4	229.7	240.2	172.9	165.5	397.4	382.4	288.2	220.1	682.1	1739.4	3636.4	211.6
		Total	103.1	167.3	149.3	164.6	117.6	125.0	284.7	287.3	199.4	152.5	477.4	1183.2	2567.6	150.9

CHLAMYDIA

YEAR		SEX	NL	PE	NS	NB	QC	ON	MB	SK	AB	BC	YT	NT	NU[3]	Total
2001	Cases	Male	130	41	368	312	2884	5428	930	1060	1950	1729	39	163	208	15242
		Female	463	109	1232	889	7307	10779	2330	2042	4513	4209	92	370	393	34728
		Unspecified	0	0	3	1	23	10	1	68	0	0	1	0	0	107
		Total	593	150	1603	1202	10214	16217	3261	3170	6463	5938	132	533	601	50077
	Rates	Male	50.5	61.5	80.6	84.2	79.1	92.3	162.9	213.1	126.2	85.5	254.2	771.0	1416.9	99.2
		Female	174.8	155.8	258.8	234.4	194.9	179.1	401.4	406.1	298.4	205.0	621.0	1877.9	2921.1	221.9
		Total	113.6	109.8	171.9	160.3	138.1	136.3	283.2	316.9	211.3	145.7	437.7	1305.0	2136.2	161.4
2002	Cases	Male	107	42	330	369	3053	6191	977	1280	2249	2333	48	198	274	17451
		Female	415	103	1241	944	7975	11905	2391	2333	5112	5316	93	402	546	38776
		Unspecified	0	0	3	0	27	5	3	0	0	1	0	0	0	39
		Total	522	145	1574	1313	11055	18101	3371	3613	7361	7650	141	600	820	56266
	Rates	Male	41.8	62.9	72.1	99.8	83.1	103.6	170.3	258.5	142.1	114.8	310.6	917.2	1828.9	112.3
		Female	157.4	147.0	259.9	248.7	211.6	194.7	410.1	465.1	330.7	257.3	623.9	2002.2	3945.9	245.1
		Total	100.5	105.9	168.3	175.2	148.6	149.7	291.5	362.5	235.3	186.7	464.5	1440.1	2845.3	179.5
2003	Cases	Male	119	52	382	408	3421	6737	1112	1345	2481	2501	53	179	220	19010
		Female	523	134	1162	974	8774	12335	2576	2404	5421	5631	127	367	515	40943
		Unspecified	0	0	8	0	17	4	0	0	0	1	0	0	0	30
		Total	642	186	1552	1382	12212	19076	3688	3749	7902	8133	180	546	735	59983
	Rates	Male	46.6	77.6	83.4	110.5	92.5	111.4	192.6	271.9	154.1	122.4	336.3	810.5	1448.2	121.3
		Female	198.9	190.8	242.4	256.2	231.6	199.2	439.3	479.1	344.6	270.8	835.4	1792.4	3645.0	256.5
		Total	123.8	135.5	165.5	184.4	163.1	155.8	316.9	376.2	248.2	197.3	581.3	1282.9	2506.8	189.6
2004	Cases	Male	168	55	395	400	3615	7386	1389	1288	2741	2787	71	206	354	20855
		Female	623	143	1194	961	9212	13029	2804	2320	5597	6026	126	373	735	43143
		Unspecified	0	0	2	0	15	19	2	1	0	1	0	0	0	40
		Total	791	198	1591	1361	12842	20434	4195	3609	8338	8814	197	579	1089	64038
	Rates	Male	65.9	81.8	86.1	108.4	97.0	120.7	238.4	260.3	167.1	135.4	442.5	917.4	2284.6	131.8
		Female	237.5	203.1	248.3	252.6	241.8	207.8	474.6	461.6	349.9	287.4	816.8	1789.3	5118.7	267.7
		Total	152.9	143.8	169.4	181.6	170.4	164.9	357.5	361.8	257.4	212.1	625.9	1337.2	3647.8	200.5
2005	Cases	Male	155	48	470	438	3753	8031	1453	1389	2971	2980	55	287	371	22401
		Female	495	135	1264	1059	8931	13874	2444	2505	5861	6166	136	441	734	44045
		Unspecified[4]	0	0	11	1	30	14	0	0	0	1	0	0	0	57
		Total	650	183	1745	1498	12714	21919	3897	3894	8832	9147	191	728	1105	66503
	Rates	Male	61.1	71.1	102.9	119.1	100.1	129.8	248.2	282.0	176.5	143.3	337.9	1271.9	2359.2	140.2
		Female	189.8	191.4	262.8	278.6	233.1	218.8	412.2	500.0	357.5	291.2	870.3	2116.7	5026.7	270.8
		Total	126.4	132.6	186.0	200.3	167.7	175.0	330.7	391.9	265.8	218.0	598.7	1677.5	3643.5	206.2
2006	Cases	Male	107	52	453	374	3814	8236	1601	1577	3573	3051	46	267	417	23568
		Female	440	117	1304	952	9001	14203	2643	2678	6879	6180	123	429	743	45692
		Unspecified[4]	0	0	5	0	40	12	0	0	0	5	0	0	0	62
		Total	547	169	1762	1326	12855	22451	4244	4255	10452	9236	169	696	1160	69322
	Rates	Male	42.6	77.0	99.3	102.1	101.0	131.7	272.0	320.9	205.7	145.1	278.6	1187.9	2453.0	145.8
		Female	169.9	166.3	270.7	250.9	233.6	221.5	443.9	534.8	408.4	288.6	780.3	2070.3	4959.7	278.1
		Total	107.2	122.5	187.8	177.8	168.4	177.3	358.4	428.9	305.5	217.6	523.6	1611.2	3665.7	212.7

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YEAR		SEX	NL	PE	NS	NB	QC	ON	MB	SK	AB	BC	YT	NT	NU[3]	Total
2007	Cases	Male	104	61	474	340	4108	8559	1992	1588	3850	3374	83	317	402	25252
		Female	406	111	1310	846	9329	14755	3595	2811	7344	6678	154	444	825	48608
		Unspecified[4]	0	0	4	1	56	9	0	0	0	5	1	0	2	78
		Total	510	172	1788	1187	13493	23323	5587	4399	11194	10057	238	761	1229	73938
	Rates	Male	0.0	90.3	104.3	92.9	107.9	135.6	335.5	320.5	215.2	158.0	499.4	1402.3	2441.6	154.0
		Female	0.0	157.2	272.1	222.9	240.3	227.7	599.0	556.9	426.0	307.2	964.6	2120.4	5324.7	290.1
		Total	100.7	124.5	191.0	159.2	175.5	182.3	467.9	439.8	318.6	233.4	730.4	1747.6	3843.4	224.4
2008	Cases	Male	153	43	535	345	4625	9196	2352	1834	4147	3659	88	343	454	27774
		Female	443	115	1497	897	10389	17017	4569	3368	7906	7031	149	527	858	54766
		Unspecified[4]	0	0	0	0	23	48	0	0	0	7	0	0	2	80
		Total	596	158	2032	1242	15037	26261	6921	5202	12053	10697	237	870	1314	82620
	Rates	Male	61.6	63.2	117.6	94.1	120.5	144.1	391.9	364.9	226.0	168.3	519.6	1514.0	2818.1	168.1
		Female	171.8	161.1	310.7	235.8	265.4	259.6	753.9	659.1	448.9	318.1	917.8	2501.8	5745.6	326.0
		Total	117.7	113.3	217.0	166.2	193.9	203.0	573.8	513.2	335.2	244.0	714.5	1989.9	4231.1	248.0
2009	Cases	Male	124	74	537	483	4901	10071	2188	1654	4509	3885	70	387	436	29319
		Female	406	128	1457	1086	10953	18638	4100	3182	8994	7304	145	629	780	57802
		Unspecified[4]	0	0	0	0	26	51	0	3	0	7	0	0	0	87
		Total	530	202	1994	1569	15880	28760	6288	4839	13503	11196	215	1016	1216	87208
	Rates	Male	49.7	107.4	117.8	131.3	126.3	156.4	360.5	323.3	240.4	175.6	407.4	1712.5	2613.6	175.3
		Female	156.8	177.3	301.5	284.7	277.4	281.3	669.3	614.8	500.9	324.9	880.4	2984.7	5028.4	340.1
		Total	104.3	143.2	212.3	209.4	202.9	220.1	515.6	470.2	367.9	251.0	638.9	2326.4	3777.1	258.6
2010	Cases	Male	162	58	609	566	5396	11785	2258	1762	4557	3983	83	359	487	32065
		Female	482	155	1627	1258	11896	21658	4117	3298	8575	7878	147	554	906	62551
		Unspecified[4]	0	0	1	1	30	35	0	1	0	6	0	0	0	74
		Total	644	213	2237	1825	17322	33478	6375	5061	13132	11867	230	913	1393	94690
	Rates	Male	64.8	83.4	133.1	153.4	137.6	181.0	367.1	338.5	239.8	177.3	471.0	1586.6	2835.2	189.5
		Female	185.5	213.1	335.5	328.6	298.4	323.2	663.7	628.1	471.0	344.9	869.6	2621.6	5647.3	363.8
		Total	126.3	149.7	237.3	242.8	219.1	253.4	516.0	484.0	352.9	261.9	666.2	2086.4	4193.3	277.6

[1] Rate per 100,000 population. Population estimates provided by Statistics Canada. (Source: Statistics Canada, Demography Division, Demographic Estimates Section, July Population Estimates, 1997-2005 final intercensal estimates, 2006-2007 final postcensal estimates, 2008-2009 updated postcensal estimates, 2010 preliminary postcensal estimates.)

[2] 2010 data are preliminary and changes are anticipated. Data were verified with provinces and territories as of November, 2011.

[3] Nunavut did not officially become a territory until 1999; prior to 1999, data for Nunavut was combined with Northwest Territories.

SOURCE: Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada, 2012.Australia: National Notifiable Disease Surveillance, Department of Health and AgeingUnited States: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

NOTE: Small variability may exist between data reported by the provinces/territories and the Public Health Agency of Canada. Provincial/territorial data are definitive should a discrepancy exist.

TABLE 13: Reported Cases and Rates[1] of Chlamydia by Age Group and Sex, 1991 to 2010[2]

CHLAMYDIA														
			Age group (years)											
YEAR		SEX	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+	NS	Total
1991	Cases	Male	9	5	1	37	1753	3480	1853	1141	334	22	200	8835
		Female	17	13	12	530	10259	9489	3657	1926	410	26	579	26918
		Unspecified	0	0	0	1	8	10	5	0	1	0	10191	10216
		Total	26	18	13	568	12020	12979	5515	3067	745	48	10970	45969
	Rates	Male	4.3	0.6	0.1	3.8	176.9	327.6	145.9	46.2	10.4	1.1		63.6
		Female	8.6	1.7	1.3	57.3	1095.1	925.0	295.6	78.4	12.9	1.0		190.4
		Total	6.4	1.2	0.7	29.9	623.4	621.6	220.0	62.2	11.7	1.1		164.0
1992	Cases	Male	24	7	3	32	2047	4290	2122	1423	400	34	429	10811
		Female	23	16	14	605	13235	12466	4550	2407	526	58	1463	35363
		Unspecified	0	1	0	0	9	18	6	3	0	1	153	191
		Total	47	24	17	637	15291	16774	6678	3833	926	93	2045	46365
	Rates	Male	11.6	0.9	0.3	3.2	206.6	406.8	172.4	56.6	12.2	1.7		76.9
		Female	11.7	2.1	1.5	64.5	1412.1	1225.6	378.7	96.3	16.1	2.3		247.1
		Total	11.7	1.5	0.9	33.0	793.0	809.7	274.6	76.4	14.1	2.1		163.4
1993	Cases	Male	9	4	6	51	2077	4132	2250	1490	451	27	124	10621
		Female	18	11	11	600	12744	12012	4558	2542	500	40	343	33379
		Unspecified	0	0	0	0	4	1	2	3	0	0	12	22
		Total	27	15	17	651	14825	16145	6810	4035	951	67	479	44022
	Rates	Male	4.5	0.5	0.6	5.1	208.9	395.3	189.9	58.1	13.3	1.3		74.7
		Female	9.4	1.4	1.2	63.0	1355.0	1194.2	394.4	100.0	14.8	1.6		230.5
		Total	6.9	0.9	0.9	33.3	766.2	787.2	291.0	79.0	14.1	1.5		153.4
1994	Cases	Male	20	2	4	33	1914	3859	2022	1544	460	38	110	10006
		Female	27	13	13	577	11567	11282	4165	2669	589	40	234	31176
		Unspecified	0	0	0	0	5	16	9	5	0	0	18	53
		Total	47	15	17	610	13486	15157	6196	4218	1049	78	362	41235
	Rates	Male	10.1	0.2	0.4	3.2	190.0	372.7	177.0	59.4	13.2	1.9		69.6
		Female	14.4	1.6	1.4	59.8	1215.5	1131.8	373.6	103.8	16.8	1.5		212.8
		Total	12.2	0.9	0.9	30.8	688.4	745.9	274.5	81.6	15.0	1.7		142.0
1995	Cases	Male	24	6	3	21	1721	3478	1848	1484	398	33	69	9085
		Female	32	5	10	466	10704	10496	3745	2312	459	31	191	28451
		Unspecified	0	0	0	0	2	2	1	0	1	0	9	15
		Total	56	11	13	487	12427	13976	5594	3796	858	64	269	37551
	Rates	Male	12.2	0.7	0.3	2.0	168.7	338.5	166.4	56.6	11.0	1.6		62.6
		Female	17.2	0.6	1.0	47.9	1111.1	1060.2	345.4	89.4	12.6	1.2		192.2
		Total	14.7	0.7	0.7	24.4	626.4	692.7	254.9	72.9	11.8	1.4		128.2

