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Monthly Infectious Diseases Surveillance Report

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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: cdepr@oahpp.ca. Past issues and additional information are available [online](#).

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SIGNIFICANT REPORTABLE DISEASE ACTIVITY

Table 1 provides a list of reportable diseases for which incidence in 2016 was found to be significantly higher ($p < 0.05$) than expected compared to the five-year historical average (2011–15). Both monthly and year-to-month (YTM) comparisons were made for each of the reportable diseases listed in [Appendix 1](#), with the exception of measles, rubella, congenital rubella syndrome, and influenza. Measles, rubella, and congenital rubella syndrome have been eliminated in Canada, although cases continue to occur related to travel importations. Influenza surveillance data are regularly reported through the [Ontario Respiratory Pathogen Bulletin \(ORPB\)](#). [Interactive graphs](#) from the ORPB have now gone live. Statistical comparisons are not included for these diseases.

Table 1. Summary of statistically significant increases in reportable disease incidence: Ontario, January 1 to February 29, 2016

Reportable disease	2016				Historical comparisons						5-year avg annual count (2011–2015)
	Feb	Feb rate ‡	YTM	YTM rate ‡	Current month 5-year avg (2011–2015)	Current month 5-year avg (2011–2015) rate ‡	% difference in rates (current month minus 5-year avg)†	YTM 5-year avg (2011–2015)	YTM 5-year avg (2011–2015) rate ‡	% difference in rates (YTM 2016 minus YTM 5-year avg)†	
Chlamydial Infections ^{1,2}	3211	230.2	6820	488.9	2853.6	210.7	9.2	6031.2	445.4	9.8	36524.4
Gonorrhea (All Types) ^{1,2}	465	33.3	1021	73.2	354.2	26.2	27.5	783.8	57.9	26.5	4923

Ontario Cases: Ministry of Health and Long-Term Care (MOHLTC), integrated Public Health Information System (iPHIS) database, extracted by PHO [2016/03/16].

Ontario Population: Population estimates [2005–2011]: Statistics Canada, distributed by MOHLTC, received [2014/07/03]. Population estimates [2012–2014]: Statistics Canada, distributed by MOHLTC, received [2015/11/18]. Population projections [2015–2016]: MOHLTC, IntelliHEALTH Ontario, extracted by PHO [2015/03/13].

‡ 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.

¹ Statistically significant difference ($p < 0.05$) in incidence reported in year-to-month (January 1 to February 29, 2016) compared to the five-year historical average (January 1 to February 28, 2011–15), using a likelihood ratio test.

² Statistically significant difference ($p < 0.05$) in incidence reported in current month (February 2016) compared to the five-year historical average (February 2011–15), using a likelihood ratio test.

Chlamydia

Compared to the five-year historical average, the monthly incidence of laboratory confirmed chlamydial infections reported in February 2016 increased by 9.2% (from 210.7 cases per 1,000,000 population to 230.2 cases per 1,000,000 population). Similarly, the reported YTM incidence increased 9.8%, from 445.4 cases per 1,000,000 population to 488.9 cases per 1,000,000 compared to the five-year historical average. Both of these increases were statistically significant ($p < 0.05$).

Over the past ten years, the incidence of chlamydial infections has increased with the exception of 2013, when a decrease in the incidence and testing was observed. For further details about this decrease, please refer to [Reportable Disease Trends in Ontario, 2013](#). PHO will continue to monitor provincial chlamydia epidemiology in subsequent months.

Gonorrhea

Since September 2013, there have been statistically significant increases in both the monthly and YTM incidence of gonorrhea in Ontario. The cause of this ongoing provincial increase is not yet well understood and is likely multifactorial. For a summary of the analyses conducted to date, please refer to the In Focus section of the [February](#) 2015 issue of this report. Also, to download the slides and/or audio recording of a PHO Rounds presentation on gonorrhea (May 2015), please click [here](#).

