

HIV Prevention and Control Report, 2018

Ministry of Health
Population Health Branch

Executive Summary

The *HIV Prevention and Control Report, 2018* provides an overview of human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) surveillance data, along with, program, testing and financial information. The report is prepared by the Population Health Branch, Ministry of Health and includes data up to December 31, 2018.

A summary of this information can be found in the HIV/AIDS Infographic, located at Saskatchewan.ca. 2018 saw more HIV point of care testing sites established and more testing completed. It also saw a 5% decrease in the number of people newly diagnosed with HIV. The profile of persons newly diagnosed in 2018 was comparable to the peak years of HIV from 2009-2012. Other data from 2018 include:

- ⇒ The number of people newly identified with HIV (*cases*) decreased to 168 cases compared to 177 individuals in 2017 and 170 individuals in 2016.
- ⇒ The greatest increase in case counts was seen in the former Regina health region (HR). The shift from rural communities back to the large urban centers seen in 2017 was maintained in 2018.
- ⇒ 76% of cases self-declared Indigenous ethnicity, lower than the previous three years.
- ⇒ 84% of female cases self-identifying as Indigenous were in the childbearing age range (15 to 45 years).
- ⇒ Injection drug use was reported by 71% of cases; and of those, 84% self-identified as Indigenous.
- ⇒ 25% of exposures were a result of sexual contact, including men having sex with men and heterosexual.
- ⇒ The majority (87%) of people diagnosed with HIV in the past decade are thought to still be alive.

- ⇒ Laboratory testing increased by 75% in the past decade; the rate of new cases detected was 2.0 for every 1,000 HIV tests performed in 2018.
- ⇒ More than half (53%) of people diagnosed with AIDS in the decade 2009-2018 are still living.
- ⇒ Half of the people diagnosed with AIDS in 2018 were identified late in their disease progression.

Since 2009, when the SK HIV Strategy was implemented following a substantial increase in new HIV cases, the Ministry of Health and the SK HIV Collaborative have continued to work toward the goals of reducing HIV rates; addressing risk factors; and improving the quality of life for those living with HIV/AIDS. The Ministry has provided \$43M in incremental funding since the HIV Strategy funding began in 2010 to support targeted efforts to reduce HIV rates in Saskatchewan.

The data in our *HIV Prevention and Control Report, 2018* points to the importance of: 1) continued efforts around testing to find new cases early in the disease progression; 2) harm reduction services; 3) cross jurisdictional collaboration to ensure that the needs of our Indigenous population are being met; 4) continued prevention, education, and awareness; and 5) data to inform, guide and assess interventions. The SK HIV Collaborative developed a three year work plan (2017 to 2020) to identify and build on collective efforts to address HIV/AIDS in the province.

On December 4, 2017, the Saskatchewan Health Authority (SHA) launched, transitioning 12 former Regional Health Authorities (RHAs) to a single provincial health authority. Data for the 2018 report is based on former RHA boundaries.

HIV Prevention and Control

Saskatchewan HIV Collaborative

The Saskatchewan (SK) HIV Collaborative is a provincial committee, formed in 2014, to provide advice and input on prevention, diagnosis, and care of those living with HIV/AIDS. Membership includes representatives from the Ministry, federal government, Northern Inter-Tribal Health Authority, Public Health Agency of Canada (PHAC), Roy Romanow Provincial Laboratory (RRPL), SHA and people living with HIV.

Members provide advice and direction on addressing target populations with common needs, behaviors and risk factors across a broad spectrum of communicable diseases such as HIV, hepatitis C virus (HCV), and sexually transmitted infections.

The SK HIV Collaborative developed a three-year work plan (2017-2020). Key areas of focus include engaging communities to support HIV strategies, increasing public and provider education, strengthening linkages between clinical and community services, promoting collaboration between provincial and federal health systems and addressing barriers to accessing HIV testing and treatment.



The SK HIV Collaborative regularly monitors the progress of the provincial work plan and the current trends of HIV. In 2018, 76% of people diagnosed with HIV self-identified as Indigenous and 71% reported injection drug use as a primary risk factor. The vision of the SK HIV Collaborative is to support a culturally informed, integrated approach to infectious disease care through partnerships and enhanced and coordinated services, in order to reduce new infections and promote supportive communities for those affected by HIV and other communicable diseases. The SK HIV Collaborative has established various working groups with broad stakeholder representation to implement programs and develop policies to address risk factors associated with the acquisition of HIV, while supporting timely diagnosis, linkage to care and retention in care for those living with HIV.

Saskatchewan HIV Collaborative Work Plan

The Saskatchewan HIV Strategy (2010-2014) focused efforts and resources on meeting three goals: reducing HIV rates; addressing risk factors; and improving the quality of life for those living with HIV/AIDS. The Saskatchewan HIV Strategy evaluation (June 2015) indicated that system improvements and increased resources as a result of the HIV Strategy had a positive impact on patient care and outcomes through increased testing and case finding, targeted educational opportunities, an enhanced focus on patient engagement, and improved access to multidisciplinary teams in rural and remote areas, resulting in a decrease in health care utilization.

The Strategy evaluation and *Sharing the Wisdom* event (October 2016) provided a foundation for the development of a three-year work plan. Key areas of focus in the work plan include engaging communities to support HIV strategies, increasing public and provider education, strengthening linkages between clinical and

community services, promoting collaboration between provincial and federal health systems and addressing barriers to accessing HIV testing and treatment.

The SK HIV Collaborative has adopted the International Advisory Panel on HIV Care Continuum Optimization guidelines as a framework for the multi-year work plan. Objectives include:

- Optimize the HIV care environment;
- Increase HIV testing, linkage to care and treatment;
- Increase retention in care, antiretroviral therapy adherence and viral suppression; and
- Develop metrics for monitoring the HIV care continuum (those diagnosed, linked to care, on antiretroviral therapy and virally suppressed).

2018 Accomplishments

The work of the SK HIV Collaborative aligns with best practice strategies to achieve the UNAIDS global targets to end the AIDS epidemic. (See information on the 90-90-90 indicators on page 24). This work, with federal, provincial, community and Indigenous partners, aims to improve access to testing and clinical care; engage, educate and support individuals and communities; and stop the transmission of HIV. Recognizing that HIV is frequently the product of complex social issues, the Ministry of Health implemented full coverage of HIV medications effective April 11, 2018; an important step to reduce HIV transmission.

In 2018, there was a 6% increase in HIV testing performed by the RRPL. Over 4,500 more tests were done in 2018 than in 2017. In addition, the number of HIV Point of Care testing sites has more than quadrupled, from 20 to 90 sites since 2012. There has been an increased focus on testing through promotion of the Routine HIV Testing Policy and the Provincial HIV Testing Day, held annually on June 27. This year, 26 HIV testing and awareness events occurred in 12 locations across the province. Over 800 people attended these events and over 200 people were tested for HIV. Recognizing the efforts made by Saskatchewan in 2017, the Canadian AIDS Society declared June 27, 2018 the first National HIV Testing Day in Canada. A social marketing campaign was developed for World AIDS Day (December 1, 2018). Posters, wallet cards, a video and online and radio advertising were used to promote HIV testing and treatment.

Some First Nation communities are offering dried blood spot (DBS) testing. DBS testing is performed using blood from a finger poke that is dried on a card and sent to PHAC's National Microbiology Laboratory in Winnipeg for processing. Results are received within approximately two weeks. As of November 2018, DBS is considered a confirmatory test, which means a venous blood sample is no longer required for confirmatory testing on a positive DBS test. DBS testing can be administered by any healthcare worker (e.g., community health worker) and is seen by some as a more acceptable testing methodology due to ease of sample attainment and ability to receive testing outside of traditional clinic settings. The wait for results also allows individuals time to prepare for the possibility of a positive test result.

Seventy-one percent (71%) of the people diagnosed with HIV in Saskatchewan in 2018 self-reported injecting drugs as their main exposure to the virus compared to 67% in 2017. It is important that people who inject drugs have clean supplies to reduce transmission to others and prevent other health complications.

Harm Reduction programs are part of a comprehensive public health disease prevention strategy to reduce the spread of HIV, HCV, and other blood-borne infections. The distribution of supplies reduces the sharing of used needles/syringes and other injecting equipment among people who use injection drugs.

The Ministry provides annualized funding to the SHA for harm reduction programming to reduce transmission of blood-borne infections and other harms. Services include education, linking to support services, and supplies for safer drug use and sexual health.

Access to harm reduction programs has increased. A new site in a rural location in the province has attributed, in part, to an increase in the number of visits (up 14%) and needles distributed (up 8%) provincially. As of December 31, 2018, the provincially-funded programs include 27 fixed and three mobile programs located in eight former health regions: Regina Qu'Appelle, Five Hills, Saskatoon, Prairie North, Prince Albert Parkland, Sunrise and the North (Mamawetan Churchill River and Keewatin Yatthé). There remain gaps in access to these services.

The SHA received PHAC funding in 2018 to support innovative approaches to harm reduction in the Prince Albert and North Battleford areas. These include peer backpack exchange and vending machines stocked with harm reduction supplies for after-hours access. Evaluations of these programs may result in further expansion across the province.

Federal investments have also supported significant growth in access to harm reduction programs and testing in First Nation communities.

Under the leadership of a Primary Health Care Capacity Building Task Group, more primary care providers have been engaged in the testing, treatment and ongoing care of people living with HIV. An annual Clinical HIV education workshop was held for physicians interested in treating patients living with HIV and ongoing virtual classrooms and mentorship are provided. Three Saskatchewan primary care physicians received scholarships from the Saskatchewan Infectious Disease Care Network to participate in the British Columbia Centre for Excellence in HIV/AIDS physician preceptor program. The five-day clinical placement was open to physicians who have a strong interest in caring for people living with HIV and who want to mentor their colleagues as their knowledge and experience grows. Support was increased to physicians managing HIV-positive patients through telephone consultation — *Leveraging Immediate Non-urgent Knowledge* or LINK, to give primary care providers and their patient's rapid access to specialists. The HIV/HCV specialists started taking LINK calls July 2018.

