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The Monthly Infectious Diseases Surveillance Report is produced by Public Health Ontario (PHO) for the public health community of Ontario. We welcome feedback by email to: SurveillanceServices@oahpp.ca.

Past issues and additional information on the Monthly Infectious Diseases Surveillance Report are available online at: http://www.publichealthontario.ca/en/ServicesAndTools/SurveillanceServices/Pages/Monthly-Infectious-Diseases-Surveillance-Report.aspx

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Infectious Disease in Focus

SYPHILIS

Syphilis is a treatable sexually transmitted infection caused by the bacterium *Treponema pallidum*.[1] Syphilis is considered to be infectious during the first year after initial infection, and is transmitted from person to person through sexual contact including anal, oral and vaginal intercourse. Syphilis can also be transmitted vertically from mother to child in utero or during birth at all stages of disease. Syphilis infection is associated with an increased risk of acquisition and transmission of HIV.[1,2]

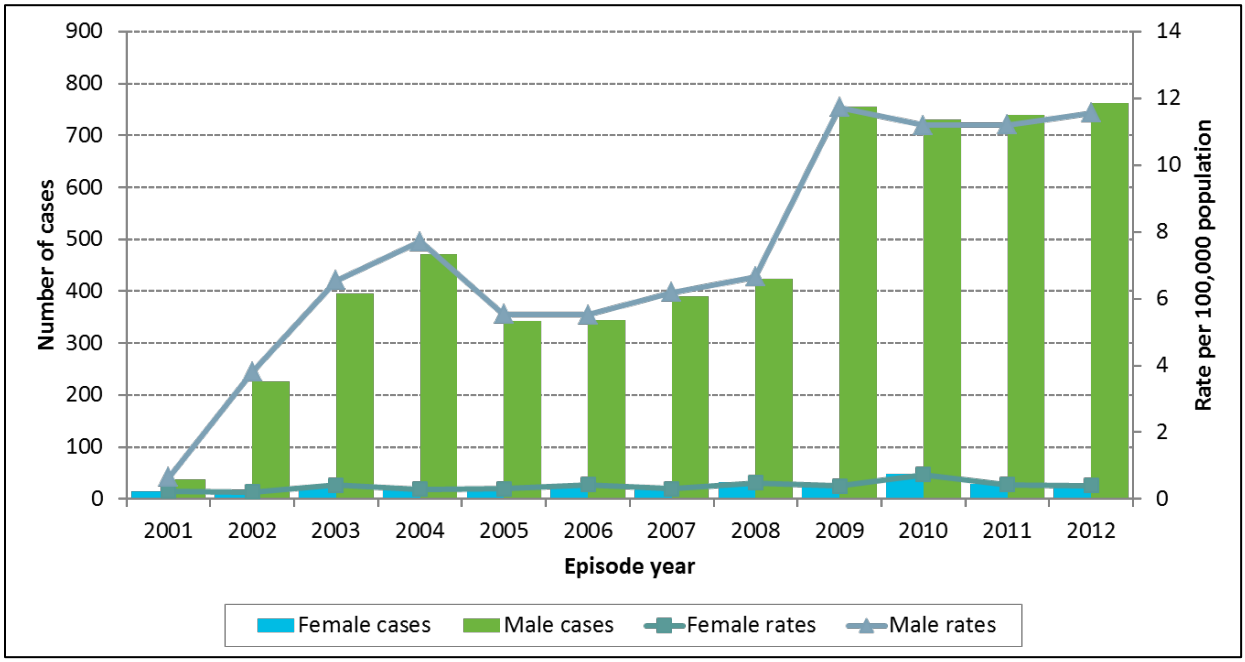
Individuals who become infected with syphilis may not display symptoms for up to three weeks after being exposed. In some individuals, symptoms may not appear for up to three months, if at all.[1] Four distinct stages of syphilis infections have been identified with varying infectivity and presentation: primary, secondary, latent and tertiary stages. Often, the initial symptoms associated with infectious primary syphilis are regional lymphadenopathy (swelling of lymph nodes) and the appearance of a painless sore, known as a chancre, at the site of infection.[1] Since they are painless, chancres can easily go unnoticed depending on the site of infection; less than 40% of cases recall a primary lesion.[3] Chancres are usually present for approximately four to six weeks and resolve with or without adequate treatment.[2] If individuals are not adequately treated, the infection may progress to infectious secondary syphilis, most commonly associated with general malaise, lymphadenopathy and a diffuse maculopapular rash that often involves