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Age group (years)

YEAR		SEX	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+	NS	Total
1996	Cases	Male	9	1	0	23	1524	3128	1745	1372	436	22	57	8317
		Female	14	9	14	435	9752	9439	3549	2134	530	26	160	26062
		Unspecified	0	0	0	0	6	5	1	2	0	0	6	20
		Total	23	10	14	458	11282	12572	5295	3508	966	48	223	34399
	Rates	Male	4.6	0.1	0.0	2.2	147.2	305.5	159.6	52.3	11.7	1.0		56.6
		Female	7.5	1.2	1.4	44.5	997.1	956.7	331.7	82.6	14.1	1.0		174.0
		Total	6.0	0.6	0.7	22.8	560.5	625.3	244.7	67.3	12.9	1.0		115.9
1997	Cases	Male	7	0	0	18	1510	3260	1783	1559	484	21	72	8714
		Female	15	3	10	378	9588	9170	3458	2103	512	33	136	25406
		Unspecified	1	0	0	0	4	4	1	0	1	0	13	24
		Total	23	3	10	396	11102	12434	5242	3662	997	54	221	34144
	Rates	Male	3.8	0.0	0.0	1.7	144.7	316.1	164.3	59.8	12.5	1.0		58.7
		Female	8.7	0.4	1.0	38.5	971.3	924.1	325.8	81.9	13.2	1.2		167.8
		Total	6.5	0.2	0.5	19.6	546.7	614.5	244.2	70.8	12.8	1.1		113.9
1998	Cases	Male	8	0	3	36	1934	4094	2338	1934	609	32	53	11041
		Female	12	7	12	413	10599	10087	3857	2299	509	29	132	27956
		Unspecified	1	0	0	0	4	4	4	2	0	0	22	37
		Total	21	7	15	449	12537	14185	6199	4235	1118	61	207	39034
	Rates	Male	4.5	0.0	0.3	3.5	183.8	394.1	217.0	75.1	15.2	1.5		73.7
		Female	7.1	0.9	1.2	42.0	1063.7	1011.8	366.4	90.7	12.7	1.1		183.1
		Total	6.1	0.5	0.7	22.2	612.0	696.8	291.0	82.9	13.9	1.2		129.0
1999	Cases	Male	15	3	3	31	1976	4702	2538	2198	722	49	50	12287
		Female	11	7	9	429	11428	10740	4040	2371	616	20	142	29813
		Unspecified	0	0	0	0	12	7	3	1	1	0	17	41
		Total	26	10	12	460	13416	15449	6581	4570	1339	69	209	42141
	Rates	Male	8.7	0.4	0.3	3.0	186.7	446.3	237.0	86.4	17.5	2.2		81.4
		Female	6.7	1.0	0.9	43.5	1138.3	1064.6	386.1	94.8	14.8	0.7		193.6
		Total	7.7	0.7	0.6	22.7	650.6	749.1	310.8	90.6	16.2	1.4		138.2
2000	Cases	Male	11	2	1	30	2335	5013	2786	2366	875	45	75	13539
		Female	9	6	6	474	12454	11993	4365	2692	708	29	132	32868
		Unspecified	0	0	0	0	4	9	5	1	1	0	12	32
		Total	20	8	7	504	14793	17015	7156	5059	1584	74	219	46439
	Rates	Male	6.4	0.3	0.1	2.9	219.4	470.4	260.6	94.2	20.6	2.0		88.9
		Female	5.5	0.8	0.6	47.5	1234.3	1175.7	417.9	109.0	16.6	1.0		211.6
		Total	6.0	0.6	0.3	24.6	713.5	815.7	338.5	101.5	18.6	1.4		150.9

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YEAR		SEX	Age group (years) <1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+	NS	Total
2001	Cases	Male	14	0	0	38	2545	5769	3172	2636	951	51	66	15242
		Female	26	5	3	503	12905	12716	4755	2872	754	30	159	34728
		Unspecified	0	0	0	1	28	42	16	7	1	0	12	107
		Total	40	5	3	542	15478	18527	7943	5515	1706	81	237	50077
	Rates	Male	8.2	0.0	0.0	3.6	233.9	534.9	301.5	107.1	21.7	2.2		99.2
		Female	16.1	0.7	0.3	49.6	1256.0	1235.1	466.2	118.8	17.1	1.0		221.9
		Total	12.1	0.4	0.1	26.1	731.6	878.9	383.3	113.1	19.4	1.6		161.4
2002	Cases	Male	4	1	1	26	2768	6625	3721	2998	1178	69	60	17451
		Female	8	1	6	537	14109	14461	5368	3297	833	24	132	38776
		Unspecified	0	0	0	1	2	7	4	1	0	0	24	39
		Total	12	2	7	564	16879	21093	9093	6296	2011	93	216	56266
	Rates	Male	2.4	0.1	0.1	2.4	253.1	606.0	352.1	123.5	26.2	2.9		112.3
		Female	5.0	0.1	0.6	52.1	1366.2	1382.4	522.5	138.5	18.4	0.8		245.1
		Total	3.7	0.1	0.4	26.7	793.8	986.0	436.2	131.0	22.3	1.7		179.5
2003	Cases	Male	5	1	0	25	2911	7296	4094	3292	1252	72	62	19010
		Female	14	2	2	570	14778	15451	5663	3458	876	26	103	40943
		Unspecified	0	0	0	1	3	4	3	3	4	0	12	30
		Total	19	3	2	596	17692	22751	9760	6753	2132	98	177	59983
	Rates	Male	3.0	0.1	0.0	2.3	265.9	656.5	385.5	138.7	27.1	2.9		121.3
		Female	8.7	0.3	0.2	54.6	1429.6	1453.3	546.8	148.5	18.8	0.9		256.5
		Total	5.8	0.2	0.1	27.9	831.2	1046.3	465.3	143.6	23.0	1.8		189.6
2004	Cases	Male	8	0	2	23	3142	8089	4543	3386	1526	95	41	20855
		Female	10	3	7	559	15171	16388	6042	3784	1071	47	61	43143
		Unspecified	0	0	0	0	5	11	8	2	2	0	12	40
		Total	18	3	9	582	18318	24488	10593	7172	2599	142	114	64038
	Rates	Male	4.6	0.0	0.2	2.1	284.8	717.0	423.4	145.8	32.2	3.8		131.8
		Female	6.1	0.4	0.8	53.5	1458.0	1518.3	574.9	166.0	22.5	1.5		267.7
		Total	5.3	0.2	0.5	27.2	854.5	1109.3	498.8	155.8	27.4	2.5		200.5
2005	Cases	Male	9	0	1	24	3200	8476	4964	3843	1752	103	29	22401
		Female	14	2	5	528	15110	16858	6428	3850	1148	48	54	44045
		Unspecified[3]	0	0	0	0	6	8	8	2	1	0	32	57
		Total	23	2	6	552	18316	25342	11400	7695	2901	151	115	66503
	Rates	Male	5.2	0.0	0.1	2.2	285.9	742.4	457.9	168.2	36.2	4.0		140.2
		Female	8.5	0.3	0.5	50.9	1429.7	1546.1	603.1	171.6	23.6	1.5		270.8
		Total	6.8	0.1	0.3	26.0	841.7	1135.4	530.2	169.9	29.9	2.6		206.2

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Age group (years)

YEAR		SEX	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+	NS	Total
2006	Cases	Male	10	0	2	27	3385	8801	5117	4145	1933	127	21	23568
		Female	19	6	10	448	15108	17414	7049	4228	1306	57	47	45692
		Unspecified[3]	0	0	0	0	9	11	10	3	2	0	27	62
		Total	29	6	12	475	18502	26226	12176	8376	3241	184	95	69322
	Rates	Male	5.5	0.0	0.2	2.5	297.6	762.4	464.8	182.8	39.2	4.7		145.8
		Female	11.2	0.9	1.1	43.7	1405.0	1585.1	649.6	189.8	26.5	1.8		278.1
		Total	8.3	0.4	0.7	22.7	836.3	1164.3	557.0	186.3	32.8	3.1		212.7
2007	Cases	Male	19	0	1	37	3671	9371	5620	4292	2075	146	20	25252
		Female	10	2	8	479	16066	18375	7549	4612	1406	64	37	48608
		Unspecified3	0	0	0	1	8	12	7	7	3	1	39	78
		Total	29	2	9	517	19745	27758	13176	8911	3484	211	96	73938
	Rates	Male	10.3	0.0	0.1	3.4	317.6	801.7	498.7	188.7	41.6	5.2		154.0
		Female	5.7	0.1	0.9	47.3	1460.2	1644.5	675.9	205.4	28.2	1.9		290.1
		Total	8.1	0.1	0.5	24.9	874.1	1213.0	587.0	197.1	34.9	3.4		224.4
2008	Cases	Male	15	0	1	52	4199	10321	6126	4652	2270	119	19	27774
		Female	10	2	5	506	18261	20106	8631	5422	1719	50	54	54766
		Unspecified[3]	0	0	0	0	15	23	12	5	6	0	19	80
		Total	25	2	6	558	22475	30450	14769	10079	3995	169	92	82620
	Rates	Male	7.9	0.0	0.1	5.0	363.1	879.7	531.4	204.4	45.5	4.1		168.1
		Female	5.5	0.3	0.6	51.5	1660.1	1805.4	760.9	241.1	34.4	1.4		326.0
		Total	6.8	0.1	0.3	27.7	995.9	1331.5	645.7	222.7	40.0	2.7		248.0
2009	Cases	Male	10	2	1	56	4628	10748	6558	4780	2367	148	21	29319
		Female	4	7	15	544	19084	21029	9082	5924	2006	78	29	57802
		Unspecified[3]	0	0	0	0	8	26	26	12	8	0	7	87
		Total	14	9	16	600	23720	31803	15666	10716	4381	226	57	87208
	Rates	Male	5.2	0.3	0.1	5.5	401.5	901.5	553.4	208.8	47.1	4.9		175.3
		Female	2.2	1.0	1.7	56.5	1737.7	1863.4	781.9	261.1	39.9	2.2		340.1
		Total	3.7	0.6	0.9	30.4	1053.8	1370.4	667.5	235.1	43.5	3.4		258.6
2010	Cases	Male	7	0	3	57	4862	11683	7213	5447	2563	192	38	32065
		Female	5	5	12	541	19826	23066	10008	6585	2386	85	32	62551
		Unspecified[3]	0	0	0	0	10	32	11	8	1	0	12	74
		Total	12	5	15	598	24698	34781	17232	12040	4950	277	82	94690
	Rates	Male	3.6	0.0	0.3	5.7	426.5	961.8	595.1	236.4	50.7	6.2		189.5
		Female	2.7	0.7	1.4	57.4	1824.3	2005.5	846.4	287.3	47.1	2.3		363.8
		Total	3.2	0.3	0.8	30.9	1109.1	1470.7	719.7	262.0	48.9	4.1		277.6

[1] Rate per 100,000 population. Population estimates provided by Statistics Canada. (Source: Statistics Canada, Demography Division, Demographic Estimates Section, July Population Estimates, 1997-2005 final intercensal estimates, 2006-2007 final postcensal estimates, 2008-2009 updated postcensal estimates, 2010 preliminary postcensal estimates.)

[2] 2010 data are preliminary and changes are anticipated. Data were verified with provinces and territories as of November, 2011.

[3] Unspecified sex includes transgender cases.

SOURCE: Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada, 2012.

NOTE: Small variability may exist between data reported by the provinces/territories and the Public Health Agency of Canada. Provincial/territorial data are definitive should a discrepancy exist.

