

# 2019 ANNUAL STATISTICAL UPDATE: HIV IN MANITOBA



HEALTHY MANITOBANS THROUGH AN APPROPRIATE BALANCE OF PREVENTION AND CARE.

**MISSION, MANITOBA HEALTH, SENIORS AND ACTIVE LIVING:**

TO MEET THE HEALTH NEEDS OF INDIVIDUALS, FAMILIES AND THEIR COMMUNITIES BY LEADING A SUSTAINABLE, PUBLICLY ADMINISTERED HEALTH SYSTEM THAT PROMOTES WELL-BEING AND PROVIDES THE RIGHT CARE, IN THE RIGHT PLACE, AT THE RIGHT TIME.

***Epidemiology & Surveillance***

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## Acknowledgements

In the spirit of honour, respect, and reconciliation, Manitoba Health, Seniors and Active Living (MHSAL) would like to acknowledge these provincial lands. We are in Treaty territories One through Five on the homelands of the Anishinaabeg Oji-Cree and Ojibwe, the Cree, Dakota, and Dené peoples, and on the homeland of the Métis Nation.

Secondly, MHSAL would like to acknowledge the important efforts of public health professionals and health care providers across the province involved in the follow-up of people living with HIV and reporting surveillance information to the provincial surveillance system. Without these continued efforts, this report would not be possible.

Lastly, we also wish to acknowledge the people in Manitoba who are living with HIV and AIDS. It is always important to remind ourselves that each “case” represents an important and valued member of our communities.

## Highlights

- ⊕ In 2019, there were 121 cases of HIV new to Manitoba compared to 107 cases in 2018, equating to a 13% increase.
- ⊕ Forty-four percent of cases were female (n = 53 females and n = 68 males), which is similar to what was observed in 2018 where 40% of cases were female.
- ⊕ Females were younger than males (median age: 29.6 years and 35.9 years, respectively).
- ⊕ The median age of females decreased by 5.7 years between 2018 and 2019 while the median age of males remained roughly the same (35.7 years in 2018 vs. 35.9 years in 2019).
- ⊕ Twenty-four percent of cases (n = 29) were introduced from other provinces or countries, which is slightly higher than the five year average (average of 29% between 2015 and 2019).
- ⊕ Over the past three years, the proportion of new infections that were female nearly doubled (from 25.4% in 2017 to 46.7% in 2019). Meanwhile, the proportion of introduced cases that were female decreased (from 44.4% in 2015 to 34.5% in 2019).
- ⊕ There were cases reported in each Regional Health Authority (RHA). As with previous years, the majority of cases continue to be reported from the Winnipeg RHA (65%).
- ⊕ The rate in Northern Health Region tripled between 2018 and 2019 from 5.2 cases per 100,000 population to 15.6 cases per 100,000 population.
- ⊕ People who inject drugs (PWID) was the most frequently reported risk exposure category among females (26 cases, 49.1%). PWID was also the most common risk exposure category among males (18 cases, 26.5%) after no identifiable risk (NIR; 26 cases, 38.2%). Of the 44 cases whose primary risk exposure was PWID, 43 were newly diagnosed in Manitoba, only one was an introduced case.
- ⊕ There were 139,028 HIV antigen/antibody screen tests performed in Manitoba in 2019, on 102,369 people.

## Introduction

MHSAL is pleased to present the *2019 Annual Statistical Update: HIV in Manitoba* report. This report is intended to provide surveillance information in Manitoba of cases of human immunodeficiency virus (HIV) newly reported to the Public Health Surveillance Unit at Manitoba Health, Seniors and Active Living (MHSAL) up to December 31, 2019.

The 2019 HIV data presented here include an examination by:

- ⊕ age and sex distribution,
- ⊕ geographic region,
- ⊕ ethnicity, and
- ⊕ risk exposure category (primary mode of transmission)

### The 2019 Manitoba HIV Program Update

The Epidemiology and Surveillance Unit works closely with the Manitoba HIV Program<sup>1</sup> to validate HIV case counts, though the numbers presented by either organization may differ due to:

1. **Different case definitions**

The Manitoba HIV Program uses a case definition that requires presentation to clinic for HIV care, whereas the Surveillance Unit relies on a positive lab test. A patient may test HIV-positive in December 2018 and show up to care in January 2019; end of year infections will not always align time-wise.

2. **Different geographical boundaries**

For reasons of convenience, the Manitoba HIV Program also provides care to HIV-positive individuals who live near *and* outside the provincial border. These people will be counted in their overall numbers; however, in this report, we count only people residing within Manitoba's borders.

### Acquired Immunodeficiency Syndrome

Acquired immunodeficiency syndrome (AIDS) is a later stage of HIV infection characterized by hampered immunity, high viral loads, and/or opportunistic (or rare) infections. At present, AIDS is likely underreported by clinicians in Manitoba. As the accuracy of the AIDS data is in question, AIDS case counts will be omitted from this publication.

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<sup>1</sup> Manitoba HIV Program: <https://mbhiv.ca>

## Methods

### Case Definitions

The case definition of HIV infection relies on the detection of HIV antibody, nucleic acid or antigen by laboratory methods or isolation of HIV in culture. Only individuals with a positive test reported for the first time to the Manitoba Health Surveillance Unit (MHSU) are included. Note: this includes individuals who may have been tested and diagnosed previously in another province or country or migrants who test positive as part of the Immigration Medical Exam (IME). Cases are then classified according to information received from the public health investigation as either a new infection or an introduced case (Table 1).

Table 1. HIV surveillance case definitions, Manitoba

NEW CASE SOURCE	SURVEILLANCE DEFINITION
<b>New infections</b>	New diagnoses that occurred in the province that were never previously diagnosed elsewhere.
<b>Introduced cases</b>	Cases that were new to the province but had been previously diagnosed elsewhere, either in another province or country, or as part of an IME before arrival in Canada or after arrival if there is sufficient evidence to suggest that the infection was acquired prior to arrival.

### Risk Exposure Category

The risk exposure categories presented in this report reflect the most likely mode of transmission for a new HIV case. An individual may report more than one risk factor or exposure on their case investigation form but will be assigned a “primary mode of transmission” based upon a provincially established hierarchy in use since 2002 (Table 2).

The hierarchy was designed to group cases with similar risk exposures. If more than one risk factor is reported, the hierarchy assigns the case to a risk exposure category based on the factor most likely to have been the mode of transmission of the virus. The hierarchy used by MHSAL is similar (but not identical) to that used by the Public Health Agency of Canada (PHAC).<sup>2</sup> For simplicity, the term “risk exposure category” is equivalent to “primary mode of transmission” in this report.

Challenges in obtaining completed case investigation forms have been noted in past years. Therefore, the risk exposure category data presented should be interpreted with some caution particularly when making comparisons to previous years due to the varying degrees of data completeness. Missing information creates challenges in assessing changes over time.

<sup>2</sup> Public Health Agency of Canada (2014). *HIV and AIDS in Canada: Surveillance Report to December 31, 2013*. <https://www.canada.ca/content/dam/phac-aspc/migration/phac-aspc/aids-sida/publication/survreport/2013/dec/assets/pdf/hiv-aids-surveillance-eng.pdf>



Table 2. Hierarchy of risk exposure categories of HIV, Manitoba

MALES	FEMALES
1. Men who have sex with men/people who inject drugs (MSM/PWID)	1. People who inject drugs (PWID)
2. Men who have sex with men (MSM)	2. Endemic*
3. People who inject drugs (PWID)	3. Recipient of blood/blood products
4. Endemic*	4. Heterosexual contact
5. Recipient of blood/blood products	5. Occupational
6. Heterosexual contact	6. Perinatal
7. Occupational	7. No identifiable risk (NIR)
8. Perinatal	
9. No identifiable risk (NIR)	

\*people who were born in an HIV-endemic country, had sexual contact while in an HIV endemic country, or injected drugs while in an HIV-endemic country.

