

# New Brunswick Communicable Disease 2016 Surveillance Annual Report

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## 1. Introduction

Reporting of notifiable diseases and reportable events in New Brunswick (NB) is governed by the New Brunswick *Public Health Act*<sup>1</sup> (PHA). The PHA stipulates the duties and requirements of health professionals, laboratories, and institution operators with respect to reporting of notifiable diseases, communicable diseases, and reportable events as well as the reporting requirements within specified timeframes.

Surveillance systems, both passive and enhanced, are in place to capture information on notifiable communicable diseases and events in order to facilitate monitoring of trends, aberration and outbreak detection, reporting, guiding response strategies, and evaluating the effect of these strategies to inform policies and programs.

As per the *Act*, NB Public Health statistics are provided in 7 regions called “Health Regions”<sup>2</sup>. These areas correspond to both Regional Health Authorities (RHAs) as follows: Horizon Health Network (Health Regions 2, 3, and 7) and Réseau de Santé Vitalité (Health Regions 1, 4, 5, and 6). See Figure 1 for an overview of the Health Regions.

The purpose of this report is to provide a summary of reportable diseases and reportable events reported in NB in 2016 and compare 2016 trends to those reported in the previous five years, 2011-2015.

**Figure 1.** Map of Health Regions in New Brunswick



<sup>1</sup> Public Health Act (S.N.B. 1998, c. P-22.4). <http://laws.gnb.ca/en/ShowTdm/cs/P-22.4//>

<sup>2</sup> Health Regions Regulation - Public Health Act. <http://laws.gnb.ca/en/showdoc/cr/2009-141>

## 2. Data Sources

- Confirmed case reports are collected from the Health Regions in New Brunswick (NB) through the Reportable Disease Surveillance System (RDSS). All diseases are classified by the date they were reported to the health authority.
- Data for enteric diseases were obtained through the enteric database maintained at the Communicable Disease Control Branch (CDCB) within the Office of the Chief Medical Officer of Health (OCMOH). Outbreak summary for enteric diseases became reportable as part of the enteric database as of January 1, 2015. Each region reports its own outbreaks as part of weekly enteric extracts.
- Data for invasive meningococcal disease (IMD), invasive pneumococcal disease (IPD), invasive group A streptococcal disease (IGAS), measles, mumps, rubella, legionella, tuberculosis, and Lyme disease are collected through enhanced surveillance systems maintained at CDCB which are derived from reporting by Health Regions in NB using forms specifically designed for each disease.
- Data for HIV and AIDS are collected through the HIV/AIDS Case Report Surveillance System database (HACRSS).
- Data for infectious syphilis, for years 2011-2012, were obtained through the enhanced syphilis database designed for the purpose of the outbreak.
- Data for the 2012 pertussis outbreak were obtained through the enhanced pertussis database designed for the purpose of the outbreak.
- The denominators used to calculate provincial rates were population estimates from Statistics Canada, Demography Division; data received March 2017.
- National disease rates for 2011 were provided by the Public Health Agency of Canada (PHAC) - Surveillance and Epidemiology Division. 2012 to 2015 disease rates were retrieved online on the [Notifiable Diseases On-Line](#) page at PHAC website. National disease rates for year 2016 were not available at the time of writing of this report.

## 3. Limitations

It should be noted that the numbers cited in this report reflect only those of confirmed cases that meet the [National Case Definitions](#) and which are reported to Public Health. As a result, the data may under-represent the true number of cases in the population. This is particularly relevant for those diseases where cases remain asymptomatic or diseases that have a wide clinical spectrum. Persons experiencing severe illness are more likely to present to a healthcare provider. Numbers and rates in the report are based on 2016 notifications received as of August 2017, and may be subject to minor changes in future reports.

Please use caution when interpreting age-specific, gender-specific or region-specific annual incidence rates for some diseases; the relatively low number of cases can result in major fluctuations in the rate from year to year.

National data provided by PHAC that are used in this report are also subject to change.

## 4. 2016 Highlights

### 4.1. Main Disease Trends

- **Vaccine Preventable Diseases (VPD):**  
In comparison to the previous 5-year average, lower incidence rates were observed for IPD and varicella. Incidence rates were higher for *Haemophilus influenza* and pertussis. One case of mumps was reported. No cases of IMD, measles or rubella were reported.
- **Enteric, Food, and Waterborne Diseases:**  
Higher incidence rates of cryptosporidiosis and shigellosis were noted. Rates for campylobacteriosis, *E.coli* O157:H7, giardiasis, salmonellosis, hepatitis A, and yersiniosis were lower in comparison to the previous 5-year averages. Rates for vibrio species, listeriosis, and typhoid fever were comparable to the previous 5-year averages.
- **Sexually Transmitted and Blood Borne Diseases:**  
Higher incidence rates of chlamydia, gonorrhea, chronic and acute hepatitis B were observed. Incidence rates were lower for infectious syphilis and HIV. Whereas, incidence rates remained stable for cases of hepatitis C in 2016, compared to the previous 5-year average.
- **Vector borne and Zoonotic Diseases:**  
Slight increases in incidence rates were reported for Lyme disease and malaria in comparison with average rates of the previous 5-years. Only 1 case of Q-fever was reported. No cases of leptospirosis, human rabies, tularemia, or yellow fever were reported this year.
- **Respiratory and Direct Contact Diseases:**  
The incidence rates for tuberculosis and invasive group A streptococcal (iGAS) diseases were higher than the average rates reported in the previous 5-years. Whereas incidence rate for legionella was lower than what was reported in the previous 5-years. Group B streptococcal infection of newborn rate was comparable.

### 4.2. Provincial Outbreaks

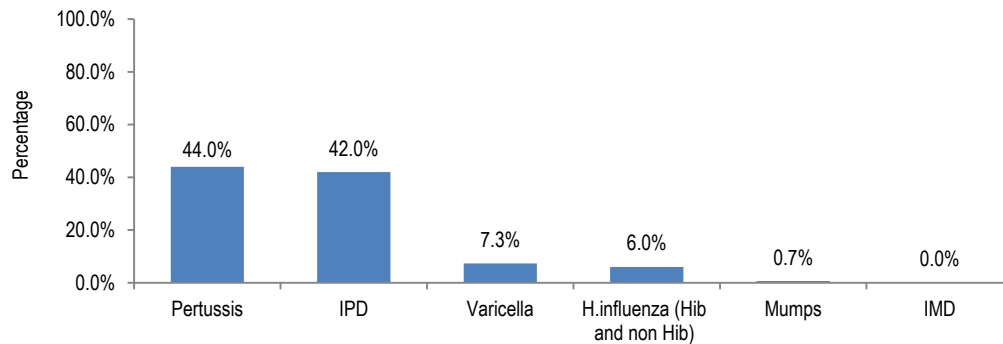
In July 2016, there was a provincial outbreak of *Salmonella Typhimurium* with PFGE patterns STXAI.0312/STBNI.0022. There were 7 confirmed cases, 6 cases from Acadian Peninsula area in Region 6, and 1 case from Region 1 who traveled to the Acadian Peninsula. There were 4 males, and 3 females. Ages ranged from 13 to 61 years, with a median age of 52 years. No hospitalization or deaths were reported. No source was identified.

## 5. Vaccine preventable diseases (VPD)

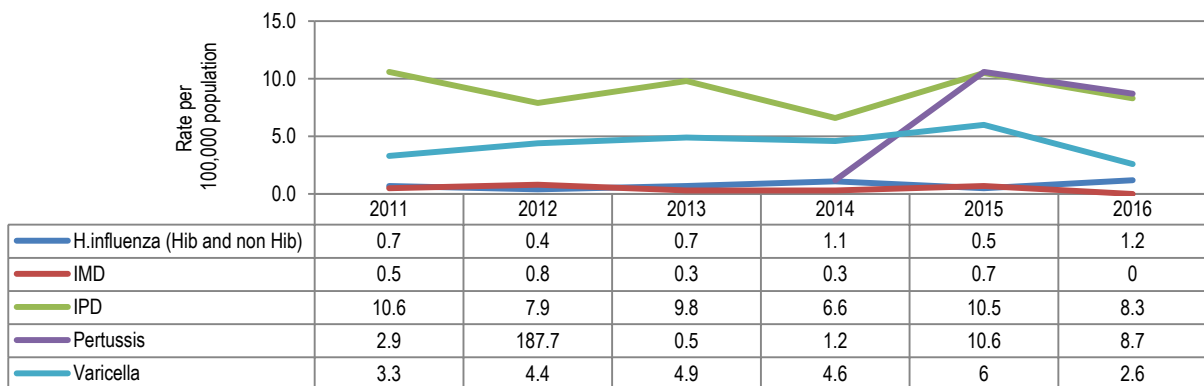
Vaccine preventable diseases (VPDs) are conditions which have vaccines available to protect against them and as such their epidemiology remains mostly stable, except with the occurrence of outbreaks.

For information on the New Brunswick (NB) Routine Immunization Schedule please refer to the [New Brunswick Immunization Guide](#).

**Graph 1.** Vaccine Preventable Diseases in New Brunswick, 2016



**Graph 2.** Incidence Rates per 100,000 population of some Vaccine Preventable Diseases in New Brunswick, 2011-2016



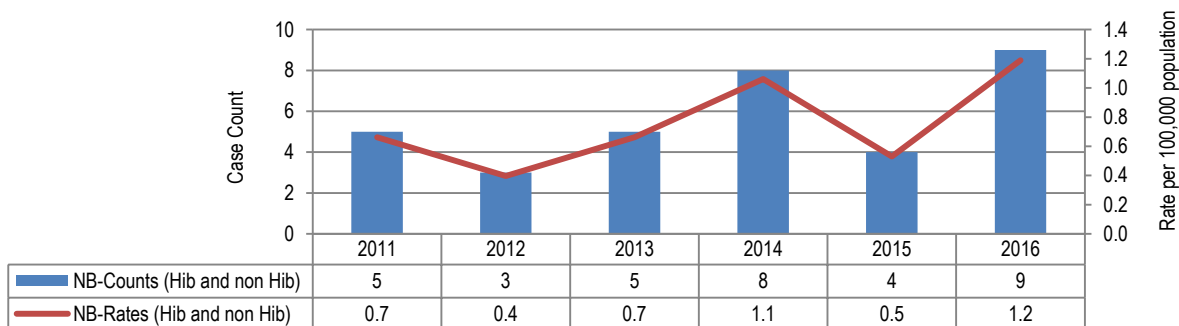
### 5.1. *Haemophilus influenzae* type b and non-type b (Hib and non Hib)

Only *Haemophilus influenzae* type b (Hib) is preventable by vaccine.

In NB, subtype reporting is not consistently available for *Haemophilus influenzae*; as a result, this report describes all *Haemophilus influenzae* cases whether type b or non-b including untypable strains. Canadian rates are not presented as they account for *Haemophilus influenzae* type b only.

In 2016, the incidence rate of *Haemophilus influenzae* was 1.2 per 100,000 population which accounted for 9 cases reported to Public Health. Over the last 5 years, there was an average of 5 cases of *Haemophilus influenzae* (Hib and non Hib) per year, with a 5-year average incidence rate of 0.6 cases per 100,000 population.

**Graph 3.** *Haemophilus influenzae* (Hib and non Hib) Case Counts and Rates per 100,000 population for New Brunswick, 2011-2016



In 2016, all the cases were adults with the majority (55%) were among those aged 60 years and older, each from a different region. This is consistent with the overall distribution of cases in the past 5 years, where the majority of cases occurred in the 60 years and older age group.

The annual changes in the *Haemophilus influenzae* incidence rate should be interpreted with caution: the relatively low number of cases can result in major fluctuations in the rate from year to year.

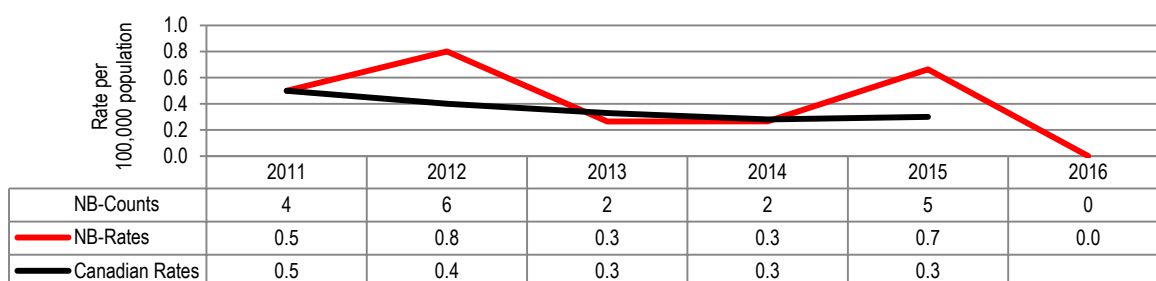
### 5.2. Influenza

Influenza activity in New Brunswick is monitored throughout the year; however, the reporting period differs from the calendar reporting year. [NB Influenza Activity summary report 2016-2017 season](#) can be accessed at the OCMOH webpage.

### 5.3. Invasive Meningococcal Disease (IMD)

In 2016, no cases of IMD were reported to Public Health. Over the last 5 years, there was an average of 4 cases of IMD per year and the 5-year average incidence rate was 0.5 cases per 100,000 population. Overall, the incidence rate in NB has been higher than the national rate, with the exception of 2013 and 2014 when similar incidence rates were recorded. The annual changes in the IMD incidence rate should be interpreted with caution; the relatively low number of cases can result in major fluctuations in the rate from year to year.

**Graph 4. IMD Case Counts and Rates per 100,000 population for New Brunswick and Canada, 2011-2016**



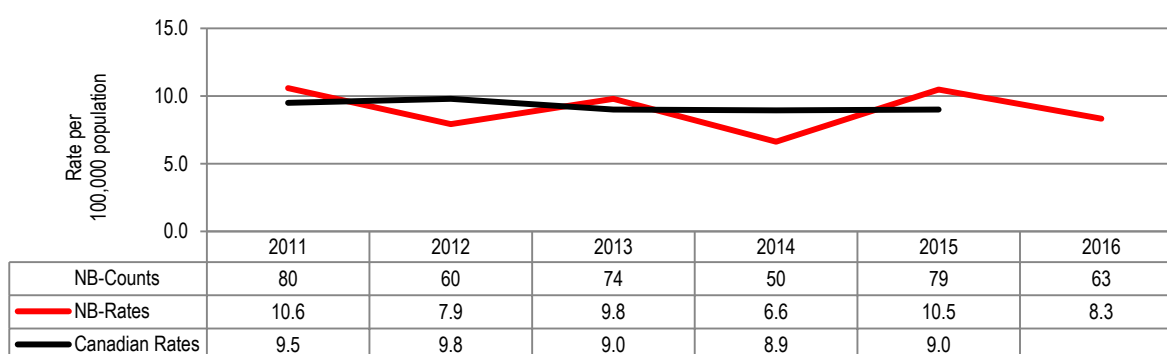
The predominant serogroup among IMD cases, in all age groups and across 2011 to 2015, was serogroup B. Since the introduction of meningococcal C vaccine into the routine schedule at one year of age and an adolescent catch up program introduced in 2005, the incidence of serogroup C has steadily declined with no associated cases occurring since 2008. Vaccine against meningococcal type B was recently introduced in Canada, but is not routinely administered as per the recommendations of the National Advisory Committee for Immunization (NACI).

Publicly-funded immunization against meningococcal disease is offered at 12 months (Meningococcal conjugate C) and in grade 9 (Meningococcal conjugate ACYW 135).

#### 5.4. Invasive Pneumococcal Disease (IPD)

In 2016, the rate of IPD was 8.3 per 100,000 population with 63 cases reported to Public Health. Over the last 5 years, there was an average of 69 cases of IPD per year and the 5-year average incidence rate was 9.1 cases per 100,000 population. Overall, the incidence rate in NB is comparable to the national rate.

