

# Communicable Disease Surveillance Report

Fiscal Quarter 1  
April 1 – June 30, 2020

Date: August 11, 2020



Labrador - Grenfell  
**Health**

## Communicable Disease Surveillance Report

### Disclaimer

The purpose of this report is to provide an overview of reportable communicable disease activity within the Labrador-Grenfell Health (LGH) Regional Health Authority. This activity is represented by case counts. The text of any disease that has exceeded the upper threshold for this quarter (calculated based on the previous 5 years) is coloured **red**.

Please note that due to continuous reporting, as well as potential delays in reporting, data is subject to change.

### Diseases that Exceeded Threshold

LGH flags diseases that exceed an upper threshold. This is calculated using the 3<sup>rd</sup> quartile + 1.5 \* interquartile range for each quarter, over the previous 5 calendar years. This may mean increased activity of this disease during this period.

During this quarter, two diseases exceeded the upper threshold: **Cyclosporiasis** and **Invasive Haemophilus influenza type B (Hib)**.

### Disease Counts

Table 1: Enteric, Food and Waterborne Diseases

	Current Quarter	YTD	YTD 2019	5-Year Historical Median	Upper Threshold
Amoebiasis	0	0	0	0	0
Botulism	0	0	0	0	0
Campylobacteriosis	0	0	5	0	5
Cryptosporidiosis	0	0	2	0	1
<b>Cyclosporiasis</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>
Cytomegalovirus	2	3	1	1	2
Giardiasis	1	1	1	1	2
Hepatitis A	0	1	0	0	0
Listeriosis	0	0	0	0	0
Salmonellosis	0	3	19	3	10
Shigellosis	0	0	0	0	1
Typhoid/Paratyphoid Fever	0	0	0	0	0
Verotoxigenic Escherichia coli	0	0	0	0	0
Yersiniosis	0	0	0	0	0

*Table 2: Diseases Transmitted by Direct Contact and Respiratory Route*

	Current Quarter	YTD	YTD 2019	5-Year Historical Median	Upper Threshold
COVID-19	0	6			
Creutzfeldt-Jakob Disease (CJD)	0	0	0	0	0
Group B Streptococcal Disease, Neonatal	0	0	0	0	0
Influenza Virus of a Novel Strain	0	0	0	0	0
Invasive Group A Streptococcal Disease	1	1	0	0	2
Invasive Haemophilus Influenza non-type B	0	0	1	0	1
Invasive Meningococcal Disease (IMD)	0	0	0	0	1
Invasive Pneumococcal Disease (IPD)	1	1	3	0	2
Legionellosis	0	0	0	0	0
Meningitis, Bacterial (excl Hib, IMD, IPD)	0	0	0	0	0
Meningitis, Viral	0	0	0	0	0
Nontuberculosis Mycobacterial Disease	0	0	0	0	0
Severe Respiratory Illness, Unknown Origin	0	0	0	0	0
Tuberculosis, Non-respiratory	0	0	0	0	1
Tuberculosis, Respiratory	2	6	2	5	14
Tuberculosis (all)	2	6	2	6	15

*Table 3: Sexually Transmitted and Blood Borne Infections (STBBIs)*

	Current Quarter	YTD	YTD 2019	5-Year Historical Median	Upper Threshold
Chlamydia	25	95	81	41	59
Gonorrhea	0	0	0	1	2
Hepatitis C	3	6	9	1	8
HIV Infection	0	0	2	0	1
Syphilis, Infectious	0	0	0	0	0
Syphilis, Noninfectious	0	0	0	0	0

*Table 4: Vectorborne and Other Zoonotic Diseases*

	Current Quarter	YTD	YTD 2019	5-Year Historical Median	Upper Threshold
Lyme Disease	0	0	0	0	0
Malaria	0	0	0	0	0
Q Fever	0	0	0	0	0
Rabies	0	0	0	0	0
Toxoplasmosis	0	0	0	0	0
Trichinellosis	0	0	0	0	0
West Nile Virus	0	0	0	0	0