## Risk Exposure Category Definitions

### Endemic

This category includes persons who originated from, or resided in, an HIV-endemic country. People who reported the following risk factors were included in this risk exposure category:

- born in an HIV-endemic country,
- sexual contact while in an HIV endemic country, or
- person who injects drugs (PWID) while in an HIV-endemic country.

An HIV-endemic country is defined as a country where the adult (ages 15-49 years) prevalence of HIV is 1.0% or greater and one of the following is satisfied: 50% or more of HIV cases are attributed to heterosexual transmission; the male to female case ratio is 2:1 or less; or HIV prevalence is greater than or equal to 2% among women receiving prenatal care.

### Heterosexual contact

This category includes individuals who reported heterosexual activity with a person(s) who is HIV positive or is at increased risk of HIV infection.

### Men who have sex with men (MSM)

This category includes men who reported having sex with other men (but did not identify as PWID).

### Men who have sex with men / People who inject drugs (MSM/PWID)

This category includes men who reported having sex with other men (MSM) and identify as PWID.

### No identifiable risk (NIR)

This category is assigned to a case when no risk factor information was identified, no risk factor information was available from the case investigation form, or the form was incomplete. This includes investigations in progress or cases who were lost to follow-up.

**Occupational**

This category includes individuals who reported possible work-related HIV transmission. Examples of occupational transmission include: needle stick injury or exposure to blood or bodily fluids in an occupational environment.

**People who inject drugs (PWID)**

This category includes individuals who identify as a person who injects drugs.

**Perinatal**

This category includes cases for whom the virus was transmitted from mother-to-child. Typically, this information is reported by specialist physicians directly to the Public Health Agency of Canada (PHAC) through the Canadian Perinatal HIV Surveillance Program.

**Recipient of blood/blood products**

This category includes individuals who indicated they received blood or blood products.

**Data Sources and Analysis**

**Case data:** The dataset used in this report was extracted in February, 2020, from the MHSAL Public Health Information Management System (PHIMS). It is important to note that information is continuously reported and entered into the system; therefore, slight differences may be observed from reports generated in the past.

**Population data:** Population registry data (mid-year 2019) used for the calculation of rates were obtained from Information Management and Analytics, MHSAL.

Data were validated and cleaned using both Microsoft Excel version 2016 and R version 4.0.2 (R Core Team, 2020). Descriptive analyses were also conducted using a combination of both software.

**Surveillance of HIV and AIDS in Manitoba**

The majority of HIV diagnoses in the province arise from a test measuring anti-HIV antibodies. All confirmatory HIV antibody and DNA testing in Manitoba is carried out at Cadham Provincial Laboratory (CPL). As required by the *Reporting of Diseases and Conditions Regulations, Public Health Act*,<sup>3</sup> positive HIV test results are reported to the MHSU at MHSAL. Upon receipt of a positive HIV lab report, the MHSU refers the result to the client's Regional Health Authority of residence for public health follow-up. Within the MHSU, all positive HIV test results are considered new cases unless otherwise advised by the appropriate health care professional or through public health follow-up. Once public health follow-up is completed by the Regional Health Authority, data are entered directly into the provincial public health surveillance system database. The MHSU also accepts positive lab results from contracted labs (such as those used by insurance companies) as an initial infection date, but this occurs only rarely.

Alterations to HIV antibody diagnostic procedures in the province occurred on January 1, 2007 with the introduction of nominal testing (results linked to the tested person's name) and November 1, 2007

<sup>3</sup> <http://web2.gov.mb.ca/laws/regs/current/pdf-regs.php?reg=37/2009>

with the introduction of anonymous testing (unlinked). This was in addition to the existing non-nominal testing (results linked to person via code) option. More information describing the management protocol of HIV/AIDS and these three testing options can be found in the Communicable Disease Management Protocol for HIV/AIDS.<sup>4</sup> The number of individuals opting for nominal testing has increased steadily since 2007. It is possible for individuals tested using a non-nominal code to have had prior or subsequent positive HIV tests using a different non-nominal code, by anonymous testing, or by name. For this reason, there have been challenges in identifying the clients who may have had repeat tests; duplicate cases may be counted as independent infections. This is why clinical confirmation with the Manitoba HIV Program is employed to reduce repeated reporting.

Provincial HIV case data are annually reported to the Centre for Communicable Diseases and Infection Control, PHAC for inclusion in the national surveillance reporting. Variations that might exist between provincial and national reports may be accounted for by delays in reporting as well as the continuous updating of information in the MHSAL surveillance database.

## Notes and Limitations

- ⊕ The number of new HIV cases reported may not be a reflection of the true number of new HIV infections per year (i.e. incidence) in the Manitoba population. It is possible for an individual to be tested with a non-nominal identifier and use nominal testing for a subsequent test. In this case, linkage of results can only be done when client consent is provided.
- ⊕ Changes in the number of HIV positive individuals as well as observed trends must be interpreted with caution. There are a number of factors that may contribute to these fluctuations, for example, changes in testing practices or reporting patterns by care providers.
- ⊕ Crude rates should be interpreted with some degree of caution, especially when case counts are low. The addition of even one case may cause the rate to vary greatly. For example, an increase from one case to two cases, while not large in absolute numbers, would double the crude rate.
- ⊕ In this report, the Winnipeg Regional Health Authority (WRHA) includes the populations and HIV counts of both Winnipeg and Churchill.
- ⊕ Information about ethnicity and risk exposure categories are self-reported by the individual during a follow-up interview performed by the health care provider or public health nurse. The responses can be subject to a degree of bias leading to possible under-reporting (or alternatively, over-reporting) of factors, which may differ from year-to-year. There have also been challenges in obtaining completed case investigation forms in recent years. Due to this, ethnicity data is not included in this report.
- ⊕ The categories of risk exposures presented in this report reflect the most likely mode of transmission of HIV for a new HIV case. Although more than one risk factor or exposure may be reported through the case investigation form, individuals are assigned to a “primary mode of transmission” category based upon a pre-determined hierarchy. For simplicity, the term “risk exposure category” is equivalent to “primary mode of transmission” in this report.

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<sup>4</sup> <https://www.gov.mb.ca/health/publichealth/cdc/protocol/hiv.pdf>

## Surveillance Data

### New Cases to Manitoba

Between January 1 and December 31, 2019, there were 121 new cases of HIV reported in Manitoba based on positive laboratory test (for HIV antibody or viral DNA) and clinical confirmation (Figure 1). There was a 13.1% increase in the total number of cases compared to 2018.

With 8.8 new HIV cases per 100,000 population, the crude rate for 2019 was higher than the rate reported last year (7.9 cases per 100,000 population in 2018); however, it is comparable to the 10 year (2010-2019) average crude rate of 7.7 cases per 100,000 population. Over the previous ten years, the crude rates ranged from a low of 5.5 cases per 100,000 population in 2012 to a high of 9.8 cases per 100,000 population in 2010.

In 2019, there were 121 new cases of HIV reported in Manitoba, equating to a 13.1% increase compared to last year.

