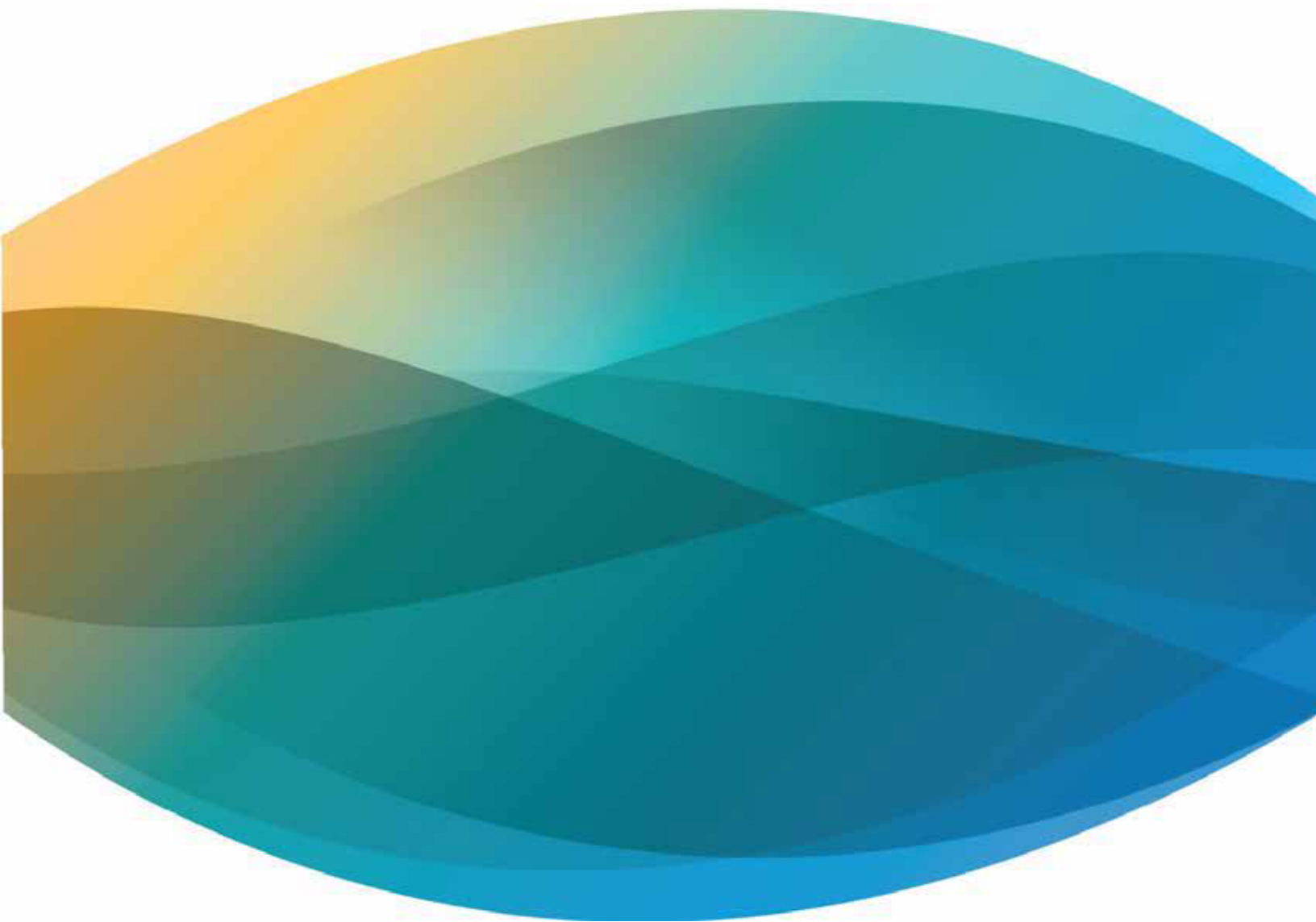


Northwestern Health Unit  
Annual Infectious Disease Report  
2017



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Northwestern  
Health Unit

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[www.nwhu.on.ca](http://www.nwhu.on.ca)

## About the report

The *NWHU Annual Infectious Disease Report, 2017* outlines recent numbers and trends on various infectious diseases in the Northwestern Health Unit (NWHU) catchment area. The objectives of the report are to:

- Summarize and describe infectious disease activity in the NWHU area in 2017.
- Examine trends of infectious disease incidence over time in the NWHU area.
- Compare local and provincial trends.
- Identify priority areas of focus for infectious disease programs and planning.

The report covers all diseases which were reportable in Ontario in 2017. However, only certain diseases are analyzed in detail because some diseases occur very infrequently in the NWHU area, rendering meaningful analysis impossible.

Interpreting analysis of disease rates based on small numbers in small populations should be undertaken with caution; such rates are subject to large fluctuations over time, and the uncertainty around their estimates is large.

It should be noted that cases of disease in this report are based on laboratory-confirmed reported cases or cases that have been reported to the health unit, and that not all cases of diseases may be captured. For example, individuals exhibiting mild clinical symptoms may not seek medical care and may not receive laboratory confirmation of their disease. This should be noted when analyzing increases or decreases in disease incidence. Increased rates may indicate increased presence of a particular disease in the region, but it may also indicate that rates of testing for the disease have increased and more cases have been diagnosed.

## Table of Contents

<b>About the report</b> .....	<b>1</b>
<b>Enteric and Zoonotic Diseases</b> .....	<b>4</b>
Campylobacter enteritis.....	4
Salmonellosis .....	7
Giardiasis .....	9
Invasive Group A Streptococcal Disease (iGAS) .....	12
Influenza.....	16
Tuberculosis .....	20
<b>Sexually-Transmitted and Blood-Borne Infections</b> .....	<b>20</b>
Chlamydia .....	20
Gonorrhea .....	24
Hepatitis C.....	29
<b>Vaccine-Preventable Diseases</b> .....	<b>32</b>
Streptococcus pneumoniae, invasive.....	32
<b>Appendix 1: Data notes</b> .....	<b>36</b>
<b>Appendix 2: Case counts and rates for all reportable diseases</b> .....	<b>37</b>

## List of Figures

Figure 1: Campylobacter enteritis incidence rates, 2010-2017 .....	4
Figure 2: Campylobacter enteritis rates in the NWHU by age group and sex, 5-year combined 2013-2017 .....	5
Figure 3: Campylobacter enteritis cases by month, NWHU, 2013-2017 .....	6
Figure 4: Risk factors for campylobacter enteritis, NWHU, 2013-2017 combined .....	6
Figure 5: Salmonellosis incidence rates, 2010-2017 .....	7
Figure 6: Salmonellosis rates in the NWHU by age group and sex, 5-year combined 2013-2017 .....	8
Figure 7: Salmonellosis cases by month, NWHU, 2013-2017 .....	8
Figure 8: Risk factors for Salmonellosis, NWHU, 2013-2017 combined .....	9
Figure 9: Giardiasis incidence rates, 2010-2017 .....	10
Figure 10: Giardiasis rates in the NWHU by age group and sex, 5-year combined 2013-2017 .....	11
Figure 11: Giardiasis cases by month, NWHU, 2013-2017 .....	11
Figure 12: iGAS incidence rates, 2010-2017 .....	12
Figure 13: iGAS rates in the NWHU by age group and sex, 2017 .....	13
Figure 14: iGAS rates in the NWHU by Local Health Hub, 2013-2017 .....	13
Figure 15: iGAS cases by month, NWHU, 2017 .....	14
Figure 16: Risk factors for iGAS, NWHU, 2017 combined .....	15
Figure 17: iGAS cases with a dermatological condition by age group and sex, 2017 (N=37) .....	15
Figure 18: iGAS cases with a dermatological condition by other risk factors, 2017 .....	16
Figure 19: Influenza incidence rates, 2010/11-2017/18 .....	17
Figure 20: Influenza rates in the NWHU by age group and sex, 2017/18 season .....	17
Figure 21: influenza rates in the NWHU by Local Health Hub, 2013/14-2017/18 .....	18
Figure 22: Influenza cases by month, NWHU, 2017/18 season .....	19
Figure 23: Risk factors for influenza, NWHU, 2016/17 and 2017/18 seasons .....	19
Figure 24: Incidence of tuberculosis in the NWHU by age group, 2013-2017 .....	20
Figure 25: Chlamydia incidence rates, 2010-2017 .....	21
Figure 26: Chlamydia rates in the NWHU by age group and sex, 2017 .....	21
Figure 27: Chlamydia rates in the NWHU by Local Health Hub, 2017 .....	22
Figure 28: Chlamydia cases by month, NWHU, 2017 .....	22
Figure 29: Risk factors for chlamydia, NWHU, 2017 .....	23
Figure 30: Chlamydia tests in the NWHU, 2011-2017 .....	24
Figure 31: Gonorrhea incidence rates, 2010-2017 .....	25
Figure 32: Gonorrhea rates in the NWHU by age group and sex, 2017 .....	26
Figure 33: Gonorrhea rates in the NWHU by Local Health Hub, 2016-2017 .....	26
Figure 34: Gonorrhea cases by month, NWHU, 2017 .....	27
Figure 35: Risk factors for gonorrhea, NWHU, 2017 .....	28
Figure 36: Gonorrhea tests in the NWHU, 2011-2017 .....	28
Figure 37: Hepatitis C incidence rates, 2010-2017 .....	29
Figure 38: Hepatitis C rates in the NWHU by age group and sex, 2017 .....	30
Figure 39: Hepatitis C rates in the NWHU by Local Health Hub, 2015-2017 .....	30
Figure 40: Hepatitis C cases by month, NWHU, 2017 .....	31
Figure 41: Risk factors for hepatitis C, NWHU, 2017 .....	32
Figure 42: Invasive streptococcus pneumoniae incidence rates, 2010-2017 .....	33
Figure 43: Invasive streptococcus pneumoniae rates in the NWHU by age group and sex, 2017 .....	34
Figure 44: Invasive streptococcus pneumoniae cases by month, NWHU, 2013-2017 .....	34
Figure 45: Risk factors for invasive streptococcus pneumoniae, NWHU, 2013-2017 .....	35

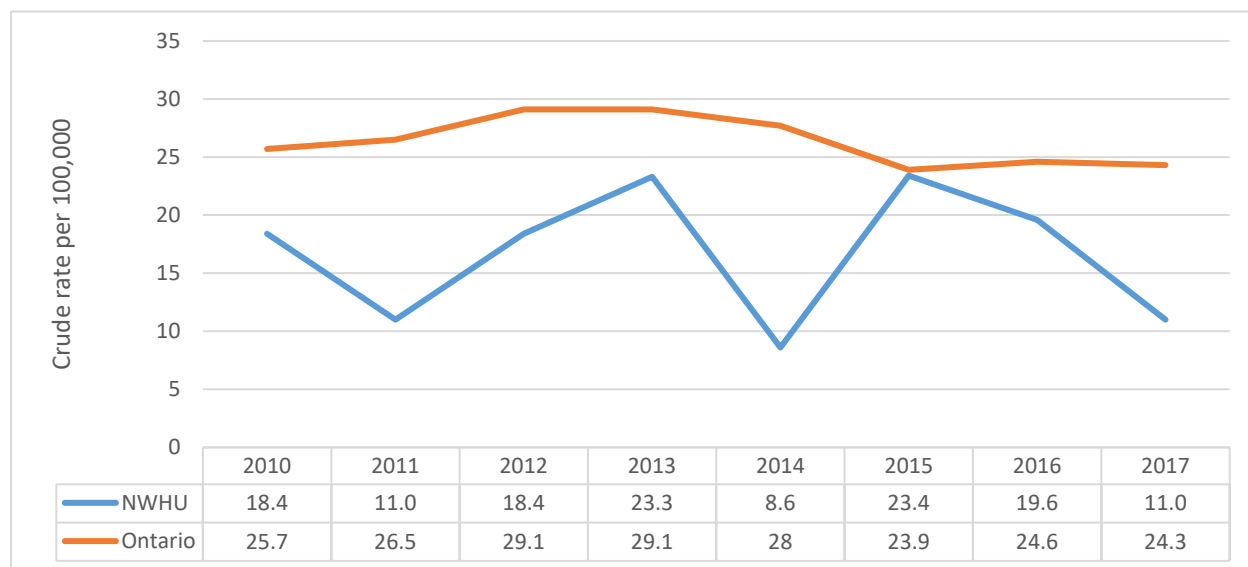
# Enteric and Zoonotic Diseases

## Campylobacter enteritis

### Incidence Rates

In 2017 there were 9 cases of campylobacter enteritis in the NWHU catchment area, which gives a crude incidence rate of 11.0 per 100,000. This was statistically lower than the provincial rate of 24.3 per 100,000. Incidence in the NWHU area tends to fluctuate year to year, as outlined below (Figure 1).

**Figure 1: Campylobacter enteritis incidence rates, 2010-2017**

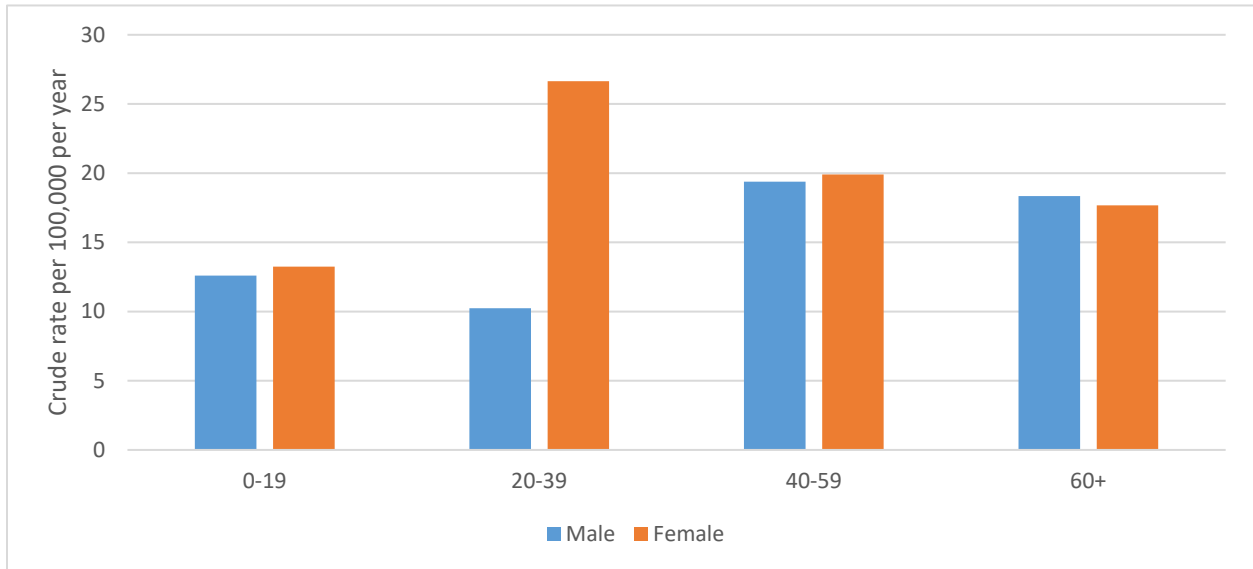


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by disease and year. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

### Rates by Age and Sex

Incidence rates of campylobacter enteritis are fairly evenly distributed across the age spectrum in the NWHU. The highest rate was in the 20-39 female demographic, with a rate of 26.6 per 100,000 (Figure 2).

**Figure 2: Campylobacter enteritis rates in the NWHU by age group and sex, 5-year combined 2013-2017**

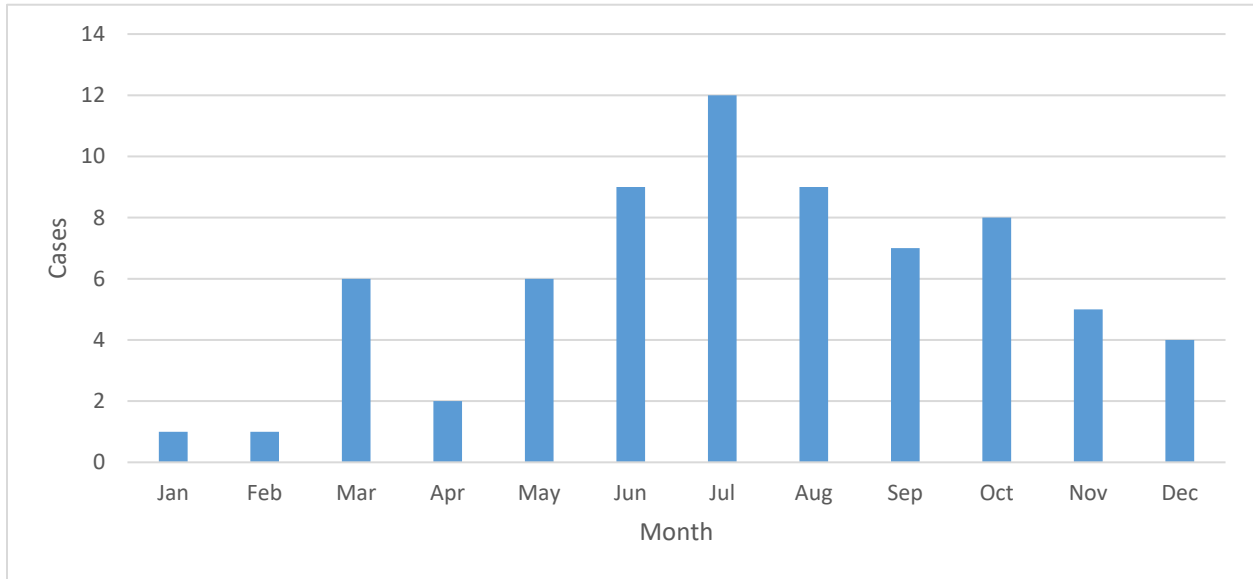


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

### Monthly Incidence

Over the past 5 years the summer months have been the most common time for campylobacter enteritis to occur in the NWHU area. The most number of cases over this time occurred in June to August (Figure 3).