**Graph 5. IPD Case Counts and Rates per 100,000 population for New Brunswick and Canada, 2011-2016**



During the period from 2011 to 2016, the incidence rates were consistently highest at both ends of the age group spectrum: the average incidence rate was 24.2 cases per 100,000 population for the under 1 year old infants and 21.8 cases per 100,000 population for those who are 65 years and older.

In 2016, cases aged 65 years and older represented more than one third (n=23) of all reported IPD cases. Among these cases, the most prevalent serotypes were: 22F and 15A. Only 21.7% (n=5) of the cases aged 65 years and older with available information on their vaccine status were vaccinated with either the 13-valent (1 case) or the 23-



valent pneumococcal vaccine (4 cases). Vaccine preventable serotypes accounted for 50% of all serotypes among non-vaccinated cases in this age group (n=14) compared to 60% among those vaccinated (n=5).

In 2016, all regions showed similar or lower incidence rates compared to 2015. Regional-specific rates should be interpreted with caution; the relatively low number of cases can result in major fluctuations in the rate from year to year.

Publicly funded IPD immunization is offered at 2, 4, and 12 months of age (Pneumococcal conjugate- Pevnar-13) and for persons 65 years of age and older (Pneumococcal polysaccharide- Pneumo-23).

### **5.5. Measles**

In 2016, no cases of measles were reported to Public Health. Sustained transmission of measles in Canada has been eliminated as a result of current immunization schedules and high coverage rates throughout the country; however, some outbreaks are still being recorded.

Publicly funded measles immunization (MMRV) is offered during childhood at 12 and 18 months of age.

### **5.6. Mumps**

In 2016, one case of mumps was reported to Public Health. Since 2011, there were 7 confirmed cases reported in NB: one in 2012, five cases in 2013, of which 3 were linked to the same cluster, and one case in 2014.

Publicly funded mumps immunization (MMRV) is offered at 12 and 18 months of age.

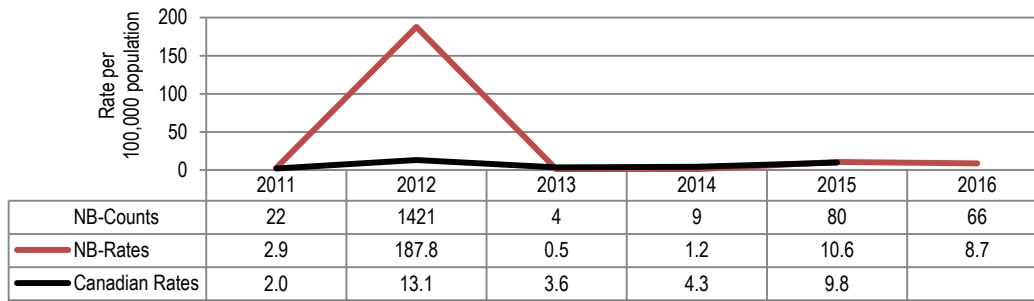
### **5.7. Pertussis**

In 2016, 66 cases of pertussis were reported to Public Health with an incidence rate of 8.7 per 100,000 population. Over the last 5 years (excluding 2012 when a province-wide pertussis outbreak occurred), an average of 29 cases were reported with an average incidence rate of 3.8 per 100,000 population.

A pertussis outbreak was declared in Region 1 in October 2015 and was declared over in June 2016. Cases from Region 1 related to the outbreak represented 53% of all pertussis cases in 2016. During the 2015-2016 outbreak in Region 1, the median age of the cases was 12 years old (range 1 month-69 years) with 70% of all cases deemed up-to-date with pertussis containing vaccine. The highest incidence rate was among children in the 10 to 14 year old age group followed by the 5 to 9 year old age group. In cases aged 1 year to less than 17 years old, 82% were up-to-date with their immunization. The median interval since the last dose of vaccine was 72.5 months for cases aged 9 to 12 years old.

In 2016, sporadic increase in pertussis activity was also observed in both Region 2 and Region 6.

**Graph 6.** Pertussis Case Counts and Rates per 100,000 population in New Brunswick and Canada, 2011-2016



Publicly funded pertussis immunization is offered at 2, 4, 6, and 18 months (DTaP-IPV-Hib), 4 years (Tdap-IPV), grade 7 (Tdap) and once in adulthood (Tdap).

### 5.8. Rubella

No cases of rubella were reported in 2016, as well as in the period between 2011 and 2015.

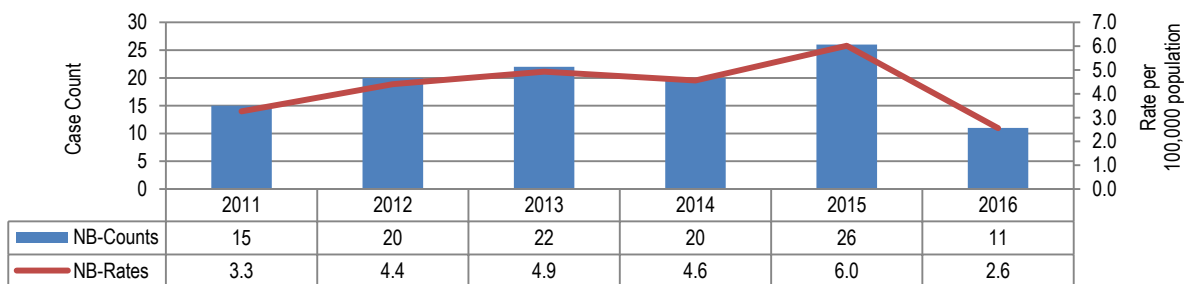
Publicly funded rubella immunization (MMRV) is offered during childhood (12 and 18 months).

### 5.9. Varicella

Varicella is under-reported to Public Health. Due to reporting inconsistencies across the regions, we focus on reported varicella cases in people aged 0-49 years. In general, most cases in adults aged 50 years old and over present with shingles (herpes zoster).

In 2016, 11 cases of lab confirmed varicella were reported to Public Health with an incidence rate of 2.6 per 100,000 population. Over the past 5 years, the varicella rate was stable between 2011 and 2014, increased in 2015 when several elementary school outbreaks have been reported in Region 3; the rate decreased again in 2016.

**Graph 7.** Varicella Case Counts and Rates per 100,000 population for New Brunswick<sup>3</sup>, 2011-2016



<sup>3</sup> No Canadian Rates were reported as not all provinces report varicella for all years, making the annual national rates very fluctuating

Publicly funded varicella immunization (MMRV) is offered in childhood at 12 and 18 months of age. The two dose varicella vaccine schedule started in 2011 for the 2009 birth cohort onwards. In response to the school outbreaks in 2015, a catch-up program for the second dose was introduced in 2015/16 school year for grade 9 and 10 students. The vaccine will continue to be offered to grade 9 students in the school year 2016/17 through 2022/23.

#### **5.10. Other vaccine preventable diseases**

No cases of diphtheria, tetanus and poliomyelitis were reported between 2011 and 2016. Publicly funded immunizations are provided during childhood (DTaP-IPV-Hib/ Tdap-IPV/ Tdap), adolescence (Tdap) and adulthood (Tdap, Td).

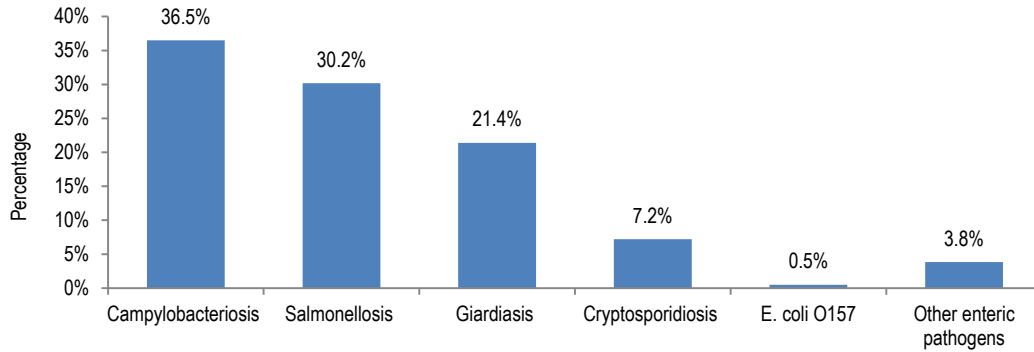
For further details on counts and rates of different vaccine preventable diseases, please refer to Appendix 2.

## 6. Enteric, Food and Waterborne Diseases

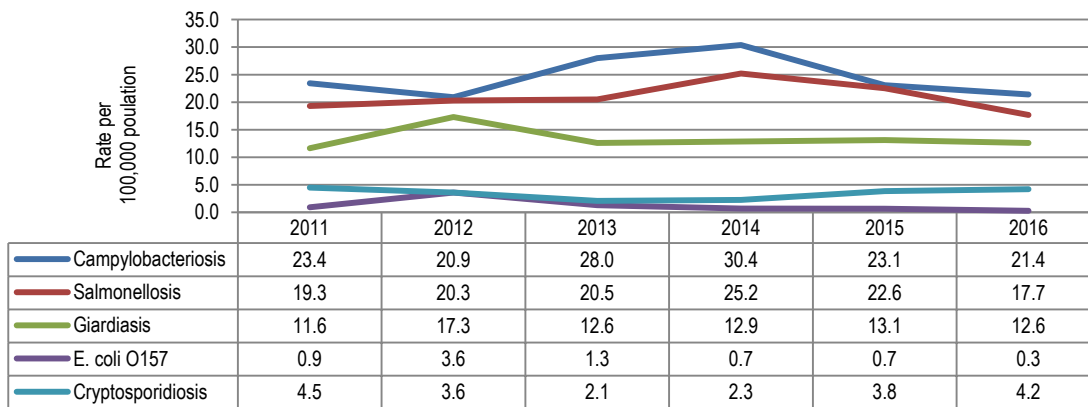
Enteric diseases are normally associated with food, however cases have been linked to contaminated water, secondary transmission from humans, and direct contacts with animals, including exotic pets.

In 2016, *Campylobacter*, *Salmonella*, and *Giardia* accounted for the highest proportion of reportable enteric, food and waterborne diseases, which is similar to what was reported last year.

**Graph 8.** Enteric Diseases in New Brunswick, 2016



**Graph 9.** Incidence Rates per 100,000 population of some Enteric Diseases in New Brunswick, 2011-2016

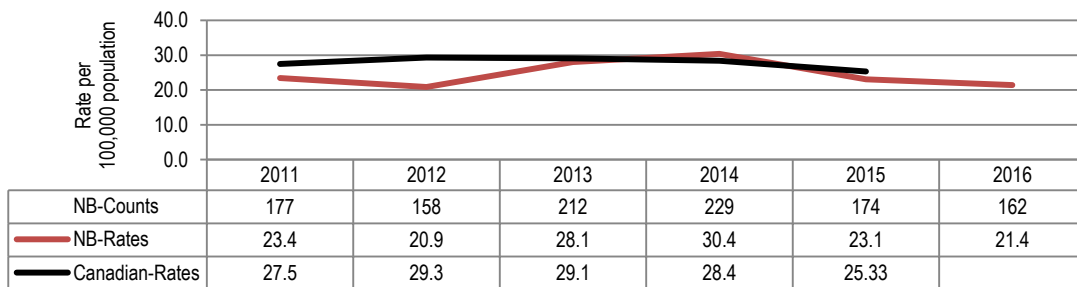


## 6.1. Campylobacteriosis

Campylobacteriosis is the most frequently reported enteric infection.

In 2016, there was a marked decrease in the number of reported cases of Campylobacter (162 cases), in comparison to the previous year 2015 (174 cases) and the average of the last five years 2011-2015 (190 cases per year). The incidence rate of campylobacteriosis, in 2016, was 21.4 per 100,000 population, whereas the previous 5-year average was 25.2 per 100,000 population. Overall, the incidence rate in NB is lower than the national rate.

**Graph 10.** Campylobacteriosis Case Counts and Rates per 100,000 population for New Brunswick and Canada, 2011-2016



In 2016, the incidence rate was higher in males (25.1 per 100,000 population) than females (17.8 per 100,000 population) which is consistent with the trend in the previous five years with the average 5-year incidence rate being 28.3 per 100,000 and 22.1 per 100,000 for males and females respectively.

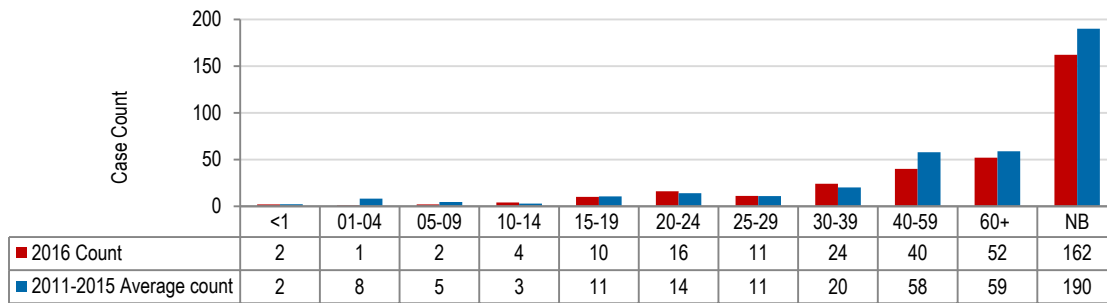
The highest incidence rate in 2016, was reported in Region 4 (72.5 per 100,000 population), followed by Region 6 (35.9 per 100,000 population), then Region 5 (27.4 per 100,000 population). This is similar to the average we had observed for the period of 2011-2015: 77.9, 36.3, and 30.4 per 100,000 population for Region 4, Region 6, and Region 5 respectively.

**Graph 11.** Incidence rate of Campylobacteriosis by Health Region in New Brunswick, 2011-2015 and 2016



The majority of the cases in 2016 were in the age group of 60 years and older (52 cases) followed by age group 40-59 (40 cases); this finding was consistent with that reported in the previous five years 2011-2015 (average of 59 cases and 58 cases for 60 years and older and 40-59 age groups respectively).

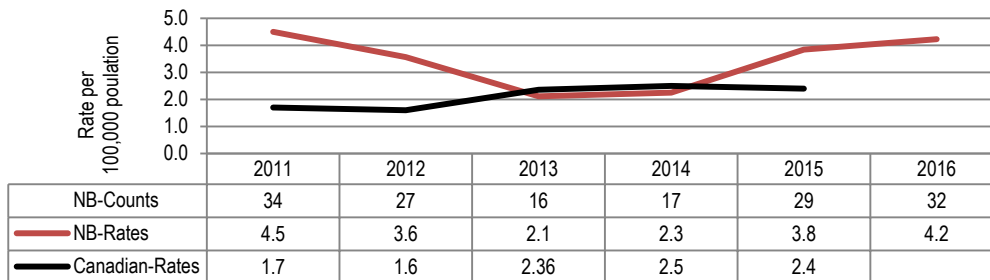
**Graph 12.** Counts of Campylobacter Cases by Age group in New Brunswick, 2011-2015 and 2016



## 6.2 Cryptosporidiosis

In 2016, 32 cases of cryptosporidiosis were reported with an incidence rate of 4.2 cases per 100,000 population. Over the last 5 years (2011-2015), an average of 25 cases were reported to Public Health annually with a 5-year average incidence rate of 3.3 cases per 100,000 population. The incidence rate in NB showed some fluctuations over the years, however, it showed an increase in comparison with the national rate in 2015.

**Graph 13.** Cryptosporidiosis Case Counts and Rates per 100,000 population for New Brunswick and Canada, 2011-2016.



In 2016, the highest number of cryptosporidium infections were reported in Region 2 and Region 1 (13 cases and 6 cases respectively) which was consistent with the average of the previous 5 years. However, in 2016, the incidence rate was highest in Region 5 (19.5 cases per 100,000 population).