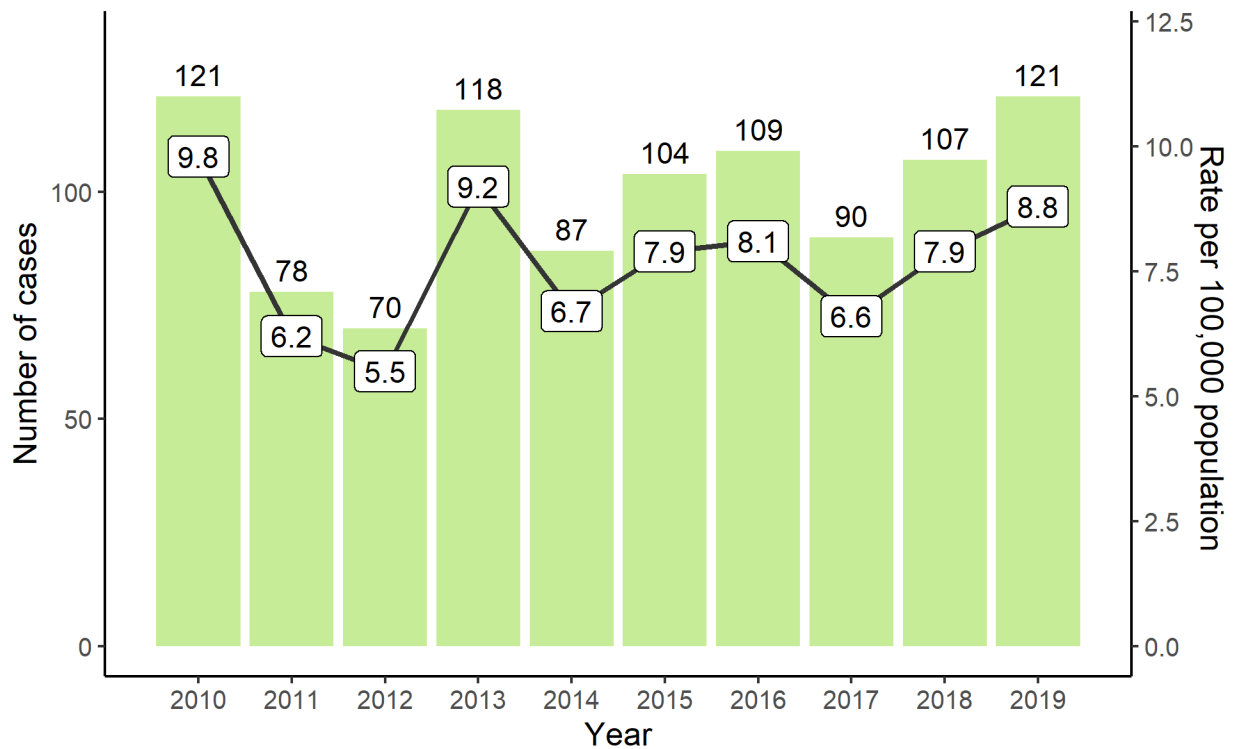


Figure 1. Annual number and crude rate of new HIV cases in Manitoba, 2010-2019.

### Types of HIV Cases

In Manitoba in 2019, 92 of 121 (76.0%) HIV cases were newly identified (Figure 2). This means that the person being tested was learning of their HIV infection for the first time, which may provide insight into the scope of opportunities for prevention. The remaining 29 cases (24.0%) were introduced from other provinces or countries. The proportion of introduced cases in 2019 was slightly lower than the five year average between 2015 and 2019 (24.0% vs. 29.3%, respectively).

In 2019, 24.0% of cases were introduced from other provinces or countries, which is slightly lower than the five year average (29.3%).

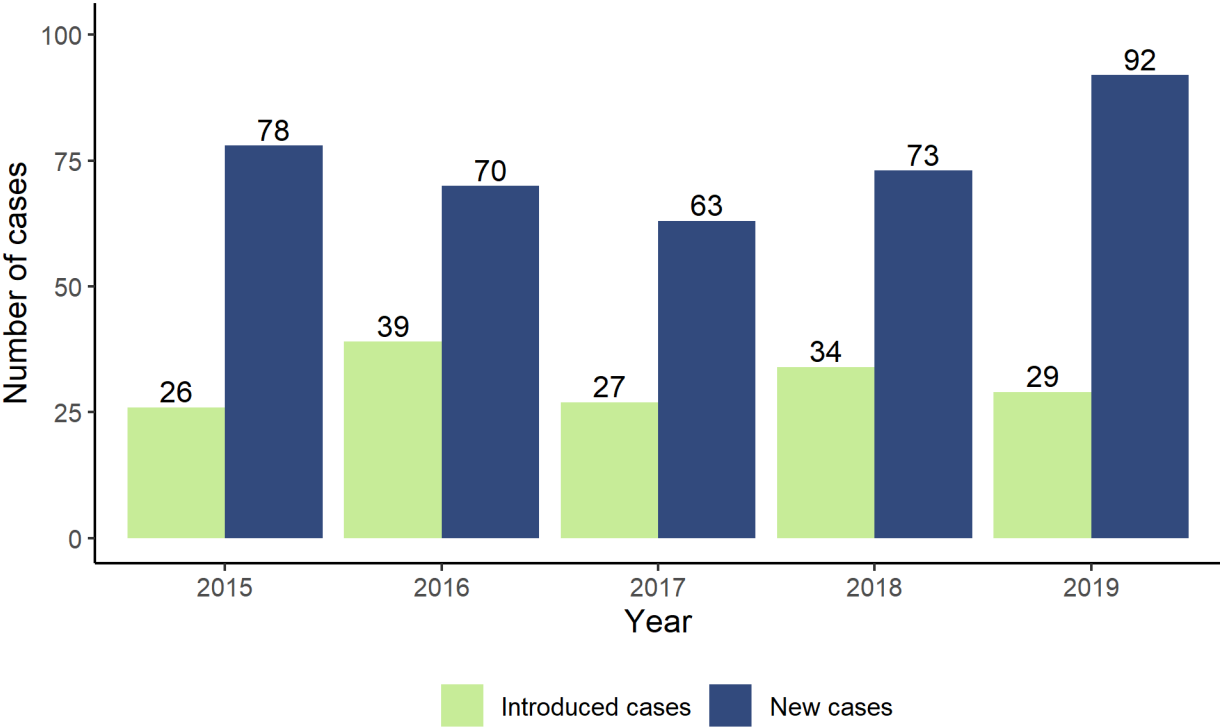


Figure 2. Number of HIV cases by type of HIV case and year, Manitoba, 2015-2019.

### Age-Sex Distribution

In 2019, 56.2% of cases were male (n = 68) and 43.8% were female (n = 53). In recent years, the proportion of HIV cases among females has increased. Females accounted for 31.1% of new cases in 2017 and 40.2% in 2018. In 2019, the median age of males was 35.9 years, and the median age of females was 29.6 years. Between 2018 and 2019, the median age of females decreased by 5.7 years and that of males decreased by 0.2 years. The median age of males and females has been decreasing since 2015.

The crude rate of HIV in males was higher than in females in 2019 (10.0 vs. 7.7 cases per 100,000 population, respectively, Figure 3); however, the gap narrowed, as is demonstrated by the 22.2% increase in rate among females between 2018 and 2019 compared to the 5.3% increase among males for the same time period. The rate among females in 2019 was the highest it had been in the last 5 years.

The crude rate of new HIV cases continued to be higher among men than among women; however, the gap narrowed in 2019.