Table 5: Vaccine Preventable Diseases

	Current Quarter	YTD	YTD 2019	5-Year Historical Median	Upper Threshold
Congenital Rubella Syndrome	0	0	0	0	0
Hepatitis B	0	1	0	0	1
Invasive Haemophilus Influenza type B (Hib)	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
Measles	0	0	0	0	0
Mumps	0	0	0	0	0
Pertussis	0	0	0	0	0
Rubella	0	0	0	0	0
Tetanus	0	0	0	0	0
Varicella/Chickenpox	1	6	1	3	17

## In Focus: Chlamydia

### About Chlamydia

Chlamydia trachomatis (*C. trachomatis*), an obligate intracellular bacterium that infects the epithelium lining much of the genital tract, [1] is the most common bacterial sexually transmitted infection in Canada [2] and the LGH region. It is primarily transmitted through sexual contact, causing urogenital tract infections, but can also be transmitted perinatally, causing conjunctivitis and pneumonia in the newborn. [1]

The most common *C. trachomatis* infections in females include cervicitis and urethritis, although the bacterium can also infect the upper genital tract, leading to conditions such as salpingitis and endometritis. [1] In males, the most common infection is urethritis, but *C. trachomatis* can also cause prostatitis and epididymitis. [1] *C. trachomatis* has also been implicated as a causal agent in some cases of proctitis and reactive arthritis, in both males and females. [3] Detection and prompt treatment of *C. trachomatis* infections is imperative to not only treat the immediate site of infection, but also to prevent spread to other sites in the genital tract and adverse outcomes such as pelvic inflammatory disease in females, which can lead to infertility, chronic pelvic pain and increased risk of ectopic pregnancy, and epididymitis in males, which may be linked to male infertility. [1]

*C. trachomatis* infections of the genital tract are often silent in both females and males, [1,4] making detection and treatment of affected individuals and their sexual contacts challenging and contributing to dissemination among sexually active individuals. Although most females are asymptomatic, they may present with symptoms suggestive of cervicitis, such as vaginal discharge, abnormal vaginal bleeding, and dyspareunia. [1,4] If the infection has ascended into the upper genital tract, symptoms could also include lower abdominal/pelvic pain. [1] Urethritis in both males and females may present with dysuria and urinary frequency, while males may also present with urethral discharge. [1] In males, symptoms of prostatitis can include discomfort in the back or perineum, as well as discomfort associated with ejaculation and urination, while epididymitis can present with testicular pain and inflammation. [1] Similarly, extra-genital infections such as proctitis, pharyngitis, and conjunctivitis are often asymptomatic, but can also present with symptoms specific to each site of infection. [1,3,4]

Detection and diagnosis of *C. trachomatis* infection involves an assessment of history, risk factors, and clinical presentation, as well as laboratory testing of an appropriate specimen collected from the suspected site of infection. In Newfoundland and Labrador, urine samples, endocervical swabs, vaginal swabs, and urethral swabs, analyzed using polymerase chain reaction (PCR), can be utilized