APPENDIX – REPORTABLE DISEASES

Appendix 1. Confirmed cases of reportable diseases, and probable cases of select reportable diseases, by month: Ontario, 2011–16*

Reportable disease	2016														Historical comparisons						5-year avg (2011-2015) annual count
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTM	YTM rate ‡	Current month 5-year avg (2011-2015)	Current month 5-year avg (2011-2015) rate ‡	% difference rates (current month minus 5-year avg)†	YTM 5-year avg (2011-2015)	YTM 5-year avg (2011-2015) rate ‡	% difference rates (YTM 2016 minus YTM 5-year avg)†	
Acute Flaccid Paralysis	0	0	-	-	-	-	-	-	-	-	-	-	0	0.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a
AIDS	5	6	-	-	-	-	-	-	-	-	-	-	11	0.8	5.6	0.4	4.0	15.8	1.2	-32.4	84.8
Amebiasis	46	63	-	-	-	-	-	-	-	-	-	-	109	7.8	64.6	4.8	-5.3	131.8	9.7	-19.7	796.0
Botulism	0	0	-	-	-	-	-	-	-	-	-	-	0	0.0	0.0	0.0	-	0.0	0.0	-	2.4
Brucellosis	0	1	-	-	-	-	-	-	-	-	-	-	1	0.1	0.6	0.0	61.8	0.6	0.0	61.8	5.4
Campylobacter enteritis	182	144	-	-	-	-	-	-	-	-	-	-	326	23.4	187.2	13.8	-25.3	383.0	28.3	-17.4	3687.6
Chlamydial Infections	3609	3211	-	-	-	-	-	-	-	-	-	-	6820	488.9	2853.6	210.7	9.2	6031.2	445.4	9.8	36524.4
Cholera	0	0	-	-	-	-	-	-	-	-	-	-	0	0.0	0.0	0.0	-	0.0	0.0	-	0.4
Cryptosporidiosis	18	21	-	-	-	-	-	-	-	-	-	-	39	2.8	14.0	1.0	45.6	28.6	2.1	32.4	330.4
Cyclosporiasis	1	0	-	-	-	-	-	-	-	-	-	-	1	0.1	2.4	0.2	-100.0	4.2	0.3	-76.9	135.0
Encephalitis	6	2	-	-	-	-	-	-	-	-	-	-	8	0.6	1.6	0.1	21.4	3.8	0.3	104.4	21.4
Encephalitis/Meningitis	10	13	-	-	-	-	-	-	-	-	-	-	23	1.6	9.6	0.7	31.5	18.0	1.3	24.1	158.4
Food Poisoning, All Causes	4	0	-	-	-	-	-	-	-	-	-	-	4	0.3	2.0	0.1	-100.0	6.8	0.5	-42.9	76.6
Giardiasis	83	59	-	-	-	-	-	-	-	-	-	-	142	10.2	102.0	7.5	-43.8	210.2	15.5	-34.4	1329.8
Gonorrhea (All Types)	556	465	-	-	-	-	-	-	-	-	-	-	1021	73.2	354.2	26.2	27.5	783.8	57.9	26.5	4923.0
Group A Streptococcal Disease, Invasive	74	68	-	-	-	-	-	-	-	-	-	-	142	10.2	64.4	4.8	2.5	133.6	9.9	3.2	640.2
Group B Streptococcal Disease, Neonatal	7	2	-	-	-	-	-	-	-	-	-	-	9	0.6	4.2	0.3	-53.8	7.8	0.6	12.0	52.2
Haemophilus Influenzae B Disease, Invasive	1	0	-	-	-	-	-	-	-	-	-	-	1	0.1	0.2	0.0	-100.0	0.4	0.0	142.7	5.8
Hepatitis A	3	5	-	-	-	-	-	-	-	-	-	-	8	0.6	10.2	0.8	-52.4	18.8	1.4	-58.7	96.8
Hepatitis B (Acute)	9	10	-	-	-	-	-	-	-	-	-	-	19	1.4	8.2	0.6	18.4	18.4	1.4	0.3	101.2
Hepatitis B (Chronic)	97	58	-	-	-	-	-	-	-	-	-	-	155	11.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Hepatitis C	368	352	-	-	-	-	-	-	-	-	-	-	720	51.6	322.8	23.8	5.9	685.4	50.6	2.0	4210.8
HIV	60	54	-	-	-	-	-	-	-	-	-	-	114	8.2	58.0	4.3	-9.6	120.8	8.9	-8.4	779.2
Influenza	735	3698	-	-	-	-	-	-	-	-	-	-	4433	317.8	1227.2	90.6	192.6	3964.4	292.7	8.6	8385.2
Legionellosis	5	6	-	-	-	-	-	-	-	-	-	-	11	0.8	4.4	0.3	32.4	11.0	0.8	-2.9	173.6
Leprosy	0	0	-	-	-	-	-	-	-	-	-	-	0	0.0	0.0	0.0	-	0.6	0.0	-100.0	3.2
Listeriosis	8	5	-	-	-	-	-	-	-	-	-	-	13	0.9	3.4	0.3	42.8	6.0	0.4	110.4	52.0

