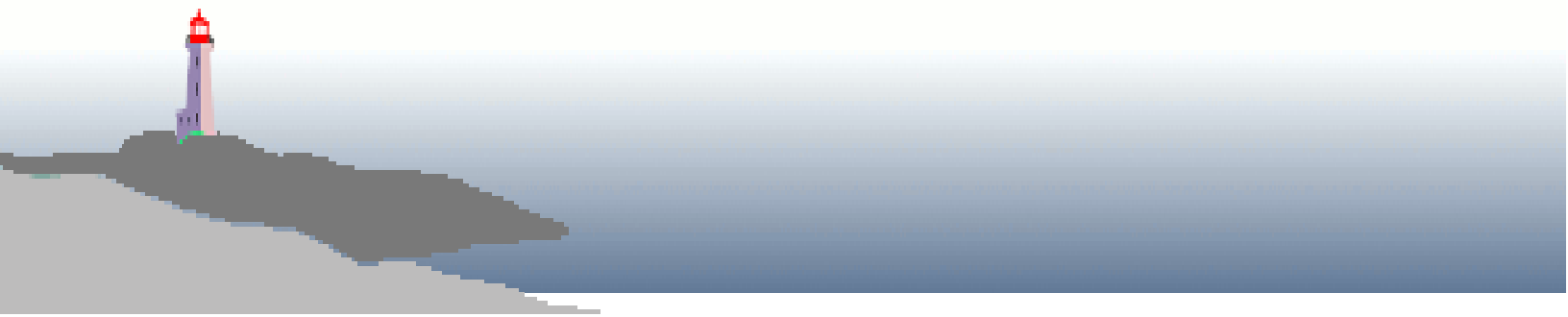
NOVA SCOTIA
Health and Wellness

Notifiable Diseases in Nova Scotia 2012 Surveillance Report

Population Health Assessment and Surveillance



Acknowledgements

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

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TABLE OF CONTENTS

2012 HIGHLIGHTS

A total of 5,343 cases of notifiable diseases were reported in Nova Scotia in 2012. As in 2011, sexually transmitted infections accounted for over half of all reported cases, followed by direct contact and respiratory routes, enteric, bloodborne, vectorborne, and vaccine-preventable disease cases (Figure 1). A summary of the diseases included in each disease category can be found in the Nova Scotia Surveillance Guidelines for Notifiable Diseases and Conditions (http://novascotia.ca/dhw/populationhealth/surveillanceguidelines/).

Chlamydia and methicillin-resistant *Staphylococcus aureus* (MRSA) are still the top two most frequently reported diseases. *Clostridium difficile* became reportable on April 1st, 2012 and subsequently replaced influenza as the third most frequently reported disease (Figure 2). The direct contact and respiratory disease group represents a higher percentage of the total cases of diseases reported compared to 2011 because of the inclusion of *Clostridium difficile*. Selected highlights from this report are presented below.

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

Clostridium difficile

Clostridium difficile was added to the list of Notifiable Diseases and Conditions in 2012.

The purpose of making *C.difficile* reportable was to provide an understanding of trends in disease incidence, facilitate outbreak detection, and provide data for national surveillance, public health policy and planning. A summary of the surveillance data for *C. difficile* will be presented in this report.

Lyme Disease

A new Lyme disease endemic area was identified in Nova Scotia in 2012. The area around Mersey Point, Queen's County was deemed endemic in October 2012. This may have an impact on the number of reported cases for 2013 because having exposure to an endemic area is included in the case definition. The number of cases of Lyme disease reported for 2012 was similar to 2011 (52 in 2012 and 54 in 2011). Active surveillance of blacklegged tick populations in Nova Scotia will continue in 2013.

Syphilis

The outbreak of syphilis that began in Capital District Health Authority (CDHA) in 2009 is continuing. The number of cases reported for CDHA increased from 34 in 2011 to 59 in 2012. The first female case associated with the outbreak was reported in 2012. CDHA has launched a social media campaign as one public health action to address the outbreak. The number of cases reported outside of CDHA still remains low.

Pertussis

Three clusters of pertussis were reported in 2012. Two of the clusters occurred in unimmunized populations and another was related to a cluster in New Brunswick.

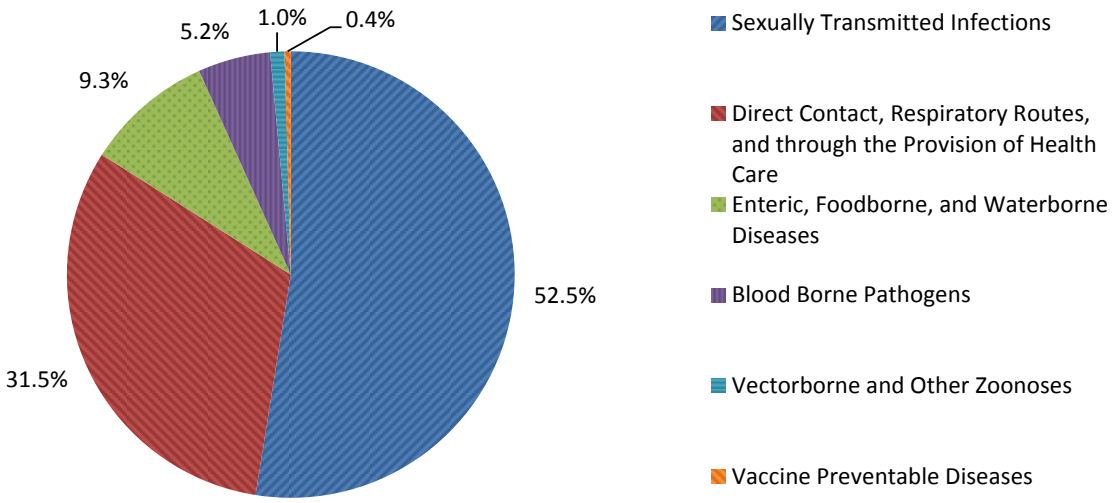
Escherichia coli (E. coli) O157:H7 Outbreak

An outbreak of E.coli O157:H7 was declared in January 2013. Of the eleven cases reported in Nova Scotia, nine had symptom onset dates in late December 2012. New Brunswick and Ontario also had cases associated with this outbreak. More details about this outbreak will be outlined in this report.

Vancomycin Resistant Enterococcus (VRE) Outbreaks

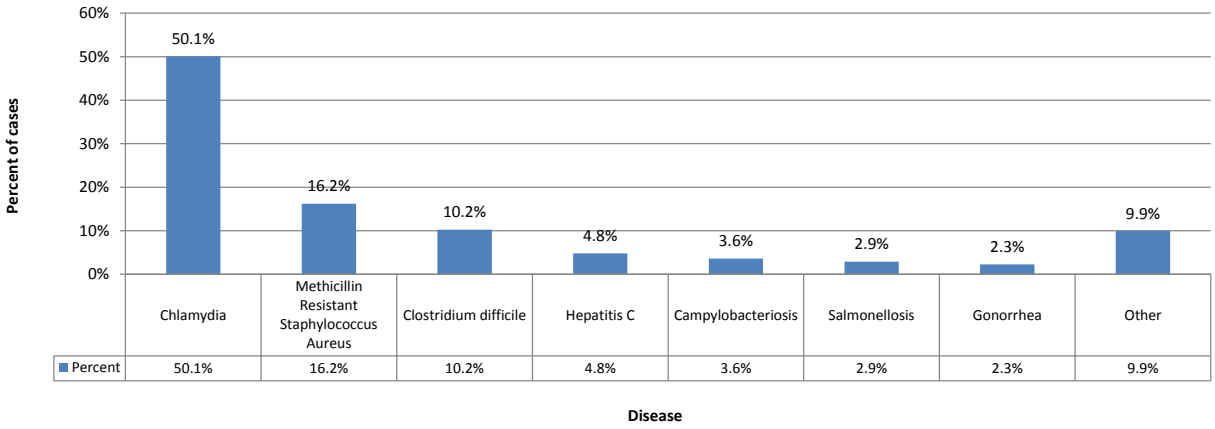
There were two reports of VRE outbreaks in 2012. Both outbreaks occurred in large hospital settings.

Figure 1: Distribution of notifiable diseases reported in Nova Scotia by disease category, 2012



Note: The "Direct Contact, Respiratory Routes, and through the Provision of Health Care" category in this figure includes influenza cases (n=123). Influenza cases are not described further in this report.

Figure 2: Summary of most frequently reported notifiable diseases in Nova Scotia, 2012



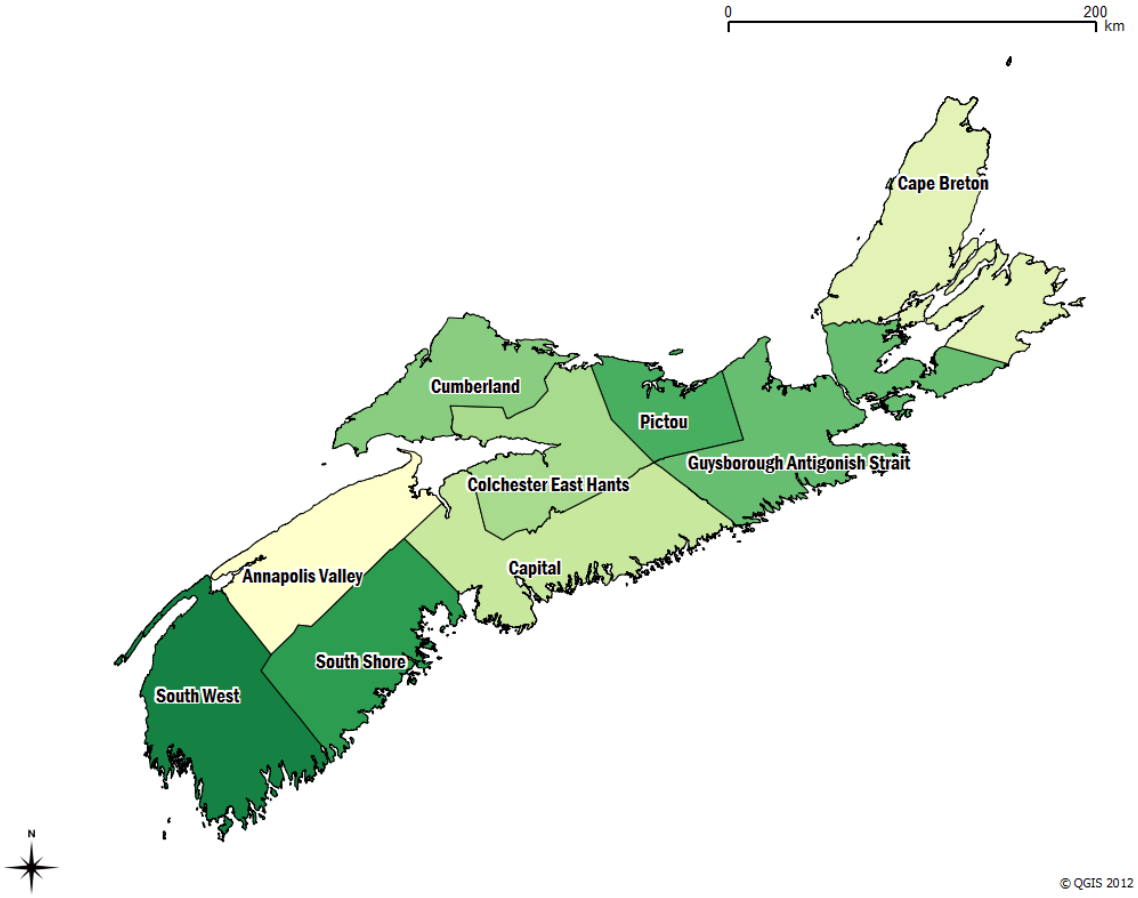
INTRODUCTION

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

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

The purpose of this report is to provide a summary of notifiable diseases reported in Nova Scotia in 2012. The report was compiled by the Population Health Assessment and Surveillance (PHAS) Division, Nova Scotia Department of Health and Wellness (DHW). It includes highlights of notifiable disease data for 2012, examines important trends between 2003-2012 and provides some comparisons with national data. In Appendix B, numbers and rates of notifiable diseases are presented for a 10 year period for the province. Rates of notifiable diseases broken down by each of the nine District Health Authorities (DHAs, Figure 3), sex, and age groups are also provided for 2012.

Figure 3: Map of District Health Authority boundaries, Nova Scotia.



METHODS

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

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

Cases of notifiable diseases are generally reported and counted based on their place of residence at the time of their diagnosis, with some exceptions. For more information on the guidelines for reporting and counting cases, please see Chapter 6 of the Nova Scotia Surveillance Guidelines for Notifiable Diseases and Conditions (3). For chronic conditions (e.g. hepatitis C, HIV), only residents with a first-time diagnosis in Nova Scotia are included in this report. If information on previous diagnoses for a case is not available (e.g. when a case is lost to follow up), these cases are counted as Nova Scotia cases.