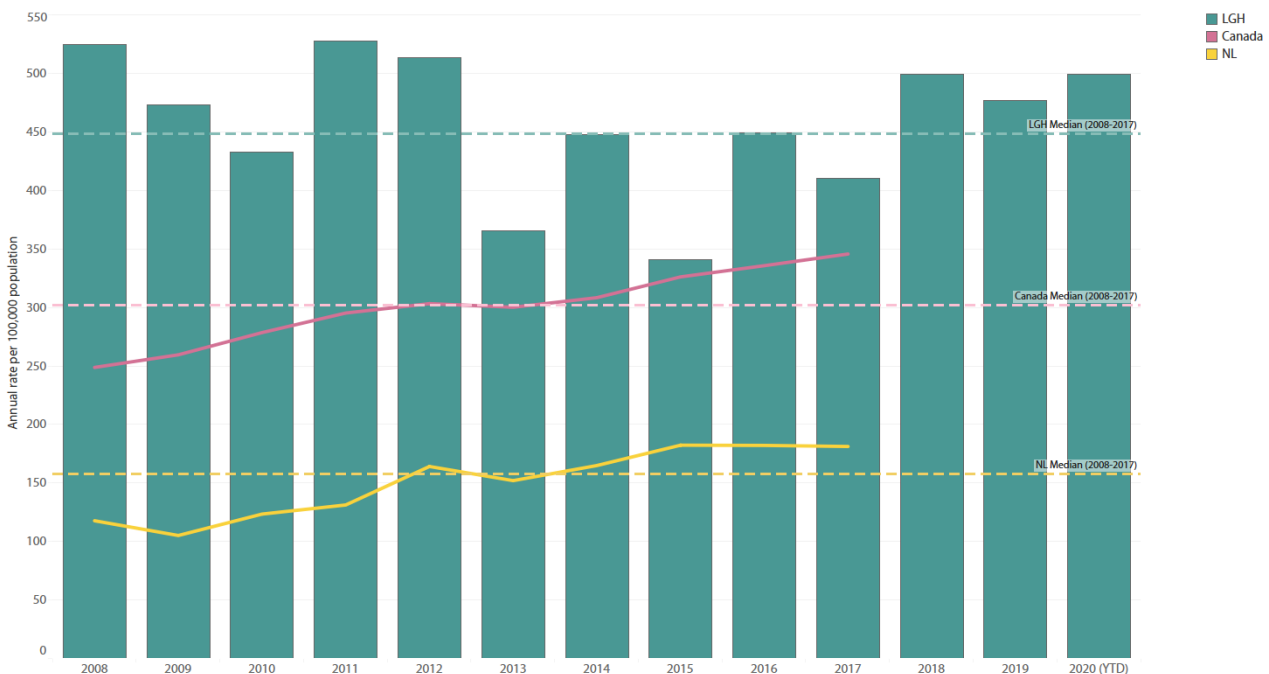
for laboratory diagnosis of chlamydia. [4] Case definitions for each type of chlamydial infection, based on laboratory results, can be referenced in the NL Disease Control Manual. [4]

Chlamydial infection in adults and adolescents is generally treated with a short course of an antibiotic, such as doxycycline, azithromycin, or one of the recommended alternatives. [1,4,5] All sexual contacts that occurred within the 60 days before the date of symptom onset or specimen collection should be offered testing and empiric treatment. [4, 5]