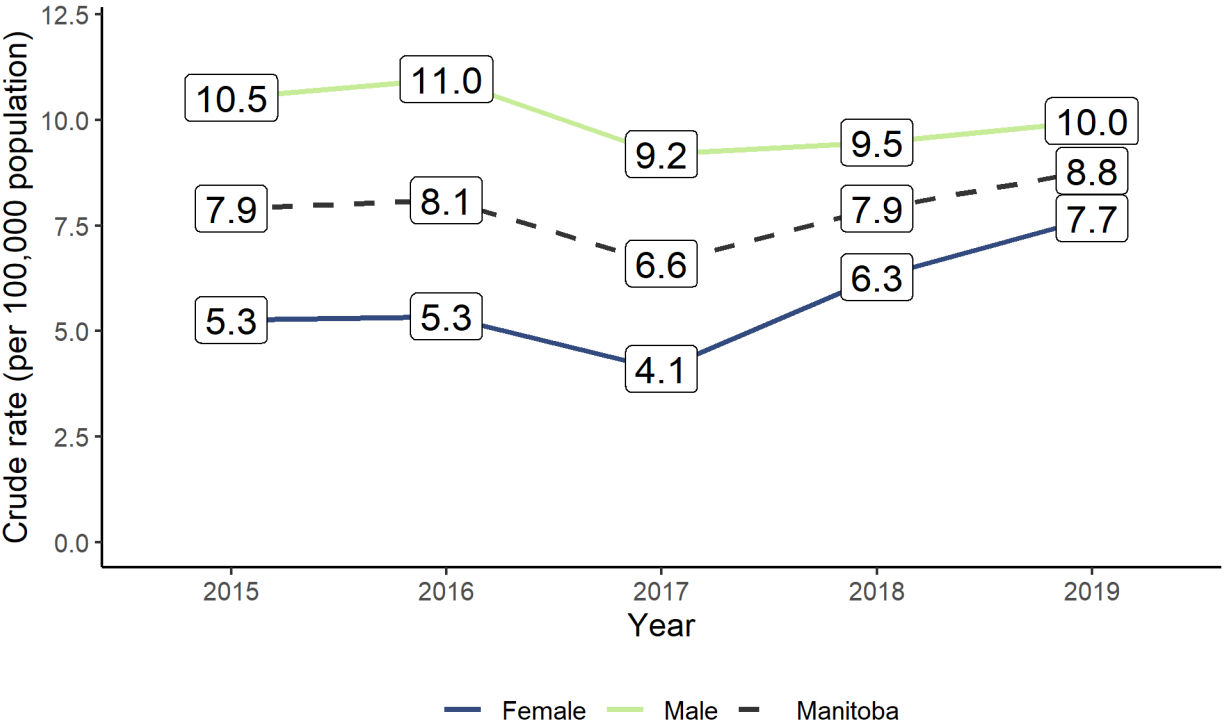


Figure 3. Crude rates of HIV by year and sex, Manitoba, 2015-2019.



The distribution of cases by age group differed by sex (Figure 4). The majority of cases among females occurred among those aged 20-29 years and 30-39 years (47.2% and 34.0% of female cases, respectively). The majority of cases among males also occurred among 20-29 year olds (26.5% and 30.9% of male cases, respectively), but males experienced more cases among 50-59 year olds and 60+ year olds than females. Both males and females experienced few cases in those under 19 years old.

In 2019, 20-29 year-olds accounted for the highest proportion of cases among females (47.2%) and 30-39 year-olds accounted for the highest proportion of cases among males (30.9%).

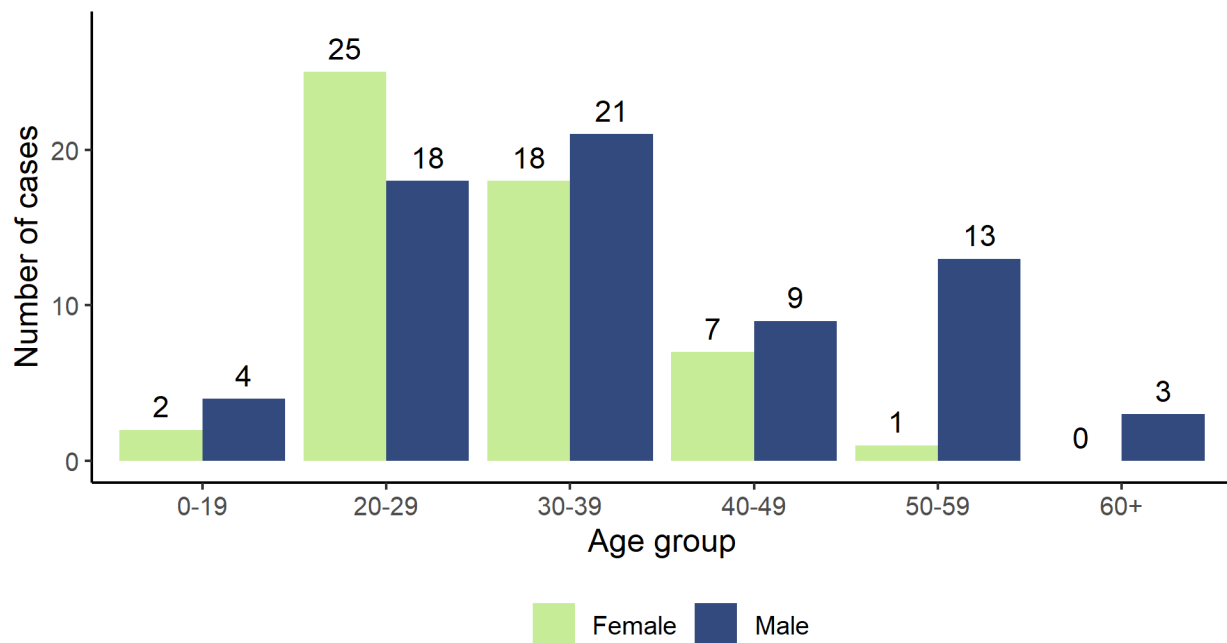


Figure 4. Number of HIV cases by sex and age group, Manitoba, 2019.

Figure 5 illustrates the crude rate of HIV by age group, over time. Between 2018 and 2019, the rate of HIV among 20-29 year olds increased by 60.1% and the rate of HIV among 30-39 year olds increased by 15.9%. The rate of HIV decreased in all other age groups. Between 2015 and 2019, the rate among 0-19 year-olds almost tripled from 0.6 cases per 100,000 population to 1.7 cases per 100,000 population. This large change in crude rate is mainly due to the low number of HIV infections among 0-19 year olds. In 2015, there were 2 cases among 0-19 year olds, while in 2019 there were 6 cases.

