



**NOTIFIABLE DISEASES IN NOVA SCOTIA
2016 SURVEILLANCE REPORT**

ACKNOWLEDGEMENTS

Provincial notifiable disease surveillance would not be possible without the timely and complete case reporting by health care providers, public health professionals, and laboratories within the province. The Nova Scotia Department of Health and Wellness extends its thanks to all those whose contributions have helped make this report possible.

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2016 HIGHLIGHTS

A total of 6,252 cases of notifiable diseases (including influenza) were reported in Nova Scotia in 2016. Figure 1 represents the frequency of diseases reported by disease category. A summary of the diseases included in each disease category can be found in the Nova Scotia Surveillance Guidelines for Notifiable Diseases and Conditions (<http://novascotia.ca/dhw/populationhealth/surveillanceguidelines/>).

Chlamydia, a sexually transmitted infection, was the most frequently reported disease (49.4%), followed by two healthcare associated infections, Clostridium difficile (14.7%) and methicillin resistant staphylococcus aureus (MRSA) (9.6%) (Figure 2).

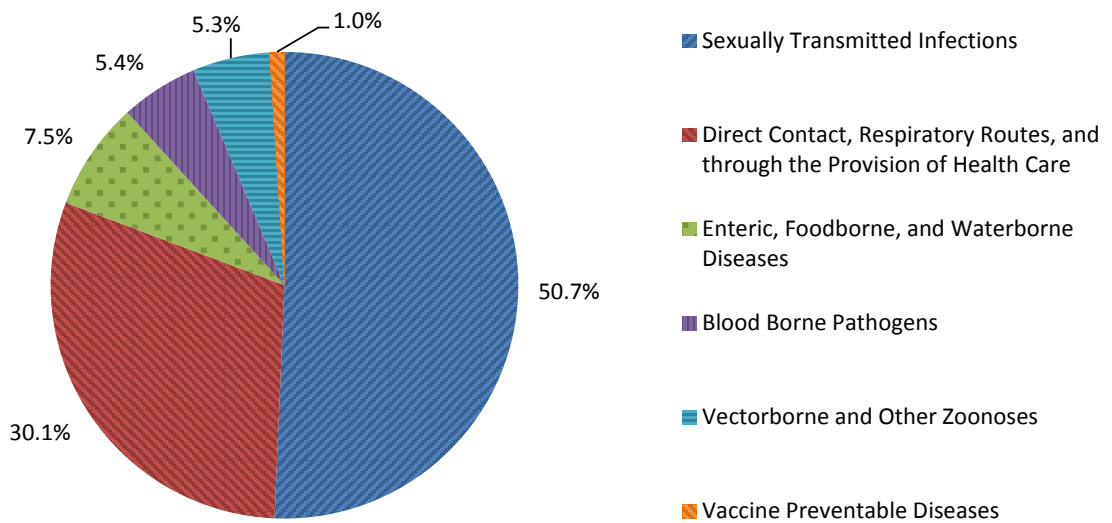
The number of Lyme Disease cases increased in 2016 to 326 from 247 cases in 2015.

For the third consecutive year, the number of infectious syphilis cases has decreased (2013: n=85, 9.0/100,000; 2014: n=63, 6.7/100,000; 2015: n=42, 4.5/100,000; 2016: n=18, 1.9/100,000). This trend was also seen in Central Zone where an outbreak of syphilis has been ongoing since 2008.

The number of cases of hepatitis A was the highest in 2016 compared to the previous 10 years (n=11). This was due primarily to cases associated with an outbreak at a daycare in Central Zone (n=8).

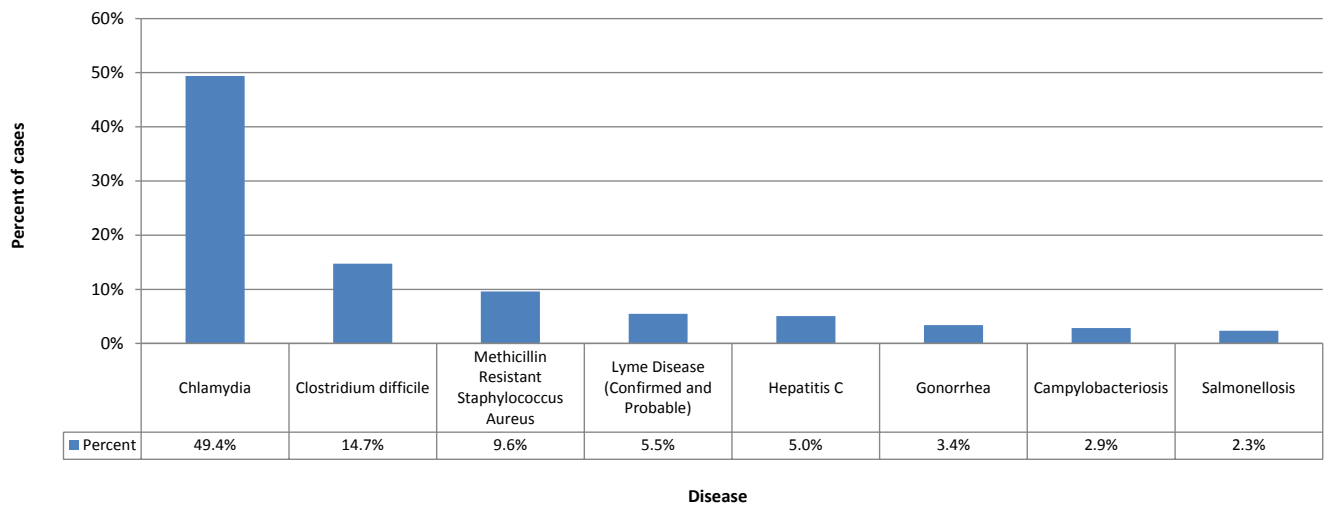
Influenza cases are not described any further in this report. Information on influenza can be obtained from the Annual Influenza Surveillance Report, which can be found on the Department of Health and Wellness website: (<http://novascotia.ca/dhw/populationhealth/>).

Figure 1: Distribution of notifiable diseases reported in Nova Scotia by disease category, 2016



Note: The “Direct Contact, Respiratory Routes, and through the Provision of Health Care” category in this figure includes influenza cases (n=325). Influenza cases are not described further in this report.

Figure 2: Summary of most frequently reported notifiable diseases in Nova Scotia, 2016



INTRODUCTION

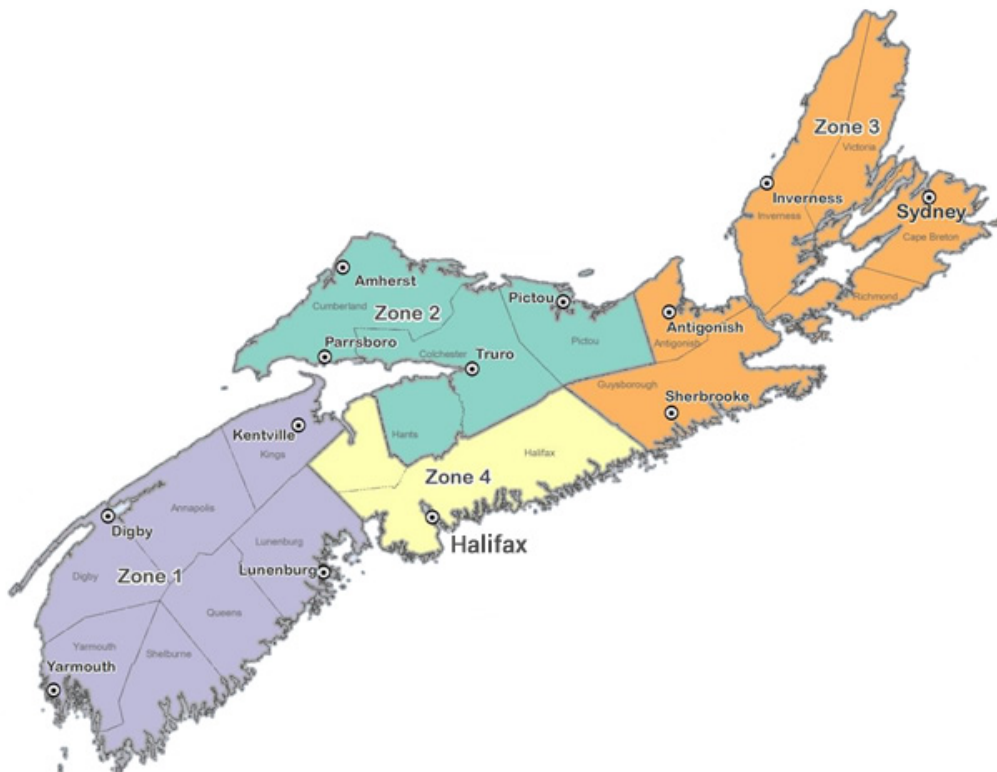
Surveillance is defined as the “systematic ongoing collection, collation, and analysis of data and the timely dissemination of information to those who need to know so that action can be taken” (1).

In Nova Scotia, surveillance of notifiable diseases is governed by the provincial *Health Protection Act*, which mandates the reporting of diseases by many partners within the public health system and the health system as a whole (2). The list of notifiable diseases in Nova Scotia can be found in Appendix A.

The purpose of this report is to provide a summary of notifiable diseases reported in Nova Scotia in 2016. The report was compiled by the Nova Scotia Department of Health and Wellness (DHW). It includes highlights of notifiable disease data for 2016, examines important trends for 2007-2016 and provides some comparisons with national data. In Appendix B, numbers and rates of notifiable diseases are presented for a 10 year period for the province.

Rates of notifiable diseases will be presented for each off the four Health Management Zones (Figure 3), sex, and age groups.

Figure 3: Map of Health Management Zone boundaries, Nova Scotia



METHODS

In Nova Scotia, reporting of notifiable disease cases is mandated by the Health Protection Act (2). As part of public health case management, public health staff document information about notifiable disease cases that can include demographic, clinical, exposure, treatment, and laboratory information.

Cases are classified based on standardized case definitions and are reported to DHW, for provincial surveillance purposes, through the Application for Notifiable Disease Surveillance (ANDS), the Application for Notifiable Disease Surveillance and Immunization (ANDI) and case report forms. Further information on the case definitions, reporting procedures, and forms can be found in the Nova Scotia Surveillance Guidelines for Notifiable Diseases and Conditions (3). Information on public health case management and control measures in Nova Scotia can be found in the Nova Scotia Communicable Disease Control Manual (4).

Cases of notifiable diseases are generally reported and counted based on their place of residence at the time of their diagnosis, with some exceptions. For more information on the guidelines for reporting and counting cases, please see the Nova Scotia Surveillance Guidelines for Notifiable Diseases and Conditions (3). For chronic conditions (e.g. hepatitis C, HIV), only residents with a first-time diagnosis in Nova Scotia are included in this report. If information on previous diagnoses for a case is not available (e.g. when a case is lost to follow up), these cases are counted as Nova Scotia cases.

Dates presented in this report are based on the episode date assigned to the case. The episode date is the earliest known date, reflecting symptom onset or the closest available date (specimen collection date, clinical diagnosis date, or test result date).

Only cases meeting a confirmed case definition are included in this report, with the exception of Lyme disease, where probable cases are also included.

Positive cases reported to public health who tested anonymously (e.g. from anonymous HIV testing programs, special research studies) are not included in this report. Anonymous positive test results are not routinely reported to public health. For HIV, cases must be tested nominally before receiving treatment for their infection, so it is assumed that most HIV cases who first test anonymously are reported nominally to public health and in turn are included in the provincial surveillance data.

Rates were calculated using Statistics Canada population counts based on the 2016 Census (accessed July 2017). All Canadian notifiable disease data were obtained from the Public Health Agency of Canada (PHAC) and are cited where used. The most recent year of Canadian data is for 2015. Therefore, comparisons between Nova Scotia and Canada are based on 2015 data (5).