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

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

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

Rates were calculated using Statistics Canada population counts, which were based on the 2011 Census. All Canadian notifiable disease data were obtained from the Public Health Agency of Canada (PHAC) and are cited where used. The most recent year of Canadian data is for 2011. Therefore, comparisons between Nova Scotia and Canada are based on 2011 data.

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

All case data are current as of May 23rd, 2013.

LIMITATIONS

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

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

Numbers and rates presented in this report are based on notifications received by DHW as of May 23rd, 2013. As surveillance data are provisional and may change as new information is received, these numbers and rates may be subject to minor changes in future reports. National notifiable disease data from PHAC that are used in this report are also subject to change.

DISEASE REPORTS IN NOVA SCOTIA BY DISEASE GROUP

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

Bloodborne Pathogens

HIV & AIDS

There were 17 newly diagnosed cases of HIV in Nova Scotia in 2012 (rate of 1.8/100,000 population) bringing the cumulative number of new diagnoses since 1985 (when the first case was reported) to 783. The Canadian rate of reported HIV cases in 2011 was 6.4/100,000 population (5). For 2011, the reported rate of HIV in Nova Scotia was below the national rate.

All HIV cases reported in 2012 were male and 88.2% were between the ages of 25 and 59. The reported exposure categories were men who have sex with men (MSM, 76.5% of cases), low-risk heterosexual contact (11.8%), injection drug use (IDU, 5.9%) and men who have had sex with men and have injected drugs (MSM/IDU, 5.9%). Nationally, in 2011, female cases constitute a higher proportion of total cases less than 40 years of age and males constitute a higher number of cases greater than or equal to 40 years of age. This differs from the picture in Nova Scotia where all cases in 2012 (and the majority of cases historically) are male. MSM was also the most commonly reported exposure among Canadian male cases in 2011 (6).

One new case of AIDS was reported in 2012 (rate of 0.1/100,000 population), bringing the cumulative reports of AIDS in Nova Scotia to 349. The rate of AIDS for Nova Scotia in 2011 is less than the national rate (0.4/100,000 vs. 0.5/100,000 population) (5).

Hepatitis B (Acute, Chronic, and Unspecified)

The number of reported acute cases of hepatitis B has declined since 1998 (n=41) to one case reported in 2012 (rate of 0.1/100,000 population).

There were 11 cases of chronic or unspecified hepatitis B reported in 2012 (rate of 1.2/100,000 population). There were similar numbers of males and females and all cases were 15 years or older.

Nationally, the rates of hepatitis B are reported for acute and chronic cases combined. The 2011 Canadian rate of hepatitis B was 9.2/100,000 population (5). The rate of all acute, chronic and unspecified hepatitis B in Nova Scotia for 2011 was lower compared to the Canadian rate at 1.8/100,000 population.

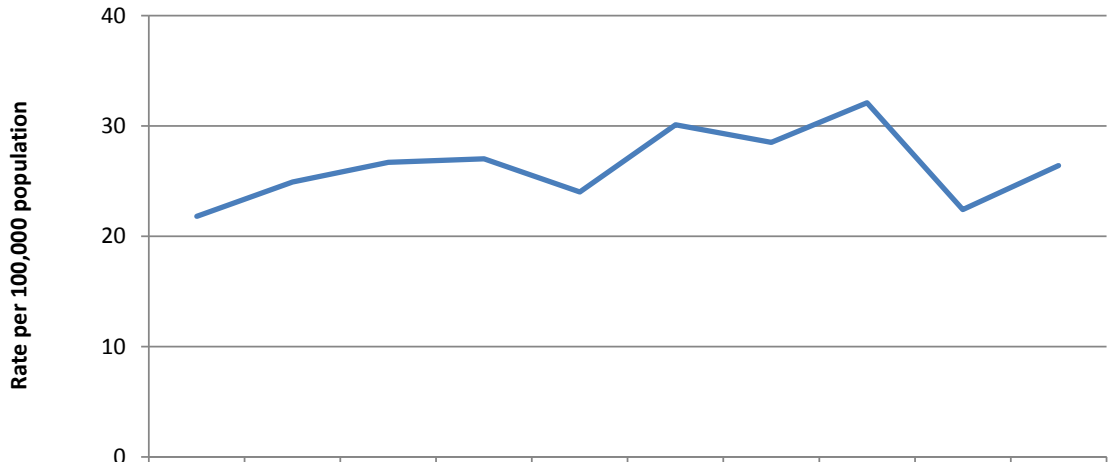
Hepatitis C

In 2012, 250 cases of hepatitis C were reported in Nova Scotia (rate of 26.4/100,000 population). This rate is higher than the rate in 2011 but still lower than 2010 (Figure 4). The 2012 rate is the same as the average hepatitis C rate since 2003 (26.4/100,000 population). The national rate of reported hepatitis C cases in 2011 was 28.8/100,000 population (5). For 2011, the Nova Scotia rate was lower compared to the national rate (22.4/100,000 population).

As in previous years, Cumberland Health Authority (CHA) had the highest rate of hepatitis C compared to the other district health authorities with a rate of 92.2/100,000 population (Figure 5). Cumberland Health Authority has the largest Federal correctional facility in Nova Scotia and inmates are tested for hepatitis C on admission to the institution (7). The rate among incarcerated cases continues to influence the high rate in this district. In 2012, about 59% of reported cases in CHA were incarcerated.

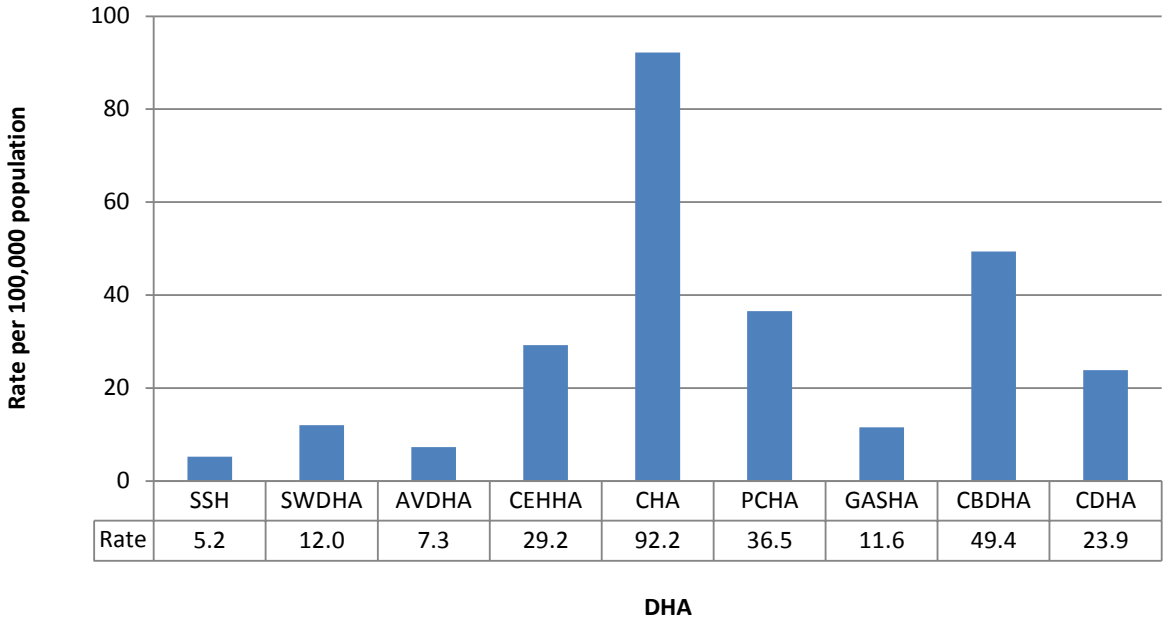
Cape Breton District Health Authority (CBDHA, 48.6/100,000), Pictou County Health Authority (PCHA, 36.5/100,000) and Colchester East Hants Health Authority (CEHHA, 29.2/100,000) had the next highest rates.

Figure 4: Reported rates of hepatitis C in Nova Scotia, 2003-2012



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Rate	21.8	24.9	26.7	27.0	24.0	30.1	28.5	32.1	22.4	26.4

Figure 5: Reported rates of hepatitis C in Nova Scotia by District Health Authority (DHA), 2012

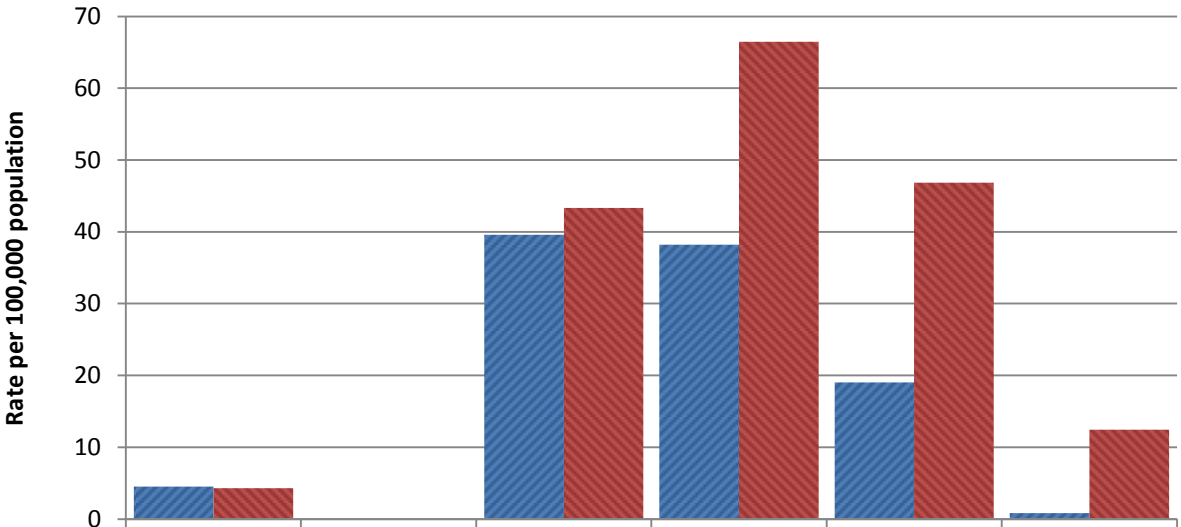


Notes: SSH = South Shore Health, SWDHA = South West District Health Authority, AVDHA = Annapolis Valley District Health Authority, CEHHA = Colchester East Hants Health Authority, CHA = Cumberland Health Authority, PCHA = Pictou County Health Authority, GASHA = Guysborough Antigonish Strait Health Authority, CBDHA = Cape Breton District Health Authority, CDHA = Capital District Health Authority.

The majority of reported hepatitis C cases were between the ages of 25-59 years. Males had higher rates compared to females for all age groups except 0-4 years. The rate was highest among males aged 25-39 at 66.4/100,000 population (Figure 6).

The Canadian hepatitis C rate for 2011 was highest among males in the 40-59 age group at 67.2/100,000 population. Similar to Nova Scotia, the rates among males are higher than females for cases 25 years and older (5).

Figure 6: Reported rates of hepatitis C in Nova Scotia by age group and sex, 2012



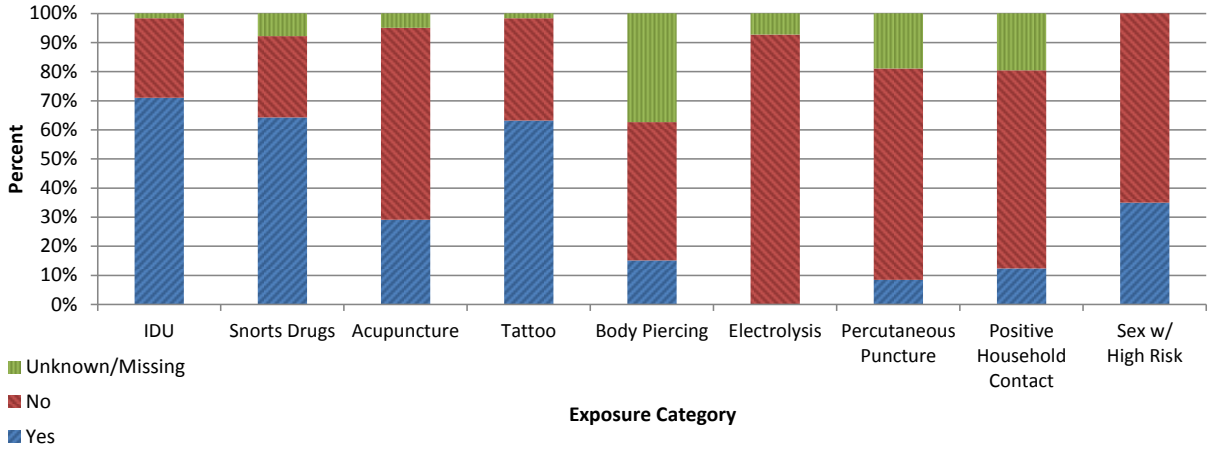
	0-4	5-14	15-24	25-39	40-59	60+
Female	4.5	0.0	39.6	38.2	19.0	0.8
Male	4.3	0.0	43.3	66.4	46.8	12.4

Age group

Of the 179 (71.6%) cases of hepatitis C reported in 2012 with reported risk factor information, injection drug use (IDU) was the most commonly reported risk factor at 70.9% (Figure 7). For cases that reported IDU, 69.3% also reported sharing injection paraphernalia.

