

2018 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

Information Management and Analytics

Resources and Performance Division

Manitoba Health, Seniors and Active Living

Publication date: November 29, 2019

This publication may be reproduced for personal or internal use only without permission provided the source is fully acknowledged.

Suggested citation: Government of Manitoba, Manitoba Health, Seniors and Active Living, Epidemiology and Surveillance. (2019). 2018 Annual Statistical Update: HIV in Manitoba

Cover image: *Red ribbon for World AIDS Day (photo by Trinn Suwannapha/World Bank via Flickr)*

Table of Contents

List of Figures.....	4
List of Tables.....	4
Acknowledgements.....	5
Highlights.....	6
Introduction	7
The 2018 Manitoba HIV Program Update.....	7
Acquired Immunodeficiency Syndrome	7
Methods.....	8
Case Definitions	8
Risk Exposure Category.....	8
Risk Exposure Category Definitions.....	9
Data Sources and Analysis	10
Surveillance of HIV and AIDS in Manitoba	10
Notes and Limitations.....	11
Surveillance Data.....	13
New Cases to Manitoba	13
Types of New HIV Cases.....	14
Age-Sex Distribution of HIV Cases	15
Type of New HIV Case by Sex	18
HIV by Regional Health Authority.....	19
Self-Reported Ethnicity.....	21
Risk Exposure Category.....	23
HIV Testing in Manitoba.....	24
Conclusion	27

List of Figures

Figure 1. Annual number and crude rate of new HIV cases in Manitoba, 2009-2018	13
Figure 2. Number of HIV cases by HIV history and year, Manitoba, 2013-2018	14
Figure 3. Crude rates of HIV by year and sex, Manitoba, 2014-2018.....	15
Figure 4. Number and proportion of HIV cases by sex and age group, Manitoba, 2018.....	16
Figure 5. Crude rate of HIV by age group and year, Manitoba, 2014-2018.....	17
Figure 6. Proportion (%) of new HIV cases by HIV history and sex, Manitoba, 2018.....	18
Figure 7. Proportion (%) of HIV cases by Regional Health Authority, Manitoba, 2018.....	19
Figure 8. Crude rate of HIV by Regional Health Authority and year, Manitoba, 2014-2018.....	20
Figure 9. Distribution of HIV cases by ethnicity and sex, Manitoba, 2018	22
Figure 10. Distribution of HIV cases by risk exposure category and sex, Manitoba, 2018.....	23
Figure 11. Number of HIV antigen/antibody screen tests to find one new positive HIV case by Regional Health Authority, Manitoba, 2018	25
Figure 12. HIV antigen/antibody screen testing by age group and sex, Manitoba, 2018	26

List of Tables

Table 1. HIV surveillance case definitions, Manitoba	8
Table 2. Hierarchy of risk exposure categories of HIV, Manitoba	9
Table 3. HIV antigen/antibody screen testing at Cadham Provincial Laboratory by total tests and people tested, Manitoba, 2018	24
Table 4. HIV antigen/antibody screen testing at Cadham Provincial Laboratory by sex, Manitoba, 2018	24

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 2018, there were 107 cases of HIV new to Manitoba compared to 90 cases in 2017, equating to a 19% increase.
- ⊕ Forty percent of cases were female (n=43 females and n=64 males), which is higher than what was observed in 2017 where 31% of cases were female.
- ⊕ Males were slightly older than females (median age: 36.1 years and 35.3 years, respectively).
- ⊕ 34% of cases (n=36/107) were introduced from other provinces or countries, which is slightly higher than the five year average (average of 30% between 2013 and 2017).
- ⊕ 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 (78%).
- ⊕ Of those who self-reported ethnicity (n=80/107, 75% of cases), half identified as Indigenous (n=40/80) followed by one quarter who identified as African/Black/Caribbean (n=20/80).
- ⊕ People who inject drugs (PWID) was the most frequently reported risk exposure category among females (n=16/43, 37%), and men who have sex with men the most frequently reported risk exposure category among males (n=19/64, 30%). PWID also comprised a large proportion of male cases (n=14/64, 22%).

Introduction

MHSAL is pleased to present the *2018 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, 2018.

The 2018 HIV data presented here include an examination by:

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

The 2018 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 2017 and show up to care in January 2018; 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 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
New infections	New diagnoses that occurred in the province 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 MHSAL 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

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>

particularly when making comparisons to previous years due to the varying degrees of data completeness. Missing information creates challenges in assessing changes over time.

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)	

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) within 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 of 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.

People who inject drugs (PWID)

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

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 either no risk factor information was identified or 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.

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 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, 2019, from the MHSAL Public Health Information Management System. 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 2018) 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 Stata version 13.1 (StataCorp, College Station, TX). 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*,³ 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

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

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 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, as provincial rates may be unstable.
- ⊕ 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

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

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.

- ⊕ 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.

Surveillance Data

In 2018, there were 107 new cases of HIV reported in Manitoba, equating to a 19% increase compared to last year.

