simcoe muskoka DISTRICT HEALTH UNIT
Tel: 705-721-7520
Toll free: 1-877-721-7520
www.simcoemuskokahealth.org
Your Health Connection

Annual Reportable Disease Surveillance Report

The Communicable Disease team at the Simcoe Muskoka District Health Unit (SMDHU) performs ongoing surveillance of infectious diseases. We depend on disease reporting from health care practitioners, laboratory results, and our active surveillance activities to generate a continually monitored database to detect disease clusters and outbreaks. This surveillance report provides health care practitioners with a snapshot of pertinent diseases in Simcoe Muskoka to improve clinical decision making, patient care, and detection of unusual clusters. **This year's *In Focus* section provides an in depth epidemiological and clinical profile of chlamydia in Simcoe Muskoka, including screening and treatment recommendations.**

Incidence of Most Relevant Reportable Diseases in Simcoe Muskoka in 2015

Data Source: Integrated Public Health Information System, Extracted October 2016

Moderate (1-2 Standard Deviation (SD)) increase (↑) or decrease (↓), and significant (>2 SD's) increase (↑↑) or decrease (↓↓) compared to the historical average.	January-December 2015^		5 Year Mean* Jan-Dec, 2010-2014		Comments
	# of Cases	*Rate per 100,000 Population*	# of Cases	*Rate per 100,000 Population*	
Sexually Transmitted Infections and Bloodborne Infections					
Chlamydia	1234	226.1	1154	217.6	Please see "In Focus" section below table
Hepatitis C	187	34.3	171	32.3	Important to order viral load and refer to GI specialist for treatment options
Gonorrhea ↑	**126**	**23.1**	**65**	**12.2**	**Significant local and provincial increase since fall 2013. The percent of local testing positive (0.7%) has quadrupled since 2012. Mainly affecting 20-39 year olds. 15% of cases are men who have sex with men (MSM)**
Syphilis ↑	**19**	**3.5**	**14**	**2.6**	**SMDHU rate is less than ⅓ of Ontario rate. Gradual increase of infectious syphilis both locally and provincially; 50% of cases are MSM; 10% are HIV+**
HIV/AIDS	9	1.6	11	2.0	SMDHU rate is ~ ⅓ of provincial rate. Highest incidence in urban centres (Toronto, Ottawa). MSM is highest risk factor. Many partners meet online.
Hepatitis B (acute)	3	0.5	2	0.5	
Respiratory Diseases					
Influenza ↑	**649**	**118.3**	**398**	**74.9**	**Similar case count to 2014-15 flu season; however, predominantly flu A (H1N1), less severe flu season**
Pertussis	16	2.9	17	3.2	Studies have shown that for the Tdap vaccine given between 14-16 years of age and in adulthood, immunity/protection wanes from 70% in the 1st year to about 30 to 40% in the 4th year after immunization
Invasive Group A Streptococcal	23	4.2	26	4.9	
Mumps	1	0.2	2	0.3	
Legionellosis	5	0.9	4	0.8	
Tuberculosis (active)	4	0.7	4	0.8	SMDHU rate is less than ¼ of Ontario rate. Concentrated in risk populations in urban centres (Toronto, Ottawa)
Meningococcal disease, invasive	2	0.4	1	0.2	