This report does not contain any influenza surveillance data as there is a separate annual report on this topic, which can be found on the DHW website (<http://novascotia.ca/dhw/populationhealth/>).

All case data are current as of September 19th, 2017.

LIMITATIONS

The numbers cited in this report reflect only those cases that are reported to Public Health Services within the Nova Scotia Health Authority (NSHA) and may under-represent the true number of cases in the population. This is particularly relevant for diseases that may remain asymptomatic (i.e. chlamydia) and those that have a wide clinical spectrum (i.e. Lyme disease). For certain diseases, cases experience severe illness and are more likely to present for medical care and be diagnosed and reported to public health (e.g. invasive meningococcal disease). As a result, these diseases are likely well-captured in the surveillance information presented in this report. Additional limitations in surveillance data may also be present for specific diseases (e.g. misclassification of hepatitis B cases as acute or chronic).

Changes in case finding procedures (e.g. changes to laboratory testing methods) may result in an increase or decrease in the number of reported cases that may not be reflective of true changes in disease occurrence within the province. Any changes are noted within the report.

Numbers and rates presented in this report are based on notifications received by DHW as of September 19th, 2017. As new information is received, these numbers and rates may be subject to minor changes in future reports. National notifiable disease data from PHAC that are used in this report are also subject to change.

DISEASE REPORTS IN NOVA SCOTIA BY DISEASE GROUP

The purpose of this section is to present more detailed information on reported cases within each category of notifiable diseases in Nova Scotia. Overall case counts and rates by disease, as well as counts and rates by age, sex, and Zone can be found in Appendix B.

Bloodborne Pathogens

HIV & AIDS

There were 16 newly diagnosed cases of HIV in Nova Scotia in 2016 (rate of 1.7/100,000 population) which is a decrease from 2015 (n=17; 1.8/100,000 population). The cumulative number of new diagnoses since 1985 (when the first case was reported) is 842. The Canadian rate of reported HIV cases in 2015 was 5.8/100,000 population (5). For 2015, the reported rate of HIV in Nova Scotia was below the national rate.

In 2016, 75.0% of HIV cases were male and 62.5% of cases were between the ages of 25 and 59. The frequency of reporting the following exposures were: men who have sex with men (MSM, 56.2%), low risk heterosexual contact (HET-LR, 18.7%), high risk heterosexual contact (HET-IR, 6.2%), and injection drug use (IDU, 18.7%).

There was one new case of AIDS reported in Nova Scotia in 2016 (0.1/100,000 population). This was a decrease from 2016 (0.3/100,000 population).

Hepatitis B (Acute and Chronic)

The number of reported cases of acute hepatitis B in 2016 was 10 (rate of 1.1/100,000 population). There were 13 cases of chronic hepatitis B reported in 2016 (rate of 1.4/100,000 population). The overall rate for hepatitis B (acute and chronic) in 2016 was 2.4/100,000 population which is an increase from the 2015 rate of 1.9/100,000 population.

The majority of cases were age 25 and older and 60.9% were male.

Nationally, the rates of hepatitis B are reported for acute and chronic cases combined. The 2015 Canadian rate of hepatitis B was 13.2/100,000 population which was higher compared to the 2015 Nova Scotia Rate (2.0/100,000 population) (5).

Hepatitis C

In 2016, 299 cases of hepatitis C were reported in Nova Scotia (rate of 31.5/100,000 population). This rate is lower compared to the 2014 and 2015 rates (Figure 4). The national rate of reported hepatitis C cases in 2015 was 30.4/100,000 population (5). For 2015, the Nova Scotia rate (36.2/100,000 population) was higher compared to the national rate.

Eastern Zone had the highest rate of hepatitis C compared to the other zones with a rate of 57.4/100,000 population (Figure 5). Northern Zone had the second highest rate of hepatitis C in 2016 (54.7/100,000 population).

Figure 4: Reported rates of hepatitis C in Nova Scotia, 2007-2016

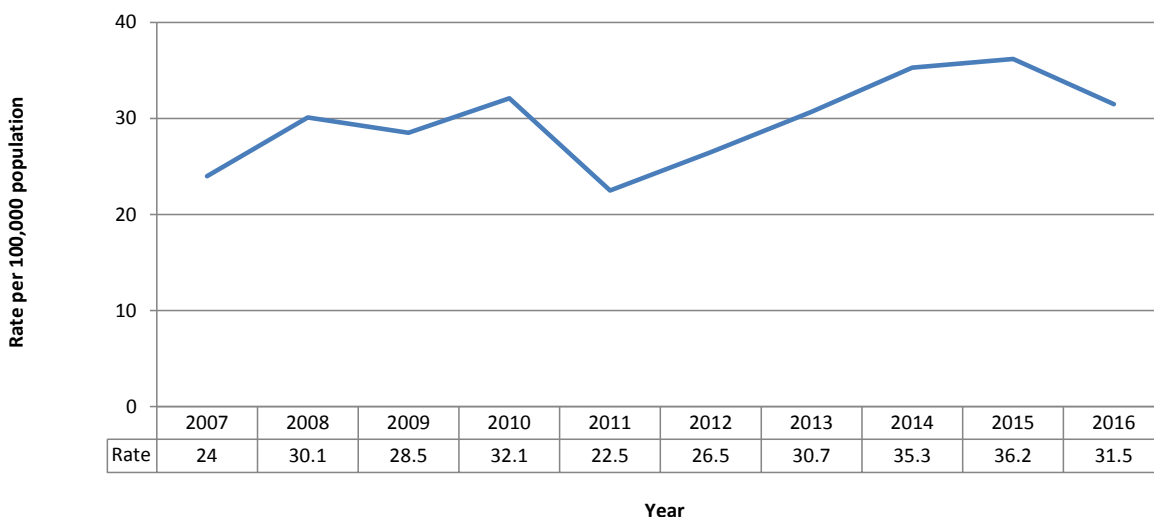
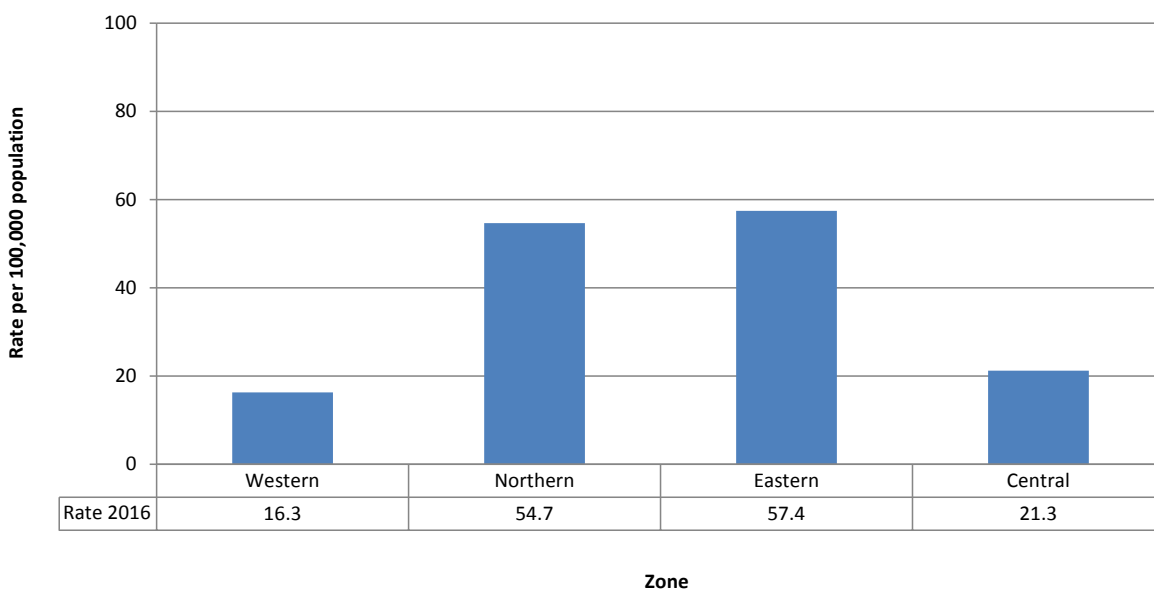


Figure 5: Reported rates of hepatitis C in Nova Scotia by Zone, 2016

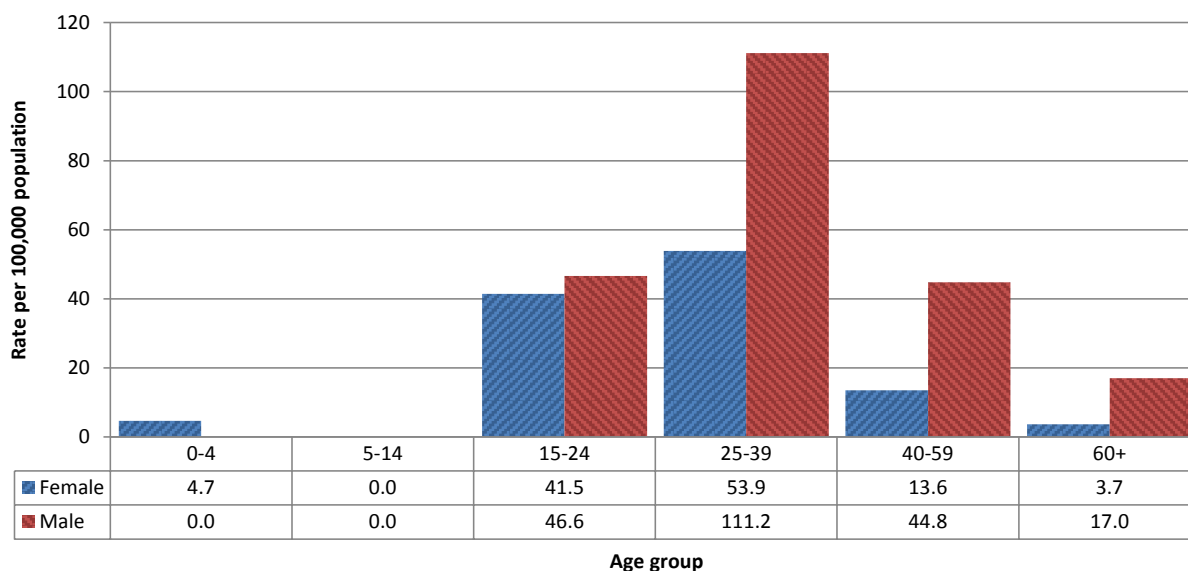


Notes: Western = Zone 1, Northern = Zone 2, Eastern = Zone 3, Central = Zone 4

The majority of reported hepatitis C cases (74.6%) were between the ages of 25-59 years and 68.2% of the cases were male. The rate was highest among males aged 25-39 at 111.2/100,000 population (Figure 6).

The Canadian hepatitis C rate for 2015 was highest among males in the 25-29 age group at 57.5/100,000 population. The rates among males are higher than females for cases 25 years and older (5).

Figure 6: Reported rates of hepatitis C in Nova Scotia by age group and sex, 2016



Direct Contact, Respiratory Routes, and Through the Provision of Health Care

There were a total of 1555 cases of respiratory, direct contact, and health care-associated infections reported in 2016 (excluding influenza, n=325).

Rates of all other direct contact/respiratory route reports are presented in Figure 7 and Appendix B, Table 1.

Health Care Associated Infections

The data presented in this report reflects the total number of provincially notifiable health care-associated infections in the province (both health care and community acquired). Not all health care associated infections are included on the notifiable disease list. The current process for reporting these infections to Public Health does not allow cases to be classified as health care or community acquired.

DHW also reports surveillance data of health care-associated *C.difficile* and MRSA in acute care hospitals within the province. These data can be found at <https://novascotia.ca/dhw/hsg/public-reporting/>.

Clostridium difficile

Clostridium difficile became a reportable disease on April 1st, 2012. The number of cases reported in 2016 was 874 (rate of 92.0/100,000 population). This is an increase from 2015 (n=796; 84.4/100,000 population). The majority of the cases were female (57.9%) and 63.2% were aged 60 years and older.