Other reported risk factors that increase the risk of hepatitis C infection included snorting drugs (64.2% of cases), having a tattoo (63.1%), sex with a person at high risk for hepatitis C (34.9%), having acupuncture (29.1%), having a body piercing (15.1%), percutaneous puncture (8.4%), and having positive household contact (12.3%). The percentage of cases reporting snorting drugs has increased from 38.9% in 2011 to 64.2% in 2012. Data on this risk factor only started to be collected in September 2011 which may explain this increase.

Figure 7: Distribution of hepatitis C cases by reported risk factors, Nova Scotia, 2012



Notes: Each case can report more than one risk factor. IDU = injection drug user, Sex w/high risk = sex with someone at high risk of HCV infection (IDU, person who snorts drugs, HCV positive person, sex trade worker).

Other Pathogens

No cases of hepatitis D have been reported in Nova Scotia between 2003 and 2012.

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

There were a total of 1560 cases of respiratory, direct contact, and health care-associated infections reported in 2012.

The current reporting process does not allow for cases of health care-associated infections reported to public health to be classified as health care or community acquired.

Infection Prevention and Control Nova Scotia has recently implemented (May 2013) a surveillance system to identify cases of *C.difficile* that have been acquired in acute care hospitals within the province. These data were not available for inclusion in this report.

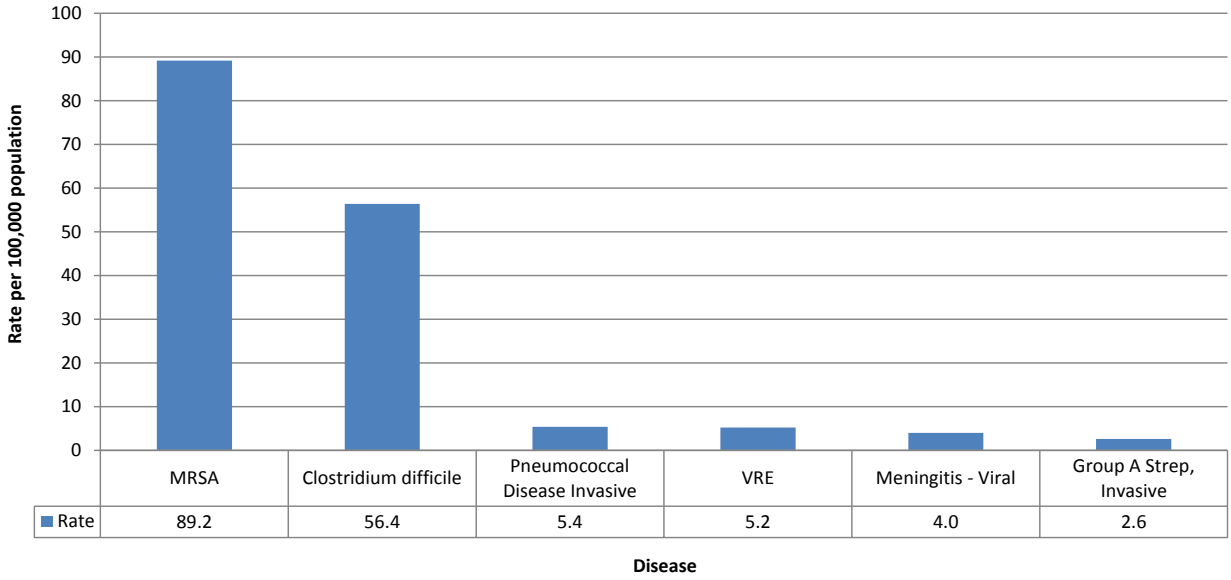
This report does not contain any influenza surveillance data as there is a separate annual report on this topic, which can be found on the Population Health Assessment and Surveillance website (http://novascotia.ca/dhw/populationhealth/).

Rates of all other direct contact/respiratory route reports are presented in Figure 8 and Appendix B, Table 1.

Clostridium difficile

Clostridium difficile became a reportable disease on April 1st, 2012. Although data was only available for April to December 2012, cases of *C.difficile* accounted for 34.3% of cases reported for this disease group. One outbreak of *C.difficile* was reported in 2012.

Figure 8: Reported rates of diseases transmitted by direct contact, respiratory routes, and through the provision of health care in Nova Scotia, 2012



Invasive Pneumococcal Disease

For 2012, the rate of invasive pneumococcal disease was 5.4/100,000 (n=51). The 2011 Nova Scotia rate of 5.5/100,000 population is lower compared to the 2011 national rate of 9.7/100,000 (5). The majority of cases reported in 2012 were over the age of 40 (72.5%) and 60.8% were male.

Invasive Meningococcal Disease

There were two cases of invasive meningococcal disease reported in 2012, which corresponds to a rate of 0.2/100,000 population. Both cases were serogroup B. The Nova Scotia rate for 2011 (0.3/100,000 population) is lower than the 2011 Canadian rate of 0.5/100,000 population (5).

Invasive Group A Streptococcal Disease

The number of cases reported of invasive group A streptococcal disease were the same in 2012 as in 2011 (n=25, 2.6/100,000 population). Since 2003, the rate of invasive group A streptococcal disease has ranged between 1.6/100,000 population and 2.8/100,000 population.

Tuberculosis

Eight cases of laboratory confirmed tuberculosis were reported in 2012 (7 pulmonary and 1 extra pulmonary). This represented a rate of 0.8/100,000 population. All cases were greater than 25 years of age and 75.0% were male. The 2011 provincial rate is lower than the 2011 Canadian rate (1.0/100,000 vs. 4.7/100,000 population) (5).

Methicillin Resistant Staphylococcus Aureus (MRSA)

There were 846 reported cases of MRSA in Nova Scotia in 2012. The rate was 89.2/100,000 population which is similar to the rate in 2011 (90.2/100,000 population). Canadian rates are not available because MRSA is not nationally reportable. However, the rate in Nova Scotia appeared to be lower than rates in other provinces where MRSA is reportable (8, 9). The highest rate in the province in 2012 was reported in the Southwest District Health Authority (SWDHA, 204.4/100,000 population).

The majority of cases occurred in those aged 60 years and older (63.9%, n=541). This was a rate of

237.0/100,000 population. The rate among males was higher compared to females (102.3/100,000 vs. 76.7/100,000 population).

The number of reported cases of MRSA has declined since a peak in the number of cases in 2008 (n=1,013). It is difficult to identify the reasons related to the increasing rates of MRSA since it became reportable. Increased testing in hospitals may be a contributing factor.

Vancomycin-Resistant Enterococcus

In 2012, 49 cases of vancomycin-resistant enterococcus (VRE) were reported in Nova Scotia (rate of 5.2/100,000 population). This is the highest rate reported over the past ten years. Thirty-six of the 49 total cases were over the age of 60 and 57.1% of the cases were male.

Two outbreaks of VRE were reported in the CDHA in 2012. Cases associated with these outbreaks accounted for 25 of the 49 cases reported (51.0%). Both outbreaks occurred in large hospital settings.

Viral Meningitis

For 2012, 38 cases of viral meningitis were reported which represents a rate of 4.0/100,000 population. This is the highest rate reported since 2003. An outbreak in the CDHA accounted for 29 of the 38 cases (76.3%). Most of the reported cases were in the 0-4 age group (60.5%). There was no difference in the number of male and female cases.

Other Pathogens

Three cases of Creutzfeldt-Jacob Disease, one case of viral encephalitis and one case of group B streptococcal of a newborn were reported in 2012.

No cases of legionellosis were reported in Nova Scotia in 2012.

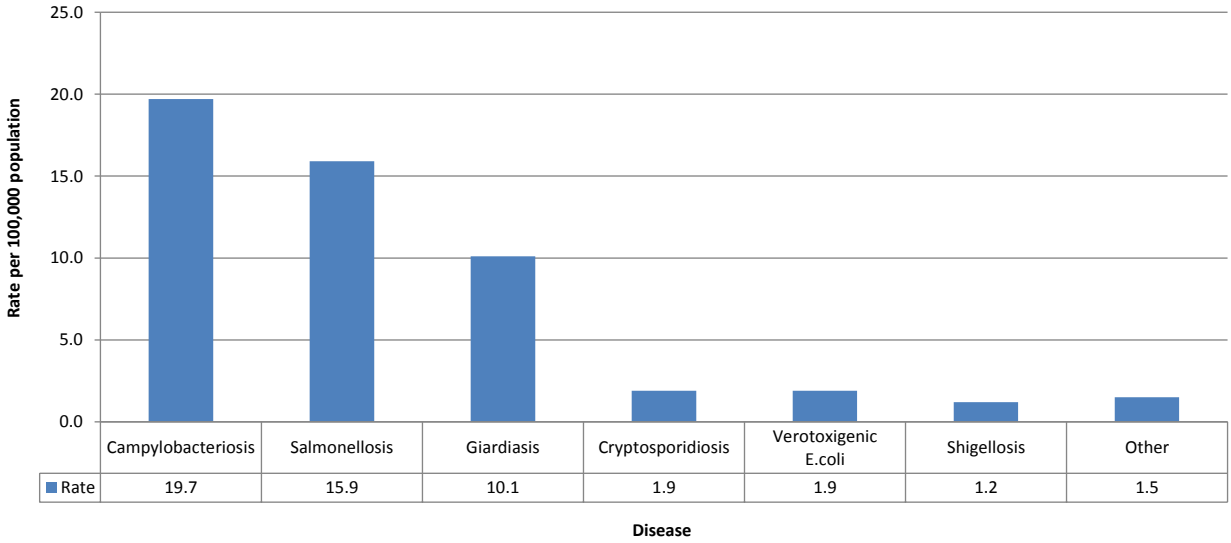
Outbreaks of Direct Contact, Respiratory Routes, and Through the Provision of Health Care Infections

The Annual Influenza Surveillance report summarizes some direct contact and respiratory infection outbreaks. Eighty-five respiratory related outbreaks were reported during the 2012-2013 influenza season. The report can be found on the Population Health Assessment and Surveillance website. (http://novascotia.ca/dhw/populationhealth/).

Enteric, Foodborne, and Waterborne Diseases

There were 495 cases of enteric pathogens reported in Nova Scotia in 2012. The most frequently reported enteric infections were campylobacteriosis (n=187), salmonellosis (n=151) and giardiasis (n=96). Travel was associated with 95 (19.2%) of reported enteric infections overall. Figure 9 presents the enteric disease rates for 2012.

Figure 9: Reported rates of enteric, foodborne, and waterborne diseases in Nova Scotia, 2012



Notes: Other category includes amebiasis, botulism, hepatitis A and listeriosis.

Campylobacteriosis

As in previous years, campylobacteriosis infections were the most commonly reported enteric pathogen in Nova Scotia in 2012 (187 cases; rate of 19.7/100,000 population). This is the same as the rate for 2011 and less than that for Canada in 2011 (27.1/100,000 population) (5). The SWDHA had the highest rate among DHAs with a rate of 36.1/100,000 population.

Fifty-nine percent of cases (111 of 187) reported in 2012 were reported in people 40 years of age or older, while 27.3% were reported for people between the ages of 15 and 39. The rate for campylobacteriosis was higher in males than females (23.8/100,000 for males vs. 15.8 /100,000 for females).

One outbreak of campylobacter was reported in 2012.

Salmonellosis

Salmonella infections were the second most frequently reported enteric pathogen in Nova Scotia in 2012 (151 cases; 15.9/100,000 population). The rate of salmonella infections in Nova Scotia in 2011 (18.2/100,000 population) is lower than the 2011 Canadian rate of 19.2/100,000 population (5). Seventy-six percent of cases reported in 2012 were in adults over the age of 25. The rate was similar among males and females (15.6/100,000 population for females and 16.3/100,000 population for males). One outbreak of salmonella was reported in 2012.

Giardiasis

A total of 96 cases of giardiasis were reported in Nova Scotia in 2012, representing a rate of 10.1/100,000 population. This is an increase compared to the 2011 rate of 7.0/100,000 population. The 2011 rate of giardiasis infections reported in Nova Scotia is lower compared to the

2011 Canadian rate of 11.1/100,000 population (5). Seventy-nine percent of cases (76 of 96) were reported in people aged 25 years and older. The rate of illness was higher among males than females (12.6/100,000 vs. 7.8/100,000 population).