New Cases to Manitoba

Between January 1 and December 31, 2018, there were 107 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 19% increase in the total number of cases compared to 2017.

With 7.9 new HIV cases per 100,000 population, the crude rate for 2018 was higher than the rate reported last year (6.6 cases per 100,000 population in 2017); however, it is comparable to the 10 year (2008-2017) average crude rate of 7.6 cases per 100,000. Over the previous ten years, the crude rates ranged from a low of 5.6 cases per 100,000 in 2012 to a high of 9.8 cases per 100,000 in 2010.

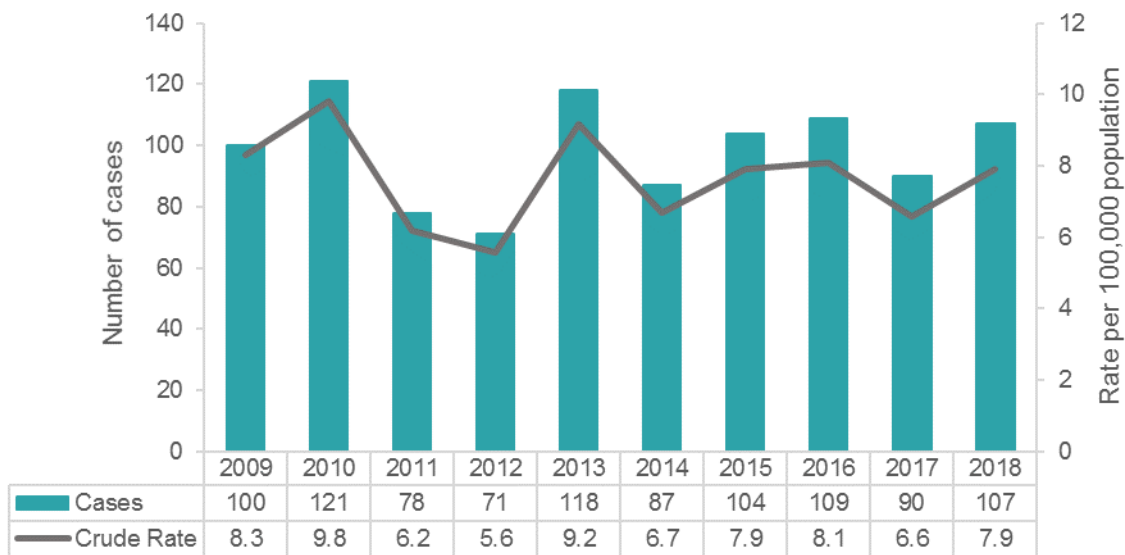


FIGURE 1. ANNUAL NUMBER AND CRUDE RATE OF NEW HIV CASES IN MANITOBA, 2009-2018

Types of New HIV Cases

In 2018, 33.6% of cases were introduced from other provinces or countries, which is slightly higher than the five year average (29.6%).

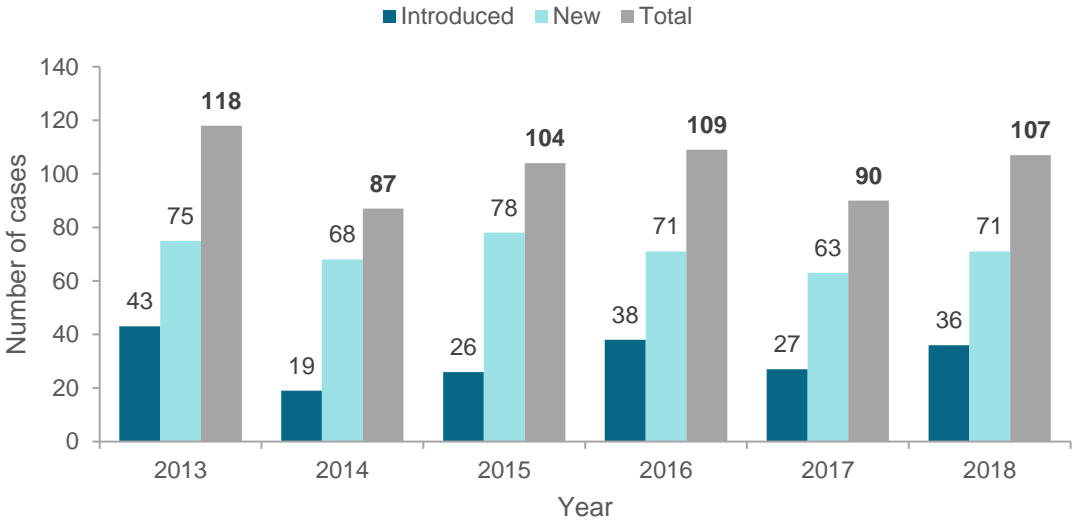


FIGURE 2. NUMBER OF HIV CASES BY HIV HISTORY AND YEAR, MANITOBA, 2013-2018

In Manitoba in 2018, 71 of 107 (66.4%) HIV cases were newly identified (Figure 2). This means that the person being tested was learning of their HIV infection for the first time and may provide insight into the scope of opportunities for prevention. The remaining 36 cases (33.6%) were introduced from other provinces or countries. The proportion of introduced cases in 2018 was slightly higher than the five year average between 2013 and 2017 (33.6% vs. 29.6%, respectively).