the palms and soles and may last for several months.[1] Similar to the primary stage, the rash resolves without treatment and the infection then enters the latent phase of the disease. The early latent phase, within the first year of infection, is considered infectious because the individual often relapses into an earlier infectious stage of the disease and previous symptoms may resurface.[2] Late latent syphilis is an asymptomatic non-infectious phase of the infection that can last for years. Individuals with latent syphilis who are not treated may go on to have non-infectious tertiary syphilis, the fourth stage of the disease that causes lesions on the aorta and gumma on the skin, bones, viscera and mucous membranes.[1] During any of the syphilis stages, the bacteria can invade the central nervous system, causing infectious or non-infectious neurosyphilis, which may present as syphilitic meningitis.[1] Neurosyphilis is much more likely to develop in those who are co-infected with HIV.

There are several methods available to diagnose an individual with syphilis. The most common diagnostic method is serological analysis.[1] The interpretation for serological testing can be somewhat challenging, especially in those with early infection and/or previous infection (guidance for serological interpretation can be found in the labstract Syphilis (Treponema pallidum) Serology Testing and Interpretation – Update). In addition, individuals presenting with a chancre can have material from the chancre analyzed by direct fluorescence microscopy.[1] Serology of cerebrospinal fluid can also be performed in those that are suspected of having neurological involvement. Once diagnosed, syphilis can be treated with benzathine penicillin G, with the dose dependent on the staging of the infection. In the case of neurosyphilis, more aggressive treatment is required with intravenous penicillin G.[2]

In 2012, 790 cases of infectious syphilis were reported in Ontario, representing an incidence of 5.9 cases per 100,000 population. Since 2001, the incidence of infectious syphilis in Ontario has increased by 1,375%, from 0.4 cases per 100,000 population to 5.9 cases per 100,000 population in 2012 (Figure 1). Prior to 2002, the number of infectious syphilis cases reported in Ontario was low, and fairly equal numbers were reported among males and females, indicative of primarily heterosexual transmission. In 2002, an outbreak of infectious syphilis occurred among men who have sex with men (MSM), mainly among the MSM communities in Toronto and Ottawa.[4,5] Since then, the incidence of infectious syphilis in the province has continued to increase, with two prominent increases taking place from 2002 to 2004, and then again in 2009. As of 2009, the provincial incidence has reached a plateau of approximately 6 cases per 100,000 population. Annual rates in Ontario have been similar to national rates, which ranged from 0.9 cases per 100,000 population in 2001 to 5.2 cases per 100,000 population in 2010.[6] Outbreaks and higher rates of infectious syphilis have also been recently reported across Canada, in Nova Scotia, New Brunswick, Quebec, Alberta and British Columbia. Infectious syphilis in most regions has mainly affected MSM with low numbers of cases in the heterosexual population; a notable exception has been Alberta where transmission among heterosexuals accounted for the majority of cases.[7]

Figure 1. Reported number of cases and incidence of infectious syphilis: Ontario, 2001-2012