Moderate (1-2 Standard Deviation (SD)) increase (↑) or decrease (↓), and significant (>2 SD's) increase (↑↑) or decrease (↓↓) compared to the historical average.	January-December 2015^		5 Year Mean* Jan-Dec, 2010-2014		Comments
	# of Cases	*Rate per 100,000 Population*	# of Cases	*Rate per 100,000 Population*	
Gastro-Intestinal diseases					
Campylobacter	118	21.6	113	21.3	
Salmonellosis	102	18.7	109	20.6	
Giardiasis	58	10.6	47	8.9	
Amebiasis, Cryptosporidiosis, Cyclosporidiosis, Shigellosis, and Yersiniosis ↑↑	**46**	**8.4**	**26**	**4.9**	**Small local increases in amebiasis and cryptosporidiosis, consistent with provincial trends; cause is unknown**
Verotoxigenic E.coli	4	0.7	5	1.0	
Hepatitis A ↓	0	0.0	3	0.5	Low level of endemicity in Canada
Listeriosis	3	0.5	2	0.4	
Vector-Borne and Zoonotic Diseases					
West Nile virus ↓	0	0.0	2	0.3	Well-established in Ontario; decreasing reported cases locally and provincially since 2012
Lyme Disease (confirmed + probable) ↑	**6**	**1.1**	**2**	**0.4**	**Increasing human cases in Ontario; Simcoe Muskoka is a low risk area. None of the 2015 cases were assessed to be acquired locally**
Rare Diseases					
Diphtheria, Polio, Rubella, Tetanus	0	0.0	0	0.1	SMDHU: 1 case each of rubella and tetanus reported in 2013
Haemophilus influenzae b	0	0.0	0	0.0	
Malaria	1	0.2	2	0.5	Imported case
Measles	0	0.0	0	0.1	
Rabies	No non-imported human cases in Ontario in 20+ yrs. Animals with highest incidence in Ontario are: bats, skunks, foxes and livestock. Cats and dogs can also become infected with rabies				

^ All disease counts are reported by calendar year except influenza, which are reported by flu season (September to August).
* Outbreak years are excluded from historical average calculations.

For more information on infectious disease statistics in Simcoe Muskoka and Ontario, please visit:
www.simcoemuskokahealthstats.org

Please continue to report all confirmed or suspected cases of reportable diseases to the SMDHU via phone: (705) 721-7520 ext. 8809 (After hours: 1-888-225-7851), or fax: (705) 733-7738.

For more information and resources on infectious diseases, please go to our Primary Care Portal at
www.smdhu.org/pcportal

SMDHU's Weekly Influenza News and Report is released weekly throughout the flu season:
www.smdhu.org/WeeklyFluNews

In Focus: Chlamydia

Action Items for Healthcare Practitioners

- **Screen** asymptomatic individuals presenting with risk factors.[1]
- **Consider annual screening of sexually active women under 25 years of age as per the Centers for Disease Control (CDC) recommendations**.[2,3,4] Studies have shown screening to be not only cost-effective, but cost saving. Given that the PAP smear recommendations are no longer annual and asymptomatic infections account for about 70% of all infections in women, consider opportunistic annual screening when such women present for other reasons or medical conditions.
- **Encourage the case to notify all current and previous sexual partners up to 60 days** before diagnosis and the need for the partner(s) to follow up for empirical treatment and testing.
- **Expedited Partner Therapy (EPT) should be considered for the infected person's partner(s) in order to ensure they are treated as quickly as possible. EPT is the clinical practice of treating the sex partners of patients diagnosed with chlamydia by providing prescriptions or medications to patients to take to their partner(s) without the health care provider (HCP) first examining the partner.** Studies have shown that patients whose partners received EPT were 29% less likely to be re-infected than those who simply told their partners to see a HCP.[5] The College of Physicians and Surgeons of Ontario allow EPT as an exception to the general rule that patients cannot be treated without a doctor-patient relationship.[6] The Ontario Provincial Infectious Disease Advisory Committee (PIDAC) also recommends EPT.[7] In the US, where tens of thousands of doses of Azithromycin have been provided for EPT, there have been no reported serious adverse reactions, such as anaphylaxis or cardiovascular events.[8]
- **First line treatment options are either Azithromycin 1gram PO in a single dose OR Doxycycline 100mg PO bid x 7 days.** Advise the individual and their partner(s) to refrain from any sexual activity until 7 days after treatment.
- **Clinical failure of treatment can occur. The literature suggests that it can be as high as 5% with Azithromycin.[9] There is no routine antibiotic sensitivity testing available at this time.** If clinical failure occurs, treat with the other first line antibiotic.
- Urine and cervical nucleic acid amplification test (NAAT) are both highly sensitive and specific (see below).
- Chlamydia and other STI treatment is free through local health units. Local health care providers can order STI medications to give to their clients. Contact the SMDHU Sexual Health program for more information.