Age-Sex Distribution of HIV Cases

The crude rate of new HIV cases continued to be higher among men than among women; however, the gap narrowed in 2018.

In 2018, 60% of cases were male (n=64/107) and 40% were female (n=43/107). This observation differs from 2017 where only 31% of cases were female. In 2018, the median age of males was 36.1 years, and the median age of females was 35.3 years. Between 2017 and 2018, the median age of females decreased by 2.3 years and that of males decreased by 1.3 years.

The crude rate of HIV in males was higher than in females in 2018 (9.5 vs. 6.4 cases per 100,000 population, respectively, Figure 3); however, the gap narrowed, as is demonstrated by the 56.1% increase in rate among females between 2017 and 2018 compared to the 3.2% increase among males for the same time period. The rate among females in 2018 was also the highest it has been since 2014.

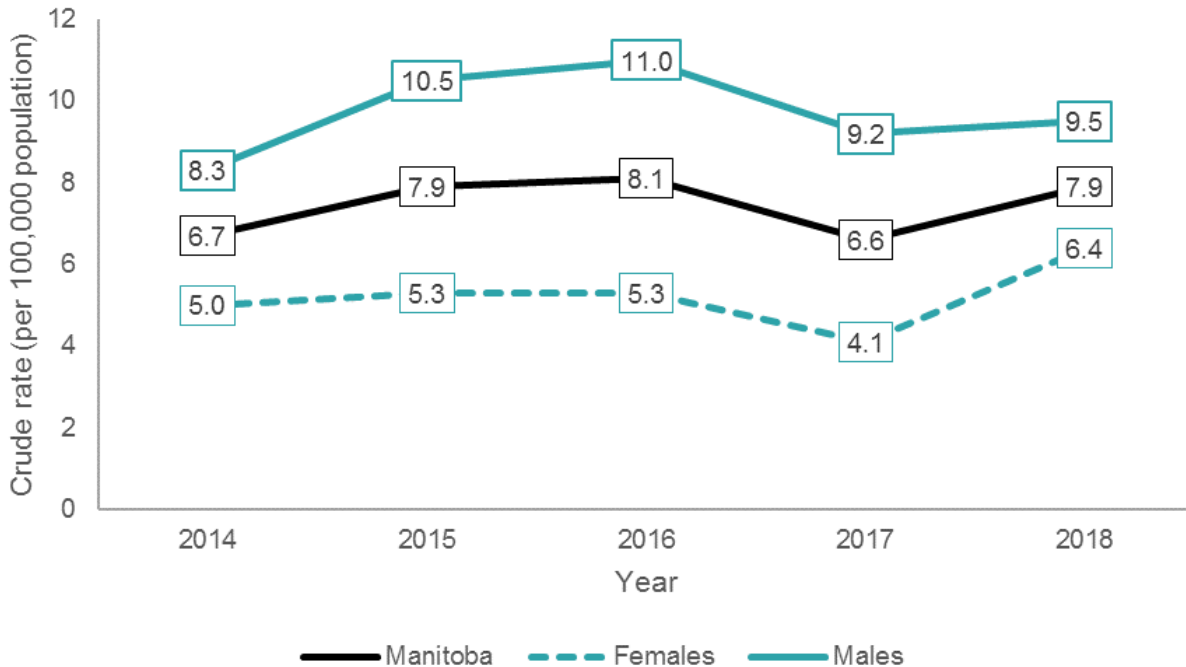


FIGURE 3. CRUDE RATES OF HIV BY YEAR AND SEX, MANITOBA, 2014-2018

In 2018, 30-39 year-olds accounted for the highest proportion of cases among males and females (31.3% and 30.2%, respectively).

The distribution of cases by age group differed by sex (Figure 4). While the proportion of cases aged 30-39 and 40-49 years was fairly similar between males and females (31.3% vs. 30.2% and 17.2% vs. 16.3%, respectively), the distribution of the remaining age groups differed by sex. Notably, females aged 0-19 years accounted for 11.6% of female cases while among males this age group accounted for 1.6% of male cases. A similar pattern was observed among cases aged 60 years and older (3.1% among males and 14.0% among females). Contrastingly, males aged 50-59 years accounted for 18.8% of male cases while among females this age group accounted for only 7.0% of female cases.