### Epidemiology of Chlamydia in the LGH Region

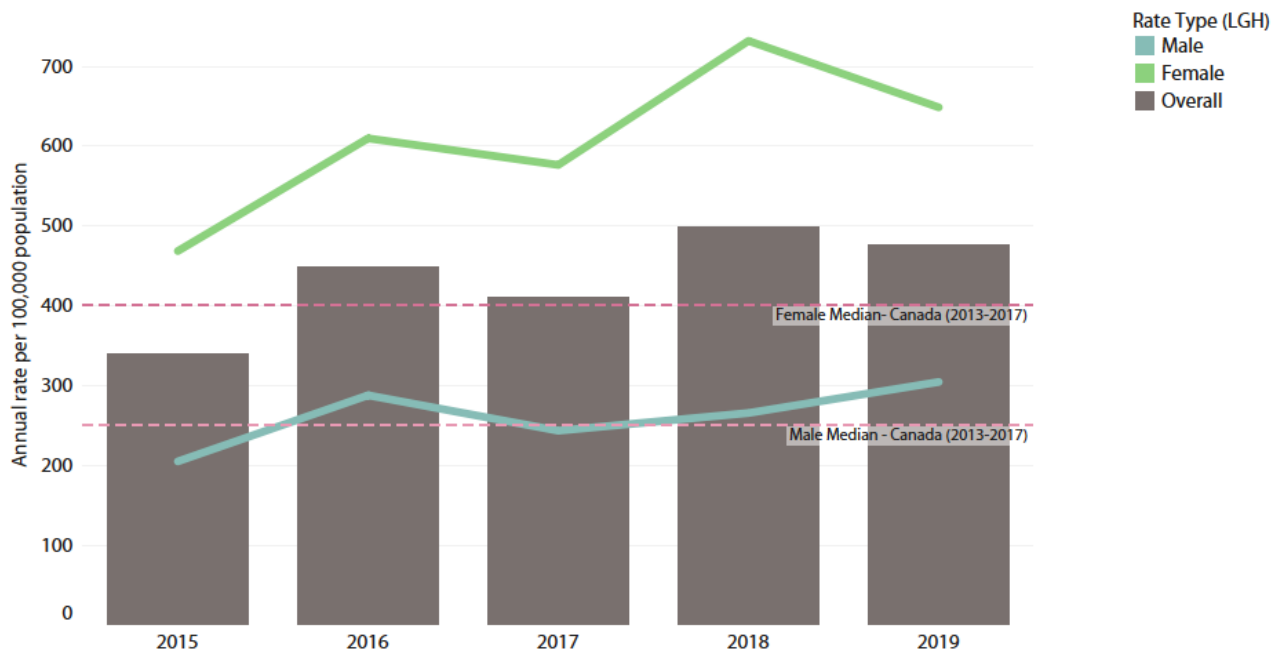
According to a recent report on STBBIs from the Public Health Agency of Canada (PHAC), national reported rates of chlamydial infection have been trending upwards, increasing by 39% between 2008 and 2017. [2] Chlamydia rates have also been on an upward trend at the provincial level. [6] Over the same period, chlamydia rates trended downwards in the LGH region but remained higher than national and provincial rates (see figure 1). However, there is a discernable rate increase in LGH during the years 2018 and 2019 and, so far in 2020, despite COVID-19 related disruptions in primary care services, rates suggest that this trend may continue this year.

Figure 1: A comparison between LGH, NL, and Canadian annual chlamydia rates, 2008-2020



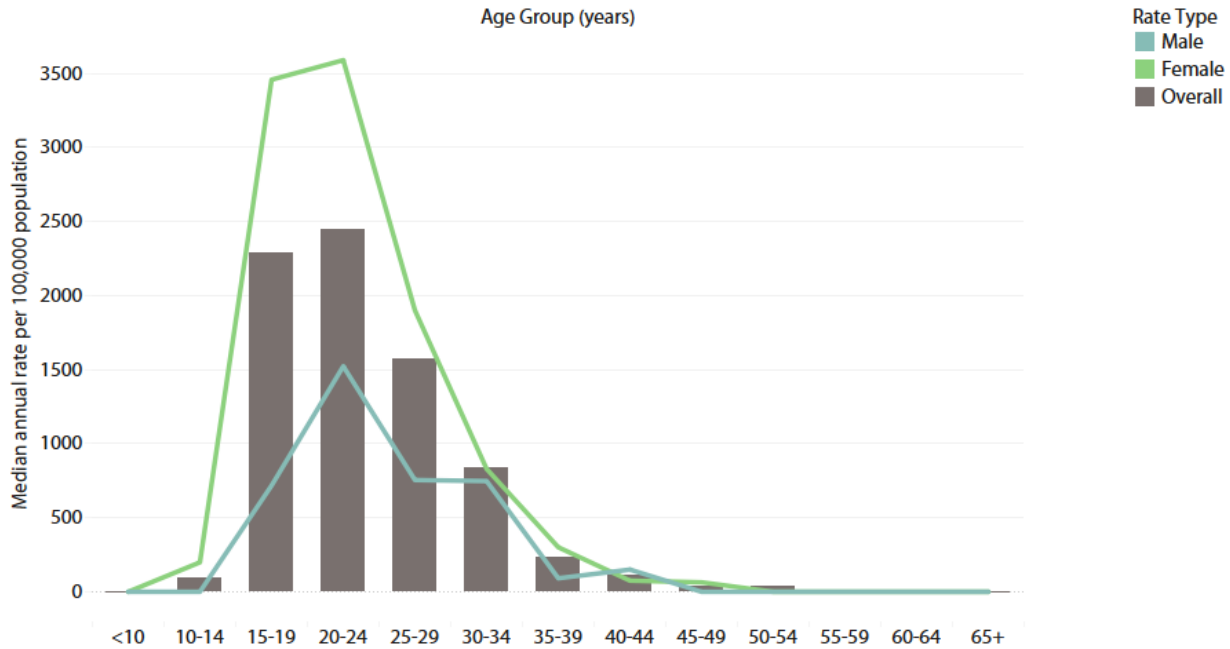
A more detailed analysis and breakdown by gender shows that there is also a notable gender gap in chlamydial infections. Females accounted for 69.8% of all chlamydia cases in LGH during the 5-year period between 2015 and 2019. As figure 2 shows, female rates (median = 609.9 cases per 100,000) are more than double male rates (median = 266.2 cases per 100,000) each year from 2015 to 2019. The existence of this gender gap is consistent with national trends, which show consistently higher rates in females than males [2]; however, this gender gap is wider in the LGH region. Additionally, although this gap has been narrowing at the national level and male rates have been increasing faster than female rates [2], the same trend is not apparent in the LGH region. Differential access to testing may contribute to this gender gap. Higher rates of testing are often observed in females.

