Public Health Notes
Volume 7 Issue 1

# Annual Summary of Reportable Diseases in Renfrew County and District

Renfrew County and District Health Unit

## In This Issue...



This issue of **Public Health Notes** provides a summary of reportable diseases in 2016 in Renfrew County and District, and practical information related to their prevention and management.

In Ontario, over 70 communicable diseases are reportable to the local Medical Officer of Health under the Health Protection and Promotion Act, Regulation 559/91.

Health care practitioners, hospital administrators, superintendents of institutions and school principals who become aware of these diseases are responsible for reporting them to the local public health unit.

Prompt reporting enables the public health unit to complete timely follow-up with the affected individuals and their contacts and implement measures to prevent further transmission.

**How to report a reportable disease**

For diseases which need to be reported immediately (see the inserted list of **Reportable Communicable Diseases**) call 613-735-8653 during office hours and 613-735-9926 during evenings, weekends, and holidays.

For diseases which can be reported the next business day, complete the **Communicable Disease Reporting Form** (sample enclosed) and fax it to 613-735-3067.

For more information, call 613-735-8653 or see our Reportable Diseases web page at: http://rcdhu.com/for-professionals/health-care/

**Mission**: Renfrew County and District Health Unit protects and promotes the health and well-being of all residents through leadership, partnership, accountability and service excellence.
**Vision**: Optimal health for all in Renfrew County and District.

# Message from the Acting MOH

Dear Colleagues,

With the help of great staff at Renfrew County and District Health Unit, I am happy to provide you with the spring 2017 edition of **Public Health Notes.**

Arnprior is now considered a risk area for Lyme disease. In this issue, you will find an article on Lyme disease including symptoms, diagnosis, and treatment.

As compared to 2015, Renfrew County and District, and the province of Ontario, has seen an increase in the number of chlamydia and gonorrhea cases in 2016. A high index of suspicion when screening patients is vital for detection, particularly in pregnant women. Recommendations for testing, treatment, and indications for test of cure are included for both chlamydia and gonorrhea.

The one-page list of **Reportable Communicable Diseases** is included to keep you up-to-date with the changes in reporting requirements for communicable diseases. Also, Renfrew County and District Health Unit has updated the **Communicable Disease Reporting Form**. It is included for you to review.

You will find more resources and information about public health issues on our website, www.rcdhu.com. An electronic copy of **Public Health Notes** is also available on our website under "**Reports".**

I would appreciate your feedback and suggestions for future Public Health Notes.

Sincerely,

Dr. Robert Cushman, MD FRCP(C)
Acting Medical Officer of Health

# Public Health Ontario's Reportable Disease Trends Interactive Tool

The latest version of Public Health Ontario's Reportable Disease Trends interactive tool has been released. The tool allows users to explore and manipulate information about the number of cases and incident rates by age, gender, and geography for all 70 reportable diseases in Ontario. It includes data for 11 years, from 2005-2015. The number of cases that were hospitalized, and the number of cases that died in 2015 is also available for some diseases.

Use the tool to conduct surveillance on specific diseases, and help with program planning and policy decisions. To access this easy-to-use tool visit:
http://www.publichealthontario.ca/en/DataAndAnalytics/Pages/RDTO.aspx

# Lyme Disease—Surveillance in Renfrew County and District

Lyme disease is a spirochete infection transmitted to humans through the bite of an infected tick. In Ontario, the tick, *Ixodes scapularis* (blacklegged tick, sometimes called the deer tick), is the primary vector of Lyme disease.

While the distribution of infected ticks in Ontario is generally limited to endemic areas in southern Ontario and along the St. Lawrence Seaway, the Arnprior area is now considered a risk area for acquiring Lyme disease. Tick dragging by the Health Unit in 2016 across Renfrew County revealed the presence of adult deer ticks in the spring and fall in the Arnprior area; a sign that tick populations are surviving and thriving. Tick dragging will continue in 2017.