Since 2011, 248 babies have been born to mothers living with HIV. Free formula is available to infants born to mothers living with HIV to prevent perinatal HIV transmission. Since 2013, over 150 infants have benefitted from the formula program.

An evaluation of Peer to Peer Programs was completed in 2017. The Ministry is addressing the recommendations and alignment with best practices (Canadian AIDS Treatment Information Exchange's *Practice Guidelines in Peer Health Navigation for People living with HIV*). Two provincial meetings were held with the peers in 2018. They identified the need for a provincial training manual and additional training. A provincial peer training event was offered in May, focused on medication adherence, communication skills, grief, loss and trauma-informed care. Peers also stressed the importance of regular networking.

HIV Annual Investments

As of 2018-19, incremental funding of **\$43M** has been provided since the HIV strategy began in 2010-11. Targeted resources enhance existing services already being provided to patients through funding to community based organizations and the health system including medications and nursing, physician, pharmacist, and laboratory services. Since 2010-11, annual funding has increased by 16%. [Table 1]

Clinicians and community-based organizations have continued to address barriers and create solutions to engage more individuals in prevention, testing, treatment and care for HIV.

The U = U campaign was created following a series of studies that demonstrated that for those on HIV medications that have and maintain an undetectable viral load, they will not pass HIV onto their sexual partners. The *Prevention Access Campaign* — an international coalition of HIV advocates, activists and researchers who are spreading the word that undetectable HIV is untransmittable—has turned this scientific evidence into a simple message: U = U. The intention is to provide a message of hope and decrease the stigma and discrimination for those living with HIV, as well as prevent transmission of HIV by appropriate treatment and maintenance of an undetectable viral load. The SK HIV Collaborative is disseminating U = U resources to provide consistent, reliable information for people living with HIV and health care providers.

HIV Strategy Coordinators are instrumental in providing education and training — 128 community and health care provider education sessions were delivered in 2018. The HIV Education series offered 10 webinar sessions. First Nations are leading education and awareness through an annual *Know Your Status* forum and are implementing various models of HIV programming in over 70 communities.

The HIV/HCV Google group increased by over 100 members — to over 400. In March 2018, the SK HIV Collaborative website: www.skshiv.ca — a source for current information and resources was updated and includes a new section on *Living with HIV*.

As of 2018-19, the total HIV Core funding provided by the Ministry totals **\$5M annually** to support HIV and harm reduction services in the SHA and community-based organizations.

Table 1: HIV Annual Funding*

2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Total	Change from 2010-11 to 2017-18(%)
\$4,343,377	\$4,772,344	\$4,778,894	\$4,796,765	\$4,800,952	\$4,805,182	\$4,832,788	\$4,862,788	\$5,037,788	\$43,030,878	16% ↑

*Funding includes HIV Core Funding, Ministry Community Based Organizations (CBO) and Harm Reduction Funding (Ministry CBO funding has not been previously reported in HIV Annual reports).

Funding provided to the Saskatchewan Health Authority is used to support:

- Community development coordinators;
- Outreach programs/mobile clinics;
- Social workers;
- Clinical and administrative staff;
- Harm reduction services; and
- Transportation.

The medication costs to treat one person with antiretroviral therapy ranges from approximately \$15K to \$20K annually, depending on the treatment regimen.

HIV medications listed on the Saskatchewan Formulary. With 100% HIV medication coverage, Drug Plan expenditures for HIV medications increased to \$10.6M in 2018-19. First Nations residents are covered under the federal Non-Insured Health Benefits program.

As shown in **Table 2** below, in 2017-18 the Drug Plan paid on average 91% of the total cost of prescriptions for the

Table 2: HIV Prescription Drug Expenditure for Eligible Drug Plan Beneficiaries

Year	Patient or Private Insurance Paid	Drug Plan Paid	Total Prescription Cost	Drug Plan Paid as a % of Total Prescription Cost
2013-14	\$485,815	\$7,502,139	\$7,987,954	93.9%
2014-15	\$603,946	\$8,166,397	\$8,770,342	93.1%
2015-16	\$659,775	\$9,054,049	\$9,713,824	93.2%
2016-17	\$609,587	\$8,726,868	\$9,336,455	93.5%
2017-18	\$857,272	\$8,542,933	\$9,400,205	90.9%
2018-19	\$21,971	\$10,599,348*	\$10,621,319	99.8%

*The increase seen in 2018-19 may be attributed to the full coverage of HIV medications implemented April 11, 2018.

Encouraging people to know their HIV status is important so they can receive proper care, support and treatment. This also helps reduce the risk of transmission to others (treatment as prevention). In 2018, more individuals were tested in more locations throughout the province. There has been a steady increase in HIV testing

performed by the RRPL from 48,843 tests in 2009 to 85,617 tests completed in 2018, representing a 75% increase and reflecting about a 7% increase per year. **Table 3** reflects the RRPL costs associated with HIV testing. From 2009-10 to 2018-19, there has been a 653% increase in the costs.

Table 3: Expenditures for HIV Testing

Fiscal Year	Funding (\$)
2007-08	157,390
2008-09	211,425
2009-10	111,263
2010-11	214,938
2011-12	200,346
2012-13	287,489
2013-14	534,165
2014-15	646,606
2015-16	751,435
2016-17	854,710
2017-18	854,839
2018-19	837,275
Total	\$5,661,881

Overview of people newly diagnosed with HIV & AIDS

Table 4 provides a summary of the HIV and AIDS cases for the decade 2009 to 2018. **Table 5** provides the geographic information for the 2017 and 2018 HIV cases.

The number of people newly identified with HIV (*cases*) decreased to 168 cases in 2018 compared to 177 in 2017 and 170 in 2016. [**Table 4**]

83% of all female cases diagnosed in 2018 were of childbearing age (15-45 years), comparable to the average of the previous ten years.

76% of cases self-identified as Indigenous.

Injection drug use was reported by 71% of cases.

25% of exposures were a result of sexual contact, either men who have sex with men (MSM) or heterosexual.

71% of the cases had been or are currently co-infected with HCV, and of those, 92% reported injection drug use.

The greatest increase was seen in Regina, while the highest proportion of cases was in Saskatoon. [**Table 5**]

There were 16 newly diagnosed AIDS cases in 2018.

Table 4: People newly diagnosed with HIV & AIDS in Saskatchewan, 2009-2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
HIV										
Cases	200	174	186	177	128	112	160	170	177	168
Change from previous year (%)	15%↑	13%↓	7%↑	5%↓	28%↓	13%↓	43%↑	6%↑	4%↑	5%↓
SK Rate per 100,000	19.3	16.3	17.2	16.2	11.4	9.8	13.9	14.5	14.8	14.1
Canadian rate per 100,000	7.0	6.8	6.6	6.0	5.9	5.8	5.8	6.4	6.5	N/A
Comparison of SK to Canada	2.8x	2.4x	2.6x	2.7x	1.9x	1.7x	2.4x	2.3x	2.3x	N/A
Self-Identified Ethnicity										
Indigenous	79%	75%	81%	77%	69%	71%	81%	79%	79%	76%
Non-Indigenous and unspecified	21%	25%	19%	23%	31%	29%	19%	21%	21%	24%
Age & Gender										
Mean Age (years)	34.6	36.3	36.8	36.2	38.7	39.8	37.7	38.1	39.7	37.6
Female	45%	38%	42%	40%	34%	34%	38%	44%	35%	42%
Women of child-bearing age*	89%	91%	81%	86%	79%	76%	87%	77%	85%	83%
Most Commonly Reported Primary Risk Factors										
Injection drug use (IDU)	79%	75%	76%	67%	56%	49%	61%	60%	67%	71%
Men who have sex with men (MSM)	2%	6%	4%	8%	7%	13%	8%	4%	8%	6%
Heterosexual contact	15%	15%	15%	20%	29%	29%	27%	32%	20%	19%
AIDS										
Cases	15	28	27	36	26	33	29	25	36	16
Co-infection with hepatitis C										
Co-infected cases	164	136	139	128	82	63	95	98	111	119
Proportion	82%	78%	75%	72%	64%	56%	59%	58%	63%	71%

*Expressed as a percentage of all female cases

Minor differences in the numbers from previous reports are due to extensive data cleaning efforts.

National rates are also updated yearly by the Public Health Agency of Canada (PHAC) and may differ from previous reports.

Table 5: People newly diagnosed with HIV by former health region (HR), 2017 & 2018

Former HR	2017	2018	Change from previous year (%)
Regina Qu'Appelle HR (RQHR)	23	37	↑ 14 (61%)
Saskatoon HR (SKHR)	71	63	↓ 8 (11%)
Prince Albert Parkland HR (PAPHR)	55	53	↓ 2 (4%)
Northern HR (MCRHR, KYHR, & AHA)	11	7	↓ 4 (36%)
All other HRs*	17	8	↓ 9 (53%)
⇒ Prairie North HR (PNHR)**	8	<5	↓ >3 (>38%)
Total	177	168	↓ 9 (5%)

*Information for all other HRs is collapsed due to small numbers.

**Former PNHR cases are also included in the *All other HRs* category.

As we continue to expand access to testing, it is expected there will be an increase in new cases.

For both 2017 and 2018, the majority of cases came from the former HRs with large urban centres: Regina, Saskatoon and Prince Albert.

The former Regina HR reported higher numbers of cases in 2018 (up 14) compared to 2017, while other former HRs saw decreases such as Saskatoon (down 8), Prince Albert (down 2), the North (down 4) and the rest of the province (down 9).

The 168 cases in 2018 is a 5% decrease (down 9) from 2017 and is above the ten year average of 165 cases (2009-2018).