TABLE 14: Reported Cases and Rates[1] of Gonorrhea by Province/Territory and Sex, 1991 to 2010[2]

			GONORRHEA												
YEAR		SEX	NL	PE/NS	NB	QC	ON	MB	SK	AB	BC	YT	NT	NU[3]	Total
1980	Cases	Male	476	692	222	2645	9953	2253	1692	7025	6470	215	912		32555
		Female	276	753	101	1936	6093	1831	909	4451	3513	128	494		20485
		Unspecified	40	191	0	0	0	0	0	0	0	0	0		231
		Total	792	1636	323	4581	16046	4084	2601	11476	9983	343	1406		53271
	Rates	Male	164.5	142.4	63.0	82.1	229.9	439.5	347.4	625.7	471.3	1663.8	3737.4		266.6
		Female	97.5	153.5	28.6	58.9	138.0	350.7	189.2	416.1	256.4	1122.1	2256.3		166.5
		Total	138.3	167.6	45.7	70.4	183.5	394.7	268.9	523.4	363.9	1409.8	3037.0		217.3
1981	Cases	Male	485	635	165	3540	10549	2617	1704	7234	5939	291	1178		34337
		Female	307	668	98	2690	6651	2054	991	4453	3168	158	625		21863
		Unspecified	21	109	0	0	0	0	0	0	0	0	0		130
		Total	813	1412	263	6230	17200	4671	2695	11687	9107	449	1803		56330
	Rates	Male	167.2	130.7	46.9	109.4	242.1	510.5	347.2	614.7	420.6	2300.0	4705.4		278.0
		Female	107.8	135.6	27.7	81.3	149.3	392.2	204.3	398.5	224.4	1404.3	2775.3		175.3
		Total	141.4	144.3	37.2	95.1	195.2	450.7	276.2	509.4	322.5	1878.4	3791.4		227.0
1982	Cases	Male	496	631	106	3251	10013	2575	1577	6717	5403	150	1159		32078
		Female	257	626	84	2372	6371	2033	889	4349	3223	108	581		20893
		Unspecified	24	77	0	0	0	0	0	0	0	0	0		101
		Total	777	1334	190	5623	16384	4608	2466	11066	8626	258	1740		53072
	Rates	Male	171.3	129.5	30.0	100.0	227.0	497.1	317.9	554.6	376.5	1158.9	4443.8		256.8
		Female	90.2	126.4	23.6	71.3	141.2	384.5	181.0	375.9	224.2	936.8	2479.3		165.5
		Total	135.2	135.8	26.8	85.5	183.6	440.2	249.8	467.3	300.3	1054.3	3514.1		211.3
1983	Cases	Male	394	564	61	3542	9412	2152	1295	4623	3774	89	1100		27006
		Female	279	594	59	2360	6183	1609	734	3398	2315	58	559		18148
		Unspecified	12	99	0	0	0	0	0	0	0	0	0		111
		Total	685	1257	120	5902	15595	3761	2029	8021	6089	147	1659		45265
	Rates	Male	135.1	114.3	17.1	108.6	210.5	409.7	257.5	379.3	260.3	713.0	4090.6		214.2
		Female	96.9	118.8	16.4	70.6	135.3	300.3	147.1	290.1	159.1	520.9	2316.3		142.3
		Total	118.2	126.5	16.8	89.4	172.5	354.5	202.5	335.6	209.6	622.4	3251.4		178.4
1984	Cases	Male	383	643	139	4197	9119	1897	1198	3897	3334	114	931		25852
		Female	218	684	115	2793	6554	1453	614	2815	2131	77	470		17924
		Unspecified	16	82	0	0	0	0	0	0	0	0	0		98
		Total	617	1409	254	6990	15673	3350	1812	6712	5465	191	1401		43874
	Rates	Male	131.3	128.9	38.8	128.2	201.1	357.4	235.2	320.7	227.0	902.5	3358.9		203.2
		Female	75.6	135.4	31.7	83.2	141.3	268.5	121.3	239.6	144.3	682.5	1891.6		139.1
		Total	106.3	140.3	35.2	105.4	170.9	312.5	178.4	280.8	185.5	798.7	2665.3		171.3

GONORRHEA

YEAR		SEX	NL	PE/NS	NB	QC	ON	MB	SK	AB	BC	YT	NT	NU[3]	Total
1985	Cases	Male	357	506	243	3749	8462	1813	1209	3175	2819	115	829		23277
		Female	201	677	264	2678	6445	1373	689	2515	2103	76	378		17399
		Unspecified	10	51	0	0	0	0	0	0	0	0	0		61
		Total	568	1234	507	6427	14907	3186	1898	5690	4922	191	1207		40737
	Rates	Male	122.7	100.5	67.5	114.0	184.1	338.2	235.2	260.7	190.2	894.3	2888.3		181.4
		Female	69.7	132.7	72.5	79.3	137.1	251.4	134.7	212.3	140.9	660.6	1470.8		133.7
		Total	98.0	121.8	70.1	96.4	160.3	294.4	185.1	236.8	165.5	784.0	2218.7		157.6
1986	Cases	Male	250	389	263	3322	6872	1715	1073	2588	1984	118	884		19458
		Female	171	563	241	2522	5771	1314	664	2294	1586	68	550		15744
		Unspecified	14	67	2	0	0	0	0	0	0	0	2		85
		Total	435	1019	506	5844	12643	3029	1737	4882	3570	186	1436		35287
	Rates	Male	86.5	77.1	73.0	100.4	147.3	317.0	208.2	210.7	132.7	913.9	3061.7		150.2
		Female	59.5	109.8	66.0	74.2	121.0	238.6	129.2	190.8	105.1	587.8	2129.9		119.7
		Total	75.5	100.1	69.8	87.1	134.0	277.5	168.8	200.8	118.8	759.8	2625.4		135.2
1987	Cases	Male	152	264	268	1973	5077	1585	968	2158	1565	68	677		14755
		Female	102	376	203	1697	4596	1306	816	1949	1355	57	466		12923
		Unspecified	4	8	0	227	0	0	0	0	0	0	1		240
		Total	258	648	471	3897	9673	2891	1784	4107	2920	125	1144		27918
	Rates	Male	52.7	52.1	74.1	59.0	106.5	291.3	187.4	175.4	103.0	502.3	2332.6		112.4
		Female	35.6	72.9	55.4	49.4	94.3	235.8	158.1	161.7	88.5	468.4	1791.3		97.0
		Total	44.9	63.4	64.7	57.5	100.3	263.3	172.7	168.6	95.7	486.2	2078.6		105.6
1988	Cases	Male	89	207	104	1342	4149	1115	669	1285	1119	62	240		10381
		Female	59	359	139	1227	3680	903	601	1272	1015	38	208		9501
		Unspecified	3	0	0	216	0	0	0	0	1	0	0		220
		Total	151	566	243	2785	7829	2018	1270	2557	2135	100	448		20102
	Rates	Male	30.9	40.7	28.7	39.8	85.3	204.1	130.2	103.7	72.1	443.0	818.0		78.1
		Female	20.6	69.2	37.8	35.4	73.9	162.5	116.8	104.7	64.9	301.0	789.2		70.3
		Total	26.3	55.1	33.3	40.7	79.5	183.1	123.5	104.2	68.5	375.6	804.4		75.0
1989	Cases	Male	41	161	61	948	5169	819	551	1015	781	62	670		10278
		Female	37	305	87	694	4081	721	449	962	712	35	695		8778
		Unspecified	2	0	0	52	0	0	0	0	0	0	0		54
		Total	80	466	148	1694	9250	1540	1000	1977	1493	97	1365		19110
	Rates	Male	14.2	31.5	16.7	27.8	103.4	149.7	108.3	80.6	49.0	435.5	2232.7		76.0
		Female	12.9	58.4	23.5	19.7	79.8	129.6	87.9	77.8	44.4	271.7	2572.5		63.8
		Total	13.9	45.1	20.1	24.4	91.5	139.6	98.1	79.2	46.7	357.7	2393.7		70.0
1990	Cases	Male	27	126	36	1182	3569	571	448	625	818	48	231		7681
		Female	22	193	26	695	2552	508	455	630	682	37	224		6024
		Unspecified	0	1	0	89	27	0	0	0	0	0	0		117
		Total	49	320	62	1966	6148	1079	903	1255	1500	85	455		13822
	Rates	Male	9.3	24.5	9.8	34.3	70.1	104.2	89.2	48.6	49.9	329.7	746.0		55.9
		Female	7.6	36.7	7.0	19.6	49.0	91.1	90.1	49.9	41.3	279.9	801.7		43.1
		Total	8.5	30.7	8.4	28.1	59.7	97.6	89.7	49.3	45.6	306.0	772.4		49.9

GONORRHEA

YEAR		SEX	NL	PE/NS	NB	QC	ON	MB	SK	AB	BC	YT	NT	NU[3]	Total
1991	Cases	Male	10	108	32	953	3100	697	442	757	744	44	199		7086
		Female	15	192	21	417	2274	598	404	630	584	33	184		5352
		Unspecified	0	0	0	10	7	0	0	0	2	0	0		19
		Total	25	300	53	1380	5381	1295	846	1387	1330	77	383		12457
	Rates	Male	3.4	20.9	8.7	27.4	60.2	126.7	88.5	57.9	44.2	290.8	622.0		51.0
		Female	5.2	36.3	5.6	11.6	43.1	106.9	80.3	49.0	34.5	239.4	635.9		37.9
		Total	4.3	28.7	7.1	19.5	51.6	116.7	84.4	53.5	39.4	266.3	628.6		44.4
1992	Cases	Male	9	71	15	618	2188	702	360	598	456	8	123		5148
		Female	4	127	9	264	1707	557	357	576	336	5	151		4093
		Unspecified	0	1	0	9	2	0	0	0	0	0	0		12
		Total	13	199	24	891	3897	1259	717	1174	792	13	274		9253
	Rates	Male	3.1	13.7	4.0	17.6	41.9	127.2	72.0	45.0	26.4	50.6	375.5		36.6
		Female	1.4	23.8	2.4	7.3	31.9	99.3	70.8	44.1	19.3	34.7	509.2		28.6
		Total	2.2	18.9	3.2	12.5	36.9	113.1	71.4	44.6	22.8	43.0	439.0		32.6
1993	Cases	Male	2	29	6	458	1691	487	247	427	312	9	70		3738
		Female	1	61	2	217	1341	436	243	404	254	14	113		3086
		Unspecified	0	0	0	5	3	0	0	0	0	0	0		8
		Total	3	90	8	680	3035	923	490	831	566	23	183		6832
	Rates	Male	0.7	5.6	1.6	13.0	32.0	87.8	49.3	31.7	17.5	56.2	210.0		26.3
		Female	0.3	11.4	0.5	6.0	24.8	77.3	48.1	30.5	14.2	95.8	374.0		21.3
		Total	0.5	8.5	1.1	9.5	28.4	82.5	48.7	31.1	15.8	75.1	288.0		23.8
1994	Cases	Male	1	13	6	504	1760	394	188	266	298	7	41		3478
		Female	2	22	7	225	1328	335	189	240	189	6	102		2645
		Unspecified	0	0	0	6	35	0	0	0	3	0	0		44
		Total	3	35	13	735	3123	729	377	506	490	13	143		6167
	Rates	Male	0.3	2.5	1.6	14.2	32.9	70.7	37.4	19.5	16.2	44.6	120.0		24.2
		Female	0.7	4.1	1.9	6.2	24.2	59.1	37.3	17.9	10.2	41.8	329.0		18.1
		Total	0.5	3.3	1.7	10.2	28.8	64.9	37.3	18.7	13.3	43.3	219.5		21.2
1995	Cases	Male	2	15	7	425	1719	376	208	223	296	11	40		3322
		Female	2	23	7	165	1264	282	178	177	193	9	85		2385
		Unspecified	0	0	0	5	0	0	0	0	3	0	0		8
		Total	4	38	14	595	2983	658	386	400	492	20	125		5715
	Rates	Male	0.7	2.9	1.9	11.9	31.8	67.1	41.2	16.2	15.7	68.2	114.7		22.9
		Female	0.7	4.3	1.8	4.5	22.7	49.5	34.9	13.0	10.2	61.0	268.2		16.1
		Total	0.7	3.6	1.9	8.2	27.2	58.2	38.1	14.6	13.0	64.8	187.8		19.5
1996	Cases	Male	2	31	10	325	1304	305	216	247	354	3	48		2845
		Female	0	67	31	144	1008	249	188	225	172	7	77		2168
		Unspecified	0	0	0	9	0	0	0	0	1	0	0		10
		Total	2	98	41	478	2312	554	404	472	527	10	125		5023
	Rates	Male	0.7	5.9	2.7	9.1	23.8	54.2	42.6	17.6	18.3	18.0	135.7		19.4
		Female	0.0	12.3	8.2	3.9	17.9	43.5	36.7	16.3	8.8	45.8	239.2		14.5
		Total	0.4	9.2	5.4	6.6	20.8	48.8	39.6	17.0	13.6	31.3	185.0		16.9