In 2016, the Health Unit received reports of 2 confirmed cases of Lyme disease (one locally acquired), and one probable case (locally acquired).

**Symptoms of Lyme Disease**

- Ticks must attach and feed for at least 24 – 36 hours before the agent of Lyme disease is transmitted. Symptoms usually begin 3 to 30 days after being bitten by an infected tick.
- The first sign of infection is usually a "bulls-eye" rash called erythema migrans around the bite site. This occurs in 70 – 80% of those infected.
- Other early symptoms include fatigue, chills, fever, headache, muscle and joint pain and swollen lymph nodes. Later symptoms may include skin rashes, heart palpitations, arthritis, and neurological disorders.[1]

**Diagnosis and Treatment**

- Diagnosis of Lyme disease in the early stage is based on clinical symptoms, exposure to ticks in known endemic areas, presence or absence of confirmatory lab serology results and to some extent the response to treatment.
- Serological testing plays a supporting role only in the early stage as results are often negative. It is more reliable during the later stages (approximately 20 days post bite[1]) when there has been adequate time for antibodies to develop.
- Diagnosis and treatment of Lyme disease remains contentious. For further information see Update on Lyme disease prevention and control (2016) by Public Health Ontario (PHO): http://www.publichealthontario.ca/en/eRepository/Technical_report_update_on_Lyme_disease_prevention_and_control.pdf

**Tick Identification**

For surveillance purposes, it is vital that ticks taken off of humans be submitted for analysis. PHO recently released a new *Surveillance Form for Tick Identification* that is to be used by healthcare providers when submitting ticks to the Ontario Public Health Lab for identification: http://www.publichealthontario.ca/en/eRepository/Surveillance_Form_for_Tick_Identification.pdf or www.publichealthontario.ca/Requisitions.

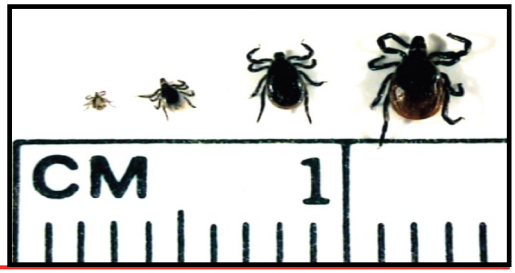



**Figure 1:** Left to right: an *Ixodes scapularis* larva, nymph, adult male tick and adult female tick

# Management and Treatment of Chlamydia Trachomatis

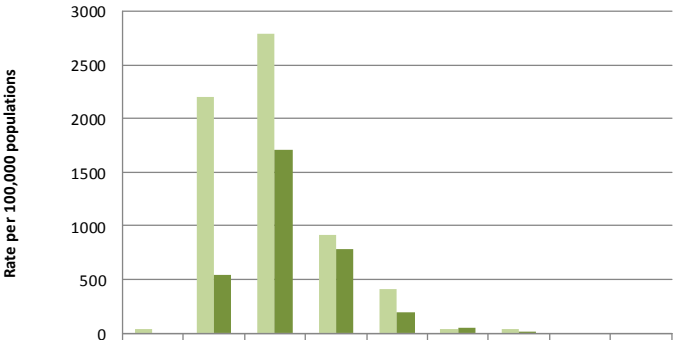
In 2016, 41,623 confirmed cases of chlamydia were reported in Ontario. The average annual count of confirmed chlamydia cases, from 2011 to 2015 inclusive, was 36,538[2].

Sexually active youth and young adults are disproportionately represented in case reports for chlamydia. Chlamydia is underdiagnosed because the majority of infected individuals are asymptomatic. High risk males and females are often under-screened, and males, the forgotten reservoir, have infrequent health maintenance visits. The usual incubation period from time of exposure to onset of symptoms is 2 to 3 weeks, but can be as long as 6 weeks. In the absence of treatment, infection can persist for many months[3].