Profile of people newly diagnosed with HIV

Newly Diagnosed Cases and Trends

In 2018, 168 individuals were newly diagnosed with HIV, a 5% decrease compared to 2017 (177 cases). [Figure 1]

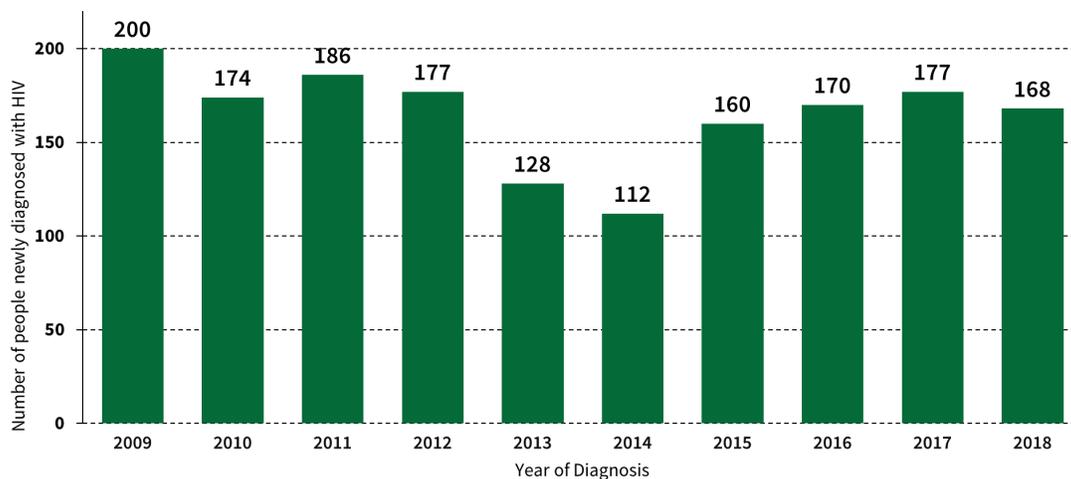
There was a sharp increase of 43% in 2015 to 160 cases. 2016 saw another increase of 6% to 170 cases and a further increase of 4% to 177 cases in 2017.

1,652 cases were reported in the decade 2009-2018, compared to 697 in the previous decade 1999-2008.

2,552* HIV cases have been reported since reporting began in 1985. Of these, 65% were diagnosed in the past 10 years.

The number of newly identified HIV cases decreased in 2018 compared to the two previous years.

Figure 1: People newly diagnosed with HIV by year of diagnosis, 2009-2018



The peak of 200 HIV cases in 2009 related, in part, to enhanced efforts to find people who may have been infected for a number of years but had not been tested. The increase again from 2015 through 2017 may also be related to case finding through point-of-care testing. Public education activity results in people who had contact with identified HIV cases coming forward for testing.

*Extensive data cleaning and validation of records showed more bona fide cases from the early years of reporting (i.e., ~1985-1995). The previous reports expressed this figure as an approximation; the current figure used is more definitive.

Saskatchewan's 2018 HIV rate is more than double the 2017 national rate.

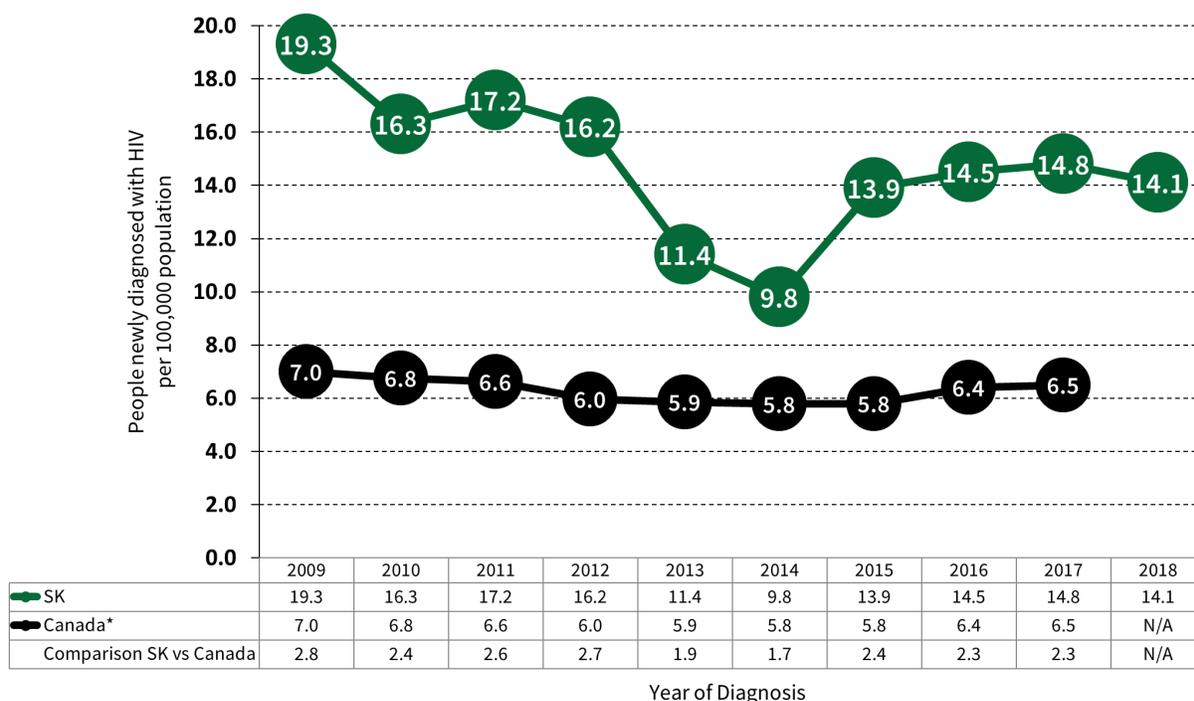
The 2018 rate of 14.1 cases per 100,000 population is below the peak rates between 2009 (19.3 cases per 100,000) and 2012 (16.2 cases per 100,000). [Figure 2]

The national HIV rate declined from 2009 (7.0 cases per 100,000) to 2012 (6.0 cases per 100,000) and then plateaued before increasing to 6.4 cases per 100,000 in 2016.

Saskatchewan rates increased from 2008 to 2009 then declined to 2014 with the exception of a slight increase in 2011. 2015 saw a notable increase, which sustained until 2017, followed by a slight decrease in 2018.

The 2018 national rate was not yet available at the time of this report's release; however, if the rate remains the same as 2017 (6.5 per 100,000), SK will be 2.2 times the national rate. This is comparable with the magnitude differences over the past decade, 2009-2018.

Figure 2: HIV diagnosis rates, SK versus Canada, 2009-2018



*Source: Public Health Agency of Canada

Gender and Age Characteristics

Of the 168 new cases, 97 were male, down 16% from 2017. 71 cases were female, an increase of 15% from 2017. [Tables 6 & 7]

Over the decade 2009-2018, the proportion of male cases fluctuated from 56-66%, while the proportion of female cases fluctuated from 34-44%. In 2018, the ratio of male to female cases was 7:5.

The 2018 rate for males was 16.3 cases per 100,000 and the rate for females was 12.0 cases per 100,000. The male rate decreased from 2017, while the female rate increased. [Figure 3]

There were seven male cases for every five female cases in 2018.

Figure 3: HIV diagnosis rates by gender, 2009-2018

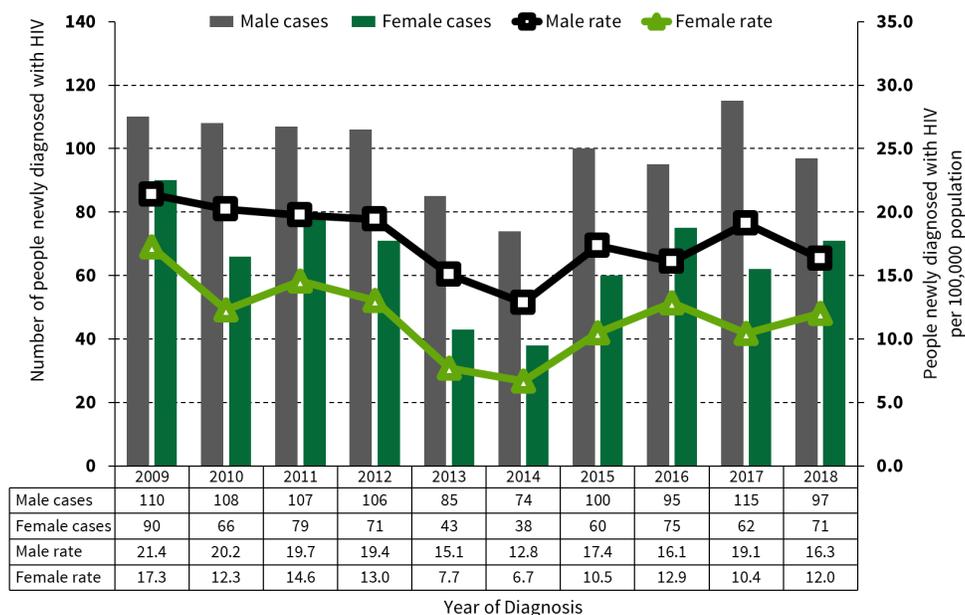


Table 6: Males newly diagnosed with HIV by age group, 2009-2018

Age Group	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
< 29	23 (21%)	23 (22%)	21 (20%)	24 (23%)	17 (20%)	17 (23%)	25 (25%)	19 (20%)	23 (20%)	19 (20%)
30-39	41 (38%)	34 (32%)	40 (38%)	36 (34%)	26 (31%)	19 (26%)	20 (20%)	31 (33%)	36 (32%)	26 (27%)
40+	46 (42%)	51 (48%)	46 (43%)	46 (44%)	42 (50%)	38 (52%)	55 (55%)	45 (48%)	56 (49%)	52 (54%)
Total	110	108	107	106	85	74	100	95	115	97

Table 7: Females newly diagnosed with HIV by age group, 2009-2018

Age Group	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
< 29	47 (52%)	27 (41%)	28 (35%)	30 (42%)	10 (23%)	8 (21%)	24 (40%)	29 (39%)	28 (45%)	29 (41%)
30-39	29 (32%)	27 (41%)	27 (34%)	20 (28%)	19 (44%)	16 (42%)	24 (40%)	22 (29%)	17 (27%)	26 (37%)
40+	14 (16%)	12 (18%)	24 (30%)	21 (30%)	14 (33%)	14 (37%)	12 (20%)	24 (32%)	17 (27%)	16 (23%)
Total	90	66	79	71	43	38	60	75	62	71

Both male and female rates in 2018 are lower than at the beginning of the decade.