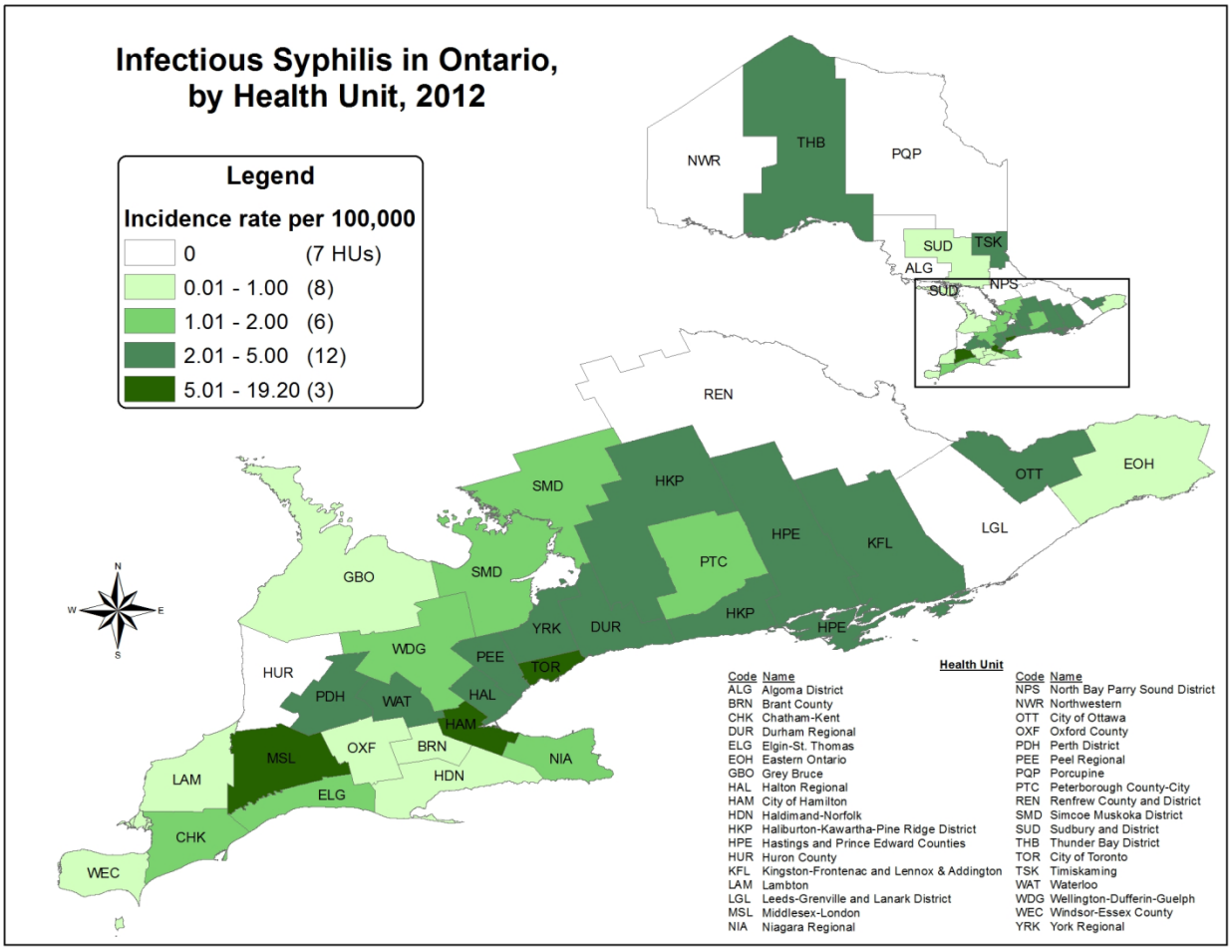


Source: MOHLTC, integrated Public Health Information System (iPHIS) database, extracted by PHO [2013/04/24].
Population data: MOHLTC, intelliHEALTH Ontario, extracted [2012/10/15].
Note: Does not include two cases with gender 'other' in 2008 and 2012.

Provincially, the incidence of infectious syphilis was significantly higher among males than females. In 2012, 96% (762/790) of all reported infectious syphilis cases in Ontario were male, similar to the average proportion of cases reported among males from 2007 to 2011 (95%). The incidence for males in 2012 was 11.6 cases per 100,000 population, which was 29 times larger than the female incidence in 2012 of 0.4 cases per 100,000 population. Among males, incidence was higher in the age groups ranging from 20 to 49 years, with the highest incidence consistently occurring in cases 40 to 44 years of age (27.5 cases per 100,000 population). Since 2009, men over the age of 50 have had higher incidence compared to previous years. Rates of infectious syphilis among females were low overall and cases were distributed across all age groups, with slightly higher incidence among younger females.

Cases of infectious syphilis in Ontario have been predominantly reported in Toronto and Ottawa, where outbreaks have occurred. In 2007, 80% of infectious syphilis cases in Ontario were reported in Toronto and Ottawa; in 2012, 71% of cases were reported in Toronto and Ottawa suggesting that the geographic distribution of syphilis is becoming more widespread. In 2012, Toronto and Ottawa had incidences of 19.1 and 4.4 cases per 100,000 population, respectively (Figure 2). Among other health units, higher incidence was noted in City of Hamilton (5.4 cases per 100,000 population); Middlesex-London (5.4 cases per 100,000 population); Hastings and Prince Edward Counties (4.9 cases per 100,000 population); and Kingston, Frontenac, Lennox and Addington (4.1 cases per 100,000 population).