### Indications for Treatment

- Positive chlamydia test result
- Diagnosis of a syndrome compatible with a chlamydial infection (without waiting for the test results of C. trachomatis)
- Diagnosis of chlamydial infection in a sexual partner
- Diagnosis of N. gonorrhoeae (without waiting for test results of C. trachomatis due to the significant probability of co-infection, 20 to 42%, and the possibility of false negative results, especially with non-NAAT methods)[3]

**Figure 2: Chlamydia incidence rates by age range and gender, Renfrew County and District, 2016** [4,5]




| | age 10 - 14 | 15 - 19 | 20 - 24 | 25 - 29 | 30 - 39 | 40 - 49 | 50 - 59 | 60 - 69 | 70+ |
|---|---|---|---|---|---|---|---|---|---|
| Female rates | 39 | 2206 | 2796 | 917 | 409 | 33 | 36 | 0 | 0 |
| Male rates | 0 | 542 | 1712 | 786 | 195 | 48 | 12 | 0 | 0 |

### Treatment

The *Canadian Guidelines on Sexually Transmitted Infections* (2013) recommends treatment for chlamydial infections, as outlined in **Figure 3**[3]**.**

**Figure 3: Recommended treatment for adults (non-pregnant and non-lactating) with urethral, endocervical, rectal, or conjunctival chlamydial infections.**

| Preferred | Alternative |
|---|---|
| **Azithromycin** 1 g PO in a single dose if poor compliance is expected ***** *[A-I]*<br>OR<br>**Doxycycline** 100 mg PO bid for 7 days *[A-I]* | **Ofloxacin** 300 mg PO bid for 7 days *[B-II]*<br>OR<br>**Erythromycin** 2 g/day PO in divided doses for 7 days **†** *[B-II]*<br>OR<br>**Erythromycin** 1g/day PO in divided doses for 14 days **†** *[B-I]* |

***** If vomiting occurs more than 1 hour post-administration, a repeat dose is not required.

**†** Erythromycin dosages refer to erythromycin base. Equivalent dosages of other formulations may be substituted **(with the exception of the estolate formulation, which is contraindicated in pregnancy)**. If erythromycin has been used for treatment, test of cure should be performed 3-4 weeks after completion of therapy.

## Free medication for reportable STIs and condoms are available from Renfrew County and District Health Unit

# Chlamydia Trachomatis (continued)

**When Test of Cure for Chlamydia is Indicated**

- A recommended treatment was not successfully taken
- Signs and symptoms do not disappear
- Re-exposure to an untreated partner occurred
- Compliance was suboptimal
- An alternative treatment regimen was used
- All pregnant females
- All prepubertal children

If a test of cure is indicated, ideally, it should be performed 3-4 weeks after the completion of treatment to minimize the chance of false positive results due to non-viable organisms that may be present. A NAAT is typically recommended for a test of cure. Repeat testing in all individuals with *C. trachomatis* infection is recommended 6 months post-treatment, as reinfection risk is high[3].

If a test of cure is completed on individuals who remain symptomatic, in addition to a NAAT, a culture specimen should also be submitted. According to Public Health Ontario, although the addition of a culture specimen for test of cure is not in *Public Health Agency of Canada's Canadian STI Guidelines*, it is reasonable to request it at this time. Culture specimens provide additional information regarding susceptibility to determine whether treatment failure may be occurring.