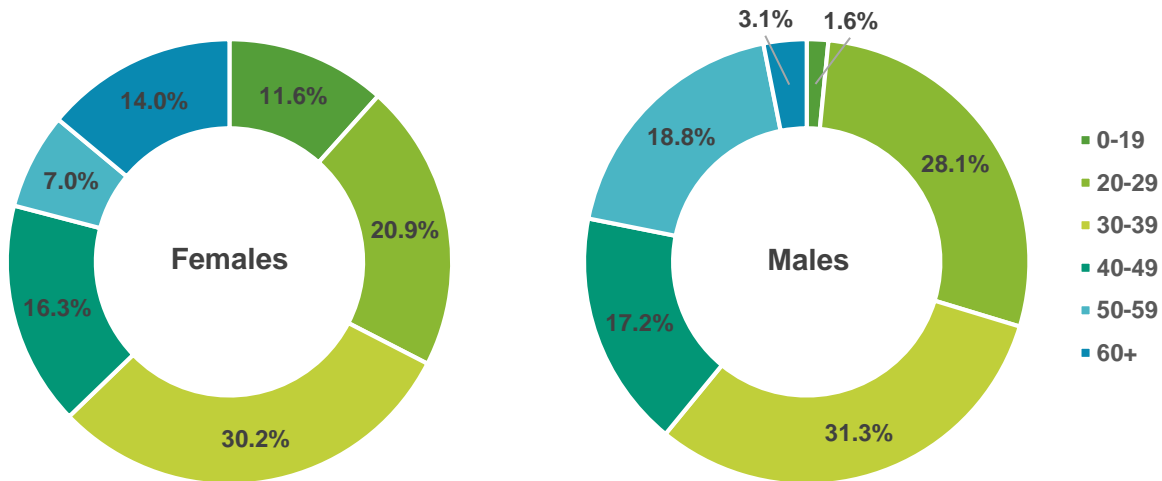


FIGURE 4. NUMBER AND PROPORTION OF HIV CASES BY SEX AND AGE GROUP, MANITOBA, 2018

Figure 5 illustrates the crude rate of HIV by age group over time. Between 2017 and 2018, rates increased in all age groups except among those aged 40-49 years, where the rate decreased by 25% between 2017 and 2018 and by 46% between 2016 and 2018. The rate among 0-19 year-olds was fairly stable between 2014 and 2017 but rose to 1.8 cases per 100,000 in 2018, which is a 100% increase compared to 2014. The largest observed increase in rate between 2014 and 2018 was among cases aged 50-59 (115% increase); however, it has decreased by 15% since 2016.



FIGURE 5. CRUDE RATE OF HIV BY AGE GROUP AND YEAR, MANITOBA, 2014-2018

Type of New HIV Case by Sex

Sex differences existed in the type of new HIV case.

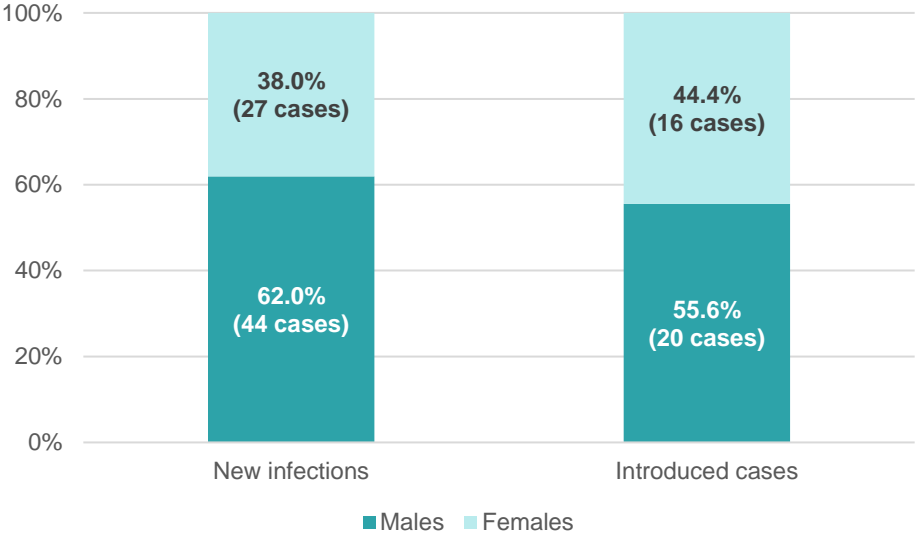


FIGURE 6. PROPORTION (%) OF NEW HIV CASES BY HIV HISTORY AND SEX, MANITOBA, 2018

Figure 6 shows the breakdown of infection types by sex for 2018. Just under two-thirds of new infections in the province were male (44 cases). Conversely, males and females were slightly more evenly distributed among introduced cases. These data indicate that sex-based tailoring of prevention and care efforts may benefit Manitobans at risk of, or infected with, HIV.

HIV by Regional Health Authority

There were cases of HIV reported in all Regional Health Authorities.