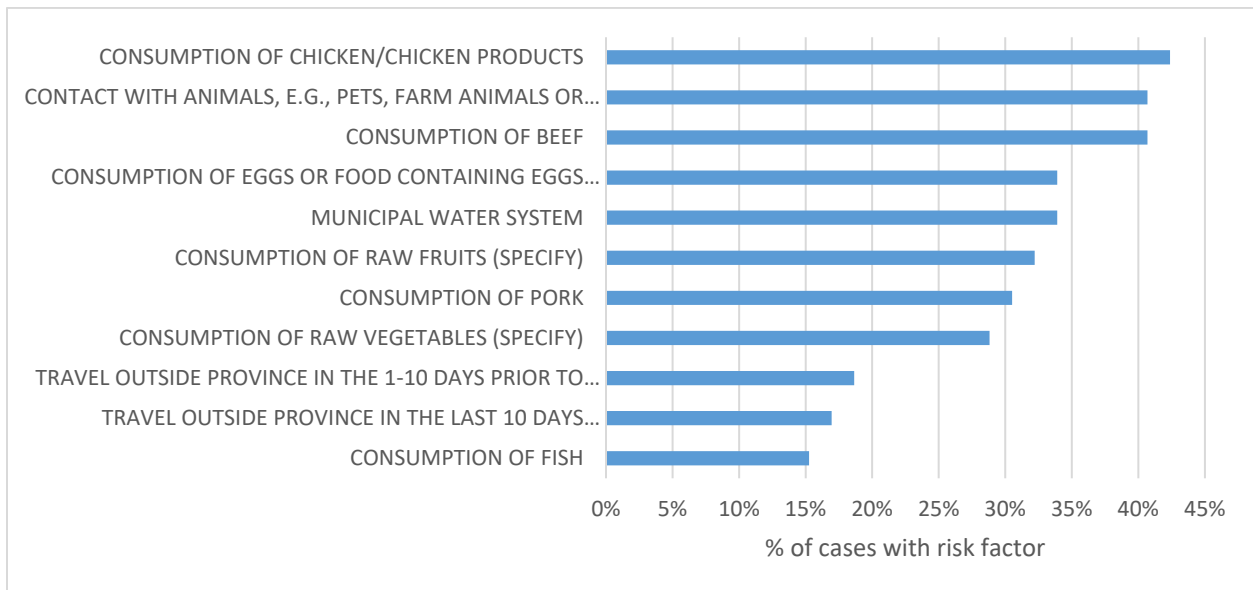
**Figure 3: Campylobacter enteritis cases by month, NWHU, 2013-2017**



Source: Public Health Ontario. Query: Northwestern Health Unit: Historical comparisons by month and year. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

## Risk Factors

**Figure 4: Risk factors for campylobacter enteritis, NWHU, 2013-2017 combined (n=59)**



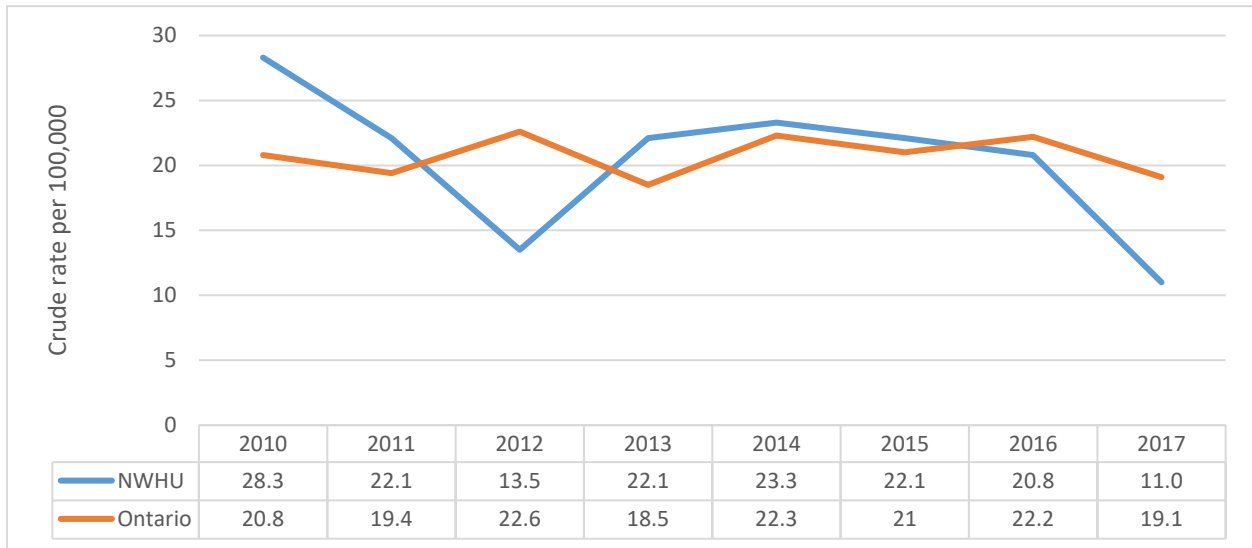
Source: iPHIS. Date Extracted: July 3, 2018

# Salmonellosis

## Incidence Rates

In 2017 there were 9 cases of salmonellosis in the NWHU catchment area, which gives a crude incidence rate of 11.0 per 100,000. This is statistically lower than the previous five years when the average incidence was 20.4 per 100,000 per year. Rates in the area have been general similar to provincial rates in recent years, although rates in the NWHU area tend to fluctuate more (Figure 5).

**Figure 5: Salmonellosis incidence rates, 2010-2017**



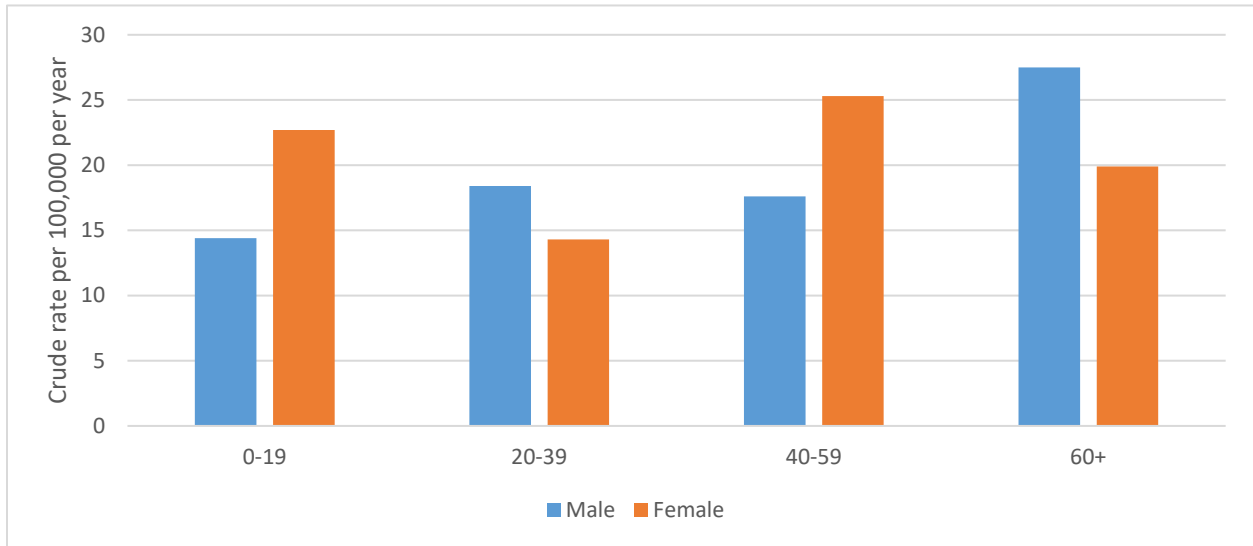
Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by disease and year. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

## Rates by Age and Sex

Rates of salmonellosis have generally been similar in males and females and across age groups in the NWHU area (Figure 6).



**Figure 6: Salmonellosis rates in the NWHU by age group and sex, 5-year combined 2013-2017**

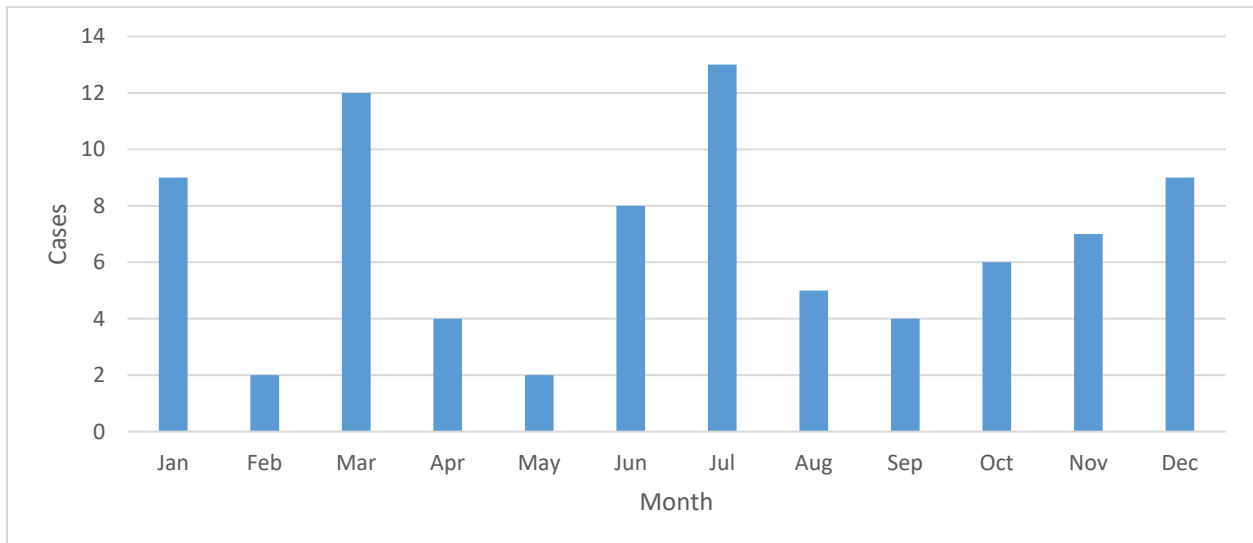


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

### Monthly Incidence

Looking at the past 5 years of cases, there appears to be no real seasonal trend of salmonellosis in the NWHU area. Cases have occurred across all months, although the two most common months were July and March (Figure 7).

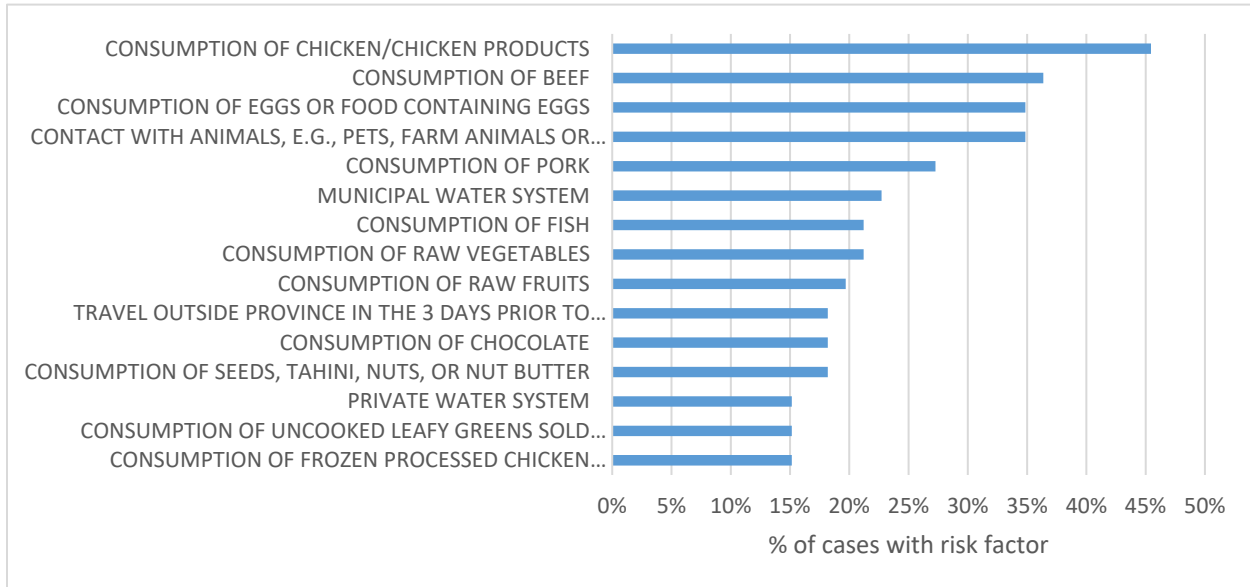
**Figure 7: Salmonellosis cases by month, NWHU, 2013-2017**



Source: Public Health Ontario. Query: Northwestern Health Unit: Historical comparisons by month and year. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

## Risk Factors

**Figure 8: Risk factors for Salmonellosis, NWHU, 2013-2017 combined (n=66)**



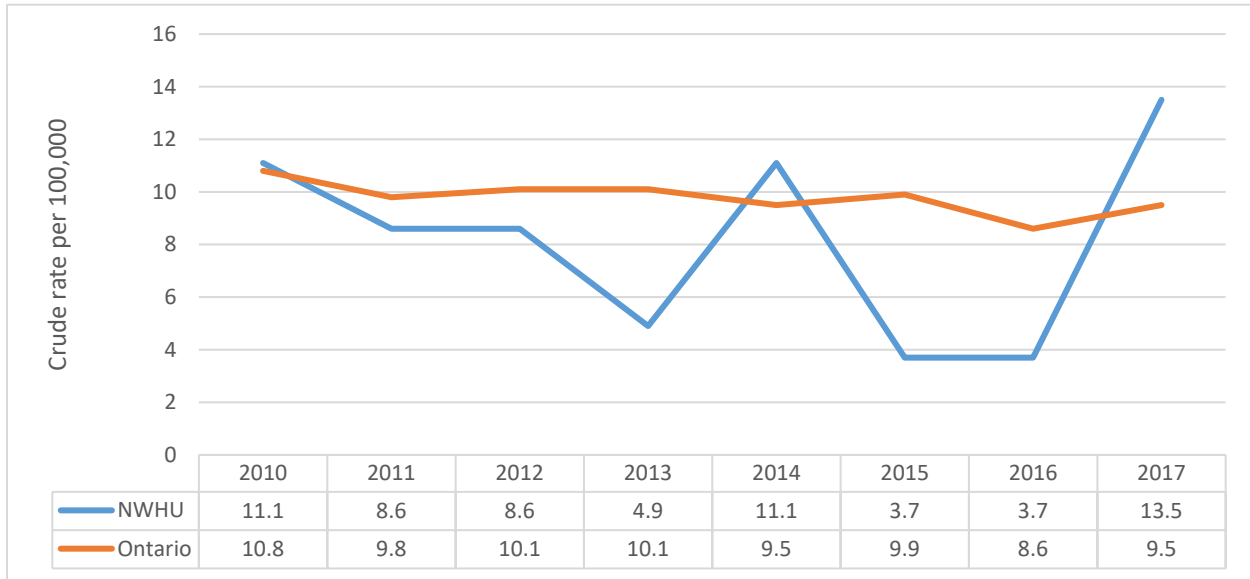
Source: iPHIS. Date Extracted: July 3, 2018

## Giardiasis

### Incidence Rates

In 2017 there were 11 cases of giardiasis in the NWHU area, which equals an incidence rate of 13.5 per 100,000. This is higher than but not statistically different from the provincial rate of 9.5 per 100,000 in 2017. Over the past eight years the incidence in the NWHU area has tended to fluctuate year to year, but has overall been similar to the provincial rate over this time.

