New Brunswick Communicable Disease

2015 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*[1] (*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"[2]. 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 2015 and compare 2015 trends to those reported in the previous five years, 2010-2014.

Figure 1. Map of Health Regions in New Brunswick

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

[2] 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, invasive pneumococcal disease, invasive group A streptococcal disease, 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 2010-2012, 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.
- Counts of Healthcare Associated Infections (HAI) were obtained through the provincial HAI database which includes data provided by hospitals from both RHAs using standardized forms and case definitions. Two infections are covered in this database; i) *Clostridium* difficile infection (CDI) and ii) Methicillin-resistant *Staphylococcus* aureus (MRSA).
- The denominators used to calculate provincial rates were population estimates from Statistics Canada, Demography Division; data received March 2016.
- The denominators used to calculate NB HAI rates were patient-days which are the number of days spent in a hospital for all patients regardless of the medical condition and are provided by the Health Information Management Branch in the Department of Health on a quarterly basis.
- National disease rates for the period 2010 to 2011 were provided by the Public Health Agency of Canada (PHAC) - Surveillance and Epidemiology Division. 2012 to 2014 disease rates were retrieved online on the Notifiable Diseases On-Line page at PHAC website. National disease data for year 2015 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 2015 notifications received as of August 2016, 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. 2015 Highlights

4.1. Main Disease Trends

- Vaccine Preventable Diseases (VPD):
  In comparison to the previous 5-year average, higher incidence rates were observed for IMD, IPD, pertussis and varicella. Higher incidence rates of pertussis were primarily driven by a community outbreak declared in Region 1. Incidence rates were lower for *Haemophilus influenzae*. No cases of measles, mumps or rubella were reported.

- Enteric, Food, and Waterborne Diseases:
  Higher incidence rates of cryptosporidiosis, salmonellosis, and *Vibrio* species were noted. Rates for campylobacteriosis, E.coli O157 :H7, giardiasis, shigellosis, hepatitis A, listeriosis, yersiniosis, and typhoid fever were lower in comparison to the previous 5-year average.

- Sexually Transmitted and Blood Borne Diseases:
  Higher incidence of chlamydia, gonorrhea, chronic hepatitis B, infectious syphilis, and HIV were observed. However, incidence rates remained stable for cases of hepatitis C in 2015, compared to the previous 5-year average.

- Vector borne and Zoonotic Diseases:
  Low incidence rates were observed for all vector borne and zoonotic diseases. The only reported diseases were Lyme disease and malaria (all were travel related). No cases of Q fever, leptospirosis, human rabies, tularemia, or yellow fever were reported this year.

- Respiratory and Direct Contact Diseases:
  The incidence rates for legionellosis and invasive group A streptococcal (iGAS) diseases were higher than the previous 5-year average. For tuberculosis (TB) the rates were comparable.

4.2. Provincial Outbreaks

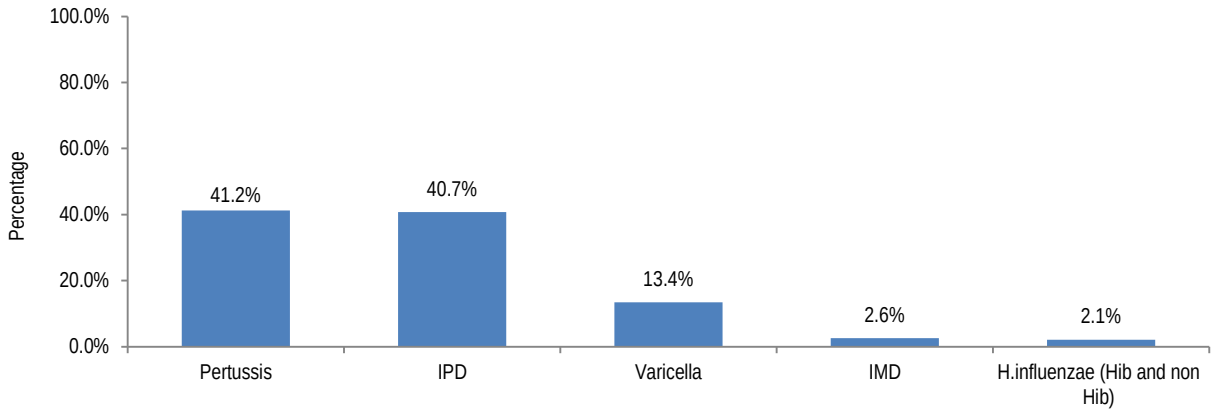
- In October 2015, there was a provincial outbreak of *Salmonella* Newport with PFGE patterns NewpXAI.0279 and NewpBNI.0030. Nine confirmed cases were reported, 78% (7/9) were females. Age of confirmed cases ranged from 27 to 65 years. The confirmed cases resided in four of the seven Health Regions of the province. The descriptive epidemiology suggested that the outbreak was linked to one chain restaurant in multiple locations in New Brunswick (NB). Three of the nine cases (33%) were hospitalized due to salmonellosis with no associated deaths.

5. Vaccine preventable diseases (VPD)

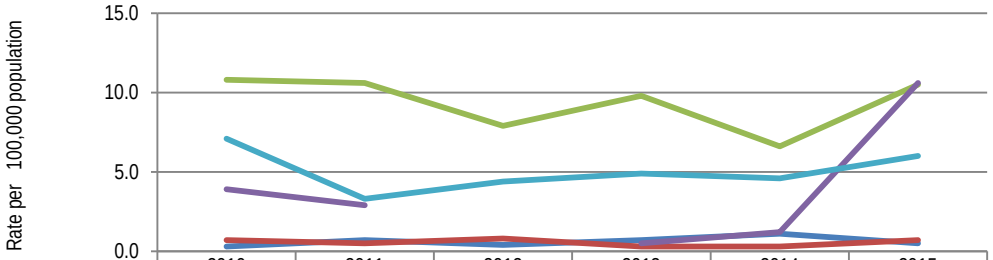
Vaccine preventable diseases (VPDs) are conditions which have vaccines available to protect against them and as such their epidemiology remains mostly stable, except with the occurrence of outbreaks.

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, 2015



Graph 2. Incidence Rates per 100,000 population of Some Vaccine Preventable Diseases in New Brunswick, 2010-2015



	2010	2011	2012	2013	2014	2015
H.influenza (Hib and non Hib)	0.3	0.7	0.4	0.7	1.1	0.5
IMD	0.7	0.5	0.8	0.3	0.3	0.7
IPD	10.8	10.6	7.9	9.8	6.6	10.5
Pertussis	3.9	2.9	187.7	0.5	1.2	10.6
Varicella	7.1	3.3	4.4	4.9	4.6	6

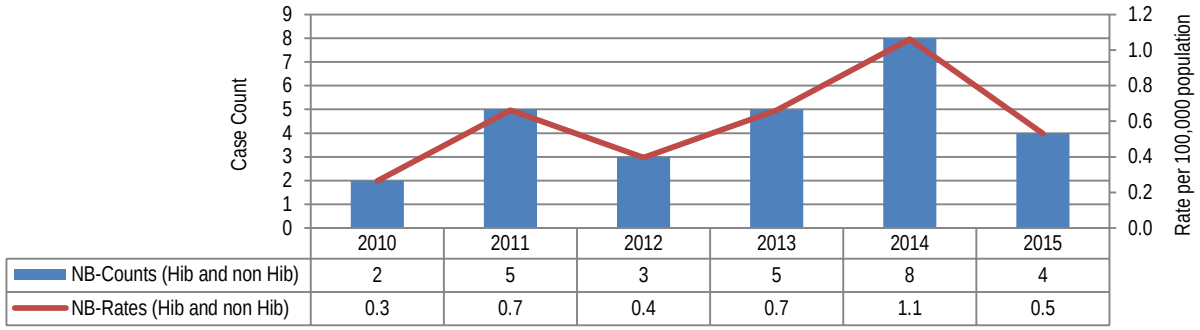
5.1. *Haemophilus influenzae* type b and non-type b (Hib and non Hib)

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 categorizes both type b and non b. Canadian rates are not presented as they account for Haemophilus *influenzae* type b only.

In 2015, the incidence rate of *Haemophilus influenzae* was 0.5 per 100,000 population which accounted for 4 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 influe*nzae (Hib and non Hib) Case Counts and Rates per 100,000 for New Brunswick, 2010-2015



	2010	2011	2012	2013	2014	2015
NB-Counts (Hib and non Hib)	2	5	3	5	8	4
NB-Rates (Hib and non Hib)	0.3	0.7	0.4	0.7	1.1	0.5

In 2015, all the cases were 60 years of age 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 this 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.

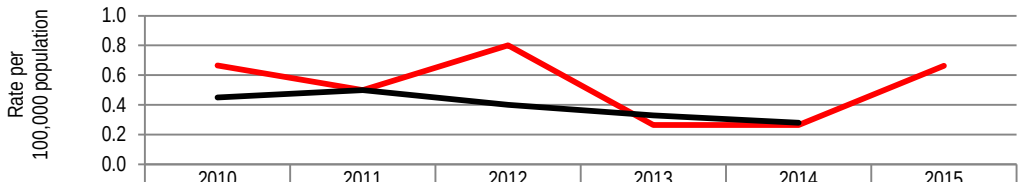
5.2. Influenza

Influenza activity in New Brunswick is monitored throughout the year; however, the reporting period differs from the calendar reporting year. NB Influenza activity season summary report 2015-2016 can be accessed at the OCMOH webpage.

5.3. Invasive Meningococcal Disease (IMD)

In 2015, the incidence rate for IMD was 0.7 per 100,000 population with 5 cases 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 is higher than the national rate, with the exception of 2013 and 2014 when similar incidence rates were recorded.

Graph 4. IMD Case Counts and Rates per 100,000 for New Brunswick and Canada, 2010-2015



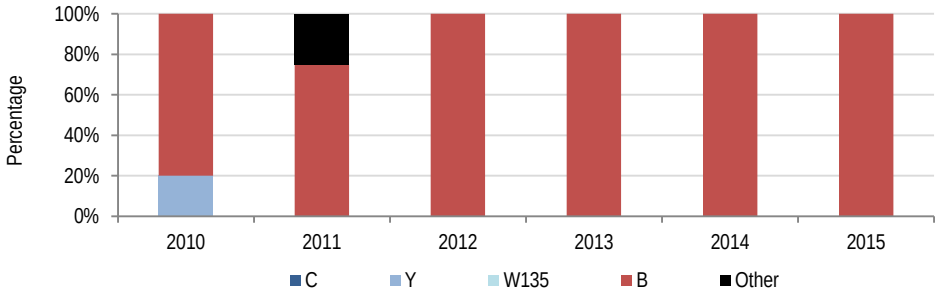
	2010	2011	2012	2013	2014	2015
NB-Counts	5	4	6	2	2	5
NB-Rates	0.7	0.5	0.8	0.3	0.3	0.7
Canadian Rates	0.5	0.5	0.4	0.3	0.3	

The age groups affected differ by year. In 2015, 2 cases were reported in each of the 1-4 years old age group and the 20 years and older age group, and one case was reported in the 15 to 19 years old age group. The cases were from Regions 3 and 2.

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.

The predominant serogroup among IMD cases, in all age groups and across 2010 to 2015, is 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).

Graph 5. IMD Serogroup Distribution by Year, New Brunswick, 2010-2015

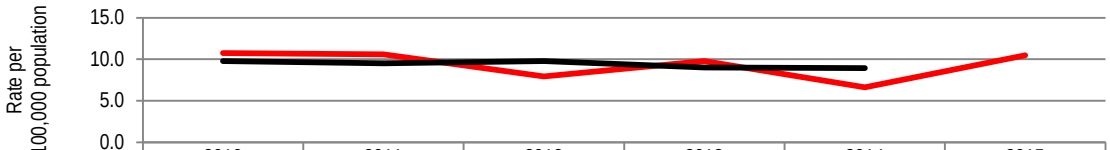


Publicly-funded immunization against meningococcal disease is offered at 12 months (Meningococcal conjugate C) and in grade 9 (Meningococcal conjugate ACYW 135).