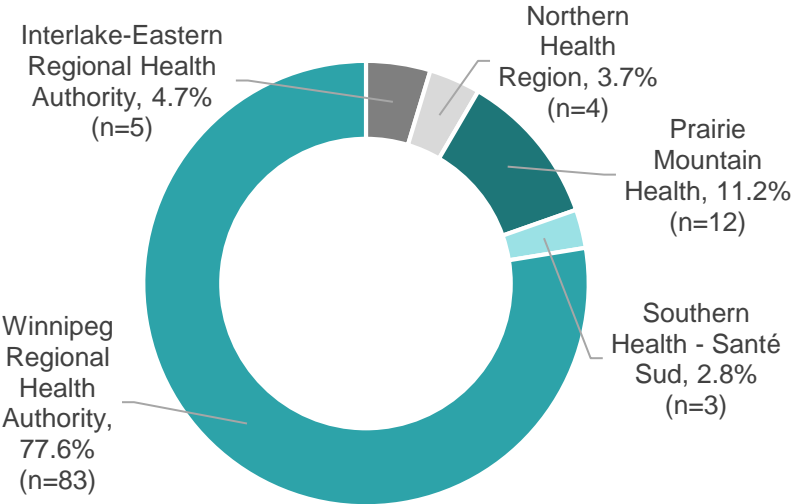


FIGURE 7. PROPORTION (%) OF HIV CASES BY REGIONAL HEALTH AUTHORITY, MANITOBA, 2018

The majority of new HIV cases in 2018 occurred in the Winnipeg Regional Health Authority (RHA) (83 cases, Figure 7). The other regions all reported at least three new HIV cases in 2018: Interlake-Eastern RHA (5 cases), Northern Health Region (4 cases), Prairie Mountain Health (12 cases), and Southern Health – Santé Sud (3 cases).

The crude rate of HIV in Prairie Mountain Health increased significantly between 2017 and 2018, which was attributed to a localized cluster of HIV.

Figure 8 depicts the change in crude rate over time by RHA. The rate in Interlake-Eastern RHA was unchanged between 2014 and 2016, and it decreased by 31% between 2016 and 2018 (from 5.5 to 3.8 cases per 100,000). Similarly, the rate in Southern Health – Santé Sud has decreased by 60% between 2014 and 2018 (from 3.7 to 1.5 cases per 100,000), although the rate did increase in 2016

but has since declined. While the rate in Northern Health Region increased between 2014 and 2016 (from 2.7 to 5.2 cases per 100,000), it has since remained stable at 5.2 cases per 100,000 in 2016, 2017, and 2018. The rate in the Winnipeg RHA has fluctuated slightly between 2014 and 2018 and has increased by 13% since last year (from 9.6 cases per 100,000 in 2017 to 10.8 cases per 100,000 in 2018).

Finally, the substantial increase in rate in Prairie Mountain Health between 2017 and 2018 can be attributed to a localized cluster that was recognized in 2018. The increased number of cases was largely driven by needle sharing among PWID. Several interventions have been implemented to manage the rise in HIV transmission such as increased education, testing, public health nursing capacity, and community engagement to expedite public health follow-up of cases and contacts.

