

**2020 ANNUAL SURVEILLANCE
UPDATE:**
HIV IN MANITOBA



MISSION, MANITOBA HEALTH AND SENIORS CARE:

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

Information Management and Analytics

Resources and Performance Division

Manitoba Health and Seniors Care

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Acknowledgements

In the spirit of honour, respect, and reconciliation, Manitoba Health and Seniors Care (MHSC) 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. Many Inuit also call Manitoba home, either permanently or temporarily.

Secondly, MHSC 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

- ⊕ There were 10,547 fewer HIV antigen/antibody screen tests performed in 2020 than in 2019 and 11,086 fewer people screened. Because of this, any decrease in HIV cases reported from 2019 to 2020 may simply be due to the decrease in testing, and therefore decreased case **identification**, rather than a true decrease in incident cases.
- ⊕ In 2020, there were 117 cases of HIV new to Manitoba compared to 119 cases in 2019, equating to a 1.7% decrease.
- ⊕ The proportion of HIV cases among females is increasing. Females accounted for 3 in 10 new HIV cases in 2017 compared to 4 in 10 in 2020.
- ⊕ The median age of female cases is decreasing. The median age of females decreased by 7.4 years between 2017 and 2020 (37.6 years in 2018 vs. 30.2 years in 2020) while the median age of males remained roughly the same (37.2 years in 2017 vs. 35.9 years in 2020).
- ⊕ In 2016, almost 4 in 10 HIV cases were introduced from other provinces or countries. In 2020, fewer than 2 in 10 HIV cases were introduced from other provinces or countries. In the same time period, the proportion of cases diagnosed for the first time in Manitoba that were female nearly doubled from one-quarter of cases (27.1% in 2016) to almost half (46.4% in 2020) and the proportion of introduced cases that were female decreased from almost half (43.6% in 2016) to one-fifth (20.0% in 2020). This suggests that there is increasing HIV transmission within Manitoba's borders, especially among females.
- ⊕ As with previous years, the majority of cases were reported in the Winnipeg RHA (68.4%). The crude rate of HIV reported in most RHAs decreased from 2019 to 2020, with the exception of Southern Health – Santé Sud, where the rate more than doubled. The majority of HIV cases diagnosed in SH-SS were among incarcerated individuals. Four of the five cases (80.0%) diagnosed in 2019 and nine of the 13 cases (69.2%) diagnosed in 2020 were incarcerated. There are two correctional facilities in SH-SS and each one houses inmates from all regions of Manitoba.
- ⊕ In 2020, fewer than one-half (48.7%) of HIV cases self-reported their ethnicity.
- ⊕ Among females, people who inject drugs (PWID) was the most frequently reported risk exposure category (36.7%), followed by heterosexual sex (26.5%), and endemic risk (2%; endemic risk includes persons who originated from, or resided in, an HIV-endemic country). Among males, PWID and those who engage in heterosexual sex were the most frequently reported risk exposure categories (23.5% each), followed by men who have sex with men (MSM) (13.2%), endemic risk (8.8%) and MSM/PWID (1.5%).

Introduction

The *2020 Annual Surveillance Update: HIV in Manitoba* report is intended to provide surveillance information in Manitoba of cases of human immunodeficiency virus (HIV) newly reported to the Manitoba Health Surveillance Unit (MHSU) at Manitoba Health and Seniors Care (MHSC) up to December 31, 2020.

The 2020 HIV data presented here include an examination by:

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

The 2020 Manitoba HIV Program Update

The Epidemiology and Surveillance Unit works closely with the Manitoba HIV Program¹ 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 2019 but not show up to care until January 2020; 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.

¹ 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, less commonly, growth of HIV in culture. Only individuals with a positive test reported for the first time to the MHSU are included. Note: this includes individuals who may have been tested and diagnosed previously in another province or country or immigrants 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
New infections	New diagnoses that occurred in the province that were never previously diagnosed elsewhere.
Introduced cases	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 MHSC is similar (but not identical) to that used by the Public Health Agency of Canada (PHAC).² 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. New to the 2020 report, individuals for whom not enough risk information was obtained to assign them to a risk exposure category are

² 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>

captured in a separate category indicating “insufficient risk information obtained. Previously, cases with insufficient risk information were included with cases who had no identifiable risk (NIR).

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.

Note: individuals without enough risk information to be assigned to any of the above risk exposure categories were included in a separate “insufficient risk information obtained” category.

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
- injecting drugs 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.

Insufficient risk information obtained

This category is assigned to individuals missing the risk factor information required to assign a primary mode of transmission based upon the provincially established hierarchy. This includes investigations with incomplete case investigation forms, investigations in progress, or cases who were lost to follow-up. Incomplete case investigation forms may be due to an inability to find the individual or have them engage with the public health interview.

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 includes individuals who report they did not engage in any behaviours or activities that would allow HIV transmission.

Occupational

This category includes individuals who reported possible work-related HIV transmission. Examples of occupational transmission include: needle stick injury or exposure to blood and/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 individuals 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

HIV laboratory testing data: The HIV testing data used in this report was extracted in October 2021, from the Cadham Provincial Laboratory (CPL) Laboratory Information Management System (LIMS).

Surveillance case data: The surveillance data used in this report was extracted in September 2021, from the MHSC 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 2020) used for the calculation of rates were obtained from Information Management and Analytics, MHSC.

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 CPL. As required by the

Reporting of Diseases and Conditions Regulations, Public Health Act,³ positive HIV test results are reported to the MHSU at MHSC. 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 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.⁴ 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 MHSC 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.

³ http://web2.gov.mb.ca/laws/regqs/current/_pdf-regqs.php?reg=37/2009

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

- ⊕ 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 reported as the percentage of people who self-reported their ethnicity by year, rather than by ethnicity category.
- ⊕ 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.
- ⊕ Beginning in the 2020 annual report, individuals for whom not enough risk information was obtained to assign them to a risk exposure category are captured in a separate category indicating “insufficient risk information obtained. Previously, cases with insufficient risk information were included with cases who had no identifiable risk (NIR).
- ⊕ In the previous annual reports, an individual’s regional health authority (RHA) was assigned based on their postal code at the time of investigation. As a result, some cases, such as those under federal jurisdiction, those with no fixed address, and incarcerated individuals, did not have a geographic region and so were not included in the RHA breakdown of previous annual reports. The current report has transitioned to using the primary responsible organization as the RHA for cases with missing geographic region, so that all cases are captured in the RHA breakdown. This change was applied to all HIV cases diagnosed in Manitoba since 2018 and has resulted in an increase in crude rates for some RHAs, compared to what was reported in previous annual reports.

HIV Testing Data

There were 128,432 HIV antigen/antibody screen tests performed in Manitoba in 2020 (Table 3) on 91,265 people (Table 4). This is 10,547 fewer HIV screen tests than in 2019 (when 138,979 screens were performed) and 11,086 fewer people screened than in 2019 (when 102,351 people were screened). The decrease in HIV screen tests was solely among males, who had 11,704 fewer HIV screen tests performed in 2020 than in 2019. Females actually had 1,091 more HIV screen tests performed in 2020 than in 2019. Despite increased testing among females, both sexes had a decrease in the total number of people tested (2,172 fewer females and 8,974 fewer males in 2020 compared to 2019). Individuals may be tested for HIV more than once per year due to ongoing risk of acquiring HIV and individuals who suspect they were exposed to HIV are recommended to have three tests performed over a span of six months⁵. Therefore, it is not unsurprising that there were, on average, 1.4 HIV tests per person screened in 2020.