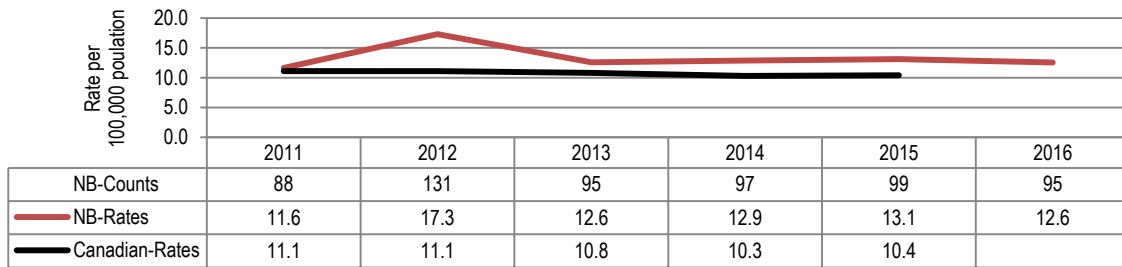
For 2016, the number of reported female cases were equal to the number of reported male cases (16F:16M); and the average counts for both sexes over the past five years were very close (13F:12M). Age group 30-39 reported the highest number of cases (6 cases), followed by age group 10-14 and 20-24 (5 cases each). It is interesting to note that, in 2016, the highest incidence rate was reported in children less than 1 year old (29.7 cases per 100,000 population).

The annual changes in the incidence rate by age group should be interpreted with caution; the relatively low number of cases can result in major fluctuations in the rate from year to year.

### 6.3 Giardiasis

In 2016, the incidence rate of giardiasis was 12.6 per 100,000 population, resulting from 95 cases reported to Public Health. This was lower than the average incidence rate and case counts reported in the previous five years 2011-2015; which were 13.5 per 100,000 population and 102 cases respectively. Over years, there were constant fluctuations in the incidence rate of giardiasis; and NB rate was consistently higher than the national rate over the period of 2011-2015.

**Graph 14.** Giardiasis Case Counts and Rates per 100,000 population for New Brunswick and Canada, 2011-2016

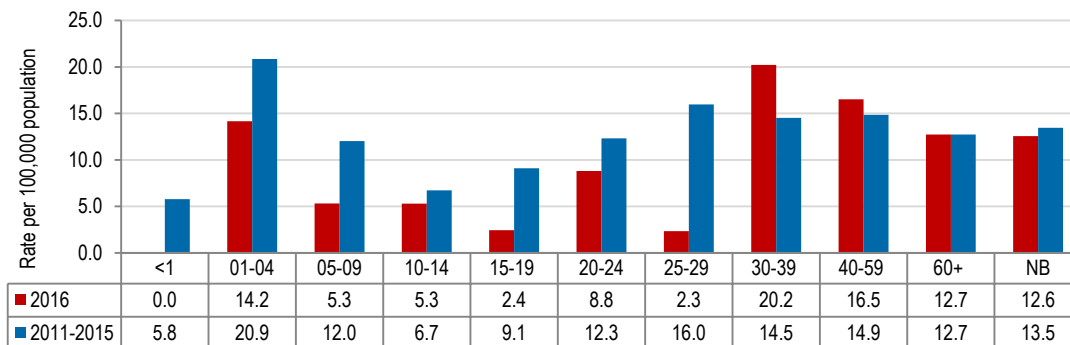


In 2016, the male incidence rate and case counts (13.4 cases per 100,000 population, and 50 cases respectively) were higher than those for females (11.7 cases per 100,000 population, and 45 cases respectively), which is consistent with what was observed for the average incidence rates and case counts over the past five years.

In 2016, the majority of the cases were in Region 1, Region 2, and Region 3 (43 cases, 13 cases, and 19 cases respectively) which was consistent with the regional distribution of cases reported over the previous five years. However, in 2016, the highest incidence rate was reported in Region 1 and Region 5 (20.1 cases per 100,000 population and 19.5 cases per 100,000 population respectively).

The highest proportions of cases in 2016 were reported in age groups 40-59, 60+, and 30-39 years (37 cases, 26 cases, and 18 cases respectively) which was consistent with the observation noted in the last five years. However, there was a noted decrease in the incidence rate for some age groups in 2016 in comparison with the previous five years as noted in the graph below. This applies to age groups between less than 1 year and 9 years and 25-29 years. Where on the other hand, there was an increase in some other age groups, such as 30-39 and 40-59.

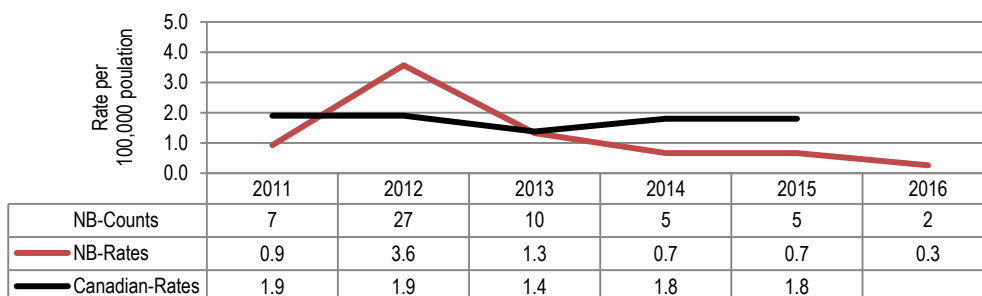
**Graph 15.** Incidence rate of Giardiasis by age group in New Brunswick, 2011-2015 and 2016



## 6.4 *E.coli* 0157:H7

In 2016, the incidence rate of *E.coli* 0157:H7 infection was 0.3 per 100,000 population resulting from 2 cases reported to Public Health. This was lower than the average incidence rate and case counts reported in the previous five years (1.4 per 100,000 population and 11 cases respectively). Overall, NB rates have been lower than the national rates except for year 2012, in which NB rates were higher due to the occurrence of multiple *E.coli* 0157:H7 outbreaks.

**Graph 16.** *E.coli* 0157 Case Counts and Rates per 100,000 population for New Brunswick and Canada, 2011-2016



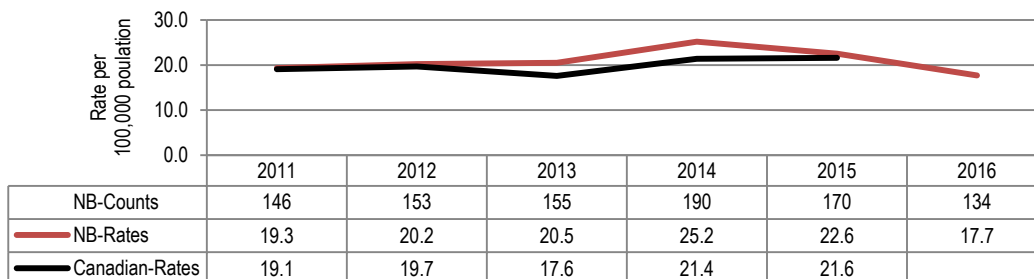
In 2016, the 2 cases reported were from Region 1, females, and in the age group of 25-29 years.

The annual changes in the *E.coli* 0157:H7 incidence rate by regional distribution, gender, and age groups should be interpreted with caution; the relatively low number of cases can result in major fluctuations in the rate from year to year.

## 6.5 Salmonellosis

In 2016, the incidence rate of salmonellosis was 17.7 per 100,000 population which accounted for 134 cases reported to Public Health. The average incidence rate and case counts were lower than those reported over the last five years: 21.6 per 100,000 population and 163 cases per year respectively. Overall, the trend in NB incidence rates were similar to that of the national incidence rates in the last five years.

**Graph 17.** Salmonellosis Case Counts and Rates per 100,000 population for New Brunswick and Canada, 2011-2016



In 2016, the highest reported numbers of cases were reported in Region 3, followed by Region 1, then Region 6 (30 cases, 26 cases and 24 cases respectively). However, Region 5, Region 6 and Region 4 reported the highest incidence rate in 2016 (43 per 100,000 population, 31.9 per 100,000 population, and 25.6 per 100,000 population).

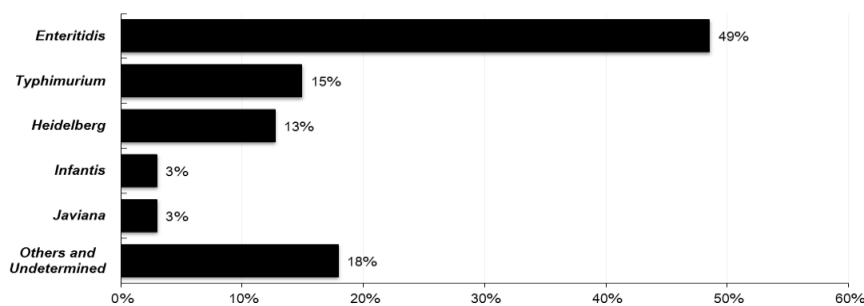


respectively). In the previous five years, the highest average case count was reported in Region 1 (53 cases) and the highest average incidence rate was in Region 5 (34.9 per 100,000 population).

For 2016, the majority of *Salmonella* cases were females (74 cases, incidence rate 19.3 per 100,000 population) in comparison with males (60 cases, incidence rate 16.1 per 100,000 population). The majority of cases were in the age group of 60+ followed by 40-59 (43 cases and 42 cases respectively). This was consistent with what was noted in the previous five years: 60+ years (48 cases) followed by 40-59 (43 cases). However, in 2016, the incidence rate was highest in age group less than 1 year old (44.6 per 100,000 population) where in 2011-2015 it was in the age group of 1-4 years old (34.8 per 100,000 population).

The most prevalent *Salmonella* serotypes in 2016 were *S.Enteritidis* (49%), followed by *S.Typhimurium* (15%), *S. Heidelberg* (13%), *S. Infantis* and *Javiana* (3% each). However, others and undetermined accounted for 18% of the reported cases. Nineteen different serotypes were reported under this category.

**Graph 18.** *Salmonella* species breakdown in New Brunswick, 2016



## 6.6 Other Enteric Diseases

Other enteric diseases that are reportable are: shigellosis, vibrio species, listeriosis, Hepatitis A, yersiniosis, and typhoid fever. In 2016, there was a decrease in case counts and incidence rate for Hepatitis A (1 case, 0.1 per 100,000 population) in comparison with 5-years average (3 cases, 0.4 per 100,000 population); and for yersiniosis (0 cases, 0.0 per 100,000 population) compared to the 5-years average (5 cases, 0.6 per 100,000 population). For shigellosis there was a slight increase in 2016 (7 cases, 0.9 per 100,000 population) compared to the 5-years average (6 cases, 0.7 per 100,000 population).

For the other enteric diseases, it remained constant. For further details on counts and rates of other enteric diseases, please refer to Appendix 3.

## 6.7 Summary of Enteric Outbreaks

For 2016, 48 regional outbreaks were reported. The majority of the outbreaks occurred in daycare settings (26 outbreaks, 54%); followed by nursing homes (9 outbreaks, 19%); schools and adult residential facilities (6 outbreaks and 13% each); and community outbreak (1 outbreak, 2%). The majority of the outbreaks took place in Region 2 (22 outbreaks), followed by Region 1 (12 outbreaks), Region 3 (9 outbreaks), Region 6 (3 outbreaks), and Region 5 (2 outbreaks).

The organism was identified in 29% of the outbreaks, and was unknown in 71%. Of those outbreaks with known organism (n=14), norovirus was identified in 7 outbreaks (15% of total reported outbreaks); rotavirus in 4 (8% of total reported outbreaks); and 3 in others (6% of total reported outbreaks).

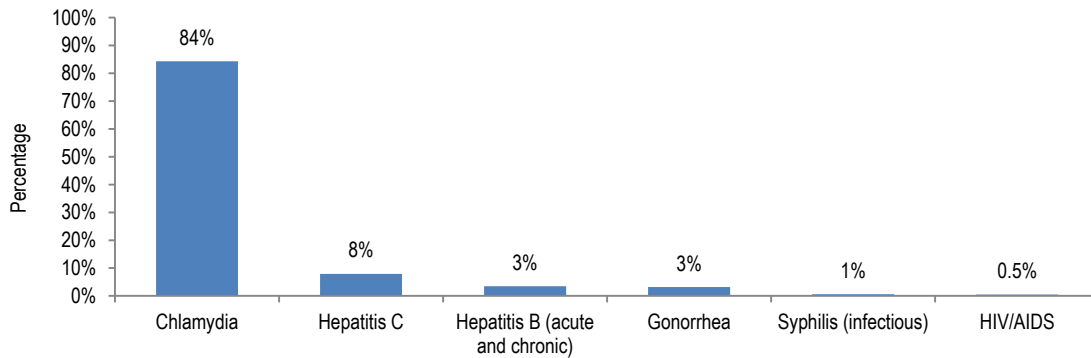
For further details in settings and organism distribution, please refer to Appendix 3.

## 7. Sexually Transmitted and Blood Borne Infections (STBBI)

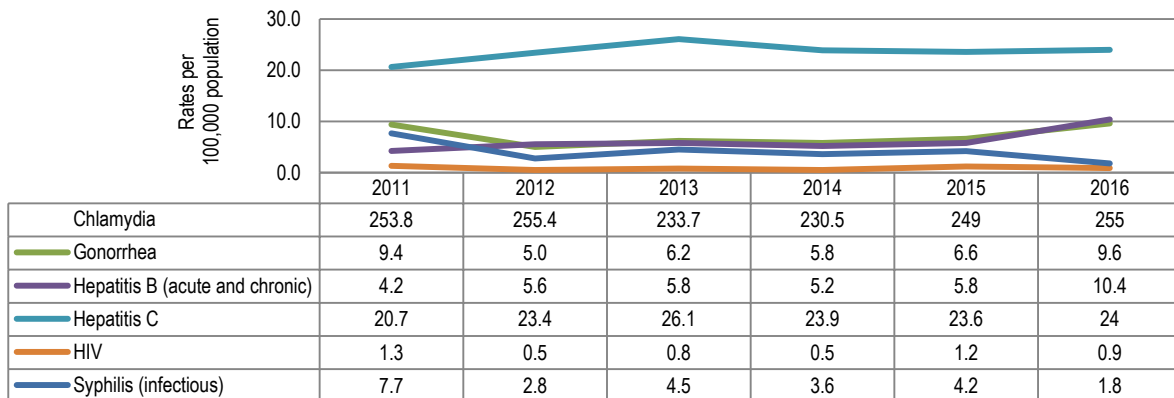
Sexually transmitted and bloodborne infections (STBBI) and their serious consequences can be prevented and reduced through sexual health promotion, harm reduction programs, early detection, treatment, and notification of sexual and drug use partners.

In 2016, the most common reported STBBI is chlamydia, followed by hepatitis C (unspecified), gonorrhea and chronic hepatitis B.

**Graph 19.** Sexually Transmitted and Blood Borne Infections (STBBI) in New Brunswick, 2016



**Graph 20.** Incidence Rates of some Sexually Transmitted and Blood Borne Infections (STBBI) in New Brunswick, 2011-2016



## 7.1. Chlamydia

Chlamydia is the most commonly reported sexually transmitted infection.

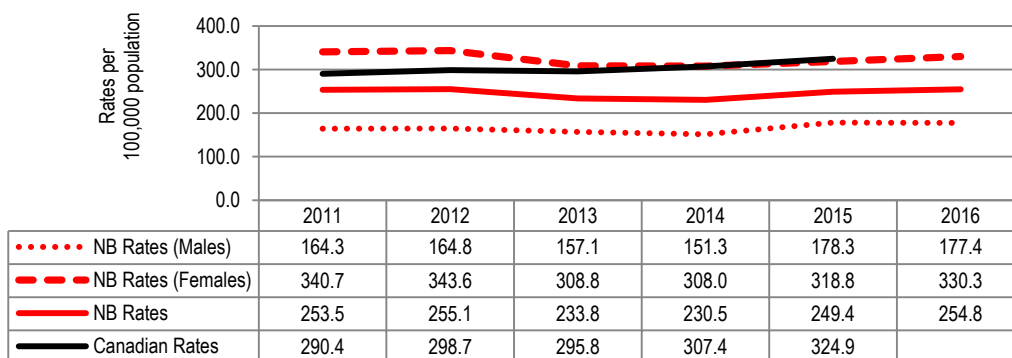
In 2016, 1928 chlamydia cases were reported with an incidence rate of 254.8 per 100,000 population. In the past 5 years, the average case count was 1846 cases per year, with a 5-year average incidence rate of 244.5 per 100,000 population. After a slight decrease in 2013 and 2014, the incidence rate increased in 2015 and 2016 to comparable levels to years prior to 2013. Overall, the incidence rate for New Brunswick is lower than the Canadian rate.