5.4. Invasive Pneumococcal Disease (IPD)

In 2015, the rate of IPD was 10.5 per 100,000 population with 79 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 6. IPD Case Counts and Rates per 100,000 for New Brunswick and Canada, 2010-2015



	2010	2011	2012	2013	2014	2015
NB-Counts	81	80	60	74	50	79
NB-Rates	10.8	10.6	7.9	9.8	6.6	10.5
Canadian Rates	9.8	9.5	9.8	9.0	8.9	

During the period from 2010 to 2015, the incidence rates were consistently highest at both ends of the age group spectrum: the average 5-year incidence was 40.6 cases per 100,000 population for the under 1 year old infants and 23.9 cases per 100,000 population for those who are 65 years and older.

In 2015, cases aged 65 years and older represented 43% of reported IPD cases (n=34). Among these, the most prevalent serotypes were: 22F, 23A, 11A, 3 and 19A. Only 21.4% of the cases aged 65 years and older reporting vaccine statuses were vaccinated with the 23-valent pneumococcal vaccine. Vaccine preventable serotypes constituted 92.8% of all serotypes among non-vaccinated cases in this age group (n=14) compared to 57.1% among those vaccinated (n=7).

In 2015, all regions showed higher incidence rates compared to 2014 except Region 5. The highest incidence rates were reported in Regions 6, 4 and 1(18.7, 14.7 and 12.7 per 100,000 populations respectively). 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- Prevnar-13) and for persons 65 years of age and older (Pneumococcal polysaccharide- Pneumo-23).

5.5. Measles

In 2015, 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 2015, no cases of mumps were reported to Public Health. Since 2010, 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.

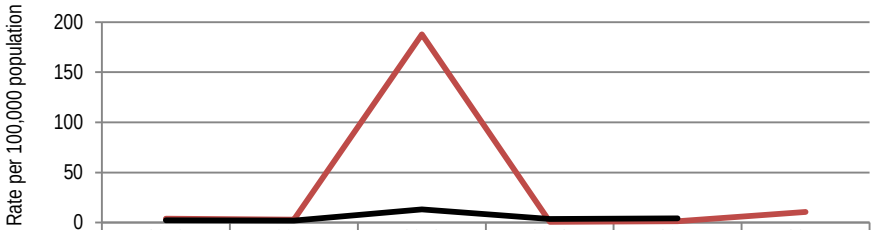
Publicly funded mumps immunization (MMRV) is offered at 12 and 18 months of age.

5.7. Pertussis

In 2015, 80 cases of pertussis were reported to Public Health with an incidence rate of 10.6 per 100,000 population. Over the last 5 years (excluding 2012 when the pertussis outbreak occurred), an average of 16 cases were reported with an average incidence rate of 2.1 per 100,000 population.

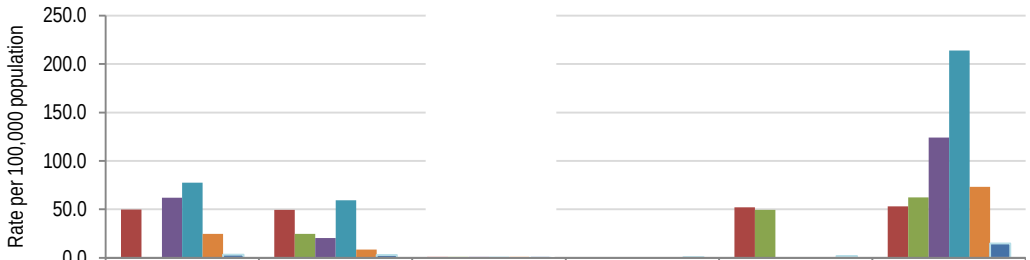
The increase of cases in 2015 was driven by the pertussis outbreak which was declared in Region 1 in October 2015 with 74 confirmed cases of pertussis reported from mid-July till December 31, 2015; cases continued to be reported in 2016. The median age of the outbreak cases was 12 years old (range 1 month-69 years) with 70% of all cases deemed up-to-date with pertussis containing vaccine. The age-specific incidence rates for all age groups in Region 1 (except for the under 1 year old) were the highest recorded in the past 8 years (except in 2012). During the 2015 outbreak in Region 1, 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.

Graph 7. Pertussis Case Counts and Rates per 100,000 in New Brunswick and Canada, 2010-2015



	2010	2011	2012	2013	2014	2015
NB-Counts	29	22	1421	4	9	80
NB-Rates	3.9	2.9	187.8	0.5	1.2	10.6
Canadian Rates	2.2	2.0	13.1	3.6	4.3	

Graph 8. Age-specific Incidence Rates of Pertussis Cases per 100,000 population in Region 1, 2010-2015



	2010	2011	2012	2013	2014	2015
<1	49.6	49.4	708.5	0.0	52.2	53.0
01-04	0.0	24.7	425.3	0.0	49.5	62.4
05-09	62.1	20.4	863.8	0.0	0.0	124.0
10-14	77.5	59.4	2066.7	0.0	0.0	213.9
15-19	24.8	8.4	423.2	0.0	0.0	73.4
20+	3.1	3.1	84.9	0.6	1.8	15

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 2015. Between 2010 and 2014; only 1 case of rubella was reported in 2010.

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

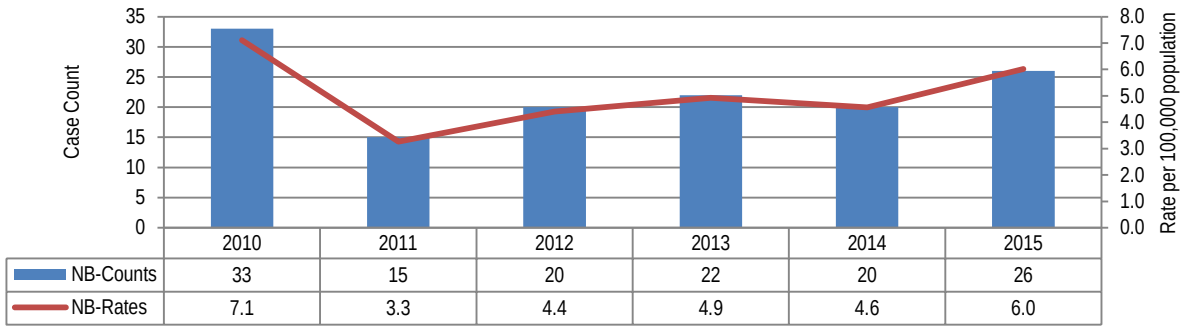
5.9. Varicella

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 2015, 26 cases of lab confirmed varicella were reported to Public Health with an incidence rate of 6 per 100,000 population. Over the past 5 years, the varicella rate showed a decrease after 2010 and remained stable till 2014, to increase again in 2015.

In 2015, several elementary school outbreaks have been signaled in Region 3. Most of the cases were clinically diagnosed and were deemed up-to-date with their immunization having received one dose of varicella vaccine.

Graph 9. Varicella Case Counts and Rates per 100,000 for New Brunswick[3], 2010-2015



	2010	2011	2012	2013	2014	2015
NB-Counts	33	15	20	22	20	26
NB-Rates	7.1	3.3	4.4	4.9	4.6	6.0

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 2010 and 2015. 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.

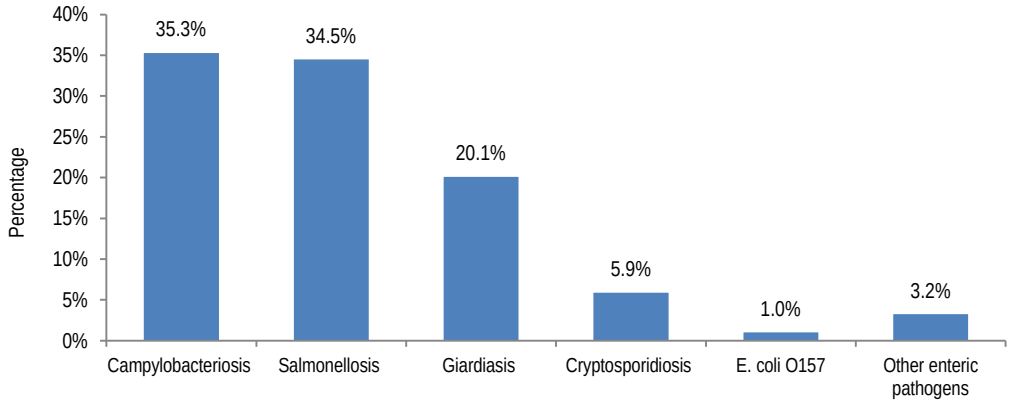
[3] No Canadian Rates were reported as not all provinces report varicella for all years, making the annual national rates very fluctuating

6. Enteric, Food and Waterborne Diseases

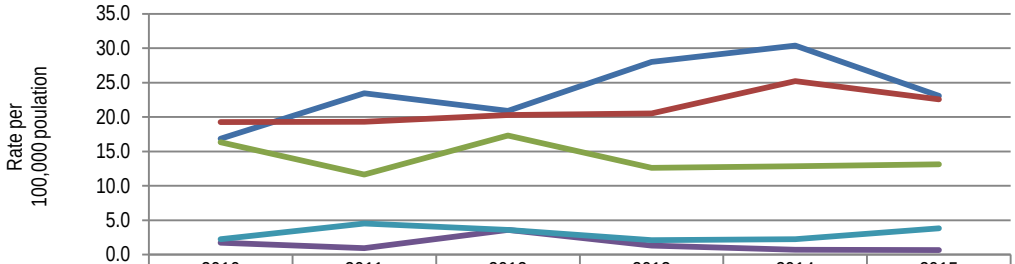
Enteric diseases are normally associated with food, however cases have been linked to contaminated water, secondary transmission from humans, and direct contacts with animals, including exotic pets.

In 2015, *Campylobacter*, *Salmonella,* and *Giardia* accounted for the highest proportion of reportable enteric, food and waterborne diseases, which is similar to last year.

Graph 10. Enteric Diseases in New Brunswick, 2015



Graph 11. Incidence Rates per 100,000 population of Some Enteric Diseases in New Brunswick, 2010-2015



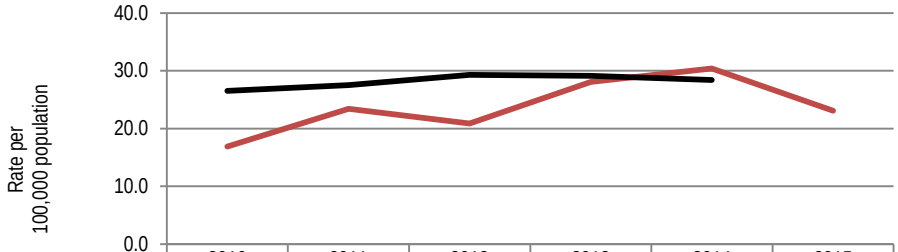
	2010	2011	2012	2013	2014	2015
Campylobacteriosis	16.9	23.4	20.9	28.0	30.4	23.1
Salmonellosis	19.3	19.3	20.3	20.5	25.2	22.6
Giardiasis	16.3	11.6	17.3	12.6	12.9	13.1
E. coli O157	1.7	0.9	3.6	1.3	0.7	0.7
Cryptosporidiosis	2.3	4.5	3.6	2.1	2.3	3.8

6.1. Campylobacteriosis

Campylobacteriosis is the most frequently reported enteric infection.

In 2015, there is a marked decrease in the number of reported cases of Campylobacter (174 cases), in comparison to the previous year 2014 (229 cases) and the average of the last five years 2010-2014 (180 cases per year). The incidence rate of campylobacteriosis, in 2015, was 23.1 per 100,000 population, whereas the previous 5-year average was 23.9 per 100,000 population. Overall, the incidence rate in NB is lower than the national rate.

Graph 12. Campylobacteriosis Case Counts and Rates per 100,000 for New Brunswick and Canada, 2010-2015

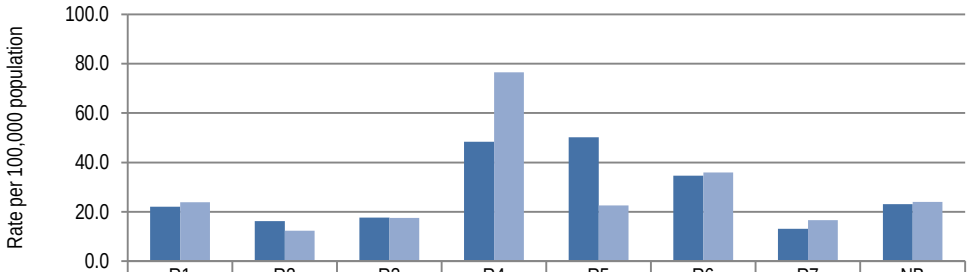


	2010	2011	2012	2013	2014	2015
NB-Counts	127	177	158	212	229	174
NB-Rates	16.9	23.4	20.9	28.1	30.4	23.1
Canadian-Rates	26.5	27.5	29.3	29.1	28.4	

In 2015, the incidence rate was higher in males (27.4 per 100,000 population) than females (18.9 per 100,000 population) which is consistent with the trend in the previous five years with the average 5-year incidence rate being 26.6 per 100,000 and 21.3 per 100,000 for males and females respectively.

