HIV and AIDS in Saskatchewan 2013

Annual report release date: December 1, 2014

Purpose

This report examines HIV and AIDS surveillance data reported in Saskatchewan to provide an up-to-date profile of individuals diagnosed with HIV and AIDS in the province. The annual report focuses on those cases reported in 2013 within the context of trends and developments in the epidemiology of HIV in Saskatchewan from 2004-2013.

Summary:

This annual report provides an epidemiological review of reported HIV and AIDS surveillance data in Saskatchewan to the end of December 31st, 2013.

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Executive Summary

People living with HIV

- The number of newly identified HIV cases decreased notably in 2013.
- There was a sharp drop in both male and female HIV rates in 2013.
- HIV affected a wide range of ages from teenage to seniors.
- HIV rates declined among young adults in 2013.
- The burden of HIV infection shifted to older males 40 to 49 years of age.
- The majority of people living with HIV were from large urban centres.
- There was a marked decline in people with HIV who self-reported Aboriginal ethnicity.
- Injecting drugs remained the highest self-reported risk for acquiring HIV infection.
- The majority of people diagnosed with HIV in the past decade are still alive.

People with AIDS defining illness

- The number of females living with AIDS increased in 2013.
- Fewer individuals were diagnosed with AIDS late in their disease progression.

The profile of people living with HIV in Saskatchewan

The number of newly identified HIV cases decreased notably in 2013

In 2013, 129 HIV cases were reported in Saskatchewan, a 27% decrease compared to 2012 and 35% below the 199 cases diagnosed in 2009. A total of 1,864 lab confirmed HIV cases have been reported since HIV monitoring began in 1985, 75% of whom have been diagnosed in the past 10 years. This data does not include cases currently living in Saskatchewan who were diagnosed previously outside of the province.

There was a steady increase in the annual number of HIV diagnoses from 56 cases in 2004 to a peak of 199 cases in 2009. (Figure 1) The peak in 2009 related, in part, to enhanced efforts to find new HIV cases who may have been infected for a number of years but had not been tested. The number of cases remained somewhat constant in the next three years, 2010-2012, but dropped notably in 2013.

Beginning in 2004 a steady upward trend occurred in the rates of HIV cases reported in the province from 5.5 cases per 100,000 population to a peak in 2009 of 19.2 newly identified positive people per 100,000 population. The rate stabilized somewhat in the following three years. In 2013 the rate fell dramatically to 11.5 per 100,000.

The national HIV rate remained stable between 2004 and 2008 then gradually declined to a plateau in 2013. By comparison, the Saskatchewan HIV rate surpassed the Canadian rate for positive HIV cases in 2006 and has since remained over two fold the national rate. (Figure 2)