Females remain largely overrepresented among chlamydia cases, accounting for more than two thirds of all notifications (66%) in 2016.

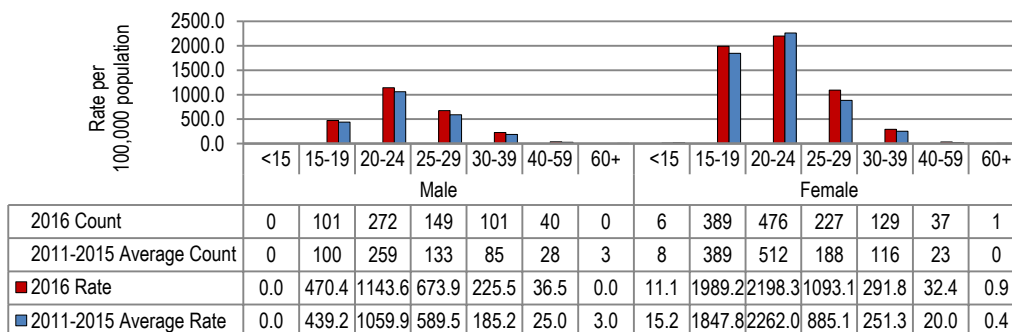
In 2016, higher incidence rates were observed in all age groups, compared to their 5-year average, with the highest incidence rate observed amongst young adults aged 20 to 24 years old in both males and females.

Compared to 2015, the highest increases in incidence rates were observed in Region 4, followed by Region 5 and Region 3.

**Graph 21.** Chlamydia Incidence Rates per 100,000 population Overall and by Sex for New Brunswick and Canada, 2011-2016



**Graph 22.** Chlamydia Case Counts and Incidence Rate per 100,000 by Sex and Age group, New Brunswick, 2011-2016



## 7.2. Gonorrhoea

In 2016, 73 cases of gonorrhoea were reported to Public Health with an incidence rate of 9.6 cases per 100,000 people. This is the highest number of cases and incidence rate reported in 10 years. Despite this increase, rates for gonorrhoea in New Brunswick continue to be well below national rates.

Most of the cases were reported in Regions 1 (30 cases), Region 3 (21 cases) and Region 2 (14 cases). 68% of the cases (50 cases) occurred in the second half of 2016, of which 23 cases were females.

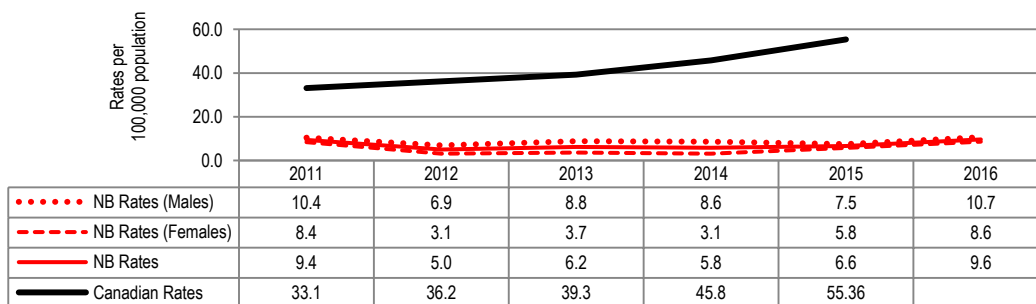
The number of reported male cases (n=40) slightly increased compared to the previous 5-year average (n=32). An increasing trend started to be observed among females in 2014 and 2015, and continued in 2016. A similar increase was noted in 2010 and 2011, possibly related to increase testing due to the chlamydia campaign at that time, as well as the 2010-2012 syphilis outbreak.

On average, male cases were twice the number of female cases: The 5-year average female to male ratio was 1:1.8. There was a disproportionate increase in female cases compared to male cases that was observed in 2015 which continued in 2016 with a female to male ratio of 1:1.2.

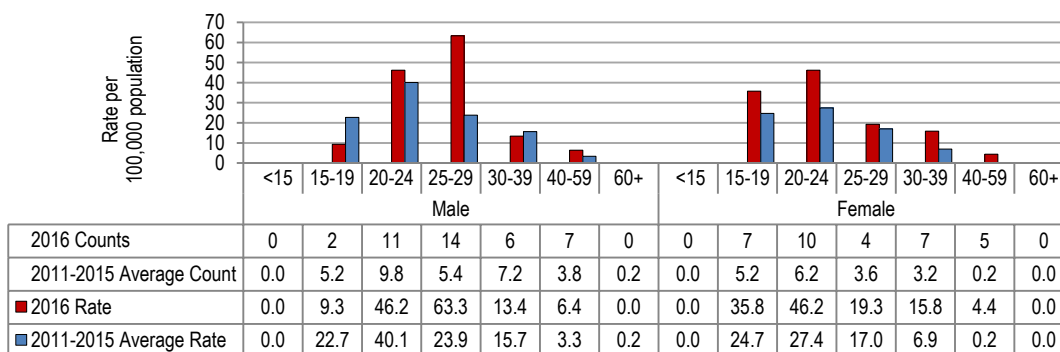
The increase in the male cases was mainly noted among individuals aged 20 to 29 years old, with the highest incidence observed among those aged 25 to 29 years old. On the other hand, the increase in female cases was mainly among those aged 15 to 24 years old age, with the highest incidence observed among those in the 20 to 24 years age group.

The changes in annual age-specific and region-specific rates for gonorrhoea should be interpreted with caution; low numbers can cause large fluctuations in rates.

**Graph 23.** Gonorrhoea Incidence Rates per 100,000 population Overall and by Sex for New Brunswick and Canada, 2011-2016



**Graph 24.** Gonorrhoea Case Counts and Incidence Rate per 100,000 by Sex and Age group, New Brunswick, 2011-2016



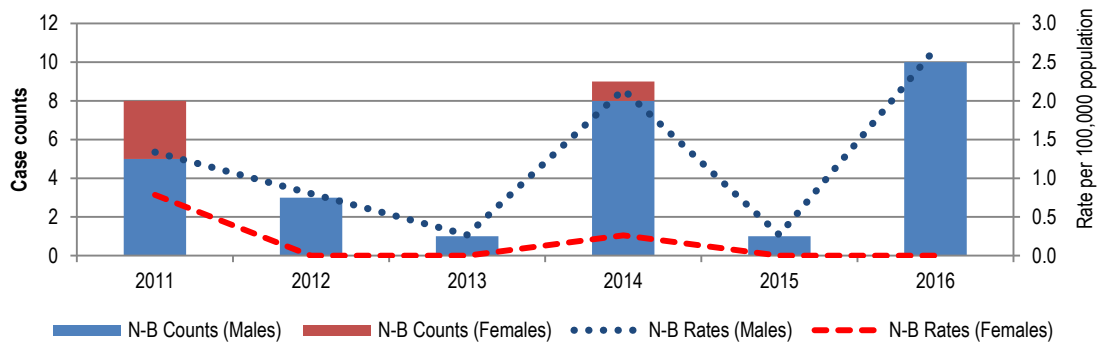
### 7.3. Hepatitis B

#### 7.3.1. Acute hepatitis B

In 2016, there were 10 cases of acute hepatitis B reported to Public Health with an incidence rate of 1.3 cases per 100,000 people. This was the highest number of cases reported in the last 10 years.

All the cases were males from Region 1. The median age of the cases was 47 years old (age range 23- 58 years). Individuals aged between 45 and 59 years old represented 70% of all cases. Most of the cases (60%) were reported between September and November 2016. Seventy percent of the cases identified themselves as Men having Sex with Men (MSM). None had previously received the hepatitis B vaccine.

**Graph 25.** Acute Hepatitis B Case Counts and Rates by sex per 100,000 population in New Brunswick, 2011-2016



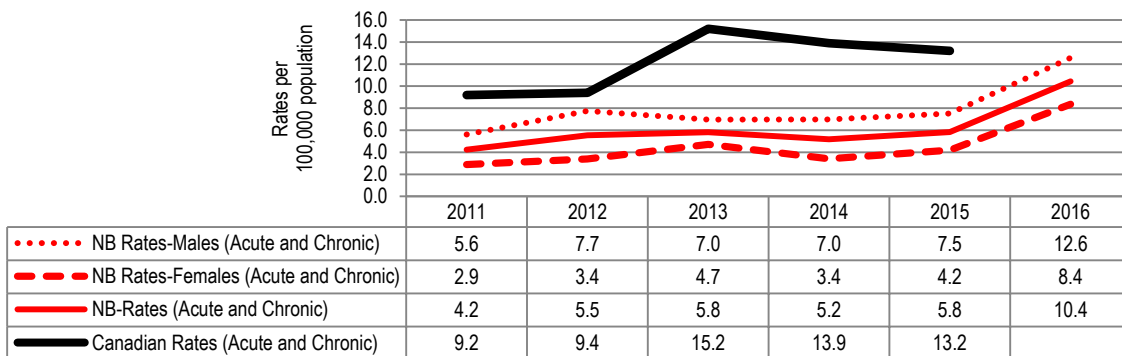
#### 7.3.2. Chronic hepatitis B

In 2016, 69 cases of chronic hepatitis B were reported to Public Health with an incidence rate of 9.1 cases per 100,000 people. Most of the cases were reported among new comers from endemic countries (64%). The number of cases reported in 2016 was the highest reported in the last 10 years.

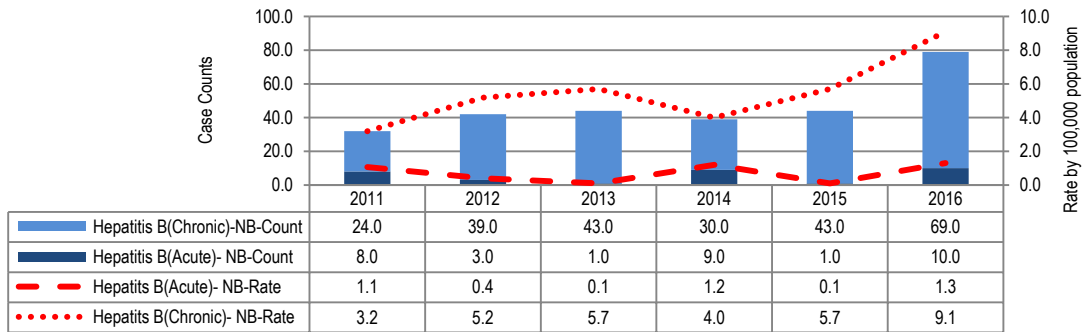
Ninety-four percent of the cases were reported in Region 3 (41%), Region 1 (38%) and Region 2 (16%).

Males represented 56% of all chronic hepatitis B cases reported, with 35% among those aged 40 to 49 years old and 19% among those aged 30 to 34 years old. Among females, 22% were between 35 and 39 years old and 16% were in the 25-29 years age group. Cases aged 30-39 years old had the highest rate among males, whereas cases aged 25-29 years old had highest rates old among females.

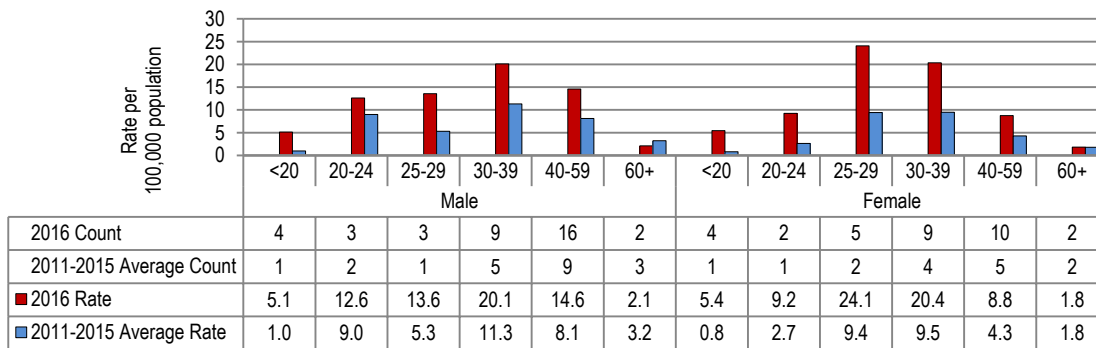
**Graph 26.** Hepatitis B (acute and chronic) Incidence Rates per 100,000 population Overall and by Sex for New Brunswick and Canada, 2011-2016



**Graph 27. Chronic and Acute Hepatitis B Case Counts and Rates per 100,000 in New Brunswick, 2011-2016**



**Graph 28. Chronic Hepatitis B Case Counts and Incidence Rate per 100,000 by Sex and Age groups, New Brunswick, 2011-2016**



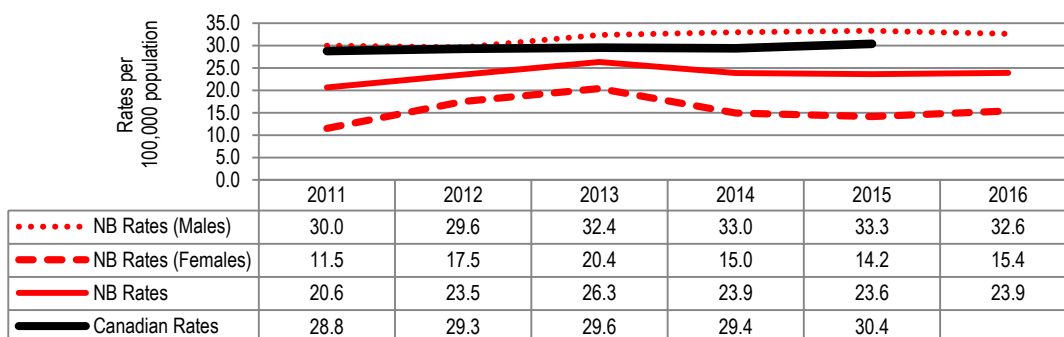
#### 7.4. Hepatitis C

In 2016, the incidence rate of hepatitis C diagnosis was 23.9 cases per 100,000 people with 181 cases of hepatitis C reported to Public Health, of which 11 were confirmed new infections (i.e. documented seroconversion to anti-HCV positive in a person who was previously seronegative within the last 12 months). The number of hepatitis C cases was more or less stable over the last 10 years.

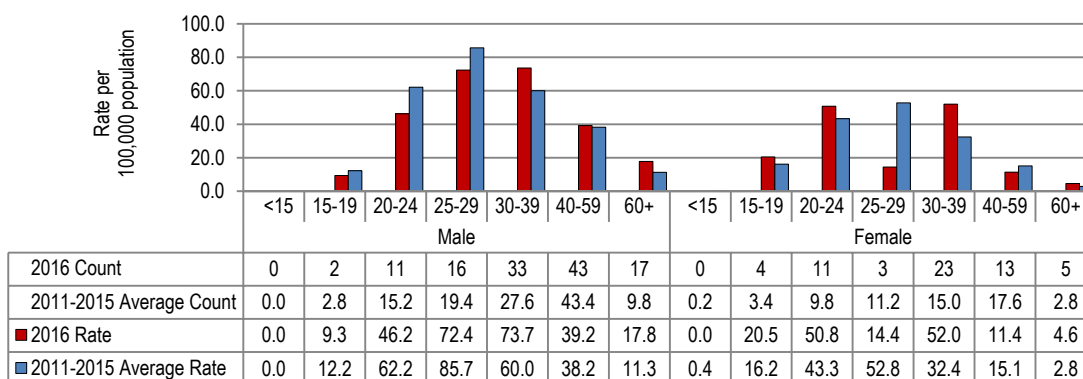
Two-thirds (67%) of all reported cases were males. Forty-three percent of the male cases were among individuals aged 25-39 years old, with the highest incidence in those aged 30 to 34 years old. Among females, 63% of the newly diagnosed cases were aged 20 to 39 years old, with the highest incidence among those in the 35-39 year olds.