Despite the decrease in the number of HIV screen tests performed and the number of unique people tested from 2019 to 2020, there were 28 more positive tests (Table 3; 432 positive tests in 2020 vs. 404 in 2019) and 33 more people who tested positive (Table 4; 306 people tested positive in 2020 vs. 273 in 2019), compared to 2019. The percent positivity of HIV test results and of people tested are within expected range for Manitoba (Cadham Provincial Laboratory personal communication, 2019) at 0.336% and 0.335%, respectively.

There were almost twice as many females screened for HIV than males (Table 4; 59,716 females tested vs. 31,326 males tested), with over twice as many tests performed (Table 3; 90,052 tests among females vs. 38,146 tests among males). 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.

The number of people who tested positive for HIV in 2020 is higher than the number of new HIV diagnoses in Manitoba in 2020 (Figure 3). This is partly because the CPL LIMS data contains all HIV screen tests performed in Manitoba, including those for people who are not residents of Manitoba. In addition, people living with HIV may be re-tested for various reasons including, but not limited to, a healthcare provider who is ordering other sexually transmitted and blood-borne infection (STBBI) screening tests for the individual may order an STBBI panel that includes an HIV test; women are routinely offered HIV screening tests as part of their prenatal care; and people are offered HIV screening tests at time of incarceration. Generally, people living with HIV will only re-tested when they seek medical care and are unable or unwilling to share their HIV status and/or the practitioner doesn't have access to their medical chart.

⁵ https://www.gov.mb.ca/health/publichealth/cdc/protocol/hiv_postexp.pdf

Table 3. HIV antigen/antibody screen tests processed by Cadham Provincial Laboratory by sex, Manitoba, 2020.

	Female	Male	Unknown	Total
Total tests*	90,052	38,146	234	128,432
Positive tests	223	209	0	432
Percent positive (%)	0.248	0.548	0	0.336

* 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, 2020.

	Female	Male	Unknown	Total
Total people*	59,716	31,326	223	91,265
Positive people	138	168	0	306
Percent positive (%)	0.231	0.536	0	0.335

* Number of people tested (multiple tests removed).

There were 10,547 fewer HIV screen tests performed in 2020 than in 2019 (11,704 fewer among males but 1,091 more among females) and 11,086 fewer people screened (8,974 fewer males and 2,172 fewer females).

Figure 1 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. Winnipeg RHA had the lowest ratio of HIV antigen/antibody tests performed to new positive cases with 888 tests required to identify one new case in 2020. In Southern Health – Santé Sud (SH-SS), the number of HIV antigen/antibody tests required to find one new positive case decreased by half, from 2,184 in 2019 to 1,040 in 2020. This may be reflective of the high proportion of cases in SH-SS who are incarcerated and the fact that people are routinely offered HIV screening at the time of incarceration, therefore reducing the number of tests required to find one new case.

Figure 2 illustrates the distribution of HIV screen tests by age group between males and females. The proportion of tests among females aged 20-29 years and 30-39 years was higher than among males (40.6% vs. 31.3% for 20-29 year olds and 36.3% vs. 25.9% for 30-39 year olds). Females aged 20-29 years and 30-39 years were the only age groups that had an increased number of HIV screen tests performed in 2020 compared to 2019. This is likely due to women being screened for HIV during pregnancy in Manitoba. In addition, beginning July 2020, syphilis screening is recommended a minimum of three times during pregnancy⁶, and HIV and syphilis screen tests are often ordered together.

⁶ <https://www.gov.mb.ca/health/publichealth/cdc/protocol/syphilis.pdf>

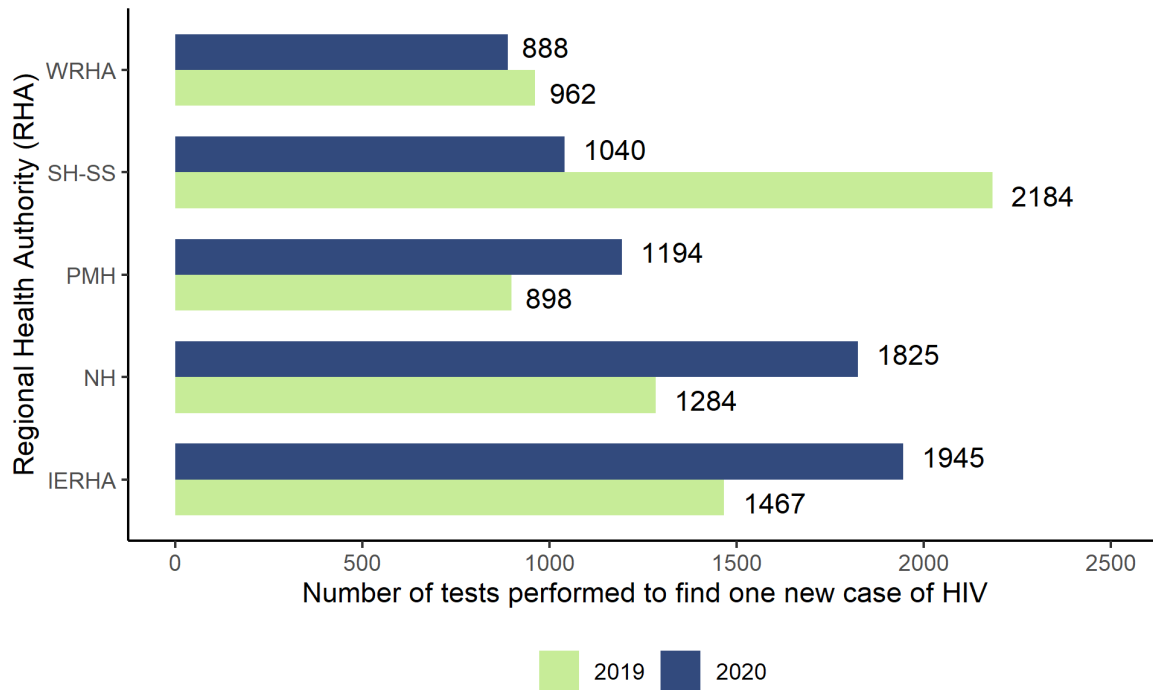


Figure 1. Number of HIV antigen/antibody screen tests to find one new positive HIV case by Regional Health Authority, Manitoba, 2019-2020.

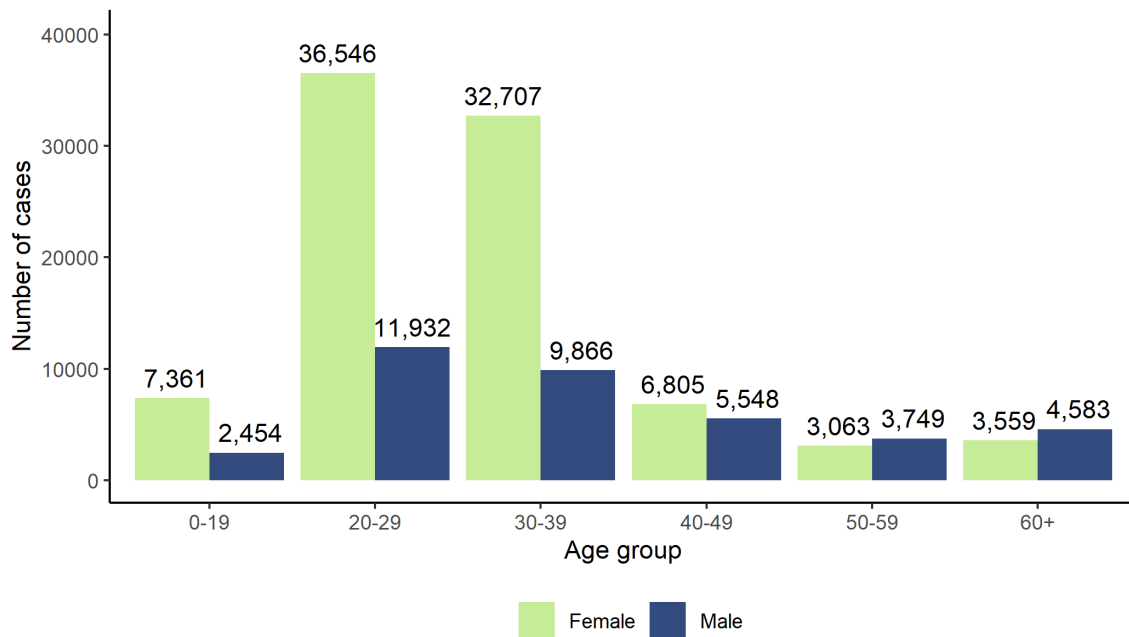


Figure 2. Number of HIV antigen/antibody screen tests performed by age group and sex, Manitoba, 2020.