The highest incidence rate in 2015, was reported in Region 5 (50.2 per 100,000 population), followed by Region 4 (48.4 per 100,000 population), then Region 6 (34.6 per 100,000 population). This is similar to the average we had observed for the period of 2010-2014: 22.6, 76.5, and 36.0 per 100,000 population for Region 5, Region 4, and Region 6 respectively.

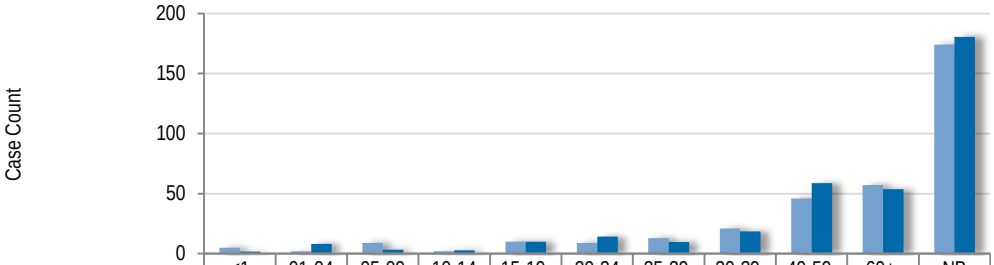
Graph 13. Incidence rate of Campylobacteriosis by Health Region in New Brunswick, 2010-2014 and 2015



	R1	R2	R3	R4	R5	R6	R7	NB
2015	22.1	16.2	17.7	48.4	50.2	34.6	13.2	23.1
2010-2014	23.9	12.4	17.5	76.5	22.6	36	16.7	24.0

The majority of the cases in 2015 were in the age group of 60 years and older (57 cases) followed by age group 40-59 (46 cases); this finding was consistent with that reported in the previous five years 2010-2014 (average of 54 cases and 59 cases for 60 years and older and 40-59 age groups respectively).

Graph 14. Counts of Campylobacter Cases by Age group in New Brunswick, 2010-2014 and 2015

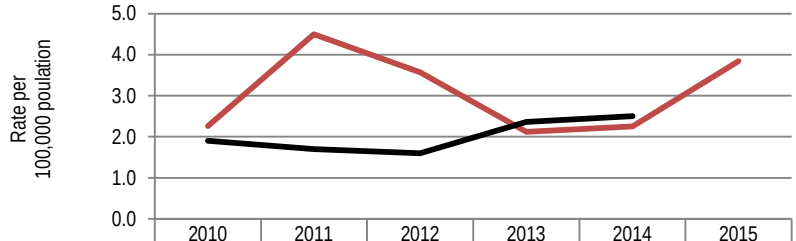


	<1	01-04	05-09	10-14	15-19	20-24	25-29	30-39	40-59	60+	NB
2015 Count	5	2	9	2	10	9	13	21	46	57	174
2010-2014 Average count	1.6	8.2	3.2	2.8	10	14.2	9.8	18.6	58.6	53.6	180.6

6.2 Cryptosporidiosis

In 2015, 29 cases were reported of cryptosporidiosis with an incidence rate of 3.8 cases per 100,000 population. Over the last 5 years (2010-2014), an average of 22 cases was reported to Public Health annually with a 5-year average incidence rate of 2.9 cases per 100,000 population. The incidence rate in NB showed some fluctuations over the years, however, it remained lower than the national rate in 2013 and 2014.

Graph 15. Cryptosporidiosis Case Counts and Rates per 100,000 population for New Brunswick and Canada, 2010-2015.



	2010	2011	2012	2013	2014	2015
NB-Counts	17	34	27	16	17	29
NB-Rates	2.3	4.5	3.6	2.1	2.3	3.8
Canadian-Rates	1.9	1.7	1.6	2.36	2.5	

In 2015, the highest number of cryptosporidium infections were reported in Region 1 and Region 2 (10 cases and 9 cases repectively) which was consistent with the average reported in the previous five years (2010-2014), 6 cases and 5 cases for Region 1 and Region 2 respectively.

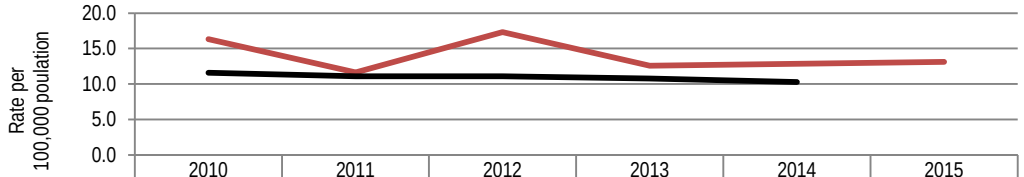
For 2015, the number of reported female cases were higher than the number of reported male cases (17F:12M); however, the average counts for both sexes over the past five years were identical (11F:11M). No age group was highlighted.

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 2015, the incidence rate of giardiasis was 13.1 per 100,000 population, resulting from 99 cases reported to Public Health. This was lower than the average incidence rate and case counts reported in the previous five years 2010-2014; which were 14.1 per 100,000 population and 107 cases respectively. Over years, there was constant fluctuations in the incidence rate of Giardiasis; and NB rate was consistently higher than the national rate over the period of 2010-2015.

Graph 16. Giardiaisis Case Counts and Rates per 100,000 population for New Brunswick and Canada, 2010-2015



	2010	2011	2012	2013	2014	2015
NB-Counts	123	88	131	95	97	99
NB-Rates	16.3	11.6	17.3	12.6	12.9	13.1
Canadian-Rates	11.6	11.1	11.1	10.8	10.3	

In 2015, the male incidence rate and case counts (16.6 cases per 100,000 population, and 62 cases respectively) were higher than those for females (9.7 cases per 100,000 population, and 37 cases repectively), which is consistent with what was observed for the average incidence rates and case counts over the past five years.

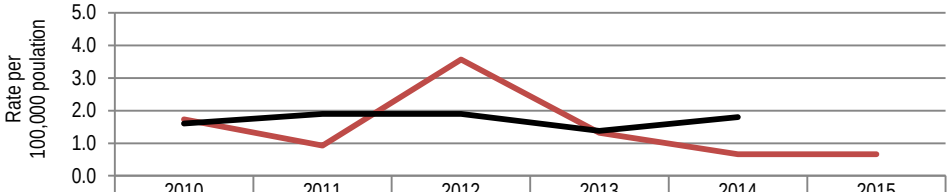
In 2015, the majority of the cases were in Region 1, Region 2, and Region 3 (38 cases, 16 cases, and 18 cases respectively) which was consistent with the regional distribution of cases reported over the previous five years. However, in 2015, the highest incidence rate was reported in Region 5 (34.8 cases per 100,000 population).

The highest proportions of cases in 2015 were reported in age groups 40 years old and above (54% ot total reported cases), which was consistent with the observation noted in the last five years. The incidence rate was highest in children 1 to 4 years old: 25 per 100,000 population, which was consistent with the average incidence rate reported for this age group over the previous five years (22 cases per 100,000 population).

6.4 *E.coli* 0157:H7

In 2015, the incidence rate of *E.coli* 0157:H7 infection was 0.7 per 100,000 population resulting from 5 cases reported to Public Health. This was lower than the average incidence rate and case counts reported in the previous five years (1.6 per 100,000 population and 12 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 17. *E.coli* 0157 Case Counts and Rates per 100,000 population for New Brunswick and Canada, 2010-2015



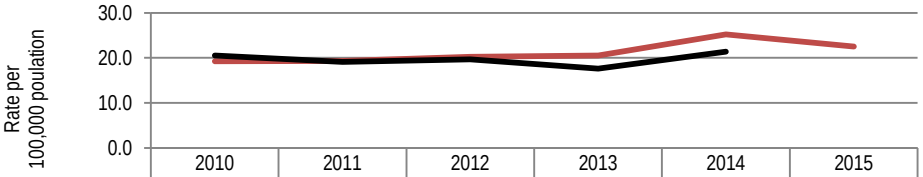
	2010	2011	2012	2013	2014	2015
NB-Counts	13	7	27	10	5	5
NB-Rates	1.7	0.9	3.6	1.3	0.7	0.7
Canadian-Rates	1.6	1.9	1.9	1.4	1.8	

In 2015, 4 of the 5 cases were in the age group of 60 years and older; and male to female ratio was 1:4. Over the period of 2010-2015, most cases were distributed amongst different age groups, with a range between 0-2 cases. It is interesting to note that the less than 1 year old age group had consistently zero case counts.
The annual changes in the *E.coli* 0157:H7 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.

6.5 Salmonellosis

In 2015, the incidence rate of salmonellosis was 22.6 per 100,000 population which accounted for 170 cases reported to Public Health. This was slightly higher than the average incidence rate and case counts reported over the last five years: 19.7 per 100,000 population and 158 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 18. Salmonellosis Case Counts and Rates per 100,000 population for New Brunswick and Canada, 2010-2015



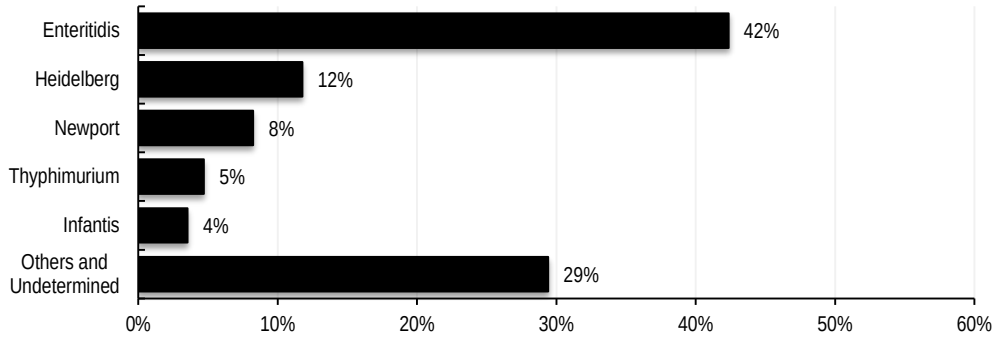
	2010	2011	2012	2013	2014	2015
NB-Counts	145	146	153	155	190	170
NB-Rates	19.3	19.3	20.2	20.5	25.2	22.6
Canadian-Rates	20.5	19.1	19.7	17.6	21.4	

In 2015, the highest proportion of cases was reported in Region 1 (35% accounting for 59 cases) which is consistent to what was noticed in the previous five years (31% accounting for 49 cases). However, Region 5 reported the highest incidence rate in 2015 (34.8 per 100,000 population) and the highest average rate over the previous five years (30.1 per 100,000 population).

For 2015, the majority of the cases (53%) occurred in the adults aged 40 years and older. This was consistent with what was noticed in the previous five year period from 2010-2014, when 55% (average of 87 cases) of cases were reported in this age group. However, in 2015, the highest incidence rate (43.1 per 100,000 population) was reported in children aged 1 to 4 years old, and this age group was reported with the highest average incidence rate in the previous five years (33.1 per 100,000 population). Females were slightly higher than males accouting for 56% of the cases (96 cases Females : 74 cases Males).

The most prevalent Salmonella serotypes in 2015 were *S.enteritidis* (42%), followed by *S.heidelberg* (12%), S. Newport (8%), *S. Typhimurium (5%)* and *Infantis* (4%). However, others and undetermined accounted for 29% of the reported cases. Thirty-six different serotypes were reported under this category.

Graph 19. Salmonella species breakdown in New Brunswick, 2015



6.6 Other Enteric Diseases

Other enteric diseases that are reportable are: shigellosis, vibrio species, listeriosis, Hepatitis A, yersiniosis, and typhoid fever. In 2015, there was a consistent number of reported cases or a decline in comparison with average case counts of previous five years for all other enterics. For further details on counts and rates of other enteric diseases, please refer to Appendix 3.