There was a decrease in diagnosis rates for all age groups among males, with the exception of the 40-49 age group where the rate was the highest (36.8 per 100,000). [Figure 4]

Female cases comprised 56% of the total cases aged 20-29 years (23 of 41 cases) and 50% of total cases aged 30-39 years (26 of 52 cases).

Rates in females aged 20-29 and 40-49 years decreased, whereas the rate among females aged 30-39 years increased to 30.4 per 100,000. This was also the age group with the highest female rate. [Figure 5]

83% (59 cases) of all female cases diagnosed in 2018 were of a childbearing age (15-45 years). This is higher than 2016 at 77%, and comparable to 2017 (85%).

Figure 4: Rates of males newly diagnosed with HIV by age group, 2009-2018

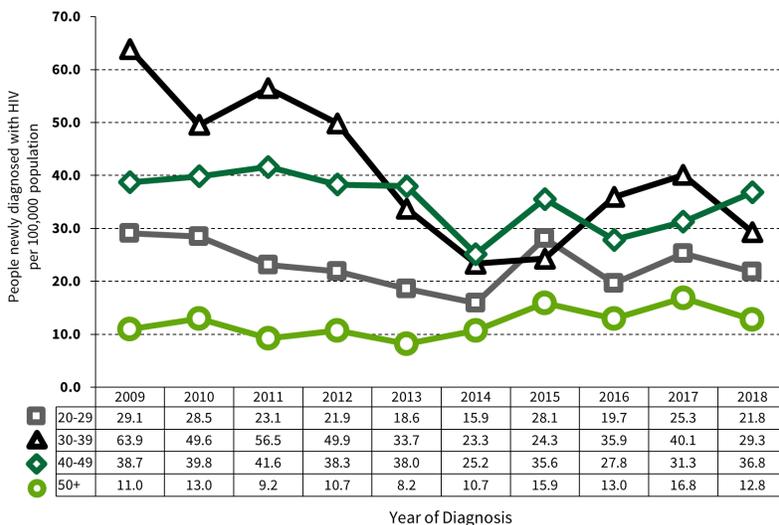
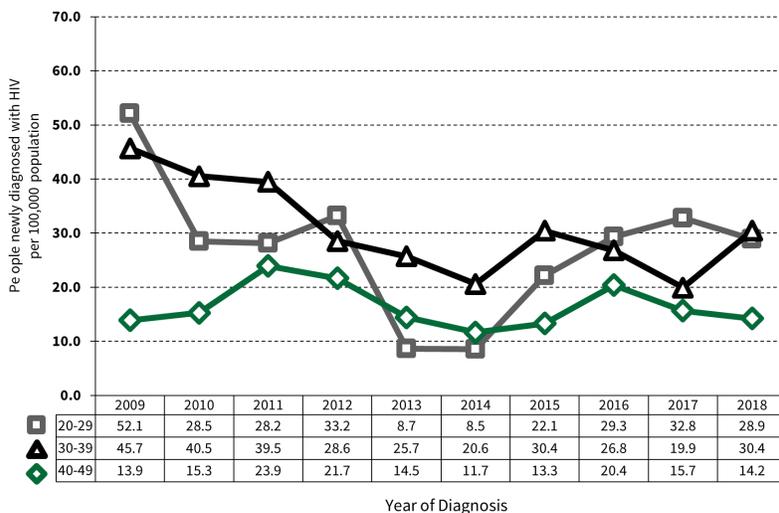


Figure 5: Rates of females newly diagnosed with HIV by age group, 2009-2018



Note:
Rates for males and females below 20 years and females 50 years and older are not shown because of small numbers.

Newborns infected with HIV

42 HIV positive pregnant women delivered infants in 2018.

There were no confirmed HIV infected newborns in 2018 at the time of this report. It may take up to 18 months or more to confirm HIV diagnosis; hence, delays in reporting of infected newborns may be expected.

There were six HIV infected newborns cases in the decade from 2009 to 2018.

Table 8 illustrates that from 1987 to 2008 (22 years), there were 14 newborn cases; from 2009-2013, there were three cases; and from 2014-2018, there were three cases.

Table 8: Newborns infected and exposed to HIV by year of birth, 1987-2018

	1987-2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Newborns infected with HIV	14	2	1	0	0	0	0	3	0	0	0	20
Newborns delivered to HIV positive mothers*	N/A	N/A	N/A	18	17	25	18	43	44	41	42	248

*Data are not available from 1987 to 2010. Data are not collected by the notifiable disease system in Saskatchewan and numbers may be underestimated.

The care of HIV positive pregnant women is complex and various factors during pregnancy and delivery contribute to newborns becoming infected.

Children infected with HIV

One child aged 10-14 years was diagnosed with HIV in 2018.

Five children aged 0 to 14 years (excluding newborns) were diagnosed with HIV in the decade since 2009.

Table 9 illustrates that from 1987 to 2008 (22 years), there were two children aged 10-14 years diagnosed with HIV and from 2009-2018, there were five.

Table 9: Children infected with HIV by year, 1987-2018

	1987-2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Children below 10 years old (excluding newborns)	1	0	0	0	0	0	0	0	0	0	0	1
Children from 10 to 14 years old	2	0	0	1	1	0	1	0	1	0	1	7

Ethnic origin

Of the 168 new HIV cases in 2018, 41 or 24% self-identified as non-Indigenous or not specified. This is higher than the average of 35 per year for the previous five years.

127 (76%) of the 168 newly identified cases self-identified as Indigenous, which is comparable to 2010 (75% or 131 cases).

For the 10 years illustrated in **Figure 6**, the percent of non-Indigenous cases ranged from a low of 19% in 2011 and 2015 to a high of 31% in 2013. For the same period, the percent of total cases reporting Indigenous ethnicity ranged from a low of 69% in 2013 to a high of 81% in both 2011 and 2015. [Table 10]

73% of cases self-identifying as Indigenous in 2018 lived in Saskatoon (45 cases), Prince Albert (27 cases) and Regina (21 cases).

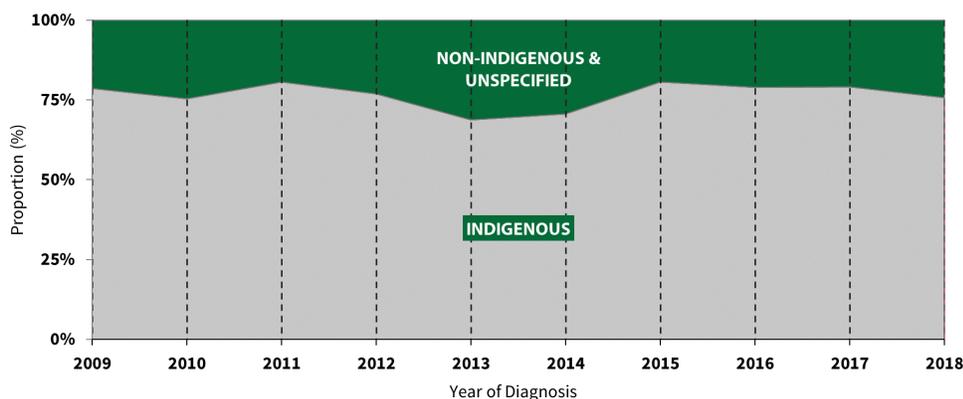
Males self-identifying as Indigenous made up two-thirds or 67% (65/97 cases) of all male cases in 2018.

76% of cases self-identified as Indigenous in 2018.

Females self-identifying as Indigenous comprised 87% of all female cases (62/71 cases) for 2018. Females accounted for 49% of all cases self-identifying as Indigenous, an increase from the average 45% of Indigenous cases in the years 2009 to 2018.

84% (52/62) of female cases in 2018 self-identifying as Indigenous were in the childbearing age group of 15-45 years.

Figure 6 & Table 10: People newly diagnosed with HIV by self-identified ethnicity, 2009-2018



Self-identified ethnicity	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Indigenous (%)	157 (79%)	131 (75%)	150 (81%)	136 (77%)	88 (69%)	79 (71%)	129 (81%)	134 (79%)	140 (79%)	127 (76%)
Non-Indigenous & Unspecified (%)	43 (21%)	43 (25%)	36 (19%)	41 (23%)	40 (31%)	33 (29%)	31 (19%)	36 (21%)	37 (21%)	41 (24%)
Magnitude difference	3.7	3.0	4.2	3.3	2.2	2.4	4.2	3.7	3.8	3.1
Total	200	174	186	177	128	112	160	170	177	168

The burden of HIV fell for the greatest part among those people self-identifying as Indigenous. This difference was first recognized in 2004. Over the past decade, the number of cases self-identifying as Indigenous ranged from 2-fold to 4-fold the number of non-Indigenous cases. To a small degree, self-reporting of ethnicity accounted for some of this fluctuation (see Technical Notes).