More than one third of the cases (35%) were reported in Region 1, 18% were reported in Region 2, 17% in Region 3 and 16% in Region 7.

**Graph 29.** Hepatitis C Incidence Rates per 100,000 population Overall and by Sex for New Brunswick and Canada, 2011-2016.



**Graph 30.** Hepatitis C Case Counts and Incidence Rate per 100,000 by Sex and Age groups, New Brunswick, 2011-2016



## 7.5. HIV/AIDS

### 7.5.1. HIV

Rates for HIV in New Brunswick continue to be well below national rates.

In 2016, there were seven cases (5 females and 2 males) of newly diagnosed HIV reported to Public Health, with an incidence rate of 0.9 cases per 100,000 people. Four cases (57%) were new immigrants to Canada, and would have acquired the infection prior to their arrival in the country.

### 7.5.2. AIDS

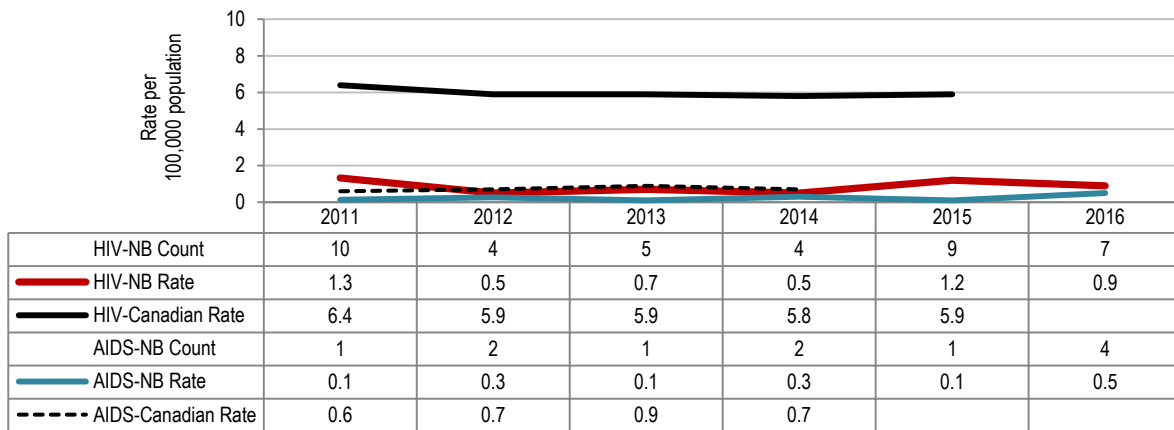
Rates for AIDS in New Brunswick continue to be well below national rates.

In 2016, there were four cases (2 males and 2 females) of newly diagnosed AIDS reported to Public Health with an incidence rate of 0.5 cases per 100,000 people. All but one were new comers to New Brunswick (whether from another country or another province).

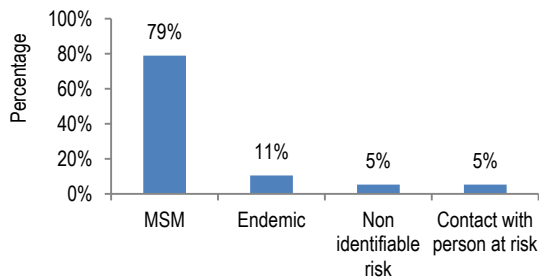
The annual changes in the HIV and AIDS incidence rates should be interpreted with caution; the relatively low number of cases can result in major fluctuations in the rate from year to year.



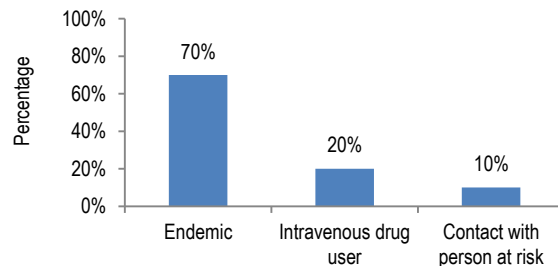
**Graph 31.** HIV and AIDS Case Counts and Incidence Rates per 100,000 population for New Brunswick and Canada, 2011-2016.



**Graph 32.** Risk factors of HIV Infection Among Males in NB, 2011-2016 (N=27)



**Graph 33.** Risk factors of HIV Infection Among Females in NB, 2011-2016 (N=12)



## 7.6. Infectious Syphilis

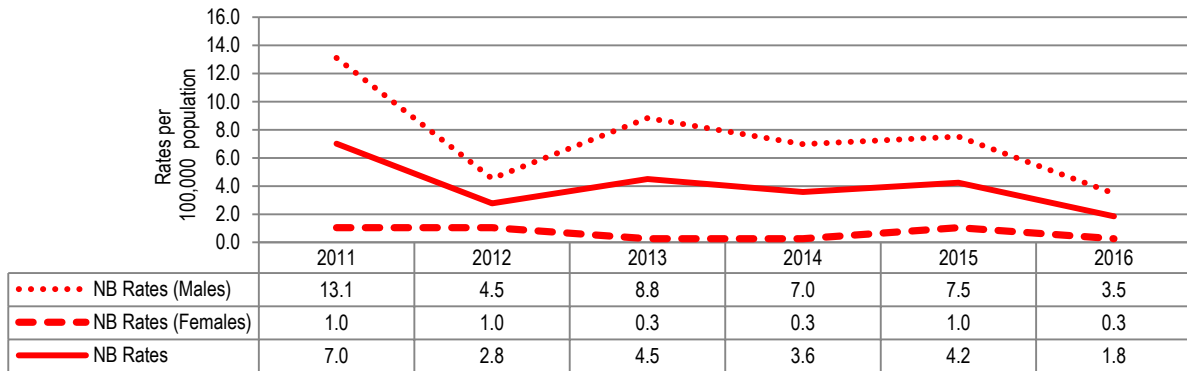
In 2016, there were 14 cases of infectious syphilis reported to Public Health with an incidence rate of 1.8 cases per 100,000 people. Cases reported in 2016 were the lowest reported since the syphilis outbreak was declared over in early 2013. However, most of the cases occurred in the fourth quarter of 2016 during which 8 cases (57% of total cases in 2016) were reported.

All but one case reported in 2016 were males. Infections primarily occurred among males aged 20-34 years (86% of all cases). The median age of all cases was 30 years old (range: 21-47). Cases in the last quarter of 2016 were slightly older than those reported in the first three quarters: median age 31 versus 24 years respectively. All the male cases identified themselves as MSM.

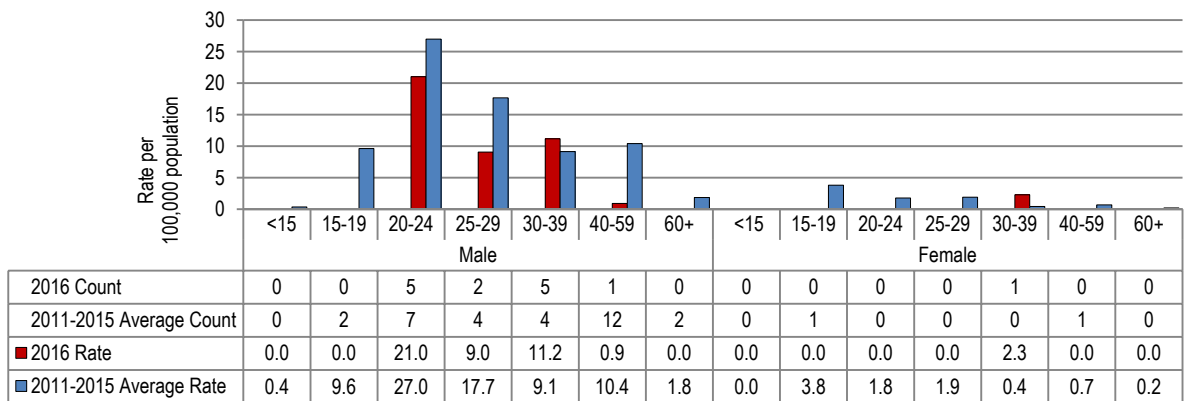
Most of the cases were reported from Regions 1 (n=6) and 3 (n=5).

The changes in annual rates for syphilis should be interpreted with caution; low numbers can cause large fluctuations in rates.

**Graph 34.** Infectious Syphilis Incidence Rates per 100,000 population Overall and by Sex for New Brunswick, 2011-2016.



**Graph 35.** Infectious Syphilis Case Counts and Incidence Rate per 100,000 by Sex and Age groups, New Brunswick, 2011-2016



For further details on reportable STBBIs epidemiology in New Brunswick including risk factors, please refer to the [New Brunswick Report on Sexually Transmitted and Blood Borne Infections, 2016](#) published on the OCMOH webpage in addition to Appendix 4 of this report.

## 8. Vectorborne and Zoonotic diseases

New Brunswick continues to have a low risk that is reflected in the sporadic cases and low incidence rates of vectorborne and zoonotic infections.

### 8.1 Lyme Disease

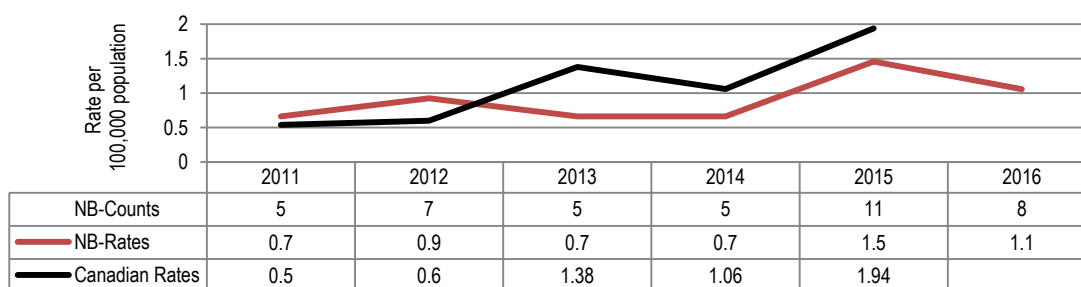
National Lyme disease surveillance began in 2009 and enhanced national surveillance was implemented in 2011. Lyme disease is a serious illness that can be spread by the bite of infected blacklegged ticks. Lyme disease is treatable with antibiotics when diagnosed at the early stages; however, if treatment is delayed disseminated illness may occur and serious symptoms result.

Although it is possible to be bitten by an infected tick anywhere in New Brunswick, the risk is highest in areas where tick populations are established or appear to be established. Locations where tick populations are established or emerging are considered as risk areas. As of fall 2016, based on provincial tick surveillance and reports of human disease, communities that are currently identified as risk areas include:

- Grand Manan Island
- Grand Bay/Westfield, Saint John, Rothesay, and Quispamsis
- St Stephen, Saint Andrews and St George

In 2016, 8 confirmed cases of Lyme disease were reported to Public Health, with an incidence rate of 1.1 per 100,000 population which is lower than what was reported in 2015 (11 cases, 1.5 per 100,000 population). An average of 7 cases was reported in the last 5 years 2011-2015 (range 5-11 cases) with an average incidence rate of 0.9 per 100,000 population. In comparison with the national rate, there was a fluctuation over the previous years. However, since 2013, NB rate was lower than the national rate.

**Graph 36.** Lyme disease Case Counts and Incidence Rates per 100,000 population for New Brunswick and Canada, 2011-2016.



The majority of cases in 2016 were males (5 cases males, 3 cases females). Region 2 reported 7 cases, and Region 1 reported 1 case. For age, 3 cases were reported among the 40-59 years age group, 2 cases among age group 60+ , and 1 case for each of the following age groups: 1-4 years, 10-14 years, and 25-29 years.

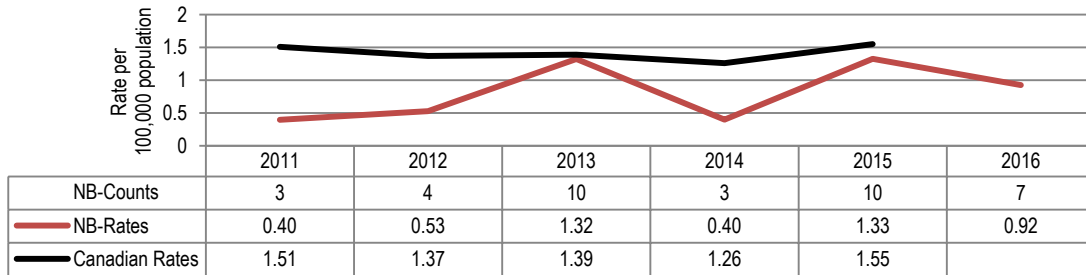
The annual changes in the lyme disease incidence rates should be interpreted with caution; the relatively low number of cases can result in major fluctuations in the rate from year to year.

### 8.2 Other Vectorborne and Zoonotic diseases

In 2016, 7 cases of malaria were reported with an incidence rate of 0.9 per 100,000 population which is a slight increase in the average counts and rates reported in the previous five years (6 cases, 0.8 per 100,000 population).

All cases were travel-related. There were fluctuations in the incidence rate over years, however, The NB rate was always lower than the national rate.

**Graph 37.** Malaria Case Counts and Rates per 100,000 population for New Brunswick and Canada, 2011-2016.



In 2016, there were 4 females, and 3 males. Region 2 reported 4 cases; Region 3, Region 6 and Region 7 reported 1 case each. Cases were distributed over different age groups.

For other vectorborne and zoonotic diseases, in 2016, there was 1 case of Q-fever. For Yellow Fever, Tularemia, Leptospirosis, and Rabies there were no cases reported.

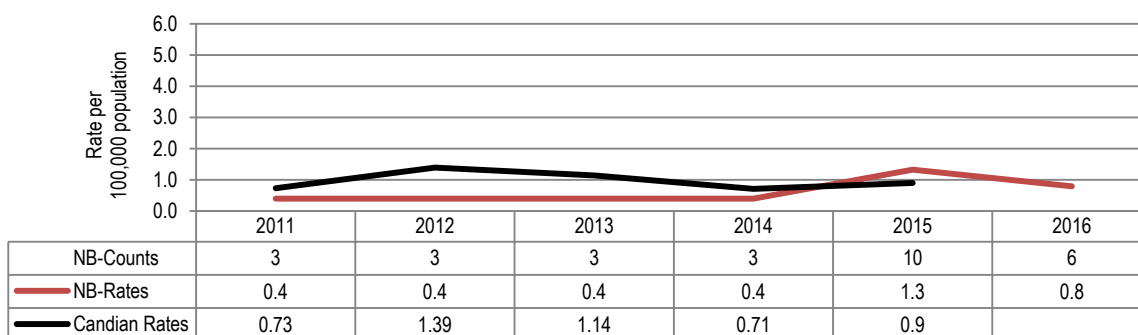
For further details on counts and rates of different vectorborne and zoonotic diseases, please refer to Appendix 5.

## 9. Respiratory and Direct Contact Diseases

### 9.1. Legionellosis

In 2016, a drop in the number of reported legionella incidence rate and case counts was noted (0.8 per 100,000 population, 6 cases) in comparison with 2015 (1.3 per 100,000 population, 10 cases). The 5-year average rate reported was of 0.6 per 100,000 population and an average count of 4 cases. The majority of the cases were reported in Region 1 (3 cases), followed by Region 3 (2 cases) and then Region 4 (1 case). The majority of cases were males (5 cases) and all were in the age group of 40 years old and above. The NB rate was lower than the national rate except for 2015.