Figure 2: Annual chlamydia rates in the L-GH region, by gender, 2015-2019



Over the period from 2015 to 2019, 81% of chlamydia cases in the LGH region were between the age of 15 and 29, consistent with the national proportion (77% from 2013 to 2017 [2]), and the overall average age was 23.6 years old. As shown in figure 3, the highest chlamydia rate in LGH is in the 20 to 24 year age group (2,449 cases per 100,000), followed by the 15 to 19 year (2,288 cases per 100,000) and 25 to 29 year (3,590 cases per 100,000) age groups. Although the highest rates for both males (1,523 cases per 100,000) and females (3,590 cases per 100,000) are in the 20 to 24 year age group, there is a difference with respect to the second highest rates. In females, the 15 to 19 year age group has the second highest rate (3,458 cases per 100,000), while among males the 25 to 29 year age group has the second highest rate (755 cases per 100,000). This difference is reflected in the average age of cases, 23.0 years and 25.2 years among females and males, respectively.

Figure 3: Median annual chlamydia rates in LGH, by age group and gender, 2015-2019



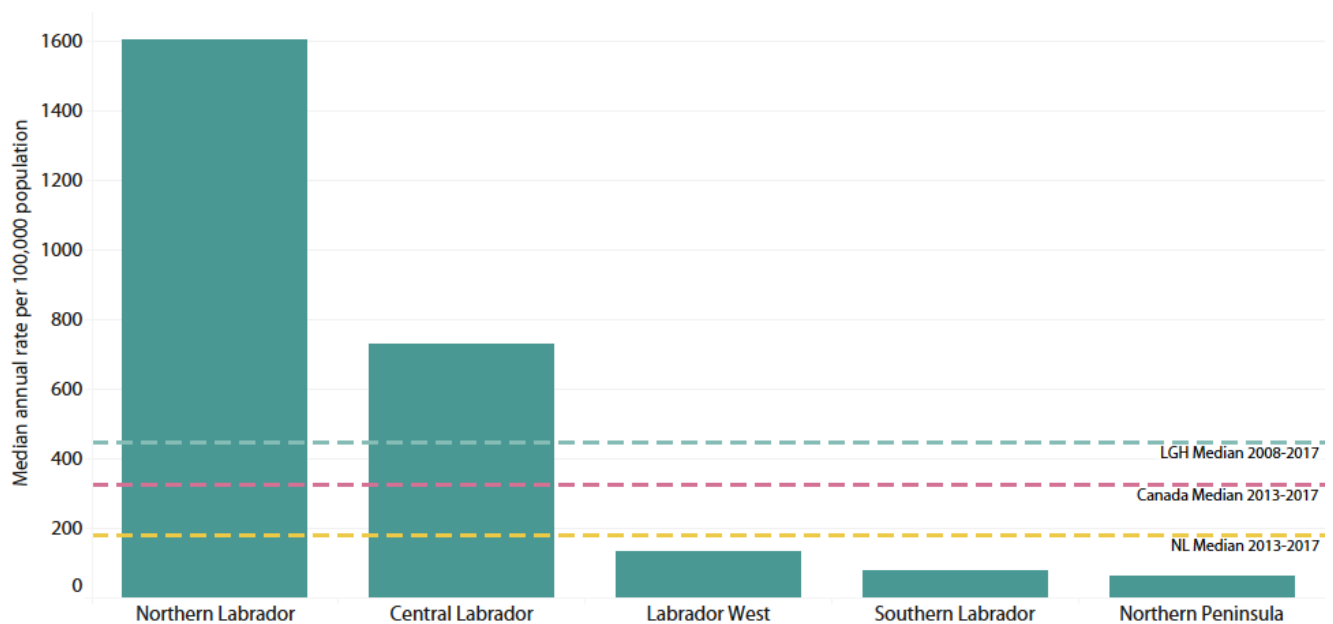
The geographical distribution of cases within the LGH region highlights the disparity of chlamydia disease burden amongst regions (see figure 4). The highest rates of chlamydia are consistently in Northern Labrador, which has annual and median rates more than twice those of the next highest, Central Labrador. Between 2015 and 2019, rates of chlamydia increased in all regions, by varying amounts, except the Northern Peninsula and Southern Labrador.