**Figure 9: Giardiasis incidence rates, 2010-2017**

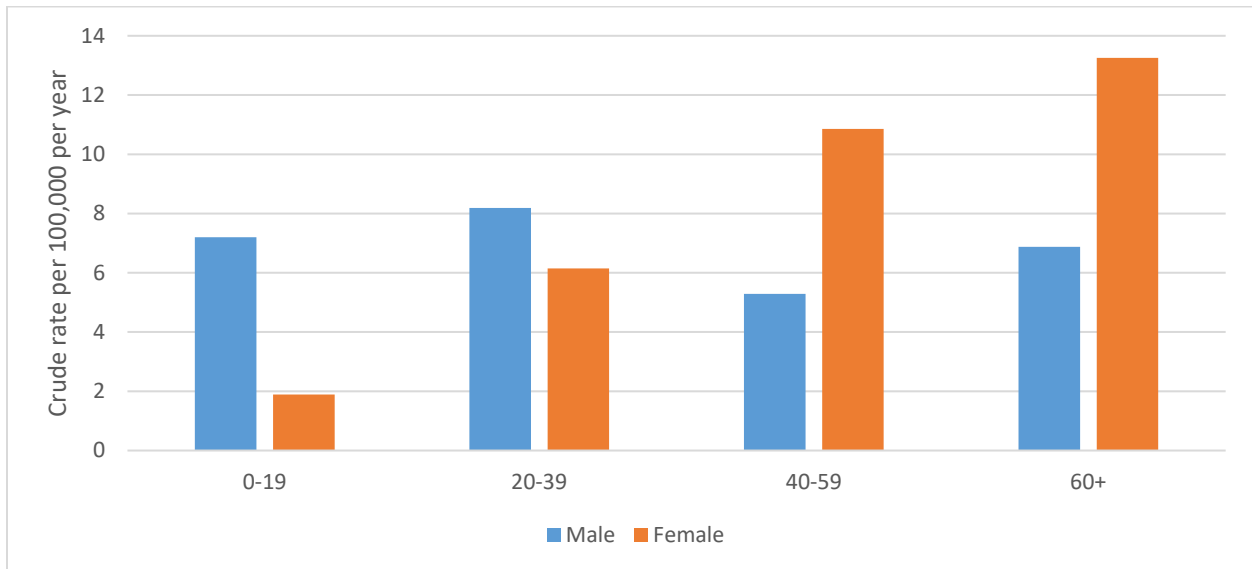


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by disease and year. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

### **Rates by Age and Sex**

There is no significant difference in the incidence of giardiasis between males and females in the NWHU catchment area. The lowest rate is in the female <19 population (3.8 per 100,000 per year), while females in the 40-59 age group and 60+ age group have statistically higher rates than males (Figure 10).

**Figure 10: Giardiasis rates in the NWHU by age group and sex, 5-year combined 2013-2017**

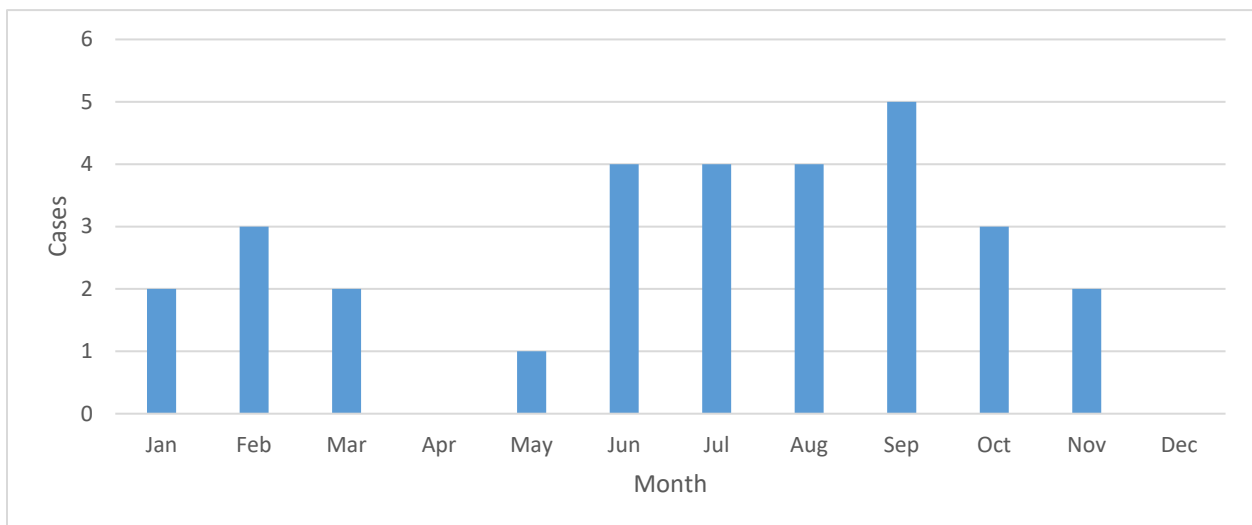


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

### Monthly Incidence

Looking at data over the past five years, giardiasis cases seem to occur most frequently in the summer and fall months in the NWHU area, and less frequently in the winter and spring months (Figure 11).

**Figure 11: Giardiasis cases by month, NWHU, 2013-2017**



Source: Public Health Ontario. Query: Northwestern Health Unit: Historical comparisons by month and year. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

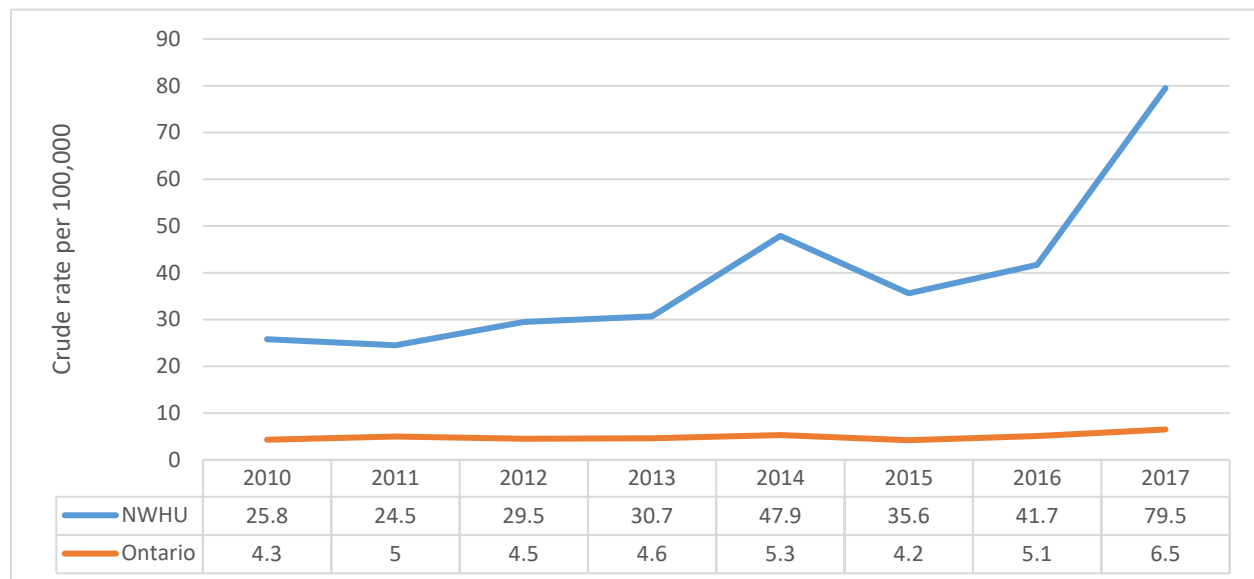
# Respiratory diseases and diseases transmitted by direct contact

## Invasive Group A Streptococcal Disease (iGAS)

### Incidence Rates

There were 65 cases of iGAS in the NWHU area in 2017, which equals an incidence rate of 79.5 per 100,000. This is statistically higher than the Ontario rate of 6.5 per 100,000. It was also a statistically significant increase in incidence compared to the previous five years in the NWHU, where the rate was 37.1 per 100,000 per year (Figure 12).

Figure 12: iGAS incidence rates, 2010-2017

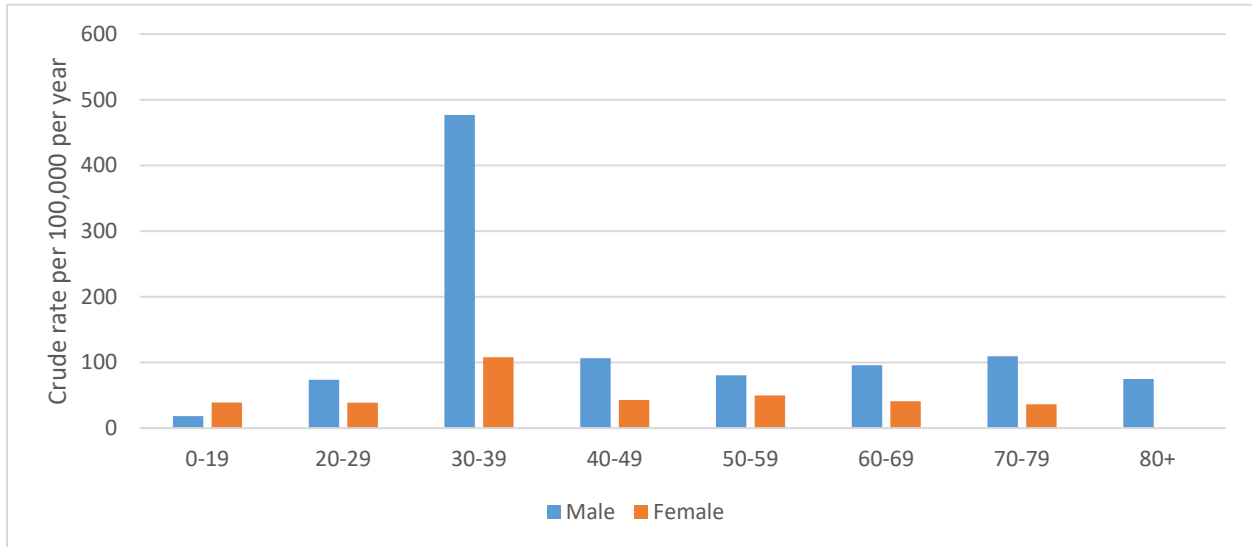


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by disease and year. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted May 11, 2018

### Rates by Age and Sex

Looking at cases by age group and sex over the past 2 years, rates were highest by far in males in their thirties. Incidence in this group was 270.8 per 100,000 per year. Rates were also high in people in their seventies, with a rate of 94.0 per 100,000 per year.

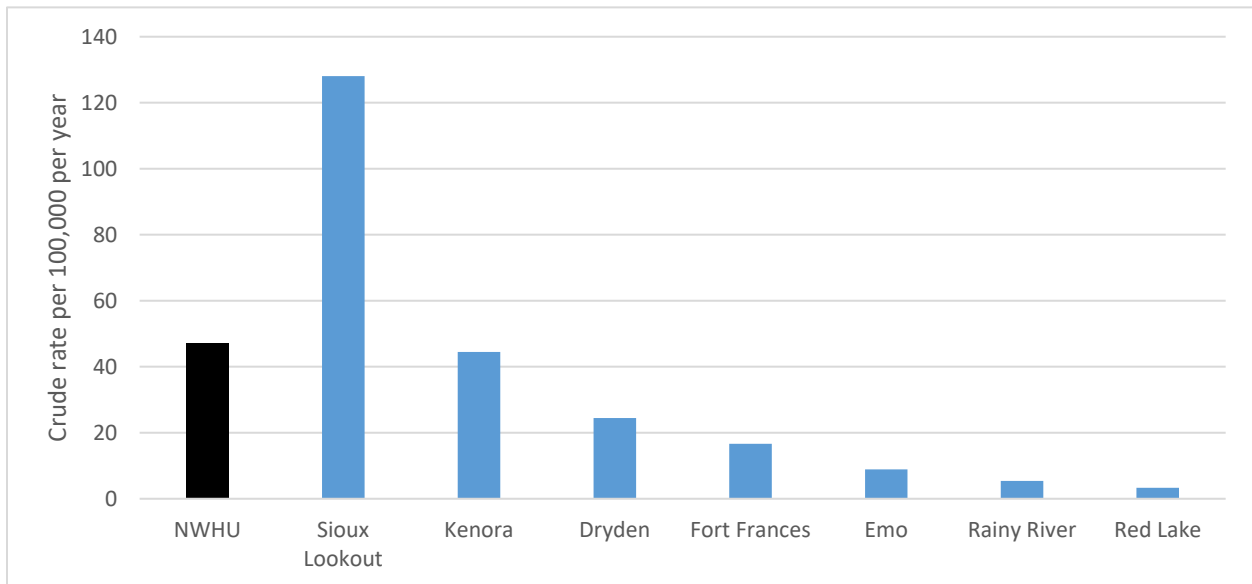
**Figure 13: iGAS rates in the NWHU by age group and sex, 2017**



Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

## Rates by Local Health Hub

**Figure 14: iGAS rates in the NWHU by Local Health Hub\*, 2013-2017**



Source: iPHIS Extracted April 11, 2018

\*as defined by the North West Local Health Integration Network:

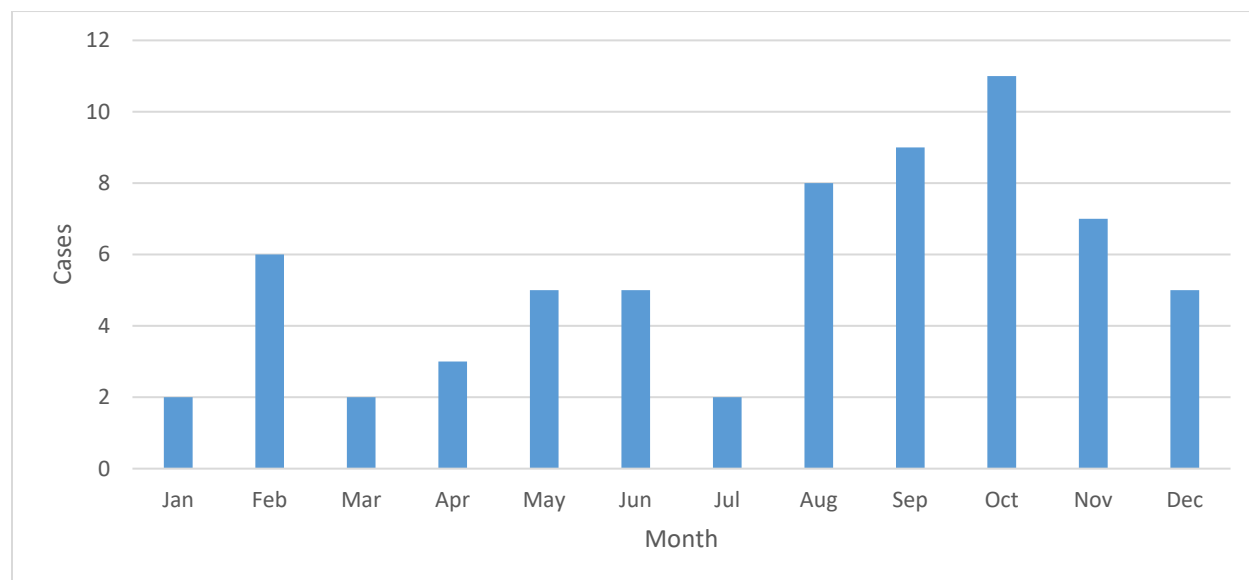
<http://www.northwestlin.on.ca/goalsandachievements/Health%20Services%20Blueprint/BlueprintTools/LocalHealthHubProfiles.aspx>

Note: Sioux Lookout Local Health Hub only includes communities that fall within the NWHU catchment area: there are 13 communities in the Sioux Lookout Local Health Hub that fall within the Thunder Bay District Health Unit, and were excluded from these statistics.

## Monthly Incidence

iGAS incidence in 2017 began to increase in the late summer, with a peak of 11 cases occurring in October (Figure 15).