**Graph 38.** Legionella Case Counts and Rates per 100,000 population for New Brunswick and Canada, 2011-2016 .



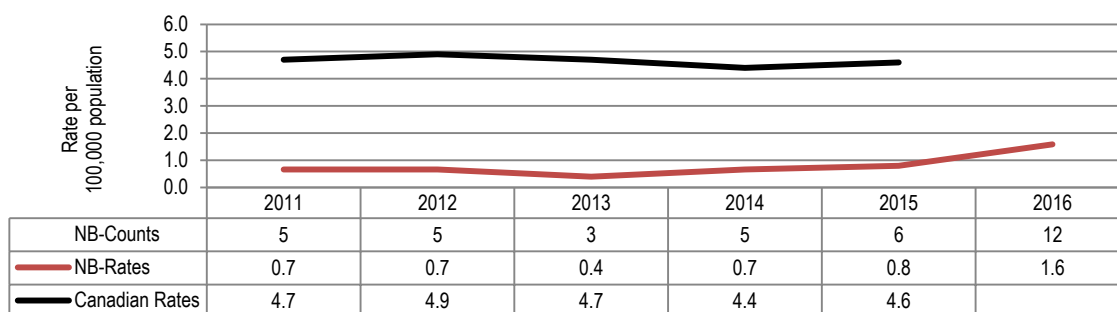
### 9.2. Tuberculosis (active)

In 2016, there were 12 confirmed cases of tuberculosis (TB) reported with an incidence rate of 1.6 per 100,000 population, which is double the number of cases reported in 2015 (counts 6 cases, incidence rate 0.8 per 100,000 population). The average case counts of the previous five years in NB was 5 cases with an average incidence rate of 0.6 per 100,000 population. Overall, the number of reported cases in NB is low (range 3 to 12) and is consistently lower than the national rates.

For 2016, pulmonary TB counted for the majority of the cases (6 cases, 50% of total reported), followed by primary respiratory (4 cases, 33% of total reported). The majority of cases were foreign-born (6 cases, 50% of total reported), followed by Canadian born non-aboriginal (4 cases, 33% of total reported), then aboriginal (2 cases, 17% of total reported). Females accounted for 50% of the cases. Age group of 20-39 years accounted for the majority of cases (5 cases, 42%), followed by 60+ years (4 cases, 33%), <20 years (2 cases, 17%), then 40-59 years (1 case, 8%). Region 1 accounted for the majority of cases (6 cases, 50%), followed by Region 3 (3 cases, 25%), then Region 2, Region 6, and Region 7 (1 case each, 8.3%). For the 6 cases reported in 2015, 1 case was cured, 3 cases completed treatment, 1 case had died and 1 case treatment is still ongoing.

The annual changes in tuberculosis incidence rate should be interpreted with caution; the relatively low number of cases can result in major fluctuations in the rate from year to year.

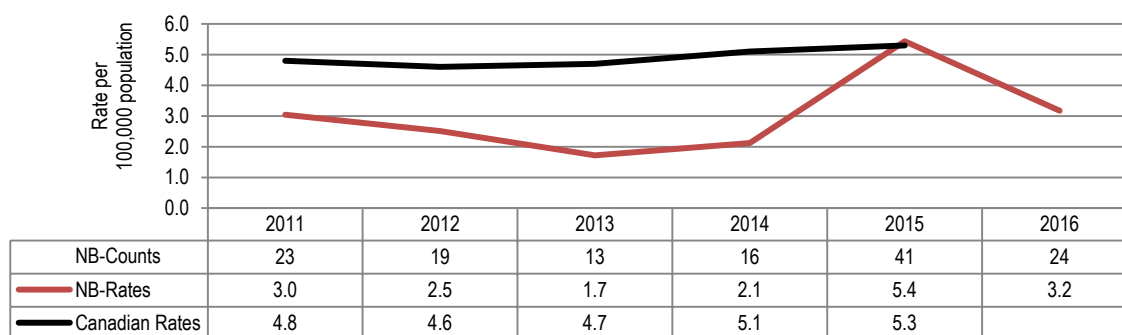
**Graph 39.** Tuberculosis Case Counts and Incidence Rates per 100,000 population for New Brunswick and Canada, 2011-2016.



### 9.3. Invasive Group A Streptococcal disease (iGAS)

In 2016, there were 24 confirmed cases of iGAS (incidence rate 3.2 per 100,000 population), which was lower than the number of confirmed cases reported in 2015 (41 confirmed cases, incidence rate 5.4 per 100,000 population); and higher than the previous five years (2011-2015) average counts and rates (22 cases, 2.9 per 100,000 population). In comparison with 2015 where M1 type counted for 58.5% of total confirmed cases, still M1 type accounted for the majority of the cases in 2016 (7 cases, 29%). NB incidence rates of iGAS are consistently lower than the Canadian rates except for 2015.

**Graph 40.** Invasive Group A Streptococcal disease (iGAS) Case Counts and Incidence Rates per 100,000 population for New Brunswick and Canada, 2011-2016.



In 2016, the majority of cases were in 60+ age group (10 cases, 41.7%), followed by 40-59 age group (6 cases, 25%), 30-39 age group (5 cases, 20.8%), <20 years (2 cases, 8.3%), and 20-29 years (1 case, 4.2%). The case count was higher in males than in females (15 cases, 62.5%).

Region 1 counted for the majority of the cases (10 cases, 41.7%), followed by Region 3 (6 cases, 25%), then by Region 2, Region 4, and Region 6 (2 cases each, 8.3%); and finally by Region 5 and Region 7 (1 case each, 4.2%). It is interesting to note that, out of the 24 confirmed cases in 2016, 20 cases (83.3%) were Caucasian; 23 cases (95.8%) were hospitalized; 3 cases (12.5%) died; and 6 cases (25%) were severe.

#### **9.4. Group B Streptococcal Infection of Newborn**

In 2016, only 2 cases were reported to Public Health with incidence rate of 29.9 per 100,000 population. From 2011-2015, the case count fluctuates between 1 and 5 cases annually. The average case counts in the previous 5 years was 2 cases, with average incidence rate of 31.8 per 100,000 population.

For further details regarding respiratory and direct contact diseases please refer to Appendix 6.

#### **10. Healthcare associated infections**

The provincial healthcare associated infections (HAI) surveillance system was established in April 2013 to monitor the incidence and trends of healthcare associated infections amongst patients who have been hospitalized. This system used to look at two infections: *Clostridium difficile* infection (CDI) and Methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia; the reports used to be done by quarters of fiscal year (April of a certain year to March of the next year). [Quarterly Healthcare Associated Infections Surveillance Report](#) can be accessed at the Office of the Chief Medical Officer of Health's webpage.

There was redundancy in reporting HAI infections by the Regional Health Authorities and OCMOH. The RHAs will continue to publicly report healthcare acquired cases of the two infections, CDI and MRSA, on their corporate website. The last quarterly report of HAI infections issued by OCMOH was on March 2016.

## Appendix 1. List of Notifiable Diseases and Reportable Events

### Notifiable Disease and Reportable Events Office of the Chief Medical Officer of Health



Timeline	Notifiable diseases and events	To be reported by	
		Laboratory	Clinicians (clinical illness)
<p><b>Verbally within one hour</b></p> <p>Please attach a label for your region that specifies the telephone number to be used during and after business hours</p> <p><b>AND</b></p> <p><b>In writing by the end of the next working day</b></p> <p>Please attach a label for your region that specifies mailing address and fax number</p>	Anthrax	✓	✓
	Botulism	✓	✓
	Cholera	✓	✓
	Clusters of illness thought to be food or water-borne	✓	✓
	Clusters of severe or atypical illness thought to be respiratory borne	✓	✓
	Diphtheria	✓	✓
	Hemorrhagic fever diseases	✓	✓
	Influenza caused by a new subtype	✓	✓
	Measles	✓	✓
	Plague-pneumonic	✓	✓
<p><b>Verbally within 24 hours</b></p> <p>Please attach a label for your region that specifies the telephone number to be used during and after business hours</p> <p><b>AND</b></p> <p><b>In writing within seven days</b></p> <p>Please attach a label for your region that specifies mailing address and fax number</p>	Polio	✓	✓
	Poliovirus	✓	✓
	Severe acute respiratory syndrome	✓	✓
	Smallpox	✓	✓
	Yellow fever	✓	✓
	Brucellosis	✓	✓
	Campylobacteriosis	✓	✓
	Cryptosporidiosis	✓	✓
	Cyclosporiasis	✓	✓
	Escherichia coli (pathogenic) infection	✓	✓
<p><b>Verbally within 24 hours</b></p> <p>Please attach a label for your region that specifies the telephone number to be used during and after business hours</p> <p><b>AND</b></p> <p><b>In writing within seven days</b></p> <p>Please attach a label for your region that specifies mailing address and fax number</p>	Exposure to a suspected rabid animal	✓	✓
	Giardiasis	✓	✓
	Guillain-Barre syndrome	✓	✓
	Hantavirus pulmonary syndrome	✓	✓
	Haemophilus influenzae (invasive) – type B and non-B	✓	✓
	Hepatitis A	✓	✓
	Hepatitis B	✓	✓
	Hepatitis E	✓	✓
	Legionellosis	✓	✓
	Listeriosis (invasive)	✓	✓
<p><b>Verbally within 24 hours</b></p> <p>Please attach a label for your region that specifies the telephone number to be used during and after business hours</p> <p><b>AND</b></p> <p><b>In writing within seven days</b></p> <p>Please attach a label for your region that specifies mailing address and fax number</p>	Meningococcal (invasive) disease	✓	✓
	Mumps	✓	✓
	Paralytic shellfish poisoning	✓	✓
	Pertussis	✓	✓
	Plague – bubonic	✓	✓
	Q fever	✓	✓
	Rabies	✓	✓
	Rubella	✓	✓
	Salmonellosis	✓	✓
	Shigellosis	✓	✓
<p><b>Verbally within 24 hours</b></p> <p>Please attach a label for your region that specifies the telephone number to be used during and after business hours</p> <p><b>AND</b></p> <p><b>In writing within seven days</b></p> <p>Please attach a label for your region that specifies mailing address and fax number</p>	Staphylococcus aureus intoxications	✓	✓
	Streptococcus group A beta-hemolytic (invasive)	✓	✓
	Tularemia	✓	✓
	Tuberculosis (active)	✓	✓
	Typhoid	✓	✓
	Unusual illness as per one of the following criteria: - presence of symptoms that do not fit any recognizable clinical picture - known etiology but not expected to occur in New Brunswick - known etiology that does not behave as expected - clusters presenting with unknown etiology	✓	✓
	Varicella	✓	✓
	Vibrio species	✓	✓
	West Nile Virus infection	✓	✓
	Yersiniosis	✓	✓
<p><b>Verbally within 24 hours</b></p> <p>Please attach a label for your region that specifies the telephone number to be used during and after business hours</p> <p><b>AND</b></p> <p><b>In writing within seven days</b></p> <p>Please attach a label for your region that specifies mailing address and fax number</p>	Adverse reaction to a vaccine or other immunizing agent	✓	✓
	Chlamydial infection (genital)	✓	✓
	Clostridium difficile associated diarrhea (CDAD)	✓	✓
	Creutzfeld-Jacob (CJD) disease-Classic and New Variant	✓	✓
	Cytomegalovirus (neonatal/ congenital)	✓	✓
	Gonococcal infection	✓	✓
	Hepatitis C and G	✓	✓
	Hepatitis - other viral	✓	✓
	Herpes (congenital and neonatal)	✓	✓
	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome	✓	✓
<p><b>Verbally within 24 hours</b></p> <p>Please attach a label for your region that specifies the telephone number to be used during and after business hours</p> <p><b>AND</b></p> <p><b>In writing within seven days</b></p> <p>Please attach a label for your region that specifies mailing address and fax number</p>	Influenza (laboratory confirmed)	✓	✓
	Leprosy	✓	✓
	Leptospirosis	✓	✓
	Lyme borreliosis	✓	✓
	Malaria	✓	✓
	Methicillin-resistant Staphylococcus aureus (MRSA)	✓	✓
	Pneumococcal disease (invasive)	✓	✓
	Psittacosis	✓	✓
	Rickettsiosis	✓	✓
	Streptococcus group B beta-hemolytic (neonatal)	✓	✓
<p>MRSA and VRE are not reportable under the Public Health Act, however they are under surveillance by the Department of Health</p>	Syphilis	✓	✓
	Tetanus	✓	✓
	Vancomycin resistant enterococci (VRE)	✓	✓



## Appendix 2. Tables for Vaccine Preventable Diseases

**Table 2.1.** Notifiable vaccine-preventable diseases reported in New Brunswick in 2011-2016: counts and incidence rates per 100,000 population

	NB											
	2011		2012		2013		2014		2015		2016	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
<b>Vaccine-Preventable Diseases</b>												
Diphtheria	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Haemophilus influenzae (unspecified)	5	0.7	3	0.4	5	0.7	8	1.1	4	0.5	9	1.2
Invasive Meningococcal Disease <sup>Ω</sup>	4	0.5	6	0.8	2	0.3	3	0.4	5	0.7	0	0.0
Invasive Pneumococcal Disease <sup>§</sup>	80	10.6	60	7.9	74	9.8	50	6.6	79	10.5	63	8.3
Measles	1	0.1	0	0.0	3	0.4	0	0.0	0	0.0	0	0.0
Mumps	0	0.0	1	0.1	5	0.7	2	0.3	0	0.0	1	0.1
Pertussis <sup>¥</sup>	22	2.9	1421	187.7	4	0.5	9	1.2	80	10.6	66	8.7
Rubella and Congenital Rubella Syndrome	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Varicella	15	3.3	20	4.4	22	4.9	20	4.6	26	6.0	11	2.6

Source: RDSS (Reportable Disease Surveillance System) database for all vaccine preventable diseases, except Invasive Meningococcal Disease, Invasive Pneumococcal Disease, and Pertussis for 2012

<sup>Ω</sup> Source: Invasive Meningococcal Disease enhanced surveillance database

<sup>§</sup> Source: Invasive Pneumococcal Disease enhanced surveillance database

<sup>¥</sup> Source: Pertussis Enhanced database for year 2012.

Source for rate calculations: OCMOH, Communicable Disease Control Branch. The denominators used were population estimates received from Statistics Canada, Demography Division; March 2017.

**Table 2.2.** Notifiable vaccine-preventable diseases reported in New Brunswick in 2016 by Region: counts and incidence rates per 100,000 population

	Region 1		Region 2		Region 3		Region 4		Region 5		Region 6		Region 7		NB	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
<b>Vaccine-Preventable Diseases</b>																
Diphtheria	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Haemophilus influenzae (unspecified)	1	0.5	2	1.2	2	1.1	1	2.1	0	0.0	2	2.7	1	2.2	9	1.2
Invasive Meningococcal Disease <sup>Ω</sup>	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Invasive Pneumococcal Disease <sup>§</sup>	24	11.2	14	8.1	14	7.9	4	8.5	1	3.9	3	4.0	3	6.6	63	8.3
Measles	0	0.0	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	0.6	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
Pertussis <sup>*</sup>	35	16.4	15	8.6	0	0.0	0	0.0	1	3.9	14	18.6	1	2.2	66	8.7
Rubella and Congenital Rubella Syndrome	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Varicella	1	0.8	4	4.0	2	1.9	0	0.0	0	0.0	4	11.1	0	0.0	11	2.6

Source: RDSS (Reportable Disease Surveillance System) database for all vaccine preventable diseases, except Invasive Meningococcal Disease, Invasive Pneumococcal Disease, and Pertussis for 2012

<sup>Ω</sup> Source: Invasive Meningococcal Disease enhanced surveillance database

<sup>§</sup> Source: Invasive Pneumococcal Disease enhanced surveillance database

<sup>\*</sup> Source: Pertussis Enhanced database for year 2012.

Source for rate calculations: OCMOH, Communicable Disease Control Branch. The denominators used were population estimates received from Statistics Canada, Demography Division; March 2017.