GONORRHEA

YEAR		SEX	NL	PE/NS	NB	QC	ON	MB	SK	AB	BC	YT	NT	NU[3]	Total
1997	Cases	Male	2	34	4	402	1147	249	176	218	344	0	70		2646
		Female	1	75	11	136	783	269	166	188	113	0	80		1822
		Unspecified	0	0	0	7	1	0	0	0	1	0	0		9
		Total	3	109	15	545	1931	518	342	406	458	0	150		4477
	Rates	Male	0.7	6.5	1.1	11.2	20.7	44.2	34.6	15.2	17.4	0.0	197.4		17.8
		Female	0.4	13.8	2.9	3.7	13.7	47.0	32.3	13.4	5.7	0.0	247.8		12.0
		Total	0.5	10.2	2.0	7.5	17.2	45.6	33.5	14.3	11.6	0.0	221.5		14.9
1998	Cases	Male	2	30	7	370	1355	225	167	268	406	5	86		2921
		Female	0	55	10	112	917	198	159	250	163	6	68		1938
		Unspecified	0	0	0	8	0	1	0	0	0	0	0		9
		Total	2	85	17	490	2272	424	326	518	569	11	154		4868
	Rates	Male	0.7	5.7	1.9	10.2	24.1	39.9	32.8	18.3	20.4	30.5	244.2		19.5
		Female	0.0	10.1	2.6	3.0	15.9	34.5	30.9	17.4	8.1	39.6	210.8		12.7
		Total	0.4	8.0	2.3	6.7	20.0	37.3	31.8	17.8	14.2	34.9	228.2		16.1
1999	Cases	Male	1	23	6	485	1319	245	167	287	683	5	101		3322
		Female	0	39	5	136	911	265	135	248	205	10	100		2054
		Unspecified	0	1	0	2	0	0	0	0	2	0	0		5
		Total	1	63	11	623	2230	510	302	535	890	15	201		5381
	Rates	Male	0.4	4.4	1.6	13.4	23.2	43.2	32.8	19.2	34.1	31.2	286.1		22.0
		Female	0.0	7.1	1.3	3.7	15.6	46.0	26.2	16.9	10.1	66.7	307.2		13.3
		Total	0.2	5.9	1.5	8.5	19.4	44.6	29.4	18.1	22.1	48.3	296.2		17.6
2000	Cases	Male	4	32	10	538	1674	353	235	343	528	3	63	46	3829
		Female	1	25	1	126	1120	305	230	243	179	2	72	49	2353
		Unspecified	0	0	0	6	0	0	0	0	1	0	0	0	7
		Total	5	57	11	670	2794	658	465	586	708	5	135	95	6189
	Rates	Male	1.5	6.1	2.7	14.8	29.0	62.1	46.3	22.6	26.2	19.0	298.2	321.0	25.1
		Female	0.4	4.6	0.3	3.4	18.9	52.8	44.7	16.3	8.8	13.5	364.1	374.3	15.1
		Total	0.9	5.3	1.5	9.1	23.9	57.4	45.5	19.5	17.4	16.3	330.0	346.5	20.1
2001	Cases	Male	0	46	7	665	1809	360	252	473	450	2	73	39	4176
		Female	0	39	5	163	1151	340	276	328	153	1	78	37	2571
		Unspecified	0	1	0	4	0	1	3	0	0	0	0	0	9
		Total	0	86	12	832	2960	701	531	801	603	3	151	76	6756
	Rates	Male	0.0	8.8	1.9	18.2	30.8	63.0	50.7	30.6	22.2	13.0	345.3	265.7	27.2
		Female	0.0	7.1	1.3	4.3	19.1	58.6	54.9	21.7	7.5	6.8	395.9	275.0	16.4
		Total	0.0	8.0	1.6	11.2	24.9	60.9	53.1	26.2	14.8	9.9	369.7	270.1	21.8
2002	Cases	Male	5	92	13	669	1954	321	268	563	597	8	66	33	4589
		Female	4	107	17	205	1194	316	291	415	116	3	58	44	2770
		Unspecified	0	0	0	4	2	0	0	0	0	0	0	0	6
		Total	9	199	30	878	3150	637	559	978	713	11	124	77	7365
	Rates	Male	2.0	17.5	3.5	18.2	32.7	56.0	54.1	35.6	29.4	51.8	305.7	220.3	29.5
		Female	1.5	19.5	4.5	5.4	19.5	54.2	58.0	26.8	5.6	20.1	288.9	318.0	17.5
		Total	1.7	18.6	4.0	11.8	26.1	55.1	56.1	31.3	17.4	36.2	297.6	267.2	23.5

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YEAR		SEX	NL	PE/NS	NB	QC	ON	MB	SK	AB	BC	YT	NT	NU[3]	Total
2003	Cases	Male	7	55	15	663	2381	419	239	602	506	1	110	27	5025
		Female	0	63	19	205	1409	464	305	433	181	2	91	38	3210
		Unspecified	0	0	0	4	1	0	0	0	1	0	0	0	6
		Total	7	118	34	872	3791	883	544	1035	688	3	201	65	8241
	Rates	Male	2.7	10.5	4.1	17.9	39.4	72.6	48.3	37.4	24.8	6.3	498.1	177.7	32.1
		Female	0.0	11.5	5.0	5.4	22.7	79.1	60.8	27.5	8.7	13.2	444.4	269.0	20.1
		Total	1.3	11.0	4.5	11.6	31.0	75.9	54.6	32.5	16.7	9.7	472.3	221.7	26.0
2004	Cases	Male	1	54	8	672	2473	544	262	867	880	22	75	30	5888
		Female	0	72	7	147	1479	543	366	508	205	20	60	15	3422
		Unspecified	0	0	0	0	4	1	1	1	0	0	0	0	7
		Total	1	126	15	819	3956	1088	629	1376	1085	42	135	45	9317
	Rates	Male	0.4	10.3	2.2	18.0	40.4	93.4	52.9	52.9	42.8	137.1	334.0	193.6	37.2
		Female	0.0	13.1	1.8	3.9	23.6	91.9	72.8	31.8	9.8	129.7	287.8	104.5	21.2
		Total	0.2	11.7	2.0	10.9	31.9	92.7	63.1	42.5	26.1	133.4	311.8	150.7	29.2
2005	Cases	Male	1	53	9	730	2077	595	298	950	910	13	78	37	5751
		Female	0	52	14	166	1242	580	422	579	294	8	64	20	3441
		Unspecified[4]	0	1	0	5	3	0	0	1	0	0	0	0	10
		Total	1	106	23	901	3322	1175	720	1530	1204	21	142	57	9202
	Rates	Male	0.4	10.1	2.4	19.5	33.6	101.6	60.5	56.4	43.8	79.9	345.7	235.3	36.0
		Female	0.0	9.4	3.7	4.3	19.6	97.8	84.2	35.3	13.9	51.2	307.2	137.0	21.2
		Total	0.2	9.9	3.1	11.9	26.5	99.7	72.5	46.1	28.7	65.8	327.2	187.9	28.5
2006	Cases	Male	7	58	20	909	2428	844	414	1298	723	4	79	65	6849
		Female	1	41	12	364	1416	734	540	850	354	7	102	47	4468
		Unspecified[4]	0	0	0	2	2	0	0	1	1	0	0	0	6
		Total	8	99	32	1275	3846	1578	954	2149	1078	11	181	112	11323
	Rates	Male	2.8	11.1	5.5	24.1	38.8	143.4	84.2	74.7	34.4	24.2	351.5	339.6	42.3
		Female	0.4	7.4	3.2	9.4	22.1	123.3	107.8	50.5	16.5	44.4	492.2	322.1	27.2
		Total	1.6	9.2	4.3	16.7	30.4	133.3	96.2	62.8	25.4	34.1	419.0	331.2	34.7
2007	Cases	Male	17	42	25	988	2340	690	451	1329	831	6	113	84	6916
		Female	1	33	11	420	1622	794	582	864	452	11	109	68	4967
		Unspecified[4]	0	0	0	1	2	0	0	0	2	0	0	0	5
		Total	18	75	36	1409	3964	1484	1033	2193	1285	17	222	152	11888
	Rates	Male	6.8	8.0	6.8	26.0	37.1	116.2	91.0	74.3	38.9	36.1	499.9	514.3	42.4
		Female	0.4	6.0	2.9	10.8	25.0	132.3	115.3	50.1	20.8	68.9	520.6	436.0	29.9
		Total	3.6	7.0	4.8	18.3	31.0	124.3	103.3	62.4	29.8	52.2	509.8	476.4	36.1
2008	Cases	Male	0	73	14	1057	2235	616	548	1231	893	7	156	183	7013
		Female	0	74	14	595	1633	749	786	896	534	10	143	173	5607
		Unspecified[4]	0	0	0	1	4	0	0	0	2	0	0	0	7
		Total	0	147	28	1653	3872	1365	1334	2127	1429	17	299	356	12627
	Rates	Male	0.0	14.0	3.8	27.5	35.0	102.7	109.0	67.1	41.1	41.3	688.6	1134.6	42.5
		Female	0.0	13.4	3.7	15.2	24.9	123.6	153.8	50.9	24.2	61.6	678.9	1162.3	33.4
		Total	0.0	13.7	3.7	21.3	29.9	113.2	131.6	59.2	32.6	51.2	683.9	1147.9	37.9

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YEAR		SEX	NL	PE/NS	NB	QC	ON	MB	SK	AB	BC	YT	NT	NU[3]	Total
	Cases	Male	7	56	27	1222	1974	454	368	784	840	8	111	278	6129
		Female	2	71	25	659	1561	568	507	754	508	7	129	233	5024
		Unspecified[4]	0	0	0	4	6	0	0	0	2	0	0	1	13
2009[5]		Total	9	127	52	1885	3541	1022	875	1538	1350	15	240	512	11166
	Rates	Male	2.8	10.7	7.3	31.5	30.7	74.8	71.9	41.8	38.0	46.6	491.2	1666.5	36.6
		Female	0.8	12.8	6.6	16.7	23.6	92.7	98.0	42.0	22.6	42.5	612.1	1502.1	29.6
		Total	1.8	11.8	6.9	24.1	27.1	83.8	85.0	41.9	30.3	44.6	549.5	1590.4	33.1
	Cases	Male	9	38	37	1371	2196	435	313	631	921	14	110	310	6385
		Female	3	62	24	690	1767	547	446	557	442	17	110	338	5003
		Unspecified[4]	0	0	0	4	3	0	0	0	2	0	0	0	9
2010[5]		Total	12	100	61	2065	3966	982	759	1188	1365	31	220	648	11397
	Rates	Male	3.6	7.2	10.0	35.0	33.7	70.7	60.1	33.2	41.0	79.5	486.1	1804.7	37.7
		Female	1.2	11.1	6.3	17.3	26.4	88.2	84.9	30.6	19.4	100.6	520.5	2106.8	29.1
		Total	2.4	9.2	8.1	26.1	30.0	79.5	72.6	31.9	30.1	89.8	502.8	1950.6	33.4

[1] Rate per 100,000 population. Population estimates provided by Statistics Canada. (Source: Statistics Canada, Demography Division, Demographic Estimates Section, July Population Estimates, 1997-2005 final intercensal estimates, 2006-2007 final postcensal estimates, 2008-2009 updated postcensal estimates, 2010 preliminary postcensal estimates.)

[2] 2010 data are preliminary and changes are anticipated. Data were verified with provinces and territories as of November, 2011.

[3] Nunavut did not officially become a territory until 1999; prior to 1999, data for Nunavut was combined with Northwest Territories.

[4] Unspecified sex includes transgender cases.

[5] Due to small counts, NS and PE Cases and Rates have been combined.

SOURCE: Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada, 2012.

NOTE: Small variability may exist between data reported by the provinces/territories and the Public Health Agency of Canada. Provincial/territorial data are definitive should a discrepancy exist.