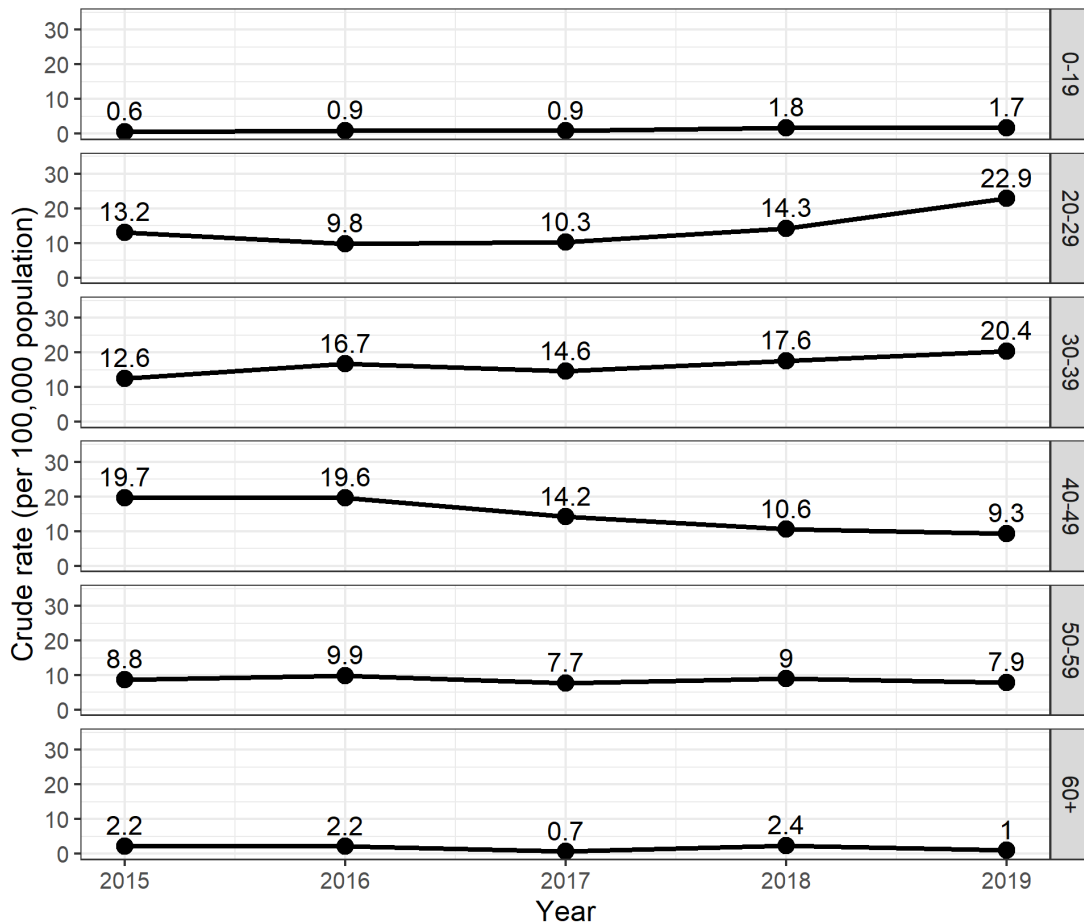


Figure 5. Crude rate of HIV by age group and year, Manitoba, 2015-2019.



### Type of HIV Case by Sex

Figure 6 shows the breakdown of infection types by sex for 2015-2019. The sex distribution of cases has changed over time. Over the past three years, the proportion of new infections that were female nearly doubled (from 25.4% in 2017 to 46.7% in 2019). Meanwhile, the proportion of introduced cases that were female decreased (from 44.4% in 2015 to 34.5% in 2019).

Females are accounting for an increasing proportion of new HIV cases, and a decreasing proportion of introduced HIV cases.

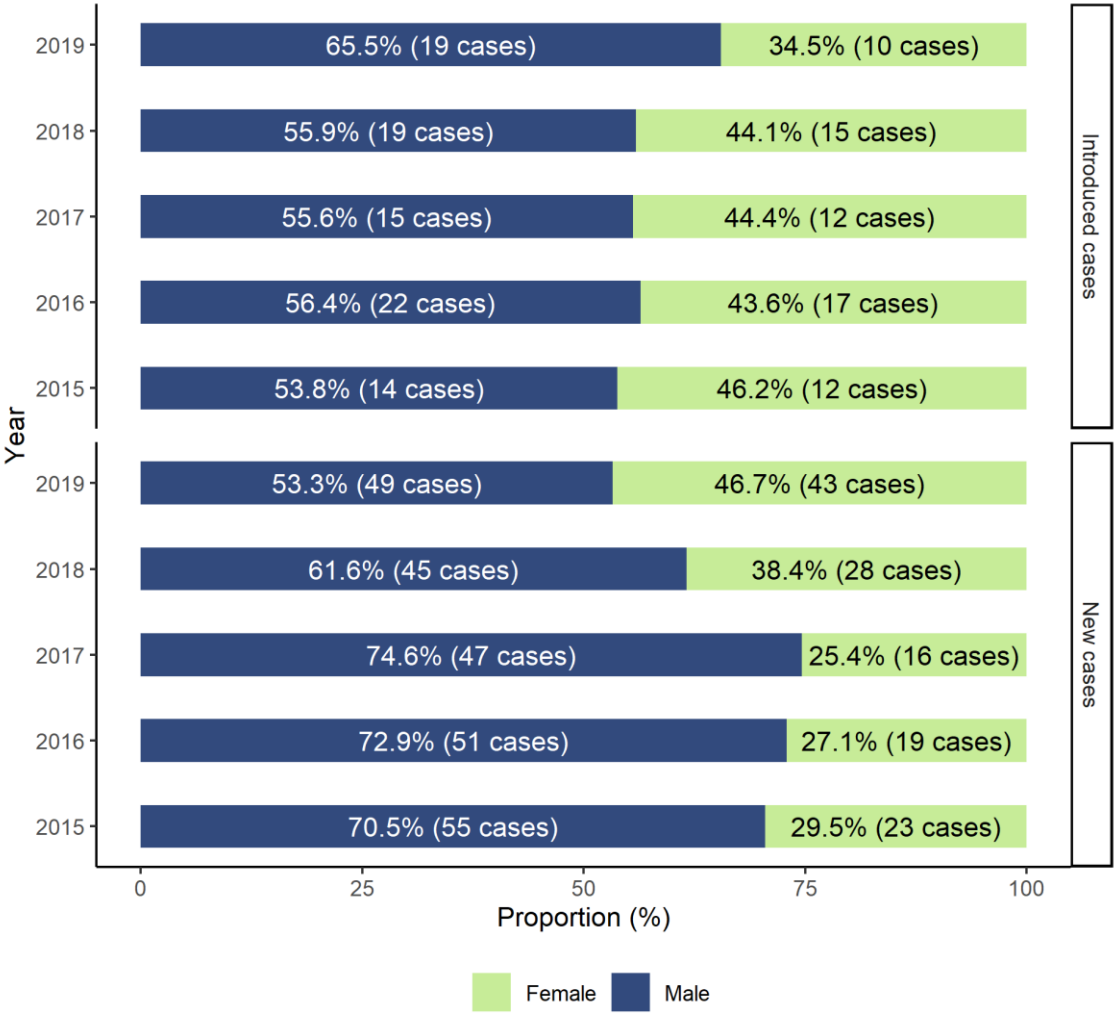


Figure 6. Proportion (%) of new HIV cases by type of HIV case and sex, Manitoba, 2015-2019.



## HIV by Regional Health Authority

There were HIV cases reported in all Regional Health Authorities.