Validity of Chlamydia Tests

Test	Sensitivity*	Specificity†
	Female	
Cervical Swab NAAT	98.3%	96.1%
Urine NAAT	94.3%	98.0%
	Male	
Urethral Swab NAAT	97.8%	96.1%
Urine NAAT	96.0%	97.2%

NAAT: Nucleic acid amplification test
Sensitivity: ability of test to correctly identify cases with disease (true-positives)
†***Specificity:*** ability of test to correctly identify cases without disease (true-negatives)

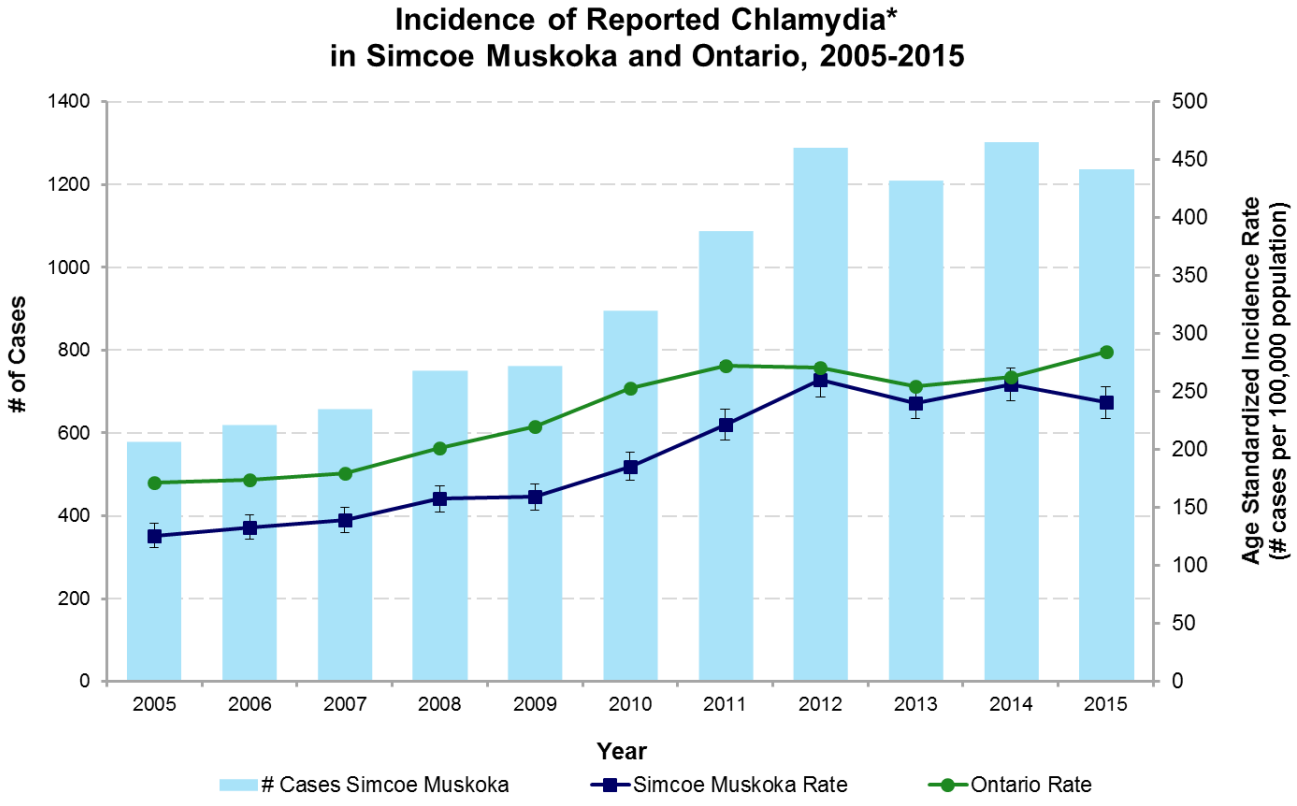
Source: Public Health Ontario – Public Health Laboratory (2011). Labstract: Chlamydia trachomatis and Neisseria gonorrhoeae – Sensitivity and Specificity of the Gen-Probe® Aptima® Assay, LAB-SD-005-004.