**Table 2.3.** Notifiable vaccine-preventable diseases reported in New Brunswick in 2016 by age group and sex: counts and incidence rates per 100,000 population

		NB														Total		Rate							
		Age groups																							
		<1		1-4		5-9		10-14		15-19		20-24		25-29						30-39		40-59		60+	
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate					N	Rate	N	Rate	N	Rate
<b>Vaccine-Preventable Diseases</b>																									
Diphtheria	Male	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	0.0	0	0.0	0	0.0		
	Female	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	0.0	0	0.0	0	0.0		
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>		
Haemophilus influenzae (unspecified)	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	4.5	0	0.0	2	1.8	4	4.2	7	1.9		
	Female	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	0.9	1	0.9	2	0.5		
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>2.3</b>	<b>0</b>	<b>0.0</b>	<b>3</b>	<b>1.3</b>	<b>5</b>	<b>2.4</b>	<b>9</b>	<b>1.2</b>		
Invasive Meningococcal Disease <sup>‡</sup>	Male	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	0.0	0	0.0	0	0.0		
	Female	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	0.0	0	0.0	0	0.0		
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>		
Invasive Pneumococcal Disease <sup>§</sup>	Male	2	58.6	2	14.3	1	5.1	1	5.1	0	0.0	0	0.0	0	0.0	2	4.5	7	6.4	25	26.2	40	10.7		
	Female	0	0.0	0	0.0	1	5.5	0	0.0	0	0.0	0	0.0	1	4.8	1	2.3	7	6.1	13	12.0	23	6.0		
	<b>Total</b>	<b>2</b>	<b>29.7</b>	<b>2</b>	<b>7.1</b>	<b>2</b>	<b>5.3</b>	<b>1</b>	<b>2.7</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>2.3</b>	<b>3</b>	<b>3.4</b>	<b>14</b>	<b>6.3</b>	<b>38</b>	<b>18.6</b>	<b>63</b>	<b>8.3</b>		
Measles	Male	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	0.0	0	0.0	0	0.0		
	Female	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	0.0	0	0.0	0	0.0		
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>		
Mumps	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	4.5	0	0.0	0	0.0	0	0.0	1	0.3		
	Female	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	0.0	0	0.0	0	0.0		
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>2.3</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>0.1</b>		
Pertussis <sup>*</sup>	Male	1	29.3	1	7.1	5	25.7	8	40.7	1	4.7	0	0.0	1	4.5	0	0.0	7	6.4	4	4.2	28	7.5		
	Female	0	0.0	2	14.1	7	38.4	10	55.3	3	15.3	2	9.2	2	9.6	4	9.0	7	6.1	1	0.9	38	9.9		
	<b>Total</b>	<b>1</b>	<b>14.9</b>	<b>3</b>	<b>10.6</b>	<b>12</b>	<b>31.9</b>	<b>18</b>	<b>47.7</b>	<b>4</b>	<b>9.7</b>	<b>2</b>	<b>4.4</b>	<b>3</b>	<b>7.0</b>	<b>4</b>	<b>4.5</b>	<b>14</b>	<b>6.3</b>	<b>5</b>	<b>2.4</b>	<b>66</b>	<b>8.7</b>		
Rubella and Congenital Rubella Syndrome	Male	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	0.0	0	0.0	0	0.0		
	Female	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	0.0	0	0.0	0	0.0		
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>		
Tetanus	Male	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	0.0	0	0.0	0	0.0		
	Female	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	0.0	0	0.0	0	0.0		
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>		
Varicella	Male	0	0.0	1	7.1	0	0.0	1	5.1	0	0.0	1	4.2	0	0.0	1	2.2	1	0.9	0	0.0	5	2.3		
	Female	0	0.0	0	0.0	2	11.0	2	11.1	1	5.1	0	0.0	0	0.0	0	0.0	1	0.9	0	0.0	6	2.8		
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>3.5</b>	<b>2</b>	<b>5.3</b>	<b>3</b>	<b>8.0</b>	<b>1</b>	<b>2.4</b>	<b>1</b>	<b>2.2</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>1.1</b>	<b>2</b>	<b>0.9</b>	<b>0</b>	<b>0.0</b>	<b>11</b>	<b>2.6</b>		

Source: RDSS (Reportable Disease Surveillance System) database for all vaccine preventable diseases, except Invasive Meningococcal Disease, Invasive Pneumococcal Disease, and Pertussis for 2012

<sup>‡</sup> Source: Invasive Meningococcal Disease enhanced surveillance database

<sup>§</sup> Source: Invasive Pneumococcal Disease enhanced surveillance database

<sup>\*</sup> Source: Pertussis Enhanced database for year 2012.

Source for rate calculations: OCMOH, Communicable Disease Control Branch. The denominators used were population estimates received from Statistics Canada, Demography Division; March 2017.

### Appendix 3. Tables for enteric, food and waterborne diseases

**Table 3.1.** Notifiable enteric, food and waterborne diseases reported in New Brunswick in 2011-2016: counts and incidence rates per 100,000 population

	NB											
	2011		2012		2013		2014		2015		2016	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
<b>Enteric, Food and Waterborne Diseases</b>												
Campylobacteriosis	177	23.4	158	20.9	212	28.1	229	30.4	174	23.1	162	21.4
Cryptosporidiosis	34	4.5	27	3.6	16	2.1	17	2.3	29	3.8	32	4.2
<i>E. coli</i> O157	7	0.9	27	3.6	10	1.3	5	0.7	5	0.7	2	0.3
Giardiasis	88	11.6	131	17.3	95	12.6	97	12.9	99	13.1	95	12.6
Hepatitis A	2	0.3	3	0.4	9	1.2	0	0.0	1	0.1	1	0.1
Listeriosis	4	0.5	4	0.5	9	1.2	2	0.3	4	0.5	5	0.7
Salmonellosis	146	19.3	153	20.2	155	20.5	190	25.2	170	22.6	134	17.7
Shigellosis	6	0.8	5	0.7	7	0.9	5	0.7	4	0.5	7	0.9
Typhoid Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Vibrio species	5	0.7	5	0.7	3	0.4	3	0.4	5	0.7	4	0.5
Yersiniosis	8	1.1	3	0.4	5	0.7	5	0.7	2	0.3	0	0.0

Source: Enteric database

Source for rate calculations: OCMOH, Communicable Disease Control Branch. The denominators used were population estimates received from Statistics Canada, Demography Division; March 2017.

**Table 3.2.** Notifiable enteric, food and waterborne diseases reported in New Brunswick in 2016 by Region: counts and incidence rates per 100,000 population

	Region 1		Region 2		Region 3		Region 4		Region 5		Region 6		Region 7		NB	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
<b>Enteric, Food and Waterborne Diseases</b>																
Campylobacteriosis	35	16.4	27	15.5	29	16.5	34	72.5	7	27.4	27	35.9	3	6.6	162	21.4
Cryptosporidiosis	6	2.8	13	7.5	3	1.7	2	4.3	5	19.5	3	4.0	0	0.0	32	4.2
<i>E. coli</i> O157	2	0.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.3
Giardiasis	43	20.1	13	7.5	19	10.8	2	4.3	5	19.5	8	10.6	5	11.0	95	12.6
Hepatitis A	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
Listeriosis	2	0.9	1	0.6	1	0.6	0	0.0	1	3.9	0	0.0	0	0.0	5	0.7
Salmonellosis	26	12.2	22	12.7	30	17.0	12	25.6	11	43.0	24	31.9	9	19.8	134	17.7
Shigellosis	5	2.3	0	0.0	2	1.1	0	0.0	0	0.0	0	0.0	0	0.0	7	0.9
Typhoid Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Vibrio species	2	0.9	0	0.0	0	0.0	0	0.0	0	0.0	2	2.7	0	0.0	4	0.5
Yersiniosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Source: Enteric database

Source for rate calculations: OCMOH, Communicable Disease Control Branch. The denominators used were population estimates received from Statistics Canada, Demography Division; March 2017.

**Table 3.3.** Notifiable enteric, food and waterborne diseases reported in New Brunswick in 2016 by age group and sex: counts and incidence rates per 100,000 population

		NB																Total		Rate			
		Age groups																					
		<1		1-4		5-9		10-14		15-19		20-24		25-29		30-39						40-59	
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate		
<b>Enteric, Food and Waterborne Diseases</b>																							
Campylobacteriosis	Male	1	29.3	0	0.0	2	10.3	2	10.2	7	32.6	8	33.6	7	31.7	19	42.4	19	17.3	29	30.4	94	25.1
	Female	1	30.2	1	7.0	0	0.0	2	11.1	3	15.3	8	36.9	4	19.3	5	11.3	21	18.4	23	21.2	68	17.8
	<b>Total</b>	<b>2</b>	<b>29.7</b>	<b>1</b>	<b>3.5</b>	<b>2</b>	<b>5.3</b>	<b>4</b>	<b>10.6</b>	<b>10</b>	<b>24.4</b>	<b>16</b>	<b>35.2</b>	<b>11</b>	<b>25.7</b>	<b>24</b>	<b>27.0</b>	<b>40</b>	<b>17.9</b>	<b>52</b>	<b>25.5</b>	<b>162</b>	<b>21.4</b>
Cryptosporidiosis	Male	2	58.6	3	21.4	1	5.1	2	10.2	2	9.3	2	8.4	0	0.0	4	8.9	0	0.0	0	0.0	16	4.3
	Female	0	0.0	1	7.0	2	11.0	3	16.6	0	0.0	3	13.9	1	4.8	2	4.5	2	1.8	2	1.8	16	4.2
	<b>Total</b>	<b>2</b>	<b>29.7</b>	<b>4</b>	<b>14.2</b>	<b>3</b>	<b>8.0</b>	<b>5</b>	<b>13.3</b>	<b>2</b>	<b>4.9</b>	<b>5</b>	<b>11.0</b>	<b>1</b>	<b>2.3</b>	<b>6</b>	<b>6.7</b>	<b>2</b>	<b>0.9</b>	<b>2</b>	<b>1.0</b>	<b>32</b>	<b>4.2</b>
E. coli O157	Male	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	0.0	0	0.0	0	0.0
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	9.6	0	0.0	0	0.0	0	0.0	2	0.5
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>2</b>	<b>4.7</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>2</b>	<b>0.3</b>
Giardiasis	Male	0	0.0	1	7.1	1	5.1	2	10.2	0	0.0	2	8.4	0	0.0	8	17.9	21	19.2	15	15.7	50	13.4
	Female	0	0.0	3	21.1	1	5.5	0	0.0	1	5.1	2	9.2	1	4.8	10	22.6	16	14.0	11	10.1	45	11.7
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>4</b>	<b>14.2</b>	<b>2</b>	<b>5.3</b>	<b>2</b>	<b>5.3</b>	<b>1</b>	<b>2.4</b>	<b>4</b>	<b>8.8</b>	<b>1</b>	<b>2.3</b>	<b>18</b>	<b>20.2</b>	<b>37</b>	<b>16.5</b>	<b>26</b>	<b>12.7</b>	<b>95</b>	<b>12.6</b>
Hepatitis A	Male	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	0.0	0	0.0	0	0.0
	Female	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	0.9	0	0.0	1	0.3
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>0.4</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>0.1</b>
Listeriosis	Male	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	0.0	1	1.0	1	0.3
	Female	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	0.0	4	3.7	4	1.0
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>5</b>	<b>2.4</b>	<b>5</b>	<b>0.7</b>
Salmonellosis	Male	2	58.6	1	7.1	2	10.3	2	10.2	3	14.0	4	16.8	3	13.6	5	11.2	16	14.6	22	23.0	60	16.1
	Female	1	30.2	5	35.1	2	11.0	3	16.6	0	0.0	6	27.7	2	9.6	8	18.1	26	22.8	21	19.3	74	19.3
	<b>Total</b>	<b>3</b>	<b>44.6</b>	<b>6</b>	<b>21.2</b>	<b>4</b>	<b>10.6</b>	<b>5</b>	<b>13.3</b>	<b>3</b>	<b>7.3</b>	<b>10</b>	<b>22.0</b>	<b>5</b>	<b>11.7</b>	<b>13</b>	<b>14.6</b>	<b>42</b>	<b>18.8</b>	<b>43</b>	<b>21.1</b>	<b>134</b>	<b>17.7</b>
Shigellosis	Male	0	0.0	0	0.0	1	5.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	3.1	4	1.1
	Female	0	0.0	1	7.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.3	0	0.0	1	0.9	3	0.8
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>3.5</b>	<b>1</b>	<b>2.7</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>1.1</b>	<b>0</b>	<b>0.0</b>	<b>4</b>	<b>2.0</b>	<b>7</b>	<b>0.9</b>
Typhoid Fever	Male	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	0.0	0	0.0	0	0.0
	Female	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	0.0	0	0.0	0	0.0
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>
Vibrio species	Male	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	1.8	1	1.0	3	0.8
	Female	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	0.0	1	0.9	1	0.3
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>2</b>	<b>0.9</b>	<b>2</b>	<b>1.0</b>	<b>4</b>	<b>0.5</b>
Yersiniosis	Male	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	0.0	0	0.0	0	0.0
	Female	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	0.0	0	0.0	0	0.0
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>

Source: Enteric database

Source for rate calculations: OCMOH, Communicable Disease Control Branch. The denominators used were population estimates received from Statistics Canada, Demography Division; March 2017.

**Table 3.4.** Regional Enteric Clusters/Outbreaks in 2016 by Type of Setting

	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	NB
<b>Settings where clusters/outbreaks were reported:</b>								
Daycare	4	14	8	0	0	0	0	26
School	1	1	1	0	1	2	0	6
Nursing Home	3	6	0	0	0	0	0	9
Adult Residential Facility	4	1	0	0	0	1	0	6
Community	0	0	0	0	1	0	0	1
Total	12	22	9	0	2	3	0	48

**Table 3.5.** Regional Enteric Clusters/Outbreaks in 2016 by Type of Organism

	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	NB
<b>Organism:</b>								
Norovirus	5	1	0	0	0	1	0	7
Rotavirus	1	1	2	0	0	0	0	4
<i>Salmonella Heidelberg</i>	0	0	0	0	1	0	0	1
<i>Giardia Lamblia</i>	1	0	0	0	0	0	0	1
<i>Cryptosporidium</i>	0	0	0	0	1	0	0	1
No organism identified	5	20	7	0	0	2	0	34
Total	12	22	9	0	2	3	0	48

**Table 3.6.** Multi-Regional Enteric Clusters/Outbreaks in 2016

	Regions
<b>Organism:</b>	
<i>Salmonella Thyphimurium</i>	1 and 6

Source: Enteric database

## Appendix 4. Tables for Sexually Transmitted and Bloodborne infections

**Table 4.1.** Notifiable sexually transmitted and bloodborne infections reported in New Brunswick in 2011-2016: counts and incidence rates per 100,000 population

	NB											
	2011		2012		2013		2014		2015		2016	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
<b>Sexually Transmitted and Bloodborne Infections</b>												
AIDS §	1	0.1	2	0.3	1	0.1	2	0.3	1	0.1	4	0.5
HIV§	10	1.3	4	0.5	6	0.8	4	0.5	9	1.2	7	0.9
Chlamydia (genital)	1917	253.7	1931	255.1	1767	233.8	1738	229.6	1880	249.4	1928	254.8
Gonorrhea (genital)	71	9.4	38	5.0	47	6.2	44	5.8	50	6.6	73	9.6
Hepatitis B (Acute)	8	1.1	3	0.4	1	0.1	9	1.2	1	0.1	10	1.3
Hepatitis B (Chronic)	24	3.2	39	5.2	43	5.7	30	4.0	43	5.7	69	9.1
Hepatitis C	156	20.6	177	23.4	197	26.1	180	23.8	178	23.6	181	23.9
Syphilis (Infectious) <sup>Φ</sup>	58	7.7	21	2.8	34	4.5	27	3.6	32	4.2	14	1.8
Syphilis (All)	72	9.5	43	5.7	48	6.4	46	6.1	45	6.0	31	4.1

Source:

RDSS (Reportable Disease Surveillance System) database for all sexually transmitted and blood borne diseases data, except HIV and AIDS and Syphilis(infectious) for years 2010-2012