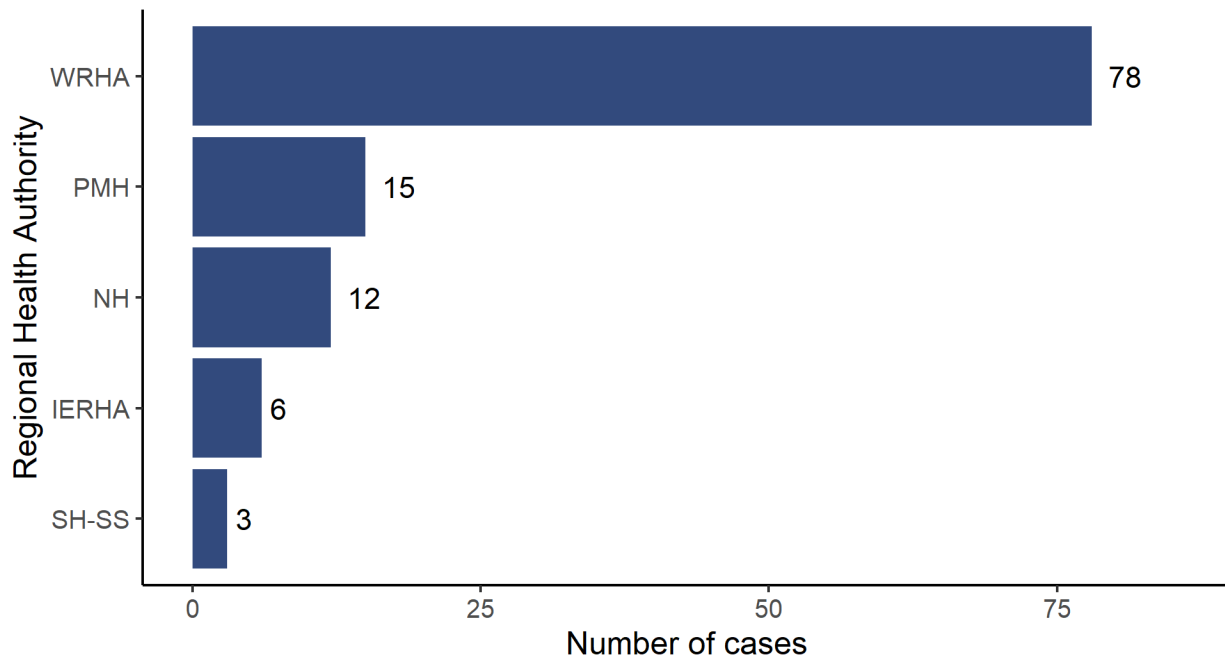


Figure 7. Number of HIV cases by Regional Health Authority, Manitoba, 2019.

Abbreviations: IERHA (Interlake-Eastern Regional Health Authority), NH (Northern Health Region), PMH (Prairie Mountain Health), SH-SS (Southern Health – Santé Sud), WRHA (Winnipeg Regional Health Authority)

The majority of new HIV cases in 2019 occurred in the Winnipeg Regional Health Authority (RHA) (64.5%, Figure 7). The other regions all reported at least three new HIV cases in 2019.

Figure 8 depicts the change in crude rate over time by RHA. The rate in the Winnipeg RHA fluctuated between 9.6 and 11.4 cases per 100,000 population between 2015 and 2019, decreasing by 13.2% from 2015 to 2019 (11.4 cases per 100,000 population in 2015 to 9.9 cases per 100,000 population in 2019). The rate in Prairie Mountain Health in 2018 (7.0 cases per 100,000 population) was six times the rate in 2017 (1.2 cases per 100,000 population), largely due to a localized cluster of needle sharing among PWID. Interventions were implemented to manage the rise in HIV transmission. From 2018 to 2019 the rate in Prairie Mountain Health increased an additional 24.3% to 8.7 cases per 100,000 population.

The rate in Northern Health Region tripled between 2018 and 2019 from 5.2 cases per 100,000 population to 15.6 cases per 100,000 population, although no cluster was identified. This large increase in crude rate was driven by an increase from 4 cases to 12 cases in the Northern Health Region. The rate in Interlake-Eastern RHA was unchanged between 2015 and 2016, decreased by 30.9% between 2016 and 2018 (from 5.5 to 3.8 cases per 100,000 population), and increased by 18.4% between 2018 and 2019. The rate in Southern Health – Santé Sud has fluctuated between 1.0 cases per 100,000 population and 2.1 cases per 100,000 population, with the exception of 2016 when there was an increase to 5.1 cases per 100,000 population.

The crude rate of HIV in Northern Health Region tripled between 2018 and 2019.

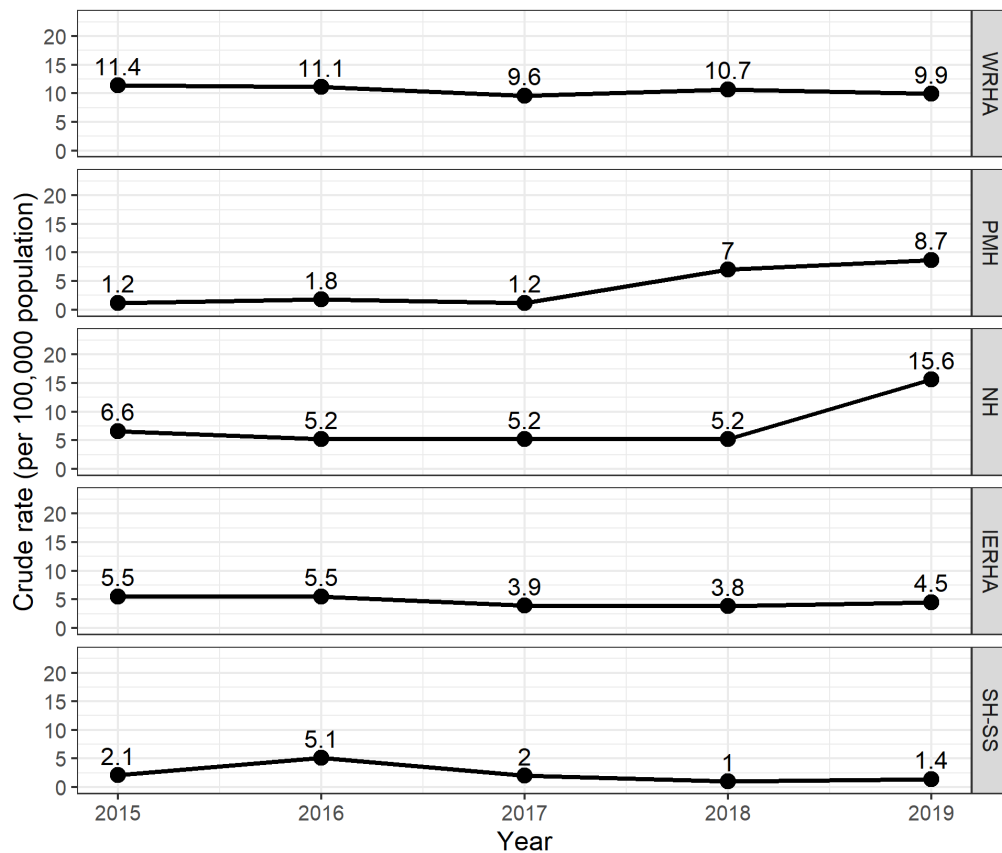


Figure 8. Crude rate of HIV by Regional Health Authority and year, Manitoba, 2015-2019.

Abbreviations: IERHA (Interlake-Eastern Regional Health Authority), NH (Northern Health Region), PMH (Prairie Mountain Health), SH-SS (Southern Health – Santé Sud), WRHA (Winnipeg Regional Health Authority)

## Risk Exposure Category

The categories of risk exposure presented in this report reflect the most likely mode of HIV transmission for a new HIV case. Although more than one risk factor or exposure may be self-reported on the case investigation form, individuals are assigned to a “primary mode of transmission” based upon a pre-determined hierarchy. The Methods section further describes these risk exposure categories, methodology and definition.