TABLE 15: Reported Cases and Rates[1] of Gonorrhea by Age Group and Sex, 1991 to 2010[2]

GONORRHEA														
			Age group (years)											
YEAR		SEX	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+	NS	Total
1980	Cases	Male	10	0	6	43	3921	10821	7505	6542	2241	173	1293	32555
		Female	18	36	34	193	6075	7234	3280	1962	436	31	1186	20485
		Unspecified	0	0	0	0	1	0	1	0	0	0	229	231
		Total	28	36	40	236	9997	18055	10786	8504	2677	204	2708	53271
	Rates	Male	5.3	0.0	0.6	4.3	317.8	884.1	678.2	355.9	89.4	12.0		266.6
		Female	10.1	5.2	3.9	20.1	513.1	602.5	298.4	110.0	17.4	1.7		166.5
		Total	7.7	2.5	2.2	12.0	413.5	744.7	489.0	234.8	53.4	6.3		217.3
1981	Cases	Male	5	5	8	54	4435	11991	7906	6959	2179	149	646	34337
		Female	10	28	33	219	6932	8034	3487	2110	476	33	501	21863
		Unspecified	0	0	0	0	2	3	2	1	0	0	122	130
		Total	15	33	41	273	11369	20028	11395	9070	2655	182	1269	56330
	Rates	Male	2.7	0.7	0.9	5.4	366.2	959.2	700.1	366.1	85.8	10.0		278.0
		Female	5.6	4.0	3.8	23.2	598.6	654.7	310.8	113.9	18.8	1.8		175.3
		Total	4.1	2.3	2.3	14.1	479.9	808.5	506.2	241.6	52.3	5.4		227.0
1982	Cases	Male	5	3	1	46	4063	11239	7309	6399	2169	147	697	32078
		Female	8	22	32	211	6563	7816	3363	1899	422	21	536	20893
		Unspecified	0	0	0	0	0	3	2	0	0	0	96	101
		Total	13	25	33	257	10626	19058	10674	8298	2591	168	1329	53072
	Rates	Male	2.6	0.4	0.1	4.7	345.9	890.9	627.9	326.1	84.4	9.6		256.8
		Female	4.4	3.1	3.7	22.7	587.0	634.0	290.5	98.9	16.5	1.1		165.5
		Total	3.5	1.7	1.8	13.4	463.5	764.0	459.8	213.8	50.5	4.8		211.3
1983	Cases	Male	10	2	3	32	3223	9455	6186	5592	1801	116	586	27006
		Female	6	19	31	185	5469	6904	2934	1719	414	25	442	18148
		Unspecified	0	0	0	0	0	5	0	0	2	0	104	111
		Total	16	21	34	217	8692	16364	9120	7311	2217	141	1132	45265
	Rates	Male	5.3	0.3	0.3	3.3	286.9	743.2	518.7	277.7	69.0	7.4		214.2
		Female	3.3	2.7	3.5	20.1	512.4	558.9	247.7	86.9	16.0	1.2		142.3
		Total	4.3	1.4	1.9	11.5	396.7	652.6	383.7	183.1	42.6	3.9		178.4
1984	Cases	Male	7	2	3	51	3094	9024	5966	5226	1828	98	553	25852
		Female	4	22	26	240	5501	6832	2792	1677	365	23	442	17924
		Unspecified	0	0	0	0	4	2	0	1	0	0	91	98
		Total	11	24	29	291	8599	15858	8758	6904	2193	121	1086	43874
	Rates	Male	3.7	0.3	0.3	5.3	288.2	704.9	491.8	252.6	69.0	6.1		203.2
		Female	2.2	3.1	3.0	26.4	540.0	553.6	232.6	82.1	13.9	1.1		139.1
		Total	3.0	1.6	1.6	15.6	410.9	630.7	362.9	168.0	41.5	3.3		171.3

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Age group (years)

YEAR		SEX	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+	NS	Total
1985	Cases	Male	8	1	4	41	2804	8545	5091	4484	1522	88	689	23277
		Female	5	19	26	207	5448	6445	2666	1598	349	18	618	17399
		Unspecified	0	0	0	0	2	3	1	0	0	0	55	61
		Total	13	20	30	248	8254	14993	7758	6082	1871	106	1362	40737
	Rates	Male	4.2	0.1	0.4	4.4	270.5	670.4	413.9	210.6	56.5	5.4		181.4
		Female	2.8	2.6	2.9	23.0	554.9	526.6	220.2	75.8	13.1	0.8		133.7
		Total	3.5	1.4	1.7	13.5	409.0	600.1	317.9	143.5	34.9	2.8		157.6
1986	Cases	Male	7	1	6	34	2715	7042	4542	3413	1164	100	434	19458
		Female	7	23	21	227	5128	5690	2513	1394	320	28	393	15744
		Unspecified	0	0	0	0	0	0	3	1	0	0	81	85
		Total	14	24	27	261	7843	12732	7058	4808	1484	128	908	35287
	Rates	Male	3.7	0.1	0.6	3.7	266.0	563.5	362.5	156.3	42.3	5.9		150.2
		Female	3.9	3.2	2.4	25.6	530.3	475.6	205.1	64.3	11.7	1.3		119.7
		Total	3.8	1.6	1.5	14.4	394.6	520.5	284.8	110.5	27.1	3.3		135.2
1987	Cases	Male	3	7	4	35	2288	5361	3307	2447	897	74	332	14755
		Female	6	18	30	195	4357	4578	2017	1084	298	17	323	12923
		Unspecified	0	0	0	0	1	0	0	0	0	0	239	240
		Total	9	25	34	230	6646	9939	5324	3531	1195	91	894	27918
	Rates	Male	1.6	0.9	0.4	3.8	227.7	443.5	259.2	109.6	31.6	4.3		112.4
		Female	3.3	2.5	3.3	21.9	456.9	396.5	162.5	48.9	10.6	0.8		97.0
		Total	2.4	1.7	1.8	12.6	339.3	420.6	211.5	79.4	21.2	2.3		105.6
1988	Cases	Male	2	1	4	26	1558	3604	2395	1840	667	48	236	10381
		Female	5	11	25	139	3209	3293	1531	828	220	14	226	9501
		Unspecified	0	0	0	0	0	0	0	0	0	0	220	220
		Total	7	12	29	165	4767	6897	3926	2668	887	62	682	20102
	Rates	Male	1.1	0.1	0.4	2.8	156.2	312.5	185.3	80.5	22.8	2.7		78.1
		Female	2.8	1.5	2.7	15.5	338.7	298.2	121.7	36.4	7.6	0.6		70.3
		Total	1.9	0.8	1.5	9.0	245.1	305.5	153.9	58.5	15.2	1.5		75.0
1989	Cases	Male	7	1	2	26	1503	3355	2345	2009	735	54	241	10278
		Female	3	22	18	144	3083	2850	1445	822	221	10	160	8778
		Unspecified	0	1	0	0	1	3	2	2	0	0	45	54
		Total	10	24	20	170	4587	6208	3792	2833	956	64	446	19110
	Rates	Male	3.6	0.1	0.2	2.7	151.1	301.4	178.5	85.1	24.3	3.0		76.0
		Female	1.6	3.0	1.9	15.9	326.2	265.7	113.0	35.1	7.4	0.4		63.8
		Total	2.6	1.6	1.1	9.2	236.4	284.0	146.2	60.2	15.9	1.5		70.0

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Age group (years)

YEAR		SEX	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+	NS	Total
1990	Cases	Male	5	1	3	21	1140	2373	1791	1553	553	57	184	7681
		Female	9	13	9	139	2168	1911	918	564	176	10	107	6024
		Unspecified	1	0	0	0	3	7	1	4	0	0	101	117
		Total	15	14	12	160	3311	4291	2710	2121	729	67	392	13822
	Rates	Male	2.4	0.1	0.3	2.2	114.6	219.5	136.9	64.2	17.8	3.0		55.9
		Female	4.6	1.7	1.0	15.2	229.8	183.2	72.0	23.4	5.7	0.4		43.1
		Total	3.7	0.9	0.6	8.5	170.8	202.0	104.9	44.0	11.8	1.6		49.9
1991	Cases	Male	4	0	0	22	576	1141	897	831	344	41	3230	7086
		Female	2	12	3	109	1082	958	454	319	93	5	2315	5352
		Unspecified	0	0	0	0	0	1	0	0	0	0	18	19
		Total	6	12	3	131	1658	2100	1351	1150	437	46	5563	12457
	Rates	Male	1.9	0.0	0.0	2.3	58.1	107.4	70.6	33.6	10.7	2.1		51.0
		Female	1.0	1.6	0.3	11.8	115.5	93.4	36.7	13.0	2.9	0.2		37.9
		Total	1.5	0.8	0.2	6.9	86.0	100.6	53.9	23.3	6.8	1.0		44.4
1992	Cases	Male	8	0	1	19	781	1485	1175	1138	428	51	62	5148
		Female	7	9	6	140	1644	1195	582	381	85	12	32	4093
		Unspecified	0	0	0	0	2	2	4	1	1	0	2	12
		Total	15	9	7	159	2427	2682	1761	1520	514	63	96	9253
	Rates	Male	3.9	0.0	0.1	1.9	78.8	140.8	95.5	45.3	13.0	2.6		36.6
		Female	3.6	1.2	0.6	14.9	175.4	117.5	48.4	15.2	2.6	0.5		28.6
		Total	3.7	0.6	0.4	8.2	125.9	129.5	72.4	30.3	7.8	1.4		32.6
1993	Cases	Male	1	1	3	8	596	1013	884	845	323	26	38	3738
		Female	0	11	3	88	1185	997	402	298	79	4	19	3086
		Unspecified	0	0	1	1	2	0	0	0	0	1	3	8
		Total	1	12	7	97	1783	2010	1286	1143	402	31	60	6832
	Rates	Male	0.5	0.1	0.3	0.8	59.9	96.9	74.6	33.0	9.5	1.3		26.3
		Female	0.0	1.4	0.3	9.2	126.0	99.1	34.8	11.7	2.3	0.2		21.3
		Total	0.3	0.7	0.4	5.0	92.2	98.0	54.9	22.4	5.9	0.7		23.8
1994	Cases	Male	3	0	1	10	433	796	821	971	386	34	23	3478
		Female	1	4	3	83	947	817	363	293	92	7	35	2645
		Unspecified	0	0	0	0	2	2	1	4	0	0	35	44
		Total	4	4	4	93	1382	1615	1185	1268	478	41	93	6167
	Rates	Male	1.5	0.0	0.1	1.0	43.0	76.9	71.9	37.3	11.0	1.7		24.2
		Female	0.5	0.5	0.3	8.6	99.5	82.0	32.6	11.4	2.6	0.3		18.1
		Total	1.0	0.2	0.2	4.7	70.5	79.5	52.5	24.5	6.8	0.9		21.2

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Age group (years)

YEAR		SEX	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+	NS	Total
1995	Cases	Male	3	2	0	9	425	769	710	980	360	36	28	3322
		Female	1	4	2	75	888	761	347	243	51	1	12	2385
		Unspecified	0	0	0	0	2	0	2	1	1	0	2	8
		Total	4	6	2	84	1315	1530	1059	1224	412	37	42	5715
	Rates	Male	1.5	0.2	0.0	0.9	41.7	74.8	63.9	37.4	10.0	1.7		22.9
		Female	0.5	0.5	0.2	7.7	92.2	76.9	32.0	9.4	1.4	0.0		16.1
		Total	1.0	0.4	0.1	4.2	66.3	75.8	48.3	23.5	5.7	0.8		19.5
1996	Cases	Male	1	2	1	5	345	688	614	820	320	26	23	2845
		Female	2	3	2	64	844	652	320	210	60	2	9	2168
		Unspecified	0	0	0	0	0	1	0	4	0	0	5	10
		Total	3	5	3	69	1189	1341	934	1034	380	28	37	5023
	Rates	Male	0.5	0.2	0.1	0.5	33.3	67.2	56.1	31.3	8.6	1.2		19.4
		Female	1.1	0.4	0.2	6.5	86.3	66.1	29.9	8.1	1.6	0.1		14.5
		Total	0.8	0.3	0.1	3.4	59.1	66.7	43.2	19.9	5.1	0.6		16.9
1997	Cases	Male	0	0	0	2	333	599	570	765	337	23	17	2646
		Female	0	0	2	56	716	578	235	184	42	4	5	1822
		Unspecified	0	0	0	0	0	2	0	2	0	1	4	9
		Total	0	0	2	58	1049	1179	805	951	379	28	26	4477
	Rates	Male	0.0	0.0	0.0	0.2	31.9	58.1	52.5	29.3	8.7	1.1		17.8
		Female	0.0	0.0	0.2	5.7	72.5	58.2	22.1	7.2	1.1	0.1		12.0
		Total	0.0	0.0	0.1	2.9	51.7	58.3	37.5	18.4	4.9	0.6		14.9
1998	Cases	Male	0	0	3	5	327	665	571	898	406	32	14	2921
		Female	3	5	3	51	799	575	245	196	53	5	3	1938
		Unspecified	0	0	0	0	0	2	0	0	0	0	7	9
		Total	3	5	6	56	1126	1242	816	1094	459	37	24	4868
	Rates	Male	0.0	0.0	0.3	0.5	31.1	64.0	53.0	34.9	10.2	1.5		19.5
		Female	1.8	0.7	0.3	5.2	80.2	57.7	23.3	7.7	1.3	0.2		12.7
		Total	0.9	0.3	0.3	2.8	55.0	61.0	38.3	21.4	5.7	0.7		16.1
1999	Cases	Male	1	0	1	2	337	737	597	1077	518	45	7	3322
		Female	0	4	5	49	798	636	293	193	71	2	3	2054
		Unspecified	0	0	0	0	1	0	0	1	0	0	3	5
		Total	1	4	6	51	1136	1373	890	1271	589	47	13	5381
	Rates	Male	0.6	0.0	0.1	0.2	31.8	70.0	55.7	42.4	12.6	2.0		22.0
		Female	0.0	0.6	0.5	5.0	79.5	63.0	28.0	7.7	1.7	0.1		13.3
		Total	0.3	0.3	0.3	2.5	55.1	66.6	42.0	25.2	7.1	0.9		17.6