Important note regarding HIV testing and COVID-19

The COVID-19 pandemic resulted in reduced HIV testing levels and a decrease in the number of people tested for HIV in Manitoba.

This decrease is due to reduced access to care during months with the highest COVID-19 restrictions and fear of attending healthcare settings due to COVID-19.

The decrease in testing levels from 2019 to 2020 is important to remember when reviewing the rest of this report.

Any decrease in HIV cases reported from 2019 to 2020 may simply be due to decreased testing and therefore decreased case identification, rather than a true decrease in incident cases.

Surveillance Data

New Cases to Manitoba

Between January 1 and December 31, 2020, there were 117 new cases of HIV reported in Manitoba based on positive laboratory test (for HIV antibody or viral DNA) and clinical confirmation with the Manitoba HIV Program (Figure 3). There was a 1.7% decrease in the total number of cases compared to 2019.

With 8.4 new HIV cases per 100,000 population, the crude rate for 2020 was less than the rate reported last year (8.7 cases per 100,000 population in 2019) but higher than the 10 year (2011-2020) average crude rate of 7.5 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 9.2 cases per 100,000 population in 2013.

In 2020, there were 117 new cases of HIV reported in Manitoba, equating to a 1.7% decrease compared to last year.

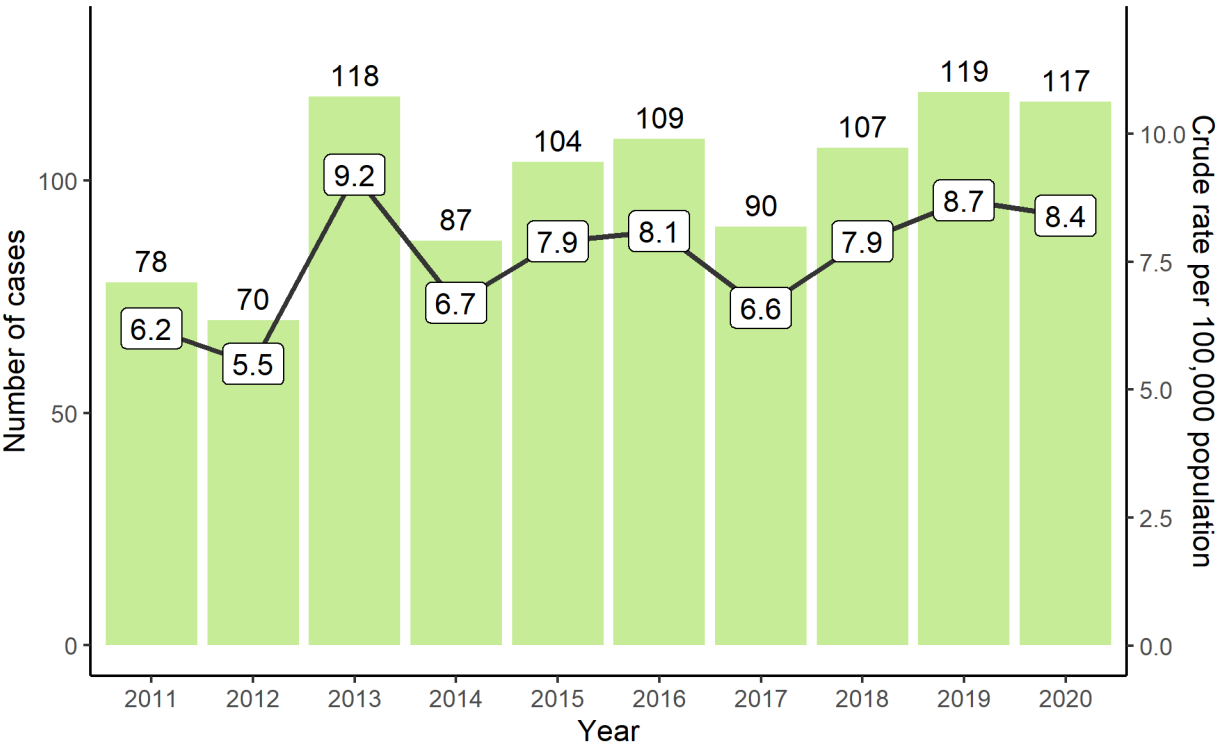


Figure 3. Annual number and crude rate of new HIV cases in Manitoba, 2011-2020.



Types of HIV Cases

In Manitoba in 2020, 97 of 117 (82.9%) HIV cases were newly identified (Figure 4). 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 20 cases (17.1%) were introduced from other provinces or countries. The number of HIV cases that were newly identified in Manitoba has been steadily rising since 2017 while the number of introduced cases has been decreasing since 2018. It is important to note that the low number of introduced cases in 2020 may be related to the COVID-19 travel restrictions that reduced the movement of people in 2020.

In 2020, fewer than 1 in 5 (17.1%) cases were introduced from other provinces or countries. In 2016, more than 1 in 3 cases (35.8%) were introduced from other provinces or countries.

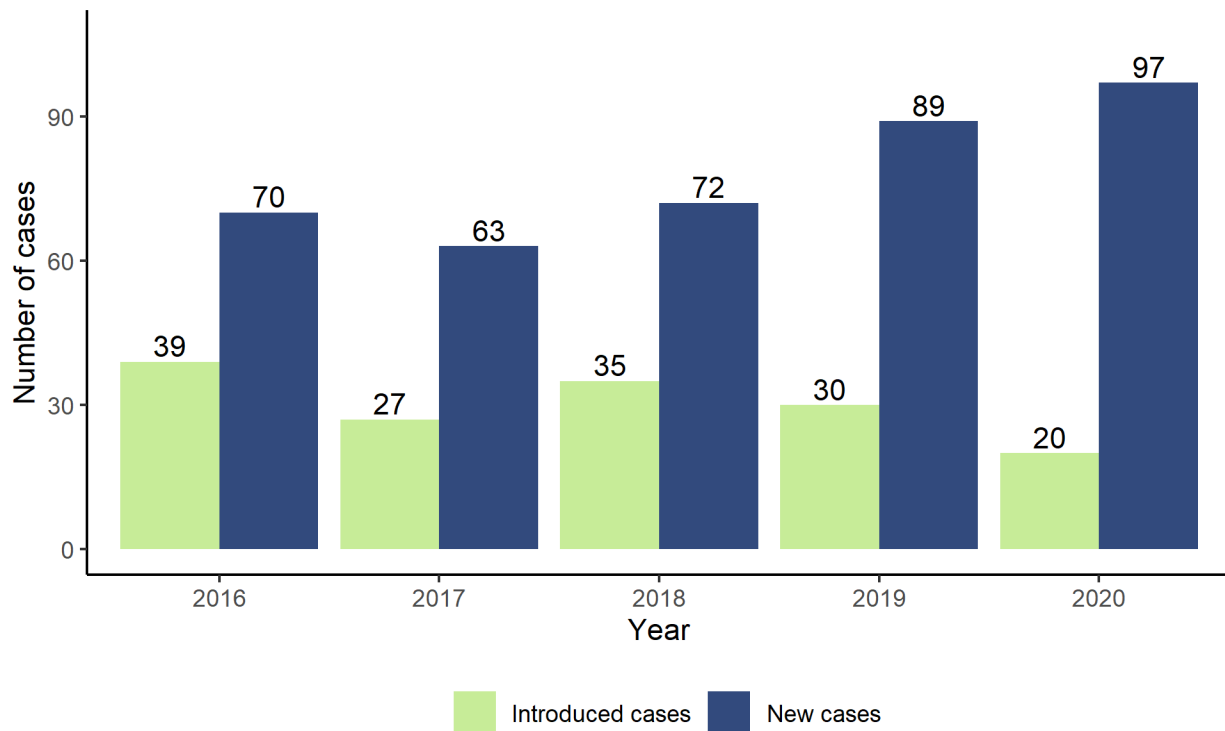


Figure 4. Number of HIV cases by type of HIV case and year, Manitoba, 2016-2020.