Lyme Disease	0	1	-	-	-	-	-	-	-	-	-	-	1	0.1	2.0	0.1	-51.5	5.0	0.4	-80.6	252.4
Malaria	12	8	-	-	-	-	-	-	-	-	-	-	20	1.4	7.8	0.6	-0.4	21.8	1.6	-10.9	204.2
Measles	1	1	-	-	-	-	-	-	-	-	-	-	2	0.1	#	#	#	#	#	#	#
Meningitis	11	9	-	-	-	-	-	-	-	-	-	-	20	1.4	4.8	0.4	82.0	11.2	0.8	73.4	127.2
Meningococcal Disease, Invasive	3	1	-	-	-	-	-	-	-	-	-	-	4	0.3	3.2	0.2	-69.7	7.0	0.5	-44.5	31.2
Mumps	0	2	-	-	-	-	-	-	-	-	-	-	2	0.1	1.6	0.1	21.4	3.8	0.3	-48.9	35.0
Ophthalmia neonatorum	0	0	-	-	-	-	-	-	-	-	-	-	0	0.0	0.6	0.0	-100.0	0.8	0.1	-100.0	2.8
Paralytic Shellfish Poisoning	0	0	-	-	-	-	-	-	-	-	-	-	0	0.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Paratyphoid Fever	3	4	-	-	-	-	-	-	-	-	-	-	7	0.5	2.8	0.2	38.7	8.0	0.6	-15.0	42.0
Pertussis (Whooping Cough)	41	10	-	-	-	-	-	-	-	-	-	-	51	3.7	16.6	1.2	-41.5	43.8	3.2	13.0	516.6
Q Fever	1	0	-	-	-	-	-	-	-	-	-	-	1	0.1	0.2	0.0	-100.0	1.8	0.1	-46.1	16.4
Rabies	0	0	-	-	-	-	-	-	-	-	-	-	0	0.0	0.0	0.0	-	0.0	0.0	-	0.2
Rubella	0	0	-	-	-	-	-	-	-	-	-	-	0	0.0	#	#	#	#	#	#	#
Rubella, Congenital Syndrome	0	0	-	-	-	-	-	-	-	-	-	-	0	0.0	#	#	#	#	#	#	#
Salmonellosis	267	212	-	-	-	-	-	-	-	-	-	-	479	34.3	215.0	15.9	-4.3	408.0	30.1	14.0	2811.6
Shigellosis	32	33	-	-	-	-	-	-	-	-	-	-	65	4.7	20.2	1.5	58.6	43.8	3.2	44.1	263.8
Streptococcus Pneumoniae, Invasive	98	85	-	-	-	-	-	-	-	-	-	-	183	13.1	103.0	7.6	-19.9	230.6	17.0	-23.0	1135.2
Syphilis, Early Congenital	0	0	-	-	-	-	-	-	-	-	-	-	0	0.0	0.0	0.0	-	0.0	0.0	-	1.4
Syphilis, Infectious	93	56	-	-	-	-	-	-	-	-	-	-	149	10.7	59.6	4.4	-8.8	131.6	9.7	9.9	848.6
Syphilis, Other	51	31	-	-	-	-	-	-	-	-	-	-	82	5.9	54.4	4.0	-44.7	111.6	8.2	-28.7	658.0
Tetanus	0	0	-	-	-	-	-	-	-	-	-	-	0	0.0	0.4	0.0	-100.0	0.6	0.0	-100.0	2.0
Tuberculosis	45	38	-	-	-	-	-	-	-	-	-	-	83	6.0	44.6	3.3	-17.3	88.4	6.5	-8.8	616.6
Tularemia	0	0	-	-	-	-	-	-	-	-	-	-	0	0.0	0.0	0.0	-	0.0	0.0	-	0.4
Typhoid Fever	10	6	-	-	-	-	-	-	-	-	-	-	16	1.1	8.4	0.6	-30.7	17.8	1.3	-12.7	76.0
Verotoxin Producing E. coli Including HUS	4	5	-	-	-	-	-	-	-	-	-	-	9	0.6	5.4	0.4	-10.1	13.4	1.0	-34.8	176.2
West Nile Virus Illness	0	0	-	-	-	-	-	-	-	-	-	-	0	0.0	0.0	0.0	-	0.0	0.0	-	91.2
Yellow Fever	0	0	-	-	-	-	-	-	-	-	-	-	0	0.0	0.2	0.0	-100.0	0.4	0.0	-100.0	1.2
Yersiniosis	27	17	-	-	-	-	-	-	-	-	-	-	44	3.2	14.8	1.1	11.5	30.0	2.2	42.4	184.2