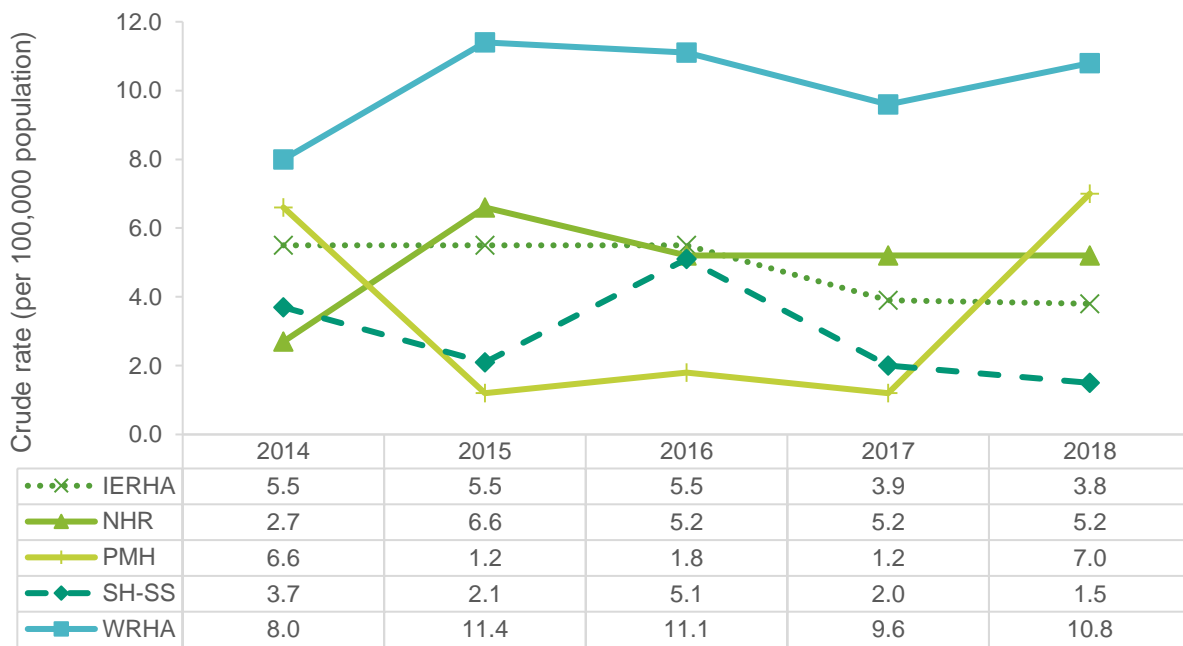


FIGURE 8. CRUDE RATE OF HIV BY REGIONAL HEALTH AUTHORITY AND YEAR, MANITOBA, 2014-2018

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

Self-Reported Ethnicity

In 2018, ethnicity was self-reported by 75% of cases (n=80/107). Figure 9 illustrates the distribution of cases who self-reported an ethnicity. Of these (n=80), half identified as Indigenous (n=40). One quarter identified as African/Caribbean/Black (ACB, n=20), 11.3% as Caucasian (n=9), 6.3% as Asian (n=5), 5.0% as Other (n=4), and 2.5% as South Asian (n=2). Here, the 'Other' ethnicity category includes those who identified as North American or European. Due to a modification of the ethnicity variable mid-way through 2018, categories were altered to reflect the values of Statistics Canada's definition of Ethnic Origin⁵. Therefore, differences exist in the way ethnicity data were collected compared to previous years, making comparisons over time challenging. Moving forward, the newly adopted standardized definition of ethnicity will facilitate analysis of this variable in future reports.

The bottom half of Figure 9 shows the distribution of self-reported ethnicity by sex. While there is greater ethnic variation among males compared to females, cases who identified as Indigenous comprised the greatest proportion among both males and females (48.0% and 53.3%, respectively). The next highest proportion among females was ACB (40.0%) followed by Caucasian (6.7%). Among males, the second highest proportion was also ACB (16.0%) followed by Caucasian (14.0%), Asian (10.0%), Other (8.0%), and South Asian (4.0%).

⁵ https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/app-ann/a5_1-eng.cfm

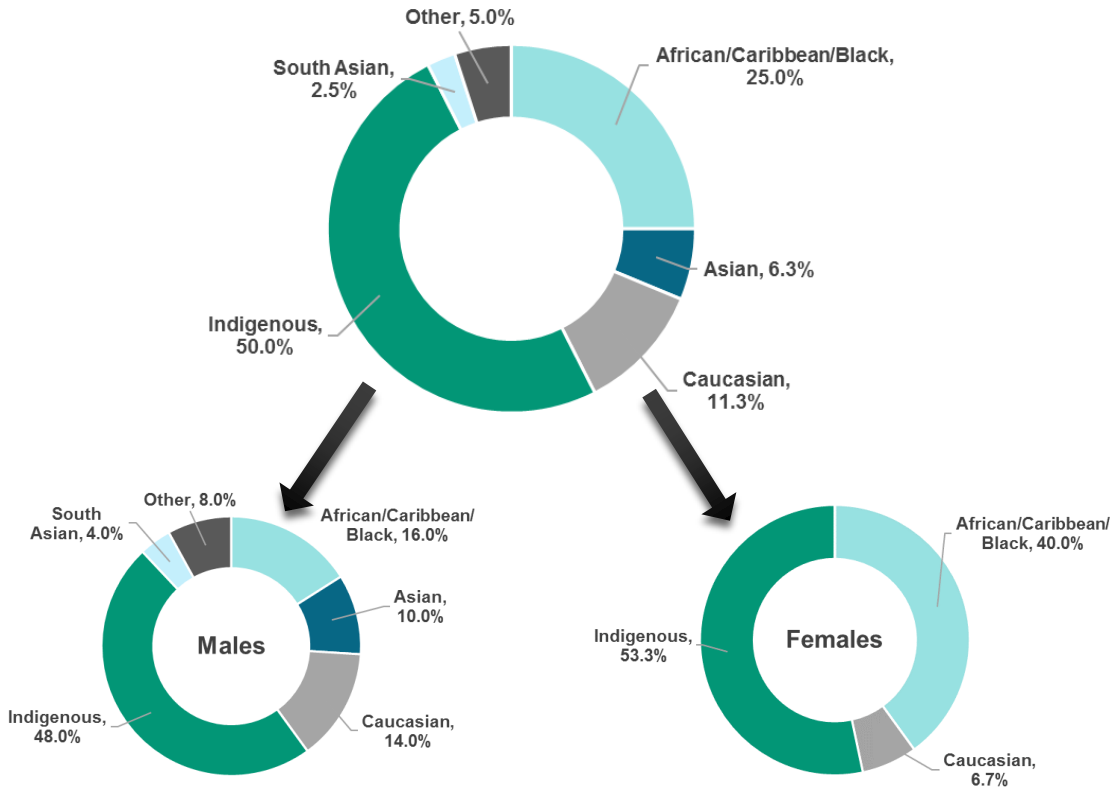


FIGURE 9. DISTRIBUTION OF HIV CASES BY ETHNICITY AND SEX, MANITOBA, 2018

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 10 illustrates the distribution of risk exposure categories by sex for HIV cases in 2018. Among males, men who have sex with men (MSM) comprised the greatest proportion (29.7%), followed by people who inject drugs (PWID) and heterosexual risk (both 21.9%), endemic risk (10.9%), no identifiable risk (NIR, 9.4%), MSM/PWID (4.7%), and recipient of blood/blood products (1.6%). The distribution was somewhat different among females. PWID comprised the greatest proportion (37.2%), followed by endemic risk (27.9%), heterosexual risk (16.3%), NIR (16.3%), and perinatal transmission (2.3%).