Age-Sex Distribution

In 2020, 58.1% of cases were male (n = 68) and 41.9% were female (n = 49). In recent years, the proportion of HIV cases among females has increased. Females accounted for 31.1% of new cases in 2017, 40.2% in 2018, and 44.5% in 2019. The proportion of HIV cases among females decreased slightly from last year. In 2020, the median age of males was 35.9 years, and the median age of females was 30.2 years. The median age of females is decreasing; it decreased by 7.4 years between 2017 and 2020 (37.6 years in 2018 vs. 30.2 years in 2020) while the median age of males remained roughly the same (37.2 years in 2017 vs. 35.9 years in 2020). Overall, the median age of HIV cases has decreased since 2015.

The crude rate of HIV has been consistently higher in males than in females from 2016 to 2020, with 9.9 vs. 7.0 cases per 100,000 population, respectively, in 2020 (Figure 5). While the difference in rates between the sexes decreased from 2017-2019, from 2019 to 2020 the difference increased, due to the crude rate among females decreasing by 9.1% while the crude rate among males was stable.

The crude rate of new HIV cases continued to be higher among men than among women, with the difference increasing slightly in 2020.

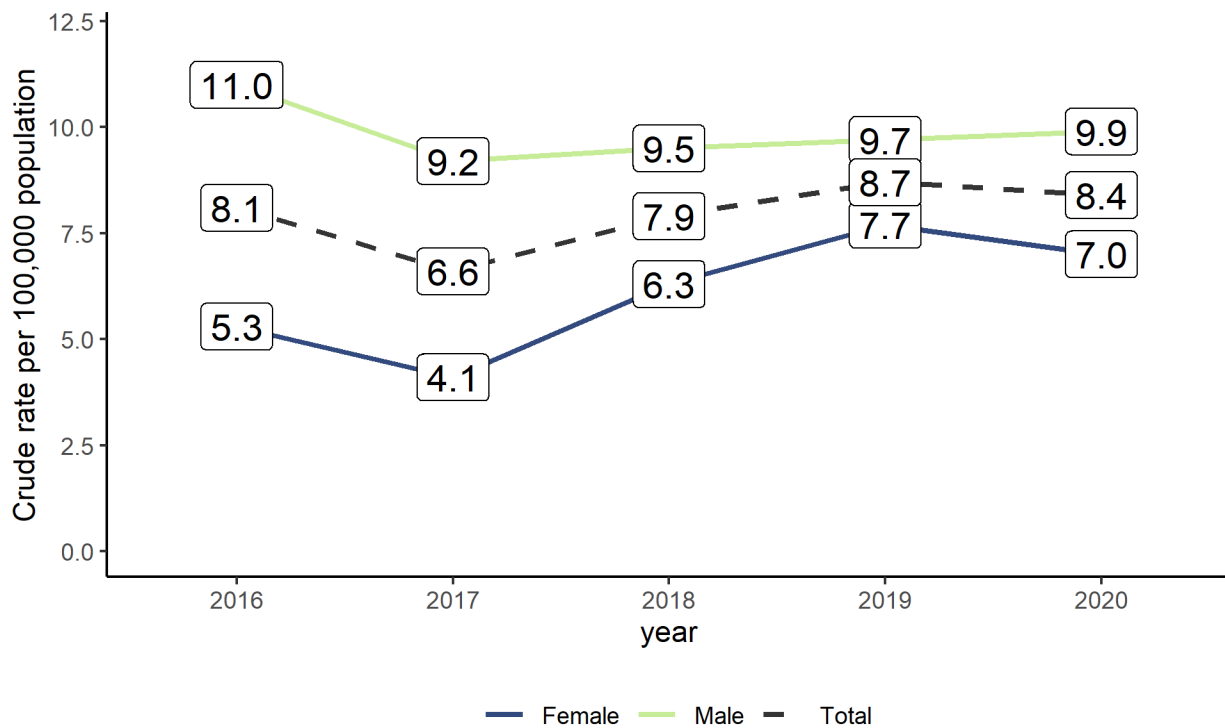


Figure 5. Crude rates of HIV by year and sex, Manitoba, 2016-2020.

The distribution of cases by age group differed by sex (Figure 6). The majority of cases among females occurred among those aged 20-29 years and 30-39 years (34.7% and 28.6% of female cases, respectively). The majority of cases among males also occurred among 20-29 year olds, 30-39 year olds, and 40-49 year olds (22.1%, 39.7%, and 23.5% of male cases, respectively). Only females experienced cases among 0-19 year olds. Both males and females experienced few cases among 50-59 year olds and 60+ year olds.

In 2020, 20-29 year-olds accounted for the highest proportion of cases among females (34.7%) and 30-39 year-olds accounted for the highest proportion of cases among males (39.7%).

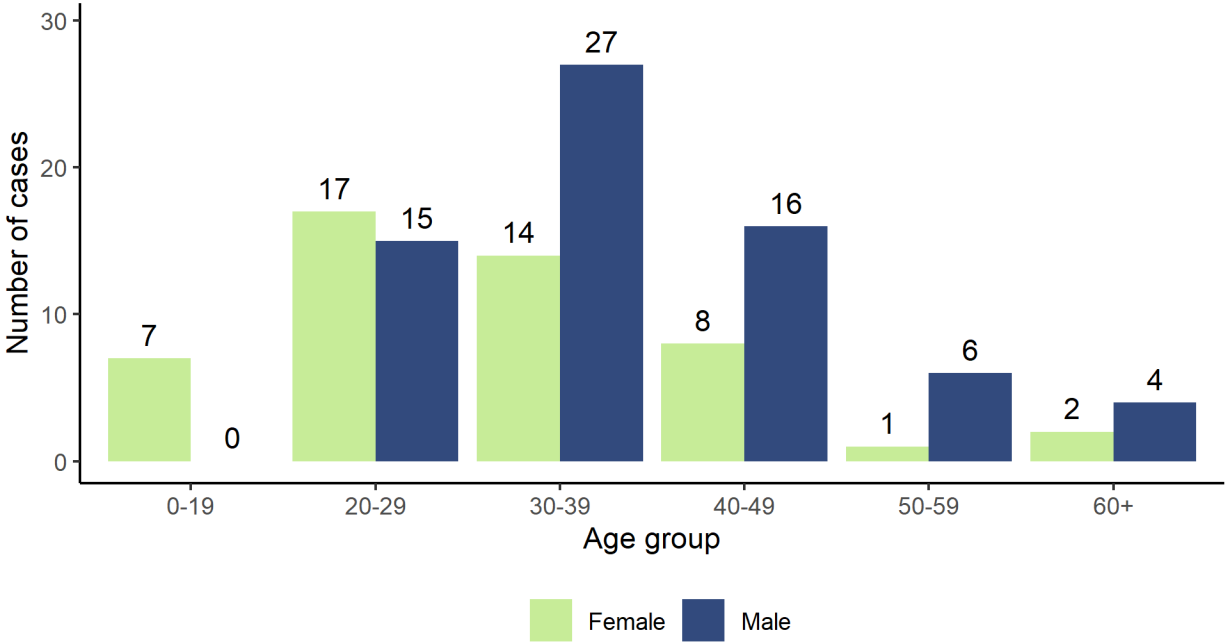


Figure 6. Number of HIV cases by sex and age group, Manitoba, 2020.