Three outbreaks of *Clostridium difficile* were reported in 2016.

Methicillin Resistant Staphylococcus Aureus (MRSA)

There were 570 reported cases of MRSA in Nova Scotia in 2016. The rate was 60.0/100,000 population which is lower compared to the rate in 2015 (65.7/100,000 population). Canadian rates are not available because MRSA is not nationally reportable. The highest rate in the province in 2016 was reported in the Northern Zone (87.8/100,000 population).

The majority of cases occurred in those aged 60 years and older (64.2%, n=366). This was a rate of 144.1/100,000 population. The rate among males was higher compared to females (66.0/100,000 vs. 54.3/100,000 population).

There were six outbreaks of MRSA reported in 2016.

Vancomycin-Resistant Enterococcus

In 2016, 13 cases of vancomycin-resistant enterococcus (VRE) were reported in Nova Scotia (rate of 1.4/100,000 population). This is higher compared to the 2015 rate of 0.4/100,000. The majority of cases (84.6%) were age 60 years or older.

No outbreaks of VRE reported in 2016.

Direct Contact and Respiratory Routes

Invasive Meningococcal Disease

Four cases of invasive meningococcal disease were reported in 2016 (rate of 0.4/100,000 population). This was a decrease from 2015, when seven cases were reported. In 2016, two of the cases were serogroup B, one was serogroup W-135 and one was serogroup Y.

Legionellosis

There was one case of legionellosis reported in 2016 (rate of 0.1/100,000 population). This was a decrease from the rate reported in 2015 (n=7, 0.7/100,000 population).

Invasive Pneumococcal Disease

In 2016, there were 66 cases of invasive pneumococcal disease reported (rate of 7.0/100,000 population). This was higher compared to the rate in 2015 (5.3/100,000). The 2015 Nova Scotia rate is lower compared to the 2015 national rate of 9.0/100,000 population (5). The majority of cases reported in 2016 were over the age of 40 (74.2%) and 51.5% were female.

Invasive Group A Streptococcal Disease

The overall rate of invasive group A streptococcal disease for 2016 was 2.0/100,000 (n=19). The number of severe cases reported in 2016 was 7 (rate of 0.7/100,000 population). The number of non-severe cases reported in 2016 was 12 (rate of 1.3/100,000 population). The 2015 rate for Nova Scotia (2.5/100,000) is lower compared to the 2015 national rate (5.3/100,000) (5).

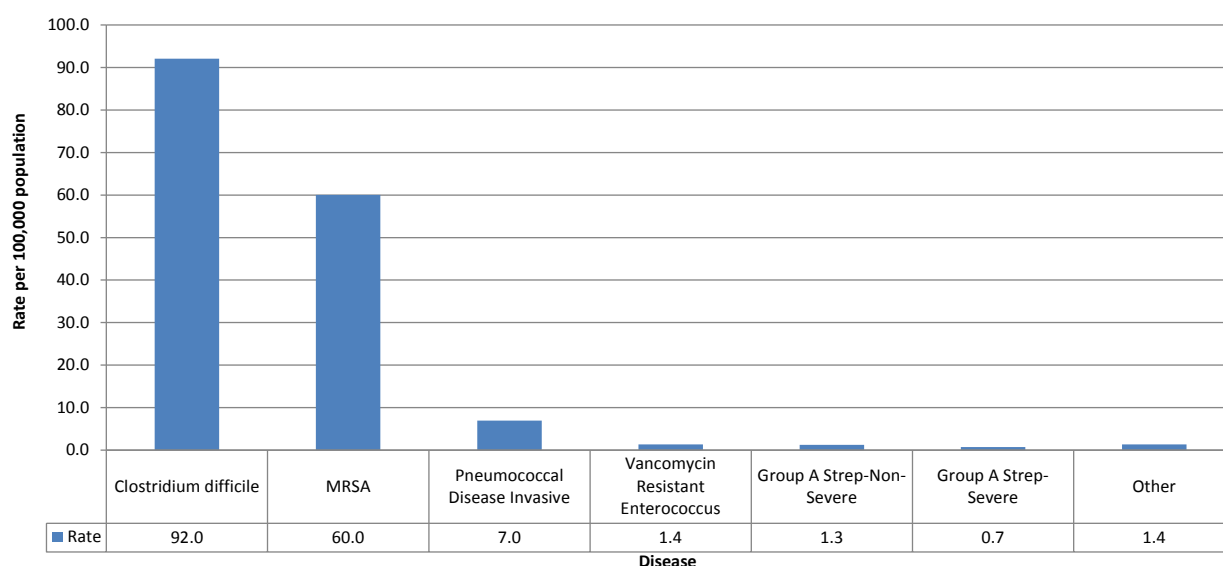
Tuberculosis

Two cases of laboratory confirmed tuberculosis were reported in 2016 (1 pulmonary, 1 extra pulmonary). This represented a rate of 0.2/100,000 population. Both cases were between the ages of 15 and 39, one case was female and one was male. The 2015 provincial rate is lower than the 2015 Canadian rate (0.6/100,000 vs. 4.6/100,000 population) (5).

Other Direct Contact and Respiratory Route Pathogens

Three cases of group B streptococcal of a newborn, 2 cases of viral meningitis and 1 case of Creutzfeldt-Jakob Disease-Classic were reported in 2016.

Figure 7: Reported rates of diseases transmitted by direct contact, respiratory routes, and through the provision of health care in Nova Scotia, 2016



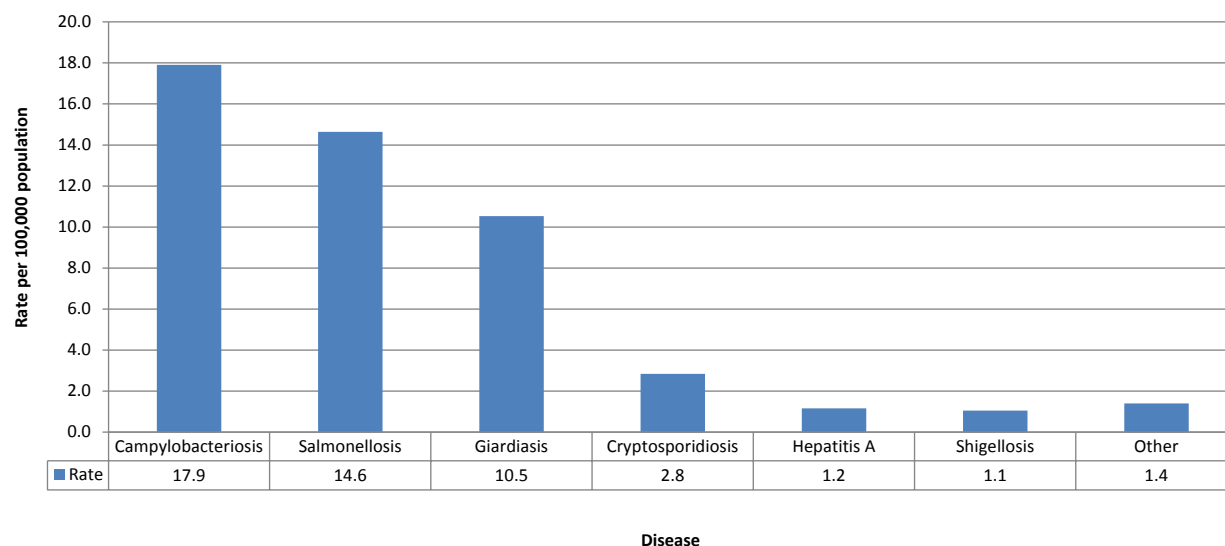
Outbreaks of Direct Contact, Respiratory Routes, and Through the Provision of Health Care Infections

There were 55 respiratory related outbreaks were reported during the 2016-2017 influenza season. The Annual Influenza Surveillance report provides a more detailed summary for influenza outbreaks. The report can be found on the DHW website (<http://novascotia.ca/dhw/populationhealth/>).

Enteric, Foodborne, and Waterborne Diseases

There were 470 cases of enteric disease reported in Nova Scotia in 2016. Travel was associated with 96 (20.4%) of these reported cases. Figure 8 presents the enteric disease rates for 2016.

Figure 8: Reported rates of enteric, foodborne, and waterborne diseases in Nova Scotia, 2016



Campylobacteriosis

In 2016, campylobacteriosis was the most frequently reported enteric infection (170 cases; rate of 17.9/100,000 population). Twenty-eight (16.5%) of the cases were travel related. The Western Zone had the highest rate among zones with a rate of 28.1/100,000 population. More than half of reported cases (n=88, 51.8%) were aged 40 years or older. The rate for campylobacteriosis continues to be higher among males than females (19.1/100,000 for males vs. 16.7/100,000 for females). The 2015 provincial rate is lower compared to the 2015 national rate (16.4/100,000 vs. 25.3/100,000) (5).

Salmonellosis

Salmonellosis was the second most frequently reported enteric infection in Nova Scotia in 2016 (139 cases; 14.6/100,000 population). Thirty-seven of the reported cases were associated with travel (26.6%). The Northern Zone had the highest rate among zones with a rate of 22.3/100,000 population. Sixty-one percent of cases reported in 2016 were 40 years of age and older and 51.1% were female. The rate of salmonellosis infections in Nova Scotia in 2015 (17.8/100,000 population) is lower than the 2015 Canadian rate of 21.6/100,000 population (5).

Giardiasis

A total of 100 cases of giardiasis were reported in Nova Scotia in 2016, representing a rate of 10.5/100,000 population. Of the cases reported, 14 (14.0%) were associated with travel. The 2015 rate of giardiasis infections reported in Nova Scotia (8.8/100,000 population) is lower compared to the 2015 Canadian rate of 10.4/100,000 population (5). Eighty-three percent of cases (n=83) were reported in people aged 25 years and older. The rate of illness was higher among males compared to females (14.0/100,000 for males vs. 7.2/100,000 population for females).

Cryptosporidiosis

A total of 27 cases of cryptosporidiosis were reported in Nova Scotia in 2016, representing a rate of 2.8/100,000 population. Of the cases reported, 4 (14.8%) were associated with travel. Western Zone had the highest rate among the zones (5.6/100,000 population). Seventy percent of cases (n=19) were reported in people aged 25-59. The rate of illness was higher among males compared to females (3.4/100,000 for males vs. 2.3/100,000 population for females). The 2015 rate of cryptosporidiosis infections reported in Nova Scotia (1.8/100,000 population) is lower compared to the 2015 Canadian rate of 2.4/100,000 population (5).

Hepatitis A

A total of 11 cases of hepatitis A were reported in Nova Scotia in 2016, representing a rate of 1.2/100,000 population. This was the highest rate of hepatitis A reported in the last ten years. One case was associated with travel. This increase in the number of cases was associated with an outbreak of hepatitis A occurred in a daycare. Eight cases were associated with this outbreak. The 2015 rate of hepatitis A infections reported in Nova Scotia (0.1/100,000 population) is lower compared to the 2015 Canadian rate of 0.5/100,000 population (5).

Verotoxigenic E.coli

A total of five cases of Verotoxigenic E.coli were reported in 2016 (0.5/100,000 population). The rate among females was higher than males (0.6/100,000 vs. 0.4/100,000).

Other Reportable Enteric Diseases

The rate of other reportable enteric diseases in Nova Scotia in 2016 remained low (See Appendix B, Table 1 for details).