# Increasing Rates of Gonorrhea in Renfrew County and District

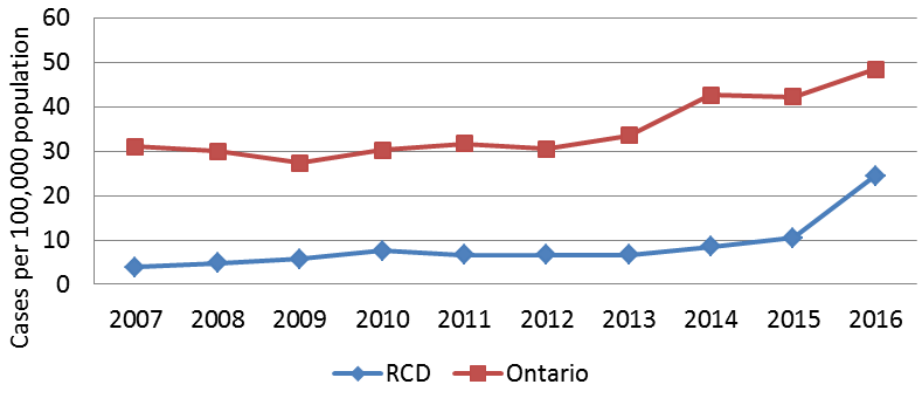
Since September 2013, there have been statistically significant increases in incidence of gonorrhea in Ontario. The cause of this ongoing provincial increase is not yet well understood and is likely multifactorial.

In Renfrew County and District, the number of cases of lab confirmed gonorrhea cases more than doubled from 11 in 2015 to 26 in 2016. Of those, 58% were female, 84% were under 30 years of age, and 69% were under 25 years of age[4].

**For guidelines on testing and treatment of gonorrhea:**

- **Insert:** Quick Reference Guide, Guidelines for Testing and Treatment of Gonorrhea in Ontario
- **RCDHU website:** http://rcdhu.com/for-professionals/health-care/

**Figure 4: Gonorrhea incidence rates, Renfrew County and District (RCD) and Ontario**



# 2016-2017 Influenza Activity in Ontario and Renfrew County and District

The influenza season runs from September 1, 2016 to August 31, 2017; however, the majority of cases conclude by the end of May.

As of April 30, 10,713 cases of influenza A were reported in Ontario for the 2016-2017 season, compared to 8,272 cases of influenza A for all of the 2015-2016 season[6,7]. Of these cases, 99.1% were subtyped H3N2, and the remaining cases were subtyped H1N1 pdm09. As of May 31, for the 2016-2017 season, there have been 1,120 cases of influenza B, compared with 2,865 for all of the 2015-2016 season. This year's strain resulted in significantly more deaths than last year; 231 compared to 127[7].

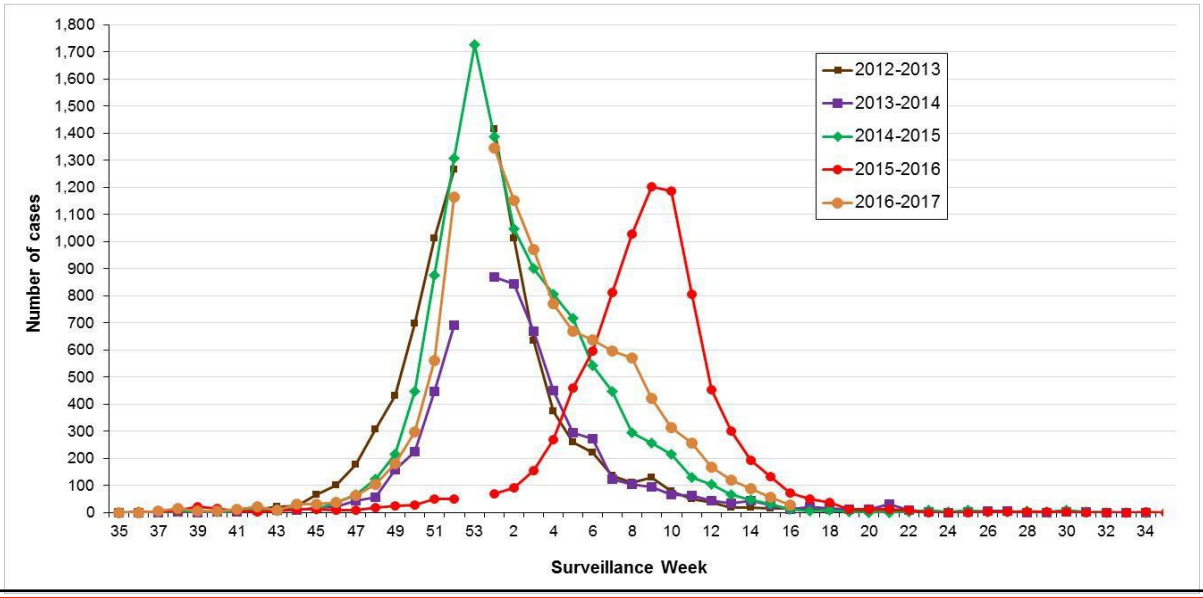
In Renfrew County and District, we have had a total of 61 laboratory confirmed influenza cases, compared to 41 cases last year. Of those, 53 were influenza A (H3N2) and 8 were influenza B. Provincially, the highest reported activity occurred in January, whereas in Renfrew County and District, February saw the most with 21 cases of influenza. However, reporting of laboratory confirmed influenza cases to public health units significantly underestimates the burden of influenza in Ontario, since many individuals with influenza -like illness do not seek care or have lab testing completed.