Figure 7 illustrates the crude rate of HIV by age group, over time. Between 2019 and 2020, the rate of HIV reported among 20-29 year olds decreased by 23.7% and the rate of HIV reported among 50-59 year olds decreased by 45.9%. The rate of HIV reported among all other age groups increased from 2019 to 2020, with the percent increase ranging from 2.9% (30-39 age group) to 90% (60+ age group). Between 2015 and 2019, the rate among 0-19 year-olds has doubled from 0.9 cases per 100,000 population to 2 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 2016, there were 3 cases among 0-19 year olds, while in 2019 there were 6 cases.

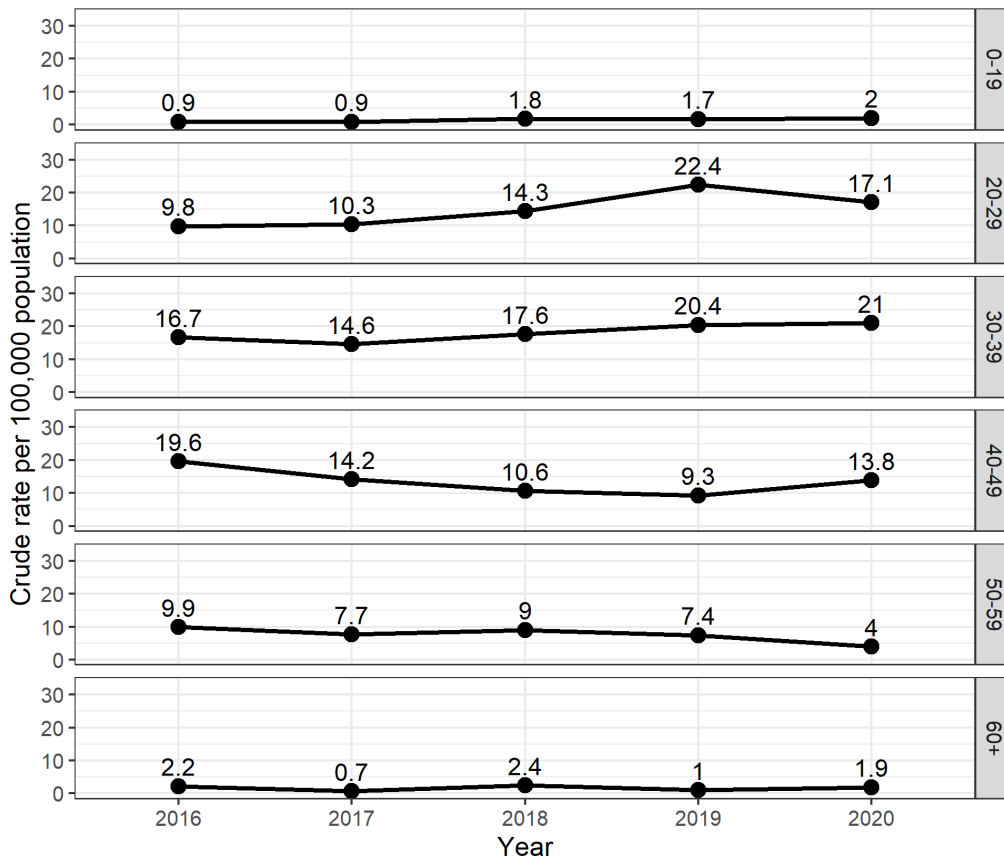


Figure 7. Crude rate of HIV by age group and year, Manitoba, 2016-2020.

Type of HIV Case by Sex

Figure 8 shows the breakdown of infection types by sex for 2016-2020. The sex distribution of cases has changed over time. Over the past five years, the proportion of new infections that were female nearly doubled (from 27.1% in 2016 to 46.4% in 2020). Meanwhile, the proportion of introduced cases that were female decreased (from 43.6% in 2016 to 20.0% in 2020).

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

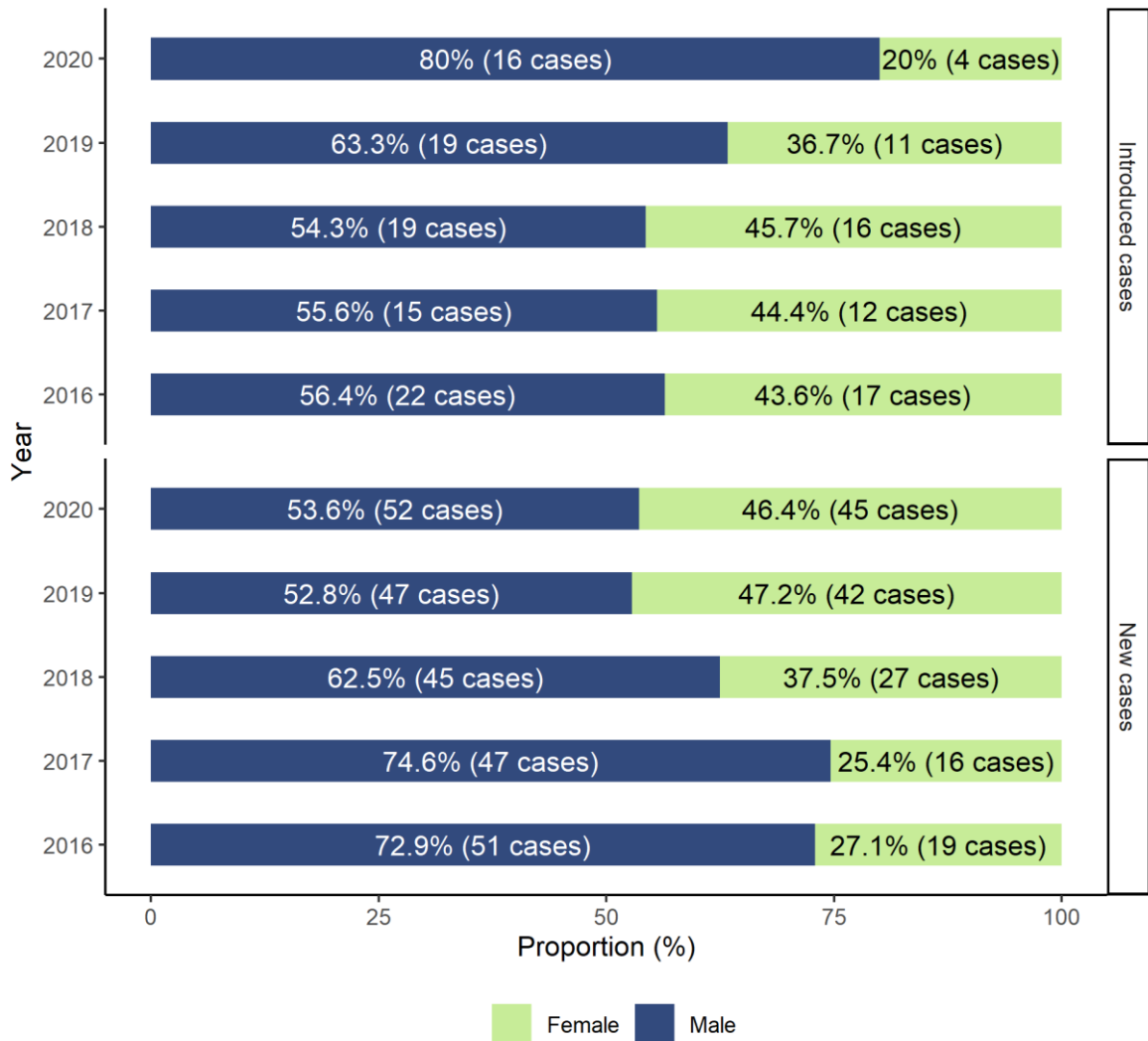


Figure 8. Proportion (%) of new HIV cases by type of HIV case and sex, Manitoba, 2016-2020.