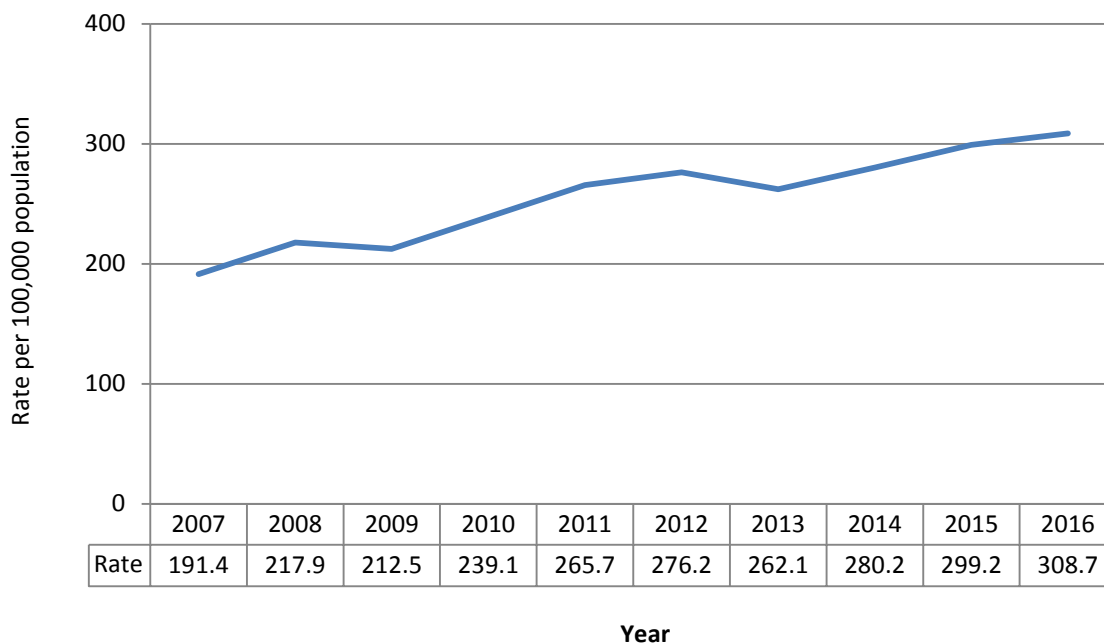
Sexually Transmitted Infections

There were 3,168 notifications of bacterial sexually transmitted infections (STI) in Nova Scotia in 2016. The rates of chlamydia and gonorrhoea both increased in 2016, while the rate of infectious syphilis decreased for the third consecutive year.

Chlamydia

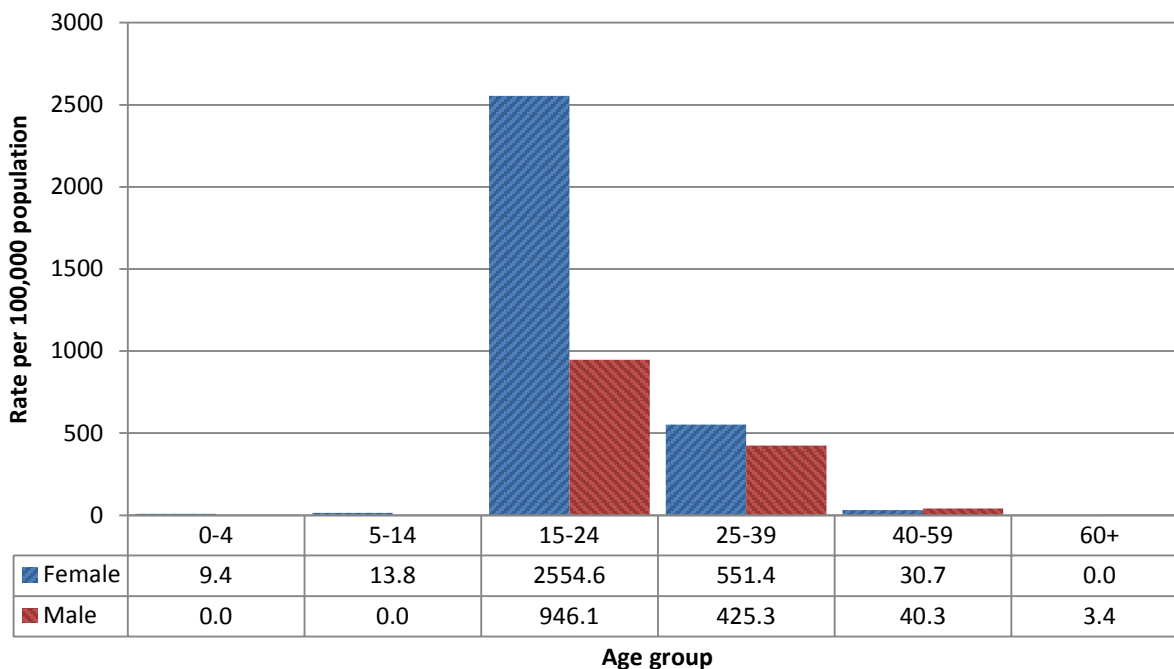
Chlamydia was the most frequently reported notifiable disease in Nova Scotia in 2016 (n=2,931, rate=308.7/100,000 population). The number of reported cases and the associated rate of chlamydia has shown an increasing trend from 2007 to 2016 (Figure 9). The 2015 Nova Scotia chlamydia rate was lower compared to the national rate (299.2/100,000 vs. 325.0/100,000 population) (5).

Figure 9: Reported rates of chlamydia in Nova Scotia, 2007-2016



Similar to the overall rate, the rates of chlamydia among females and males have increased again in 2016. The 2016 rate for females is 402.8/100,000 compared to 210.1/100,000 for males. The highest rate of chlamydia in Nova Scotia for 2016 was reported among females aged 15 to 24 years (2,554.6/100,000 population) (Figure 10). There was an increase in the rate of chlamydia for males aged 25-39 from 2015 to 2016 (379.7/100,000 in 2015 vs. 425.3/100,000 population in 2016). Similarly, 2015 national data show the highest rates of chlamydia in females aged 15 to 19 years (1,794.6/100,000 population) and 20 to 24 years (2,271.6/100,000 population) (5).

Figure 10: Reported rates of chlamydia in Nova Scotia by age group and sex, 2016



Gonorrhoea

For 2016, 202 cases of gonorrhoea were reported in Nova Scotia (rate of 21.3/100,000 population). This is an increase from the rate of 13.7/100,000 population in 2015 but is lower compared to the 2015 Canadian rate of 55.4/100,000 population (5).

The reported rates of gonorrhoea for 2016 increased among females and males compared to 2015 (females: 11.4/100,000 population in 2015 vs. 14.9/100,000 population in 2016; males: 16.9/100,000 population in 2015 vs. 27.9/100,000 population 2016). The increase in the number of male cases is partially due to enhanced contact tracing that occurred in Central Zone.

In 2016, the highest rate of gonorrhoea in Nova Scotia was reported among males aged 15 to 24 years (91.5/100,000 population) (Figure 12). This was similar to the age-sex distribution seen in 2015. The rate for males in the 15-24 and 25-39 year age groups increased from 2015 to 2016 (15-24: 39.0/100,000 vs. 91.5/100,000 population; 25-39: 43.1/100,000 vs. 67.6/100,000 population).

Central Zone reported the highest rate of gonorrhoea for 2016 compared to the other zones (35.8/100,000 population), followed by Western Zone (9.7/100,000 population).

Since 2014, Nova Scotia has been participating in the Enhanced Surveillance of Antimicrobial Resistant Gonorrhoea (ESAG) project through the Public Health Agency of Canada (PHAC). The purpose of this project is to improve the evidence available to inform the Canadian STI guidelines and to guide the development of public health interventions to minimize the spread of antimicrobial resistant *N. gonorrhoeae*.

The gonorrhoea treatment guidelines recommend ceftriaxone plus azithromycin or cefixime plus azithromycin (<https://novascotia.ca/dhw/cdpc/cdc/documents/Gonorrhoea.pdf>). Of the 60 specimens that have been submitted between 2014-2016, none have displayed resistance to ceftriaxone or cefixime. Three specimens displayed resistance to azithromycin.

Figure 11: Reported rates of gonorrhoea in Nova Scotia, 2007-2016

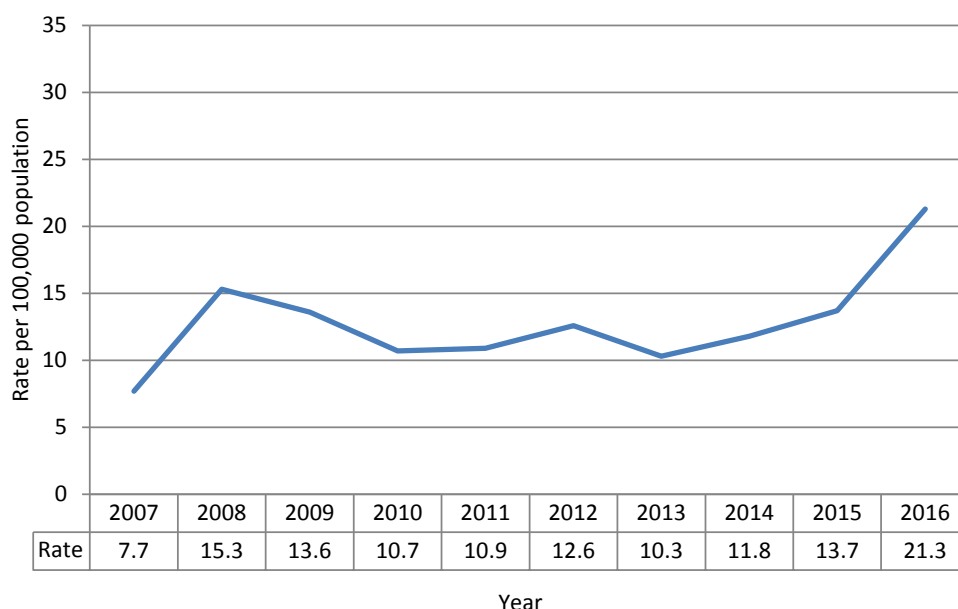
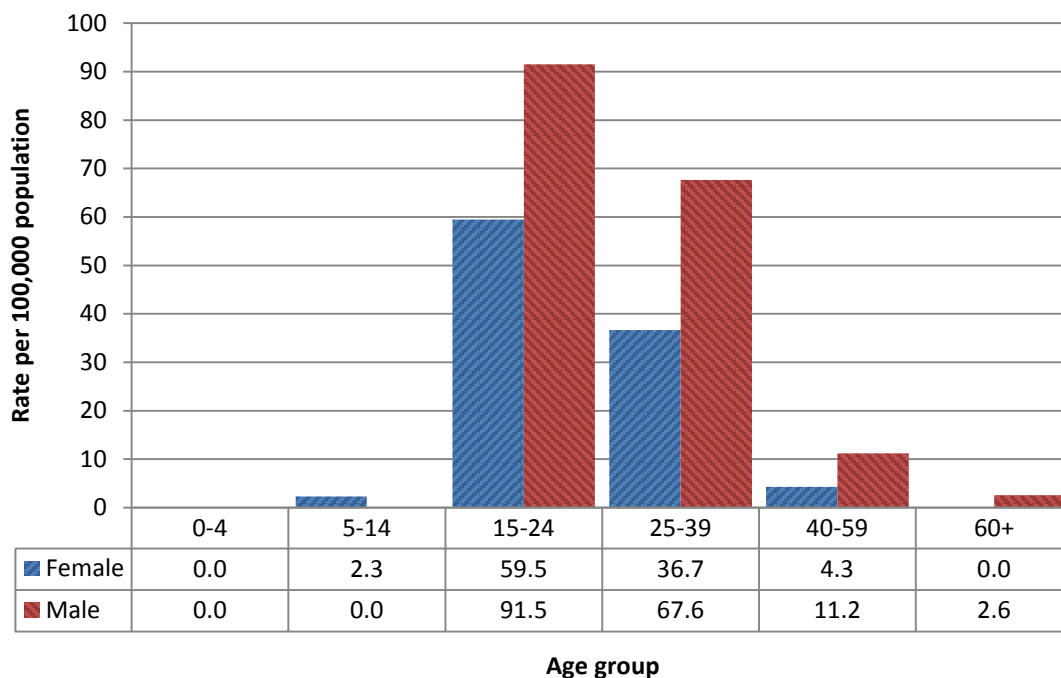


Figure 12: Reported rates of gonorrhoea in Nova Scotia by age group and sex, 2016