Figure 9 illustrates the distribution of risk exposure categories by sex for HIV cases in 2019. Among both males and females, a large proportion of cases had no identifiable risk (NIR; 38.2% of males and 28.3% of females). Not considering the NIR category, among males, people who inject drugs (PWID) comprised the greatest proportion (26.5%), followed by men who have sex with men (MSM) (17.6%), heterosexual sex (5.9%), endemic risk and MSM/PWID (both 5.9%). The distribution was somewhat different among females. PWID was the primary risk exposure category for almost half (49.1%) of all females, followed by NIR (28.3%), endemic risk (17.0%), and heterosexual risk (3.8%).

The year 2019 was the first time the PWID risk exposure category was more commonly reported among males than MSM. Of the 44 cases whose primary risk exposure was PWID, 43 were newly diagnosed in Manitoba, only one was an introduced case. Changes to the public health information system in 2018 make comparisons to previous years difficult; however, it is still evident that the PWID category is a growing concern in terms of the risk of HIV transmission in Manitoba.

Unfortunately, the large proportion of cases with NIR makes it difficult to determine other areas where interventions may be targeted to reduce the transmission of HIV. It is important to note that in 2019, no HIV cases recorded in PHIMS actually responded “Yes” to having no identifiable risk. All cases in the NIR category simply had no other risk factor information entered in PHIMS. The thorough completion of the HIV case investigations forms is important in order to be able to devise Public Health strategies to reduce the spread of HIV within the province.

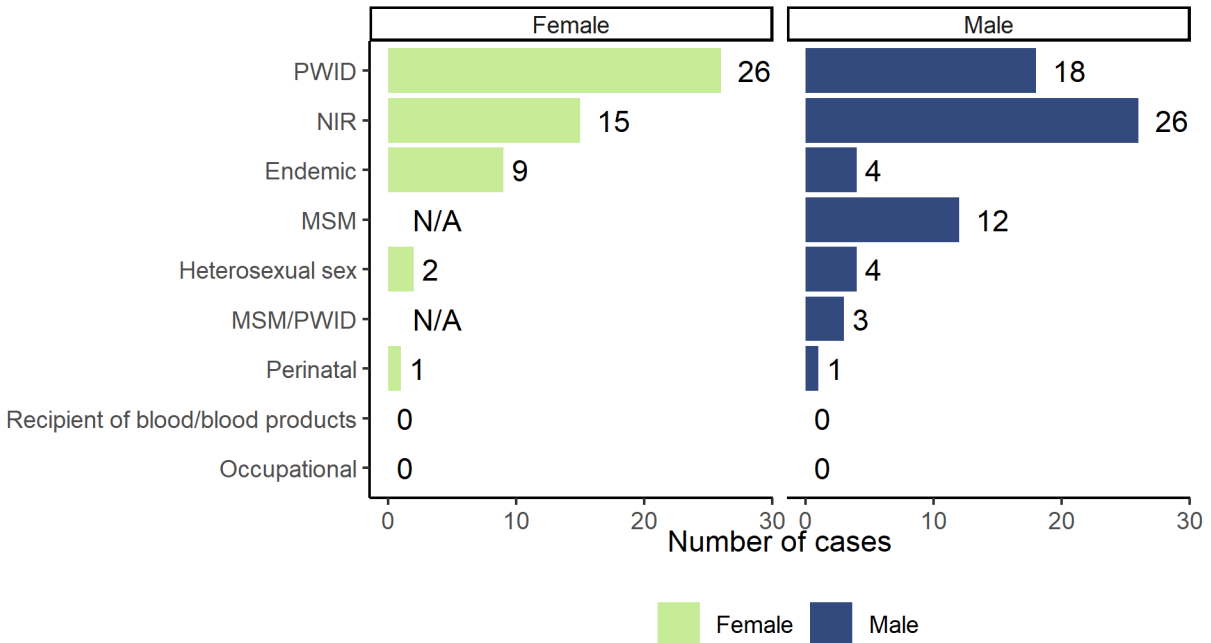


Figure 9. Distribution of HIV cases by risk exposure category and sex, Manitoba, 2019.

Abbreviations: NIR (no identifiable risk), MSM (men who have sex with men), PWID (people who inject drugs), MSM/PWID (men who have sex with men / people who inject drugs). Note: The MSM and MSM/PWID categories are not applicable (N/A) to females.

The PWID category is a growing concern in terms of the risk of HIV transmission in Manitoba:

- PWID was the primary risk exposure category for almost half (49.1%) of all females.
- The year 2019 was the first time the PWID risk exposure category was more commonly reported among males than MSM.
- Of the 44 cases whose primary risk exposure was PWID, 43 were newly diagnosed in Manitoba, only one was an introduced case.

## HIV Testing in Manitoba

There were 139,028 HIV antigen/antibody screen tests performed in Manitoba in 2019 (Table 3) on 102,369 people (Table 4). There were 405 positive screen tests but only 258 positive people (average of 1.6 tests per person). If an individual suspects that they were exposed to HIV, then three tests are performed on that person over a span of six months; therefore, these results are not surprising.

The percent positivity of HIV test results and of people tested are within expected range for Manitoba (Cadham Provincial Laboratory personal communication, 2019) at 0.291% and 0.252%, respectively.

Similarly to last year, females were screened for HIV 1.5 times more frequently than males (Table 4; 61,900 females tested vs. 40,305 males tested). While women are screened for HIV during pregnancy regardless of risk status, this disparity in screening by sex is still noteworthy given that males account for nearly two-thirds of new HIV infections.

Table 3. HIV antigen/antibody screen tests processed by Cadham Provincial Laboratory by sex, Manitoba, 2019.

	Female	Male	Unknown	Total
<b>Total tests*</b>	88,991	49,868	169	139,028
<b>Positive tests</b>	199	206	0	405
<b>Percent positive (%)</b>	0.224	0.413	0	0.291

\* Number of individual tests, includes when multiple tests were performed on one person.

Table 4. People screened via HIV antigen/antibody screen tests processed by Cadham Provincial Laboratory by sex, Manitoba, 2019.

	Female	Male	Unknown	Total
<b>Total people*</b>	61,900	40,305	164	102,369
<b>Positive people</b>	115	143	0	258
<b>Percent positive (%)</b>	0.186	0.355	0	0.252

\* Number of people tested (multiple tests removed).

In 2019, females were screened for HIV 1.5 times more frequently than males.

Figure 10 illustrates the number of HIV screen tests that were required to find one new positive case of HIV by Regional Health Authority (RHA) and year. Similarly to last year, Winnipeg RHA had the lowest ratio of HIV antigen/antibody tests performed to new positive cases at 852 tests to identify one new case. The ratios within the other RHAs were fairly similar to last year with the exception of Northern Health Region. In this RHA, the ratio in 2019 was much lower than 2018.