6.7 Summary of Enteric Outbreaks

As of January 2015, the regions started sending summary of enteric outbreaks as part of the weekly enteric extracts. For 2015, 59 regional outbreaks were reported. The majority of the outbreaks occurred in daycare settings (32 outbreaks, 54%); followed by nursing homes (16 outbreaks, 27%); then adult residential facility (4 outbreaks, 6%). Eighty eight percent of the outbreaks took place in Region 2, Region 3, and Region 1 (39%, 27%, and 22% respectively).

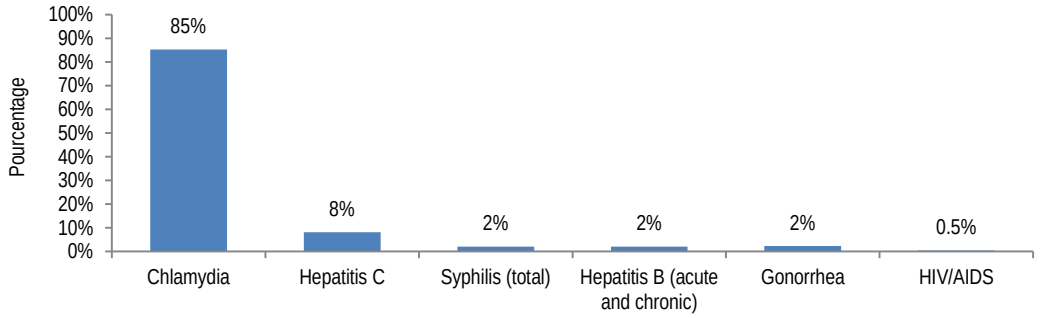
The organism was identified in 47.5% of the outbreaks, and was unknown in 52.5%. Of those outbreaks with known organism (n=28), norovirus was identified in 25 outbeaks (89%). For further details in settings and organism distribution, please refer to Appendix 3

7. Sexually Transmitted and Blood Borne Infections (STBBI)

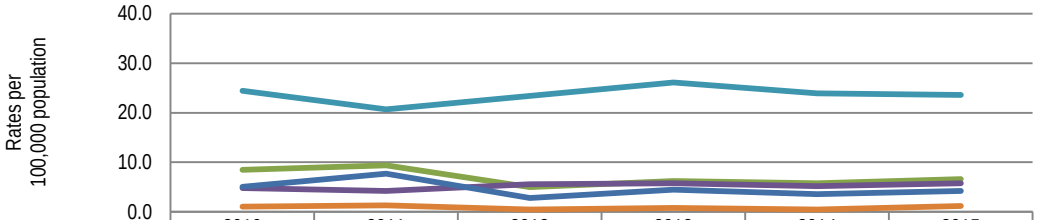
Sexually transmitted and bloodborne infections (STBBI) and their serious consequences can be prevented and reduced through sexual health promotion, harm reduction programs, early detection, treatment, and notification of sexual and drug use partners.

In 2015, the most commonly reported STBBIs were chlamydia, followed by hepatitis C virus infections.

Graph 20. Sexually Transmitted and Blood Borne Infections (STBBI) in New Brunswick, 2015



Graph 21. Incidence Rates of Some Sexually Transmitted and Blood Borne Infections (STBBI) in New Brunswick, 2010-2015



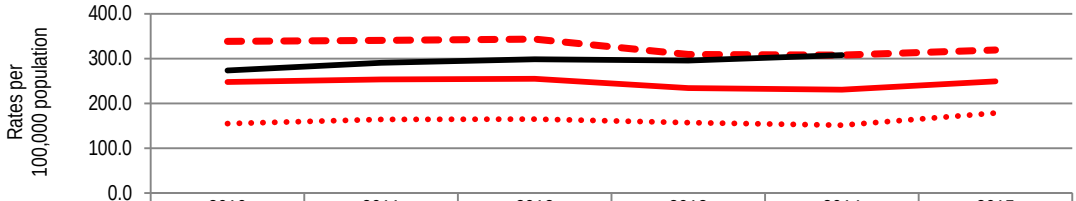
	2010	2011	2012	2013	2014	2015
Chlamydia	248.1	253.8	255.4	233.7	230.5	249
Gonorrhea	8.5	9.4	5.0	6.2	5.8	6.6
Hepatitis B (acute and chronic)	4.8	4.2	5.6	5.8	5.2	5.8
Hepatitis C	24.4	20.7	23.4	26.1	23.9	23.6
HIV	1.1	1.3	0.5	0.8	0.5	1.2
Syphilis (infectious)	5.0	7.7	2.8	4.5	3.6	4.2

7.1. Chlamydia

Chlamydia is the most commonly reported sexually transmitted disease.

In 2015, 1880 chlamydia cases were reported with an incidence rate of 249.5 per 100,000 population. In the past 5 years, the average case count was 1844 cases per year, with a 5-year average incidence rate of 244.2 per 100,000 population. The incidence of chlamydia increased between 2010 and 2012, followed by a slight decrease in 2013 and 2014 then increased slightly in 2015. Overall, the incidence rate for NB is lower than the Canadian rate.

Graph 22. Chlamydia Incidence Rates per 100,000 population Overall and by Sex for New Brunswick and Canada, 2010-2015



	2010	2011	2012	2013	2014	2015
NB Rates (Males)	154.9	164.3	164.8	157.1	151.3	178.3
NB Rates (Females)	338.7	340.7	343.6	308.8	308.0	318.8
NB Rates	247.9	253.5	255.1	233.8	230.5	249.4
Canadian Rates	273.7	290.4	298.7	295.8	307.4	

Females remain largely overrepresented among chlamydia cases, accounting for more than two thirds of all notifications (65%) in 2015.

Graph 23. Chlamydia Case Counts and Incidence Rate per 100,000 by Sex and Age group, New Brunswick, 2010-2015

	Male							Female						
	<15	15-19	20-24	25-29	30-39	40-59	60+	<15	15-19	20-24	25-29	30-39	40-59	60+
2015 Count	0	105	253	160	105	37	4	6	340	501	211	125	33	0
2010-2014 Average Count	0	103	265	122	74	24	2	9	420	513	179	109	21	1
2015 Rate	0.0	480.8	1060.3	727.4	232.5	33.3	4.3	11.3	1712.4	2256.1	1025.2	279.4	28.7	0.0
2010-2014 Average Rate	0.0	442.0	1077.3	535.7	159.9	21.3	2.6	16.2	1937.8	2260.4	829.5	232.7	18.2	0.6

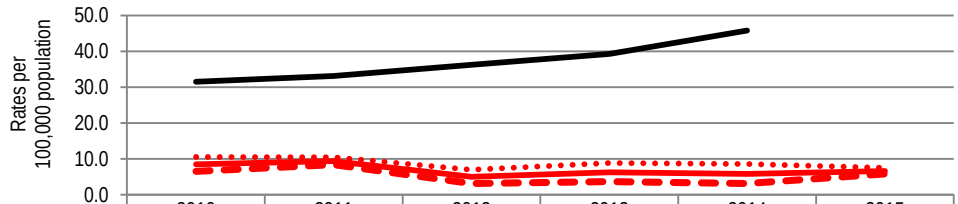
In 2015, higher incidence rate was reported in adults aged 25-39 years old, compared to their 5-year average, with the highest incidence rate observed amongst young adults aged 20 to 24 years old in both males and females.

Compared to 2014, the highest increases in incidence rates were observed in Region 6, followed by Region1, Region 4 and Region 5.

7.2. Gonorrhea (genital)

In 2015, the incidence rate of gonorrhea was 6.6 per 100,000 population with 50 cases reported to Public Health; slightly higher than 2014. In the past 5 years, the average case count was 53 cases per year with a 5-year incidence rate of 7 per 100,000 population. Incidence rates for gonorrhea remain lower than the Canadian rate[4].

Graph 24. Gonorrhea Incidence Rates per 100,000 population Overall and by Sex for New Brunswick and Canada, 2010-2015



	2010	2011	2012	2013	2014	2015
NB Rates (Males)	10.5	10.4	6.9	8.8	8.6	7.5
NB Rates (Females)	6.6	8.4	3.1	3.7	3.1	5.8
NB Rates	8.5	9.4	5.0	6.2	5.8	6.6
Canadian Rates	31.5	33.1	36.2	39.3	45.8	

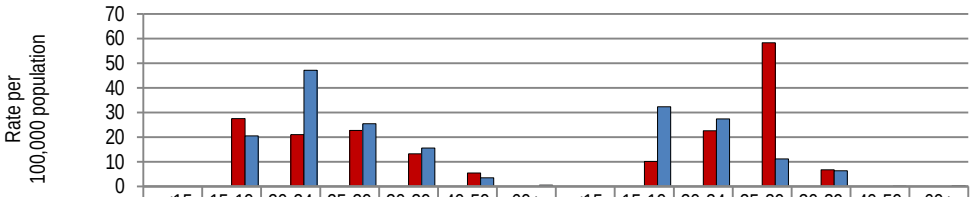
In 2015, while the majority of reported cases were males (56%). Of note the proportion of female cases increased in 2015 (44%) compared to the average 5-year proportion (36%).

Individuals aged from 15 to 29 years old represent the majority of the cases (70%). The highest incidence was observed among the 25 to 29 years age group mainly driven by females.

The highest incidence rates were seen in Regions 1, 6 and 3 (10.8, 6.7 and 6.3 per 100,000 population respectively). No evidence of case clustering was observed.

The annual changes in the gonorrhea 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.

Graph 25. Gonorrhea Case Counts and Incidence Rate per 100,000 by Sex and Age group, New Brunswick, 2010-2015



	<15	15-19	20-24	25-29	30-39	40-59	60+	<15	15-19	20-24	25-29	30-39	40-59	60+
	Male							Female						
2015 Counts	0	6	5	5	6	6	0	0	2	5	12	3	0	0
2010-2014 Average Count	0.0	4.8	11.6	5.8	7.2	4.0	0.4	0.0	7.0	6.2	2.4	3.0	0.2	0.2
2015 Rate	0.0	27.5	21.0	22.7	13.3	5.4	0.0	0.0	10.1	22.5	58.3	6.7	0.0	0.0
2010-2014 Average Rate	0.0	20.6	47.1	25.4	15.5	3.5	0.5	0.0	32.3	27.3	11.1	6.4	0.2	0.2

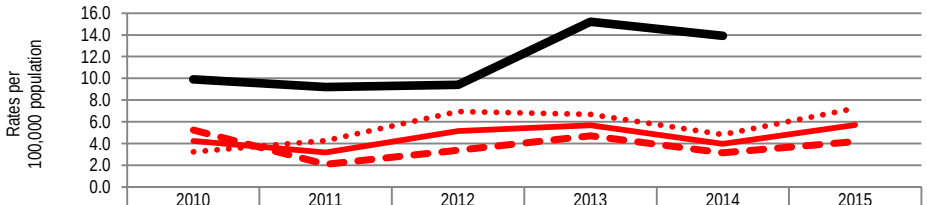
[4] National data are presumably a mix of genital and extra-genital gonorrhea cases

7.3. Hepatitis B

A higher than average incidence rate was observed for chronic hepatitis B (5.7 per 100,000 population), with 43 cases reported to Public Health in 2015; the 5-year average incidence rate and case count being 4.5 per 100,000 and 34 cases respectively. In 2015, almost two thirds of chronic hepatitis B cases (67%) occurred among individuals in the 30 to 59 years age group. The highest incidence was observed among cases in the 25-29 years old age group (11.7 per 100,000 population), mainly driven by males in this age group followed by the 30 to 39 years old (10 per 100,000 population). Males represented 63% of the chronic hepatitis B cases.

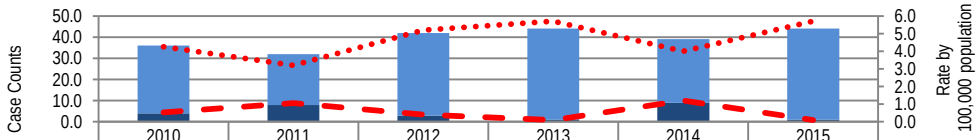
One case of acute hepatitis B was reported in 2015 compared to 9 cases in 2014.