Verotoxigenic E.coli

A total of eighteen cases of Verotoxigenic E.coli were reported in 2012 (1.9/100,000 population). Nine of these cases were associated with an outbreak of E.coli O157:H7. An outbreak was declared in January 2013 that also involved New Brunswick and Ontario. The investigation determined that all cases in Nova Scotia had exposure to lettuce, from a common supplier, that was consumed at a fast food restaurant chain.

Other Reportable Enteric Diseases

The rate of other reportable enteric diseases in Nova Scotia in 2012 remained low (See Appendix B, Table 1 for details).

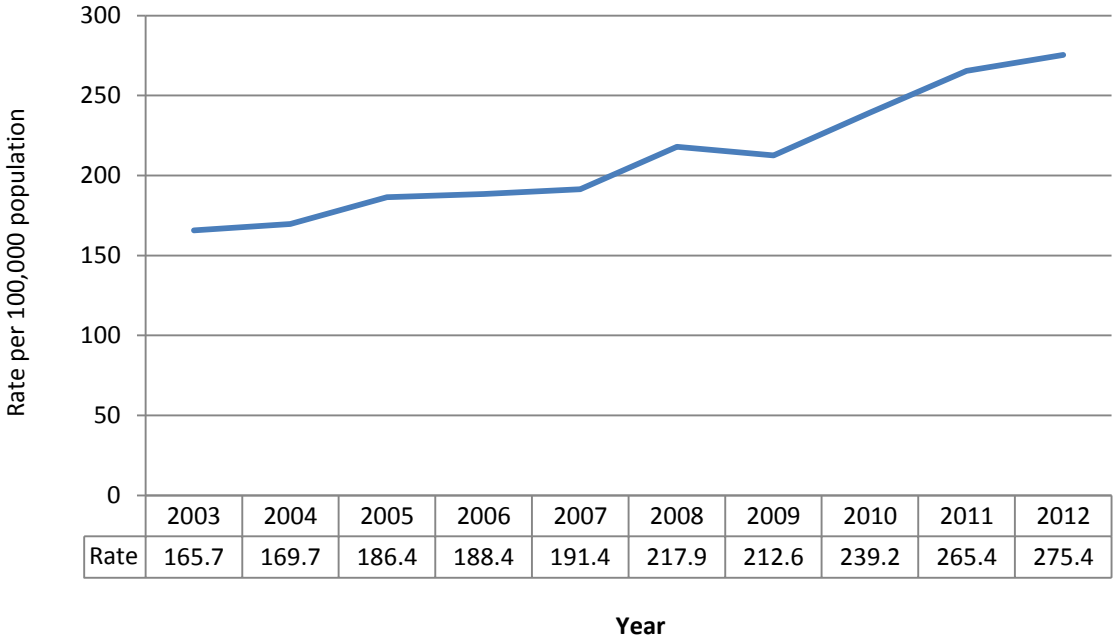
Sexually Transmitted Infections

There were 2,806 notifications of bacterial sexually transmitted infections (STI) in Nova Scotia in 2012. Chlamydia was the most frequently reported bacterial STI (n=2,613), followed by gonorrhea (n=119), then infectious syphilis (n=63). The rates of chlamydia and infectious syphilis continued to increase in 2012. The rate of reported gonorrhea for 2012 was slightly higher compared to 2011 but there is no consistent trend over the past 10 years.

Chlamydia

Chlamydia was the most frequently reported notifiable disease in Nova Scotia in 2012 (n=2,613, rate=275.4/100,000 population). The number of reported cases and the associated rate of chlamydia showed an increasing trend from 2003 to 2012 (Figure 10). The number of reported cases and the population rate of reported chlamydia infections in Canada has shown a similar increase over time, with the national rate of reported chlamydia cases increasing from 255.5/100,000 population in 2009 to 290.4/100,000 population in 2011 (5). The 2011 rate of reported chlamydia cases in Nova Scotia (265.4/100,000 population) was lower compared to the 2011 national rate.

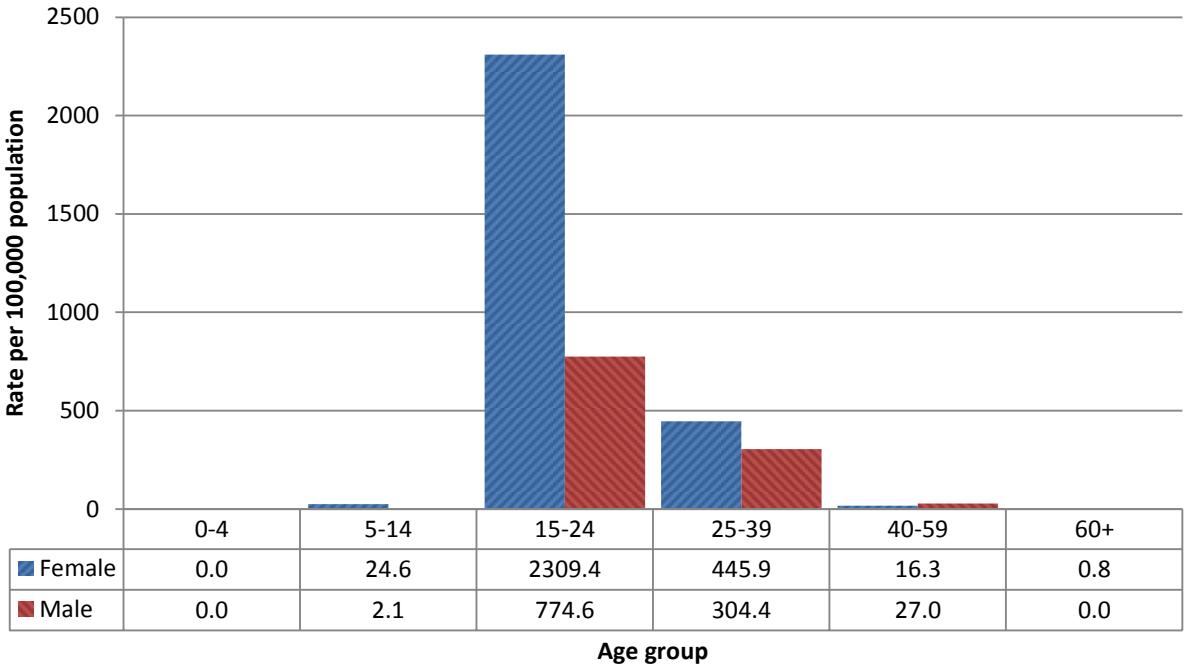
Figure 10: Reported rates of chlamydia in Nova Scotia, 2003-2012.



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Rate	165.7	169.7	186.4	188.4	191.4	217.9	212.6	239.2	265.4	275.4

In Canada, between 2009 and 2011, reported rates of chlamydia cases increased in both the male and female population (5). A similar trend has been seen in Nova Scotia, with increases in both the female and male populations. The chlamydia rates for females have also been consistently higher compared to males. For 2012, the reported rate of chlamydia among females and males were 377.1/100,000 population and 167.8/100,000 population respectively. As in 2011, the highest rate of chlamydia in Nova Scotia for 2012 was reported among females aged 15 to 24 years (2,309.4/100,000 population in 2012; 2,311.6/100,000 population in 2011) (Figure 11). Similarly, 2011 national data show the highest rates of chlamydia in females aged 15 to 19 years (1,881.9/100,000 population) and 20 to 24 years (2,113.2/100,000 population) (5).

Figure 11: Reported rates of chlamydia in Nova Scotia by age group and sex, 2012



	0-4	5-14	15-24	25-39	40-59	60+
Female	0.0	24.6	2309.4	445.9	16.3	0.8
Male	0.0	2.1	774.6	304.4	27.0	0.0

Many factors must be considered when interpreting the increase in chlamydia rates, both nationally and in Nova Scotia. Changes in laboratory testing, increases in the number of specimens tested and a true increase in disease incidence could help to explain the continued increase of reported rates of chlamydia.

Gonorrhea

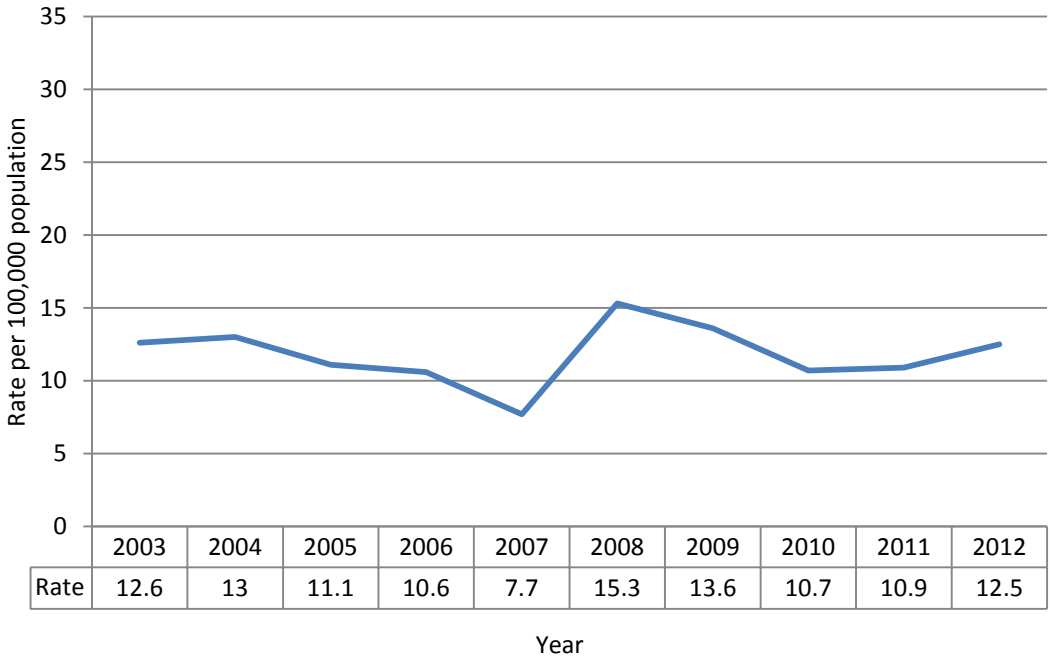
For 2012, 119 cases of gonorrhea were reported in Nova Scotia (rate of 12.5/100,000 population). Over the past ten years, there has not been a consistent trend in gonorrhea rates. They have fluctuated between a low of 7.7/100,000 population in 2007 to a high of 15.3/100,000 population in 2008 (Figure 12). The rate of gonorrhea in Nova Scotia for 2011 was 10.9/100,000 population which is lower compared to the 2011 Canadian rate of 33.1/100,000 population (5).

Nationally, the rates of gonorrhea among males were consistently higher compared to females (10). A similar trend has not been observed in Nova Scotia. The rates among females were higher in some years and the rates among males were higher in other years. For 2012, the reported rates of gonorrhea among females and males were 9.4/100,000 population and 15.8/100,000 population, respectively.

In 2012 the highest rate of gonorrhea in Nova Scotia was reported among females aged 15 to 24 years (57.7/100,000 population) (Figure 13).

The rate in CDHA for 2012 was similar to 2011 and continued to be higher compared to the other DHAs (17.9/100,000 population).

Figure 12: Reported rates of gonorrhea in Nova Scotia, 2003-2012

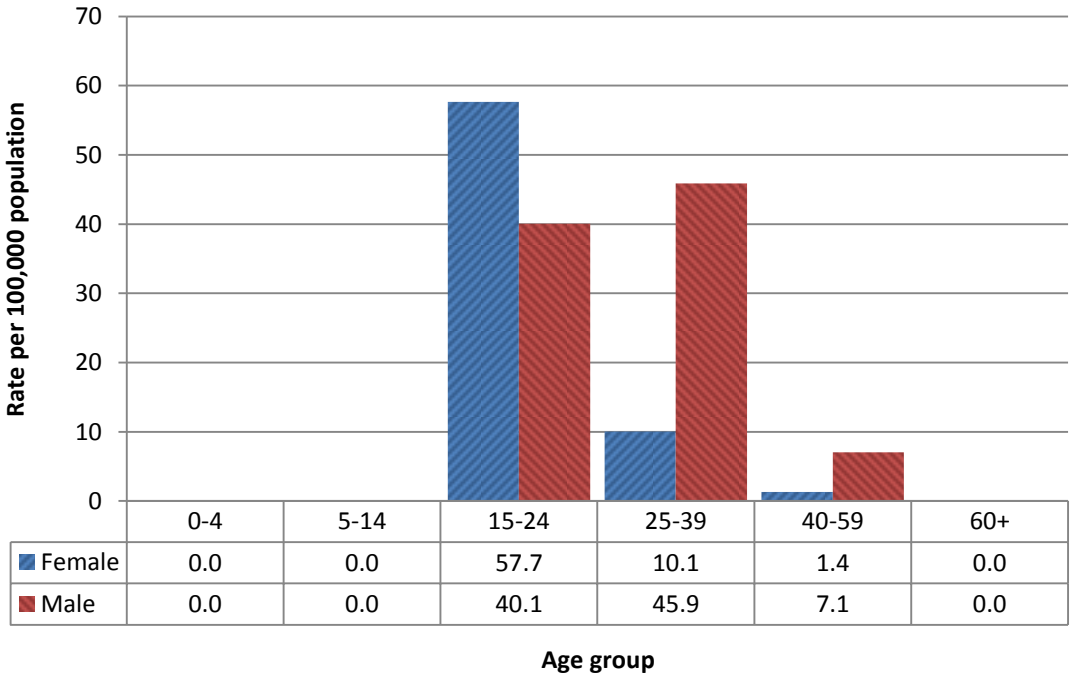


	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Rate	12.6	13	11.1	10.6	7.7	15.3	13.6	10.7	10.9	12.5

Nova Scotia has continued to monitor gonococcal resistance through a collaboration between the National Microbiology Laboratory (NML) and the Public Health Agency of Canada. In 2011, 3,360 *Neisseria gonorrhoeae* culture isolates sent to the NML for typing and susceptibility testing from across Canada. Seventy-seven of these isolates were from Nova Scotia.