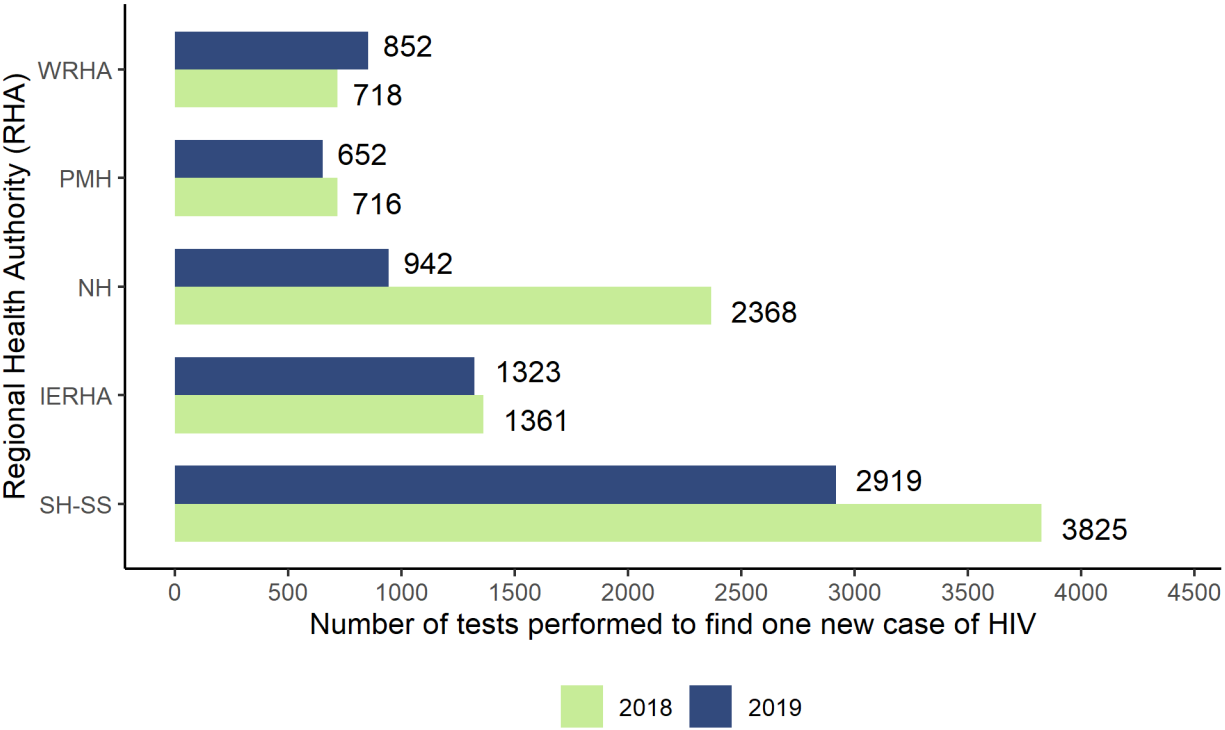


Figure 10. Number of HIV antigen/antibody screen tests to find one new positive HIV case by Regional Health Authority, Manitoba, 2019.

Finally, Figure 11 illustrates the differential distribution of HIV screen tests by age group between males and females. As expected, the proportion of tests among females aged 20-29 years was higher than among males (40.2% vs. 33.9%, respectively). Again, this is likely due to women being screened for HIV during pregnancy in Manitoba. This trend was also observed among those aged 30-39 years (32.3% among females and 25.9% among males).

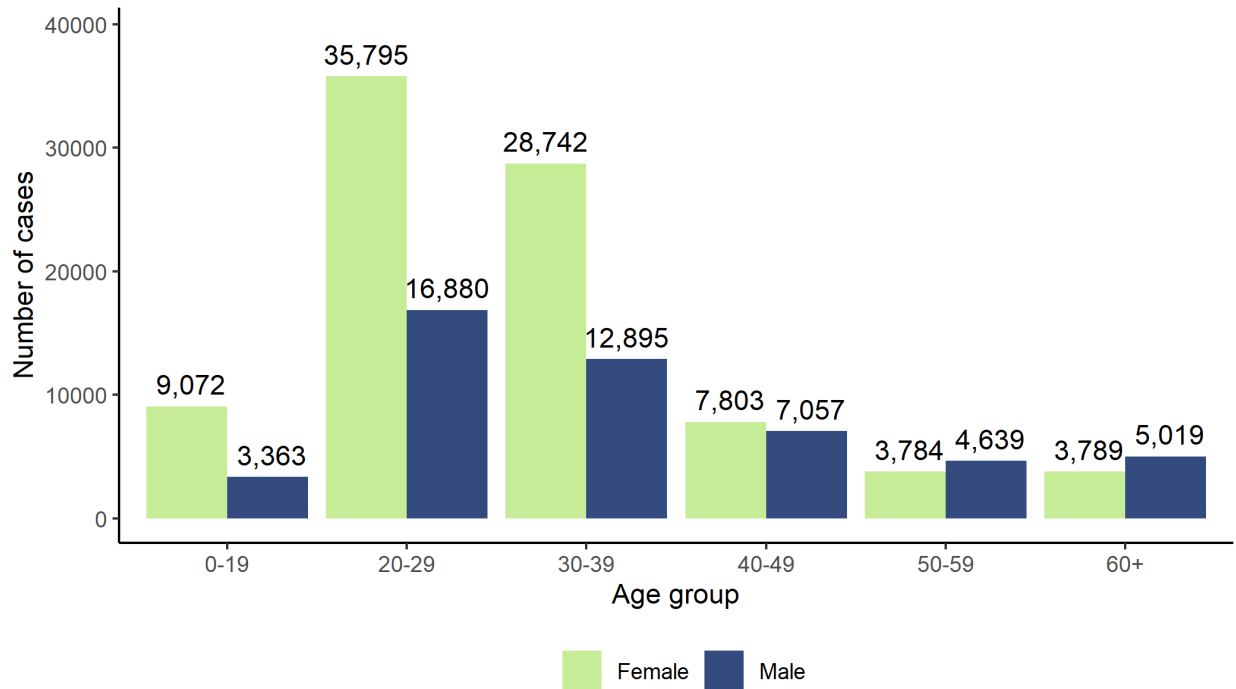


Figure 11. Number of HIV antigen/antibody screen tests performed by age group and sex, Manitoba, 2019.



## Conclusion

While the number of new HIV infections in 2019 in Manitoba was higher than in 2018 (121 vs. 107 cases, respectively), the crude rate (8.8 cases per 100,000 population) was comparable to the 10 year average crude rate of 7.7 cases per 100,000 population (2010-2019). That said, the types of HIV cases identified within Manitoba are changing. Since 2017, the number of introduced cases has decreased and the number of cases diagnosed with HIV for the first time in Manitoba has increased. This suggests that we have increasing HIV transmission within our borders.

The rate of infection was higher among males than females in 2019 (10.0 vs. 7.7 cases per 100,000 population, respectively); however, the gap between males and females narrowed substantially between 2017 and 2019. The rate among females increased by 22.2% from 2018 to 2019 whereas among males it increased by only 5.3%. The rate among females in 2019 was also the highest it had been in the last 5 years. It appears that females are driving the shift in the type of HIV cases identified in Manitoba. Over the past three years, the proportion of new infections that were female nearly doubled (from 25.4% in 2017 to 46.7% in 2019). Meanwhile, the proportion of introduced cases that were female decreased (from 44.4% in 2015 to 34.5% in 2019).

In 2019, a large proportion of males and females had no identifiable risk for HIV transmission (38.2% of males and 28.3% of females). Not considering the NIR category, among males, PWID comprised the greatest proportion of risk exposure (26.5%). This was the first year the PWID risk exposure category was more commonly reported among males than MSM. PWID was also the greatest source of risk exposure among females (49.1%). Of the 44 cases (male and female) whose primary risk exposure was PWID, 43 were newly diagnosed in Manitoba, only one was an introduced case. It is apparent that targeted interventions to help mitigate the risk of HIV transmission among PWID in Manitoba, are warranted.

Unfortunately, the large proportion of cases with NIR makes it difficult to determine other areas where interventions may be targeted to reduce the transmission of HIV. It is important to note that in 2019, no HIV cases recorded in PHIMS actually responded “Yes” to having no identifiable risk. All cases in the NIR category simply had no other risk factor information entered in PHIMS. The thorough completion of the HIV case investigations forms is important in order to be able to devise Public Health strategies to reduce the spread of HIV within the province.