Figure 2. Incidence of infectious syphilis by health unit of residence: Ontario, 2012



Source: MOHLTC, integrated Public Health Information System (iPHIS) database, extracted by PHO [2013/04/24]. Population data: MOHLTC, intelliHEALTH Ontario, extracted [2012/10/15].

A large proportion of infectious syphilis cases in Ontario are co-infected with HIV. These co-infected cases acquired their HIV infection prior to or concurrent (within one year) with their syphilis infection. From 2007 to 2011, the percentage of co-infected cases ranged from 42% to 47%. In 2012, the proportion of infectious syphilis cases with HIV co-infection was 40%.

The most commonly reported risk factor for infectious syphilis was 'sex with same sex', reported by 88% of males reporting a risk factor in 2012. Among females, the most frequently reported risk factor was 'no condom used', which was reported by 72% of females reporting a risk factor in 2012.

Generally, individual sexual behaviour and diagnostic testing practices drive infectious syphilis transmission and outbreaks. Measures to prevent syphilis transmission and control outbreaks include awareness and testing campaigns designed to ensure practitioners are aware of the changes in syphilis rates, and promote testing of at-risk individuals. Additionally, efforts are required to ensure that affected populations are aware of identified risk factors, signs and symptoms of infection and where testing for syphilis can be easily accessed. Other population based prevention strategies include education focusing on safe sex practices, and routine screening for syphilis in pregnant females to reduce the risk of congenital syphilis in newborns. Condom use, early detection and effective treatment accompanied by abstinence from sexual activity with all partners until testing and successful treatment has been administered will also further reduce the risk of transmission of syphilis.[2]

Significant Reportable Disease Activity

Table 1 provides a list of reportable diseases for which incidence in 2013 was significantly higher than expected compared to the five-year historical average (2008-2012). Both monthly and year-to-month (YTM) comparisons were made for each of the reportable diseases listed in Appendix 1.

CHLAMYDIA

Compared to the average number of cases for April and from January to April from 2008 to 2012, there was a significant increase in the number of cases of chlamydia reported in April 2013, as well as overall from January 1 to April 30, 2013. Potential reasons for this increase have been outlined in the May 2013 edition of the Monthly Infectious Diseases Surveillance Report (Volume 2, Issue 5), and the July 2012 edition of this report (Volume 1, Issue 8) further describes the epidemiology of chlamydia in Ontario.

GONORRHEA

The number of gonorrhea cases reported in Ontario from January 1 to April 30, 2013, represented a significant increase over the average number of cases reported during the same time period from 2008 to 2012. While no definitive reasons for the increase are known, increased diagnostic testing may be partly responsible. In addition, reduced susceptibility to gonorrhea treatment regimens is a growing concern, and may also play a role in greater disease transmission. New Ontario guidelines for the treatment of gonorrhea have recently been released and may have an impact on the current trend. More information on the new guidelines can be found on Public Health Ontario's website and the November 2012 edition of this report (Volume 1, Issue 12) describes the epidemiology of gonorrhea in Ontario.

LEGIONELLOSIS

From January 1 to April 30, 2013, case counts for legionellosis were significantly higher than expected compared to the five-year average YTM counts for 2008 to 2012. The majority of cases were reported by health units in central Ontario (Central West, Toronto and Central East), which is similar to previous years for the same time period (January to April). Sixty-four percent (18/28) of cases were male and cases had a median age of 61 years (range 44 to 82). Exposure information was reported for 75% (21/28) of cases, of which 48% (10/21) reported an unknown exposure. Seven cases with known exposures were travel-related, with four cases reporting travel to the US (three cases travelled to Florida) prior to becoming ill, and the remaining three cases reporting travel to other countries. Potential domestic exposures included a grocery store (two cases), a drive-through car wash (two cases), a hospital (one case), a humidifier at a private residence (one case), and a dental office (one case). Note that multiple exposures have been reported for some cases. Of those individuals tested for *Legionella* at Public Health Ontario Laboratory from January to April 2013, 1.2% (35/3040) had positive results; this was higher compared to the percentage positive from January to April in previous years (average: 0.8% for 2010-2012). Based on information available at this time, there is no conclusive evidence to support any unusual cluster activity. Legionellosis follows a seasonal trend with most cases occurring between July and October each year.