HIV by Regional Health Authority

In the previous annual reports, an individual’s RHA was assigned based on their postal code at the time of initial investigation. As a result, some cases, such as those under federal jurisdiction, those with no fixed address, and incarcerated individuals, did not have a geographic region and so were not included in the RHA breakdown of previous annual reports. The current report has transitioned to using the primary responsible organization as the RHA for cases with missing geographic region, so that all cases are captured in the RHA breakdown. This change was applied to all HIV cases diagnosed in Manitoba since 2018 and has resulted in an increase in crude rates for some RHAs, compared to what was reported in previous annual reports.

The majority of new HIV cases in 2020 occurred in the Winnipeg Regional Health Authority (RHA) (68.4%, Figure 9). The other regions all reported at least five new HIV cases in 2020.

There were HIV cases reported in all Regional Health Authorities.

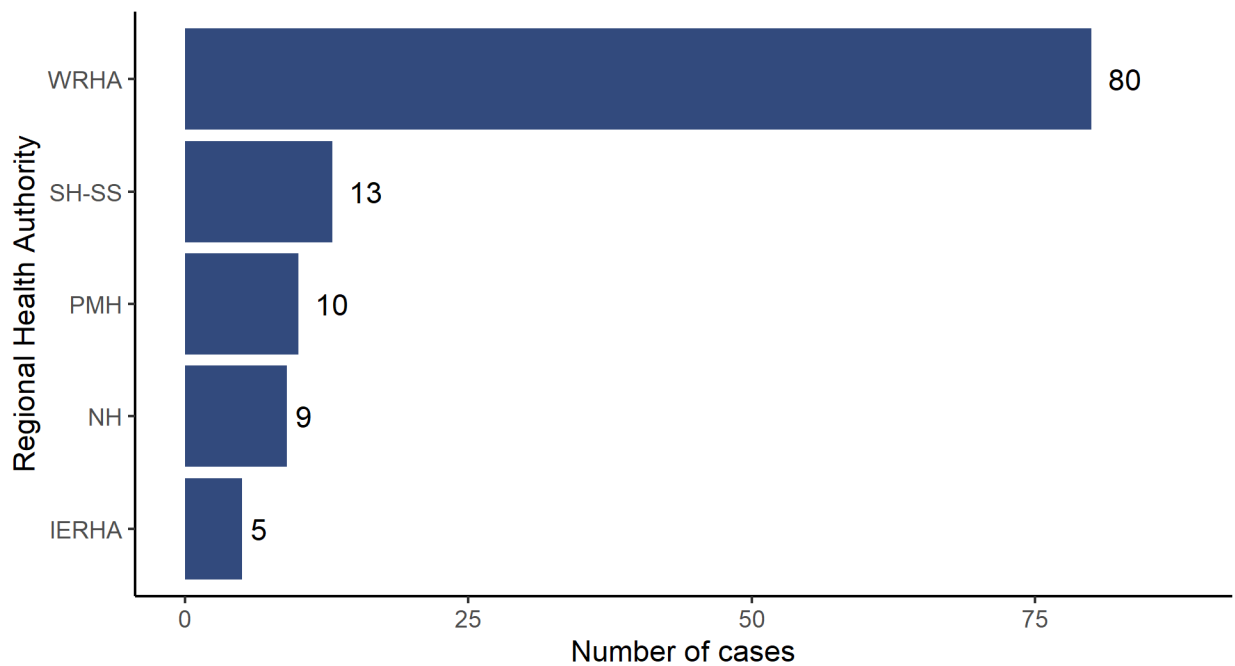


Figure 9. Number of HIV cases by Regional Health Authority, Manitoba, 2020.

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)

Figure 10 depicts the change in crude rate over time by RHA. While the rate of HIV reported in most RHAs (with the exception of Winnipeg RHA) increased from 2018 to 2019, the rate of HIV reported in most RHAs decreased from 2019 to 2020, with the exception of Southern Health – Santé Sud. The rate in Winnipeg RHA remained at 10.1 cases per 100,000 population. The rate in Interlake-Eastern RHA decreased by 30.2% between 2019 and 2020 (from 5.3 to 3.7 cases per 100,000 population).

From 2019 to 2020, the rate of HIV reported in SH-SS more than doubled from 2.4 cases per 100,000 population to 6.1 cases per 100,000 population. This equates to an increase from 5 cases in 2019 to 13 cases in 2020. The majority of HIV cases diagnosed in SH-SS were among incarcerated individuals. Four of the five cases (80.0%) diagnosed in 2019 and nine of the 13 cases (69.2%) diagnosed in 2020 were incarcerated. There are two correctional facilities in SH-SS and each one houses inmates from all regions of Manitoba.

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 HIV within a group of PWID. Interventions were implemented to manage the rise in HIV transmission. The rate in Prairie Mountain Health increased an additional 17.1% from 2018 to 2019 (to 8.2 cases per 100,000 population) then decreased 29.3% from 2019 to 2020 (to 5.8 cases per 100,000 population).

The rate in Northern Health Region more than tripled between 2018 and 2019 from 5.2 cases per 100,000 population to 18.2 cases per 100,000 population, largely due to a localized cluster among PWID. Interventions were implemented to manage the rise in HIV transmission. The rate then decreased by 36.3% from 18.2 cases per 100,000 population in 2019 to 11.6 cases per 100,000 population in 2020. Two of the nine cases in 2020 were linked to the 2019 cluster among PWID.

The rate of HIV reported in most RHAs decreased from 2019 to 2020, with the exception of Southern Health – Santé Sud, in which the rate more than doubled.