GONORRHEA

Age group (years)

YEAR		SEX	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+	NS	Total
2000	Cases	Male	1	1	0	6	432	824	656	1246	612	46	5	3829
		Female	1	1	0	47	969	732	300	223	71	6	3	2353
		Unspecified	0	0	0	0	1	0	0	0	3	0	3	7
		Total	2	2	0	53	1402	1556	956	1469	686	52	11	6189
	Rates	Male	0.6	0.1	0.0	0.6	40.6	77.3	61.4	49.6	14.4	2.0		25.1
		Female	0.6	0.1	0.0	4.7	96.0	71.8	28.7	9.0	1.7	0.2		15.1
		Total	0.6	0.1	0.0	2.6	67.6	74.6	45.2	29.5	8.0	1.0		20.1
2001	Cases	Male	0	0	0	4	467	980	740	1224	704	53	4	4176
		Female	3	0	3	58	1007	852	310	236	96	4	2	2571
		Unspecified	0	0	0	0	2	2	1	3	0	0	1	9
		Total	3	0	3	62	1476	1834	1051	1463	800	57	7	6756
	Rates	Male	0.0	0.0	0.0	0.4	42.9	90.9	70.3	49.7	16.1	2.3		27.2
		Female	1.9	0.0	0.3	5.7	98.0	82.8	30.4	9.8	2.2	0.1		16.4
		Total	0.9	0.0	0.1	3.0	69.8	87.0	50.7	30.0	9.1	1.1		21.8
2002	Cases	Male	0	0	0	8	472	1122	814	1341	767	60	5	4589
		Female	2	2	3	62	1049	872	374	301	97	4	4	2770
		Unspecified	0	0	0	0	0	1	0	2	1	0	2	6
		Total	2	2	3	70	1521	1995	1188	1644	865	64	11	7365
	Rates	Male	0.0	0.0	0.0	0.7	43.2	102.6	77.0	55.3	17.0	2.5		29.5
		Female	1.3	0.3	0.3	6.0	101.6	83.4	36.4	12.6	2.1	0.1		17.5
		Total	0.6	0.1	0.2	3.3	71.5	93.3	57.0	34.2	9.6	1.2		23.5
2003	Cases	Male	0	0	0	5	535	1242	890	1362	906	73	12	5025
		Female	1	2	0	59	1225	1032	418	346	117	7	3	3210
		Unspecified	0	0	0	0	1	1	0	1	0	1	2	6
		Total	1	2	0	64	1761	2275	1308	1709	1023	81	17	8241
	Rates	Male	0.0	0.0	0.0	0.5	48.9	111.8	83.8	57.4	19.6	3.0		32.1
		Female	0.6	0.3	0.0	5.7	118.5	97.1	40.4	14.9	2.5	0.2		20.1
		Total	0.3	0.1	0.0	3.0	82.7	104.6	62.4	36.3	11.0	1.5		26.0
2004	Cases	Male	0	0	0	7	632	1469	1019	1539	1121	93	8	5888
		Female	1	0	1	69	1311	1099	465	337	134	5	0	3422
		Unspecified	0	0	0	0	0	0	3	1	1	0	2	7
		Total	1	0	1	76	1943	2568	1487	1877	1256	98	10	9317
	Rates	Male	0.0	0.0	0.0	0.6	57.3	130.2	95.0	66.3	23.7	3.7		37.2
		Female	0.6	0.0	0.1	6.6	126.0	101.8	44.2	14.8	2.8	0.2		21.2
		Total	0.3	0.0	0.1	3.5	90.6	116.3	70.0	40.8	13.2	1.7		29.2

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Age group (years)

YEAR		SEX	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+	NS	Total
2005	Cases	Male	0	0	0	7	613	1399	1083	1438	1113	93	5	5751
		Female	2	1	2	91	1232	1171	459	342	127	10	4	3441
		Unspecified[3]	0	0	0	0	1	3	2	2	1	0	1	10
		Total	2	1	2	98	1846	2573	1544	1782	1241	103	10	9202
	Rates	Male	0.0	0.0	0.0	0.6	54.8	122.5	99.9	62.9	23.0	3.6		36.0
		Female	1.2	0.2	0.2	8.8	116.6	107.4	43.1	15.2	2.6	0.3		21.2
		Total	0.6	0.1	0.1	4.6	84.8	115.3	71.8	39.3	12.8	1.8		28.5
2006	Cases	Male	2	1	0	5	760	1635	1266	1612	1405	137	26	6849
		Female	2	3	6	86	1515	1426	662	506	233	14	15	4468
		Unspecified[3]	0	0	0	0	0	3	1	1	1	0	0	6
		Total	4	4	6	91	2275	3064	1929	2119	1639	151	41	11323
	Rates	Male	1.1	0.1	0.0	0.5	66.7	141.4	114.9	71.2	28.5	5.1		42.3
		Female	1.2	0.4	0.7	8.4	140.9	129.8	61.0	22.8	4.7	0.4		27.2
		Total	1.1	0.3	0.3	4.3	102.8	135.9	88.2	47.2	16.6	2.5		34.7
2007	Cases	Male	0	0	0	12	825	1793	1330	1483	1347	117	9	6916
		Female	0	5	9	83	1642	1680	751	586	196	13	2	4967
		Unspecified[3]	0	0	0	0	0	1	0	3	0	0	1	5
		Total	0	5	9	95	2467	3474	2081	2072	1543	130	12	11888
	Rates	Male	0.0	0.0	0.0	1.1	71.8	154.0	118.3	65.5	27.2	4.2		42.4
		Female	0.0	0.7	1.0	8.3	150.7	151.8	67.7	26.2	3.9	0.4		29.9
		Total	0.0	0.4	0.5	4.6	110.2	153.0	93.2	46.0	15.5	2.1		36.1
2008	Cases	Male	0	0	4	16	809	1928	1390	1527	1222	116	1	7013
		Female	0	4	5	77	1825	1838	913	670	260	13	2	5607
		Unspecified[3]	0	0	0	0	1	2	1	1	1	0	1	7
		Total	0	4	9	93	2635	3768	2304	2198	1483	129	4	12627
	Rates	Male	0.0	0.0	0.4	1.6	70.0	164.4	120.5	67.1	24.5	4.0		42.5
		Female	0.0	0.6	0.6	7.8	165.9	165.2	80.5	29.8	5.2	0.4		33.4
		Total	0.0	0.3	0.5	4.6	116.8	164.9	100.7	48.6	14.8	2.0		37.9
2009	Cases	Male	1	0	1	107	840	1642	1195	1215	1036	86	6	6129
		Female	0	8	12	316	1596	1551	806	531	185	16	3	5024
		Unspecified[3]	0	0	0	0	3	4	1	2	0	1	2	13
		Total	1	8	13	423	2439	3197	2002	1748	1221	103	11	11166
	Rates	Male	0.5	0.0	0.1	10.6	72.9	137.7	100.8	53.1	20.6	2.9		36.6
		Female	0.0	1.1	1.4	32.8	145.3	137.4	69.4	23.4	3.7	0.4		29.6
		Total	0.3	0.5	0.7	21.4	108.4	137.8	85.3	38.3	12.1	1.6		33.1

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YEAR		SEX	Age group (years) <1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+	NS	Total
2010	Cases	Male	1	1	3	109	778	1634	1332	1307	1103	116	1	6385
		Female	0	7	11	238	1597	1539	782	564	240	20	5	5003
		Unspecified[3]	0	0	0	0	0	2	1	2	1	1	2	9
		Total	1	8	14	347	2375	3175	2115	1873	1344	137	8	11397
	Rates	Male	0.5	0.1	0.3	11.0	68.2	134.5	109.9	56.7	21.8	3.7		37.7
		Female	0.0	1.0	1.3	25.2	147.0	133.8	66.1	24.6	4.7	0.5		29.1
		Total	0.3	0.5	0.8	17.9	106.7	134.3	88.3	40.8	13.3	2.0		33.4

[1] Rate per 100,000 population. Population estimates provided by Statistics Canada. (Source: Statistics Canada, Demography Division, Demographic Estimates Section, July Population Estimates, 1997-2005 final intercensal estimates, 2006-2007 final postcensal estimates, 2008-2009 updated postcensal estimates, 2010 preliminary postcensal estimates.)

[2] 2010 data are preliminary and changes are anticipated. Data were verified with provinces and territories as of November, 2011.

[3] Unspecified sex includes transgender cases.

SOURCE: Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada, 2012.

NOTE: Small variability may exist between data reported by the provinces/territories and the Public Health Agency of Canada. Provincial/territorial data are definitive should a discrepancy exist.

TABLE 16: Reported Cases and Rates[1] of Infectious Syphilis[2] by Province/Territory and Sex, 1993 to 2010[3]

			INFECTIOUS SYPHILIS[2]												
YEAR		SEX	NL	PE/NS	NB	QC	ON	MB	SK	AB	BC	YT	NT	NU[4]	Total
1993	Cases	Male	0	6	0	11	58	2	3	5	12	0	0		97
		Female	0	9	0	6	53	1	2	1	4	0	0		76
		Unspecified	0	0	0	0	4	0	0	0	0	0	0		4
		Total	0	15	0	17	115	3	5	6	16	0	0		177
	Rates	Male	0.0	1.2	0.0	0.3	1.1	0.4	0.6	0.4	0.7	0.0	0.0		0.7
		Female	0.0	1.7	0.0	0.2	1.0	0.2	0.4	0.1	0.2	0.0	0.0		0.5
		Total	0.0	1.4	0.0	0.2	1.1	0.3	0.5	0.2	0.4	0.0	0.0		0.6
1994	Cases	Male	0	11	2	16	55	3	11	5	9	0	0		112
		Female	1	14	2	4	35	1	7	3	3	1	0		71
		Unspecified	0	0	0	0	3	0	0	0	2	0	0		5
		Total	1	25	4	20	93	4	18	8	14	1	0		188
	Rates	Male	0.0	2.1	0.5	0.5	1.0	0.5	2.2	0.4	0.5	0.0	0.0		0.8
		Female	0.3	2.6	0.5	0.1	0.6	0.2	1.4	0.2	0.2	7.0	0.0		0.5
		Total	0.2	2.4	0.5	0.3	0.9	0.4	1.8	0.3	0.4	3.3	0.0		0.6
1995	Cases	Male	1	1	1	6	58	3	9	3	13	0	0		95
		Female	0	0	0	8	28	1	10	1	4	0	0		52
		Unspecified	0	0	0	0	0	0	0	0	0	0	0		0
		Total	1	1	1	14	86	4	19	4	17	0	0		147
	Rates	Male	0.4	0.2	0.3	0.2	1.1	0.5	1.8	0.2	0.7	0.0	0.0		0.7
		Female	0.0	0.0	0.0	0.2	0.5	0.2	2.0	0.1	0.2	0.0	0.0		0.4
		Total	0.2	0.1	0.1	0.2	0.8	0.4	1.9	0.1	0.4	0.0	0.0		0.5
1996	Cases	Male	0	1	0	10	41	1	4	1	16	0	0		74
		Female	0	2	0	2	32	0	5	0	4	0	0		45
		Unspecified	0	0	0	0	0	0	0	0	0	0	0		0
		Total	0	3	0	12	73	1	9	1	20	0	0		119
	Rates	Male	0.0	0.2	0.0	0.3	0.7	0.2	0.8	0.1	0.8	0.0	0.0		0.5
		Female	0.0	0.4	0.0	0.1	0.6	0.0	1.0	0.0	0.2	0.0	0.0		0.3
		Total	0.0	0.3	0.0	0.2	0.7	0.1	0.9	0.0	0.5	0.0	0.0		0.4
1997	Cases	Male	0	0	0	4	28	0	1	3	29	0	0		65
		Female	0	1	0	3	21	0	1	4	20	0	0		50
		Unspecified	0	0	0	0	0	0	0	0	0	0	0		0
		Total	0	1	0	7	49	0	2	7	49	0	0		115
	Rates	Male	0.0	0.0	0.0	0.1	0.5	0.0	0.2	0.2	1.5	0.0	0.0		0.4
		Female	0.0	0.2	0.0	0.1	0.4	0.0	0.2	0.3	1.0	0.0	0.0		0.3
		Total	0.0	0.1	0.0	0.1	0.4	0.0	0.2	0.2	1.2	0.0	0.0		0.4