**Figure 15: iGAS cases by month, NWHU, 2017**

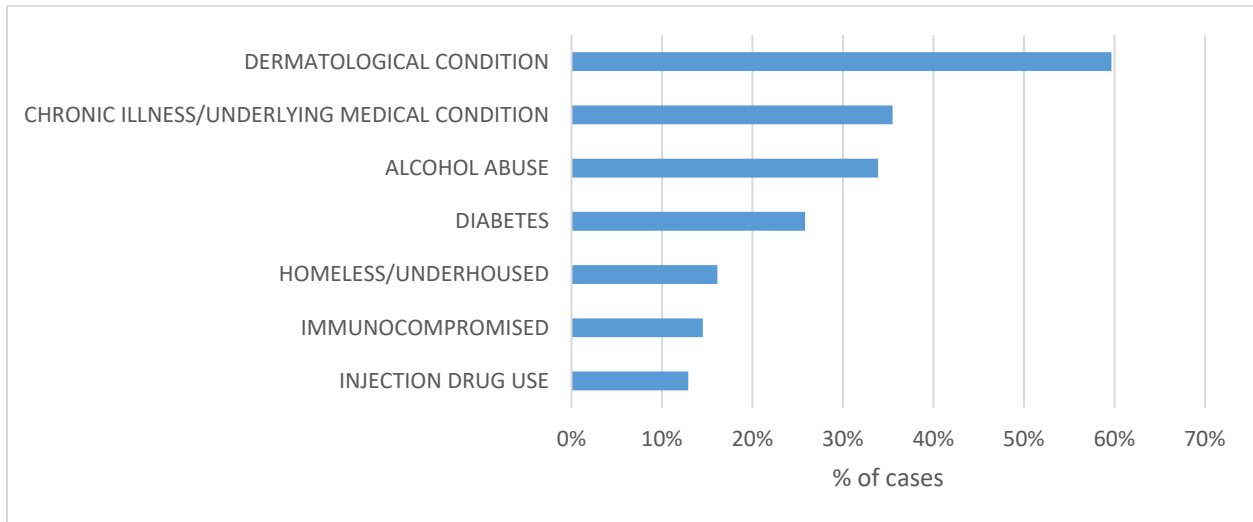


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

## Risk Factors

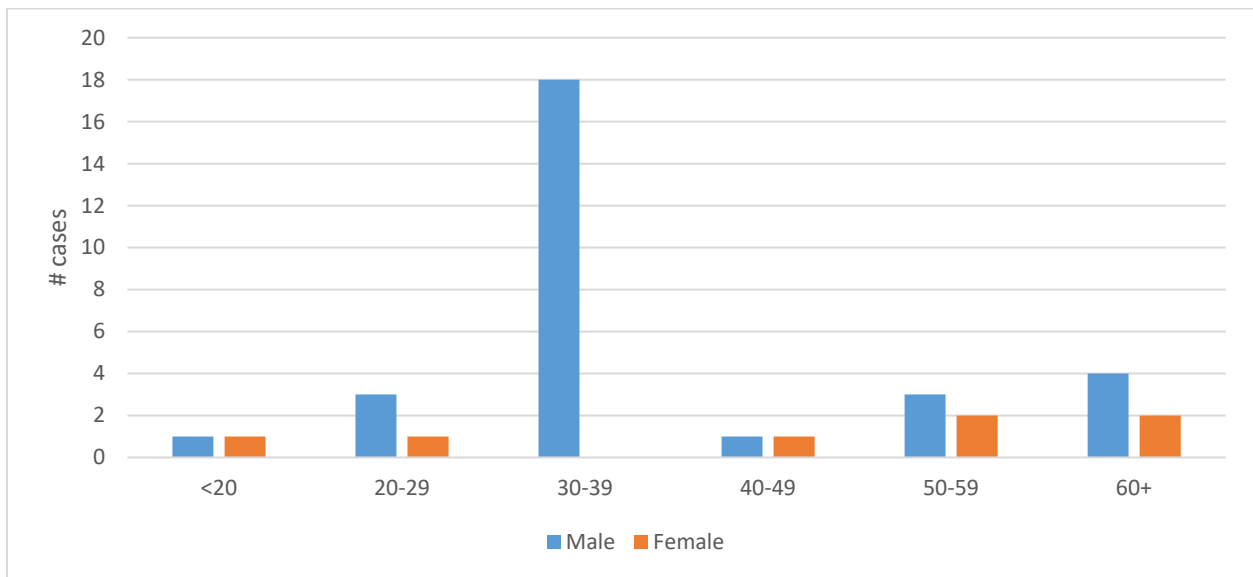
Looking at risk factors for iGAS in 2017, the most common were having a dermatological condition (59.7% of cases), having a chronic illness or underlying condition (35.5%), alcohol abuse (33.9%) and diabetes (25.8%) (Figure 16). Men in their thirties accounted for 48.6% of cases with dermatological conditions, the most common demographic by far (Figure 17). Of cases with dermatological conditions, a high proportion also had a chronic illness or underlying condition (37.8%), alcohol abuse (43.2%) and diabetes (27.0%) as risk factors (Figure 18).

**Figure 16: Risk factors for iGAS, NWHU, 2017 combined (n=62)**



Source: iPHIS. Date Extracted: July 3, 2018

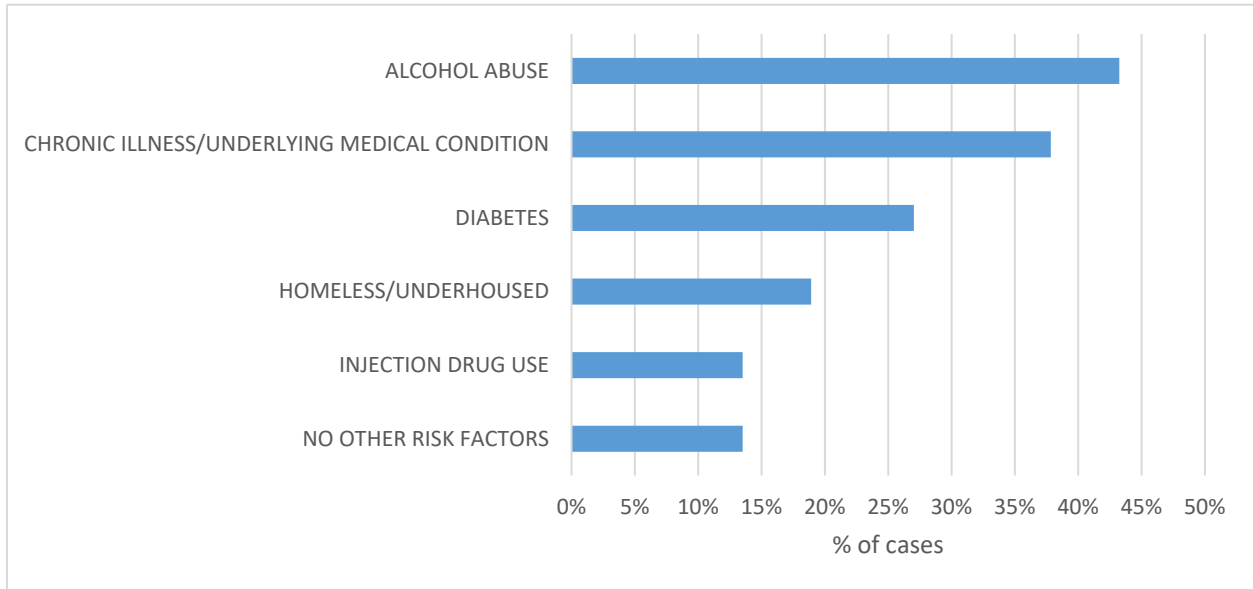
**Figure 17: iGAS cases with a dermatological condition by age group and sex, 2017 (N=37)**



Source: iPHIS. Date Extracted: July 3, 2018



**Figure 18: iGAS cases with a dermatological condition by other risk factors, 2017**



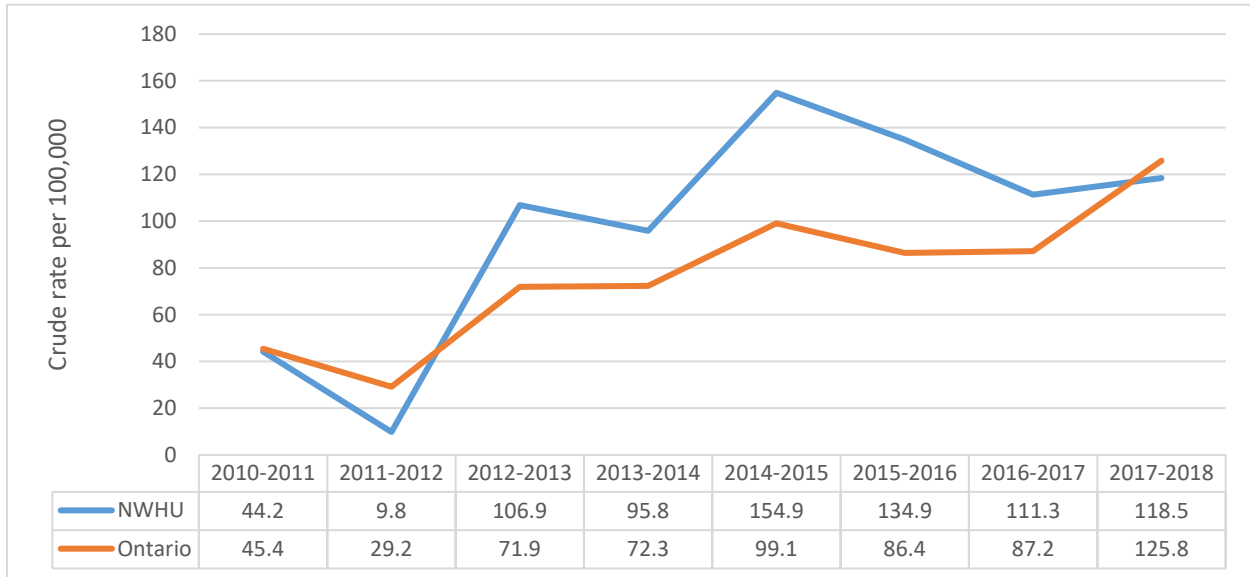
Source: iPHIS. Date Extracted: July 3, 2018

## Influenza

### Incidence Rates

There were 97 cases of influenza during the 2017/18 flu season in the NWHU area, which equals an incidence rate of 118.5 per 100,000 people. Rates have generally been increasing over the past 8 seasons, both provincially and locally, as illustrated in Figure 19.

**Figure 19: Influenza incidence rates, 2010/11-2017/18**

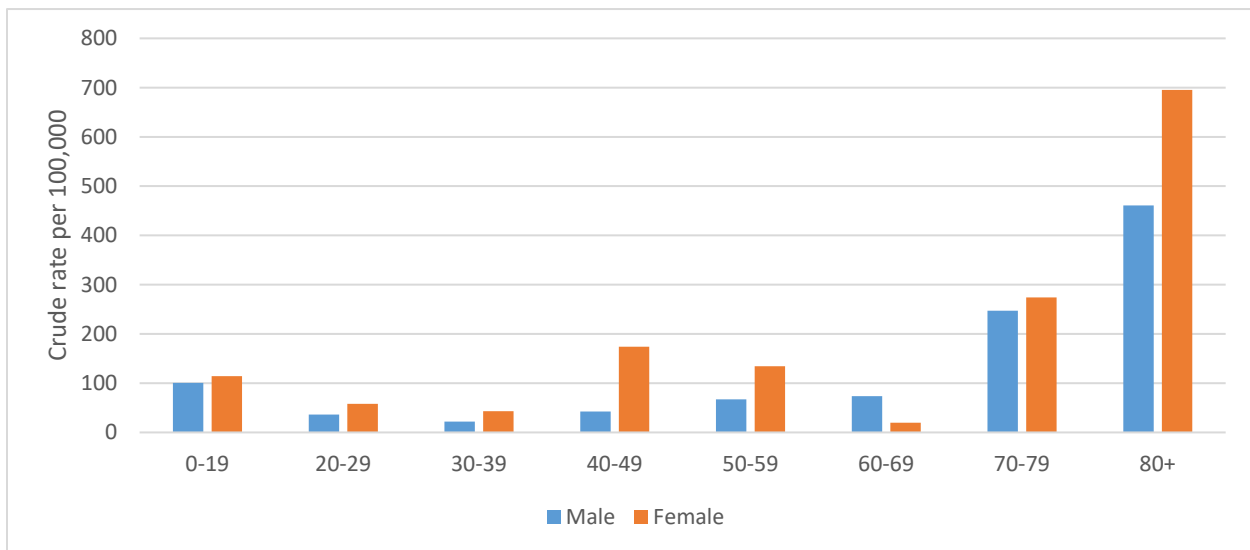


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted June 19, 2018

### Rates by Age and Sex

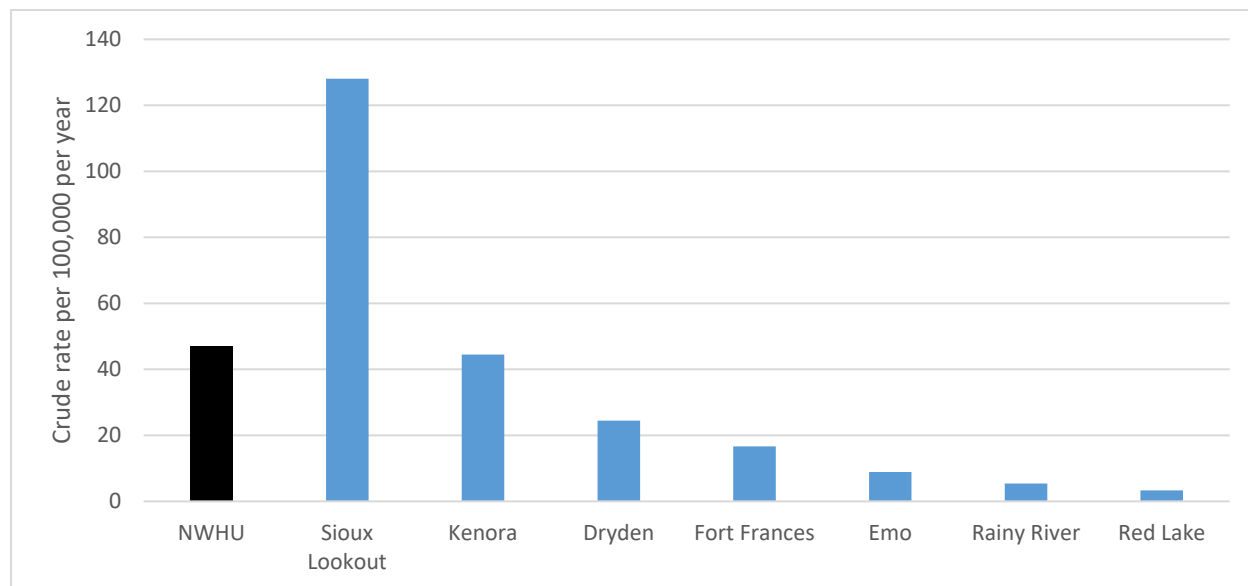
During the 2017/18 flu season the highest incidence rates were in the older populations. The 80+ population had a rate of 599.0 per 100,000 and the 70-79 population had a rate of 260.7 per 100,000, both of which were much higher than the rates in all of the other age groups (Figure 20).

**Figure 20: Influenza rates in the NWHU by age group and sex, 2017/18 season**



## Rates by Local Health Hub

**Figure 21: influenza rates in the NWHU by Local Health Hub\*, 2013/14-2017/18**



Source: iPHIS Extracted April 11, 2018

\*as defined by the North West Local Health Integration Network:

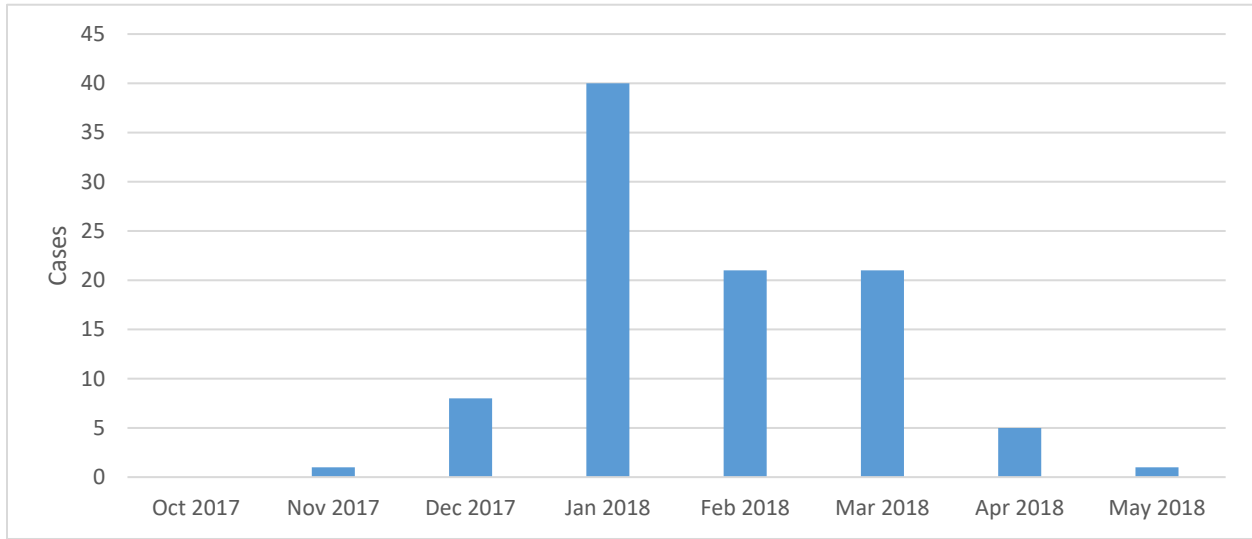
<http://www.northwestlhin.on.ca/goalsandachievements/Health%20Services%20Blueprint/BlueprintTools/LocalHealthHubProfiles.aspx>

Note: Sioux Lookout Local Health Hub only includes communities that fall within the NWHU catchment area: there are 13 communities in the Sioux Lookout Local Health Hub that fall within the Thunder Bay District Health Unit, and were excluded from these statistics.

## Monthly Incidence

During the 2017/18 flu season the highest number of cases occurred in January (n=40), followed by February (n=21) and March (n=21), with relatively few cases occurring in any of the other months.

**Figure 22: Influenza cases by month, NWHU, 2017/18 season**

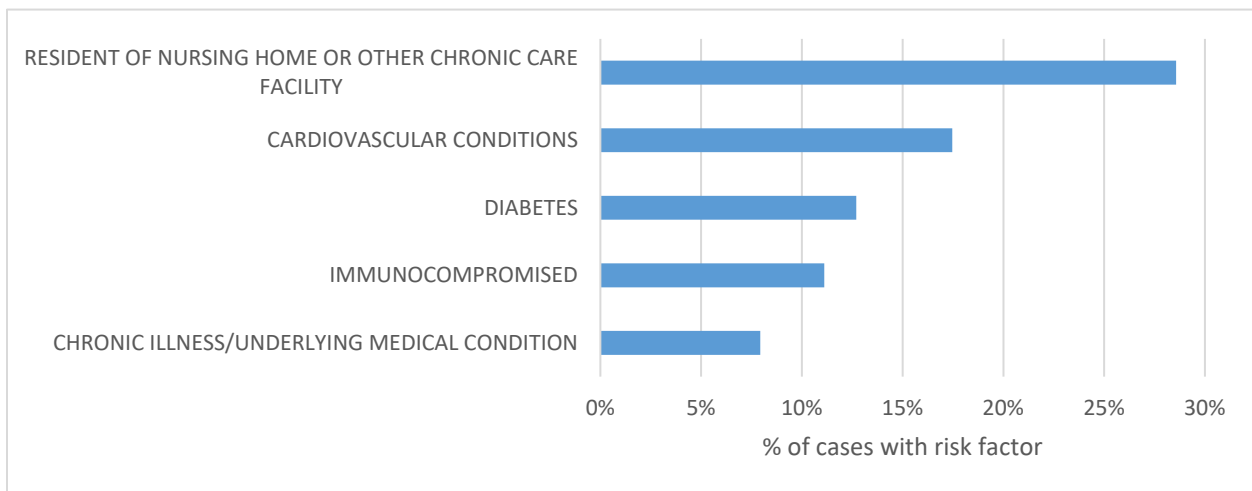


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

### Risk Factors

Looking at the past 2 flu seasons, the most common risk factor exhibited by cases was living in a nursing home or chronic care facility (28.6% of cases) (Figure 23). 17.5% of cases had a cardiovascular condition, 12.7% had diabetes and 11.1% were immunocompromised.