While risk exposure categories were not reported in 2017, the proportion of cases identifying as PWID has increased substantially in the past ten years. Since 2006, this proportion has fluctuated between a low of 2.8% in 2016 to a high of 16.1% in 2014.⁶ Changes to the public health information system in 2018 make comparisons to previous years difficult; however, it is still evident that the PWID risk exposure category is a growing concern in terms of the risk of HIV transmission in Manitoba.

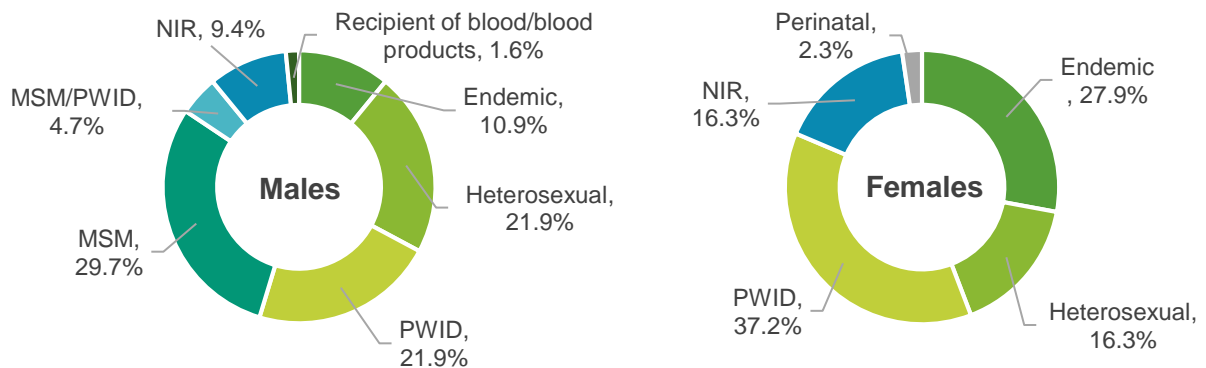


FIGURE 10. DISTRIBUTION OF HIV CASES BY RISK EXPOSURE CATEGORY AND SEX, MANITOBA, 2018

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)

⁶ <https://www.gov.mb.ca/health/publichealth/surveillance/hiv/aids/docs/dec2016.pdf>

HIV Testing in Manitoba

In 2018, females were screened for HIV 1.5 times more frequently than males.

TABLE 3. HIV ANTIGEN/ANTIBODY SCREEN TESTING AT CADHAM PROVINCIAL LABORATORY BY TOTAL TESTS AND PEOPLE TESTED, MANITOBA, 2018

	Unit	
	Tests*	People tested**
Total	112,458	91,071
Number of positive screen results	334	249
Percent positive screen results (%)	0.297	0.273

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

** Number of people tested with multiple test counts removed

More than 100,000 HIV antigen/antibody screen tests were performed in Manitoba in 2018 (Table 3). There were an average of 1.2 tests per person tested, indicating that some individuals were tested more than once. 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 0.297% and 0.273%, respectively.

Similarly to last year, females were screened for HIV 1.5 times more frequently than males (Table 4; 55,416 females tested vs. 35,581 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 4. HIV ANTIGEN/ANTIBODY SCREEN TESTING AT CADHAM PROVINCIAL LABORATORY BY SEX, MANITOBA, 2018

	Sex			Total
	Male	Female	Unknown	
Number of people tested*	35,581	55,416	74	91,071
Number of new HIV cases	64	43	0	107
Percent positive (%)	0.18	0.08	-	0.12

* Number of people tested with multiple test counts removed

Figure 11 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 759 tests to identify one new case. The ratios within the other RHAs were fairly similar to last year with the exception of Prairie Mountain Health. In this RHA, the ratio in 2018 was much lower than 2017, which was largely due to the HIV cluster detected in this RHA; therefore, fewer tests were performed before finding a new case of HIV compared to the previous year.