VEROTOXIN PRODUCING *E. COLI* INCLUDING HUS

For the month of April 2013, case counts for *E. coli* were significantly higher than expected compared to the five-year monthly average for 2008 to 2012. The increase was primarily driven by a cluster of cases in Toronto and Durham Region which accounted for 10 of the 19 cases reported in April. One additional case linked to this outbreak was identified in May. Isolates associated with *E. coli* cases in this cluster have matching or closely related genetic finger prints by pulsed field gel electrophoresis (PFGE). A second subtyping method, multiple-locus variable number tandem repeat analysis (MLVA), was used to provide additional discriminatory power. MLVA profiles were identical for all of the PFGE matched cases for which MLVA testing was completed. At the time of writing, the cause of this cluster had not been identified and

the investigation is still ongoing. Available epidemiological evidence does not support a spatio-temporal or common source link between the other cases reported during the month of April.

Table 1. Summary of significant increases in reportable disease incidence: Ontario, January 1 to April 31, 2013

Reportable disease	2013			Historical comparisons						5-year avg annual count (2008-2012)
	Apr	YTM	YTM rate ŧ	Current month 5-year avg (2008-2012)	Current month 5-year avg (2008-2012) rate ŧ	% difference in rates (current month minus 5-year avg)†	YTM 5-year avg (2008-2012)	YTM 5-year avg (2008-2012) rate ŧ	% difference in rates (YTM 2013 minus YTM 5-year avg)†	
Chlamydial Infections*,§	3,073	11,816	863.1	2,626	198.5	13	10,650	805.1	7	32,290
Gonorrhea§	339	1,421	103.8	320	24.2	2	1,268	95.8	8	3,934
Legionellosis§	6	29	2.1	2	0.1	222	12	0.9	130	124
Verotoxin Producing *E. Coli* Including HUS*	19	43	3.1	6	0.5	196	26	2.0	61	208

Ontario Cases: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [2013/05/22].
Ontario Population: Ontario Ministry of Health and Long-Term Care, intelliHEALTH Ontario, extracted [2012/10/15].
ŧ Rates listed are cases per 1,000,000 population.
† Percent (%) difference is calculated using unrounded rates; numbers displayed in these columns may vary from calculations using rounded rates.
* Statistically significant difference ($p<0.05$) in incidence reported in April 2013 compared to the five-year historical average (April 2008-2012).
§ Statistically significant difference ($p<0.05$) in incidence reported in year-to-month (January to April 2013) compared to the five-year historical average (January to April 2008-2012).

Infectious Disease Activity in Other Jurisdictions

This section of the report provides a snapshot of current activity related to infectious diseases across Canada and/or globally. The items included in this section are selected based on ongoing or potential implications for public health in Ontario.

NOVEL CORONAVIRUS INFECTION

Summary: As of June 20, 2013, there have been 64 laboratory confirmed cases of a novel coronavirus named the Middle East respiratory syndrome coronavirus (MERS-CoV) by the World Health Organization (WHO). Of the 64 cases, 38 have died. The majority of the cases (53) and deaths (32) were reported from Saudi Arabia; health officials have not determined the reservoir or mode of transmission of the infection. At this time little is known about other epidemiologic parameters of the disease such as incubation period, period of communicability, and clinical spectrum. WHO has received reports of laboratory-confirmed cases originating in the following countries to date: Jordan, Qatar, Saudi Arabia, and the United Arab Emirates. France, Germany, Italy, Tunisia and the United Kingdom also reported laboratory-confirmed cases, all of which were either transferred for care to these countries from the Arabian Peninsula countries noted above or became ill subsequent to recent travel to the implicated Arabian Peninsula countries. Limited human-to-human MERS-CoV transmission has been documented in the UK, France, Tunisia, and Italy.