Thirty-two percent of the 3,360 isolates were found to be resistant to at least one antibiotic (11). Going forward, Nova Scotia may be expanding the scope of this gonorrhea antimicrobial resistance work through the collection of enhanced epidemiological surveillance data in addition to the laboratory data. This data would provide more detailed information about antimicrobial resistance in N.gonorrhoeae in Nova Scotia and Canada.

Figure 13: Reported rates of gonorrhea in Nova Scotia by age group and sex, 2012



Syphilis

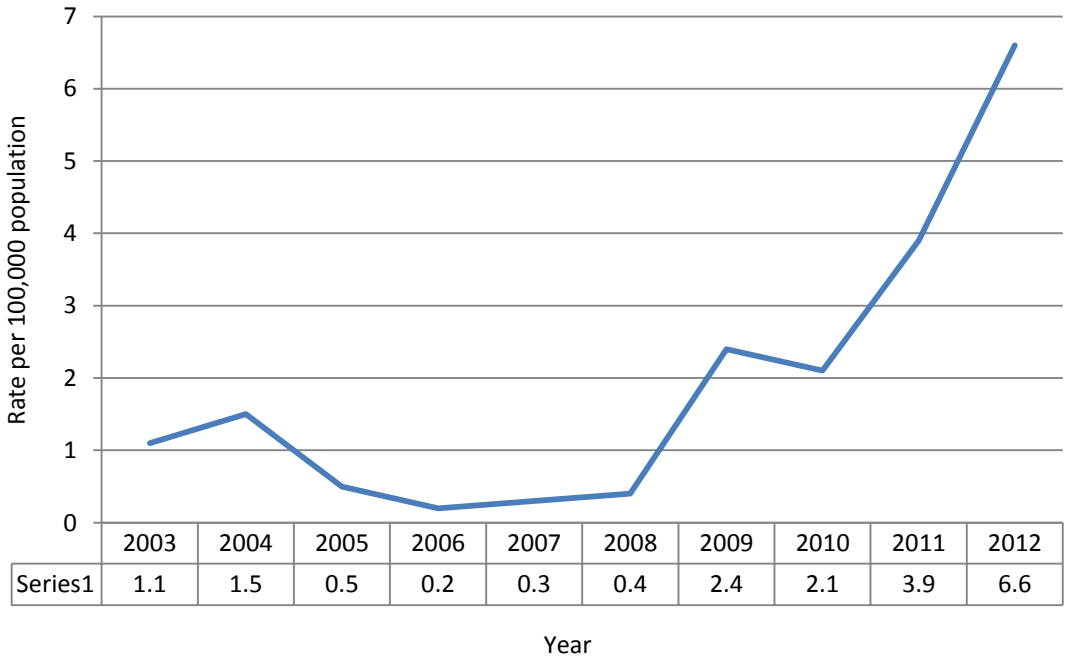
Syphilis cases are categorized as infectious or non-infectious syphilis. The primary, secondary, and early-latent stages of disease are considered infectious. The late latent and tertiary stages of disease are considered non-infectious (12). Neurosyphilis is typically a complication of tertiary syphilis; however, individuals coinfected with HIV have been shown to progress rapidly to neurosyphilis, often while still infectious (13). Infectious syphilis cases comprise those of public health significance, and will be described in more detail than non-infectious syphilis cases below.

In 2012 there were 63 cases of infectious syphilis and 11 cases of non-infectious syphilis reported in Nova Scotia. The reported rate of infectious syphilis cases in Nova Scotia increased again in 2012 to 6.6/100,000 population (Figure 14).

Between 2009 and 2012, the rate of reported infectious syphilis cases has increased from 2.4/100,000 population in 2009 to 6.6/100,000 population in 2012. This increase can be attributed to an ongoing outbreak of infectious syphilis in the CDHA that began in 2009. As part of ongoing public health action related to the outbreak, a social media campaign was launched by CDHA in 2013. A website, www.thehardfacts.ca, was created and includes information about the outbreak, disease transmission, testing and treatment. A second phase of the campaign that focusses on post-secondary institutions is planned.

The 2011 Canadian syphilis rate includes both infectious and non-infectious syphilis (8.4/100,000 population) (5). The 2011 Nova Scotia rate for infectious syphilis and non-infectious syphilis combined is lower compared to the Canadian rate at 5.2/100,000 population.

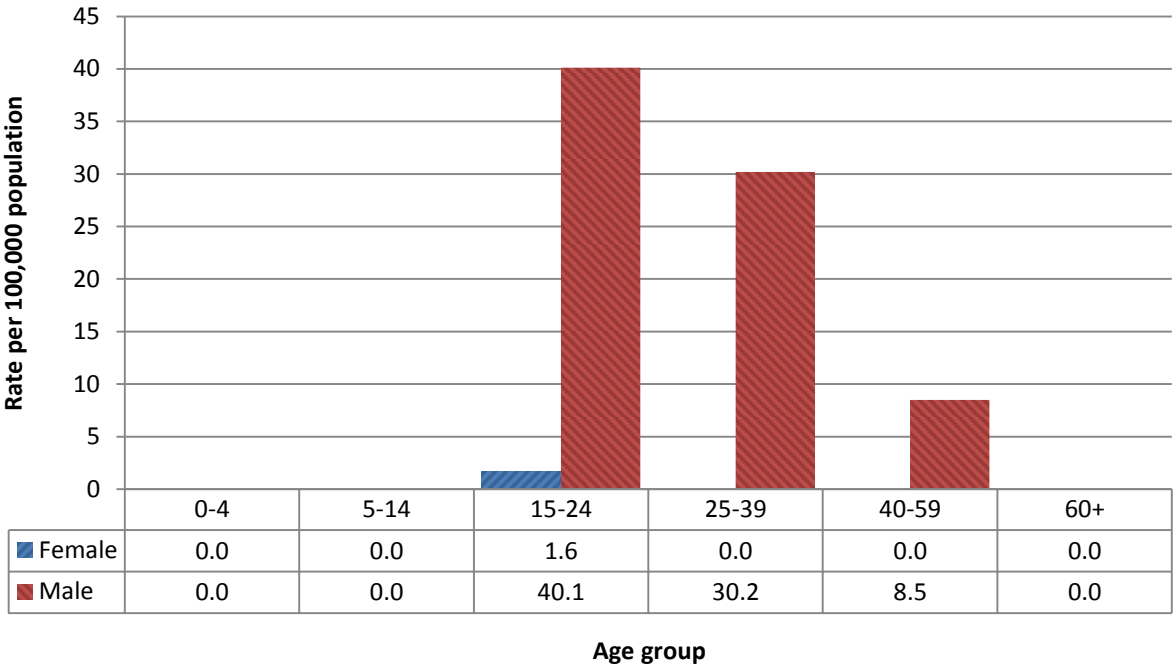
Figure 14: Reported rates of infectious syphilis in Nova Scotia, 2003-2012



Since 2003, 177 out of 179 (98.9%) total infectious syphilis cases in Nova Scotia have been male. Also, 154 out of 179 (86.0%) of the total cases in that ten year period are associated with CDHA. All cases of infectious syphilis reported in 2012 were between the ages of 15 and 59 years. The highest rate was reported for males in the 15-24 year age group (40.1/100,000 population) (Figure 15). For 2011, the highest rate in Nova Scotia was among males aged 25-39 (13.9/100,000 population). This is similar to the 2011 Canadian data, which showed the higest rates among males in the 25-29 (23.2/100,000 population) and 30-39 (24.1/100,000 population) year age groups (5).

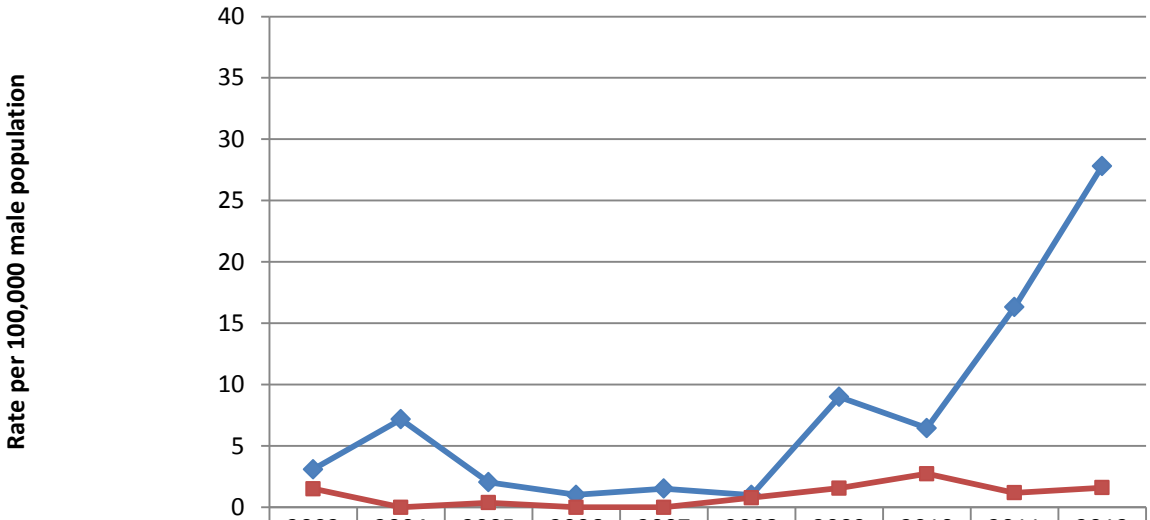
Figure 16 presents rates of infectious syphilis among males in CDHA and outside of CDHA, reflecting the ongoing outbreak in this district.

Figure 15: Reported rates of infectious syphilis in Nova Scotia by age group and sex, 2012



	0-4	5-14	15-24	25-39	40-59	60+
Female	0.0	0.0	1.6	0.0	0.0	0.0
Male	0.0	0.0	40.1	30.2	8.5	0.0

Figure 16: Reported rates of infectious syphilis among males residing in DHA 9 and outside of DHA 9, 2003-2012



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
DHA 9	3.1	7.2	2.0	1.0	1.5	1.0	9.0	6.5	16.3	27.8
Outside of DHA 9	1.5	0.0	0.4	0.0	0.0	0.8	1.6	2.7	1.2	1.6

Vaccine Preventable Diseases

There were 24 cases of vaccine preventable diseases reported in Nova Scotia in 2012. This is an increase from only four cases in 2011. This increase was due to three clusters of pertussis that occurred in the province.

The first cluster occurred in a family that travelled to an event in New Brunswick where pertussis cases had been reported (n=6). Of the six cases reported, four were not appropriately immunized. The second cluster occurred in a community that is believed to be unimmunized (n=8). A third cluster (n=3) was reported in a family with unimmunized members.

In addition to the cases of pertussis, one case of *Haemophilus influenza*, type b and one case of tetanus were reported in Nova Scotia in 2012.

Vectorborne and Other Zoonoses

There were 55 cases of vectorborne and other zoonotic diseases reported in Nova Scotia in 2012:

- There were 52 cases of Lyme disease reported.
- There were 3 cases of malaria reported. None of these cases were acquired in Nova Scotia.