There have been a total of 4 institutional outbreaks with influenza identified as the causative pathogen. Of those, 3 were influenza A and 1 was influenza B. In all influenza outbreaks, Tamiflu was initiated as part of outbreak control measures.

The Health Unit provides weekly updates on current institutional outbreaks, the number of influenza cases for the past week, and the total for the current influenza season. Visit https://rcdhu.com/for-professionals/health-care/ and click on **Influenza**, then **Weekly Outbreak Status Reports**.

The flu shot for the 2016/2017 season was a good match with the circulating strains of influenza A, with A/Hong Kong/4801/2014(H3N2) antigenically similar to the H3N2 strain, and A/California/7/2009 antigenically similar to the H1N1 strain. As always, Public Health Ontario recommends getting the flu shot, and considers it the best way to protect yourself and your patients from the flu.

**Figure 5: Number of Reported Confirmed Cases of Influenza A by Surveillance Week Over 5 Years in Ontario[6]**



# 2016 Summary of Reportable Diseases

**Figure 6: Counts and incidence rates of reportable diseases, Renfrew County and District (RCD) and Ontario, 2016[2,4]**

| Disease | Renfrew County and District | | Ontario | |
|---|---|---|---|---|
| | Number of confirmed cases | Rate per 100,000 population | Number of confirmed cases | Rate per 100,000 population |
| Amebiasis* | 1 | .94 | 789 | 5.66 |
| Campylobacter Enteritis | 22 | 20.72 | 3,388 | 24.29 |
| Chlamydia | 323 | 304.21 | 41,623 | 298.4 |
| Cryptosporidiosis | 8 | 7.53 | 423 | 3.03 |
| Giardiasis | 13 | 12.24 | 1132 | 8.12 |
| Gonorrhea—all types | 26 | 24.49 | 6761 | 48.47 |
| Group A Streptococcal disease, invasive | 3 | 2.84 | 694 | 4.98 |
| Hepatitis B | 2 | 1.88 | 1540 | 11.08 |
| Hepatitis C | 35 | 32.96 | 4281 | 30.69 |
| HIV | 4 | 3.77 | 758 | 5.43 |
| Influenza | 45 | 42.38 | 14,194 | 101.76 |
| Listeriosis | 1 | .94 | 96 | .69 |
| Lyme disease* | 1 | .94 | 343 | 2.46 |
| Meningitis | 1 | .94 | 190 | 1.36 |
| Mumps* | 1 | 0.95 | 39 | 0.28 |
| Pertussis* | 7 | 6.59 | 439 | 3.15 |
| Salmonellosis | 25 | 23.55 | 3019 | 21.64 |
| Shigellosis | 2 | 1.88 | 359 | 2.57 |
| Streptococcal disease, Group A invasive | 2 | 1.88 | 694 | 4.98 |
| Streptococcus pneumonia, invasive | 11 | 10.36 | 1042 | 7.47 |
| Syphilis, infectious | 3 | 2.83 | 1188 | 8.52 |
| Syphilis, other | 5 | 4.71 | 643 | 4.61 |
| Verotoxin-producing E. coli including HUS | 2 | 1.88 | 171 | 1.23 |
| Yersiniosis | 1 | .94 | 249 | 1.79 |