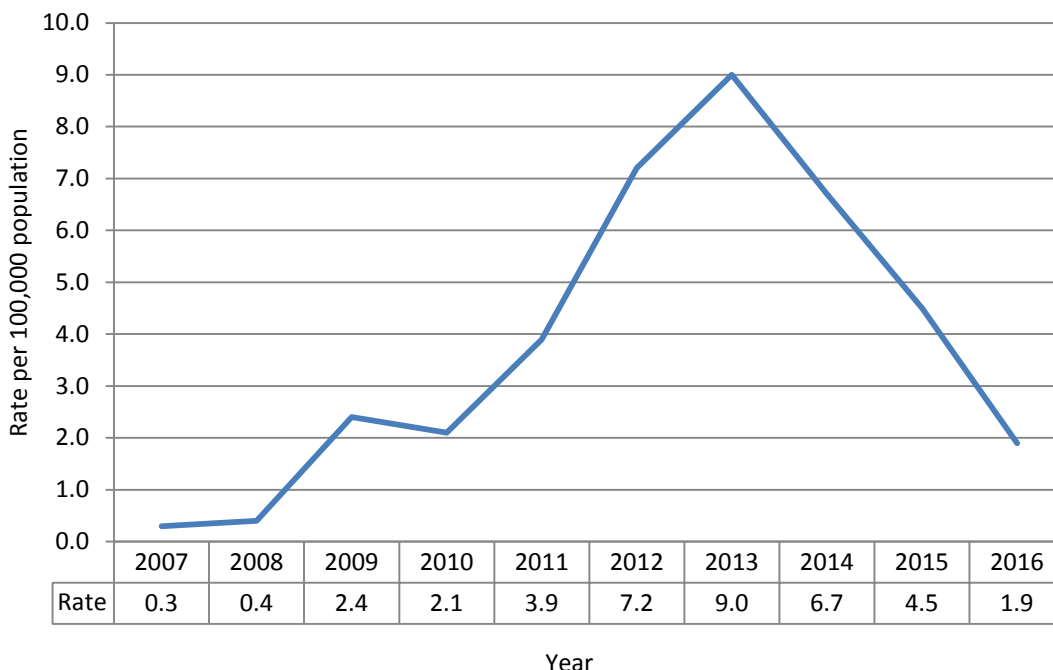
Syphilis

Syphilis cases are categorized as infectious or non-infectious syphilis. The primary, secondary, and early-latent stages of disease are considered infectious. The late latent and tertiary stages of disease are considered non-infectious (6). Infectious syphilis cases comprise those of public health significance, and will be described in more detail below.

In 2016 there were 18 cases of infectious syphilis and 17 cases of non-infectious syphilis reported in Nova Scotia. The reported rate of infectious syphilis cases in Nova Scotia was 1.9/100,000 population for 2016. This is third consecutive year that the rate has decreased and is the lowest rate since 2009 (Figure 14).

The Canadian rates for syphilis include both infectious and non-infectious cases. The national rate for 2015 was 12.7/100,000 population (5). The 2015 Nova Scotia rate for infectious syphilis and non-infectious syphilis combined (7.3/100,000 population) was lower compared to the Canadian rate (12.7/100,000 population).

Figure 13: Reported rates of infectious syphilis in Nova Scotia, 2007-2016



Since 2007, 348 out of 361 (96.4%) infectious syphilis cases in Nova Scotia have been male. Also, 305 out of 361 (84.5%) of infectious syphilis cases in that ten year period are associated with Central Zone. All cases of infectious syphilis reported in 2016 were over the age of 15. The highest rate was reported for males in the 25-39 year age group (10.3/100,000 population). The rates in all groups decreased from 2015 to 2016 (Figure 14).

Figure 15 presents rates of infectious syphilis among males in Central Zone and outside of Central Zone. The rates among males in Central Zone have also decreased for the third consecutive year from a high of 32.5/100,000 population in 2013 to the current rate of 5.5/100,000 population.

Figure 14: Reported rates of infectious syphilis in Nova Scotia by age group and sex, 2016

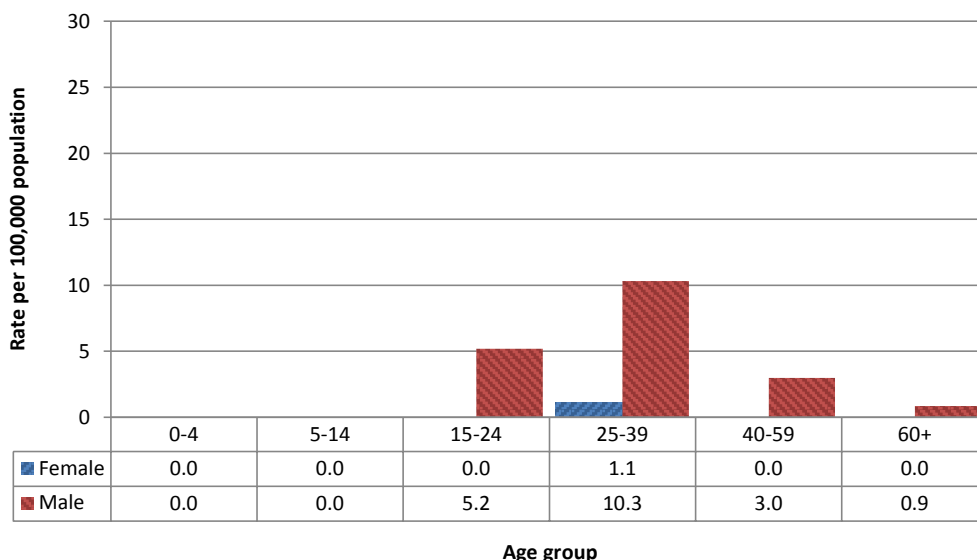
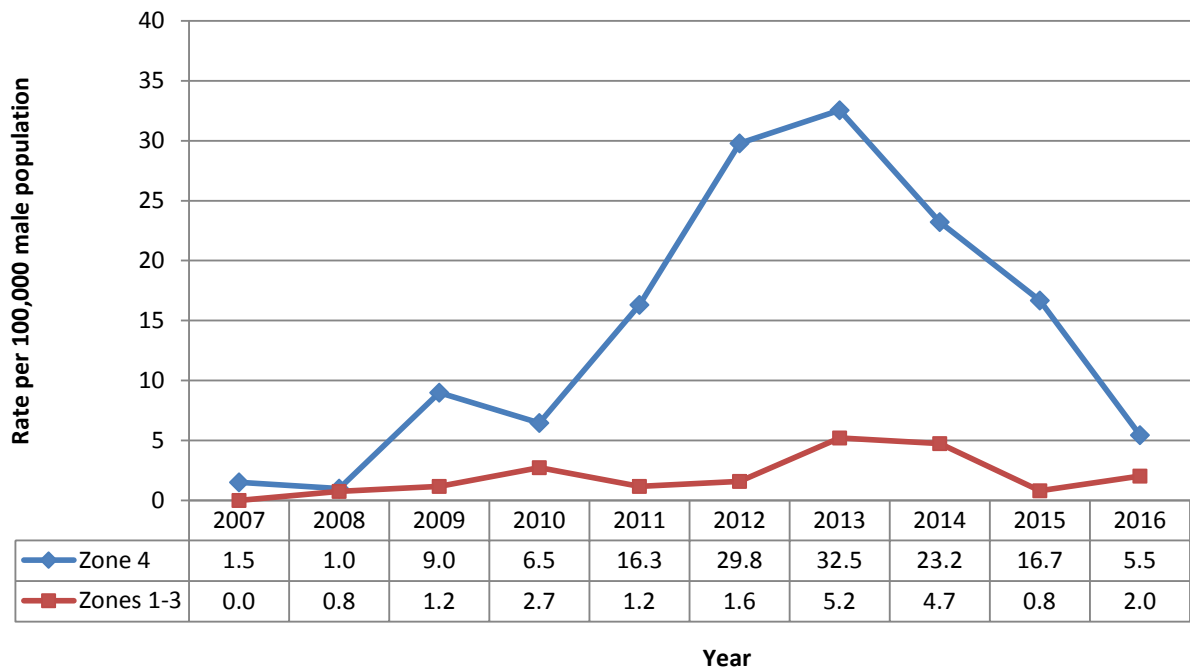


Figure 15: Reported rates of infectious syphilis among males residing in Central Zone and outside of Central Zone, 2007-2016



Vaccine Preventable Diseases

There were 64 cases of vaccine preventable diseases reported in Nova Scotia in 2016. This is a decrease from 116 cases in 2015.

The vaccine preventable diseases reported in 2016 included 63 cases of pertussis and one case of mumps.

Pertussis

Similar to 2015, pertussis was the most frequently reported vaccine preventable disease. The rate of pertussis reported in 2016 was 6.6/100,000 population. The highest rate occurred in Western Zone at 16.3/100,000 population (n=32). The majority of cases occurred in the 0-4 (n=19, 45.3/100,000 population) and 5-14 (n=18, 20.1/100,000 population) age groups. There were a higher percentage of females cases reported compared to males (60.3% vs. 39.7%).

Vectorborne and Other Zoonoses

There were 333 cases of vectorborne and other zoonotic diseases reported in Nova Scotia in 2016:

- There were 326 cases of Lyme disease reported.
- There were six cases of malaria reported. None of these cases were acquired in Nova Scotia.
- There was one case of toxoplasmosis reported.

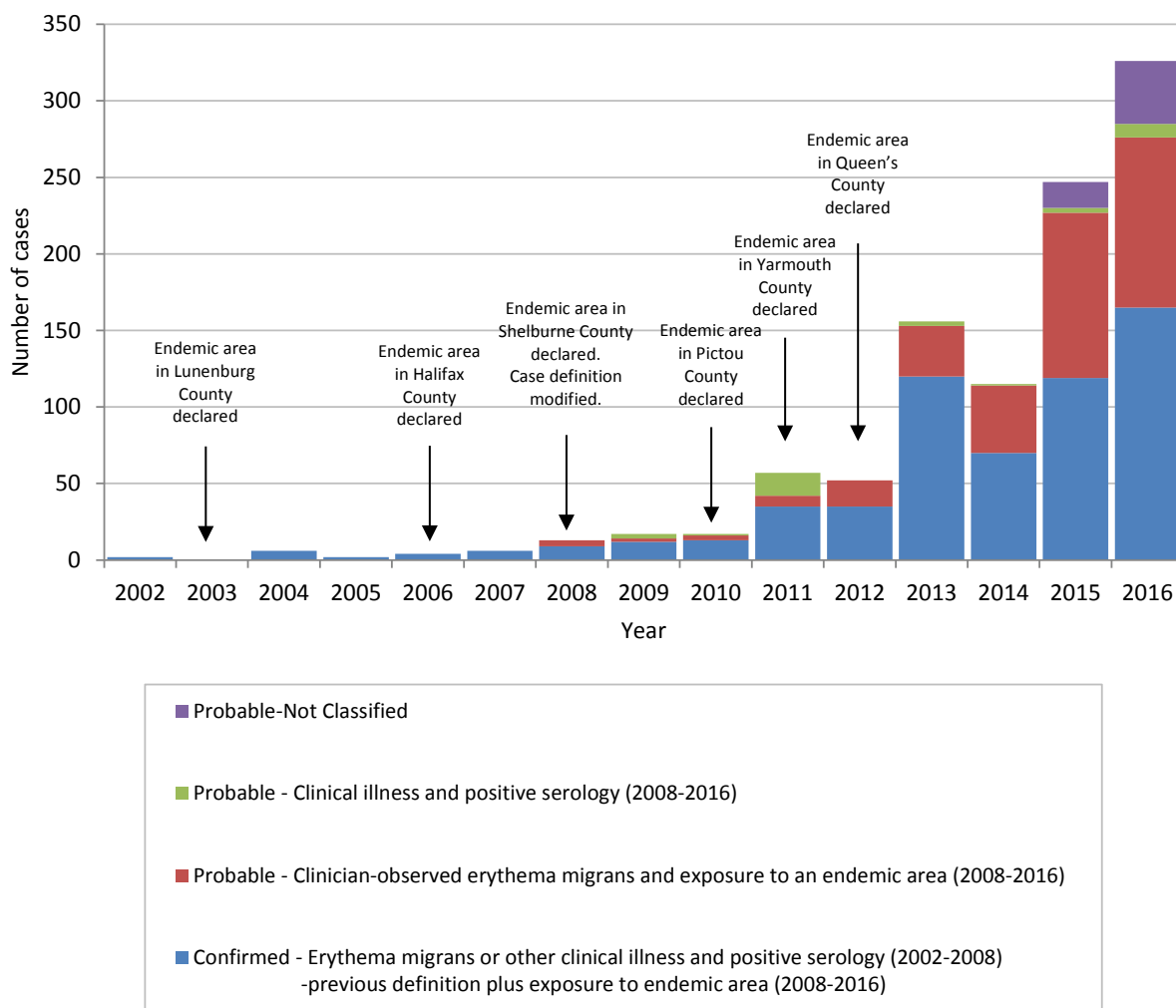
See Appendix B for tables containing numbers and rates of reported cases of vectorborne and other zoonotic diseases from 2007 to 2016.