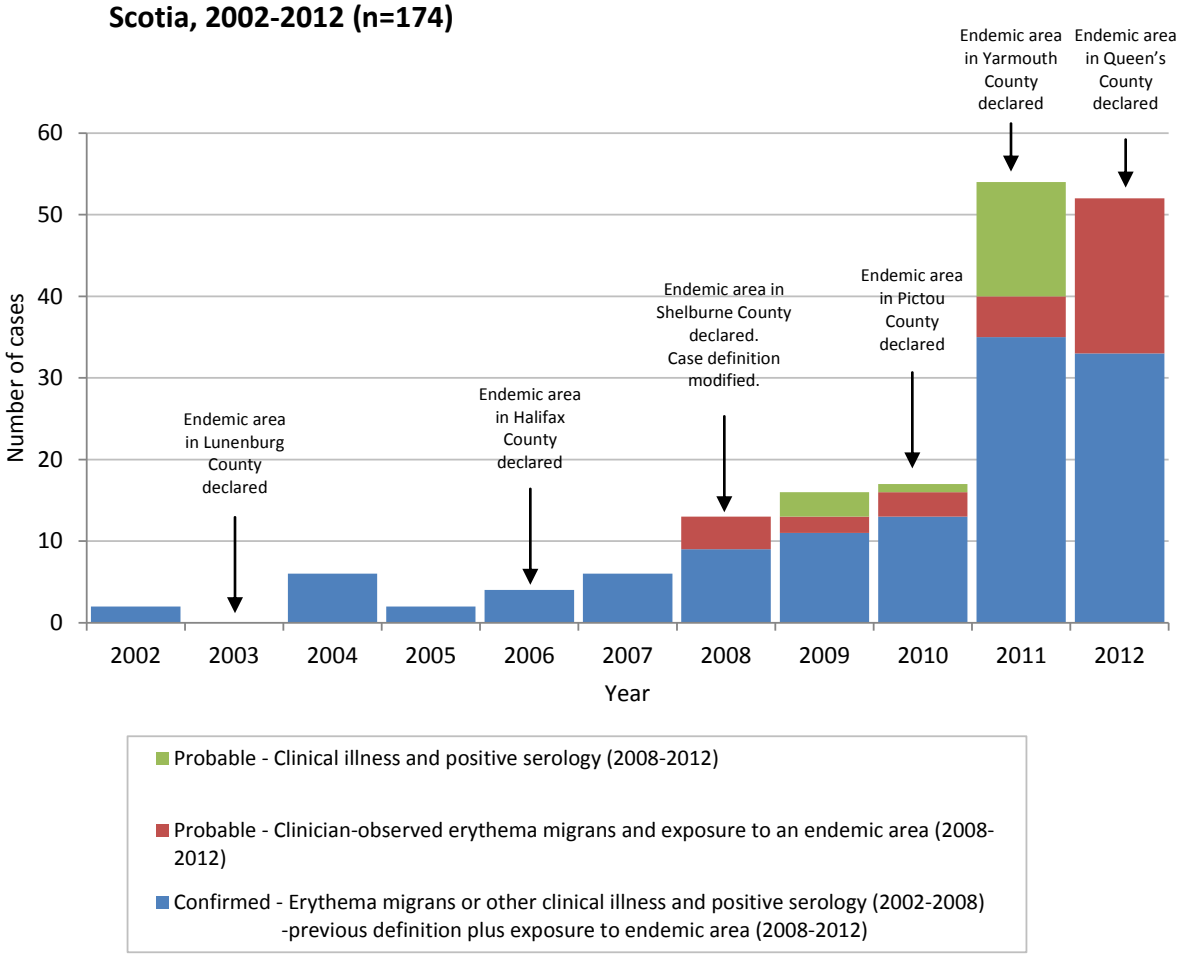
See Appendix B for tables containing numbers and rates of reported cases of vectorborne and other zoonotic diseases from 2003 to 2012.

Lyme Disease

Since the first cases reported in 2002, the annual number of reported cases of Lyme disease in Nova Scotia has displayed an increasing trend (Figure 17). The increase in cases is related to a number of factors including an increase in the number of blacklegged tick populations established in Nova Scotia, an increase in the sizes of the established populations of blacklegged ticks, and an increase in awareness among individuals and physicians leading to increased diagnosis and reporting of Lyme disease. Furthermore, a modification to the national surveillance case definition in 2008, which is used by Nova Scotia, included the addition of two probable case definitions, one of which captures clinically defined cases (Figure 17). For complete case definitions, please refer to the Nova Scotia Surveillance Guidelines for Notifiable Diseases and Conditions (http://novascotia.ca/dhw/populationhealth/surveillanceguidelines/).

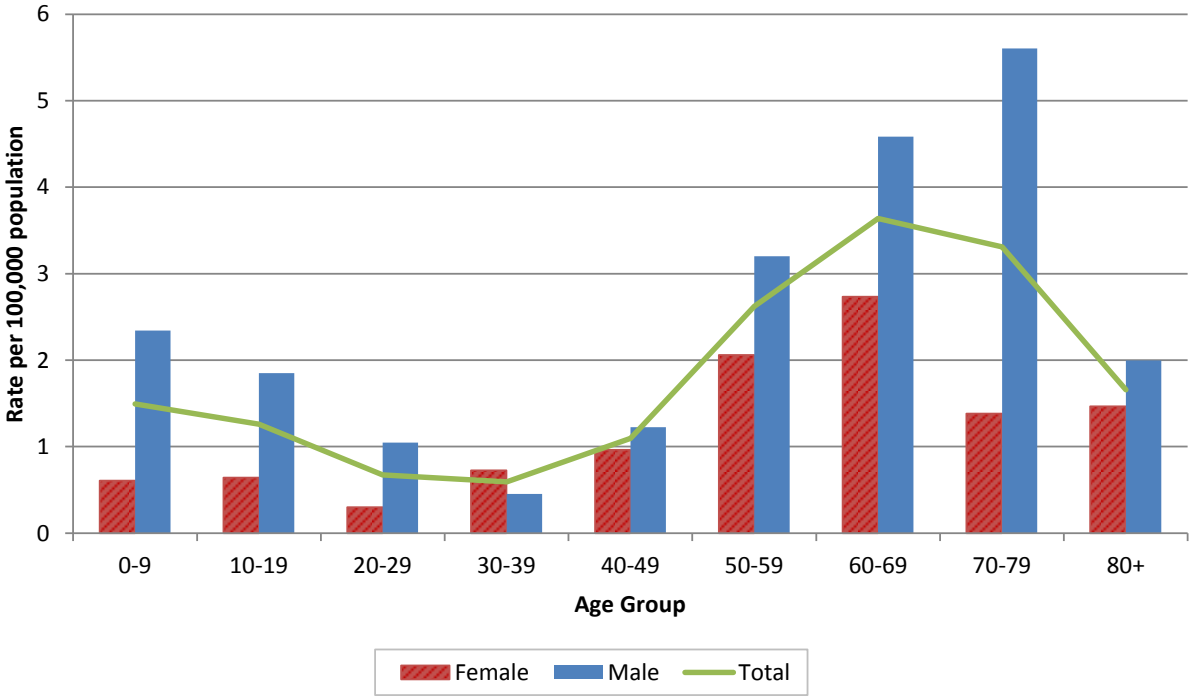
Fifty-two cases of Lyme disease were reported in 2012, which was similar to the number of cases reported in 2011. Figure 17 presents the number of reported cases by year, showing the increase in cases over time, the years in which new areas were added to the list of known Lyme disease endemic areas, and when the surveillance case definition was modified. Mersey Point, Queen's County was added as a new endemic area in 2012. This brings the total number of endemic areas in Nova Scotia to six.

Figure 17: Number of reported cases of Lyme disease by case classification and year, Nova Scotia, 2002-2012 (n=174)



From 2002 to 2012 there have been 174 cases of Lyme disease reported in Nova Scotia, of which 156 (89.7%) were likely to have been acquired within the province. Currently, 71.2% of cases classified as likely to have been acquired in Nova Scotia were associated with tick exposures in the endemic area in Lunenburg County. Cases ranged in age from two to 87 years and were 64.4% male (Figure 18). Four percent of cases (7/174) were hospitalized; no deaths were associated with Lyme disease.

Figure 18: Rates of reported cases of Lyme disease per 100,000 population, by sex and age group, Nova Scotia, 2002-2012 (n=174)



Field work to support data collection for tick surveillance activities continued in 2012. This work was done in collaboration with the Nova Scotia Department of Natural Resources and the Public Health Agency of Canada. The six Lyme Disease endemic areas in Nova Scotia are:

- Blue Rocks, Garden Lots, Heckmans Island, First Peninsula and the area immediately surrounding them in Lunenburg County
- Admiral's Cove area of Halifax County
- Gunning Cove area of Shelburne County
- Melmerby Beach, Egerton, Kings Head and Pine Tree areas of Pictou County
- Gavelton area of Yarmouth County
- Mersey Point, Queen's County

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

For further information on Lyme disease epidemiology and tick surveillance in Nova Scotia, please see the summary report titled Lyme Disease: A report on Lyme Disease Epidemiology and Surveillance in Nova Scotia (available online here: http://novascotia.ca/dhw/populationhealth/documents/Lyme-Disease-Epidemiology-and-Surveillance-in-Nova-Scotia.pdf.

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APPENDIX A

List of Notifiable Diseases in Nova Scotia (as of April 1, 2012)

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

APPENDIX B

List of Tables in Appendix

TABLE 1: Notifiable diseases reported in Nova Scotia from 2003-2012: Number of reports and crude rates per 100,000 population