Geographical distribution

The rates in the former HR of Prince Albert, Saskatoon, and the North were higher than the provincial rate of 14.1 per 100,000. The remaining former HRs had rates lower than the province or reported no new infections in 2018. [Figure 7]

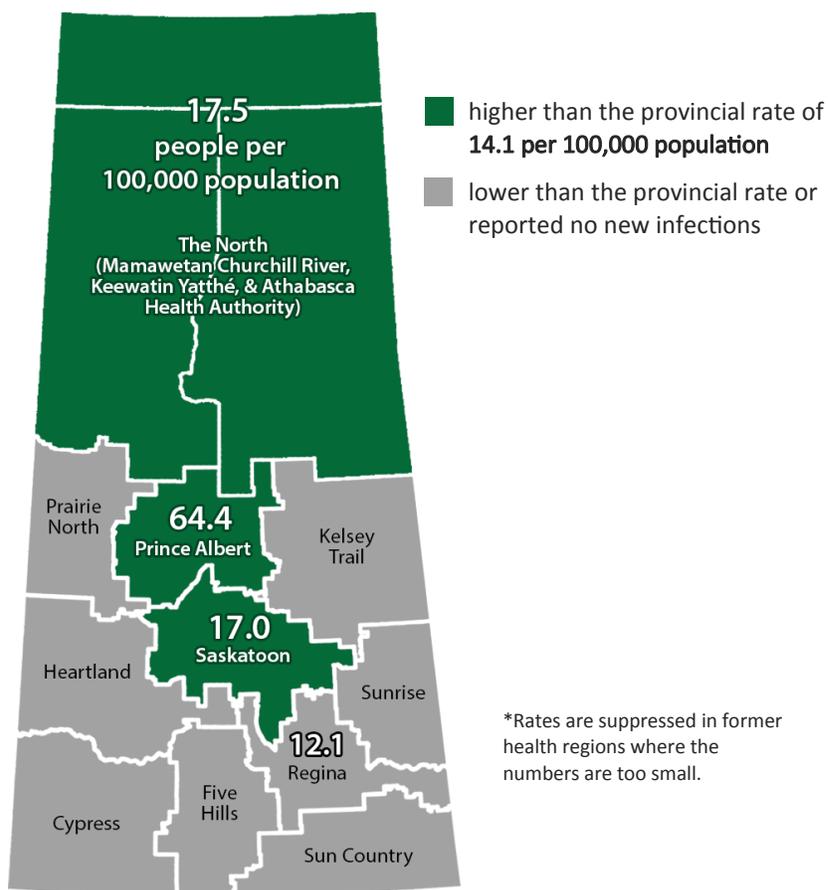
The former Prince Albert HR’s HIV diagnosis rate in 2018 was 64.4 per 100,000, slightly lower than their peak of 71.3 per 100,000 in 2011.

The former Saskatoon HR’s rate in 2018 was 17.0 per 100,000, slightly more than half the 2009 rate (31.3/100,000).

The former Regina HR’s HIV diagnosis rate climbed to 12.1 per 100,000 in 2018 after a continuous decline from 2009 (20.1 per 100,000) to 2017 (7.5 per 100,000).

In 2018, the former Prince Albert health region continued to have the highest rate of HIV.

Figure 7: HIV diagnosis rates by former health region, 2018



74% of the cases in 2018 were in the large urban centres.

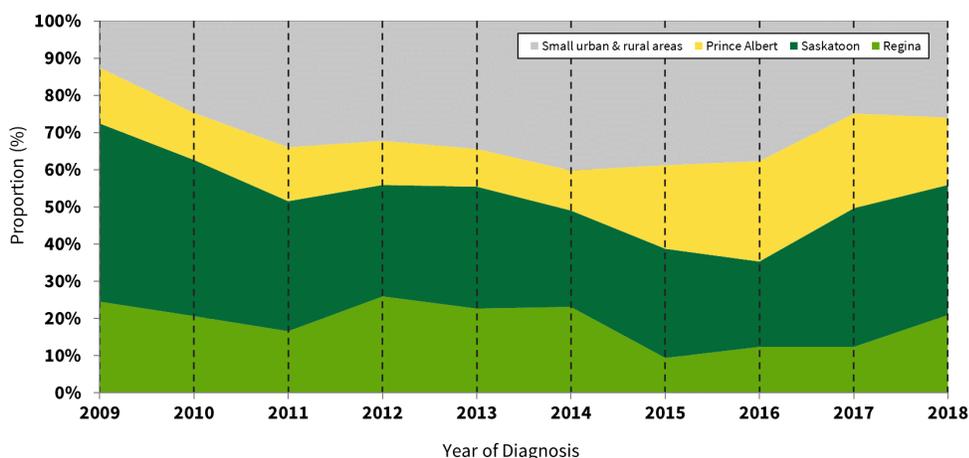
The shift in new HIV cases from rural areas back to urban in 2017 remained in 2018. [Figure 8]

The percent of newly diagnosed cases living in small cities and rural communities increased from 13% in 2009 to 40% in 2014, followed by a downward trend to 26% in 2018. [Table 11]

In each of the years over the past decade, 2009-2018, over 90% of HIV cases in the Regina and Saskatoon areas lived in the urban centres, while in the Prince Albert area, the proportion living in the city of Prince Albert fluctuated between 47% and 86% (data not shown).

Three-quarters (124/168 or 74%) of new cases in 2018 were residents of large urban centres — Saskatoon (58 of 63 cases in the Saskatoon HR), Regina (35 of 37 cases in the Regina Qu’Appelle HR), and Prince Albert (31 of 53 cases in the Prince Albert Parkland HR). [Table 11]

Figure 8 & Table 11: People newly diagnosed with HIV in the three largest cities versus small urban and rural communities, 2009-2018



City of residence upon diagnosis	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Regina	49 (25%)	36 (21%)	31 (17%)	46 (26%)	29 (23%)	26 (23%)	15 (9%)	21 (12%)	22 (12%)	35 (21%)
Saskatoon	96 (48%)	73 (42%)	65 (35%)	53 (30%)	42 (33%)	29 (26%)	47 (29%)	39 (23%)	66 (37%)	58 (35%)
Prince Albert	30 (15%)	22 (13%)	27 (15%)	21 (12%)	13 (10%)	12 (11%)	36 (23%)	46 (27%)	45 (25%)	31 (18%)
Small urban & rural	25 (13%)	43 (25%)	63 (34%)	57 (32%)	44 (34%)	45 (40%)	62 (39%)	64 (38%)	44 (25%)	44 (26%)
Total	200	174	186	177	128	112	160	170	177	168

*Due to rounding, percentages may not total to 100%

HIV high risk lifestyle behaviours

The risk of getting HIV varies widely depending on the type of exposure or behaviour (such as sharing needles or having sex without a condom). Some exposures to HIV carry a much higher risk of transmission than other exposures.

For some exposures, while transmission is biologically possible, the risk is so low that it is not possible to put a precise number on it; however, risks do add up over time. Even relatively small risks can add up over time and lead to a high lifetime risk of getting HIV. In other words, there may be a relatively small chance of acquiring HIV when engaging in a risky behaviour with an infected partner only once; but if repeated many times, the overall likelihood of becoming infected after repeated exposures is actually much higher.

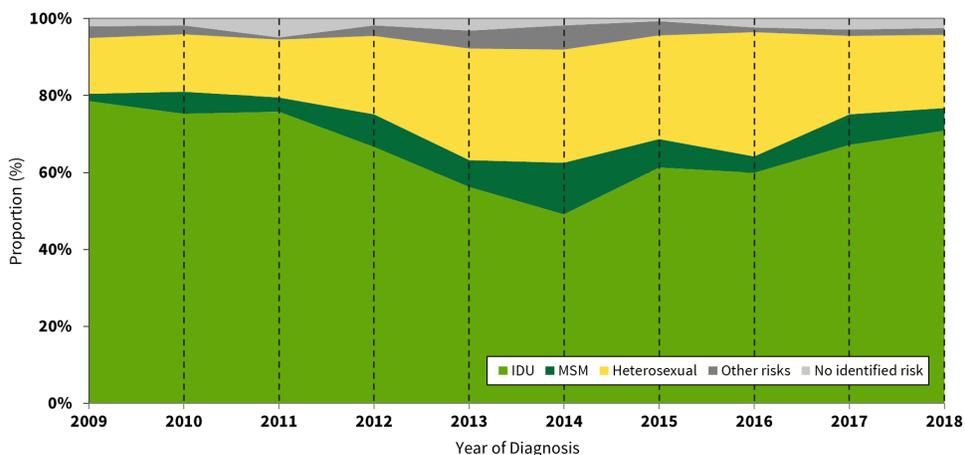
Certain lifestyle practices place an individual at a higher risk of acquiring the HIV virus through blood and body fluids.

Lifestyle activities are presented according to a hierarchy or level of risk of being exposed to HIV (see Technical Notes).

71% of new HIV cases reported injecting drugs in 2018.

Men having unprotected sex with men (MSM) have the highest risk for exposure according to the PHAC national HIV risk hierarchy. In 2018, 13 of the 97 males newly diagnosed with HIV reported this as a risk factor. Three of these men also injected drugs, the second highest risk for being exposed to HIV. These three individuals were categorized with cases who inject drugs since the pool of HIV infected people who inject drugs is much larger in Saskatchewan than the pool of HIV infected men who practice sex with men. The likelihood of acquiring HIV through injecting drugs, therefore, is much higher. [Table 12 & 13]

Figure 9 & Table 12: Self-reported primary risk factors for acquiring HIV infection among newly diagnosed people, 2009-2018



Primary Risk Factor	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Injection Drug Use (IDU)	157 (79%)	131 (75%)	141 (76%)	118 (67%)	72 (56%)	55 (49%)	98 (61%)	102 (60%)	119 (67%)	119 (71%)
Men having sex with men (MSM)	4 (2%)	10 (6%)	7 (4%)	15 (8%)	9 (7%)	15 (13%)	12 (8%)	7 (4%)	14 (8%)	10 (6%)
Heterosexual exposure	29 (15%)	26 (15%)	28 (15%)	36 (20%)	37 (29%)	33 (29%)	43 (27%)	55 (32%)	36 (20%)	32 (19%)
Other risks	6 (3%)	4 (2%)	1 (1%)	5 (3%)	6 (5%)	7 (6%)	6 (4%)	2 (1%)	3 (2%)	3 (2%)
No identified risk	4 (2%)	3 (2%)	9 (5%)	3 (2%)	4 (3%)	2 (2%)	1 (1%)	4 (2%)	5 (3%)	4 (2%)
Total	200	174	186	177	128	112	160	170	177	168

*Risk data may be updated as more information becomes available; figures may not match the previous reports.