Lyme Disease

Since the first cases reported in 2002, the annual number of reported cases of Lyme disease in Nova Scotia has displayed an increasing trend (Figure 16).

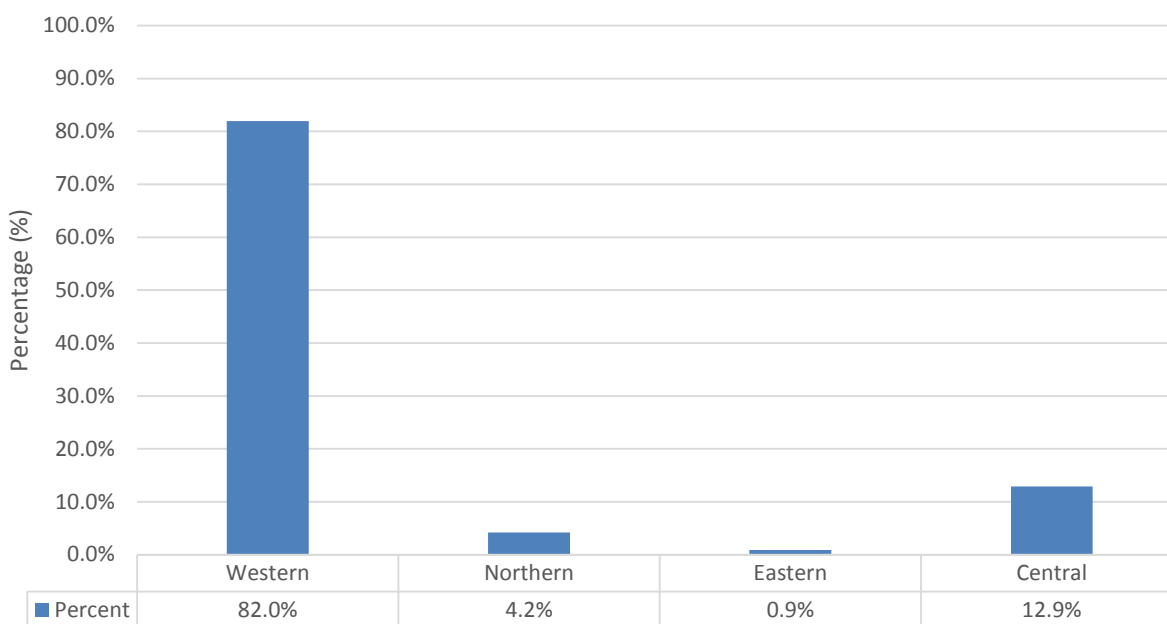
There were 326 cases of Lyme disease reported in 2016, which is an increase from 2015 (n=247). Figure 16 presents the number of reported cases by year, the years in which new areas were added to the list of known Lyme disease endemic areas, and when the surveillance case definition was modified.

Figure 16: Number of reported cases of Lyme disease by case classification and year, Nova Scotia, 2002-2016



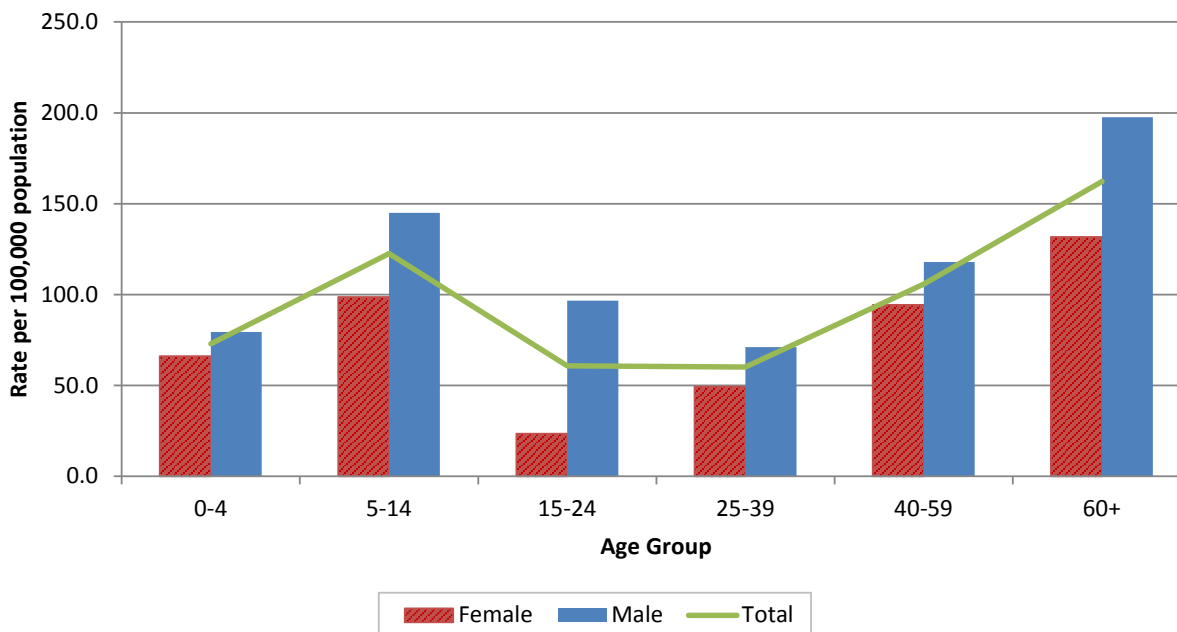
From 2002 to 2016 there have been 1020 cases of Lyme disease reported in Nova Scotia, of which 928 (90.9%) were likely to have been acquired within the province. Western zone had the highest rate among the zones (n=273, 139.4/100,000 population). The percentage of total cases reported by Zone is presented in Figure 17. There were cases in all age groups and cases ranged in age from zero to 90 years and 59.5% were male (Figure 18).

Figure 17: Percentage of cases reported by Zone, 2002-2016



Notes: Western = Zone 1, Northern = Zone 2, Eastern = Zone 3, Central = Zone 4

Figure 18: Rates of reported cases of Lyme disease per 100,000 population, by sex and age group, Nova Scotia, 2002-2016



Active tick surveillance was conducted in 2016 in collaboration with the Nova Scotia Department of Natural Resources. The data collected through this field work will be used to estimate the infection prevalence of blacklegged ticks in the province and support the identification of emerging infections.

For a current map of known risk areas in the province, please see the map online:
<http://novascotia.ca/hpp/cdpc/lyme-map.asp>.

REFERENCES

1. Last, J.M. (editor). (2001). A Dictionary of Epidemiology. Fourth Edition. Oxford University Press, New York.
2. Office of the Legislative Counsel, Nova Scotia House of Assembly. (2006). Nova Scotia Health Protection Act. 2004, c. 4, s. 1. Retrieved from <http://nslegislature.ca/legc/statutes/health%20protection.pdf>
3. Nova Scotia Department of Health and Wellness. (2013). Nova Scotia Surveillance Guidelines for Notifiable Diseases and Conditions. Retrieved from <http://novascotia.ca/dhw/populationhealth/surveillanceguidelines/>
4. Communicable Disease Prevention and Control, Nova Scotia Department of Health and Wellness. (2013). Nova Scotia Communicable Disease Control Manual. Retrieved from <http://novascotia.ca/dhw/cdpc/cdcmanual.asp>
5. Notifiable Disease On-line, Canadian Notifiable Disease Surveillance System, Public Health Agency of Canada. (2017). Retrieved from <http://dsol-smed.phac-aspc.gc.ca/dsol-smed/ndis/index-eng.php>
6. Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada. (2010). Canadian Guidelines on Sexually Transmitted Infections. Retrieved from <http://www.phac-aspc.gc.ca/std-mts/sti-its/guide-lignesdir-eng.php>

APPENDIX A – Notifiable Diseases in Nova Scotia

Acquired Immunodeficiency Syndrome (AIDS)	Measles
Acute Flaccid Paralysis (AFP)	Meningitis (bacterial)
Anthrax	Meningococcal Disease Invasive (IMD)
Botulism (Foodborne, Wound, Infant, & Colonization Botulism)	Methicillin-resistant Staphylococcus aureus (MRSA)
Brucellosis	Mumps
Campylobacteriosis	Pertussis
Chlamydia (genital, extra-genital, and perinatally acquired)	Plague
Cholera	Pneumococcal Disease, Invasive
Clostridium difficile	Poliomyelitis
Creutzfeldt-Jakob Disease – Classic (sporadic, iatrogenic, Genetic Prion Disease) and Variant	Rabies
Cryptosporidiosis	Rubella (Non-Congenital, Congenital Rubella Syndrome)
Cyclosporiasis	Salmonellosis (includes Paratyphoid)
Diphtheria	Severe Acute Respiratory Infection (SARI)
Ebola Virus Disease	Severe Acute Respiratory Syndrome (SARS)
Giardiasis	Shellfish Poisoning (Paralytic & Amnesic)
Gonorrhea (genital, extra-genital, and perinatally acquired)	Shigellosis
Group A Streptococcal Disease, Invasive	Smallpox
Group B Streptococcal Disease of Newborn	Syphilis (primary, secondary, early latent, late latent, infectious neurosyphilis, non-infectious neurosyphilis, tertiary other than neurosyphilis, and early congenital)
Haemophilus Influenzae type b (Hib) Invasive Disease	Tetanus
Hantavirus Pulmonary Syndrome (HPS)	Tuberculosis
Hepatitis A	Tularemia
Hepatitis B (Acute Case and Chronic Carrier)	Typhoid
Hepatitis C	Vancomycin Resistant Enterococcus (VRE)
Human Immunodeficiency Virus (HIV)	Verotoxigenic Escherichia coli
Influenza (laboratory confirmed)	Viral Hemorrhagic Fevers (Lassa, Marburg, Crimean-Congo, Other)
Invasive Listeriosis	West Nile Virus (WNV) (West Nile Asymptomatic Infection, West Nile Neurological Syndrome, West Nile Non-Neurological Syndrome)
Legionellosis	Yellow Fever
Leprosy (Hansen’s Disease)	
Lyme Disease	
Malaria (Plasmodium falciparum, Plasmodium malariae, Plasmodium ovale, Plasmodium vivax)	

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TABLE 1: Notifiable diseases reported in Nova Scotia from 2007-2016: Number of reports and crude rates per 100,000 population