Graph 26. Hepatitis B (acute and chronic) Incidence Rates per 100,000 population Overall and by Sex for New Brunswick and Canada, 2010-2015



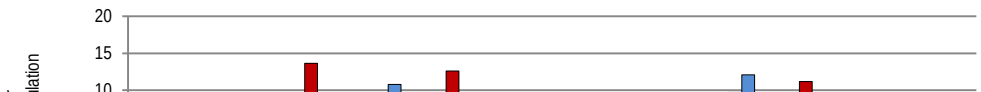
	2010	2011	2012	2013	2014	2015
NB Rates (Males)	3.2	4.3	6.9	6.7	4.8	7.3
NB Rates (Females)	5.2	2.1	3.4	4.7	3.1	4.2
NB Rates	4.2	3.2	5.2	5.7	4.0	5.7
Canadian Rates (chornic + acute)	9.9	9.2	9.4	15.2	13.9	

Graph 27. Chronic and Acute Hepatitis B Case Counts and Rates per 100,000 in New Brunswick, 2010-2015



	2010	2011	2012	2013	2014	2015
Hepatitis B(Chronic)-NB-Count	32.0	24.0	39.0	43.0	30.0	43.0
Hepatitis B(Acute)- NB-Count	4.0	8.0	3.0	1.0	9.0	1.0
Hepatits B(Acute)- NB-Rate	0.5	1.1	0.4	0.1	1.2	0.1
Hepatits B(Chronic)- NB-Rate	4.3	3.2	5.2	5.7	4.0	5.7

Graph 28. Chronic Hepatitis B Case Counts and Incidence Rate per 100,000 by Sex and Age groups, New Brunswick, 2010-2015



	<20	20-24	25-29	30-39	40-59	60+	<20	20-24	25-29	30-39	40-59	60+
	Male						Female					
2015 Count	2	1	3	4	14	3	1	0	2	5	6	2
2010-2014 Average Count	0	2	1	5	7	3	1	1	3	4	5	2
2015 Rate	2.6	4.2	13.6	8.9	12.6	3.2	1.4	0.0	9.7	11.2	5.2	1.9
2010-2014 Average Rate	0.5	8.9	4.4	10.8	6.3	3.1	0.8	3.5	12.1	8.9	4.4	1.9

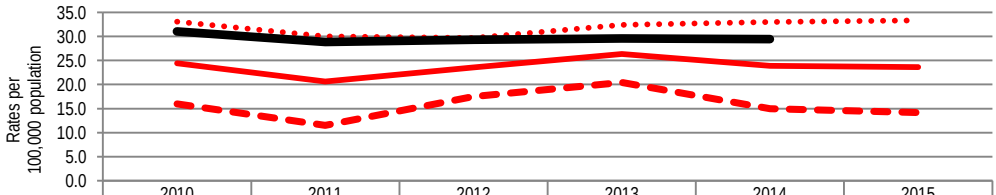
Hepatitis B is a vaccine preventable disease. Currently, hepatitis B vaccine is offered at birth, 2 months, and 6 months of age. Contacts (household, partner) of persons with acute or chronic HBV infection are eligible to receive publicly funded hepatitis B vaccine. Following an acute hepatitis B outbreak among males having sex with males (MSM) in 2014, the eligibility criteria for receiving publicly funded hepatitis B vaccine was extended in 2015 to include the MSM population.

7.4. Hepatitis C

Hepatitis C is the most commonly reported blood-borne infection in NB.

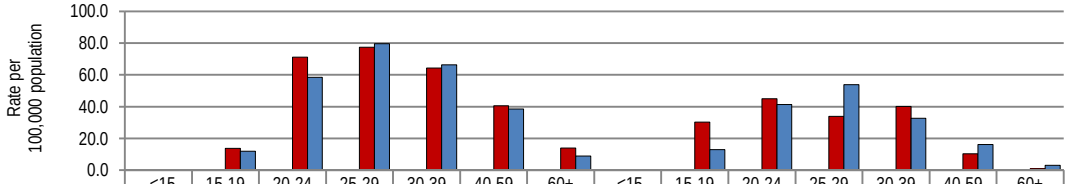
In 2015, the incidence rate of hepatitis C was 23.6 per 100,000 population with 178 cases reported to Public Health. This was similar to 5-year average number of cases (179 cases) and the 5-year average incidence rate (23.8 per 100,000 population). Annual incidence rates in NB is consistently lower than the Canadian rates.

Graph 29. Hepatitis C Incidence Rates per 100,000 population Overall and by Sex for New Brunswick and Canada, 2010-2015.



	2010	2011	2012	2013	2014	2015
NB Rates (Males)	33.1	30.0	29.6	32.4	33.0	33.3
NB Rates (Females)	16.0	11.5	17.5	20.4	15.0	14.2
NB Rates	24.4	20.6	23.5	26.3	23.9	23.6
Canadian Rates	31.0	28.8	29.3	29.6	29.4	

Graph 30. Hepatitis C Case Counts and Incidence Rate per 100,000 by Sex and Age groups, New Brunswick, 2010-2015



	Male							Female						
	<15	15-19	20-24	25-29	30-39	40-59	60+	<15	15-19	20-24	25-29	30-39	40-59	60+
2015 Count	0	3	17	17	29	45	13	0	6	10	7	18	12	1
2010-2014 Average Count	0.0	2.8	14.4	18.2	30.8	44.2	7.6	0.2	2.8	9.4	11.6	15.4	19.0	3.0
2015 Rate	0.0	13.7	71.2	77.3	64.2	40.5	14.0	0.0	30.2	45.0	34.0	40.2	10.4	0.9
2010-2014 Average Rate	0.0	12.0	58.5	79.6	66.4	38.6	9.0	0.4	12.9	41.4	53.9	32.8	16.2	3.1

In 2015, all age specific incidence rates have been stable or decreased except for the 20 to 24 years old age group where it had slightly increased mainly in males compared to 2014. The highest incidence rate was seen in the 25-29 year old age group, followed by the 20-24 year old age group. One third (32%) of the newly diagnosed cases was seen amongst the individuals in the 40-59 years age group.

Region 7 had the highest incidence rate (39.6 per 100,000 population), followed by Region 1(29.7 per 100,000 population), most likely due to the presence of correctional facilities in these two regions.

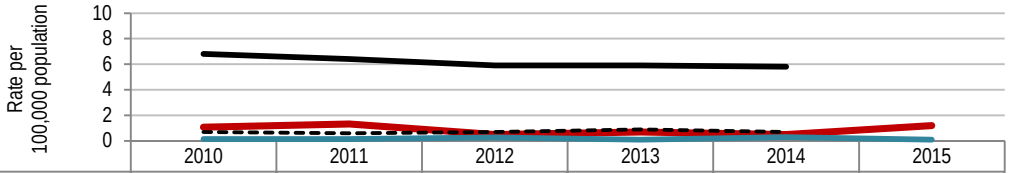
7.5. HIV and AIDS

In 2015, 9 cases of HIV were reported to Public Health with an incidence rate of 1.2 per 100,000 population. During the previous five years, the incidence rate of HIV in NB remained mostly below 1.5 per 100,000 population, with an average of 0.8 per 100,000 population. This is low compared to the Canadian rates where the annual incidence rate from 2010 to 2014 ranged between 5.8 and 6.8 per 100,000 population.

With regards to AIDS, one case was reported to Public Health in 2015 with an incidence rate of 0.1 per 100,000 population; this was identical to the 5-year average case count and incidence rate. The AIDS rates in NB remain lower than the Canadian rates.

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, 2010-2015.

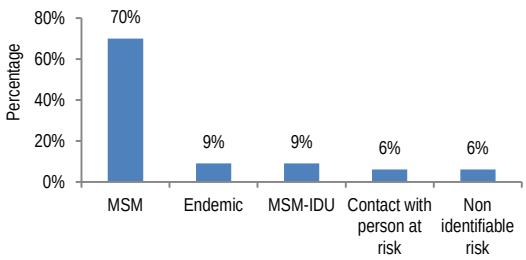


	2010	2011	2012	2013	2014	2015
HIV-NB Count	8	10	4	5	4	9
HIV-NB Rate	1.1	1.3	0.5	0.7	0.5	1.2
HIV-Canadian Rate	6.8	6.4	5.9	5.9	5.8	
AIDS-NB Count	1	1	2	1	2	1
AIDS-NB Rate	0.1	0.1	0.3	0.1	0.3	0.1
AIDS-Canadian Rate	0.7	0.6	0.7	0.9	0.7	

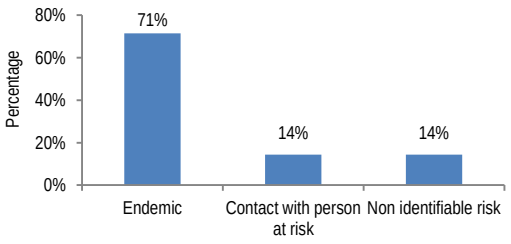
In the period from 2010 to 2015, 75% of the reported cases were in the age category of 20 to 49 years, and 82% of all cases were males. In 2015, females were relatively over-represented compared to previous years and constituted 44% of the cases.

Since 2010, a total of 40 HIV cases have been reported in NB: 33 males and 7 females. Most cases of HIV among males (70%) were seen in the populations of men having sex with men (MSM); whereas in females, the most common reported risk factor for infection was being from an endemic area (71%).

Graph 32. Risk factors of HIV Infection Among Males in NB, 2010-2015 (N=33)



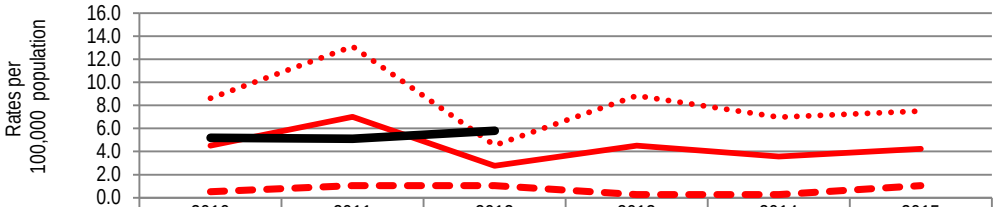
Graph 33. Risk factors of HIV Infection Among Females in NB, 2010-2015 (N=7)



7.6 Syphilis (Infectious)

In 2015, the incidence rate for infectious syphilis was 4.2 per 100,000 with 32 cases reported to Public Health; an increase from 2014. Since the syphilis outbreak in NB during the years 2010 to 2012, the annual case count for infectious syphilis as well as the incidence, have been higher than the pre-outbreak period when the average number of cases was less than 4 cases per year. Overall, the incidence rate in NB is lower than the Canadian rate, except in 2011 when the syphilis outbreak peaked.

Graph 34. Infectious Syphilis Incidence Rates per 100,000 population Overall and by Sex for New Brunswick and Canada[5], 2010-2015.

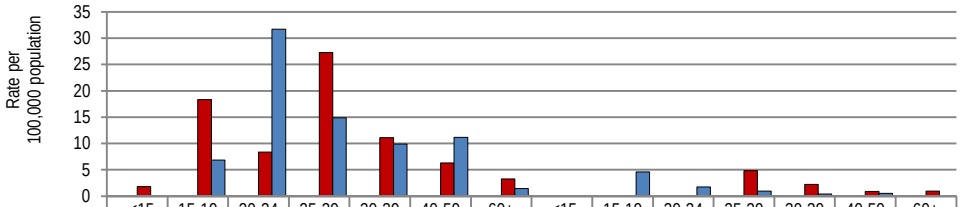


	2010	2011	2012	2013	2014	2015
NB Rates (Males)	8.6	13.1	4.5	8.8	7.0	7.5
NB Rates (Females)	0.5	1.0	1.0	0.3	0.3	1.0
NB Rates	4.5	7.0	2.8	4.5	3.6	4.2
Canadian Rates	5.2	5.1	5.8			

Most of the cases were primary or secondary syphilis (28 cases), 3 were early latent and 1 case was congenital. Region 3 and Region 2 accounted for 69% of all cases reported in 2015, with 10 and 12 cases respectively. Region 3 continues to have the highest incidence of cases since the syphilis outbreak was declared over in early 2013.

Males represented 87.5% of all cases reported in 2015. The highest incidence rate was observed among the 25-29 years old age group (16.4 per 100,000 population), followed by the 15 to19 years old age group (9.6 per 100,000 population).

Graph 35. Infectious Syphilis Case Counts and Incidence Rate per 100,000 by Sex and Age groups, New Brunswick, 2010-2015



	<15	15-19	20-24	25-29	30-39	40-59	60+	<15	15-19	20-24	25-29	30-39	40-59	60+
	Male							Female						
2015 Count	1	4	2	6	5	7	3	0	0	0	1	1	1	1
2010-2014 Average Count	0	2	8	3	5	13	1	0	1	0	0	0	1	0
2015 Rate	1.8	18.3	8.4	27.3	11.1	6.3	3.2	0.0	0.0	0.0	4.9	2.2	0.9	0.9
2010-2014 Average Rate	0.0	6.9	31.7	14.9	9.9	11.2	1.4	0.0	4.6	1.8	0.9	0.4	0.5	0.0

[5] Canadian rates are not available for years 2013 onwards.