In 2018, 71% (119 of 168 cases) of newly diagnosed cases injected drugs.

Unprotected heterosexual sex was the third highest risk for acquiring HIV, comprising 32/168 or 19% of newly diagnosed people in 2018, similar to 20% in 2017. 15 of the 32 cases (47%) engaged in high-risk sexual practices including partnering with injection drug users or partnering with suspected or known HIV positive cases.

Only four cases were from endemic countries.

Table 13: Most common self-reported risk factors for acquiring HIV, 2018

Risk factor	Number of newly diagnosed persons (%)
Injection drug use (IDU)*	119 (71%)
Heterosexual exposure	32 (19%)
Men having sex with men (MSM)	10 (6%)
No identified risk	4 (2%)
Other exposure	3 (2%)
Total	168

*Three (3) MSM-IDU cases are included in the IDU category. Percentages may not total to 100% due to rounding.

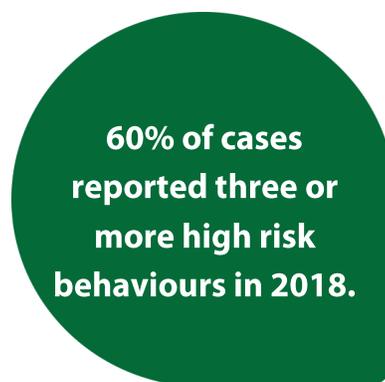
Multiple self-reported lifestyle risks

The majority of newly diagnosed HIV cases have a lifestyle involving multiple risks for acquiring the HIV virus. 17% reported only one risk factor; one case reported as many as six risk factors. [Table 16]

In 2018, 100 of the 168 people newly diagnosed with HIV (60%) reported three or more risk factors.

Not all risks are investigated by the case interviewer. The reported risks represent only those documented in the case record, therefore, the actual number of multiple risks could be higher.

Heterosexual sex with high risk partners comprised the majority of other lifestyle risks practiced by newly diagnosed individuals, particularly cases having partners who injected drugs (81/168 cases), partners with suspected or confirmed HIV infections (43/168 cases) or anonymous partners (9/168 cases).



Invasive body art such as tattooing and body piercing was reported by 43 of 168 newly diagnosed cases.

Table 14: Newly diagnosed people with multiple self-reported risk factors, 2018

Number of risk factors reported for each person	Number of newly diagnosed persons
No risk factors documented	4 (2%)
One (1) risk factor	29 (17%)
Two (2) risk factors	35 (21%)
Three (3) risk factors	59 (35%)
Four (4) risk factors	29 (17%)
Five (5) risks factors	11 (7%)
Six (6) risks factors	1 (1%)
Total	168

Factors that Increase Risk of HIV Transmission

- Previous sexually transmitted diseases (STIs)
- Acute and late stage HIV infection
- High viral loads

Factors that Decrease Risk of HIV Transmission

- Condom use
- Male circumcision
- Anti-retroviral treatment
- Pre-exposure prophylaxis

Injection drug use - the highest self-reported risk

A total of 119 (71%) newly diagnosed HIV cases self-reported injection drug use in 2018 compared to a peak of 79% (157 cases) in 2009. [Figure 9] The declining trend seen after 2011 in the proportion of new HIV cases reporting injecting drugs was reversed in 2015 and continued into 2017 and 2018.

In 2018, men comprised 55% of cases self-reporting injection drug use and all of those were aged 19 to 63 years. Three of these cases were males who also reported having sex with males.

All female cases who reported injection drug use were between 18 and 58 years of age.

1,112 of 1,652 newly diagnosed HIV cases in the decade 2009-2018 (67%) reported injection drug use compared to 446 of 697 HIV cases reporting this risk in the previous decade 1999-2008 (64%).

84% of cases who reported injection drug use self-identified as Indigenous (100 out of 119 cases). Among Indigenous female cases, 74% (46/62) reported injection drug use, and all but six of the new cases were of childbearing age (range 18-45 years).

82% of males who inject drugs self-identified as Indigenous (54/66).

Saskatchewan has the highest proportion of injection drug use as a primary risk factor among Canadian jurisdictions.

Individuals who inject illicit drugs typically respond less well to the drug therapies for HIV viral suppression because of a compromised health status, or issues with adherence to the drug regime. 91% of individuals injecting drugs practiced one or more additional activities putting them at risk, albeit a lesser risk, for acquiring the infection.

Heterosexual activity - the second most reported risk

In 2018, 32 cases (19%) reported heterosexual activity as the primary risk for infection.

15 females reported heterosexual activity as the primary risk factor; of these, 14 self-identified as Indigenous.

17 males reported heterosexual activity as the primary risk for infection; of these, eight self-identified as Indigenous.

Two of the 13 men practicing MSM also reported heterosexual activity.

Though 32 cases stated heterosexual activity was their primary risk for infection, additional cases with greater risks for acquiring HIV, which were counted in the MSM or IDU categories, also practiced heterosexual activity. Close to half of the cases practicing heterosexual sex stated their partner had not disclosed high risk activities associated with HIV infection.

Sexual activity involving exchange of goods

18 new cases reported providing or receiving goods (e.g., food, shelter, money, or drugs) in exchange for sex.

13 cases receiving goods in exchange for sex were between 15 to 58 years of age and all were female; 11 of these self-identified as Indigenous.

Five cases reported knowing their partner was HIV positive.

14 of the 18 cases exchanging goods for sex also injected drugs.

All cases reported up to five other risks for acquiring HIV infection.

Men who have sex with men (MSM)

13 male cases (13% of male cases) reported sex with other men as a risk for HIV infection. Three of these cases also injected drugs and were categorized with cases who injected drugs.

The number of MSM cases fluctuates from year to year. An annual average of six cases was reported in the decade between 1999 and 2008. An average of 9 cases was reported each year in the first half of the decade, 2009-2018, compared to 12 cases annually in the latter half.

Unlike other jurisdictions in Canada, MSM is not yet a common risk for acquiring HIV in Saskatchewan. Some cases practicing MSM in 2018 had two to four other risks for acquiring an HIV infection.

Immigrants from endemic countries

Saskatchewan received five previously diagnosed HIV positive immigrants from endemic countries in 2018. These are not included among the 168 cases whose infection was diagnosed in this province.

From 2009-2018, 20 cases from endemic countries (1% of HIV positive individuals) were diagnosed after arriving in this province.

The number of HIV cases from endemic countries diagnosed in Saskatchewan ranges from one to five cases annually.

Co-infection with other blood borne diseases

119 (71%) of the 168 newly diagnosed cases had been or are currently co-infected with HCV, and of those, 110 (92%) also reported injection drug use.

Of the 2018 cases, none have been reported to have been infected with acute hepatitis B or infectious syphilis in Saskatchewan.

Life status of people newly diagnosed with HIV

13% of people diagnosed with HIV in the past decade (2009-2018) are known to be deceased (as of December 31, 2018) (220/1,652). The other 87% were presumed to be still living (1,432/1,652).

23% of the 2009-2018 cases who died in the past decade died in the year they were diagnosed (50/220 cases). For many this indicates they presented for care late in their infection. For some, the primary cause of death was unrelated to their HIV infection.

Laboratory testing for HIV

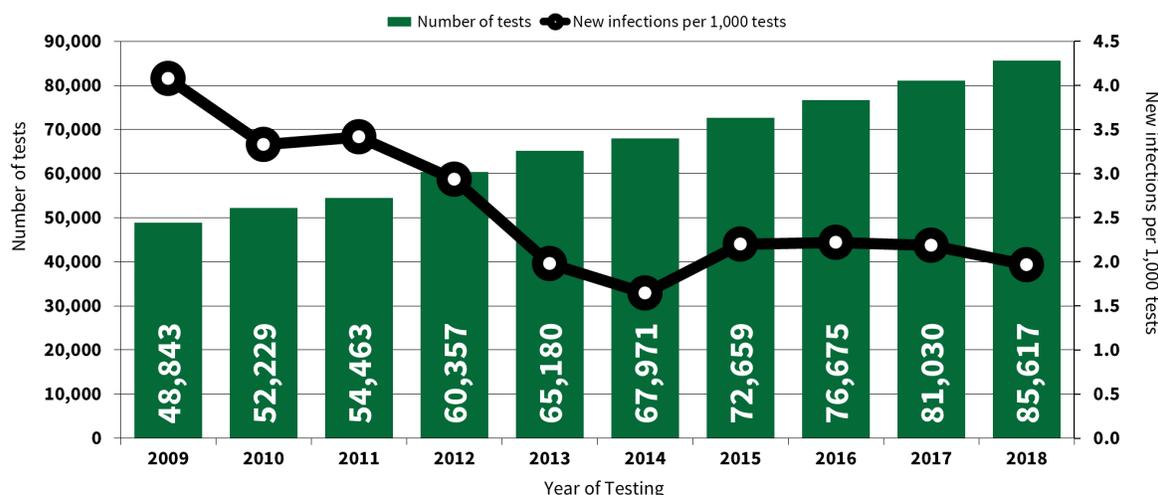
The number of tests for HIV performed by the RRPL increased steadily each year. Over 30,000 more tests were done in 2018 compared to 2009, an overall increase of 75%. [Figure 10 & Table 15]

A total of 2,137 point of care tests were completed in 2018, a marginal increase from 2,120 tests in 2017. A confirmatory test is completed on all positive HIV point of care tests by sending blood samples to the RRPL.