Condition	Year																		All Years	
	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012			
	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Average Rate
Bloodborne Pathogens																						
Acquired Immune Deficiency Syndrome (AIDS)	7	0.7	10	1.1	5	0.5	13	1.4	5	0.5	6	0.6	2	0.2	5	0.5	4	0.4	1	0.1	58	0.6
Hepatitis B - Acute	12	1.3	11	1.2	10	1.1	8	0.9	9	1.0	7	0.8	3	0.3	1	0.1	3	0.3	1	0.1	65	0.7
Hepatitis B - Chronic or Unspecified	26	2.8	25	2.7	22	2.4	36	3.9	10	1.1	14	1.5	19	2.0	18	1.9	14	1.5	11	1.2	195	2.1
Hepatitis C	204	21.8	234	24.9	250	26.7	252	27.0	224	24.0	281	30.1	266	28.5	299	32.1	209	22.4	250	26.4	2469	26.4
Human Immunodeficiency Virus (HIV)	18	1.9	33	3.5	21	2.2	23	2.5	20	2.1	21	2.3	13	1.4	15	1.6	15	1.6	17	1.8	196	2.1
Direct Contact, Respiratory Routes, and Through the Provision of Health Care																						
Clostridium difficile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	535	56.4	535	56.4
Creutzfeldt-Jakob Disease - Classic	2	0.2	2	0.2	1	0.1	2	0.2	2	0.2	2	0.2	1	0.1	0	0.0	0	0.0	3	0.3	15	0.2
Encephalitis - Viral	0	0.0	0	0.0	1	0.1	0	0.0	2	0.2	1	0.1	2	0.2	1	0.1	2	0.2	1	0.1	10	0.1
Group A Streptococcal Disease Invasive	20	2.1	20	2.1	26	2.8	16	1.7	25	2.7	16	1.7	16	1.7	15	1.6	24	2.6	25	2.6	203	2.2
Group B Streptococcal Disease of the Newborn	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	2	0.2	2	0.2	6	0.6	3	0.3	1	0.1	15	0.2
Legionellosis	0	0.0	0	0.0	2	0.2	1	0.1	0	0.0	0	0.0	2	0.2	1	0.1	0	0.0	0	0.0	6	0.1
Meningitis - Bacterial	3	0.3	3	0.3	4	0.4	2	0.2	4	0.4	5	0.5	2	0.2	1	0.1	2	0.2	0	0.0	26	0.3
Meningitis - Viral	2	0.2	1	0.1	6	0.6	6	0.6	14	1.5	3	0.3	6	0.6	2	0.2	11	1.2	38	4.0	89	0.9
Meningococcal Disease Invasive	3	0.3	7	0.7	2	0.2	4	0.4	4	0.4	8	0.9	4	0.4	3	0.3	3	0.3	2	0.2	40	0.4
Methicillin Resistant Staphylococcus Aureus (MRSA)	374	39.9	417	44.5	759	81.1	849	90.8	951	101.8	1013	108.6	890	95.4	920	98.7	841	90.2	846	89.2	7860	84.0
Pneumococcal Disease Invasive	9	1.0	17	1.8	27	2.9	22	2.4	26	2.8	14	1.5	20	2.1	35	3.8	51	5.5	51	5.4	272	2.9
Tuberculosis	6	0.6	8	0.9	6	0.6	10	1.1	8	0.9	4	0.4	7	0.8	9	1.0	9	1.0	8	0.8	75	0.8
Vancomycin resistant Enterococcus (VRE)	7	0.7	16	1.7	35	3.7	38	4.1	7	0.7	31	3.3	10	1.1	8	0.9	18	1.9	49	5.2	219	2.3
Enteric, Foodborne, and Waterborne Diseases																						
Amebiasis	4	0.4	14	1.5	10	1.1	13	1.4	11	1.2	9	1.0	1	0.1	7	0.8	8	0.9	4	0.4	0.4	0.9
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0
Campylobacteriosis	140	14.9	150	16.0	125	13.4	132	14.1	133	14.2	159	17.0	123	13.2	151	16.2	184	19.7	187	19.7	19.7	15.8
Cryptosporidiosis	6	0.6	9	1.0	18	1.9	9	1.0	13	1.4	11	1.2	10	1.1	21	2.3	12	1.3	18	1.9	1.9	1.4
Cyclosporiasis	2	0.2	2	0.2	0	0.0	3	0.3	3	0.3	0	0.0	1	0.1	2	0.2	0	0.0	0	0.0	0	0.1
Giardiasis	87	9.3	87	9.3	108	11.5	106	11.3	74	7.9	107	11.5	76	8.1	68	7.3	65	7.0	96	10.1	10.1	9.3
Hepatitis A	4	0.4	8	0.9	5	0.5	18	1.9	5	0.5	4	0.4	2	0.2	3	0.3	4	0.4	2	0.2	0.2	0.6
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Listeriosis - Invasive	7	0.7	1	0.1	5	0.5	4	0.4	6	0.6	2	0.2	3	0.3	9	1.0	6	0.6	5	0.5	0.5	0.5
Salmonellosis	133	14.2	110	11.7	123	13.1	108	11.6	121	13.0	137	14.7	94	10.1	145	15.5	170	18.2	151	15.9	15.9	13.8
Shellfish Poisoning	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Shigellosis	7	0.7	8	0.9	19	2.0	6	0.6	6	0.6	4	0.4	11	1.2	11	1.2	13	1.4	11	1.2	1.2	1.0
Typhoid*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.3	0	0.0	3	0.3	1	0.1	0	0.0	0	0.1
Verotoxigenic E. coli	17	1.8	14	1.5	14	1.5	21	2.2	15	1.6	10	1.1	5	0.5	14	1.5	18	1.9	18	1.9	1.9	1.6
Yersiniosis	1	0.1	3	0.3	2	0.2	4	0.4	5	0.5	4	0.4	2	0.2	3	0.3	1	0.1	3	0.3	0.3	0.3
Sexually Transmitted Infections																						
Chlamydia	1552	165.7	1592	169.7	1745	186.4	1762	188.4	1788	191.4	2033	217.9	1983	212.6	2231	239.2	2475	265.4	2613	275.4	19774	211.2
Gonorrhea	118	12.6	122	13.0	104	11.1	99	10.6	72	7.7	143	15.3	127	13.6	100	10.7	102	10.9	119	12.5	1106	11.8
Lymphogranuloma Venereum	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
Syphilis - Infectious	10	1.1	14	1.5	5	0.5	2	0.2	3	0.3	4	0.4	22	2.4	20	2.1	36	3.9	63	6.6	179	1.9
Syphilis - Non-Infectious or Stage Pending	5	0.5	6	0.6	10	1.1	6	0.6	6	0.6	8	0.9	2	0.2	8	0.9	13	1.4	11	1.2	75	0.8
Vaccine Preventable Diseases																						
Haemophilus influenzae Type b Invasive Disease	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1	0	0.0	1	0.1	1	0.1	1	0.1	5	0.1
Mumps	1	0.1	0	0.0	30	3.2	6	0.6	595	63.7	5	0.5	1	0.1	1	0.1	0	0.0	0	0.0	639	6.8
Pertussis	20	2.1	21	2.2	25	2.7	48	5.1	33	3.5	14	1.5	18	1.9	6	0.6	3	0.3	22	2.3	210	2.2
Rubella	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	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	0	0.0	1	0.1	1	0.0
Vectorborne and Other Zoonoses																						
Lyme Disease - Confirmed	0	0.0	6	0.6	2	0.2	4	0.4	6	0.6	9	1.0	11	1.2	13	1.4	35	3.8	33	3.5	119	1.3
Lyme Disease - Probable	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	0.4	5	0.5	4	0.4	22	2.4	19	2.0	54	0.6
Malaria	0	0.0	6	0.6	3	0.3	2	0.2	4	0.4	2	0.2	2	0.2	5	0.5	0	0.0	3	0.3	27	0.3
Q-Fever	0	0.0	2	0.2	5	0.5	3	0.3	4	0.4	17	1.8	2	0.2	3	0.3	2	0.2	0	0.0	38	0.4
Toxoplasmosis	0	0.0	0	0.0	0	0.0	2	0.2	1	0.1	3	0.3	3	0.3	1	0.1	2	0.2	0	0.0	12	0.1
West Nile Virus	2	0.2	0	0.0	1	0.1	0	0.0	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	5	0.1
Total	**2809**	**299.4**	**2979**	**317.5**	**3538**	**377.6**	**3642**	**389.3**	**4217**	**451**	**4123**	**441.7**	**3769**	**403.7**	**4169**	**446.9**	**4383**	**469.9**	**5219**	**550.0**	**34646**	**465.5**

Notes: Notifiable diseases with no reported cases in the last 10 years and influenza cases are not included in this table. Typhoid cases were categorized as Salmonella cases prior to 2008.

TABLE 2a: Notifiable diseases reported in Nova Scotia in 2012 by District Health Authority (DHA): Number of reports

Condition	Region and District Health Authority												Total
	Western Region				Northern Region				Eastern Region			Capital Region	
	SSH	SWDHA	AVDHA	Total	CEHHA	CHA	PCHA	Total	GASHA	CBDHA	Total	CDHA	
Bloodborne Pathogens													
Acquired Immune Deficiency Syndrome (AIDS)	0	0	0	0	0	0	0	0	0	0	0	0	0
Hepatitis B - Acute	0	0	0	0	0	0	0	0	0	0	0	1	1
Hepatitis B - Chronic or Unspecified	0	0	0	0	1	0	0	1	1	0	1	9	11
Hepatitis C	3	7	6	16	21	29	17	67	5	59	64	103	250
Human Immunodeficiency Virus (HIV)	0	1	0	1	0	1	0	1	1	0	1	14	17
Direct Contact, Respiratory Routes, and Through the Provision of Health Care													
Clostridium difficile	36	45	43	124	30	22	26	78	28	101	129	204	535
Creutzfeldt-Jakob Disease - Classic	0	0	0	0	0	1	0	1	0	0	0	2	3
Encephalitis - Viral	0	1	0	1	0	0	0	0	0	0	0	0	1
Group A Streptococcal Disease Invasive	2	1	4	7	2	0	0	2	2	6	8	8	25
Group B Streptococcal Disease of the Newborn	0	0	0	0	0	0	0	0	0	0	0	1	1
Legionellosis	0	0	0	0	0	0	0	0	0	0	0	0	0
Meningitis - Bacterial	0	0	0	0	0	0	0	0	0	0	0	0	0
Meningitis - Viral	1	1	5	7	0	0	0	0	0	2	2	29	38
Meningococcal Disease Invasive	0	0	0	0	0	0	0	0	0	1	1	1	2
Methicillin Resistant Staphylococcus Aureus (MRSA)	88	119	75	282	80	57	63	200	26	92	118	246	846
Pneumococcal Disease Invasive	2	3	3	8	1	0	1	2	1	14	15	26	51
Tuberculosis	0	2	0	2	1	0	0	1	0	1	1	4	8
Vancomycin resistant Enterococcus (VRE)	2	1	0	3	4	0	2	6	4	1	5	35	49
Enteric, Foodborne, and Waterborne Diseases													
Amebiasis	1	0	0	1	0	0	0	0	0	0	0	3	4
Botulism	0	0	0	0	0	0	0	0	0	0	0	0	0
Campylobacteriosis	17	21	25	63	13	2	12	27	7	10	17	80	187
Cryptosporidiosis	1	0	2	3	3	1	0	4	3	0	3	8	18
Cyclosporiasis	0	0	0	0	0	0	0	0	0	0	0	0	0
Giardiasis	4	5	8	17	8	8	3	19	2	8	10	50	96
Hepatitis A	0	1	0	1	0	0	0	0	0	0	0	1	2
Hepatitis E	0	0	0	0	0	0	0	0	0	0	0	0	0
Listeriosis - Invasive	0	0	0	0	0	1	1	2	1	1	2	1	5
Salmonellosis	10	20	17	47	8	4	3	15	13	22	35	54	151
Shellfish Poisoning	0	0	0	0	0	0	0	0	0	0	0	0	0
Shigellosis	0	0	2	2	1	1	0	2	2	1	3	4	11
Typhoid*	0	0	0	0	0	0	0	0	0	0	0	0	0
Verotoxigenic E. coli	1	1	0	2	3	0	2	5	2	3	5	6	18
Yersiniosis	0	0	0	0	0	0	0	0	0	1	1	2	3
Sexually Transmitted Infections													
Chlamydia	86	115	248	449	161	74	84	319	72	197	269	1576	2613
Gonorrhea	2	8	5	15	6	3	1	10	2	14	16	78	119
Lymphogranuloma Venereum	0	0	0	0	0	0	0	0	0	0	0	0	0
Syphilis - Infectious	0	1	0	1	2	0	0	2	0	1	1	59	63
Syphilis - Non-Infectious or Stage Pending	0	0	0	0	1	1	0	2	0	0	0	9	11
Vaccine Preventable Diseases													
Haemophilus influenzae Type b Invasive Disease	0	0	1	1	0	0	0	0	0	0	0	0	1
Mumps	0	0	0	0	0	0	0	0	0	0	0	0	0
Pertussis	0	1	4	5	7	7	0	14	0	0	0	3	22
Rubella	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	1	1
Vectorborne and Other Zoonoses													
Lyme Disease - Confirmed	27	1	1	29	0	0	0	0	0	0	0	4	33
Lyme Disease - Probable	13	2	1	16	0	0	2	2	0	0	0	1	19
Malaria	0	0	0	0	0	1	0	1	0	0	0	2	3
Q-Fever	0	0	0	0	0	0	0	0	0	0	0	0	0
Toxoplasmosis	0	0	0	0	0	0	0	0	0	0	0	0	0
West Nile Virus	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**296**	**357**	**450**	**1103**	**353**	**213**	**217**	**783**	**172**	**535**	**707**	**2625**	**5218**

Notes: Excludes 1 case of AIDS with no reported DHA. Notifiable diseases with no reported cases in the last 10 years and influenza cases are not included in this table. SSH = South Shore Health, SWDHA = South West District Health Authority, AVDHA = Annapolis Valley District Health Authority, CEHHA = Colchester East Hants Health Authority, CHA = Cumberland Health Authority, PCHA = Pictou County Health Authority, GASHA = Guysborough Antigonish Strait Health Authority, CBDHA = Cape Breton District Health Authority, CDHA = Capital District Health Authority.

TABLE 2b: Notifiable diseases reported in Nova Scotia in 2012 by District Health Authority (DHA): Crude rates per 100,000 population