8. Vectorborne and Zoonotic diseases

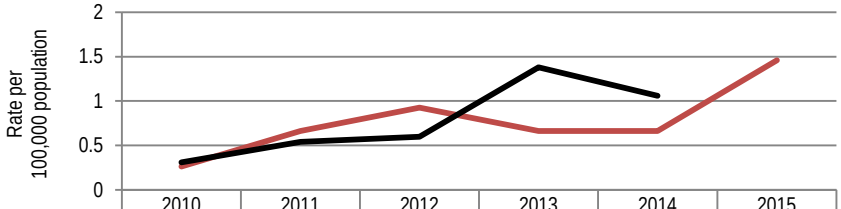
NB continues to have a low risk that is reflected in the sporadic cases and low incidence rates of vectorborne and zoonotic infections.

8.1. Lyme Disease

National Lyme disease surveillance began in 2009 and enhanced national surveillance was implemented in 2011. Lyme diease is a serious illness that can be spread by the bite of infected blacklegged ticks. Currently, in NB, identified endemic areas include North Head on Grand Manan Island and the Millidgeville area of Saint John. Lyme disease is treatable with antiobiotics when diagnosed at the early stages, but if treatment is delayed disseminated illness may occur and serious symptoms result.

In 2015, 11 confirmed cases of Lyme disease were reported to Public Health, with an incidence rate of 1.5 per 100,000 population. The majority of the cases (10 cases) were from Region 2. An average of 5 cases was reported in the last 5 years 2010-2014 (range 2-7 cases) with an average incidence rate of 0.6 per 100,000 population. The increase in 2015 in comparison to the previous five years could be due to real increase in cases related to tick exposure, increase in public and physician awareness which could result in increased testing, or it could be a sporadic increase and not a new trend in NB. The last could be confirmed through monitoring data in the coming years. In comparison with the national rate, there was a fluctuation over the previous years. However, in 2013, the incidence rate in NB was about half of the national rate.

Graph 36. Lyme disease Case Counts and Incidence Rates per 100,000 population for New Brunswick and Canada, 2010-2015.



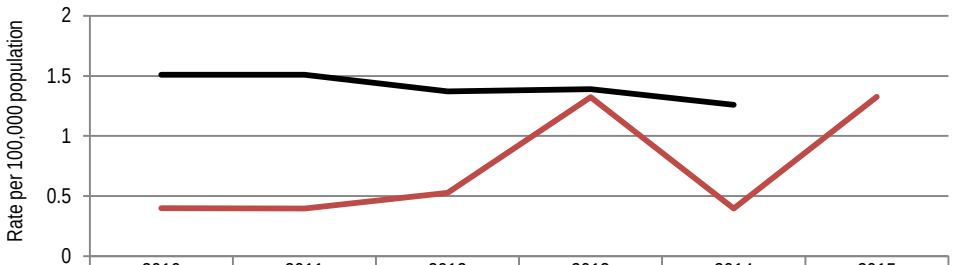
	2010	2011	2012	2013	2014	2015
NB-Counts	2	5	7	5	5	11
NB-Rates	0.3	0.7	0.9	0.7	0.7	1.5
Canadian Rates	0.3	0.5	0.6	1.38	1.06	

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 2015, 10 cases of malaria were reported with an incidence rate of 1.33 per 100,000 population. All cases were travel-related.

Graph 37. Malaria Case Counts and Rates per 100,000 population for New Brunswick and Canada, 2010-2015.



	2010	2011	2012	2013	2014	2015
NB-Counts	3	3	4	10	3	10
NB-Rates	0.40	0.40	0.53	1.32	0.40	1.33
Canadian Rates	1.51	1.51	1.37	1.39	1.26	

For other vectorborne and zoonotic diseases such as Q-fever, Yellow Fever, Tularemia, Leptospirosis, and Rabies there were no cases reported in 2015.

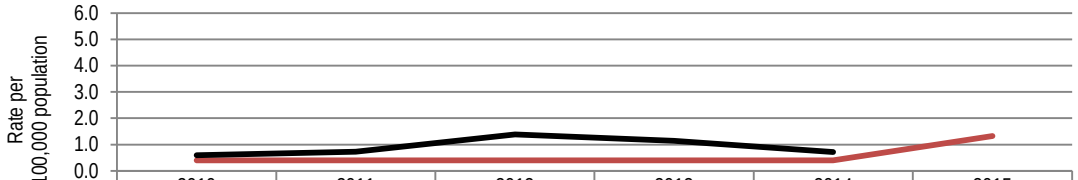
For further details on counts and rates of different vectorborne and zoonotic diseases, please refer to Appendix 5.

9. Respiratory and Direct Contact Diseases

9.1. Legionellosis

In 2015, an increase in the incidence rate of legionellosis was observed (1.3 per 100,000 population accounting for 10 cases reported to Public Health) compared to the 5-year average rate (0.4 per 100,000 population)and count (3 cases). The majority of the cases (6 cases) were reported in Region 1, followed by Regions 6 and 7 (2 cases each). All cases were males and in the age group of 40 years old and above.

Graph 38. Legionella Case Counts and Rates per 100,000 population for New Brunswick and Canada, 2010-2015 .



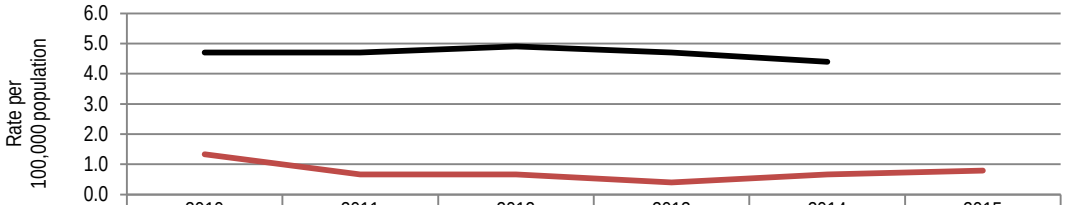
	2010	2011	2012	2013	2014	2015
NB-Counts	3	3	3	3	3	10
NB-Rates	0.4	0.4	0.4	0.4	0.4	1.3
Candian Rates	0.59	0.73	1.39	1.14	0.71	

9.2. Tuberculosis (active)

In 2015, the rate of tuberculosis in NB was 0.8 per 100,000, accounting for 6 cases reported to Public Health (5 males and 1 female). In the previous 5 years (2010-2014), an average of 6 cases was reported per year with a 5-year average incidence rate of 0.7 per 100,000 population. Overall, the number of reported cases in NB is low (range 3 to 10) and is consistently lower than the Canadian rates. Over the period from 2010 to 2015, the majority of the cases were pulmonary TB (65%), followed by primary respiratory (17.6%); and then bone and joints, genito-urinary, and other organs (5.9% each). Over the same period of time, cases were higher in Canadian born non-aboriginal (47.1%), followed by foreign-born (35.3%), and then unknown (17.6%). For the captioned period (2010-2015), the majority of cases were in age group 60 years and older (44%), followed by the 20 to 39 age group (35%), and then 40 to 59 years old age group (15%). For the 5 cases reported in 2014, 2 cases cured, 2 cases completed treatment, and 1 case had an unknown outcome.

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, 2010-2015.

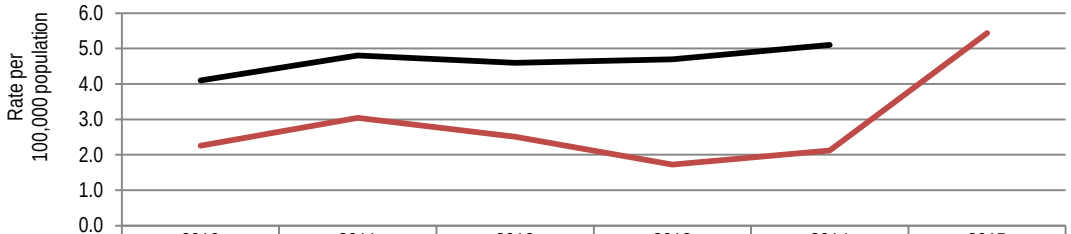


	2010	2011	2012	2013	2014	2015
NB-Counts	10	5	5	3	5	6
NB-Rates	1.3	0.7	0.7	0.4	0.7	0.8
Canadian Rates	4.7	4.7	4.9	4.7	4.4	

9.3. Invasive Group A Streptococcal disease (iGAS)

In 2015, the incidence rate of iGAS was 5.4 per 100,000 population, accounting for 41 cases reported to Public Health. The 2015 rate is more than double the average rate in the previous 5 years (2010-2014) (2.32 per 100,000 population). This increase was dominated by serotype M1 (58.5%). This strain was reported previously in NB, but at a lower level. NB incidence rates of iGAS are consistently lower than the Canadian rate.

Graph 40. Invasive Group A Streptococcal disease (iGAS) Case Counts and Incidence Rates per 100,000 population for New Brunswick and Canada, 2010-2015.



	2010	2011	2012	2013	2014	2015
NB-Counts	17	23	19	13	16	41
NB-Rates	2.3	3.0	2.5	1.7	2.1	5.4
Canadian Rates	4.1	4.8	4.6	4.7	5.1	

In 2015, males were double the females (28M:13F), and mostly reported from Region 1 (29.3%), followed by Region 2 and 3 (24.4% each), then Region 5 and 7 (7.3% each), and lastly Region 4 (4.9%). It is interesting to note that the highest incidence rate was reported in Region 5 (11.6 per 100,000 population) which is double the incidence rate reported in NB. However, we should keep in mind the small number of cases reported in NB in general and by region in specific which can significantly impact the fluctuation in the rate.

The majority of reported cases were in the age group 60 years and older (41.5%), followed by the 40 to 59 (26.8%), and then younger than 20 years old (22%).

Out of the 41 reported cases in 2015, 93 % were hospitalized; 46% were severe; 17% died; 39% recovered; 10% recovered with sequalae; 15% had exposure to someone with sore throat; 5% had contact with IGAS case; and 5% had history of strep throat/strep infections.

9.4. Group B Streptococcal Infection of Newborn

In 2015, only 1 case was reported to Public Health. From 2009 to 2014, the case count fluctuates between 1 and 3 cases annually.

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. Currently, the system looks at two infections: *Clostridium difficile* infection (CDI) and Methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia; the reports are done by quarter 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.