*Case counts for amebiasis, Lyme disease, mumps and pertussis are the sum of confirmed and probable cases.
Note: The date allocated to each case is based on the episode date, which is an estimate of the date of symptom onset. Possible dates that are recorded for each case are: symptom onset date; specimen collection date; lab test date; and reported date. During data extraction, the earliest available date is selected for each case.

The above table includes diseases for which at least one case was reported in Renfrew County and District in 2016. Because of the under-reporting of reportable diseases, all incidence rates shown are lower than the true incidence. Under-reporting varies from disease to disease due to factors such as disease awareness, medical care-seeking behaviour, availability of health care, methods of laboratory testing, reporting behaviours, clinical practice and severity of illness.

# References


1 Ontario Agency for Health Protection and Promotion (Public Health Ontario). Technical Report: Update on Lyme disease prevention and control. Second edition [Internet]. Toronto, ON: Queen's Printer for Ontario; 2016. 33 p. Available from: http://www.publichealthontario.ca/en/eRepository/Technical_report_update_on_Lyme_disease_prevention_and_control.pdf

2 Ontario Agency for Health Protection and Promotion (Public Health Ontario). Monthly infectious disease surveillance report, February 2017 [Internet]. Toronto, ON: Queen's Printer for Ontario; 2017, February;6(2):1-8. Available from: https://www.publichealthontario.ca/en/DataAndAnalytics/Documents/PHO_Monthly_Infectious_Diseases_Surveillance_Report_-_February_2017.pdf.

3 Public Health Agency of Canada. Canadian Guidelines on Sexually Transmitted Infections: Section 5—Management and Treatment of Specific Infection, Chlamydial Infections [Internet]. Toronto ON: Queen's Printer for Ontario. Available from: http://www.phac-aspc.gc.ca/std-mts/sti-its/cgsti-ldcits/section-5-2-eng.php.

4 Ontario Ministry of Health and Long-Term Care. Integrated Public Health Information System (iPHIS) database. (cited 2017, May 9).

5 Public Health Ontario. Reportable Disease Trends [Internet]. 2017. [cited 2017, May 19]. Available from: https://www.publichealthontario.ca/en/DataAndAnalytics/Pages/RDTO.aspx#/18.

6 Ontario Agency for Health Protection and Promotion (Public Health Ontario). Ontario Respiratory Pathogen Bulletin 2016-2017: Surveillance week 16 (April 16, 2017—April 22, 2017) [Internet]. Toronto, ON: Queen's Printer for Ontario; 2017. 24 p. Available from: http://www.publichealthontario.ca/en/DataAndAnalytics/Documents/Ontario%20Respiratory%20Pathogen%20Bulletin%20-%20Week%2016_2017.pdf

7 Ontario Agency for Health Protection and Promotion (Public Health Ontario). Ontario Respiratory Pathogen Bulletin 2015-2016: Surveillance Season (September 1, 2015—August 31, 2016) [Internet]. Toronto, ON: Queen's Printer for Ontario. Available from: http://www.publichealthontario.ca/en/DataAndAnalytics/Documents/Ontario_Respiratory_Pathogen_Bulletin-Season_Summary_-_2015-16.pdf


For information about public health issues, programs and services:

# HEALTH INFO LINE

**613-735-8666** or

**1-800-267-1097 Ext. 666**

Monday to Friday

8:30 a.m. to 4:00 p.m.

Renfrew County and District Health Unit

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