**Figure 23: Risk factors for influenza, NWHU, 2016/17 and 2017/18 seasons (n=63)**



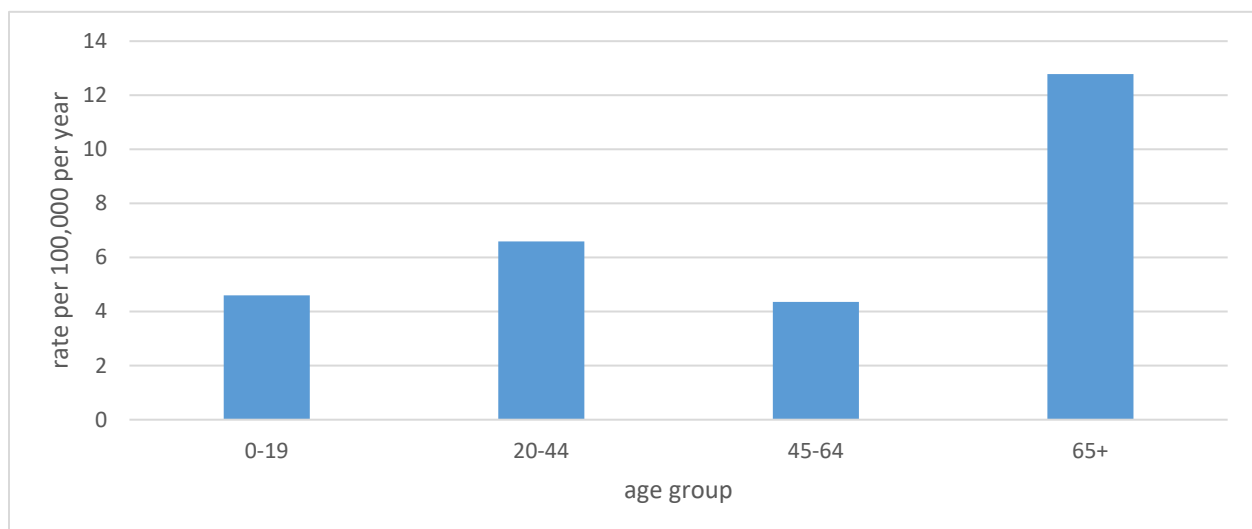
Source: iPHIS. Date Extracted: July 3, 2018

## Tuberculosis

Over the past 5 years there were 26 confirmed cases of tuberculosis in the NWHU catchment area, which equals an incidence rate of 6.4 per 100,000 per year over this time. The provincial rate over this time was 4.5 per 100,000 per year, lower but not statistically different from the NWHU rate.

Of these 26 cases, 14 of them were males (53.8%) and 12 were females (46.2%). The highest rate was in the 65 and older age group, at 12.8 per 100,000 per year. This was statistically higher than the rate in the under 65 population (Figure 24).

**Figure 24: Incidence of tuberculosis in the NWHU by age group, 2013-2017**



Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

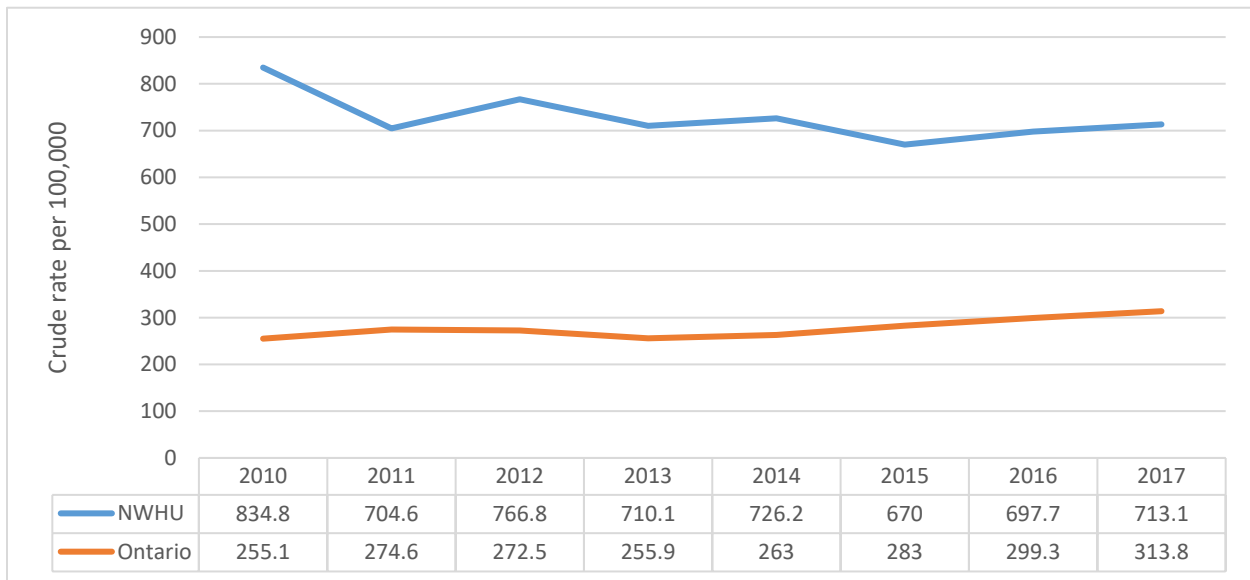
## Sexually-Transmitted and Blood-Borne Infections

### Chlamydia

#### Incidence Rates

There were 583 cases of chlamydia reported in the NWHU catchment area in 2017, which equals an incidence rate of 713.1 per 100,000. This is more than twice as high as the provincial incidence of 313.8 per 100,000. Rates in the NWHU have been consistently high for many years (Figure 25).

**Figure 25: Chlamydia incidence rates, 2010-2017**

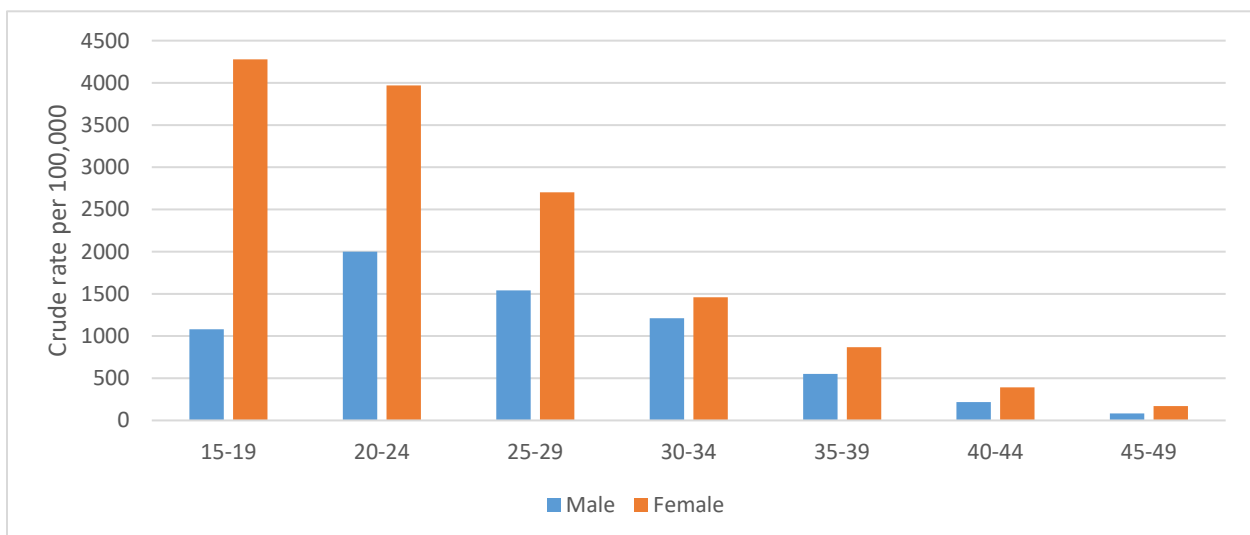


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

### Rates by Age and Sex

Incidence of chlamydia in 2017 was around twice as high in females than in males, with a rate of 893.3 per 100,000 compared to 430.5 per 100,000. Rates were highest in females aged 15-19 (4,277.5 per 100,000) and females aged 20-24 (3,969.7 per 100,000) (Figure 26).

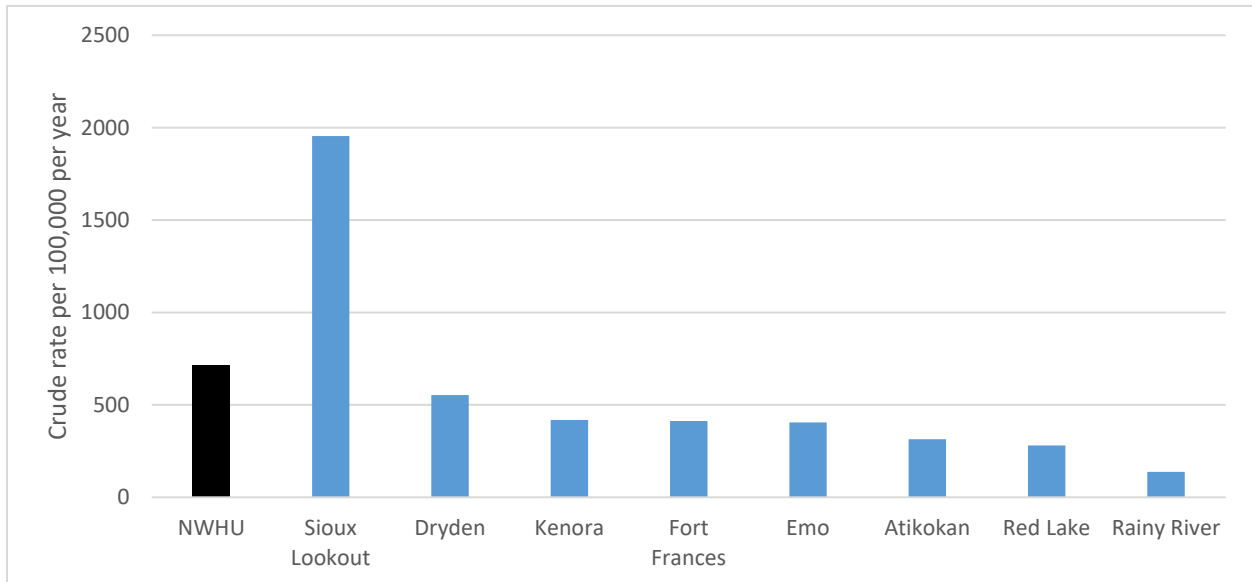
**Figure 26: Chlamydia rates in the NWHU by age group and sex, 2017**



Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

## Rates by Local Health Hub

**Figure 27: Chlamydia rates in the NWHU by Local Health Hub\*, 2017**



Source: iPHIS Extracted April 11, 2018

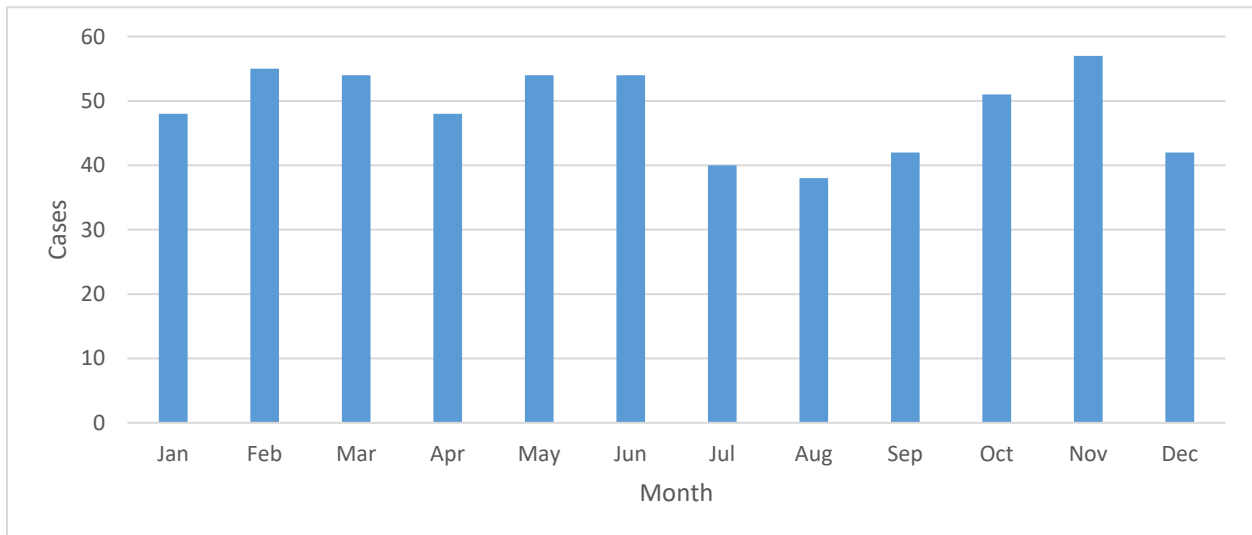
\*as defined by the North West Local Health Integration Network:

<http://www.northwestlin.on.ca/goalsandachievements/Health%20Services%20Blueprint/BlueprintTools/LocalHealthHubProfiles.asp>

Note: Sioux Lookout Local Health Hub only includes communities that fall within the NWHU catchment area: there are 13 communities in the Sioux Lookout Local Health Hub that fall within the Thunder Bay District Health Unit, and were excluded from these statistics.

## Monthly Incidence

**Figure 28: Chlamydia cases by month, NWHU, 2017**

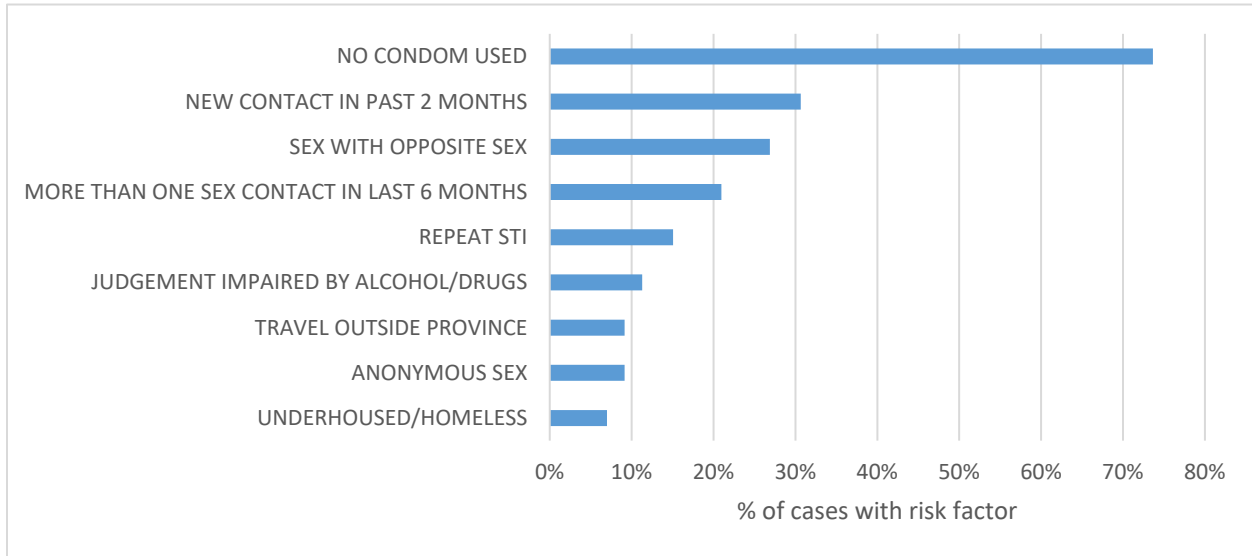


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

## Risk Factors

The most common risk factor exhibited by chlamydia cases in 2017 was not using a condom (73.7% of cases), followed by having a new sexual contact in the past 2 months (30.6%), having sex with the opposite sex (26.9%) and having more than one sexual contact in the past 6 months (21.0%) (Figure 29).