Condition	Year																				All Years		
	2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		n	Average Rate	
	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate					
Bloodborne Pathogens																							
Acquired Immune Deficiency Syndrome (AIDS)	5	0.5	6	0.6	2	0.2	5	0.5	4	0.4	2	0.2	0	0.0	4	0.4	3	0.3	1	0.1	32	0.3	
Hepatitis B - Acute	9	1.0	7	0.8	5	0.5	3	0.3	4	0.4	1	0.1	2	0.2	3	0.3	9	1.0	10	1.1	53	0.6	
Hepatitis B-Chronic*	0	0	0	0	16	1.7	15	1.6	11	1.2	9	1.0	13	1.4	21	2.2	10	1.1	13	1.4	66	1.2	
Hepatitis B-Chronic or Unspecified*	10	1.1	14	1.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	24	0.5
Hepatitis C	224	24.0	281	30.1	266	28.5	299	32.1	210	22.5	251	26.5	289	30.7	331	35.3	341	36.2	299	31.5	2791	29.7	
Human Immunodeficiency Virus (HIV)	20	2.1	21	2.3	13	1.4	15	1.6	15	1.6	17	1.8	16	1.7	10	1.1	17	1.8	16	1.7	160	1.7	
Direct Contact, Respiratory Routes, and Through the Provision of Health Care																							
Clostridium difficile	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	500	52.8	676	71.9	610	65	796	84.4	874	92	3457	88.2	
Creutzfeldt-Jakob Disease - Classic	2	0.2	2	0.2	1	0.1	0	0.0	2	0.2	3	0.3	1	0.1	2	0.2	0	0.0	1	0.1	14	0.1	
Encephalitis - Viral	2	0.2	1	0.1	2	0.2	1	0.1	2	0.2	1	0.1	0	0.0	1	0.1	1	0.1	0	0.0	11	0.1	
Group A Streptococcal Disease Invasive*	25	2.7	16	1.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	41	0.4	
Group A Streptococcal Disease Invasive-Severe*	0	0.0	0	0.0	9	1.0	3	0.3	13	1.4	11	1.2	6	0.6	8	0.9	9	1.0	7	0.7	66	0.7	
Group A Streptococcal Disease Invasive-non-Severe*	0	0.0	0	0.0	7	0.8	12	1.3	11	1.2	13	1.4	15	1.6	14	1.5	15	1.6	12	1.3	99	1.1	
Group B Streptococcal Disease of the Newborn	1	0.1	2	0.2	2	0.2	6	0.6	3	0.3	1	0.1	3	0.3	1	0.1	3	0.3	3	0.3	25	0.3	
Legionellosis	0	0.0	0	0.0	2	0.2	1	0.1	0	0.0	0	0.0	2	0.2	3	0.3	7	0.7	1	0.1	16	0.2	
Meningitis - Bacterial	4	0.4	5	0.5	2	0.2	2	0.2	2	0.2	0	0.0	0	0.0	2	0.2	0	0.0	0	0.0	17	0.2	
Meningitis - Viral	14	1.5	3	0.3	6	0.6	2	0.2	11	1.2	39	4.1	20	2.1	15	1.6	17	1.8	2	0.2	129	1.4	
Meningococcal Disease Invasive	4	0.4	8	0.9	3	0.3	3	0.3	3	0.3	2	0.2	0	0.0	3	0.3	7	0.7	4	0.4	37	0.4	
Methicillin Resistant Staphylococcus Aureus (MRSA)	951	101.8	1013	108.6	887	95.1	912	97.8	838	89.9	835	88.2	789	83.9	643	68.5	620	65.7	570	60.0	8058	86.0	
Pneumococcal Disease Invasive	26	2.8	14	1.5	20	2.1	35	3.8	51	5.5	51	5.4	65	6.9	66	7.0	50	5.3	66	7.0	444	4.7	
Tuberculosis	8	0.9	4	0.4	7	0.8	10	1.1	9	1.0	8	0.8	8	0.9	7	0.7	6	0.6	2	0.2	69	0.7	
Vancomycin resistant Enterococcus (VRE)	7	0.7	31	3.3	10	1.1	8	0.9	18	1.9	49	5.2	43	4.6	17	1.8	4	0.4	13	1.4	200	2.1	
Enteric, Foodborne, and Waterborne Diseases																							
Amebiasis	11	1.2	9	1.0	1	0.1	7	0.8	8	0.9	4	0.4	3	0.3	3	0.3	6	0.6	0	0.0	52	0.6	
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	
Campylobacteriosis	133	14.2	159	17.0	123	13.2	151	16.2	185	19.8	188	19.9	172	18.3	181	19.3	155	16.4	170	17.9	1617	17.2	
Cryptosporidiosis	13	1.4	11	1.2	10	1.1	21	2.3	12	1.3	18	1.9	22	2.3	32	3.4	17	1.8	27	2.8	183	2.0	
Cyclosporiasis	3	0.3	0	0.0	1	0.1	2	0.2	0	0.0	0	0.0	3	0.3	1	0.1	3	0.3	2	0.2	15	0.2	
Giardiasis	74	7.9	107	11.5	76	8.1	68	7.3	66	7.1	96	10.1	96	10.2	91	9.7	83	8.8	100	10.5	857	9.1	
Hepatitis A	5	0.5	4	0.4	2	0.2	3	0.3	4	0.4	2	0.2	2	0.2	3	0.3	1	0.1	11	1.2	37	0.4	
Hepatitis E	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	
Listeriosis - Invasive	6	0.6	2	0.2	3	0.3	9	1.0	6	0.6	4	0.4	8	0.9	5	0.5	8	0.8	4	0.4	55	0.6	
Salmonellosis	121	13.0	137	14.7	94	10.1	145	15.5	170	18.2	150	15.8	169	18.0	204	21.7	168	17.8	139	14.6	1497	15.9	
Shigellosis	6	0.6	4	0.4	11	1.2	11	1.2	13	1.4	11	1.2	1	0.1	9	1.0	5	0.5	10	1.1	81	0.9	
Typhoid	0	0.0	3	0.3	0	0.0	3	0.3	1	0.1	0	0.0	1	0.1	2	0.2	0	0.0	1	0.1	11	0.1	
Verotoxigenic E. coli	15	1.6	10	1.1	5	0.5	14	1.5	18	1.9	18	1.9	11	1.2	10	1.1	5	0.5	5	0.5	111	1.2	
Yersiniosis	5	0.5	4	0.4	2	0.2	3	0.3	1	0.1	3	0.3	3	0.3	2	0.2	2	0.2	1	0.1	26	0.3	
Sexually Transmitted Infections																							
Chlamydia	1788	191.4	2033	217.9	1982	212.5	2230	239.1	2478	265.7	2614	276.2	2466	262.1	2631	280.2	2821	299.2	2931	308.7	23974	255.3	
Gonorrhoea	72	7.7	143	15.3	127	13.6	100	10.7	102	10.9	119	12.6	97	10.3	111	11.8	129	13.7	202	21.3	1202	12.8	
Lymphogranuloma Venereum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	1	0.0	
Syphilis - Infectious	3	0.3	4	0.4	22	2.4	20	2.1	36	3.9	68	7.2	85	9.0	63	6.7	42	4.5	18	1.9	361	3.8	
Syphilis - Non-Infectious or Stage Pending	6	0.6	8	0.9	2	0.2	8	0.9	13	1.4	10	1.1	23	2.4	37	3.9	27	2.9	17	1.8	151	1.6	
Vaccine Preventable Diseases																							
Acute Flaccid Paralysis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	1	0.0	
Haemophilus influenzae Type b Invasive Disease	0	0.0	1	0.1	0	0.0	1	0.1	1.0	0.1	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	5	0.1	
Mumps	595	63.7	5	0.5	1	0.1	1	0.1	0.0	0.0	0	0.0	2	0.2	1	0.1	6	0.6	1	0.1	612	6.5	
Pertussis	33	3.5	14	1.5	18	1.9	6	0.6	3.0	0.3	22	2.3	4	0.4	11	1.2	110	11.7	63	6.6	284	3.0	
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0	
Vectorborne and Other Zoonoses																							
Lyme Disease - Confirmed	6	0.6	9	1.0	12	1.3	13	1.4	35	3.8	35	3.7	121	12.9	69	7.3	119	12.6	165	17.4	584	6.2	
Lyme Disease - Probable	0	0.0	4	0.4	5	0.5	4	0.4	22	2.4	17	1.8	35	3.7	46	4.9	128	13.6	161	17.0	422	4.5	
Malaria	4	0.4	2	0.2	2	0.2	5	0.5	0	0.0	3	0.3	3	0.3	3	0.3	4	0.4	6	0.6	32	0.3	
Q-Fever	4	0.4	17	1.8	2	0.2	3	0.3	2	0.2	0	0.0	0	0.0	0	0.0	3	0.3	0	0.0	31	0.3	
Toxoplasmosis	1	0.1	3	0.3	3	0.3	1	0.1	2	0.2	0	0.0	1	0.1	3	0.3	1	0.1	1	0.1	16	0.2	
West Nile Virus	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.0	
Total Number	4217		4123		3764		4162		4386		5177		5277		5280		5759		5929		48032		

Notes: *From 2009-2016, hepatitis B cases are reported as either Chronic or Acute. From 2007-2008, unspecified hepatitis B cases were also reported. Severe and non-Severe cases of Group A Streptococcal Disease Invasive are reported together for 2007-2008. Notifiable diseases with no reported cases in the last 10 years and influenza cases are not included in this table. Typhoid cases were categorized as Salmonella cases prior to 2008.

TABLE 2: Notifiable diseases reported in Nova Scotia in 2016 by Health Management Zone: Number of reports and crude rates per 100,000 population

Condition	Zone 1		Zone 2		Zone 3		Zone 4		Nova Scotia	
	Western		Northern		Eastern		Central		n	Rate
	n	Rate	n	Rate	n	Rate	n	Rate		
Bloodborne Pathogens										
Acquired Immune Deficiency Syndrome (AIDS)	1	0.5	0	0.0	0	0.0	0	0.0	1	0.1
Hepatitis B - Acute	2	1.0	1	0.7	1	0.6	6	1.3	10	1.1
Hepatitis B - Chronic	2	1.0	0	0.0	2	1.3	9	2.0	13	1.4
Hepatitis C	32	16.3	81	54.7	91	57.4	95	21.3	299	31.5
Human Immunodeficiency Virus (HIV)	1	0.5	2	1.4	0	0.0	11	2.5	16	1.7
Direct Contact, Respiratory Routes, and Through the Provision of Health Care										
Clostridium difficile	179	91.4	122	82.4	186	117.4	387	86.6	874	92.0
Creutzfeldt-Jakob Disease - Classic	0	0.0	0	0.0	0	0.0	1	0.2	1	0.1
Encephalitis - Viral	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Group A Streptococcal Disease Invasive-Severe	2	1.0	2	1.4	1	0.6	2	0.4	7	0.7
Group A Streptococcal Disease Invasive-Non-Severe	6	3.1	1	0.7	1	0.6	4	0.9	12	1.3
Group B Streptococcal Disease of the Newborn	0	0.0	1	0.7	1	0.6	1	0.2	3	0.3
Legionellosis	0	0.0	0	0.0	0	0.0	1	0.2	1	0.1
Meningitis - Bacterial	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningitis - Viral	1	0.5	0	0.0	0	0.0	1	0.2	2	0.2
Meningococcal Disease Invasive	1	0.5	0	0.0	1	0.5	2	0.4	4	0.4
Methicillin Resistant Staphylococcus Aureus (MRSA)	150	76.6	130	87.8	91	57.4	199	44.5	570	60.0
Pneumococcal Disease Invasive	16	8.2	10	6.8	17	10.7	23	5.1	66	7.0
Tuberculosis	0	0.0	0	0.0	0	0.0	2	0.4	2	0.2
Vancomycin resistant Enterococcus (VRE)	2	1.0	1	0.7	5	3.2	5	1.1	13	1.4
Enteric, Foodborne, and Waterborne Diseases										
Amebiasis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Campylobacteriosis	55	28.1	22	14.9	19	12.0	73	16.3	170	17.9
Cryptosporidiosis	11	5.6	6	4.1	4	2.5	6	1.3	27	2.8
Cyclosporiasis	0	0.0	0	0.0	0	0.0	2	0.4	2	0.2
Giardiasis	26	13.3	20	13.5	14	8.8	40	8.9	100	10.5
Hepatitis A	0	0.0	0	0.0	0	0.0	11	2.5	11	1.2
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Listeriosis - Invasive	0	0.0	0	0.0	1	0.6	3	0.7	4	0.4
Salmonellosis	29	14.8	33	22.3	20	12.6	57	12.8	139	14.6
Shigellosis	1	0.5	2	1.4	1	0.6	6	1.3	10	1.1
Typhoid	0	0.0	0	0.0	0	0.0	1	0.2	1	0.1
Verotoxigenic E. coli	1	0.5	0	0.0	0	0.0	4	0.9	5	0.5
Yersiniosis	0	0.0	0	0.0	0	0.0	1	0.2	1	0.1
Sexually Transmitted Infections										
Chlamydia	497	253.7	269	181.6	394	248.7	1770	395.9	2931	308.7
Gonorrhoea	19	9.7	14	9.5	9	5.7	160	35.8	202	21.3
Lymphogranuloma Venereum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Syphilis - Infectious	3	1.5	2	1.4	1	0.6	12	2.7	18	1.9
Syphilis - Non-Infectious or Stage Pending	4	2.0	1	0.7	0	0.0	12	2.7	17	1.8
Vaccine Preventable Diseases										
Acute Flaccid Paralysis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Haemophilus influenzae Type b Invasive Disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mumps	0	0.0	0	0.0	0	0.0	1	0.2	1	0.1
Pertussis	32	16.3	9	6.1	6	3.8	16	3.6	63	6.6
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Vectorborne and Other Zoonoses										
Lyme Disease - Confirmed	131	66.9	12	8.1	0	0.0	22	4.9	165	17.4
Lyme Disease - Probable	142	72.5	6	4.1	0	0.0	13	2.9	161	17.0
Malaria	0	0.0	1	0.7	2	1.3	3	0.7	6	0.6
Q-Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Toxoplasmosis	0	0.0	0	0.0	0	0.0	1	0.2	1	0.1
West Nile Virus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	1346		748		868		2963		5929	