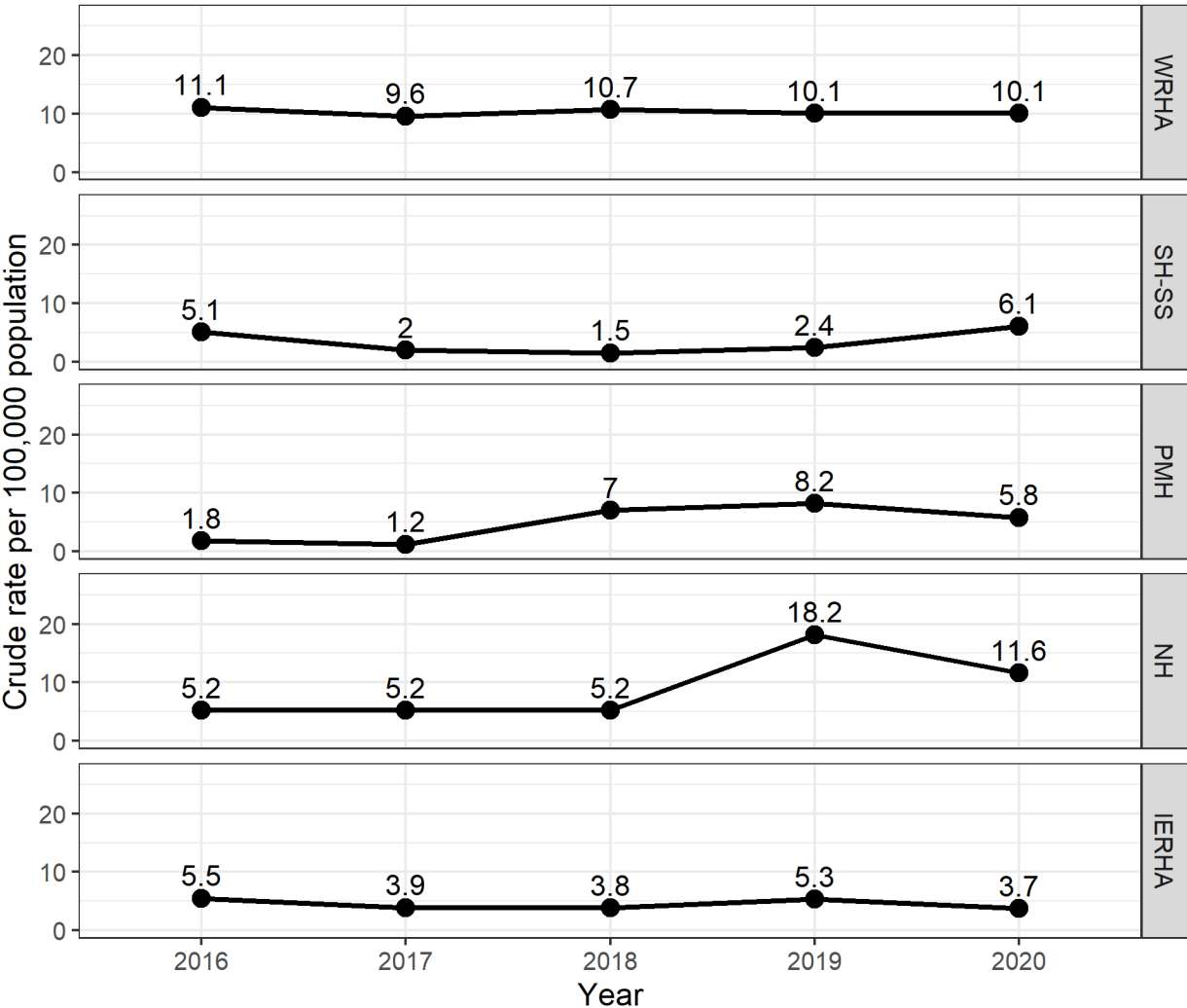


Figure 10. Crude rate of HIV by Regional Health Authority and year, Manitoba, 2016-2020.

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)



Self-Reported Ethnicity

Figure 11 illustrates the percent of cases who self-reported their ethnicity from 2016 to 2020. The percent of cases reporting ethnicity information as part of their HIV case investigation has declined from 87.2% (95 of 109 cases) in 2016 to 48.7% (57 of 117 cases) in 2020. The decline may, in part, be due to: changes to the public health information system that occurred in 2018, and an associated change in the HIV case investigation form; interviewer discomfort around asking questions related to ethnicity or interviewee discomfort with answering questions related to ethnicity; and increased workloads (especially in 2020, related to COVID-19) resulting in less time available to ask this question during the case investigation. In addition, the way ethnicity information is recorded (i.e. categories used) has changed over time, making it difficult to compare to previous years.

When so few people are self-reporting their ethnicity, there is not enough information available to make informed decisions around the key populations at risk of HIV infection in Manitoba. It is possible that the missing information is biased toward certain ethnicities who are less likely to report their ethnicity due to fear of racism, stigma, or discrimination. If more complete and consistent ethnicity information were available, it may greatly change the picture of “who” is infected with HIV in Manitoba, compared to the picture that is based on less than one-half of the people newly infected with HIV.

To avoid stigmatizing any group of people by releasing incomplete ethnicity information that may present a false distribution of HIV in Manitoba, ethnicity information will only be reported as the percentage of people who self-reported their ethnicity by year, rather than by ethnicity category, until this information becomes more complete.

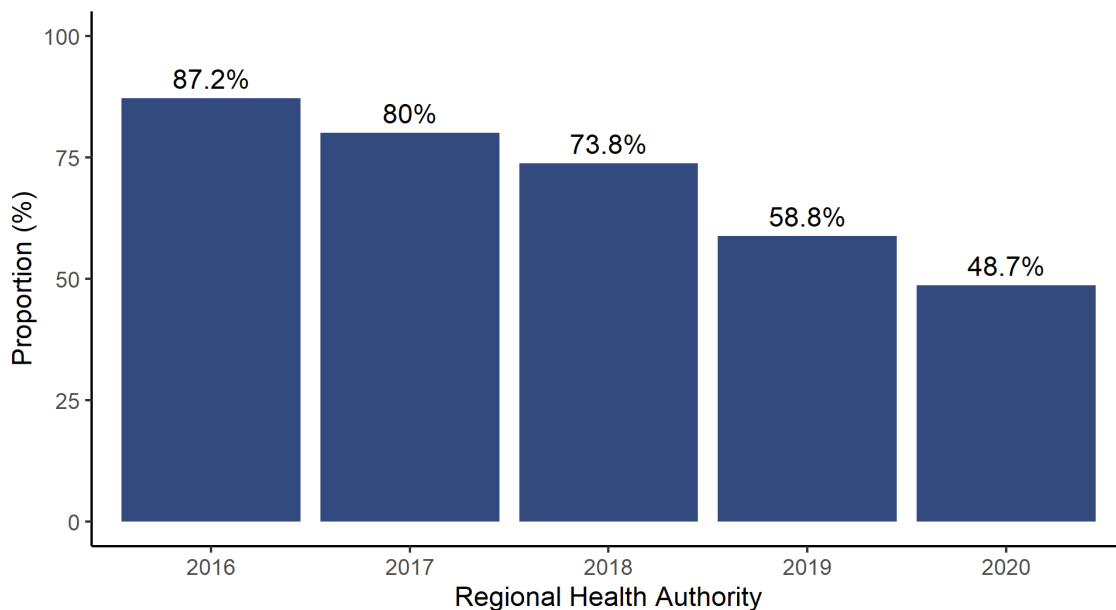


Figure 11. Proportion (%) of HIV cases with self-reported ethnicity, Manitoba, 2016-2020

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 12 illustrates the distribution of risk exposure categories by sex for HIV cases in 2020. Among females, people who inject drugs (PWID) comprised the highest proportion of cases (36.7%), closely followed by those with insufficient risk information obtained to assign a primary mode of transmission (34.7%). Not considering those who could not be assigned to a risk exposure category, heterosexual sex the second most likely primary mode of transmission among females (26.5%), followed by endemic risk (2%).

Among males, those with insufficient risk information obtained to assign a primary mode of transmission comprised the greatest proportion of cases (29.4%). Not considering this category, PWID and those who engage in heterosexual sex comprised the greatest proportion of cases (each at 23.5%), followed by men who have sex with men (MSM) (13.2%), endemic risk (8.8%) and MSM/PWID (1.5%). For the second year in a row, the PWID risk exposure category was more commonly reported among males than the MSM risk exposure category, and for the first year, heterosexual sex was more commonly reported among males than MSM.

Changes to the public health information system make comparisons prior to 2018 difficult; however, it is still evident that the PWID category is a growing concern in terms of the risk of HIV transmission in Manitoba. It also appears that the MSM category, historically the largest driver of HIV transmission among males in Manitoba (and still the largest driver of HIV among males nationally⁷), may be replaced by heterosexual sex as the proportion of HIV cases that are female continues to increase in Manitoba.