Figure 4: Annual chlamydia rates (per 100,000 population) in LGH by sub-region, 2015-2019

	2015	2016	2017	2018	2019
Central Labrador	591	729	729	781	822
Labrador West	30	244	132	51	142
Northern Labrador	1,437	1,603	1,488	2,433	2,061
Northern Peninsula	79	65	54	119	43
Southern Labrador	78	109	163	54	54

A visual comparison of median rates among LGH sub-regions (see figure 5) illustrates that not only are rates in Northern Labrador much higher than all other regions, but they also exceed national and provincial rates. The only other region which exceeds national and provincial rates is Central Labrador.

Figure 5: A comparison of median annual chlamydia rates between LGH geographical sub-regions, 2015-2019



In summary, rates of reported *Chlamydia trachomatis* infection are higher in the LGH region than either provincially or nationally. There is a notable gender gap in the rates of infection with female rates more than double those of males. Also, a preponderance of cases in this region range in age from 15 to 29 years old, which is consistent with national trends. A notable geographic disparity exists within the LGH region with the highest rates of infection occurring in Northern Labrador, followed by Central Labrador, while the remainder of the sub-regions have rates that are below provincial and national levels.



## Technical Notes

### Data Sources

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### Definitions

YTD: Year-to-Date

5-Year Historical Median: Middle value of quarterly counts over the previous 5 calendar years

Upper threshold: Calculated using the 3<sup>rd</sup> quartile + 1.5 \* interquartile range for each quarter, over the previous 5 calendar years

Central Labrador: Region located in the Lake Melville area, which includes Happy Valley-Goose Bay, Sheshatshiu, North West River, and Mud Lake

Labrador West: Region located in the western region of Labrador, which includes Labrador City, Wabush, and Churchill Falls

Northern Labrador: Region spanning the northern coast of Labrador, which includes Rigolet, Postville, Makkovik, Hopedale, Nain, and Natuashish

Southern Labrador: Region spanning the southern coast and straits of Labrador, which includes all communities from Cartwright to L'anse-au-Clair

Northern Peninsula: Region stretching north from Bartlett's Harbour on the western side and Englee on the eastern side, up to the northernmost reaches of the Northern Peninsula of Newfoundland, which includes communities such as St. Anthony, Roddickton, and Flower's Cove

### Note

This report was prepared by Krista Baker, Public Health Information Management Analyst

Any questions about this report should be directed to [CDCintake@lghealth.ca](mailto:CDCintake@lghealth.ca)

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