The rate of new HIV infections per 1,000 tests performed fluctuated yearly between 1.6/1,000 tests and 4.1/1,000 tests over the decade, 2009 to 2018, for an average of 2.5 new infections detected for every 1,000 tests performed.

2.0 new infections were confirmed for every 1,000 tests performed in 2018, which is lower than the previous three years.

Figure 10 & Table 15: HIV screening tests (4th Gen EIA [DUO]¹) performed at RRPL and new infection rate, 2009-2018



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Number of tests ²	48,843	52,229	54,463	60,357	65,180	67,971	72,659	76,675	81,030	85,617	665,024
% Change from previous year	3%	7%	4%	11%	8%	4%	7%	6%	6%	6%	75%³
New infections per 1,000 tests	4.1	3.3	3.4	2.9	2.0	1.6	2.2	2.2	2.2	2.0	2.5

¹The DUO tests are the 4th Generation Enzyme Immunosorbant Assay (EIA) tests performed from a blood drawn sample that test for HIV antibodies and antigens.

²These totals do not include point of care (POC) and dried blood spot (DBS) tests.

³Percent change from 2009 to 2018

A portion of tests represent individuals with low risk lifestyles but still wishing to know their HIV status. Some tests represent repeat testing requested by individuals with an ongoing high risk lifestyle or by physicians for clinical monitoring of patients. RRPL performs testing on individuals initially diagnosed with HIV in another jurisdiction or residents from other jurisdictions. The rate of new infections represents the initial positive HIV test for Saskatchewan residents only.

Please note that the laboratory testing counts provided in the Monitoring Progress section on page 24 includes PoC and DBS test counts.

Profile of people newly diagnosed with AIDS

Newly Diagnosed Cases and Trends

Just over half (51%) of AIDS cases diagnosed from 2009-2018 were in the latter half of the decade (139 of 272 cases). [Figure 11]

In 2018, 50% of the AIDS cases were males; 50% were females.

Over the past decade (2009-2018), the proportion of males in the 40+ age group ranged between 50% to 87%. In 2018, four of the eight male AIDS cases were 40 years and older. In contrast, the highest proportion of female AIDS cases was in the 15 to 39 year age group (55% to 100%) until 2016 to 2018 when the highest proportion shifted to the 40+ age group (63% to 77%).

54% of female AIDS cases in the past decade, 2009-2018, were diagnosed in the latter five years (55/101).

50% of the 16 people newly diagnosed with AIDS in 2018 were diagnosed at the same time as their HIV diagnoses (eight cases); in 2017, there were nine cases. For the past decade (2009-2018), 43% of the 272 new AIDS cases were diagnosed at the same time as their HIV diagnoses (116 cases).

The length of time between cases first testing positive for HIV and being diagnosed with AIDS in 2018 ranged from 0 to 10 years.

Half of the people diagnosed with AIDS in 2018 were identified late in their disease progression.

28% (76/272) of the AIDS cases diagnosed in the past decade died within a few months of their diagnosis. Others lived between one and seven years after an AIDS diagnosis. Some died from causes other than AIDS.

Over 500 people in Saskatchewan have been diagnosed with an AIDS defining illness since 1984 when HIV/AIDS became a provincially notifiable disease. There is an under reporting of AIDS cases to public health. [Figure 12]

Figure 11: People newly diagnosed with AIDS by year and gender, 2009-2018

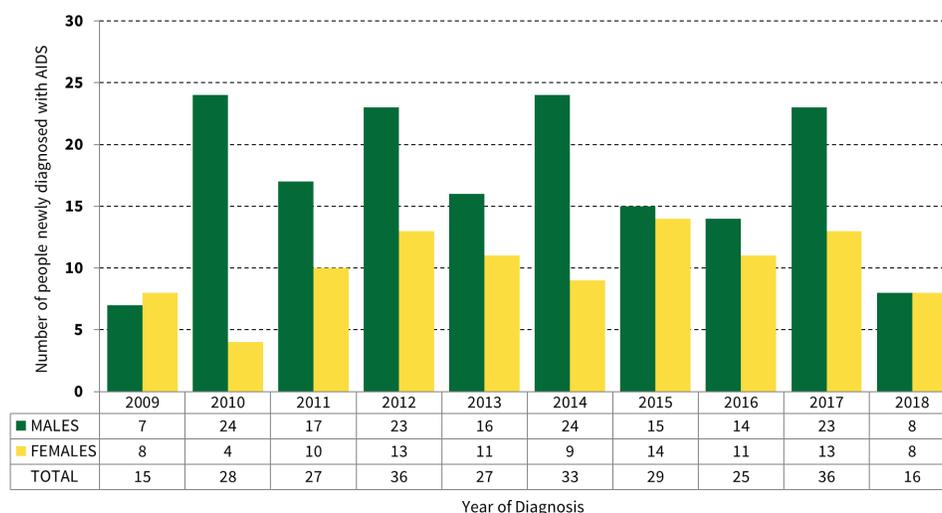
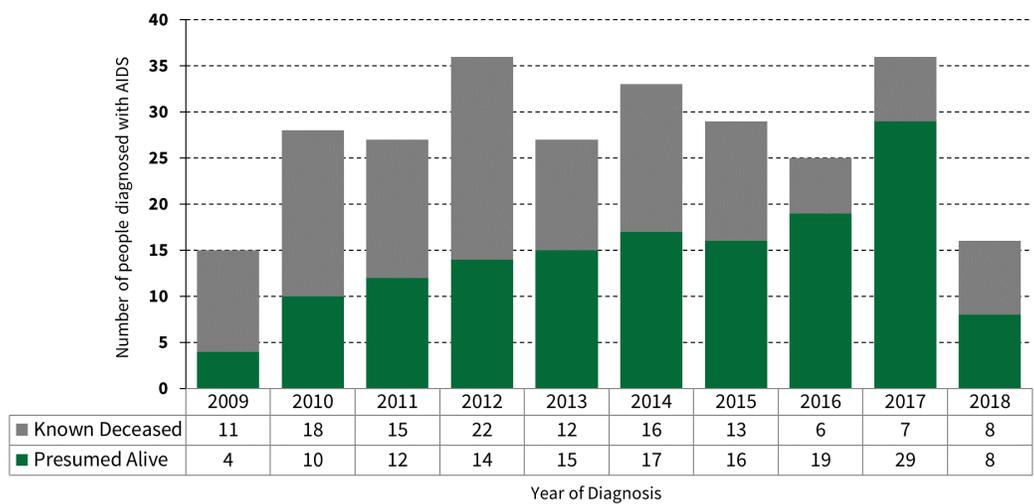


Figure 12: Life status* of people newly diagnosed with AIDS by year of diagnosis



*Life status as of December 31, 2018

Individuals diagnosed concurrently with HIV and AIDS typically present late in their disease progression. Five of the eight cases diagnosed concurrently with HIV and AIDS in 2018 were still alive (as of December 31, 2018).

Monitoring progress

The HIV Care Continuum¹ (also known as the HIV Cascade of Care or HIV Treatment Cascade) is a model that outlines the sequential steps, or stages of HIV medical care that people living with HIV will go through, from initial diagnosis to achieving the goal of viral suppression (an undetectable, or very low level of HIV in the blood). A comprehensive continuum of care ensures persons living with HIV receive the support required to achieve viral suppression.

The HIV Care Continuum is recognized as a focal point for efforts to maximize individual and public health benefits of antiretroviral therapy. A thorough understanding of the stages in the HIV Care Continuum helps to identify where individuals are lost to care, informs strategies to re-engage individuals to care and subsequently treatment.

In July 2014, the Joint United Nations Programme on HIV and AIDS (UNAIDS) set global targets to end the AIDS epidemic: specifically, 90% of people with HIV are diagnosed, 90% of those diagnosed are on treatment, and 90% of those on treatment are virally suppressed.

Objective #1: Increase the number of HIV Tests (4th Gen EIA [DUO], point of care [PoC], and dried blood spot tests [DBS]) performed by 15% by 2020

The SK HIV Collaborative has set a goal to increase HIV testing coverage, through routine testing in a variety of settings and targeted testing to at-risk populations, e.g., persons with Sexually Transmitted Infections/HCV/Tuberculosis, youth, populations with high incidence of HIV, persons who inject drugs.

The SHA implemented strategies to increase routine and targeted HIV testing and works with the Ministry to achieve a provincial goal to increase annual HIV testing by 15% by 2020 (year three of the SK HIV Collaborative work plan). The 2016 total number of HIV tests (78,534) is the baseline [Figure 13].

- The percent change of total tests from 2016 to 2017 was 6% (78,534 to 83,118).
- The percent change of total tests from 2016 to 2018 was 12% (78,534 to 87,812).

The Saskatchewan 2016 estimates for the 90-90-90 indicators were:

- 70% of people living with HIV are diagnosed;
- 91% of people diagnosed with HIV are on treatment; and,
- 77% of people on treatment have a suppressed viral load.

PHAC established a federal/provincial/territorial working group to enhance and refine the data and methods used to calculate the indicators going forward. The 2018 90-90-90 indicators are expected to be released in 2020.