Unfortunately, the large proportion of cases with insufficient risk information obtained to assign a primary mode of transmission 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 2020, no HIV cases recorded in PHIMS actually responded “Yes” to having no identifiable risk (NIR). 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.

⁷ <https://www.canada.ca/content/dam/hc-sc/documents/services/publications/diseases-conditions/vih-canada/hiv-infographic-en.pdf>

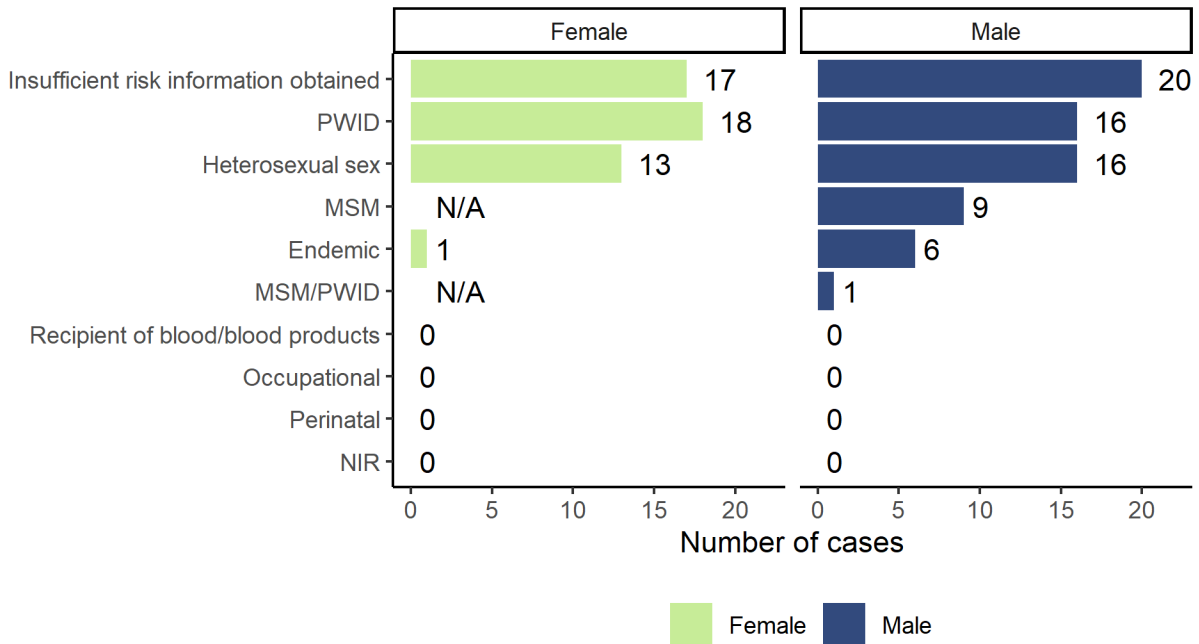


Figure 12. Distribution of HIV cases by risk exposure category and sex, Manitoba, 2020.

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 both males and females (23.5% and 36.7%, respectively).
- For the second year in a row, the PWID risk exposure category was more commonly reported among males than MSM.
- Of the 34 cases (male and female) whose primary risk exposure was PWID, 33 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.

Conclusion

There were 10,547 fewer HIV antigen/antibody screen tests performed in 2020 than in 2019 (11,704 fewer among males but 1,091 more among females) and 11,086 fewer people screened (8,974 fewer males and 2,172 fewer females). This decrease is due to reduced access to care during months with the highest COVID-19 restrictions and fear of attending healthcare settings due to COVID-19. Of note is that the decrease in HIV screen tests occurred solely among males, who had 11,704 fewer HIV screen tests performed in 2020 than in 2019. Females actually had 1,091 more HIV screen tests performed in 2020 than in 2019 although the increase was concentrated in females aged 20-39 years and were likely related to prenatal screening. Despite increased testing among females, both sexes had a decrease in the total number of people tested (2,172 fewer females and 8,974 fewer males in 2020 compared to 2019).

While the number of new HIV infections in 2020 in Manitoba was less than in 2019 (117 vs. 119 cases, respectively), the crude rate (8.4 cases per 100,000 population) was comparable to the 10 year average crude rate of 7.5 cases per 100,000 population (2011-2020). The decrease in the number of HIV antigen/antibody screen tests performed and number of people tested in 2020 compared to 2019 may have resulted in the decrease in HIV cases reported in 2020 as a result of decreased case **identification**, rather than a true decrease in incident cases. This is important to remember for any decreases between 2019 and 2020 that were presented in this report.

The types of HIV cases identified within Manitoba are changing. Since 2018, 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. This said, it is important to note that the low number of introduced cases in 2020 may be related to the COVID-19 travel restrictions that reduced the movement of people in 2020.

The rate of infection was higher among males than females in 2020 (9.9 vs. 7.0 cases per 100,000 population, respectively). The rate among females decreased by 9.1% from 2019 to 2020 while the crude rate among the males was stable. In recent years, the proportion of HIV cases among females has increased. Females accounted for 31.1% of new cases in 2017, 40.2% in 2018, 44.5% in 2019, and 41.9% in 2020. Meanwhile, the proportion of introduced cases that were female decreased (from 43.6% in 2016 to 26.7% in 2020). The majority of female cases occurred among 20-29 year olds (34.7%) and the majority of male cases occurred among 30-39 year olds (39.7%). Only females experienced cases among 0-19 year olds in 2020.

From 2019 to 2020, the rate of HIV reported in SH-SS more than doubled from 2.4 cases per 100,000 population to 6.1 cases per 100,000 population. This equates to an increase from 5 cases in 2019 to 13 cases in 2020. The majority of HIV cases diagnosed in SH-SS were among incarcerated individuals. Four of the five cases (80.0%) diagnosed in 2019 and nine of the 13 cases (69.2%) diagnosed in 2020 were incarcerated. There are two correctional facilities in SH-SS and each one houses inmates from all regions of Manitoba.

The percent of cases reporting ethnicity information as part of their HIV case investigation has declined from 87.2% (95 of 109 cases) in 2016 to 48.7% (57 of 117 cases) in 2020. Ethnicity information was only reported as the percentage of people who self-reported their ethnicity by year, rather than by ethnicity category, to avoid stigmatizing any group of people by releasing incomplete ethnicity information that may present a false distribution of HIV in Manitoba.

In 2020, a large proportion of males and females had insufficient risk information obtained to assign a primary mode of transmission (29.4% of males and 34.7% of females). Not considering this category, among females, PWID comprised the highest proportion of cases (36.7%), followed by heterosexual sex (26.5%), and endemic risk (2%). Among males, PWID and those who engage in heterosexual sex comprised the greatest proportion of cases (both 23.5%), followed by men who have sex with men (MSM) (13.2%), endemic risk (8.8%) and MSM/PWID (1.5%). For the second year in a row, the PWID risk exposure category was more commonly reported among males than the MSM risk exposure category, and for the first year, heterosexual sex was more commonly reported among males than MSM.

It is apparent that PWID are a growing concern in terms of the risk of HIV transmission in Manitoba and targeted interventions to help mitigate the risk of HIV transmission among PWID in Manitoba, are warranted. It also appears that the MSM category, historically the largest driver of HIV transmission among males in Manitoba (and still the largest driver of HIV among males nationally⁸), may be replaced by heterosexual sex as the proportion of HIV cases that are female continues to increase in Manitoba.

Unfortunately, the large proportion of cases with insufficient risk information obtained to assign a primary mode of transmission 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 2020, no HIV cases recorded in PHIMS actually responded “Yes” to having NIR. 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.

⁸ <https://www.canada.ca/content/dam/hc-sc/documents/services/publications/diseases-conditions/vih-canada/hiv-infographic-en.pdf>