Highlights

- Chlamydia is the most commonly reported reportable disease in Simcoe Muskoka and Ontario.
- The vast majority of the 1,234 cases (91%) in Simcoe Muskoka were reported in those aged 15-24 years (64%) and 25-34 years (27%).
- The majority of cases are female (63%).
- 22% of cases were identified through partner notification/contact tracing.
- One-third (33%) of cases sought testing and/or health services due to symptoms.

Local Incidence

Cases of *Chlamydia trachomatis* have remained relatively stable in Simcoe Muskoka over the past four years, after increasing significantly from 2007 to 2012. In 2015, 1,234 cases of chlamydia were reported in Simcoe Muskoka. The reported incidence in Simcoe Muskoka has followed the general trend observed across Ontario. In 2015, the age-adjusted incidence rate for Simcoe Muskoka was 240.5 cases per 100,000 age-adjusted population, which is significantly lower than the Ontario-wide incidence rate – 284.4 cases per 100,000 age-adjusted population.



Data Sources: Integrated Public Health Information System (iPHIS), extracted November 2016
Reportable Disease Information System (RDIS) and iPHIS data posted on PublicHealthOntario.ca e-portal
Population Estimates, Intellihealth, extracted August 2016
2011 Canadian Standard Population used for age standardization of incidence rates.

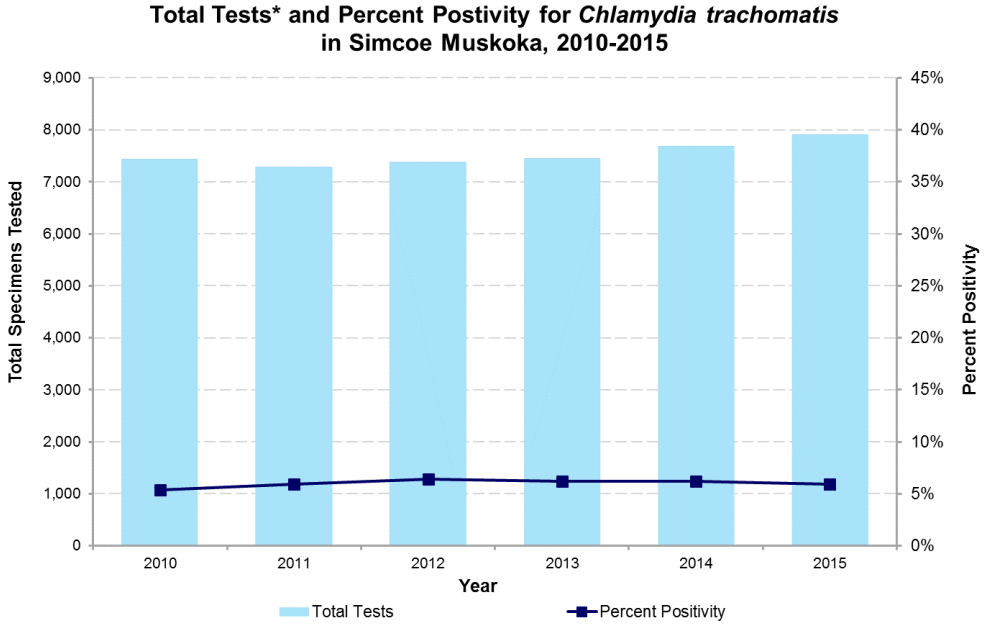
I Confidence Interval

* Confirmed Cases

Percent Positivity of Chlamydia Tests Submitted for Testing

The total number of specimens submitted to public health labs for chlamydia testing appears to be gradually increasing in Simcoe Muskoka. Percent positivity for chlamydia from local specimens has remained relatively stable over the past five years, with percent positivity for chlamydia reported at 5.9% for 2015. This is similar to the percent positivity for submitted specimens across Ontario.