INFECTIOUS SYPHILIS[2]

YEAR		SEX	NL	PE/NS	NB	QC	ON	MB	SK	AB	BC	YT	NT	NU[4]	Total
1998	Cases	Male	0	1	0	2	25	2	4	6	70	0	0		110
		Female	0	1	0	2	16	1	2	0	45	0	0		67
		Unspecified	0	0	0	0	0	0	0	0	0	0	0		0
		Total	0	2	0	4	41	3	6	6	115	0	0		177
	Rates	Male	0.0	0.2	0.0	0.1	0.4	0.4	0.8	0.4	3.5	0.0	0.0		0.7
		Female	0.0	0.2	0.0	0.1	0.3	0.2	0.4	0.0	2.2	0.0	0.0		0.4
		Total	0.0	0.2	0.0	0.1	0.4	0.3	0.6	0.2	2.9	0.0	0.0		0.6
1999	Cases	Male	0	1	0	2	37	0	0	2	71	0	0		113
		Female	0	0	0	2	17	0	1	0	58	0	0		78
		Unspecified	0	0	0	0	0	0	0	0	0	0	0		0
		Total	0	1	0	4	54	0	1	2	129	0	0		191
	Rates	Male	0.0	0.2	0.0	0.1	0.7	0.0	0.0	0.1	3.5	0.0	0.0		0.7
		Female	0.0	0.0	0.0	0.1	0.3	0.0	0.2	0.0	2.9	0.0	0.0		0.5
		Total	0.0	0.1	0.0	0.1	0.5	0.0	0.1	0.1	3.2	0.0	0.0		0.6
2000	Cases	Male	0	0	0	5	29	0	1	13	59	7	0	0	114
		Female	0	1	0	2	14	1	0	2	36	4	0	0	60
		Unspecified	0	0	0	0	0	0	0	0	0	0	0	0	0
		Total	0	1	0	7	43	1	1	15	95	11	0	0	174
	Rates	Male	0.0	0.0	0.0	0.1	0.5	0.0	0.2	0.9	2.9	44.4	0.0	0.0	0.7
		Female	0.0	0.2	0.0	0.1	0.2	0.2	0.0	0.1	1.8	27.0	0.0	0.0	0.4
		Total	0.0	0.1	0.0	0.1	0.4	0.1	0.1	0.5	2.3	36.0	0.0	0.0	0.6
2001	Cases	Male	0	0	0	15	37	1	2	13	103	13	0	0	184
		Female	1	0	0	0	9	0	1	7	76	9	0	0	103
		Unspecified	0	0	0	0	0	0	0	0	0	0	0	0	0
		Total	1	0	0	15	46	1	3	20	179	22	0	0	287
	Rates	Male	0.0	0.0	0.0	0.4	0.6	0.2	0.4	0.8	5.1	84.7	0.0	0.0	1.2
		Female	0.4	0.0	0.0	0.0	0.1	0.0	0.2	0.5	3.7	60.8	0.0	0.0	0.7
		Total	0.2	0.0	0.0	0.2	0.4	0.1	0.3	0.7	4.4	73.0	0.0	0.0	0.9
2002	Cases	Male	0	1	1	47	207	4	0	9	113	4	0	0	386
		Female	0	0	1	0	12	2	1	5	72	2	0	0	95
		Unspecified	0	0	0	0	0	0	0	0	1	0	0	0	1
		Total	0	1	2	47	219	6	1	14	186	6	0	0	482
	Rates	Male	0.0	0.2	0.3	1.3	3.5	0.7	0.0	0.6	5.6	25.9	0.0	0.0	2.5
		Female	0.0	0.0	0.3	0.0	0.2	0.3	0.2	0.3	3.5	13.4	0.0	0.0	0.6
		Total	0.0	0.1	0.3	0.6	1.8	0.5	0.1	0.4	4.5	19.8	0.0	0.0	1.5
2003	Cases	Male	1	10	3	148	362	21	5	33	172	3	0	0	758
		Female	0	0	1	5	24	16	1	9	89	2	1	0	148
		Unspecified	0	0	0	1	0	0	0	0	1	0	0	0	2
		Total	1	10	4	154	386	37	6	42	262	5	1	0	908
	Rates	Male	0.4	1.9	0.8	4.0	6.0	3.6	1.0	2.0	8.4	19.0	0.0	0.0	4.8
		Female	0.0	0.0	0.3	0.1	0.4	2.7	0.2	0.6	4.3	13.2	4.9	0.0	0.9
		Total	0.2	0.9	0.5	2.1	3.2	3.2	0.6	1.3	6.4	16.1	2.3	0.0	2.9

INFECTIOUS SYPHILIS[2]

YEAR		SEX	NL	PE/NS	NB	QC	ON	MB	SK	AB	BC	YT	NT	NU[4]	Total
2004	Cases	Male	0	14	3	218	428	17	2	58	227	1	1	0	969
		Female	0	0	1	14	16	6	0	16	78	0	1	1	133
		Unspecified	0	0	0	1	1	0	0	0	0	0	0	0	2
		Total	0	14	4	233	445	23	2	74	305	1	2	1	1104
	Rates	Male	0.0	2.7	0.8	5.9	7.0	2.9	0.4	3.5	11.0	6.2	4.5	0.0	6.1
		Female	0.0	0.0	0.3	0.4	0.3	1.0	0.0	1.0	3.7	0.0	4.8	7.0	0.8
		Total	0.0	1.3	0.5	3.1	3.6	2.0	0.2	2.3	7.3	3.2	4.6	3.3	3.5
2005	Cases	Male	2	2	1	249	338	47	1	85	202	1	0	0	928
		Female	0	0	0	8	19	4	1	51	85	0	0	0	168
		Unspecified[5]	0	0	0	0	0	0	0	0	1	0	0	0	1
		Total	2	2	1	257	357	51	2	136	288	1	0	0	1097
	Rates	Male	0.8	0.4	0.3	6.6	5.5	8.0	0.2	5.1	9.7	6.1	0.0	0.0	5.8
		Female	0.0	0.0	0.0	0.2	0.3	0.7	0.2	3.1	4.0	0.0	0.0	0.0	1.0
		Total	0.4	0.2	0.1	3.4	2.8	4.3	0.2	4.1	6.9	3.1	0.0	0.0	3.4
2006	Cases	Male	0	2	0	372	343	26	14	151	254	0	0	0	1162
		Female	0	0	0	6	26	0	3	67	77	0	0	0	179
		Unspecified[5]	0	0	0	0	0	0	0	0	0	0	0	0	0
		Total	0	2	0	378	369	26	17	218	331	0	0	0	1341
	Rates	Male	0.0	0.4	0.0	9.8	5.5	4.4	2.8	8.7	12.1	0.0	0.0	0.0	7.2
		Female	0.0	0.0	0.0	0.2	0.4	0.0	0.6	4.0	3.6	0.0	0.0	0.0	1.1
		Total	0.0	0.2	0.0	5.0	2.9	2.2	1.7	6.4	7.8	0.0	0.0	0.0	4.1
2007	Cases	Male	2	1	2	241	387	26	9	176	243	0	0	0	1087
		Female	1	1	0	7	20	1	1	74	55	0	0	0	160
		Unspecified[5]	0	0	0	0	0	0	0	0	1	0	0	0	1
		Total	3	2	2	248	407	27	10	250	299	0	0	0	1248
	Rates	Male	0.8	0.2	0.5	6.3	6.1	4.4	1.8	9.8	11.4	0.0	0.0	0.0	6.7
		Female	0.4	0.2	0.0	0.2	0.3	0.2	0.2	4.3	2.5	0.0	0.0	0.0	1.0
		Total	0.6	0.2	0.3	3.2	3.2	2.3	1.0	7.1	6.9	0.0	0.0	0.0	3.8
2008	Cases	Male	6	0	5	370	415	10	8	144	218	0	26	0	1202
		Female	2	0	1	8	34	3	4	101	16	0	21	0	190
		Unspecified[5]	0	0	0	1	1	0	0	0	1	0	0	0	3
		Total	8	0	6	379	450	13	12	245	235	0	47	0	1395
	Rates	Male	2.4	0.0	1.4	9.6	6.5	1.7	1.6	7.8	10.0	0.0	114.8	0.0	7.3
		Female	0.8	0.0	0.3	0.2	0.5	0.5	0.8	5.7	0.7	0.0	99.7	0.0	1.1
		Total	1.6	0.0	0.8	4.9	3.5	1.1	1.2	6.8	5.4	0.0	107.5	0.0	4.2
2009[6]	Cases	Male	3	23	8	356	689	8	16	189	188	3	23	0	1506
		Female	0	1	1	17	22	0	7	90	28	0	18	0	184
		Unspecified[5]	0	0	0	1	0	0	0	0	0	0	0	0	1
		Total	3	24	9	374	711	8	23	279	216	3	41	0	1691
	Rates	Male	1.2	4.4	2.2	9.2	10.7	1.3	3.1	10.1	8.5	17.5	101.8	0.0	9.0
		Female	0.0	0.2	0.3	0.4	0.3	0.0	1.4	5.0	1.2	0.0	85.4	0.0	1.1
		Total	0.6	2.2	1.2	4.8	5.4	0.7	2.2	7.6	4.8	8.9	93.9	0.0	5.0

INFECTIOUS SYPHILIS[2]

YEAR		SEX	NL	PE/NS	NB	QC	ON	MB	SK	AB	BC	YT	NT	NU[4]	Total
2010[6]	Cases	Male	4	20	32	511	728	9	27	114	141	1	3	0	1590
		Female	0	1	2	26	46	8	9	54	14	0	5	0	165
		Unspecified[5]	0	0	0	2	0	0	0	0	0	0	0	0	2
		Total	4	21	34	539	774	17	36	168	155	1	8	0	1757
	Rates	Male	1.6	3.8	8.7	13.0	11.2	1.5	5.2	6.0	6.3	5.7	13.3	0.0	9.4
		Female	0.0	0.2	0.5	0.7	0.7	1.3	1.7	3.0	0.6	0.0	23.7	0.0	1.0
		Total	0.8	1.9	4.5	6.8	5.9	1.4	3.4	4.5	3.4	2.9	18.3	0.0	5.2

[1] Rate per 100,000 population. Population estimates provided by Statistics Canada. (Source: Statistics Canada, Demography Division, Demographic Estimates Section, July Population Estimates, 1997-2005 final intercensal estimates, 2006-2007 final postcensal estimates, 2008-2009 updated postcensal estimates, 2010 preliminary postcensal estimates.)

[2] Infectious syphilis includes primary, secondary and early latent stages.

[3] 2010 data are preliminary and changes are anticipated. Data were verified with provinces and territories as of November, 2011.

[4] Nunavut did not officially become a territory until 1999; prior to 1999, data for Nunavut was combined with Northwest Territories.

[5] Unspecified sex includes transgender cases.

[6] Due to small counts, NS and PE Cases and Rates have been combined.

SOURCE: Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada, 2012.

NOTE: Small variability may exist between data reported by the provinces/territories and the Public Health Agency of Canada. Provincial/territorial data are definitive should a discrepancy exist.