- Ontario Cases:** MOHLTC, iPHIS database, extracted by PHO [2016/03/16].
- Ontario Population:** Population estimates [2005–2011]: Statistics Canada, distributed by MOHLTC, received [2014/07/03]. Population estimates [2012–2014]: Statistics Canada, distributed by MOHLTC, received [2015/11/18]. Population projections [2015-2016]: MOHLTC, IntelliHEALTH Ontario, extracted by PHO [2015/03/13].
- * Appendix 1 is not an exhaustive list of all reportable diseases in Ontario. Case counts for amebiasis, Lyme disease, mumps, pertussis, and West Nile Virus illness are based on the sum of confirmed and probable cases as reported in iPHIS.
- ₣ Rates listed are cases per 1,000,000 population.
- † Percent (%) difference is calculated using unrounded rates; numbers displayed in these columns may vary from hand calculations using rounded rates.
- # Historical comparison data are not provided for measles, rubella, and congenital rubella syndrome because these diseases have been eliminated in Canada. However, as these diseases remain endemic in other countries, imported and import-related cases continue to occur in Ontario.
- n/a** Acute Flaccid Paralysis and Paralytic Shellfish Poisoning became reportable in Ontario in December 2013. No historical data are available for comparisons. Also, a provincial case definition for chronic hepatitis B was released in January 2012. Please note that chronic and acute hepatitis B case counts are not mutually exclusive and should not be added to obtain a total for hepatitis B cases in Ontario. Historical comparisons are not available as cases of chronic hepatitis B may have been entered using varying criteria prior to this time.
- Does not include cases for which the Ministry of Health and Long-Term Care was selected as the Diagnosing Health Unit or cases with a Disposition Description set to “DOES NOT MEET” or “ENTERED IN ERROR.”
 - Differentials in year-over-year comparisons are reflective of changes in disease incidence and changes in the size of the population.
 - Statistical tests comparing rates were not performed when the YTM rate in previous years was zero.
 - Case counts for tuberculosis and AIDS are based on diagnosis date and not episode date. HIV case counts are based on encounter date. Case counts for all other diseases are based on episode date.