**Figure 29: Risk factors for chlamydia, NWHU, 2017 (n=186)**



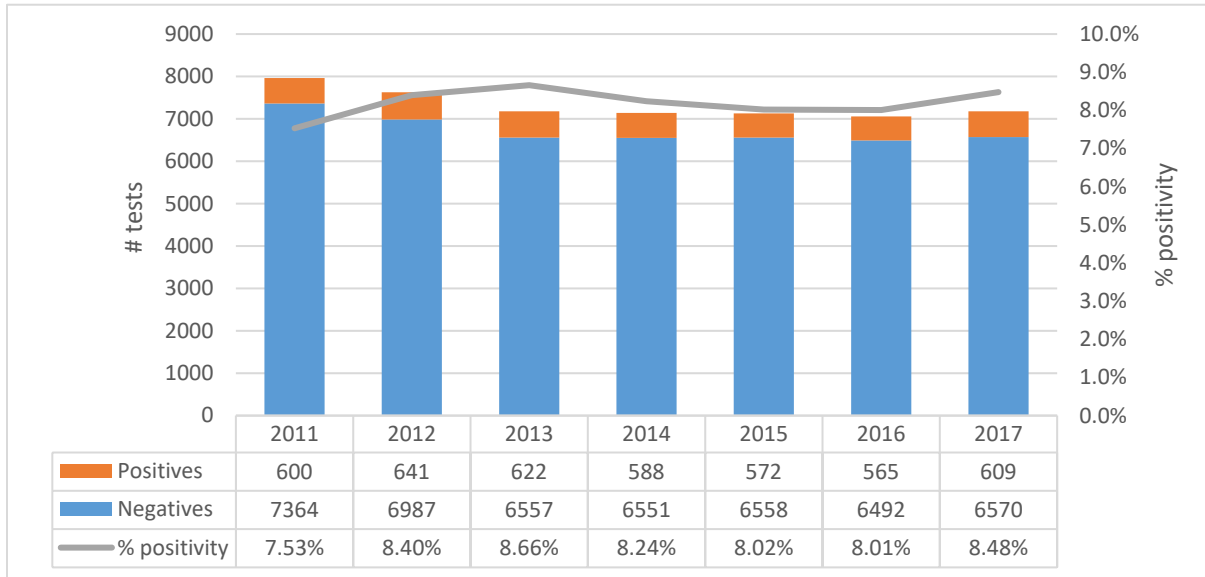
Source: iPHIS. Date Extracted: July 3, 2018

## Chlamydia testing

In 2016 there were 7,179 tests for chlamydia done in the NWHU area, 609 of which were positive (Figure 30). This is a percent positivity of 7.9% for 2017, which was higher than the provincial figure of 5.6%. Per population, that works out to be 87.8 tests per 1,000 people. For comparison, the number of tests done in Ontario in 2017 was 23.2 per 1,000 people; the rate of testing in the NWHU is about four times as high as the provincial rate. This higher rate of testing in the NWHU may contribute to the incidence of chlamydia being significantly higher than the provincial rates.



**Figure 30: Chlamydia tests in the NWHU, 2011-2017**



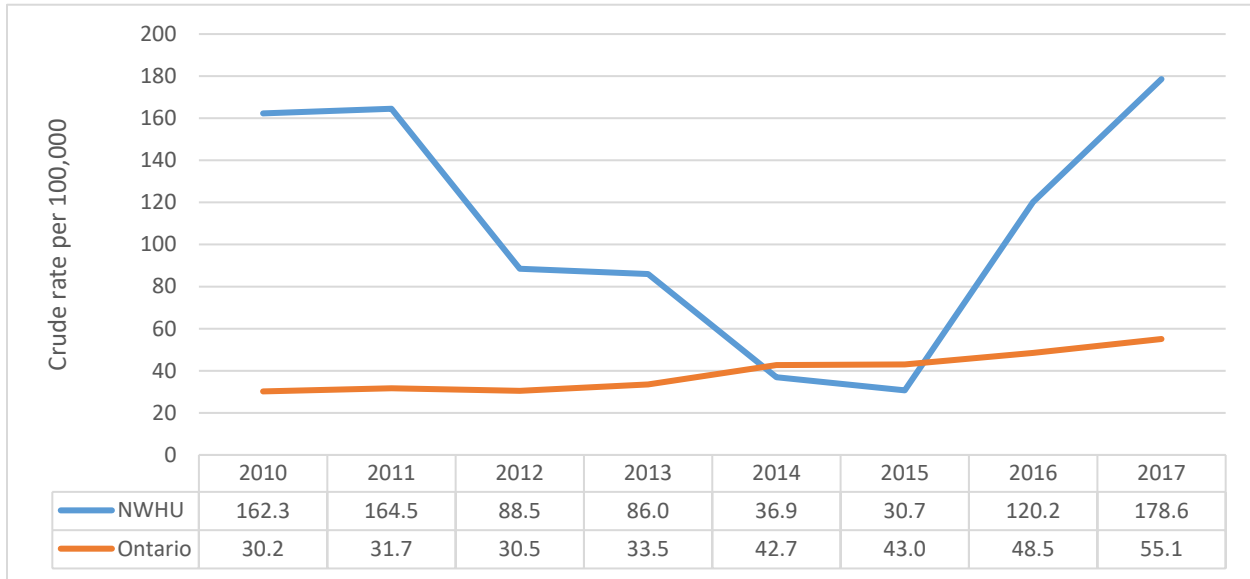
Source: Public Health Ontario. STI Tool. Date Extracted: May 10, 2017

## Gonorrhoea

### Incidence Rates

In 2017 there were 146 cases of gonorrhoea in the NWHU area, which equals an incidence rate of 178.6 per 100,000. This was three times as high as the provincial rate of 55.1 per 100,000. Rates in the NWHU area were decreasing from 2010 to 2015, but have increased in 2016 and 2017 (Figure 31).

**Figure 31: Gonorrhoea incidence rates, 2010-2017**

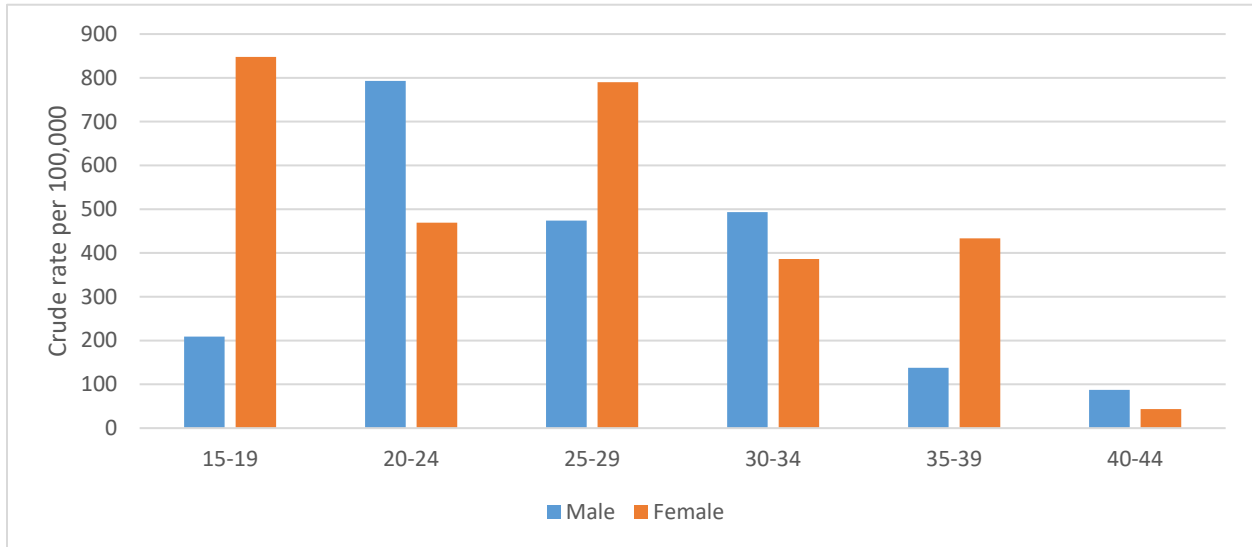


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

### Rates by Age and Sex

Rates in females in 2017 were higher but not statistically different from rates in males in the NWHU (187.0 vs 141.1 per 100,000). The highest rates were in females aged 15-19 (847.8 per 100,000), males aged 20-24 (793.1 per 100,000) and females aged 25-29 (790.0 per 100,000) (Figure 32).

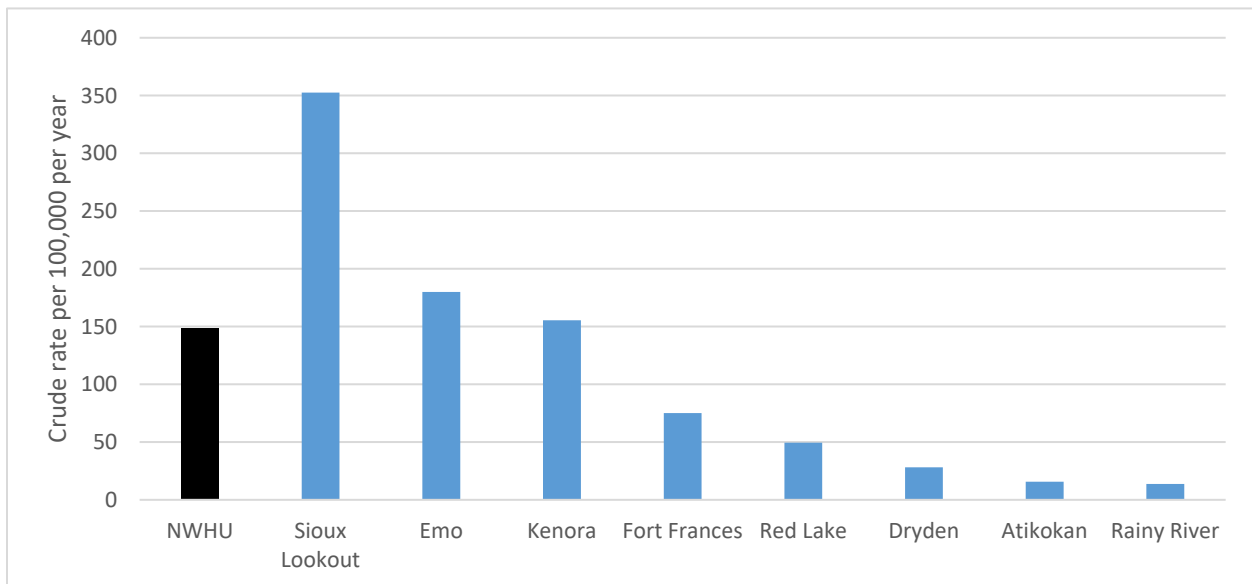
**Figure 32: Gonorrhoea rates in the NWHU by age group and sex, 2017**



Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

## Rates by Local Health Hub

**Figure 33: Gonorrhoea rates in the NWHU by Local Health Hub\*, 2016-2017**



Source: iPHIS Extracted April 11, 2018

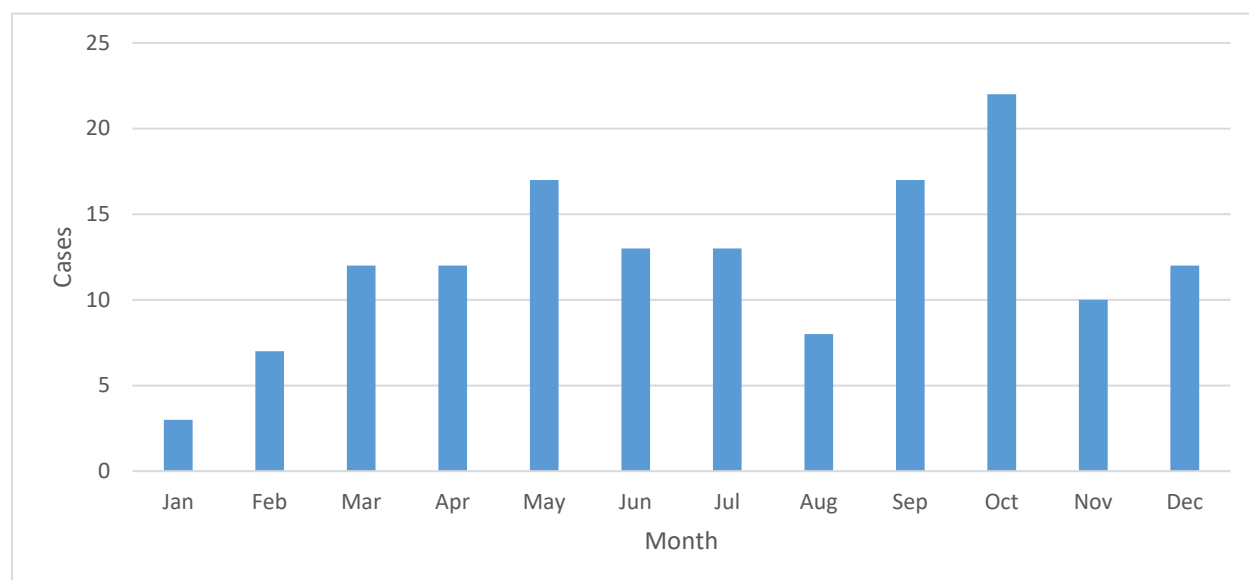
\*as defined by the North West Local Health Integration Network:

<http://www.northwestlin.on.ca/goalsandachievements/Health%20Services%20Blueprint/BlueprintTools/LocalHealthHubProfiles.aspx>

Note: Sioux Lookout Local Health Hub only includes communities that fall within the NWHU catchment area: there are 13 communities in the Sioux Lookout Local Health Hub that fall within the Thunder Bay District Health Unit, and were excluded from these statistics.

## Monthly Incidence

**Figure 34: Gonorrhoea cases by month, NWHU, 2017**

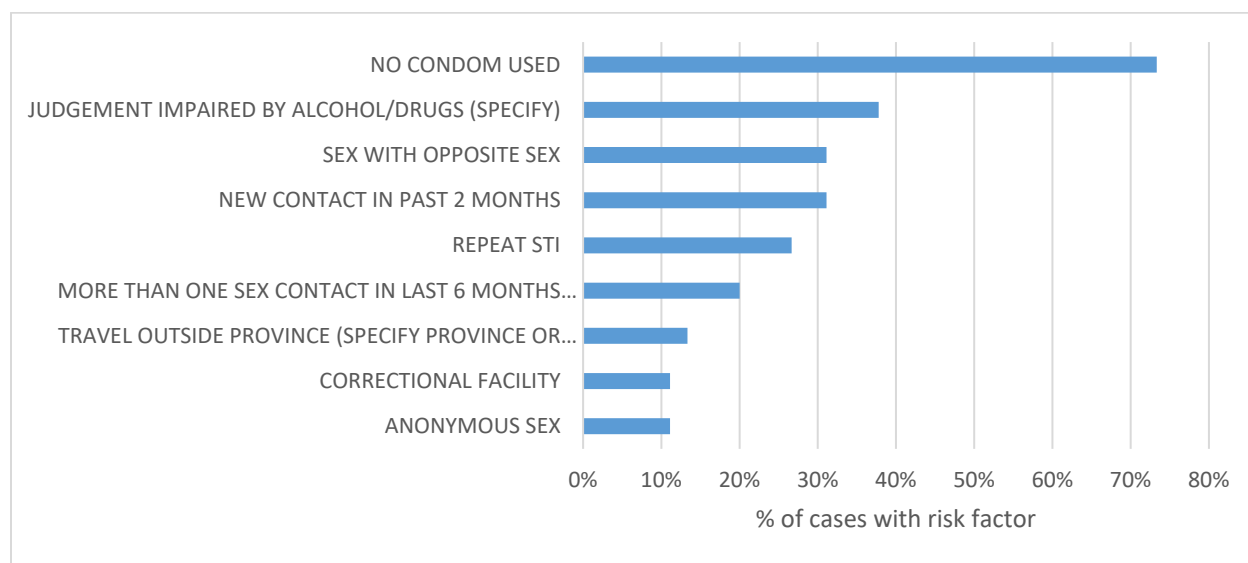


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

## Risk Factors

The most common risk factor for gonorrhoea cases in 2017 was not using a condom (73.3% of cases), having judgment impaired by alcohol or drugs (37.8%), having sex with the opposite sex (31.1%) and having a new sexual contact in the past 2 months (31.1%) (Figure 35).