§ HIV/AIDS Case Report Surveillance System database

Φ Enhanced Syphilis Database for Syphilis (infectious) data for years 2011-2012

Source for rate calculations: OCMOH, Communicable Disease Control Branch. The denominators used were population estimates received from Statistics Canada, Demography Division; March 2017



**Table 4.2.** Notifiable sexually transmitted and bloodborne infections reported in New Brunswick in 2016 by Region: counts and incidence rates per 100,000 population

	Region 1		Region 2		Region 3		Region 4		Region 5		Region 6		Region 7		NB	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
<b>Sexually Transmitted and Bloodborne Infections</b>																
Chlamydia (genital)	652	305.0	343	197.5	588	333.7	84	179.0	46	179.8	171	227.3	44	97.0	1928	254.8
Gonorrhea (genital)	30	14.0	14	8.1	21	11.9	1	2.1	1	3.9	5	6.6	1	2.2	73	9.6
Hepatitis B (Acute)	10	4.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	10	1.3
Hepatitis B (Chronic)	26	12.2	11	6.3	28	15.9	2	4.3	0	0.0	1	1.3	1	2.2	69	9.1
Hepatitis C	64	29.9	33	19.0	30	17.0	3	6.4	8	31.3	14	18.6	29	64.0	181	23.9
Syphilis (Infectious) <sup>Φ</sup>	6	2.8	1	0.6	5	2.8	0	0.0	1	3.9	1	1.3	0	0.0	14	1.8
Syphilis (All)	12	5.6	2	1.2	9	5.1	0	0.0	1	3.9	7	9.3	0	0.0	31	4.1

Source: RDSS (Reportable Disease Surveillance System) database for all sexually transmitted and blood borne diseases data, except HIV and AIDS and Syphilis(infectious) for years 2010-2012

Φ Enhanced Syphilis Database for Syphilis (infectious) data for years 2011-2012

Note: HIV and AIDS data is not available by Region

Source for rate calculations: OCMOH, Communicable Disease Control Branch. The denominators used were population estimates received from Statistics Canada, Demography Division; March 2017

**Table 4.3.** Notifiable sexually transmitted and bloodborne infections reported in New Brunswick in 2016 by age group and sex: counts and incidence rates per 100,000 population

		NB																		Total		Rate			
		Age groups																							
		<1		1-4		5-9		10-14		15-19		20-24		25-29		30-39		40-59						60+	
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate					N	Rate
<b>Sexually Transmitted and Bloodborne Infections</b>																									
AIDS §	Male	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	0.9	1	1.0	2	0.5		
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.3	1	0.9	0	0.0	2	0.5		
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>1.1</b>	<b>2</b>	<b>0.9</b>	<b>1</b>	<b>0.5</b>	<b>4</b>	<b>0.5</b>		
HIV §	Male	0	0.0	0	0.0	0	0.0	0	0.0	1	4.2	0	0.0	1	2.2	0	0.0	0	0.0	2	0.5				
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	4.8	1	2.3	3	2.6	0	0.0	5	1.3				
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>2.2</b>	<b>1</b>	<b>2.3</b>	<b>2</b>	<b>2.2</b>	<b>3</b>	<b>1.3</b>	<b>0</b>	<b>0.0</b>	<b>7</b>	<b>0.9</b>				
Chlamydia (genital)	Male	0	0.0	0	0.0	0	0.0	101	470.4	272	1143.6	149	673.9	101	225.5	40	36.5	0	0.0	663	177.4				
	Female	0	0.0	0	0.0	6	33.2	389	1989.2	476	2198.3	227	1093.1	129	291.8	37	32.4	1	0.9	1265	330.3				
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>6</b>	<b>15.9</b>	<b>490</b>	<b>1194.3</b>	<b>748</b>	<b>1646.2</b>	<b>376</b>	<b>876.9</b>	<b>230</b>	<b>258.4</b>	<b>77</b>	<b>34.4</b>	<b>1</b>	<b>0.5</b>	<b>1928</b>	<b>254.8</b>				
Gonorrhea (genital)	Male	0	0.0	0	0.0	0	0.0	2	9.3	11	46.2	14	63.3	6	13.4	7	6.4	0	0.0	40	10.7				
	Female	0	0.0	0	0.0	0	0.0	7	35.8	10	46.2	4	19.3	7	15.8	5	4.4	0	0.0	33	8.6				
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>9</b>	<b>21.9</b>	<b>21</b>	<b>46.2</b>	<b>18</b>	<b>42.0</b>	<b>13</b>	<b>14.6</b>	<b>12</b>	<b>5.4</b>	<b>0</b>	<b>0.0</b>	<b>73</b>	<b>9.6</b>				
Hepatitis B (Acute)	Male	0	0.0	0	0.0	0	0.0	0	0.0	1	4.2	0	0.0	1	2.2	8	7.3	0	0.0	10	2.7				
	Female	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	0.0	0	0.0				
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>2.2</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>1.1</b>	<b>8</b>	<b>3.6</b>	<b>0</b>	<b>0.0</b>	<b>10</b>	<b>1.3</b>				
Hepatitis B (Chronic)	Male	0	0.0	0	0.0	2	10.2	2	9.3	3	12.6	3	13.6	9	20.1	16	14.6	2	2.1	37	9.9				
	Female	0	0.0	0	0.0	1	5.5	3	15.3	2	9.2	5	24.1	9	20.4	10	8.8	2	1.8	32	8.4				
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>3</b>	<b>8.0</b>	<b>5</b>	<b>12.2</b>	<b>5</b>	<b>11.0</b>	<b>8</b>	<b>18.7</b>	<b>18</b>	<b>20.2</b>	<b>26</b>	<b>11.6</b>	<b>4</b>	<b>2.0</b>	<b>69</b>	<b>9.1</b>				
Hepatitis C	Male	0	0.0	0	0.0	0	0.0	2	9.3	11	46.2	16	72.4	33	73.7	43	39.2	17	17.8	122	32.6				
	Female	0	0.0	0	0.0	0	0.0	4	20.5	11	50.8	3	14.4	23	52.0	13	11.4	5	4.6	59	15.4				
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>6</b>	<b>14.6</b>	<b>22</b>	<b>48.4</b>	<b>19</b>	<b>44.3</b>	<b>56</b>	<b>62.9</b>	<b>56</b>	<b>25.0</b>	<b>22</b>	<b>10.8</b>	<b>181</b>	<b>23.9</b>				
Syphilis (Infectious) <sup>Φ</sup>	Male	0	0.0	0	0.0	0	0.0	0	0.0	5	21.0	2	9.0	5	11.2	1	0.9	0	0.0	13	3.5				
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.3	0	0.0	0	0.0	1	0.3				
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>5</b>	<b>11.0</b>	<b>2</b>	<b>4.7</b>	<b>6</b>	<b>6.7</b>	<b>1</b>	<b>0.4</b>	<b>0</b>	<b>0.0</b>	<b>14</b>	<b>1.8</b>				
Syphilis (All)	Male	0	0.0	0	0.0	0	0.0	0	0.0	7	29.4	3	13.6	8	17.9	1	0.9	4	4.2	23	6.2				
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	9.6	4	9.0	2	1.8	0	0.0	8	2.1				
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>7</b>	<b>15.4</b>	<b>5</b>	<b>11.7</b>	<b>12</b>	<b>13.5</b>	<b>3</b>	<b>1.3</b>	<b>4</b>	<b>2.0</b>	<b>31</b>	<b>4.1</b>				

Source:

RDSS (Reportable Disease Surveillance System) database for all sexually transmitted and blood borne diseases data, except HIV and AIDS and Syphilis(infectious) for years 2010-2012

§ HIV/AIDS Case Report Surveillance System database

Φ Enhanced Syphilis Database for Syphilis (infectious) data for years 2011-2012

Source for rate calculations: OCMOH, Communicable Disease Control Branch. The denominators used were population estimates received from Statistics Canada, Demography Division; March 2017.

## Appendix 5. Tables for Vectorborne and Zoonotic Diseases

**Table 5.1.** Notifiable vectorborne and zoonotic diseases reported in New Brunswick in 2011-2016: counts and incidence rates per 100,000 population

	NB											
	2011		2012		2013		2014		2015		2016	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
<b>Vectorborne and Zoonotic diseases</b>												
Leptospirosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lyme Disease	5	0.7	7	0.9	5	0.7	5	0.7	11	1.5	8	1.1
Malaria	3	0.4	4	0.5	10	1.3	3	0.4	10	1.3	7	0.9
Q fever	3	0.4	2	0.3	1	0.1	2	0.3	0	0.0	1	0.1
Rabies	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yellow Fever	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

**Table 5.2.** Notifiable vectorborne and zoonotic diseases reported in New Brunswick in 2016 by Region: counts and incidence rates per 100,000 population

	Region 1		Region 2		Region 3		Region 4		Region 5		Region 6		Region 7		NB	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
<b>Vectorborne and Zoonotic diseases</b>																
Leptospirosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lyme Disease	1	0.5	7	4.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	8	1.1
Malaria	0	0.0	4	2.3	1	0.6	0	0.0	0	0.0	1	1.3	1	2.2	7	0.9
Q fever	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
Rabies	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yellow Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Source: RDSS (Reportable Disease Surveillance System) database

Source for rate calculations: OCMOH, Communicable Disease Control Branch. The denominators used were population estimates received from Statistics Canada, Demography Division; March 2017

**Table 5.3.** Notifiable vectorborne and zoonotic diseases reported in New Brunswick in 2016 by age group and sex: counts and incidence rates per 100,000 population

		NB																					
		Age groups																					
		<1		1-4		5-9		10-14		15-19		20-24		25-29		30-39		40-59		60+		Total	Rate
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate				
<b>Vectorborne and Zoonotic diseases</b>																							
Leptospirosis	Male	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	0.0	0	0.0	0	0.0
	Female	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	0.0	0	0.0	0	0.0
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>
Lyme Disease	Male	0	0.0	0	0.0	0	0.0	1	5.1	0	0.0	0	0.0	1	4.5	0	0.0	2	1.8	1	1.0	5	1.3
	Female	0	0.0	1	7.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.9	1	0.9	3	0.8
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>3.5</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>2.7</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>2.3</b>	<b>0</b>	<b>0.0</b>	<b>3</b>	<b>1.3</b>	<b>2</b>	<b>1.0</b>	<b>8</b>	<b>1.1</b>
Malaria	Male	0	0.0	0	0.0	1	5.1	0	0.0	0	0.0	0	0.0	0	0.0	1	2.2	1	0.9	0	0.0	3	0.8
	Female	0	0.0	0	0.0	0	0.0	0	0.0	1	5.1	0	0.0	0	0.0	1	2.3	2	1.8	0	0.0	4	1.0
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>2.7</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>2.4</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>2</b>	<b>2.2</b>	<b>3</b>	<b>1.3</b>	<b>0</b>	<b>0.0</b>	<b>7</b>	<b>0.9</b>
Q fever	Male	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	0.0	0	0.0	0	0.0
	Female	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	0.9	0	0.0	1	0.3
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>0.4</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>0.1</b>
Rabies	Male	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	0.0	0	0.0	0	0.0
	Female	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	0.0	0	0.0	0	0.0
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>
Tularemia	Male	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	0.0	0	0.0	0	0.0
	Female	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	0.0	0	0.0	0	0.0
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>
Yellow Fever	Male	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	0.0	0	0.0	0	0.0
	Female	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	0.0	0	0.0	0	0.0
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>

Source: RDSS (Reportable Disease Surveillance System) database

Source for rate calculations: OCMOH, Communicable Disease Control Branch. The denominators used were population estimates received from Statistics Canada, Demography Division; March 2017

## Appendix 6. Tables for Respiratory and Direct Contact diseases

**Table 6.1.** Notifiable respiratory and direct contact diseases reported in New Brunswick in 2011-2016: counts and incidence rates per 100,000 population

	NB											
	2011		2012		2013		2014		2015		2016	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
<b>Respiratory and Direct Contact diseases</b>												
Invasive Group A Streptococcal disease (iGAS) <sup>§</sup>	23	3.0	19	2.5	13	1.7	16	2.1	41	5.4	24	3.2
Group B Streptococcal Infection of Newborn	1	14.0	5	70.2	3	43.3	1	14.5	1	14.9	2	29.9
Legionellosis <sup>†</sup>	3	0.4	3	0.4	3	0.4	3	0.4	10	1.3	6	0.8
Tuberculosis <sup>‡</sup>	5	0.7	5	0.7	3	0.4	5	0.7	6	0.8	12	1.6

**Table 6.2.** Notifiable respiratory and direct contact diseases reported in New Brunswick in 2016 by Region: counts and incidence rates per 100,000 population

	Region 1		Region 2		Region 3		Region 4		Region 5		Region 6		Region 7		NB	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
<b>Respiratory and Direct Contact diseases</b>																
Invasive Group A Streptococcal disease (iGAS) <sup>§</sup>	10	4.7	2	1.2	6	3.4	2	4.3	1	3.9	2	2.7	1	2.2	24	3.2
Group B Streptococcal Infection of Newborn	0	0.0	1	0.6	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0	2	29.9
Legionellosis <sup>†</sup>	3	1.4	0	0.0	2	1.1	1	2.1	0	0.0	0	0.0	0	0.0	6	0.8
Tuberculosis <sup>‡</sup>	6	2.8	1	0.6	3	1.7	0	0.0	0	0.0	1	1.3	1	2.2	12	1.6

§ Source: iGas enhanced database

†Source: RDSS (Reportable Disease Surveillance System) database

‡Source: Active TB enhanced Database

Source for rate calculations: OCMOH, Communicable Disease Control Branch. The denominators used were population estimates received from Statistics Canada, Demography Division; March 2017

Rates for Group B Streptococcal infection of newborn were calculated based on live birth estimates from Statistics Canada, Demography Division. Date modified July 27 2017.

**Table 6.3.** Notifiable respiratory and direct contact diseases reported in New Brunswick in 2016 by age group and sex: counts and incidence rates per 100,000 population

		NB																					
		Age groups																					
		<1		1-4		5-9		10-14		15-19		20-24		25-29		30-39		40-59		60+		Total Rate	
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate				
<b>Respiratory and Direct Contact diseases</b>																							
Invasive Group A Streptococcal disease (iGAS) <sup>§</sup>	Male	0	0.0	1	7.1	1	5.1	0	0.0	0	0.0	0	0.0	0	0.0	3	6.7	4	3.6	6	6.3	15	4.0
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	4.8	2	4.5	2	1.8	4	3.7	9	2.3
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>3.5</b>	<b>1</b>	<b>2.7</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>2.3</b>	<b>5</b>	<b>5.6</b>	<b>6</b>	<b>2.7</b>	<b>10</b>	<b>4.9</b>	<b>24</b>	<b>3.2</b>
Legionellosis <sup>†</sup>	Male	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	1.8	3	3.1	5	1.3
	Female	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	0.0	1	0.9	1	0.3
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>2</b>	<b>0.9</b>	<b>4</b>	<b>2.0</b>	<b>6</b>	<b>0.8</b>
Tuberculosis <sup>‡</sup>	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	8.4	0	0.0	1	2.2	1	0.9	2	2.1	6	1.6
	Female	0	0.0	1	7.0	0	0.0	1	5.5	0	0.0	0	0.0	0	0.0	2	4.5	0	0.0	2	1.8	6	1.6
	<b>Total</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>3.5</b>	<b>0</b>	<b>0.0</b>	<b>1</b>	<b>2.7</b>	<b>0</b>	<b>0.0</b>	<b>2</b>	<b>4.4</b>	<b>0</b>	<b>0.0</b>	<b>3</b>	<b>3.4</b>	<b>1</b>	<b>0.4</b>	<b>4</b>	<b>2.0</b>	<b>12</b>	<b>1.6</b>

§ Source: iGas enhanced database

†Source: RDSS (Reportable Disease Surveillance System) database

‡Source: Active TB enhanced Database

Source for rate calculations: OCMOH, Communicable Disease Control Branch. The denominators used were population estimates from Statistics Canada, Demography Division; release date March 2017.