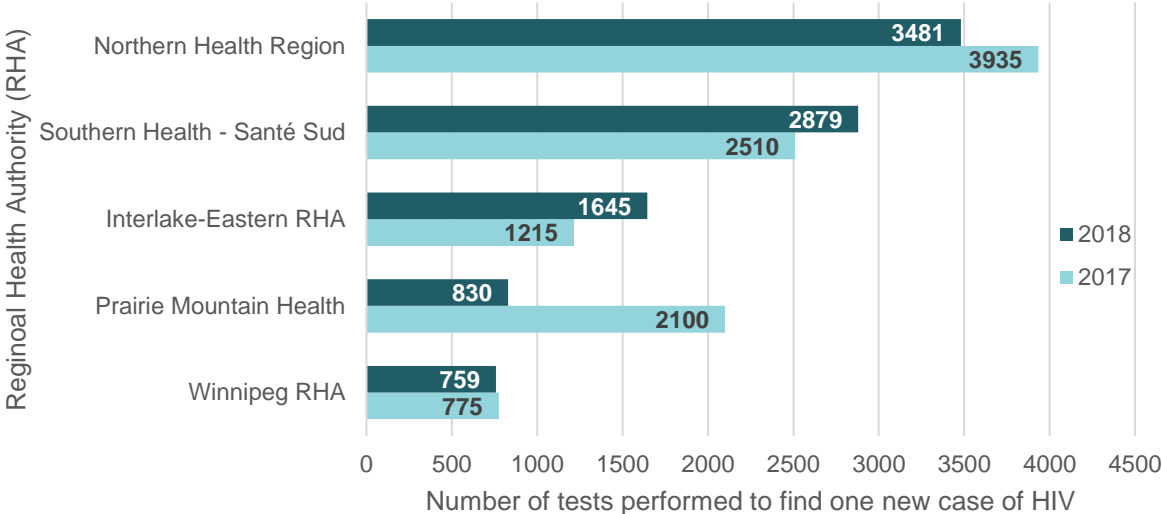


FIGURE 11. NUMBER OF HIV ANTIGEN/ANTIBODY SCREEN TESTS TO FIND ONE NEW POSITIVE HIV CASE BY REGIONAL HEALTH AUTHORITY, MANITOBA, 2018

Finally, Figure 12 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 (40.0% vs. 32.4%, respectively). Again, this is due to women being screened for HIV during pregnancy in Manitoba. This trend was also observed among those aged 30-39 years, albeit less pronounced (30.6% among females and 25.9% among males).

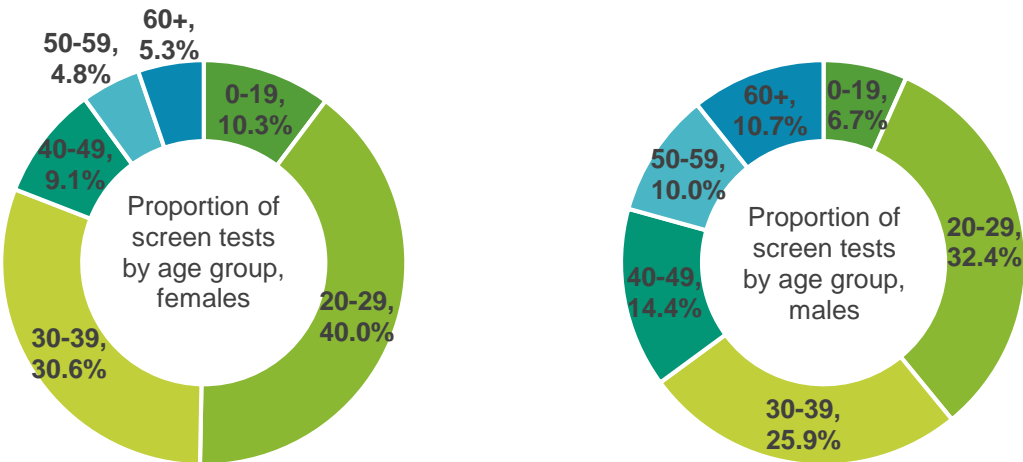


FIGURE 12. HIV ANTIGEN/ANTIBODY SCREEN TESTING BY AGE GROUP AND SEX, MANITOBA, 2018

Conclusion

While the number of new HIV infections in 2018 in Manitoba was higher than in 2017 (107 vs. 90 cases, respectively), the crude rate (7.9 cases per 100,000) was comparable to the 10 year average crude rate of 7.6 cases per 100,000 (2008-2017).

The rate of infection was higher among males than females in 2018 (9.5 vs. 6.4 cases per 100,000, respectively); however, the gap between males and females narrowed substantially between 2017 and 2018. Further, the rate among females increased by 56% whereas among males it increased by only 3%. The rate among females in 2018 is also the highest it has been since 2013 when it was 7.2 cases per 100,000. This may provide evidence for more sex-based tailoring of public health interventions in Manitoba.

While comparisons of ethnicity over time are difficult due to changes to ethnicity categories in 2018, it appears that the proportion of cases who identified as Indigenous increased in 2018. In previous years (2006-2016), this same proportion varied between a low of 23% in 2015 to a high of 45% in 2012. More exploration of the data is required in order to understand how social determinants of health may differentially affect particular ethnicities, which may impact the risk of HIV transmission.

In 2018, the most frequently self-reported exposure category was PWID among females (37%) and MSM among males (30%); however, the proportion PWID among males was also high (22%). Targeted interventions to help mitigate the risk of HIV transmission among PWID is warranted.