**Figure 35: Risk factors for gonorrhoea, NWHU, 2017 (n=45)**

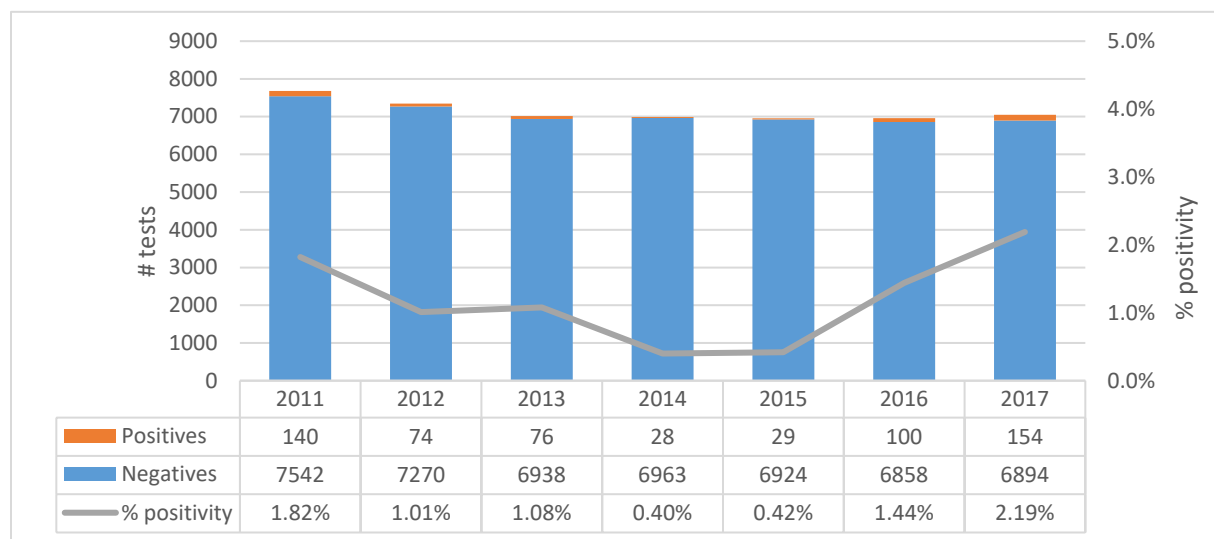


Source: iPHIS. Date Extracted: July 3, 2018

### Gonorrhoea testing

In 2017 there were 7,048 tests for gonorrhoea done in the NWHU, of which 154 were positive, giving a percent positivity of 2.2% (Figure 36). This is slightly higher than the provincial percent positivity of 1.8%. Per population, this is 86.2 tests done per 1,000 people in the NWHU area. This is four times as high as the provincial testing rate which was 22.1 tests per 1,000 people in 2017.

**Figure 36: Gonorrhoea tests in the NWHU, 2011-2017**



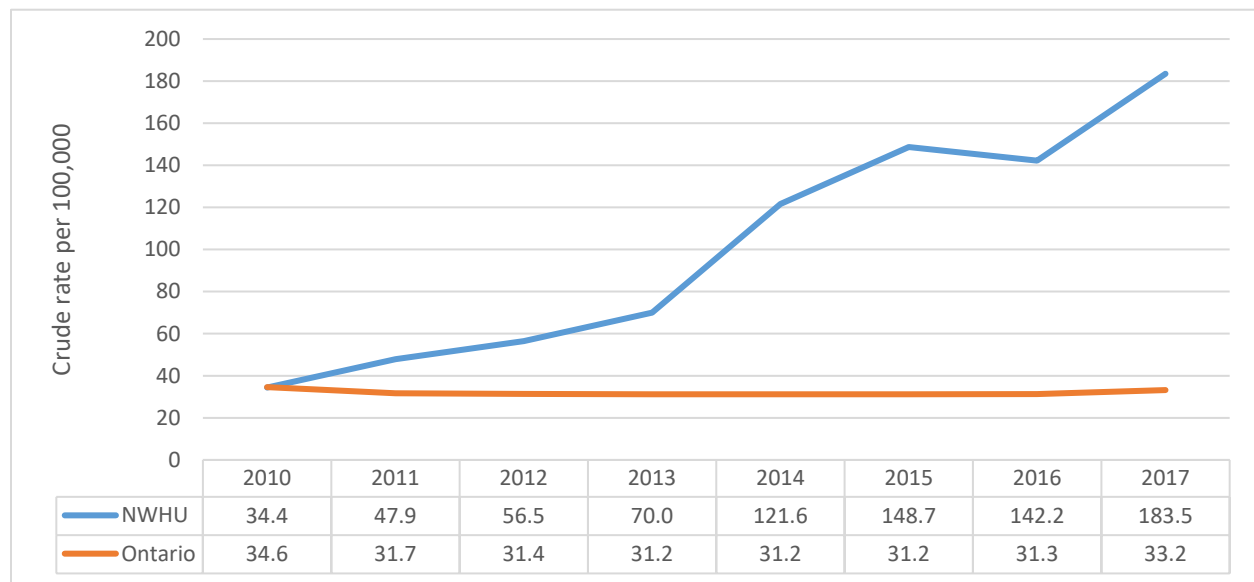
Source: Public Health Ontario. STI Tool. Date Extracted: May 10, 2017

## Hepatitis C

### Incidence Rates

There were 150 cases of hepatitis C in the NWHU area in 2017, equaling an incidence rate of 183.5 per 100,000. This is over five times as high as the provincial rate of 33.2 per 100,000. Incidence in the NWHU area has been consistently increasing in recent years (Figure 37).

**Figure 37: Hepatitis C incidence rates, 2010-2017**

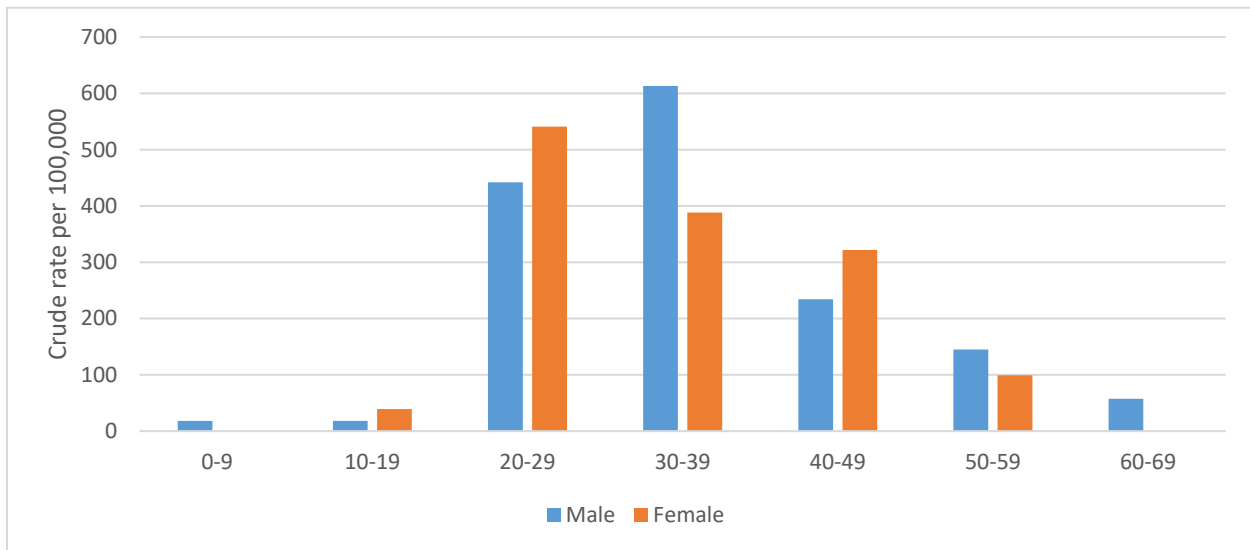


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

### Rates by Age and Sex

Rates of hepatitis C in 2017 were highest in those aged 30-39 (497.7 per 100,000) and those aged 20-29 (490.2 per 100,000). In particular, males in their thirties exhibited high incidence, with a rate of 613.1 per 100,000 (Figure 38).

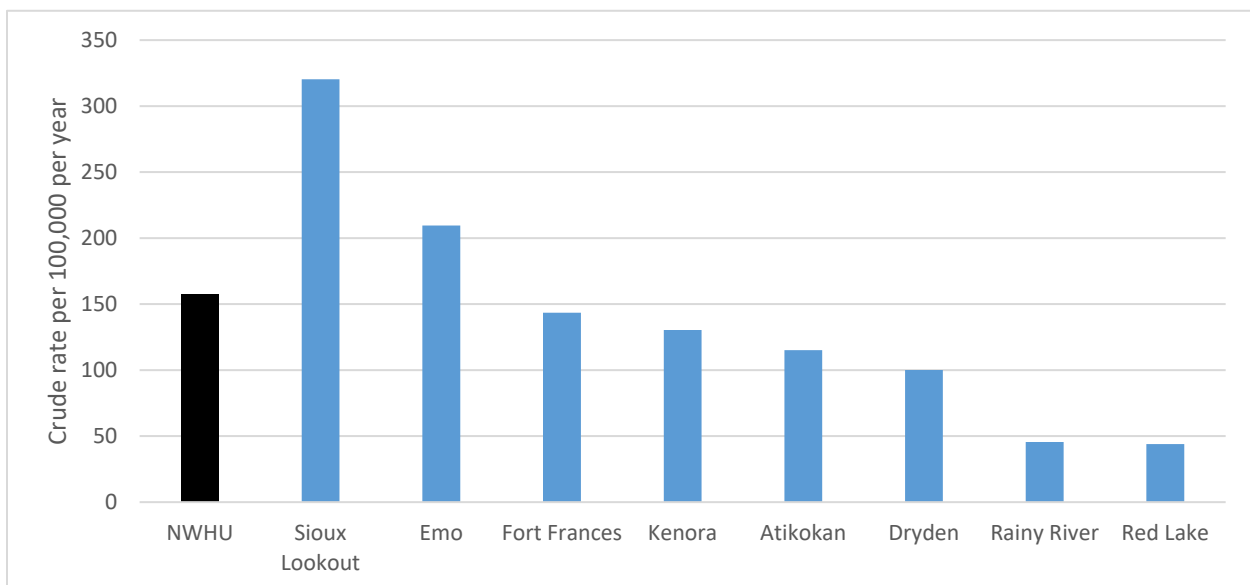
**Figure 38: Hepatitis C rates in the NWHU by age group and sex, 2017**



Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

## Rates by Local Health Hub

**Figure 39: Hepatitis C rates in the NWHU by Local Health Hub\*, 2015-2017**



Source: iPHIS Extracted April 11, 2018

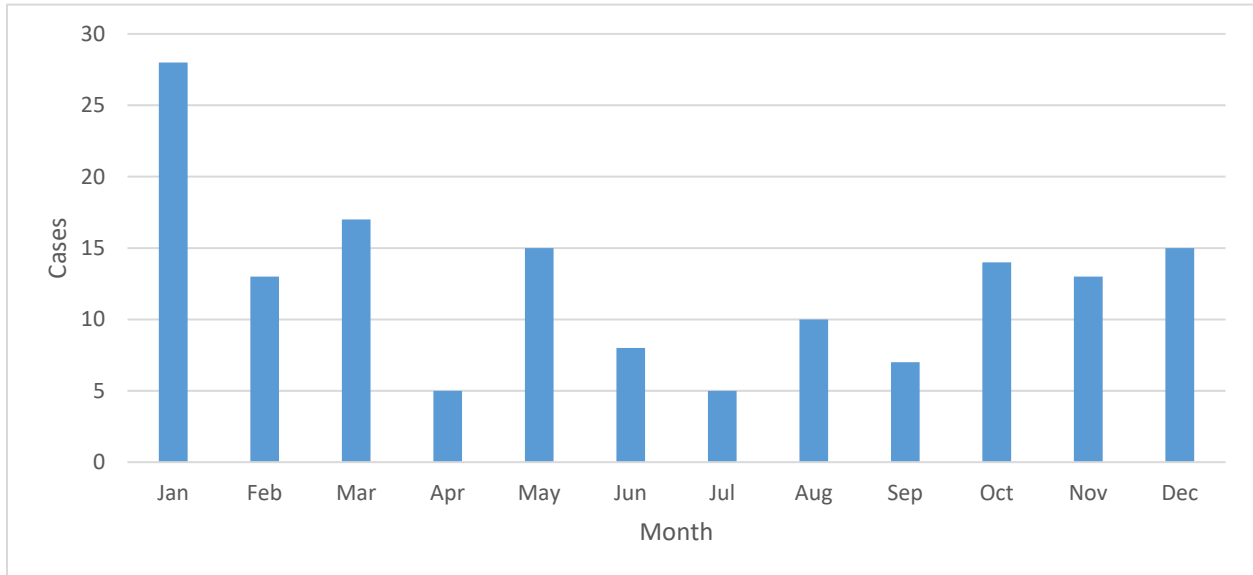
\*as defined by the North West Local Health Integration Network:

<http://www.northwestlhin.on.ca/goalsandachievements/Health%20Services%20Blueprint/BlueprintTools/LocalHealthHubProfiles.aspx>

Note: Sioux Lookout Local Health Hub only includes communities that fall within the NWHU catchment area: there are 13 communities in the Sioux Lookout Local Health Hub that fall within the Thunder Bay District Health Unit, and were excluded from these statistics.

## Monthly Incidence

**Figure 40: Hepatitis C cases by month, NWHU, 2017**



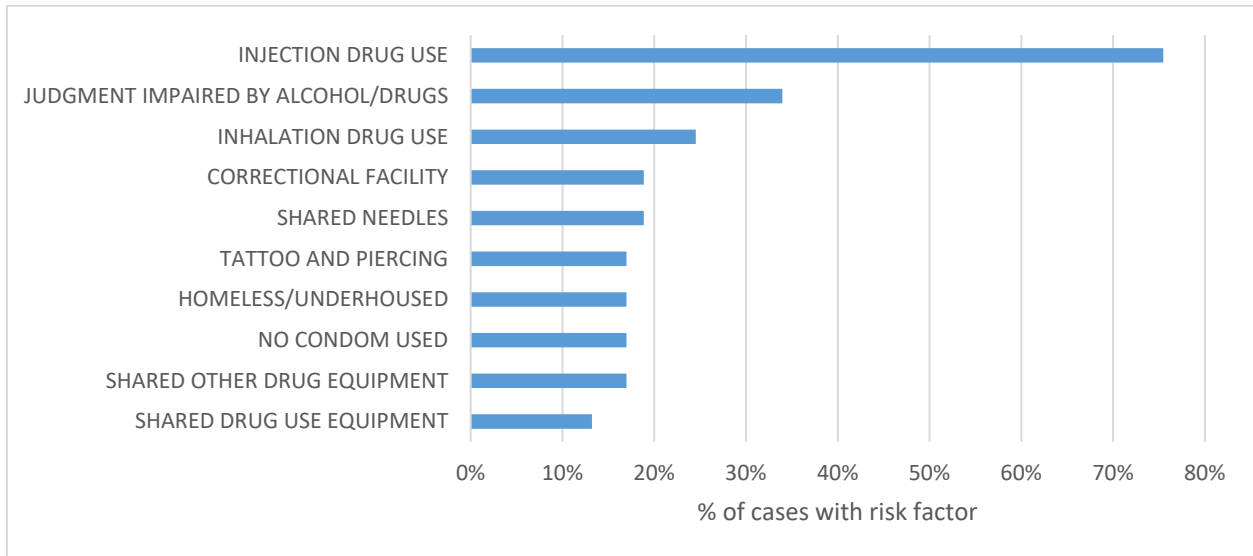
Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

## Risk Factors

The most common risk factor for hepatitis C in 2017 was injection drug use, with 75.5% of cases reporting it (Figure 37). Other common risk factors were impaired judgment by alcohol/drugs, inhalation drug use, being in a correctional facility and sharing needles.



**Figure 41: Risk factors for hepatitis C, NWHU, 2017 (n=53)**



Source: iPHIS. Date Extracted: July 3, 2018

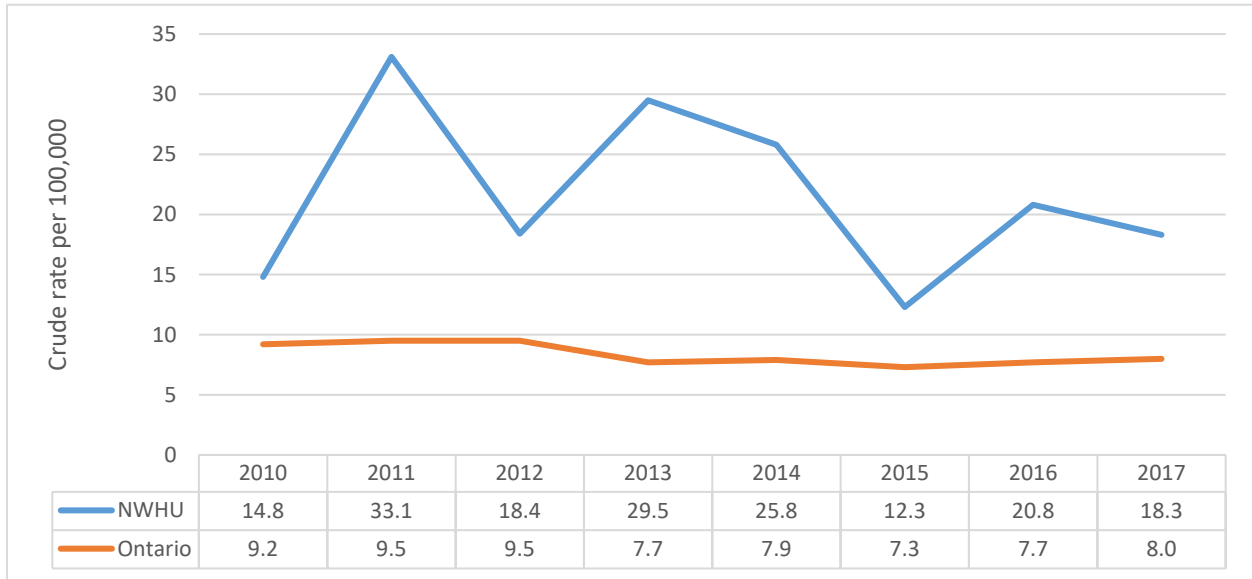
## Vaccine-Preventable Diseases

### Streptococcus pneumoniae, invasive

#### Incidence Rates

There were 15 cases of invasive streptococcus pneumoniae in the NWHU area in 2017, which is an incidence rate of 18.3 per 100,000. This is statistically higher than the provincial incidence of 8.0 cases per 100,000 in 2017. The NWHU has generally had higher rates than the province in recent years, with rates fluctuating from year to year (Figure 38).