Implications: As of June 21, 2013, the Public Health Agency of Canada (PHAC) reports that there have been no confirmed cases of MERS-CoV in Canada. Although the risk of person-to-person transmission is low, PHAC has issued a Travel Health Notice advising Canadians to practice usual precautions when travelling to the regions where the virus has infected individuals. The National Microbiology Laboratory is using a live sample of the virus to develop tests to help detect if someone has been exposed to the virus. The most up-to-date MERS-CoV guidance for Ontario health workers and health sector employers, including Ontario case definitions; occupational health and safety; infection prevention and control; laboratory testing and information on submitting specimens to Public Health Ontario Laboratories, is available online.

http://www.who.int/csr/disease/coronavirus_infections/update_20130620/en/index.html
http://www.moh.gov.sa/en/HealthAwareness/Corona/Pages/AboutCorona.aspx
http://www.phac-aspc.gc.ca/phn-asp/2013/ncoronavirus-eng.php
http://www.health.gov.on.ca/en/pro/programs/emb/avian/workers.aspx

HEPATITIS A OUTBREAKS

Summary: Since October 2012, the European Centre for Disease Prevention and Control has reported three separate outbreaks of hepatitis A in four Nordic countries, among travelers to northern Italy and among travelers from 14 European countries returning from the Red Sea region of Egypt. The outbreaks occurred over a period spanning October 2012 to May 2013. Initial findings suggest that the outbreaks in the Nordic countries and Italy may be linked to frozen berries, while a source of infection has not been identified in the outbreak linked to Egypt. The U.S. Centers for Disease Control and Prevention is also investigating an outbreak of hepatitis A among cases occurring since April in seven states. The majority of cases reported eating a frozen berry and pomegranate seed mix, which has since been recalled from sale. Currently, there is no indication that the outbreaks in Europe and the U.S. are connected.

Implications: As of May 29, 2013, there have been 40 confirmed cases of hepatitis A reported in Ontario, of which 45% were travel related. This is within the range of expected values based on five-year monthly and weekly averages. Since October 2012, three Ontario cases have reported travel to Egypt. Public Health Ontario is working with the Public Health Agency of Canada and local health units to determine whether

these cases are related to the ongoing outbreak in Egypt. The U.S. Food and Drug Agency has reported that the berry blend suspected in the US outbreak has not been shipped to Canada.

In general, Ontarians travelling outside of Canada should review travel advisories for health and safety precautions before departure. Risk of most communicable diseases can be minimized through use of personal protective measures such as frequent and proper hand washing. Ontario residents who travel to countries where hepatitis A is endemic should ensure that they are protected against infection. Vaccination against hepatitis A can be readily obtained through healthcare practitioners or travel clinics province-wide.

http://www.ecdc.europa.eu/en/publications/Publications/RRA-Outbreak-hepatitis-A-virus-infection-travellers-returning-from-Egypt.pdf
http://www.ecdc.europa.eu/en/publications/publications/hepatitis-a-rapid-assessment-nordic-countries-april2013.pdf
http://www.ecdc.europa.eu/en/publications/Publications/hepatitis-A-outbreak-of-hepatitis-A-virus-infection-in-residents-and-travellers-to-Italy.pdf
http://www.cdc.gov/hepatitis/Outbreaks/2013/A1b-03-31/index.html
http://www.fda.gov/Safety/Recalls/ucm355166.htm

Enhanced Surveillance Directives (ESD) Discontinued in April

PERTUSSIS OUTBREAK IN SOUTHWESTERN ONTARIO

The Ministry of Health and Long-Term Care declared the pertussis outbreak in southwestern Ontario over on April 25, 2013 after PHO determined that pertussis activity in the region had returned to baseline levels. The corresponding ESD was discontinued on May 3. The outbreak includes cases reported between November 1, 2011 and April 15, 2013. Seven health units reported a total of 444 confirmed and probable cases as part of this outbreak: Wellington-Dufferin-Guelph (159 cases), Elgin-St. Thomas (120 cases), Oxford County (58 cases), Chatham-Kent (45 cases), Windsor-Essex (31 cases), Perth District (17 cases) and Haldimand-Norfolk (14 cases). Thirteen outbreak cases were hospitalized and there were no deaths. The outbreak began in an under-immunized religious community, which accounted for 137 cases, before spreading to the general community in the region (275 cases). A second under-immunized religious community was also affected and accounted for an additional 32 cases. As pertussis remains endemic, public health officials should continue to emphasize the importance of ensuring pertussis immunization is up to date among children and adults.