For fiscal year 2015/2016, the NB rate of hospital associated CDI was 2.77 per 10,000 patient days, with 238 cases reported and was higher than the previous fiscal year rate and case count (2.4 per 10,000 patient days, 208 cases). The rate of hospital associated MRSA bacteremia was 0.1 per 10,000 patient days, with 8 cases reported in 2015/2016, which was comparable with the reported rate and case count in the previous fiscal year (0.1 per 10,000 patient days, 9 cases)

Appendix 1. List of Notifiable Diseases and Reportable Events

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

New Nouveau Brunswick

Timeline	Notifiable diseases and events	To be reported by: Laboratory	To be reported by: Clinicians (clinical illness)
Verbally within one hour (Please attach a label for your region that specifies the telephone number to be used during and after business hours) AND In writing by the end of the next working day (Please attach a label for your region that specifies mailing address and fax number)	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	✓	✓
	Poliomyelitis	✓	✓
	Severe acute respiratory syndrome	✓	✓
	Smallpox	✓	✓
	Yellow fever	✓	✓
Verbally within 24 hours (Please attach a label for your region that specifies the telephone number to be used during and after business hours) AND In writing within seven days (Please attach a label for your region that specifies mailing address and fax number)	Brucellosis	✓	✓
	Campylobacteriosis	✓	
	Cryptosporidiosis	✓	
	Cyclosporiasis	✓	
	Escherichia coli (pathogenic) infection	✓	✓
	Exposure to a suspected rabid animal		✓
	Giardiasis	✓	
	Guillain-Barré syndrome		✓
	Hantavirus pulmonary syndrome	✓	✓
	Haemophilus influenzae (invasive) – type B and non-B	✓	✓
	Hepatitis A	✓	✓
	Hepatitis B	✓	
	Hepatitis E	✓	
	Legionellosis	✓	✓
	Listeriosis (invasive)	✓	✓
	Meningococcal (invasive) disease	✓	✓
	Mumps	✓	✓
	Paralytic shellfish poisoning		✓
	Pertussis	✓	✓
	Plague – bubonic	✓	✓
	Q fever	✓	✓
	Rabies	✓	✓
	Rubella	✓	✓
	Salmonellosis	✓	
	Shigellosis	✓	
	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	✓	✓
	Yersinosis	✓	
In writing within seven days (Please attach a label for your region that specifies mailing address and fax number)	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	✓	✓
	Influenza (laboratory confirmed)	✓	
	Leprosy	✓	✓
	Leptospirosis	✓	✓
	Lyme borreliosis	✓	✓
	Malaria	✓	
	Methicillin-resistant *Staphylococcus aureus* (MRSA)	✓	
	Pneumococcal disease (invasive)	✓	
	Psittacosis	✓	✓
	Rickettsioses	✓	
	Streptococcus group B beta-hemolytic (neonatal)	✓	✓
	Syphilis	✓	✓
	Tetanus	✓	✓
	Vancomycin resistant enterococci (VRE)	✓	

MRSA and VRE are not reportable under the Public Health Act; however they are under surveillance by the Department of Health

Appendix 2.Tables for Vaccine Preventable Diseases

Table 2.1. Notifiable vaccine-preventable diseases reported in New Brunswick in 2010-2015: counts and incidence rates per 100,000 population

	NB											
	2010		2011		2012		2013		2014		2015	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Vaccine-Preventable Diseases												
Diphteria	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Haemophilus influenzae (unspecified)	2	0.3	5	0.7	3	0.4	5	0.7	8	1.1	4	0.5
Invasive Meningococcal Disease Ω	5	0.7	4	0.5	6	0.8	2	0.3	3	0.4	5	0.7
Invasive Pneumococcall Disease §	81	10.8	80	10.6	60	7.9	74	9.8	50	6.6	79	10.5
Measles	0	0.0	1	0.1	0	0.0	3	0.4	0	0.0	0	0.0
Mumps	0	0.0	0	0.0	1	0.1	5	0.7	2	0.3	0	0.0
Pertussis ¥	29	3.9	22	2.9	1421	187.7	4	0.5	9	1.2	80	10.6
Rubella and Congenital Rubella Syndrome	1	0.1	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	33	7.1	15	3.3	20	4.4	22	4.9	20	4.6	26	6.0

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

Ω Source: Invasive Meningococcal Disease enhanced surveillance database

§ Source: Invasive Pneumococcal Disease enhanced surveillance database

¥ 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 2016.

Table 2.2. Notifiable vaccine-preventable diseases reported in New Brunswick in 2015 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
Vaccine-Preventable Diseases																
Diphteria	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)	0	0.0	0	0.0	1	0.6	1	2.1	0	0.0	1	1.3	1	2.2	4	0.5
Invasive Meningococcal Disease Ω	0	0.0	2	1.2	3	1.7	0	0.0	0	0.0	0	0.0	0	0.0	5	0.7
Invasive Pneumococcall Disease §	27	12.7	15	8.7	12	6.9	7	14.7	1	3.9	14	18.7	3	6.6	79	10.5
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	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pertussis ¥	74	34.9	1	0.6	0	0.0	0	0.0	0	0.0	3	4.0	2	4.4	80	10.6
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	15	11.9	5	5.0	4	3.7	0	0.0	0	0.0	0	0.0	2	8.4	26	6.0

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

Ω Source: Invasive Meningococcal Disease enhanced surveillance database

§ Source: Invasive Pneumococcal Disease enhanced surveillance database

¥ 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 2016.

Table 2.3. Notifiable vaccine-preventable diseases reported in New Brunswick in 2015 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+			
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	Total	Rate
Vaccine-Preventable Diseases																							
Diphteria	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
	Total	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
Haemophilus influenzae (unspecified)	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	4	4.3	4	1.1
	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
	Total	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	2.0	4	0.5
Invasive Meningococcal Disease Ω	Male	0	0.0	2	14.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.1	3	0.8
	Female	0	0.0	0	0.0	0	0.0	0	0.0	1	5.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.9	2	0.5
	Total	0	0.0	2	7.2	0	0.0	0	0.0	1	2.4	0	0.0	0	0.0	0	0.0	0	0.0	2	1.0	5	0.7
Invasive Pneumococcal Disease §	Male	0	0.0	1	7.2	1	5.2	0	0.0	0	0.0	1	4.2	0	0.0	3	6.6	13	11.7	28	30.2	47	12.6
	Female	1	30.3	1	7.1	0	0.0	0	0.0	0	0.0	1	4.5	2	9.7	3	6.7	6	5.2	18	17.0	32	8.4
	Total	1	15.0	2	7.2	1	2.7	0	0.0	0	0.0	2	4.3	2	4.7	6	6.7	19	8.4	46	23.2	79	10.5
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
	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
	Total	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
Mumps	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
	Total	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
Pertussis ¥	Male	1	29.5	2	14.5	6	31.3	10	51.3	5	22.9	4	16.8	1	4.5	2	4.4	3	2.7	2	2.2	36	9.7
	Female	0	0.0	4	28.5	8	44.9	12	66.7	4	20.1	5	22.5	0	0.0	6	13.4	4	3.5	1	0.9	44	11.5
	Total	1	15.0	6	21.5	14	37.8	22	58.7	9	21.6	9	19.5	1	2.3	8	8.9	7	3.1	3	1.5	80	10.6
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
	Total	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
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
	Total	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
Varicella	Male	1	29.5	1	7.2	2	10.4	0	0.0	4	18.3	4	16.8	2	9.1	0	0.0	0	0.0	0	0.0	14	6.4
	Female	0	0.0	0	0.0	1	5.6	3	16.7	1	5.0	0	0.0	2	9.7	4	8.9	1	0.9	0	0.0	12	5.6
	Total	1	15.0	1	3.6	3	8.1	3	8.0	5	12.0	4	8.7	4	9.4	4	4.4	1	0.4	0	0.0	26	6.0

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

Ω Source: Invasive Meningococcal Disease enhanced surveillance database

§ Source: Invasive Pneumococcal Disease enhanced surveillance database

¥ 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 2016.

Appendix 3. Tables for enteric, food and waterborne diseases

Table 3.1. Notifiable enteric, food and waterborne diseases reported in New Brunswick in 2010-2015: counts and incidence rates per 100,000 population

	NB											
	2010		2011		2012		2013		2014		2015	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Enteric, Food and Waterborne Diseases												
Campylobacteriosis	127	16.9	177	23.4	158	20.9	212	28.1	229	30.4	174	23.1
Cryptosporidiosis	17	2.3	34	4.5	27	3.6	16	2.1	17	2.3	29	3.8
E. coli O157	13	1.7	7	0.9	27	3.6	10	1.3	5	0.7	5	0.7
Giardiasis	123	16.3	88	11.6	131	17.3	95	12.6	97	12.9	99	13.1
Hepatitis A	5	0.7	2	0.3	3	0.4	9	1.2	0	0.0	1	0.1
Listeriosis	5	0.7	4	0.5	4	0.5	9	1.2	2	0.3	4	0.5
Salmonellosis	145	19.3	146	19.3	153	20.2	155	20.5	190	25.2	170	22.6
Shigellosis	7	0.9	6	0.8	5	0.7	7	0.9	5	0.7	4	0.5
Typhoid Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Vibrio species	6	0.8	5	0.7	5	0.7	3	0.4	3	0.4	5	0.7
Yersiniosis	4	0.5	8	1.1	3	0.4	5	0.7	5	0.7	2	0.3

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 2016.

Table 3.2. Notifiable enteric, food and waterborne diseases reported in New Brunswick in 2015 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
Enteric, Food and Waterborne Diseases																
Campylobacteriosis	47	22.1	28	16.2	31	17.7	23	48.4	13	50.2	26	34.6	6	13.2	174	23.1
Cryptosporidiosis	10	4.7	9	5.2	2	1.1	1	2.1	2	7.7	5	6.7	0	0.0	29	3.8
E. coli O157	1	0.5	2	1.2	1	0.6	0	0.0	0	0.0	1	1.3	0	0.0	5	0.7
Giardiasis	38	17.9	16	9.3	18	10.3	2	4.2	9	34.8	10	13.3	6	13.2	99	13.1
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	3	1.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.2	4	0.5
Salmonellosis	59	27.8	28	16.2	27	15.4	10	21.1	9	34.8	26	34.6	11	24.2	170	22.6
Shigellosis	1	0.5	0	0.0	1	0.6	0	0.0	0	0.0	2	2.7	0	0.0	4	0.5
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	3	1.4	1	0.6	0	0.0	0	0.0	0	0.0	1	1.3	0	0.0	5	0.7
Yersiniosis	1	0.5	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.3

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 2016.

Table 3.3. Notifiable enteric, food and waterborne diseases reported in New Brunswick in 2015 by age group and sex: counts and 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+			
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	Total	Rate
Enteric, Food and Waterborne Diseases																							
Campylobacteriosis	Male	2	59.1	2	14.5	7	36.5	1	5.1	6	27.5	5	21.0	6	27.3	11	24.4	28	25.2	34	36.7	102	27.4
	Female	3	91.0	0	0.0	2	11.2	1	5.6	4	20.1	4	18.0	7	34.0	10	22.4	18	15.6	23	21.7	72	18.9
	Total	5	74.8	2	7.2	9	24.3	2	5.3	10	24.0	9	19.5	13	30.5	21	23.4	46	20.3	57	28.7	174	23.1
Cryptosporidiosis	Male	0	0.0	0	0.0	1	5.2	1	5.1	2	9.2	3	12.6	0	0.0	2	4.4	2	1.8	1	1.1	12	3.2
	Female	0	0.0	1	7.1	1	5.6	2	11.1	1	5.0	2	9.0	3	14.6	2	4.5	3	2.6	2	1.9	17	4.5
	Total	0	0.0	1	3.6	2	5.4	3	8.0	3	7.2	5	10.9	3	7.0	4	4.4	5	2.2	3	1.5	29	3.8
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	1	1.1	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	1	0.9	3	2.8	4	1.0
	Total	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	0.4	4	2.0	5	0.7
Giardiasis	Male	0	0.0	4	28.9	3	15.6	3	15.4	3	13.7	3	12.6	5	22.7	7	15.5	18	16.2	16	17.3	62	16.6
	Female	0	0.0	3	21.4	3	16.8	1	5.6	1	5.0	1	4.5	1	4.9	8	17.9	13	11.3	6	5.7	37	9.7
	Total	0	0.0	7	25.1	6	16.2	4	10.7	4	9.6	4	8.7	6	14.1	15	16.7	31	13.7	22	11.1	99	13.1
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
	Total	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	0.4	0	0.0	1	0.1
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	1.1	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	3	2.8	3	0.8
	Total	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	2.0	4	0.5
Salmonellosis	Male	0	0.0	3	21.7	3	15.6	4	20.5	5	22.9	9	37.7	3	13.6	10	22.1	19	17.1	18	19.4	74	19.9
	Female	0	0.0	9	64.1	6	33.6	2	11.1	4	20.1	3	13.5	8	38.9	11	24.6	29	25.2	24	22.7	96	25.2
	Total	0	0.0	12	43.1	9	24.3	6	16.0	9	21.6	12	26.0	11	25.8	21	23.4	48	21.2	42	21.2	170	22.6
Shigellosis	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.2	2	1.8	0	0.0	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	1	2.2	0	0.0	0	0.0	1	0.3
	Total	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	2.2	2	0.9	0	0.0	4	0.5
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
	Total	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
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	2	2.2	4	1.1
	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
	Total	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.9	3	1.5	5	0.7
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	1	1.1	1	0.3
	Female	0	0.0	0	0.0	0	0.0	0	0.0	1	5.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3
	Total	0	0.0	0	0.0	0	0.0	0	0.0	1	2.4	0	0.0	0	0.0	0	0.0	0	0.0	1	0.5	2	0.3

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 2016.