Condition	Region and District Health Authority												Total
	Western Region				Northern Region				Eastern Region			Capital Region	
	SSH	SWDHA	AVDHA	Total	CEHHA	CHA	PCHA	Total	GASHA	CBDHA	Total	CDHA	
Bloodborne Pathogens													
Acquired Immune Deficiency Syndrome (AIDS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Hepatitis B - Acute	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1
Hepatitis B - Chronic or Unspecified	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.7	2.3	0.0	0.6	2.1	1.2
Hepatitis C	5.2	12.0	7.3	8.1	29.2	92.2	36.5	44.7	11.6	48.6	38.9	23.6	26.8
Human Immunodeficiency Virus (HIV)	0.0	1.7	0.0	0.5	0.0	3.2	0.0	0.7	2.3	0.0	0.6	3.2	1.8
Direct Contact, Respiratory Routes, and Through the Provision of Health Care													
Clostridium difficile	62.4	77.3	52.1	62.5	41.7	69.9	55.9	52.0	64.8	83.1	78.3	46.8	57.4
Creutzfeldt-Jakob Disease - Classic	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.7	0.0	0.0	0.0	0.5	0.3
Encephalitis - Viral	0.0	1.7	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Group A Streptococcal Disease Invasive	3.5	1.7	4.8	3.5	2.8	0.0	0.0	1.3	4.6	4.9	4.9	1.8	2.7
Group B Streptococcal Disease of the Newborn	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1
Legionellosis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meningitis - Bacterial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meningitis - Viral	1.7	1.7	6.1	3.5	0.0	0.0	0.0	0.0	0.0	1.6	1.2	6.7	4.1
Meningococcal Disease Invasive	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.6	0.2	0.2
Methicillin Resistant Staphylococcus Aureus (MRSA)	152.5	204.4	90.9	142.1	111.3	181.2	135.4	133.4	60.1	75.7	71.6	56.5	90.7
Pneumococcal Disease Invasive	3.5	5.2	3.6	4.0	1.4	0.0	2.1	1.3	2.3	11.5	9.1	6.0	5.5
Tuberculosis	0.0	3.4	0.0	1.0	1.4	0.0	0.0	0.7	0.0	0.8	0.6	0.9	0.9
Vancomycin resistant Enterococcus (VRE)	3.5	1.7	0.0	1.5	5.6	0.0	4.3	4.0	9.3	0.8	3.0	8.0	5.3
Enteric, Foodborne, and Waterborne Diseases													
Amebiasis	1.7	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4
Botulism	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Campylobacteriosis	29.5	36.1	30.3	31.7	18.1	6.4	25.8	18.0	16.2	8.2	10.3	18.4	20.1
Cryptosporidiosis	1.7	0.0	2.4	1.5	4.2	3.2	0.0	2.7	6.9	0.0	1.8	1.8	1.9
Cyclosporiasis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Giardiasis	6.9	8.6	9.7	8.6	11.1	25.4	6.4	12.7	4.6	6.6	6.1	11.5	10.3
Hepatitis A	0.0	1.7	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Hepatitis E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Listeriosis - Invasive	0.0	0.0	0.0	0.0	0.0	3.2	2.1	1.3	2.3	0.8	1.2	0.2	0.5
Salmonellosis	17.3	34.4	20.6	23.7	11.1	12.7	6.4	10.0	30.1	18.1	21.2	12.4	16.2
Shellfish Poisoning	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shigellosis	0.0	0.0	2.4	1.0	1.4	3.2	0.0	1.3	4.6	0.8	1.8	0.9	1.2
Typhoid*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Verotoxigenic E. coli	1.7	1.7	0.0	1.0	4.2	0.0	4.3	3.3	4.6	2.5	3.0	1.4	1.9
Yersiniosis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.6	0.5	0.3
Sexually Transmitted Infections													
Chlamydia	149.0	197.5	300.5	226.2	223.9	235.2	180.5	212.8	166.5	162.1	163.3	361.8	280.2
Gonorrhea	3.5	13.7	6.1	7.6	8.3	9.5	2.1	6.7	4.6	11.5	9.7	17.9	12.8
Lymphogranuloma Venereum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Syphilis - Infectious	0.0	1.7	0.0	0.5	2.8	0.0	0.0	1.3	0.0	0.8	0.6	13.5	6.8
Syphilis - Non-Infectious or Stage Pending	0.0	0.0	0.0	0.0	1.4	3.2	0.0	1.3	0.0	0.0	0.0	2.1	1.2
Vaccine Preventable Diseases													
Haemophilus influenzae Type b Invasive Disease	0.0	0.0	1.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
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	0.0
Pertussis	0.0	1.7	4.8	2.5	9.7	22.2	0.0	9.3	0.0	0.0	0.0	0.7	2.4
Rubella	0.0	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	0.2	0.1
Vectorborne and Other Zoonoses													
Lyme Disease - Confirmed	46.8	1.7	1.2	14.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	3.5
Lyme Disease - Probable	22.5	3.4	1.2	8.1	0.0	0.0	4.3	1.3	0.0	0.0	0.0	0.2	2.0
Malaria	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.7	0.0	0.0	0.0	0.5	0.3
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	0.0
Toxoplasmosis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
West Nile Virus	0.0	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	512.9	613.0	545.2	555.8	491.0	677.1	466.1	522.4	397.7	440.0	429.2	602.5	559.7

Notes: Notifiable diseases with no reported cases in the last 10 years and influenza cases are not included in this table. SSH = South Shore Health, SWDHA = South West District Health Authority, AVDHA = Annapolis Valley District Health Authority, CEHHA = Colchester East Hants Health Authority, CHA = Cumberland Health Authority, PCHA = Pictou County Health Authority, GASHA = Guysborough Antigonish Strait Health Authority, CBDHA = Cape Breton District Health Authority, CDHA = Capital District Health Authority.

TABLE 3: Notifiable diseases reported in Nova Scotia in 2012 by age group: Number of reports and age specific rates per 100,000 population

Condition	Age Group (Years)												Total	
	0-4		5-14		15-24		25-39		40-59		60+			
	n	*Rate*	n	*Rate*	n	*Rate*	n	*Rate*	n	*Rate*	n	*Rate*	n	*Rate*
Bloodborne Pathogens														
Acquired Immune Deficiency Syndrome (AIDS)	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	1	0.1
Hepatitis B - Acute	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3	0	0.0	1	0.1
Hepatitis B - Chronic or Unspecified	0	0.0	0	0.0	2	1.6	5	2.9	2	0.7	2	0.9	11	1.2
Hepatitis C	2	4.4	0	0.0	51	41.5	89	51.8	94	32.6	14	6.1	250	26.4
Human Immunodeficiency Virus (HIV)	0	0.0	0	0.0	1	0.8	8	4.7	7	2.4	1	0.4	17	1.8
Direct Contact, Respiratory Routes, and Through the Provision of Health Care														
Clostridium difficile	24	52.8	13	14.1	35	28.5	32	18.6	114	39.6	315	138.0	535	56.4
Creutzfeldt-Jakob Disease - Classic	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3	2	0.9	3	0.3
Encephalitis - Viral	0	0.0	0	0.0	0	0.0	0	0.0	1	0.3	0	0.0	1	0.1
Group A Streptococcal Disease Invasive	0	0.0	1	1.1	4	3.3	5	2.9	9	3.1	6	2.6	25	2.6
Group B Streptococcal Disease of the Newborn	1	2.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
Legionellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningitis - Bacterial	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Meningitis - Viral	23	50.6	4	4.4	3	2.4	5	2.9	2	0.7	1	0.4	38	4.0
Meningococcal Disease Invasive	0	0.0	0	0.0	1	0.8	0	0.0	1	0.3	0	0.0	2	0.2
Methicillin Resistant Staphylococcus Aureus (MRSA)	17	37.4	27	29.4	49	39.8	65	37.8	146	50.7	541	237.0	846	89.2
Pneumococcal Disease Invasive	5	11.0	3	3.3	3	2.4	3	1.7	14	4.9	23	10.1	51	5.4
Tuberculosis	0	0.0	0	0.0	0	0.0	4	2.3	1	0.3	3	1.3	8	0.8
Vancomycin resistant Enterococcus (VRE)	0	0.0	0	0.0	1	0.8	3	1.7	9	3.1	36	15.8	49	5.2
Enteric, Foodborne, and Waterborne Diseases														
Amebiasis	0	0.0	0	0.0	0	0.0	2	1.2	1	0.3	1	0.4	4	0.4
Botulism	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Campylobacteriosis	13	28.6	12	13.1	24	19.5	27	15.7	68	23.6	43	18.8	187	19.7
Cryptosporidiosis	1	2.2	1	1.1	5	4.1	4	2.3	3	1.0	4	1.8	18	1.9
Cyclosporiasis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Giardiasis	5	11.0	5	5.4	10	8.1	24	14.0	33	11.4	19	8.3	96	10.1
Hepatitis A	0	0.0	0	0.0	1	0.8	1	0.6	0	0.0	0	0.0	2	0.2
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Listeriosis - Invasive	1	2.2	0	0.0	0	0.0	1	0.6	0	0.0	3	1.3	5	0.5
Salmonellosis	10	22.0	3	3.3	23	18.7	21	12.2	60	20.8	34	14.9	151	15.9
Shellfish Poisoning	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Shigellosis	1	2.2	0	0.0	1	0.8	3	1.7	6	2.1	0	0.0	11	1.2
Typhoid*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Verotoxigenic E. coli	2	4.4	4	4.4	4	3.3	1	0.6	2	0.7	5	2.2	18	1.9
Yersiniosis	0	0.0	0	0.0	1	0.8	0	0.0	0	0.0	2	0.9	3	0.3
Sexually Transmitted Infections														
Chlamydia	0	0.0	12	13.1	1886	1533.1	650	378.3	62	21.5	1	0.4	2613	275.4
Gonorrhea	0	0.0	0	0.0	60	48.8	47	27.4	12	4.2	0	0.0	119	12.5
Lymphogranuloma Venereum	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Syphilis - Infectious	0	0.0	0	0.0	26	21.1	25	14.5	12	4.2	0	0.0	63	6.6
Syphilis - Non-Infectious or Stage Pending	0	0.0	0	0.0	3	2.4	4	2.3	3	1.0	1	0.4	11	1.2
Vaccine Preventable Diseases														
Haemophilus influenzae Type b Invasive Disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.4	1	0.1
Mumps	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Pertussis	4	8.8	9	9.8	0	0.0	2	1.2	4	1.4	3	1.3	22	2.3
Rubella	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	1	0.4	1	0.1
Vectorborne and Other Zoonoses														
Lyme Disease - Confirmed	3	6.6	4	4.4	1	0.8	2	1.2	9	3.1	14	6.1	33	3.5
Lyme Disease - Probable	0	0.0	2	2.2	3	2.4	1	0.6	6	2.1	7	3.1	19	2.0
Malaria	1	2.2	1	1.1	0	0.0	0	0.0	1	0.3	0	0.0	3	0.3
Q-Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Toxoplasmosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
West Nile Virus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL	**113**	**248.6**	**101**	**110.2**	**2198**	**1786.6**	**1034**	**601.7**	**684**	**237.0**	**1084**	**474.6**	**5214**	**467.7**

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

TABLE 4: Notifiable diseases reported in Nova Scotia in 2012: Number of reports and sex-specific rates per 100,000 population

Condition	Sex				Total	
	Female		Male			
	n	*Rate*	n	*Rate*	n	*Rate*
Bloodborne Pathogens						
Acquired Immune Deficiency Syndrome (AIDS)	0	0.0	1	0.2	1	0.1
Hepatitis B - Acute	1	0.2	0	0.0	1	0.1
Hepatitis B - Chronic or Unspecified	5	1.0	6	1.3	11	1.2
Hepatitis C	88	18.1	162	35.1	250	26.4
Human Immunodeficiency Virus (HIV)	0	0.0	17	3.7	17	1.8
Direct Contact, Respiratory Routes, and Through the Provision of Health Care						
Clostridium difficile	297	60.9	238	51.6	535	56.4
Creutzfeldt-Jakob Disease - Classic	2	0.4	1	0.2	3	0.3
Encephalitis - Viral	0	0.0	1	0.2	1	0.1
Group A Streptococcal Disease Invasive	11	2.3	14	3.0	25	2.6
Group B Streptococcal Disease of the Newborn	0	0.0	1	0.2	1	0.1
Legionellosis	0	0.0	0	0.0	0	0.0
Meningitis - Bacterial	0	0.0	0	0.0	0	0.0
Meningitis - Viral	19	3.9	19	4.1	38	4.0
Meningococcal Disease Invasive	2	0.4	0	0.0	2	0.2
Methicillin Resistant Staphylococcus Aureus (MRSA)	374	76.7	472	102.3	846	89.2
Pneumococcal Disease Invasive	20	4.1	31	6.7	51	5.4
Tuberculosis	2	0.4	6	1.3	8	0.8
Vancomycin resistant Enterococcus (VRE)	21	4.3	28	6.1	49	5.2
Enteric, Foodborne, and Waterborne Diseases						
Amebiasis	1	0.2	3	0.7	4	0.4
Botulism	0	0.0	0	0.0	0	0.0
Campylobacteriosis	77	15.8	110	23.8	187	19.7
Cryptosporidiosis	10	2.1	8	1.7	18	1.9
Cyclosporiasis	0	0.0	0	0.0	0	0.0
Giardiasis	38	7.8	58	12.6	96	10.1
Hepatitis A	1	0.2	1	0.2	2	0.2
Hepatitis E	0	0.0	0	0.0	0	0.0
Listeriosis - Invasive	3	0.6	2	0.4	5	0.5
Salmonellosis	76	15.6	75	16.3	151	15.9
Shellfish Poisoning	0	0.0	0	0.0	0	0.0
Shigellosis	6	1.2	5	1.1	11	1.2
Typhoid*	0	0.0	0	0.0	0	0.0
Verotoxigenic E. coli	11	2.3	7	1.5	18	1.9
Yersiniosis	2	0.4	1	0.2	3	0.3
Sexually Transmitted Infections						
Chlamydia	1838	377.1	774	167.8	2613	275.4
Gonorrhea	46	9.4	73	15.8	119	12.5
Lymphogranuloma Venereum	0	0.0	0	0.0	0	0.0
Syphilis - Infectious	1	0.2	62	13.4	63	6.6
Syphilis - Non-Infectious or Stage Pending	2	0.4	9	2.0	11	1.2
Vaccine Preventable Diseases						
Haemophilus influenzae Type b Invasive Disease	1	0.2	0	0.0	1	0.1
Mumps	0	0.0	0	0.0	0	0.0
Pertussis	14	2.9	8	1.7	22	2.3
Rubella	0	0.0	0	0.0	0	0.0
Tetanus	0	0.0	1	0.2	1	0.1
Vectorborne and Other Zoonoses						
Lyme Disease - Confirmed	12	2.5	21	4.6	33	0.1
Lyme Disease - Probable	5	1.0	14	3.0	19	0.0
Malaria	1	0.2	2	0.4	3	2.3
Q-Fever	0	0.0	0	0.0	0	0.0
Toxoplasmosis	0	0.0	0	0.0	0	0.1
West Nile Virus	0	0.0	0	0.0	0	0.0
TOTAL	**2987**	**612.8**	**2231**	**483.4**	**5218**	**546.7**

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