Notes: Excludes 2 HIV, 1 Campylobacteriosis and 1 chlamydia case with no reported zone. Notifiable diseases with no reported cases in the last 10 years and influenza cases are not included in this table.

TABLE 3: Notifiable diseases reported in Nova Scotia in 2016 by age group: Number of reports and age specific rates per 100,000 population

Condition	Age Group (Years)												Total NS	
	0-4		5-14		15-24		25-39		40-59		60+		n	Rate
	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate		
Bloodborne Pathogens														
Acquired Immune Deficiency Syndrome (AIDS)	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0	1	0.1
Hepatitis B - Acute	0	0.0	0	0.0	1	0.9	3	1.7	4	1.5	2	0.8	10	1.1
Hepatitis B - Chronic	0	0.0	1	1.1	0	0.0	9	5.2	1	0.4	2	0.8	13	1.4
Hepatitis C	1	2.3	0	0.0	50	44.1	144	82.5	79	28.8	25	9.8	299	31.5
Human Immunodeficiency Virus (HIV)	0	0.0	0	0.0	5	4.4	4	2.3	6	2.2	1	0.4	16	1.7
Direct Contact, Respiratory Routes, and Through the Provision of Health Care														
Clostridium difficile	12	27.3	14	15.6	35	30.9	75	43.0	186	67.9	552	217.3	874	92.0
Creutzfeldt-Jakob Disease - Classic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	1	0.1
Encephalitis - Viral	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Group A Streptococcal Disease Invasive-Severe	1	2.3	0	0.0	0	0.0	3	1.7	1	0.4	2	0.8	7	0.7
Group A Streptococcal Disease Invasive-Non-Severe	0	0.0	1	1.1	0	0.0	3	1.7	4	1.5	4	1.6	12	1.3
Group B Streptococcal Disease of the Newborn	3	6.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.3
Legionellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	1	0.1
Meningitis - Bacterial	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningitis - Viral	1	2.3	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	2	0.2
Meningococcal Disease Invasive	0	0.0	0	0.0	2	1.8	0	0.0	1	0.4	1	0.4	4	0.4
Methicillin Resistant Staphylococcus Aureus (MRSA)	12	27.3	12	13.4	32	28.2	43	24.6	104	38.0	366	144.1	570	60.0
Pneumococcal Disease Invasive	7	16.0	1	1.1	3	2.6	6	3.4	28	10.2	21	8.3	66	7.0
Tuberculosis	0	0.0	0	0.0	1	0.9	1	0.6	0	0.0	0	0.0	2	0.2
Vancomycin resistant Enterococcus (VRE)	0	0.0	0	0.0	0	0.0	0	0.0	2	0.7	11	4.3	13	1.4
Enteric, Foodborne, and Waterborne Diseases														
Amebiasis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Campylobacteriosis	10	22.8	9	10.0	20	17.6	43	24.6	54	19.7	34	13.4	170	17.9
Cryptosporidiosis	2	4.6	3	3.3	6	5.3	6	3.4	7	2.6	3	1.2	27	2.8
Cyclosporiasis	0	0.0	0	0.0	0	0.0	2	1.1	0	0.0	0	0.0	2	0.2
Giardiasis	2	4.6	5	5.6	10	8.8	24	13.8	36	13.1	23	9.1	100	10.5
Hepatitis A	3	6.8	2	2.2	0	0.0	2	1.1	3	1.1	1	0.4	11	1.2
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Listeriosis - Invasive	0	0.0	0	0.0	0	0.0	0	0.0	2	0.7	2	0.8	4	0.4
Salmonellosis	7	16.0	9	10.0	17	15.0	21	12.0	44	16.1	41	16.1	139	14.6
Shigellosis	1	2.3	0	0.0	1	0.9	1	0.6	7	2.6	0	0.0	10	1.1
Typhoid*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	1	0.1
Verotoxigenic E. coli	2	4.6	2	2.2	1	0.9	0	0.0	0	0.0	0	0.0	5	0.5
Yersiniosis	1	2.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
Sexually Transmitted Infections														
Chlamydia	2	4.6	6	6.7	1967	1734.7	853	488.9	97	35.4	4	1.6	2931	308.7
Gonorrhoea	0	0.0	1	1.1	86	75.8	91	52.2	21	7.7	3	1.2	202	21.3
Lymphogranuloma Venereum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Syphilis - Infectious	0	0.0	0	0.0	3	2.6	10	5.7	4	1.5	1	0.4	18	1.9
Syphilis - Non-Infectious or Stage Pending	0	0.0	0	0.0	2	1.8	5	2.9	7	2.6	3	1.2	17	1.8
Vaccine Preventable Diseases														
Acute Flaccid Paralysis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Haemophilus influenzae Type b Invasive Disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Mumps	0	0.0	0	0.0	1	0.9	0	0.0	0	0.0	0	0.0	1	0.1
Pertussis	19	45.3	18	20.1	10	8.8	9	5.2	5	1.8	2	0.8	63	6.6
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Vectorborne and Other Zoonoses														
Lyme Disease - Confirmed	5	11.4	24	26.7	8	7.1	19	10.9	47	17.2	62	24.4	165	17.4
Lyme Disease - Probable	4	9.1	15	16.7	12	10.6	18	10.3	43	15.7	69	27.2	161	17.0
Malaria	1	2.3	0	0.0	0	0.0	1	0.6	4	1.5	0	0.0	6	0.6
Q-Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Toxoplasmosis	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	0	0.0	1	0.1
West Nile Virus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	96		123		2273		1396		799		1239		5929	

Notes: Excludes 1 case of MRSA and 2 cases of chlamydia with no reported age. Notifiable diseases with no reported cases in the last 10 years and influenza cases are not included in this table.

TABLE 4: Notifiable diseases reported in Nova Scotia in 2016: Number of reports and sex-specific rates per 100,000 population

Condition	Sex				Total NS	
	Female		Male		n	Rate
	n	Rate	n	Rate		
Bloodborne Pathogens						
Acquired Immune Deficiency Syndrome (AIDS)	0	0	1	0.2	1	0.1
Hepatitis B - Acute	4	0.8	6	1.3	10	1.1
Hepatitis B - Chronic	5	1	8	1.7	13	1.4
Hepatitis C	95	19.6	204	43.8	299	31.5
Human Immunodeficiency Virus (HIV)	4	0.8	12	2.6	16	1.7
Direct Contact, Respiratory Routes, and Through the Provision of Health Care						
Clostridium difficile	506	104.5	368	79.1	874	92.0
Creutzfeldt-Jakob Disease - Classic	0	0.0	1	0.2	1	0.1
Encephalitis - Viral	0	0.0	0	0.0	0	0.0
Group A Streptococcal Disease Invasive-Severe	2	0.4	5	1.1	7	0.7
Group A Streptococcal Disease Invasive-Non-Severe	4	0.8	8	1.7	12	1.3
Group B Streptococcal Disease of the Newborn	1	0.2	2	0.4	3	0.3
Legionellosis	1	0.2	0	0.0	1	0.1
Meningitis - Bacterial	0	0.0	0	0.0	0	0.0
Meningitis - Viral	1	0.2	1	0.2	2	0.2
Meningococcal Disease Invasive	2	0.4	2	0.4	4	0.4
Methicillin Resistant Staphylococcus Aureus (MRSA)	263	54.3	307	66.0	570	60.0
Pneumococcal Disease Invasive	34	7.0	32	6.9	66	7.0
Tuberculosis	1	0.2	1	0.2	2	0.2
Vancomycin resistant Enterococcus (VRE)	4	0.8	9	1.9	13	1.4
Enteric, Foodborne, and Waterborne Diseases						
Amebiasis	0	0.0	0	0.0	0	0.0
Botulism	0	0.0	0	0.0	0	0.0
Campylobacteriosis	81	16.7	89	19.1	170	17.9
Cryptosporidiosis	11	2.3	16	3.4	27	2.8
Cyclosporiasis	2	0.4	0	0.0	2	0.2
Giardiasis	35	7.2	65	14.0	100	10.5
Hepatitis A	6	1.2	5	1.1	11	1.2
Hepatitis E	0	0.0	0	0.0	0	0.0
Listeriosis - Invasive	1	0.2	3	0.6	4	0.4
Salmonellosis	71	14.7	68	14.6	139	14.6
Shigellosis	6	1.2	4	0.9	10	1.1
Typhoid*	0	0.0	1	0.2	1	0.1
Verotoxigenic E. coli	3	0.6	2	0.4	5	0.5
Yersiniosis	1	0.2	0	0.0	1	0.1
Sexually Transmitted Infections						
Chlamydia	1950	402.8	978	210.1	2931	308.7
Gonorrhea	72	14.9	130	27.9	202	21.3
Lymphogranuloma Venereum	0	0.0	0	0.0	0	0.0
Syphilis - Infectious	1	0.2	17	3.7	18	1.9
Syphilis - Non-Infectious or Stage Pending	5	1.0	12	2.6	17	1.8
Vaccine Preventable Diseases						
Acute Flaccid Paralysis	0	0.0	0	0.0	0	0.0
Haemophilus influenzae Type b Invasive Disease	0	0.0	0	0.0	0	0.0
Mumps	1	0.2	0	0.0	1	0.1
Pertussis	38	7.8	25	5.4	63	6.6
Tetanus	0	0.0	0	0.0	0	0.0
Vectorborne and Other Zoonoses						
Lyme Disease - Confirmed	65	13.4	100	21.5	165	17.4
Lyme Disease - Probable	67	13.8	94	20.2	161	17.0
Malaria	2	0.4	4	0.9	6	0.6
Q-Fever	0	0.0	0	0.0	0	0.0
Toxoplasmosis	0	0.0	1	0.2	1	0.1
West Nile Virus	0	0.0	0	0.0	0	0.0
TOTAL	3345		2581		5929	

Notes: Excludes 3 chlamydia cases with no reported sex. Notifiable diseases with no reported cases in the last 10 years and influenza cases are not included in this table.