References

Infectious Disease in Focus – Syphilis

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Appendix – Reportable Diseases

Appendix 1. Confirmed cases of reportable diseases by month: Ontario, 2008-2013*

Reportable disease	2013															Historical comparisons						5-year avg (2008-2012) annual count
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTM	YTM rate ŧ	Current month 5-year avg (2008-2012)	Current month 5-year avg (2008-2012) rate ŧ	% difference rates (current month minus 5-year avg)†	YTM 5-year avg (2008-2012)	YTM 5-year avg (2008-2012) rate ŧ	% difference rates (YTM 2013 minus YTM 5-year avg)†	
AIDS	10	2	10	3									**25**	1.8	8	0.6	-65	41	3.1	-41	114
Amebiasis	61	62	60	82									**265**	19.4	68	5.1	17	271	20.5	-5	794
Botulism	0	0	0	0									**0**	0.0	1	0.0	-100	1	0.1	-100	3
Brucellosis	0	1	0	1									**2**	0.1	0	0.0	383	1	0.1	61	4
Campylobacter Enteritis	153	196	240	205									**794**	58.0	215	16.3	-8	821	62.1	-7	3,559
Chlamydial Infections	3,141	2,747	2,855	3,073									**11,816**	863.1	2,626	198.5	13	10,650	805.1	7	32,290
Cholera	0	0	0	0									**0**	0.0	0	0.0	-	0	0.0	-100	1
Cryptosporidiosis	10	16	18	9									**53**	3.9	19	1.4	-54	70	5.3	-27	316
Cyclosporiasis	1	3	4	8									**16**	1.2	12	0.9	-36	24	1.8	-35	120
Cytomegalovirus Infection, Congenital	2	0	2	1									**5**	0.4	0	0.0	383	1	0.1	245	6
Encephalitis	1	2	4	1									**8**	0.6	2	0.1	-46	6	0.4	38	18
Encephalitis/Meningitis	4	14	7	6									**31**	2.3	11	0.8	-45	39	2.9	-23	157
Food Poisoning, All Causes	6	2	4	4									**16**	1.2	9	0.7	-59	57	4.3	-73	122
Giardiasis	118	95	83	59									**355**	25.9	106	8.0	-46	444	33.5	-23	1,432
Gonorrhoea (All Types)	449	297	336	339									**1,421**	103.8	320	24.2	2	1,268	95.8	8	3,934
Group A Streptococcal Disease, Invasive	48	60	51	53									**212**	15.5	53	4.0	-4	238	18.0	-14	565
Group B Streptococcal Disease, Neonatal	5	3	7	5									**20**	1.5	4	0.3	27	15	1.2	25	54
Haemophilus Influenzae B Disease, Invasive	2	0	0	0									**2**	0.1	1	0.1	-100	2	0.1	21	4
Hepatitis A	15	5	9	3									**32**	2.3	9	0.7	-68	39	2.9	-21	120
Hepatitis B	6	9	8	7									**30**	2.2	12	0.9	-44	42	3.1	-30	122
Hepatitis C	324	286	346	353									**1,309**	95.6	362	27.4	-6	1,513	114.3	-16	4,437
Hepatitis D	0	0	0	0									**0**	0.0	0	0.0	-	1	0.1	-100	3
Herpes, Neonatal	0	0	0	0									**0**	0.0	1	0.1	-100	3	0.2	-100	7
HIV	47	39	54	62									**202**	14.8	81	6.1	-26	303	22.9	-36	861
Influenza	3,333	797	505	353									**4,988**	364.4	559	42.3	-39	3,058	231.2	58	6,839
Legionellosis	9	7	7	6									**29**	2.1	2	0.1	222	12	0.9	130	124
Leprosy	0	0	0	0									**0**	0.0	0	0.0	-	1	0.0	-100	3
Listeriosis	0	1	1	0									**2**	0.1	3	0.2	-100	14	1.1	-87	62
Lyme Disease	1	0	1	1									**3**	0.2	3	0.3	-72	9	0.7	-69	122
Malaria	14	10	10	12									**46**	3.4	13	1.0	-11	51	3.9	-13	214
Measles	1	1	5	1									**8**	0.6	6	0.4	-83	8	0.6	-3	17
Meningitis	8	2	8	8									**26**	1.9	8	0.6	-6	31	2.3	-19	116
Meningococcal Disease, Invasive	3	2	0	1									**6**	0.4	4	0.3	-77	20	1.5	-70	45