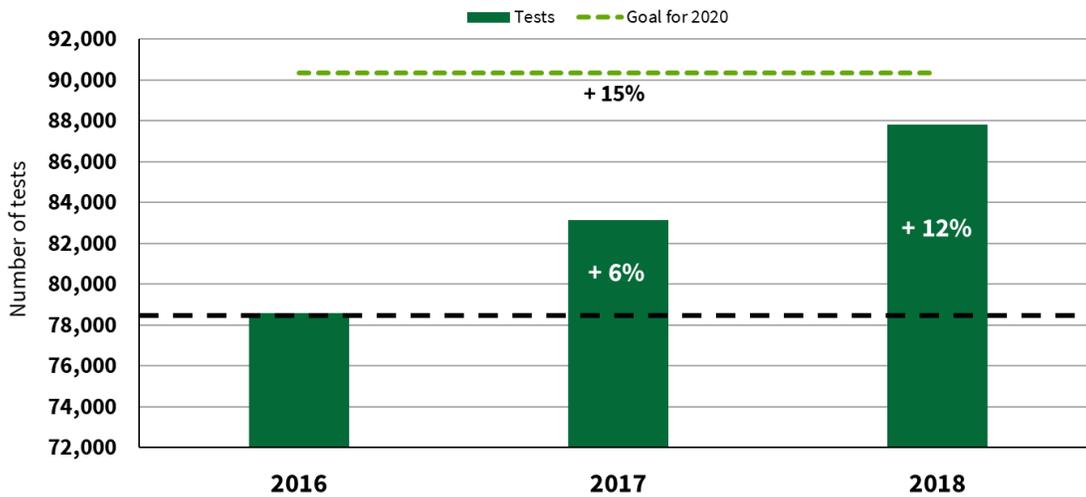
Our success with engaging and retaining people living with HIV in the care continuum contributes to Saskatchewan's 90-90-90 targets. In 2018, initiatives to expand access to HIV testing and improved case management approaches focused on engaging more individuals in the stages of the HIV Care Continuum. In 2018 indicators were finalized to monitor the progress of the three-year HIV Collaborative work plan and strengthen data collection and dissemination. The objectives of the work plan are to increase the number of people tested for HIV, linked to care, in care and virally suppressed.

In order to reach the 15% goal by 2020, 11,786 additional tests need to be performed in 2019 compared to 2016 or an increase of 2,225 tests in 2019 from the total number of tests performed in 2018. At the current rate of roughly 6% per year, the 15% goal is attainable.

The DUO tests are the 4th Generation Enzyme Immunosorbant Assay (EIA) tests performed at RRPL from a blood drawn sample that test for HIV antibodies and antigens.

¹ AIDS.gov. *HIV Care Continuum*. Retrieved May 22, 2018 from: <https://www.aids.gov/federal-resources/policies/care-continuum/>

Figure 13: Number of HIV tests (DUO, PoC, DBS) performed by RRPL, 2016-2018, and goal for 2020



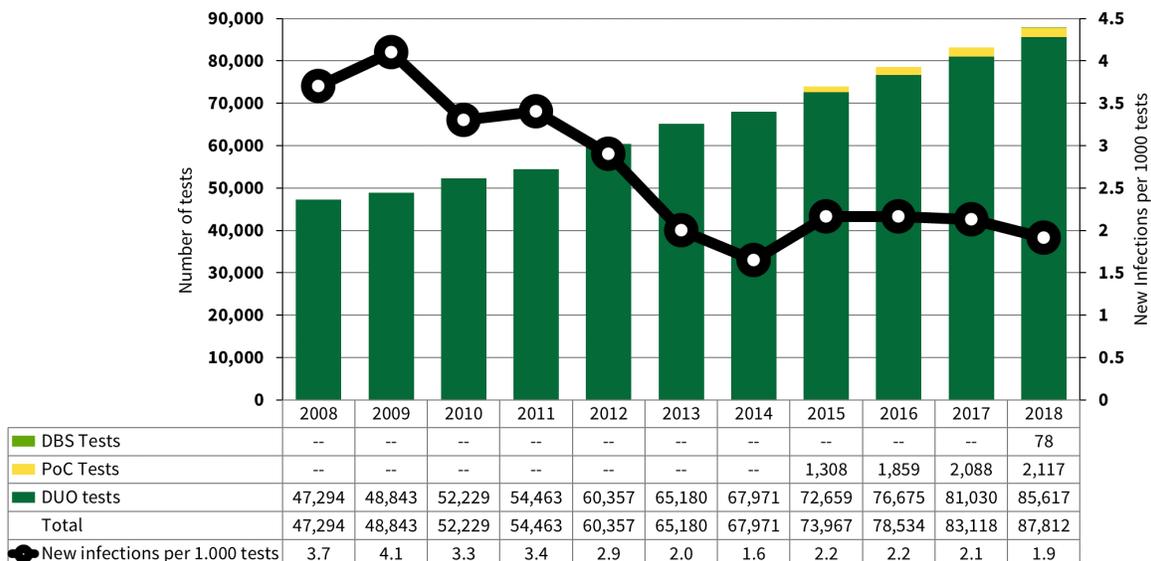
Objective #2: HIV screening methodologies are appropriate and cost-effective in diagnosing HIV

Traditional HIV testing (needle draw of a tube of blood and sent to a lab) continues to be the predominant form of testing. Point of Care (POC) and DBS tests make up a small number (1.8% - 2.5%) of total tests performed [Figure 14]. The general trend is that as testing has steadily increased from 2009 to 2018, the number of new infections per 1,000 tests has decreased. New infections per 1,000 tests decreased due to the number of tests increasing and the number of infections diagnosed

staying the same or decreasing slightly. Note: PoC positive tests are retested by DUO.

According to the Centers for Disease Control and Prevention, HIV testing is cost-effective if one (or more) new HIV case per 1,000 screening tests is diagnosed.

Figure 14: Number of new HIV infections per 1,000 tests (DUO, PoC [minus PoC+], and DBS), 2009-2018



Indicators for **Objectives #3 to 5** have been defined and will be included in future reports when data is available.

Objective #3: Increase the proportion of people linked to care in compared to 2017

The percentage of individuals newly diagnosed who had a viral load test performed (1) within one month and (2) within three months will be reported. These measures estimate the proportion of newly diagnosed individuals who visited a health care provider after learning they were HIV positive.

Objective #4: Increase the proportion of people with diagnosed HIV in care compared to 2017

The percentage of individuals with diagnosed HIV who had at least one documented viral load test in a calendar year will be reported.

Objective #5: Increase the number/ proportion of people with diagnosed HIV in care whose most recent viral load is <200 copies/mL within the calendar year

The percentage of people with diagnosed HIV whose HIV viral load (amount of HIV in the blood) was <200 copies per mL on their last viral load test will be reported. Having a suppressed viral load not only measures treatment success but is also a *treatment as prevention* measure.

Appendix

Technical Notes and Data Limitations

All HIV and AIDS cases have been confirmed positive by laboratory testing. All HIV confirmatory testing is done at the RRPL (formerly the Saskatchewan Disease Control Laboratory SDCL).

Notification of HIV and AIDS cases to the local Medical Health Officer and the Saskatchewan Ministry of Health is mandated by the Disease Control Regulations under *The Public Health Act, 1994*.

Data in this report are based on information extracted from the EpiData HIV database, Integrated Public Health Information System, and Panorama Investigation module, on June 30, 2019 by the Ministry of Health.

Delays occur in the reporting of HIV and AIDS data such as ethnicity and risk exposure categories, and vital status information. As updated information becomes available, case data may be reassigned based on this information. As such, **numbers may differ from previous reports** or at the time of next year's report.

HIV case counts are based on the year of the first positive lab result; therefore they do not necessarily represent the number of new infections that year since individuals can be first tested years after their infection. The exception is infant cases born to infected mothers where date of diagnosis is assigned by the infant's year of birth.

The childbearing age of women includes ages 15 to 45 years.

HIV rates cited in this report are crude rates. Rates were calculated by dividing the total number of HIV cases by the Saskatchewan covered population, expressed as the number of cases or events per 100,000 population.

Only first-time HIV diagnoses are included in this report. All repeat positive and follow-up tests are removed after the screening step, but they are counted in the lab test data.

The data do not include HIV cases currently living in Saskatchewan who were initially diagnosed outside of the province. Individuals lab-confirmed by the RRPL must be resident in the province for at least six months to be included in the annual case count, otherwise they are referred to the jurisdiction where they resided and are counted there.

Individuals tested by Immigration, Refugees and Citizenship Canada, as part of the immigration process, are not included in the provincial statistics.

The geographic profile still follows the former health region boundaries. First Nations individuals known to be living on

reserve at the time of HIV diagnosis are included in figures for the former health regions where the First Nations reserve is located.

Ethnicity varies with the client's openness to disclose this information. For this report, people self-identifying as Indigenous comprise Inuit, Métis, and First Nations. The non-Indigenous classification includes individuals self-identifying as Caucasian, Black, Latin-American, Asian, South Asian and other ethnicities. For 2018, the case profile only comprises of self-reported Indigenous and non-Indigenous ethnicity.

Risk exposure information is self-reported, also limiting the accuracy and completeness of the data. HIV and AIDS cases were assigned to a single exposure category based on a national hierarchy of risk for acquiring the virus. When more than one risk factor is provided, cases are classified as the exposure category that is highest in the hierarchy:

- MSM – Men having sex with men
- MSM-IDU – Men reporting both injection drug use and having sex with men. Due to small numbers, these are included in the IDU category.
- IDU – Injection Drug Use
- Het-Exposure – Heterosexual exposure includes partnering with an individual at risk for HIV, including those from an endemic country, or partners who have no known risk for HIV. This category also includes individuals where heterosexual contact is the only exposure activity reported.
- Endemic – Origin from an HIV endemic country where heterosexual transmission is the main exposure. Cases from endemic countries under 15 years of age are not included in the count of heterosexual cases and instead counted under the 'other exposure' category.
- Perinatal – Infected newborns of an HIV positive mother
- NIR – No identified risk, unknown risk and less likely sources of infection

The incidence pattern of AIDS cases does not necessarily reflect the year in which the client was infected, but rather the year in which the individual was diagnosed with an AIDS defining illness. Individuals reported with AIDS may have been diagnosed with HIV in jurisdictions outside of Saskatchewan.