**Figure 42: Invasive streptococcus pneumoniae incidence rates, 2010-2017**

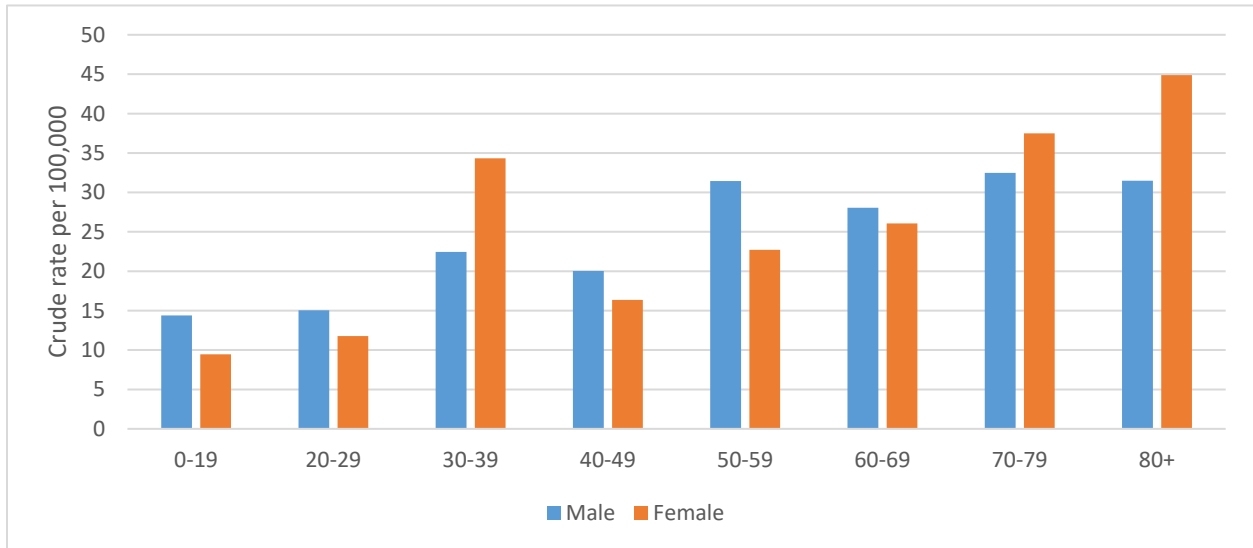


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

### Rates by Age and Sex

Looking at incidence over the past 5 years, there is a slight positive correlation between age group and incidence of invasive streptococcus pneumoniae; older age groups had higher incidence of disease on average (Figure 39). There was no significant difference in incidence between males and females over this time.

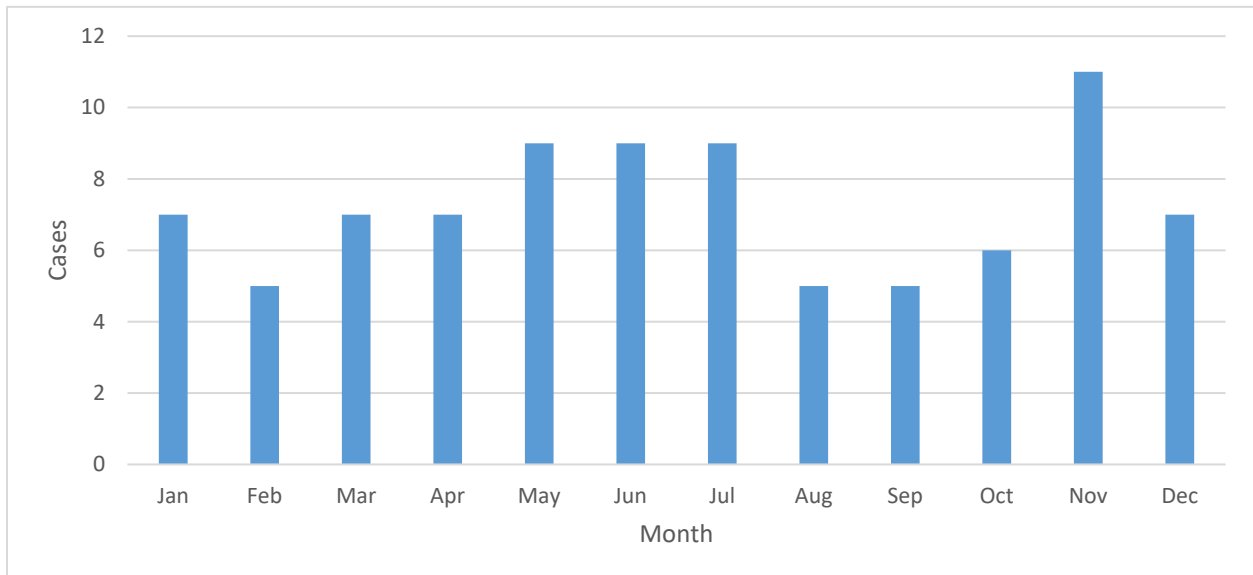
**Figure 43: Invasive streptococcus pneumoniae rates in the NWHU by age group and sex, 2017**



Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

## Monthly Incidence

**Figure 44: Invasive streptococcus pneumoniae cases by month, NWHU, 2013-2017**

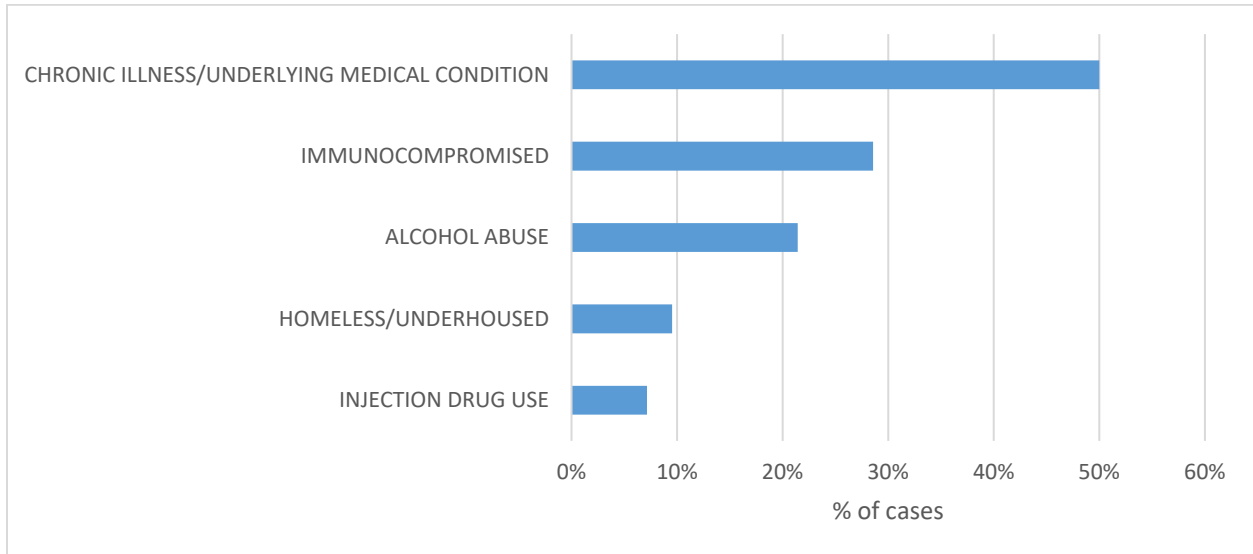


Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by age and sex. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted April 11, 2018

## Risk Factors

The most common risk factor between 2013 and 2017 was having a chronic illness or underlying condition, with 50% of cases reporting it (Figure 41). 28.6% of cases were immunocompromised, and 21.4% had alcohol abuse as a risk factor.

**Figure 45: Risk factors for invasive streptococcus pneumoniae, NWHU, 2013-2017 (n=84)**



Source: iPHIS. Date Extracted: July 3, 2018

## Appendix 1: Data notes

### Ontario reportable disease data

All data in the report was extracted between June and August of 2018. Ontario reportable disease case counts were extracted from Public Health Ontario's Query application, which contains aggregated infectious disease data in Ontario at the public health unit level, originally extracted from the integrated Public Health Information System (iPHIS). iPHIS is a dynamic and real-time database, so data is subject to change over time. The data in this report is accurate as of the date it was extracted.

Case counts of diseases extracted from iPHIS may be under-reported. Case identification is mostly done through laboratory notification of confirmed test results, so individuals with mild clinical symptoms who do not seek medical care and/or laboratory testing may not be captured. Because of this, any increases or decreases in disease incidence must be interpreted carefully; an increase in cases does not necessarily mean that more people acquired the disease that year. It could be the case that more testing was done and more cases were found as a result of it.

### Population data

Population counts for the Northwestern Health Unit and Ontario were extracted from IntelliHEALTH Ontario in October 2017, which was originally sourced from Statistics Canada. IntelliHEALTH Ontario is a repository of health-related data operated by the Ministry of Health and Long-Term Care that receives data from the Canadian Institute of Health Information (CIHI). It houses data from national databases such as the Discharge Abstract Database (DAD), the National Ambulatory Care Reporting System (NACRS), Vital Statistics, Population Estimates, amongst other sources.

Population estimates are only available up until the calendar year of 2016. 2017 rates were calculated using population projections for that year.

### Incidence rates

Incidence rates in this report are reported as crude rates per 100,000 people per year. Rates based on small counts within small populations (particularly in the NWHU) should be interpreted with caution: rates based on small counts in small populations are subject to high levels of uncertainty in their estimates and a high degree of fluctuation from year to year.

## Appendix 2: Case counts and rates for all reportable diseases

Enteric and Zoonotic diseases						
	NWHU 2017 case count	NWHU 5- year avg. case count	NWHU 2017 rate*	NWHU 5- year avg. rate*	Ontario 2017 rate*	Ontario 5- year avg. rate*
Amebiasis	0	0.0	0.0	0.0	0.7	0.9
Anthrax	0	0.0	0.0	0.0	0.0	0.0
Botulism	0	0.0	0.0	0.0	0.0	0.0
Brucellosis	0	0.0	0.0	0.0	0.0	0.0
Campylobacter Enteritis	9	15.2	11.1	18.6	24.4	26.9
Cholera	0	0	0.0	0.0	0.0	0.0
Cryptosporidiosis	3	6.4	3.7	7.8	2.7	2.6
Cyclosporiasis	0	0.2	0.0	0.2	2.1	1.2
Food Poisoning, All Causes	0	0	0.0	0.0	0.4	0.5
Giardiasis	9	5.2	11.1	6.4	9.2	9.7
Hantavirus Pulmonary Syndrome	0	0.2	0.0	0.2	0.0	0.0
Hepatitis A	0	0	0.0	0.0	0.9	0.7
Listeriosis	0	0.2	0.0	0.2	0.4	0.4
Lyme Disease	3	2.4	3.7	2.9	6.4	1.7
Paratyphoid Fever	0	0	0.0	0.0	0.2	0.3
Psittacosis/Ornithosis	0	0	0.0	0.0	0.0	0.0
Q Fever	0	0	0.0	0.0	0.1	0.1
Rabies	0	0	0.0	0.0	0.0	0.0
Salmonellosis	8	16.6	9.8	20.4	19.1	21.3
Shigellosis	1	0.2	1.2	0.2	2.2	2.1
Trichinosis	0	0	0.0	0.0	0.0	0.0
Tularemia	0	0	0.0	0.0	0.0	0.0
Typhoid Fever	0	0	0.0	0.0	0.7	0.5
Verotoxin Producing E. Coli Including HUS	0	0.8	0.0	1.0	0.9	1.2
West Nile Virus	0	0	0.0	0.0	1.1	0.6
Yellow Fever	0	0	0.0	0.0	0.0	0.0
Yersiniosis	0	1.2	0.0	1.5	1.9	1.4

\*all rates are per 100,000

^significantly different from 5-year avg. rate

Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by disease and year. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted July 5, 2018

<b>Respiratory diseases and diseases transmitted by direct contact</b>						
	NWHU 2017 case count	NWHU 5- year avg. case count	NWHU 2017 rate*	NWHU 5- year avg. rate*	Ontario 2017 rate*	Ontario 5- year avg. rate*
<b>Group A Streptococcal Disease, Invasive</b>	65	30.2	79.5 <sup>^</sup>	37.0	6.5	4.8
<b>Influenza</b>	97	98.0	204.3	206.1	125.8	83.4
<b>Legionellosis</b>	0	0	0.0	0.0	1.4	1.2
<b>Severe Acute Respiratory Syndrome (SARS)</b>	0	0	0.0	0.0	0.0	0.0
<b>Smallpox</b>	0	0	0.0	0.0	0.0	0.0
<b>Tuberculosis</b>	1	5.2	1.2 <sup>^</sup>	6.4	4.7	4.5

\*all rates are per 100,000

Influenza statistics based on seasonal counts for the 2017/18 season, and data was extracted on July 5, 2018

<sup>^</sup>significantly different from 5-year avg. rate

Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by disease and year. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted July 5, 2018

<b>Sexually transmitted and blood-borne infections</b>						
	NWHU 2017 case count	NWHU 5- year avg. case count	NWHU 2017 rate*	NWHU 5- year avg. rate*	Ontario 2017 rate*	Ontario 5- year avg. rate*
<b>Chancroid</b>	0	0.0	0.0	0.0	0.0	0.0
<b>Chlamydial Infections</b>	576	581.4	708.8	712.9	316.1	275.0
<b>Gonorrhoea (All Types)</b>	145	59	178.4 <sup>^</sup>	72.4	55.5	39.7
<b>Group B Streptococcal Disease, Neonatal</b>	1	0.6	1.2	0.7	0.4	0.4
<b>Hepatitis B</b>	1	1	1.2	1.2	0.7	0.7
<b>Hepatitis C</b>	124	87.6	152.6 <sup>^</sup>	107.5	31.4	31.1
<b>HIV/AIDS</b>	5	2.0	6.2	2.5	0.4	0.6
<b>Ophthalmia Neonatorum</b>	0	0	0.0	0.0	0.0	0.0
<b>Syphilis, Early Congenital</b>	0	0	0.0	0.0	0.0	0.0
<b>Syphilis, Infectious</b>	0	0.8	0.0	1.0	9.9	7.3
<b>Syphilis, Other</b>	1	1.2	1.2	1.5	4.9	4.8

\*all rates are per 100,000

<sup>^</sup>significantly different from 5-year avg. rate

Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by disease and year. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted May 5, 2017

<b>Vaccine-preventable diseases</b>						
	NWHU 2017 case count	NWHU 5- year avg. case count	NWHU 2017 rate*	NWHU 5- year avg. rate*	Ontario 2017 rate*	Ontario 5- year avg. rate*
<b>Diphtheria</b>	0	0	0.0	0.0	0.0	0.0
<b>Haemophilus Influenzae B Disease, Invasive</b>	0	0.2	0.0	0.2	0.0	0.0
<b>Measles</b>	0	0	0.0	0.0	0.0	0.1
<b>Meningococcal Disease, Invasive</b>	1	0.2	1.2	0.2	0.2	0.2
<b>Mumps</b>	0	0.4	0.0	0.5	1.7	0.1
<b>Pertussis (Whooping Cough)</b>	11	12.2	13.5	15.0	3.5	3.2
<b>Poliomyelitis, Acute</b>	0	0	0.0	0.0	0.0	0.0
<b>Rubella</b>	0	0	0.0	0.0	0.0	0.0
<b>Rubella, Congenital Syndrome</b>	0	0	0.0	0.0	0.0	0.0
<b>Streptococcus Pneumoniae, Invasive</b>	14	17.2	17.2	21.1	7.9	8.0
<b>Tetanus</b>	0	0	0.0	0.0	0.0	0.0

\*all rates are per 100,000

^significantly different from 5-year avg. rate

Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by disease and year. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted May 5, 2017

<b>Other reportable diseases</b>						
	NWHU 2017 case count	NWHU 5- year avg. case count	NWHU 2017 rate*	NWHU 5- year avg. rate*	Ontario 2017 rate*	Ontario 5- year avg. rate*
<b>Acute Flaccid Paralysis</b>	0	0.0	0.0	0.0	0.0	0.0
<b>Creutzfeldt-Jakob Disease, All Type</b>	0	0	0.0	0.0	0.0	0.1
<b>Encephalitis</b>	0	0	0.0	0.0	0.2	0.2
<b>Encephalitis/Meningitis</b>	0	0.4	0.0	0.5	1.5	1.2
<b>Hemorrhagic Fevers</b>	0	0	0.0	0.0	0.0	0.0
<b>Lassa Fever</b>	0	0	0.0	0.0	0.0	0.0
<b>Leprosy</b>	0	0	0.0	0.0	0.0	0.0
<b>Meningitis</b>	3	1.6	3.7	2.0	1.4	1.1
<b>Paralytic Shellfish Poisoning</b>	0	0	0.0	0.0	0.0	0.0

\*all rates are per 100,000

^significantly different from 5-year avg. rate

Source: Public Health Ontario. Query: Northwestern Health Unit: Counts by disease and year. Toronto, ON: Ontario Agency for Health Protection and Promotion. Extracted May 5, 2017