TABLE 17: Reported Cases and Rates[1] of Infectious Syphilis[2] by Age Group and Sex, 1993 to 2010[3]

			INFECTIOUS SYPHILIS[2]											
			Age group (years)											
YEAR		SEX	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+	NS	Total
1993	Cases	Male	0	0	0	0	2	14	16	30	29	6	0	97
		Female	1	0	0	0	13	24	10	15	7	6	0	76
		Unspecified	0	0	0	0	1	0	0	1	1	0	1	4
		Total	1	0	0	0	16	38	26	46	37	12	1	177
	Rates	Male	0.0	0.0	0.0	0.0	0.2	1.3	1.4	1.2	0.9	0.3		0.7
		Female	0.5	0.0	0.0	0.0	1.4	2.4	0.9	0.6	0.2	0.2		0.5
		Total	0.3	0.0	0.0	0.0	0.8	1.9	1.1	0.9	0.5	0.3		0.6
1994	Cases	Male	0	0	0	0	3	15	19	31	32	12	0	112
		Female	0	0	0	0	9	17	14	15	11	5	0	71
		Unspecified	0	0	0	0	0	1	1	1	0	1	1	5
		Total	0	0	0	0	12	33	34	47	43	18	1	188
	Rates	Male	0.0	0.0	0.0	0.0	0.3	1.4	1.7	1.2	0.9	0.6		0.8
		Female	0.0	0.0	0.0	0.0	0.9	1.7	1.3	0.6	0.3	0.2		0.5
		Total	0.0	0.0	0.0	0.0	0.6	1.6	1.5	0.9	0.6	0.4		0.6
1995	Cases	Male	0	0	0	0	1	16	13	31	27	6	1	95
		Female	0	0	0	0	9	11	10	14	8	0	0	52
		Unspecified	0	0	0	0	0	0	0	0	0	0	0	0
		Total	0	0	0	0	10	27	23	45	35	6	1	147
	Rates	Male	0.0	0.0	0.0	0.0	0.1	1.6	1.2	1.2	0.7	0.3		0.7
		Female	0.0	0.0	0.0	0.0	0.9	1.1	0.9	0.5	0.2	0.0		0.4
		Total	0.0	0.0	0.0	0.0	0.5	1.3	1.0	0.9	0.5	0.1		0.5
1996	Cases	Male	0	0	0	0	3	7	12	28	20	3	1	74
		Female	0	0	0	0	6	8	12	12	5	2	0	45
		Unspecified	0	0	0	0	0	0	0	0	0	0	0	0
		Total	0	0	0	0	9	15	24	40	25	5	1	119
	Rates	Male	0.0	0.0	0.0	0.0	0.3	0.7	1.1	1.1	0.5	0.1		0.5
		Female	0.0	0.0	0.0	0.0	0.6	0.8	1.1	0.5	0.1	0.1		0.3
		Total	0.0	0.0	0.0	0.0	0.4	0.7	1.1	0.8	0.3	0.1		0.4
1997	Cases	Male	0	0	0	0	1	3	8	26	26	1	0	65
		Female	0	0	0	0	3	8	13	17	8	1	0	50
		Unspecified	0	0	0	0	0	0	0	0	0	0	0	0
		Total	0	0	0	0	4	11	21	43	34	2	0	115
	Rates	Male	0.0	0.0	0.0	0.0	0.1	0.3	0.7	1.0	0.7	0.0		0.4
		Female	0.0	0.0	0.0	0.0	0.3	0.8	1.2	0.7	0.2	0.0		0.3
		Total	0.0	0.0	0.0	0.0	0.2	0.5	1.0	0.8	0.4	0.0		0.4

INFECTIOUS SYPHILIS[2]

YEAR		SEX	Age group (years) <1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+	NS	Total
1998	Cases	Male	0	0	0	0	2	4	13	41	39	11	0	110
		Female	0	0	0	0	6	8	10	26	14	3	0	67
		Unspecified	0	0	0	0	0	0	0	0	0	0	0	0
		Total	0	0	0	0	8	12	23	67	53	14	0	177
	Rates	Male	0.0	0.0	0.0	0.0	0.2	0.4	1.2	1.6	1.0	0.5		0.7
		Female	0.0	0.0	0.0	0.0	0.6	0.8	0.9	1.0	0.3	0.1		0.4
		Total	0.0	0.0	0.0	0.0	0.4	0.6	1.1	1.3	0.7	0.3		0.6
1999	Cases	Male	0	0	0	0	1	13	11	36	41	11	0	113
		Female	0	0	0	0	8	12	14	19	22	3	0	78
		Unspecified	0	0	0	0	0	0	0	0	0	0	0	0
		Total	0	0	0	0	9	25	25	55	63	14	0	191
	Rates	Male	0.0	0.0	0.0	0.0	0.1	1.2	1.0	1.4	1.0	0.5		0.7
		Female	0.0	0.0	0.0	0.0	0.8	1.2	1.3	0.8	0.5	0.1		0.5
		Total	0.0	0.0	0.0	0.0	0.4	1.2	1.2	1.1	0.8	0.3		0.6
2000	Cases	Male	0	0	0	0	0	3	12	44	44	11	0	114
		Female	0	0	0	0	5	9	8	23	13	2	0	60
		Unspecified	0	0	0	0	0	0	0	0	0	0	0	0
		Total	0	0	0	0	5	12	20	67	57	13	0	174
	Rates	Male	0.0	0.0	0.0	0.0	0.0	0.3	1.1	1.8	1.0	0.5		0.7
		Female	0.0	0.0	0.0	0.0	0.5	0.9	0.8	0.9	0.3	0.1		0.4
		Total	0.0	0.0	0.0	0.0	0.2	0.6	0.9	1.3	0.7	0.3		0.6
2001	Cases	Male	0	0	0	0	4	21	20	62	60	16	1	184
		Female	0	0	0	0	10	25	21	23	22	2	0	103
		Unspecified	0	0	0	0	0	0	0	0	0	0	0	0
		Total	0	0	0	0	14	46	41	85	82	18	1	287
	Rates	Male	0.0	0.0	0.0	0.0	0.4	1.9	1.9	2.5	1.4	0.7		1.2
		Female	0.0	0.0	0.0	0.0	1.0	2.4	2.1	1.0	0.5	0.1		0.7
		Total	0.0	0.0	0.0	0.0	0.7	2.2	2.0	1.7	0.9	0.3		0.9
2002	Cases	Male	0	0	0	0	6	21	31	170	146	12	0	386
		Female	0	0	0	0	6	24	27	23	14	1	0	95
		Unspecified	0	0	0	0	0	0	0	0	0	0	1	1
		Total	0	0	0	0	12	45	58	193	160	13	1	482
	Rates	Male	0.0	0.0	0.0	0.0	0.5	1.9	2.9	7.0	3.2	0.5		2.5
		Female	0.0	0.0	0.0	0.0	0.6	2.3	2.6	1.0	0.3	0.0		0.6
		Total	0.0	0.0	0.0	0.0	0.6	2.1	2.8	4.0	1.8	0.2		1.5

INFECTIOUS SYPHILIS[2]

YEAR		SEX	Age group (years) <1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+	NS	Total
2003	Cases	Male	0	0	0	0	8	32	80	298	307	33	0	758
		Female	0	0	0	0	12	35	34	40	23	4	0	148
		Unspecified	0	0	0	0	0	1	1	0	0	0	0	2
		Total	0	0	0	0	20	68	115	338	330	37	0	908
	Rates	Male	0.0	0.0	0.0	0.0	0.7	2.9	7.5	12.6	6.6	1.4		4.8
		Female	0.0	0.0	0.0	0.0	1.2	3.3	3.3	1.7	0.5	0.1		0.9
		Total	0.0	0.0	0.0	0.0	0.9	3.1	5.5	7.2	3.6	0.7		2.9
2004	Cases	Male	0	0	0	0	7	52	79	322	466	42	1	969
		Female	0	0	0	0	8	30	33	30	28	4	0	133
		Unspecified	0	0	0	0	0	0	0	0	1	0	1	2
		Total	0	0	0	0	15	82	112	352	495	46	2	1104
	Rates	Male	0.0	0.0	0.0	0.0	0.6	4.6	7.4	13.9	9.8	1.7		6.1
		Female	0.0	0.0	0.0	0.0	0.8	2.8	3.1	1.3	0.6	0.1		0.8
		Total	0.0	0.0	0.0	0.0	0.7	3.7	5.3	7.6	5.2	0.8		3.5
2005	Cases	Male	0	0	0	0	11	71	96	284	430	36	0	928
		Female	0	0	0	0	19	33	39	37	37	3	0	168
		Unspecified[4]	0	0	0	0	0	1	0	0	0	0	0	1
		Total	0	0	0	0	30	105	135	321	467	39	0	1097
	Rates	Male	0.0	0.0	0.0	0.0	1.0	6.2	8.9	12.4	8.9	1.4		5.8
		Female	0.0	0.0	0.0	0.0	1.8	3.0	3.7	1.6	0.8	0.1		1.0
		Total	0.0	0.0	0.0	0.0	1.4	4.7	6.3	7.1	4.8	0.7		3.4
2006	Cases	Male	0	0	0	1	10	88	93	355	559	56	0	1162
		Female	0	0	0	0	14	36	27	56	42	4	0	179
		Unspecified[4]	0	0	0	0	0	0	0	0	0	0	0	0
		Total	0	0	0	1	24	124	120	411	601	60	0	1341
	Rates	Male	0.0	0.0	0.0	0.1	0.9	7.6	8.5	15.7	11.4	2.1		7.2
		Female	0.0	0.0	0.0	0.0	1.3	3.3	2.5	2.5	0.9	0.1		1.1
		Total	0.0	0.0	0.0	0.0	1.1	5.5	5.5	9.1	6.1	1.0		4.1
2007	Cases	Male	0	0	0	1	14	73	110	321	518	49	1	1087
		Female	0	0	0	2	15	26	35	42	40	0	0	160
		Unspecified[4]	0	0	0	0	0	0	0	1	0	0	0	1
		Total	0	0	0	3	29	99	145	364	558	49	1	1248
	Rates	Male	0.0	0.0	0.0	0.1	1.2	6.3	9.8	14.2	10.5	1.8		6.7
		Female	0.0	0.0	0.0	0.2	1.4	2.3	3.2	1.9	0.8	0.0		1.0
		Total	0.0	0.0	0.0	0.1	1.3	4.4	6.5	8.1	5.6	0.8		3.8

INFECTIOUS SYPHILIS[2]

Age group (years)

YEAR		SEX	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-39	40-59	60+	NS	Total
2008	Cases	Male	0	0	0	0	14	104	150	309	571	54	0	1202
		Female	0	0	0	1	23	40	34	48	42	2	0	190
		Unspecified[4]	0	0	0	0	0	0	0	1	1	0	1	3
		Total	0	0	0	1	37	144	184	358	614	56	1	1395
	Rates	Male	0.0	0.0	0.0	0.0	1.2	8.9	13.0	13.6	11.4	1.9		7.3
		Female	0.0	0.0	0.0	0.1	2.1	3.6	3.0	2.1	0.8	0.1		1.1
		Total	0.0	0.0	0.0	0.0	1.6	6.3	8.0	7.9	6.1	0.9		4.2
2009	Cases	Male	0	0	0	0	44	152	211	392	651	55	1	1506
		Female	1	0	0	0	13	41	38	43	45	3	0	184
		Unspecified[4]	0	0	0	0	0	0	0	0	1	0	0	1
		Total	1	0	0	0	57	193	249	435	697	58	1	1691
	Rates	Male	0.0	0.0	0.0	0.0	3.8	12.7	17.8	17.1	12.9	1.8		9.0
		Female	0.5	0.0	0.0	0.0	1.2	3.6	3.3	1.9	0.9	0.1		1.1
		Total	0.3	0.0	0.0	0.0	2.5	8.3	10.6	9.5	6.9	0.9		5.0
2010	Cases	Male	0	0	0	0	45	157	184	373	741	90	0	1590
		Female	0	0	0	0	14	40	30	44	35	2	0	165
		Unspecified[4]	0	0	0	0	0	1	0	1	0	0	0	2
		Total	0	0	0	0	59	198	214	418	776	92	0	1757
	Rates	Male	0.0	0.0	0.0	0.0	3.9	12.9	15.2	16.2	14.6	2.9		9.4
		Female	0.0	0.0	0.0	0.0	1.3	3.5	2.5	1.9	0.7	0.1		1.0
		Total	0.0	0.0	0.0	0.0	2.6	8.4	8.9	9.1	7.7	1.4		5.2

[1] Rate per 100,000 population. Population estimates provided by Statistics Canada. (Source: Statistics Canada, Demography Division, Demographic Estimates Section, July Population Estimates, 1997-2005 final intercensal estimates, 2006-2007 final postcensal estimates, 2008-2009 updated postcensal estimates, 2010 preliminary postcensal estimates.)

[2] Infectious syphilis includes primary, secondary and early latent stages.

[3] 2010 data are preliminary and changes are anticipated. Data were verified with provinces and territories as of November, 2011.

[4] Unspecified sex includes transgender cases.

SOURCE: Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada, 2012.

NOTE: Small variability may exist between data reported by the provinces/territories and the Public Health Agency of Canada. Provincial/territorial data are definitive should a discrepancy exist.

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