Mumps	2	1	1	2									**6**	0.4	4	0.3	-46	25	1.9	-76	130
Ophthalmia Neonatorum	0	2	0	0									**2**	0.1	1	0.1	-100	1	0.1	61	3
Paratyphoid Fever	2	7	9	5									**23**	1.7	7	0.5	-27	25	1.9	-10	52
Pertussis (Whooping Cough)	19	17	13	11									**60**	4.4	44	3.3	-76	160	12.1	-64	533
Q Fever	1	0	0	2									**3**	0.2	1	0.1	142	3	0.2	11	11
Rabies	0	0	0	0									**0**	0.0	0	0.0	-100	0	0.0	-100	0
Rubella	0	0	0	1									**1**	0.1	0	0.0	142	1	0.1	-3	1
Rubella, Congenital Syndrome	0	0	0	0									**0**	0.0	0	0.0	-	0	0.0	-	0
Salmonellosis	148	183	206	160									**697**	50.9	212	16.0	-27	811	61.3	-17	2,609
Shigellosis	20	22	25	21									**88**	6.4	20	1.5	-1	78	5.9	8	254
Streptococcus Pneumoniae, Invasive	142	96	91	114									**443**	32.4	127	9.6	-13	484	36.6	-11	1,211
Syphilis, Early Congenital	0	0	0	0									**0**	0.0	0	0.0	-	0	0.0	-100	1
Syphilis, Infectious	60	45	37	24									**166**	12.1	57	4.3	-59	239	18.1	-33	716
Syphilis, Other	54	33	26	25									**138**	10.1	77	5.8	-69	301	22.8	-56	879
Tetanus	1	1	0	0									**2**	0.1	0	0.0	-100	0	0.0	383	1
Tuberculosis	38	46	48	57									**189**	13.8	57	4.3	-4	209	15.8	-13	632
Tularemia	0	0	0	0									**0**	0.0	0	0.0	-	0	0.0	-	1
Typhoid Fever	7	6	8	5									**26**	1.9	8	0.6	-38	39	2.9	-36	90
Verotoxin Producing E. Coli Including HUS	15	2	7	19									**43**	3.1	6	0.5	196	26	2.0	61	208
West Nile Virus Illness	0	0	0	0									**0**	0.0	0	0.0	-100	0	0.0	-100	74
Yellow Fever	0	0	0	0									**0**	0.0	0	0.0	-	0	0.0	-100	0
Yersiniosis	15	17	12	19									**63**	4.6	16	1.2	15	83	6.3	-27	216

Ontario Cases: Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted [2013/05/22].

Ontario Population: Ontario Ministry of Health and Long-Term Care, intelliHEALTH Ontario, extracted [2012/10/15].

* Appendix 1 is not an exhaustive list of all reportable diseases in Ontario.

ŧ Rates listed are cases per 1,000,000 population.

† Percent (%) difference is calculated using unrounded rates; numbers displayed in these columns may vary from calculations using rounded rates.

Note 1: Does not include cases in which the Ministry of Health and Long-Term Care was selected as the Diagnosing Health Unit or cases for which the Disposition/Encounter/Episode status was reported as "ENTERED IN ERROR", "DOES NOT MEET DEFINITION", "DUPLICATE-DO NOT USE" or any variation on these values have been excluded.

Note 2: Case counts for tuberculosis and AIDS are based on diagnosis date and not episode date. HIV case counts are based on encounter date.

Note 3: Differentials in year over year comparisons are reflective of changes in disease incidence and changes in the size of the population.

Note 4: The one measles case and one rubella case in April 2013 were related to travel and were not acquired in Ontario. The measles cases reported in January and February 2013 did not have travel history noted.
Note 5: Statistical tests comparing rates were not performed when the YTM rate in previous years was zero.