Table 3.4. Regional Enteric Clusters/Outbreaks in 2015 by Type of Setting

	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	NB
Settings where clusters/outbreaks were reported:								
Daycare	9	11	9	0	1	1	1	32
Nursing home	0	10	4	1	1	0	0	16
Adult residential facility	2	0	0	0	2	0	0	4
Church event	1	0	0	0	0	0	0	1
Private center	1	0	0	0	0	0	0	1
School	0	0	2	0	0	0	0	2
Treatment facility for autististic children	0	1	0	0	0	0	0	1
Convention centre	0	1	0	0	0	0	0	1
Special event	0	0	1	0	0	0	0	1
Total	13	23	16	1	4	1	1	59

Table 3.5. Regional Enteric Clusters/Outbreaks in 2015 by Type of Organism

	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	NB
Organism:								
Campylobacter, Norovirus and Rotavirus	1	0	0	0	0	0	0	1
Norovirus	9	6	5	1	3	0	1	25
Rotavirus	1	1	0	0	0	0	0	2
Suspected viral	2	15	9	0	0	0	0	26
No organism identified	0	1	2	0	1	1	0	5
Total	13	23	16	1	4	1	1	59

Table 3.6. Multi-Regional Enteric Clusters/Outbreaks in 2015

	Regions
Organism:	
Salmonella Newport	1, 3, 6 and 7

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 2010-2015: counts and incidence rates per 100,000 population

	NB											
	2010		2011		2012		2013		2014		2015	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Sexually Transmitted and Bloodborne Infections†												
AIDS §	1	0.1	1	0.1	2	0.3	1	0.1	2	0.3	1	0.1
HIV §	8	1.1	10	1.3	4	0.5	6	0.8	4	0.5	9	1.2
Chlamydia (genital)	1868	248.1	1917	253.7	1931	255.1	1767	233.8	1738	229.6	1880	249.4
Gonorrhea (genital)	64	8.5	71	9.4	38	5.0	47	6.2	44	5.8	50	6.6
Hepatitis B (Acute)	4	0.5	8	1.1	3	0.4	1	0.1	9	1.2	1	0.1
Hepatitis B (Chronic)	32	4.2	24	3.2	39	5.2	43	5.7	30	4.0	43	5.7
Hepatitis C	184	24.4	156	20.6	177	23.4	197	26.1	180	23.8	178	23.6
Syphilis (Infectious) Φ	38	5.0	58	7.7	21	2.8	34	4.5	27	3.6	32	4.2
Syphilis (All)	41	5.4	72	9.5	43	5.7	48	6.4	46	6.1	45	6.0

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 2010-2012
Source for rate calculations: OCMOH, Communicable Disease Control Branch. The denominators used were population estimates received from Statistics Canada, Demography Division; March 2016

Table 4.2. Notifiable sexually transmitted and bloodborne infections reported in New Brunswick in 2015 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
Sexually Transmitted and Bloodborne Infections																
Chlamydia (genital)	663	312.2	340	196.7	543	310.4	61	128.5	40	154.6	182	242.5	51	112.3	1880	249.4
Gonorrhea (genital)	23	10.8	8	4.6	11	6.3	2	4.2	0	0.0	5	6.7	1	2.2	50	6.6
Hepatitis B (Acute)	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
Hepatitis B (Chronic)	14	6.6	7	4.1	14	8.0	4	8.4	1	3.9	3	4.0	0	0.0	43	5.7
Hepatitis C	63	29.7	36	20.8	37	21.2	4	8.4	5	19.3	15	20.0	18	39.6	178	23.6
Syphilis (Infectious) Φ	6	2.8	10	5.8	12	6.9	0	0.0	0	0.0	2	2.7	2	4.4	32	4.2
Syphilis (All)	8	3.8	13	7.5	17	9.7	0	0.0	1	3.9	4	5.3	2	4.4	45	6.0

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 2010-2012
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 2016

Table 4.3. Notifiable sexually transmitted and bloodborne infections reported in New Brunswick in 2015 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+			
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	Total	Rate
Sexually Transmitted and Bloodborne Infections																							
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	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
	Total	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	0.4	0	0.0	1	0.1
HIV [§]	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	4.5	1	2.2	2	1.8	1	1.1	5	1.3
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	4.9	0	0.0	2	1.7	1	0.9	4	1.0
	Total	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	4.7	1	1.1	4	1.8	2	1.0	9	1.2
Chlamydia (genital)	Male	0	0.0	0	0.0	0	0.0	0	0.0	105	480.8	253	1060.3	160	727.4	105	232.5	37	33.3	4	4.3	664	178.3
	Female	0	0.0	0	0.0	0	0.0	6	33.3	340	1712.4	501	2256.1	211	1025.2	125	279.4	33	28.7	0	0.0	1216	318.8
	Total	0	0.0	0	0.0	0	0.0	6	16.0	445	1067.3	754	1636.7	371	871.4	230	255.9	70	31.0	4	2.0	1880	249.4
Gonorrhea (genital)	Male	0	0.0	0	0.0	0	0.0	0	0.0	6	27.5	5	21.0	5	22.7	6	13.3	6	5.4	0	0.0	28	7.5
	Female	0	0.0	0	0.0	0	0.0	0	0.0	2	10.1	5	22.5	12	58.3	3	6.7	0	0.0	0	0.0	22	5.8
	Total	0	0.0	0	0.0	0	0.0	0	0.0	8	19.2	10	21.7	17	39.9	9	10.0	6	2.7	0	0.0	50	6.6
Hepatitis B (Acute)	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.2	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
	Total	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.1	0	0.0	0	0.0	1	0.1
Hepatitis B (Chronic)	Male	0	0.0	0	0.0	0	0.0	0	0.0	2	9.2	1	4.2	3	13.6	4	8.9	14	12.6	3	3.2	27	7.3
	Female	0	0.0	0	0.0	0	0.0	0	0.0	1	5.0	2	9.0	5	24.3	6	13.4	2	1.7	0	0.0	16	4.2
	Total	0	0.0	0	0.0	0	0.0	0	0.0	3	7.2	3	6.5	8	18.8	10	11.1	16	7.1	3	1.5	43	5.7
Hepatitis C	Male	0	0.0	0	0.0	0	0.0	0	0.0	3	13.7	17	71.2	17	77.3	29	64.2	45	40.5	13	14.0	124	33.3
	Female	0	0.0	0	0.0	0	0.0	0	0.0	6	30.2	10	45.0	7	34.0	18	40.2	12	10.4	1	0.9	54	14.2
	Total	0	0.0	0	0.0	0	0.0	0	0.0	9	21.6	27	58.6	24	56.4	47	52.3	57	25.2	14	7.1	178	23.6
Syphilis (Infectious) [Φ]	Male	1	29.5	0	0.0	0	0.0	0	0.0	4	18.3	2	8.4	6	27.3	5	11.1	7	6.3	3	3.2	28	7.5
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	4.9	1	2.2	1	0.9	1	0.9	4	1.0
	Total	1	15.0	0	0.0	0	0.0	0	0.0	4	9.6	2	4.3	7	16.4	6	6.7	8	3.5	4	2.0	32	4.2
Syphilis (All)	Male	1	29.5	0	0.0	0	0.0	0	0.0	4	18.3	2	8.4	7	31.8	5	11.1	9	8.1	6	6.5	34	9.1
	Female	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	4.9	1	2.2	2	1.7	7	6.6	11	2.9
	Total	1	15.0	0	0.0	0	0.0	0	0.0	4	9.6	2	4.3	8	18.8	6	6.7	11	4.9	13	6.6	45	6.0

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 2010-2012
Source for rate calculations: OCMOH, Communicable Disease Control Branch. The denominators used were population estimates received from Statistics Canada, Demography Division; March 2016

Appendix 5. Tables for Vectorborne and Zoonotic Diseases

Table 5.1. Notifiable vectorborne and zoonotic diseases reported in New Brunswick in 2010-2015: counts and incidence rates per 100,000 population

	NB											
	2010		2011		2012		2013		2014		2015	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Vectorborne and Zoonotic diseases												
Leptospirosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lyme Disease	2	0.3	5	0.7	7	0.9	5	0.7	5	0.7	11	1.5
Malaria	3	0.4	3	0.4	4	0.5	10	1.3	3	0.4	10	1.3
Q fever	0	0.0	3	0.4	2	0.3	1	0.1	2	0.3	0	0.0
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	0	0.0	1	0.1	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 2015 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
Vectorborne and Zoonotic diseases																
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	0	0.0	10	5.8	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0	11	1.5
Malaria	2	0.9	0	0.0	8	4.6	0	0.0	0	0.0	0	0.0	0	0.0	10	1.3
Q 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
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 2016

Table 5.3. Notifiable vectorborne and zoonotic diseases reported in New Brunswick in 2015 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+			
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	Total	Rate
Vectorborne and Zoonotic diseases																							
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
	Total	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
Lyme Disease	Male	0	0.0	0	0.0	0	0.0	2	10.3	0	0.0	0	0.0	0	0.0	0	0.0	2	1.8	0	0.0	4	1.1
	Female	0	0.0	0	0.0	1	5.6	0	0.0	1	5.0	0	0.0	1	4.9	0	0.0	1	0.9	3	2.8	7	1.8
	Total	0	0.0	0	0.0	1	2.7	2	5.3	1	2.4	0	0.0	1	2.3	0	0.0	3	1.3	3	1.5	11	1.5
Malaria	Male	0	0.0	0	0.0	0	0.0	0	0.0	1	4.6	1	4.2	1	4.5	3	6.6	1	0.9	0	0.0	7	1.9
	Female	0	0.0	0	0.0	1	5.6	1	5.6	1	5.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.8
	Total	0	0.0	0	0.0	1	2.7	1	2.7	2	4.8	1	2.2	1	2.3	3	3.3	1	0.4	0	0.0	10	1.3
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	0	0.0	0	0.0	0	0.0
	Total	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
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
	Total	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
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
	Total	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
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
	Total	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

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 2016

Appendix 6. Tables for Respiratory and Direct Contact diseases

Table 6.1. Notifiable respiratory and direct contact diseases reported in New Brunswick in 2010-2015: counts and incidence rates per 100,000 population

	NB											
	2010		2011		2012		2013		2014		2015	
	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate
Respiratory and Direct Contact diseases												
Invasive Group A Streptococcal disease (iGAS)[§]	17	2.3	23	3.0	19	2.5	13	1.7	16	2.1	41	5.4
Group B Streptococcal Infection of Newborn[¥]	2	27.2	1	14.0	5	70.2	3	43.3	1	14.5	1	14.9
Legionellosis[†]	3	0.4	3	0.4	3	0.4	3	0.4	3	0.4	10	1.3
Tuberculosis[‡]	10	1.3	5	0.7	5	0.7	3	0.4	5	0.7	6	0.8

Table 6.2. Notifiable respiratory and direct contact diseases reported in New Brunswick in 2015 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
Respiratory and Direct Contact diseases																
Invasive Group A Streptococcal disease (iGAS)[§]	12	5.7	10	5.8	10	5.7	2	4.2	3	11.6	1	1.3	3	6.6	41	5.4
Group B Streptococcal Infection of Newborn[¥]	1	53.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	14.9
Legionellosis[†]	6	2.8	0	0.0	0	0.0	0	0.0	0	0.0	2	2.7	2	4.4	10	1.3
Tuberculosis[‡]	3	1.4	0	0.0	1	0.6	0	0.0	1	3.9	1	1.3	0	0.0	6	0.8

§ Source: iGas enhanced database
¥ Source: RDSS supplemental 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 2016
Rates for Group B Streptococcal infection of newborn were calculated based on live birth estimates from Statistics Canada, Demography Division. Date modified September 12 2016.

Table 6.3. Notifiable respiratory and direct contact diseases reported in New Brunswick in 2015 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+			
		N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	N	Rate	Total	Rate
Respiratory and Direct Contact diseases																					
Invasive Group A Streptococcal disease (iGAS)[§]	Male	0	0.0	4	28.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	6.6	8	7.2	13	14.0	28	7.5
	Female	0	0.0	0	0.0	3	16.8	1	5.6	0	0.0	0	0.0	2	9.7	2	4.5	3	2.6	2	1.9	13	3.4
	Total	0	0.0	4	14.4	3	8.1	1	2.7	0	0.0	0	0.0	2	4.7	5	5.6	11	4.9	15	7.6	41	5.4
Legionellosis[†]	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	7	6.3	3	3.2	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	0	0.0
	Total	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	7	3.1	3	1.5	10	1.3
Tuberculosis[‡]	Male	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	9.1	1	2.2	0	0.0	2	2.2	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	1	0.9	0	0.0	1	0.3
	Total	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	4.7	1	1.1	1	0.4	2	1.0	6	0.8

§ 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 2016.