** Note: Public health lab specimens account for approximately 40% of cases reported in Simcoe Muskoka. Testing and percent positivity data is not available for specimens submitted to private labs.*



Data Source: Public Health Ontario Laboratory (PHO) - Laboratory Information Management System. Extracted from PHO STI Decision Support Tool, November 15, 2016.

* Current data only represents testing performed at PHO
Data is based on unique specimens; multiple samples per patient/case is possible

References

1. Canadian Guidelines on Sexually Transmitted Infections. Section 2 – Primary Care and Sexually Transmitted Infections. Selecting Appropriate Screening/Testing. Ottawa: Public Health Agency of Canada: Evergreen ed. [updated 2013 Feb 1; last accessed 2016 Dec 16]. Available from: http://www.phac-aspc.gc.ca/std-mts/sti-its/cgsti-ldcits/section-2-eng.php#a6
2. Canadian Guidelines on Sexually Transmitted Infections. Section 5 – Management and Treatment of Specific Infections. Ottawa: Public Health Agency of Canada: Evergreen ed. [updated 2013 Feb 1; last accessed 2016 Dec 16]. Available from: http://www.phac-aspc.gc.ca/std-mts/sti-its/cgsti-ldcits/section-5-2-eng.php
3. Centers for Disease Control & Prevention. 2015 Sexually Transmitted Diseases Treatment Guidelines. Atlanta: U.S. Department of Health and Human Services [last updated 2015 Jun 4; last accessed 2016 Dec 16]. Available from: http://www.cdc.gov/std/tg2015/chlamydia.htm
4. Centers for Disease Control & Prevention. Sexually Transmitted Diseases (STDs) – STD & HIV Screening Recommendations. Atlanta: U.S. Department of Health and Human Services. [last updated 2016 Feb 11; last accessed 2016 Dec 16] Available from: http://www.cdc.gov/std/prevention/screeningReccs.htm
5. Centers for Disease Control and Prevention. Expedited Partner Therapy: Helping to Reduce Sexually Transmitted Infections. [Government report online]. Atlanta: U.S. Department of Health and Human Services. [Last accessed 2016 Dec 16]. Available from: https://www.cdc.gov/std/products/success/ept-success-story-2016.pdf
6. Policy Statement 7-16. Prescribing Drugs. Toronto: The College of Physicians and Surgeons of Ontario. [Last updated 2012 Dec; last accessed 2016 Dec 16] Available from: http://www.cpso.on.ca/Policies-Publications/Policy/Prescribing-Drugs
7. Provincial Infectious Disease Advisory Committee. Sexually Transmitted Infections Case Management and Contact Tracing Best Practice Recommendations. Toronto: Ministry of Health and Long-Term Care. 2009 [last accessed 2016 Dec16] Available from: http://www.publichealthontario.ca/en/eRepository/STIs%20Case%20Management%20Contact%20Tracing.pdf
8. Golden, M.R., Kerani, R.P., Stenger, M., Hughes, J. P., Aubin, M. Malinski, C., Holmes, K.K. Uptake and population-level impact of expedited partner therapy (EPT) on *Chlamydia trachomatis* and *Neisseria gonorrhoeae*: The Washington state community-level randomized trial of EPT. PLoS Med 2015; 12(1): e1001777
9. Kissinger, P.J., White, S., Manhart, L.E., Schwebke, J., Taylor, S.N., Mena, L., et al., Azithromycin treatment failure for *Chlamydia trachomatis* among heterosexual men with nongonococcal urethritis. Sexually Transmitted Diseases 2016; 43(10); 599-602.