Government of Saskatchewan

Fig 1

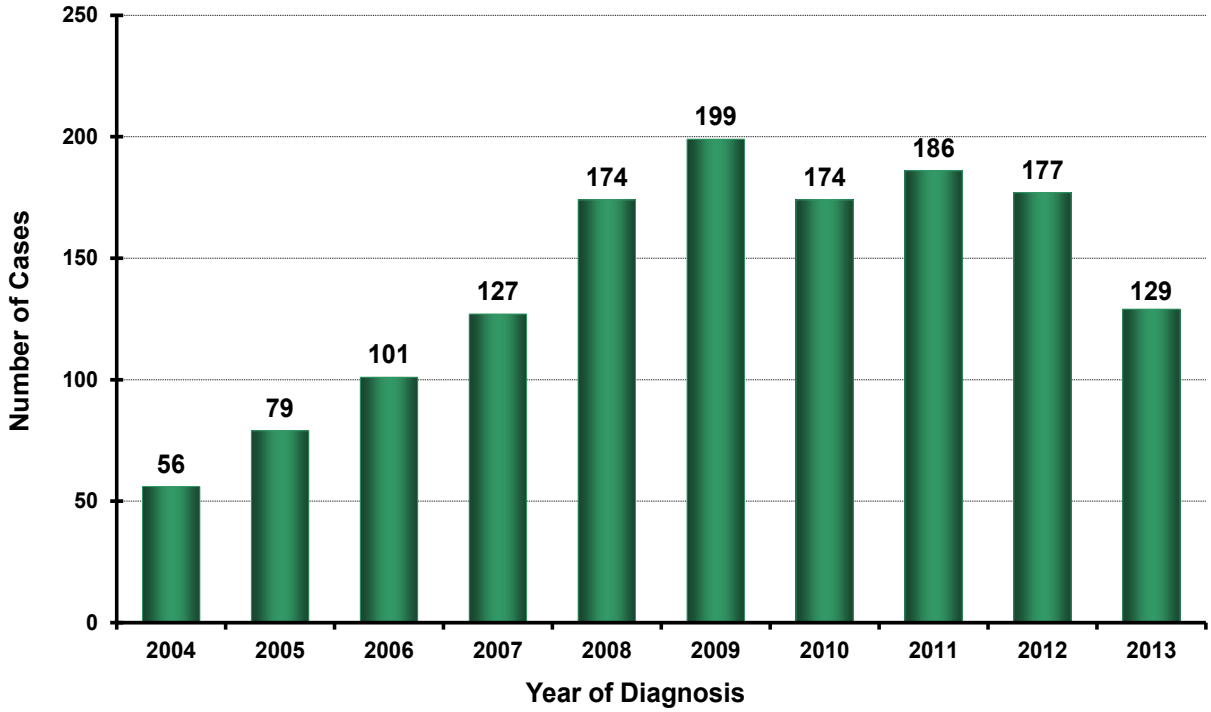
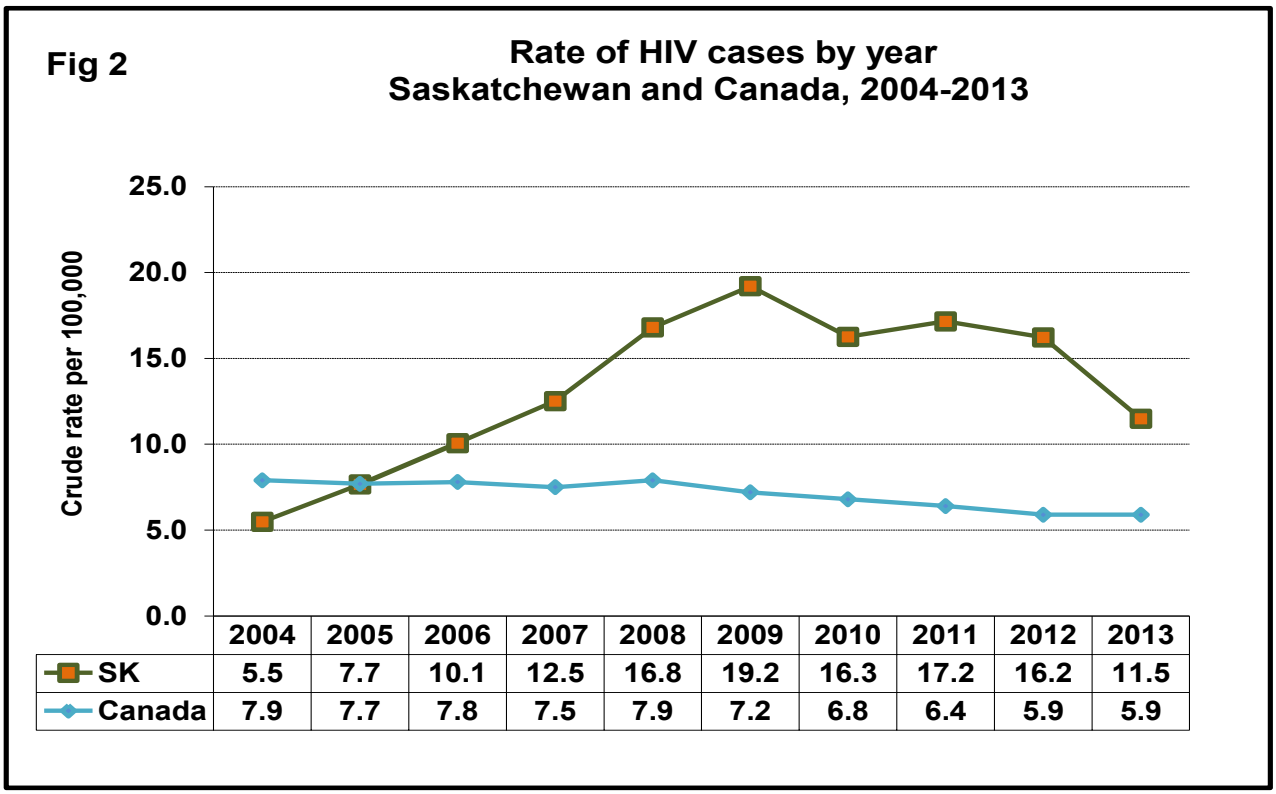


Fig 2



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SK	5.5	7.7	10.1	12.5	16.8	19.2	16.3	17.2	16.2	11.5
Canada	7.9	7.7	7.8	7.5	7.9	7.2	6.8	6.4	5.9	5.9

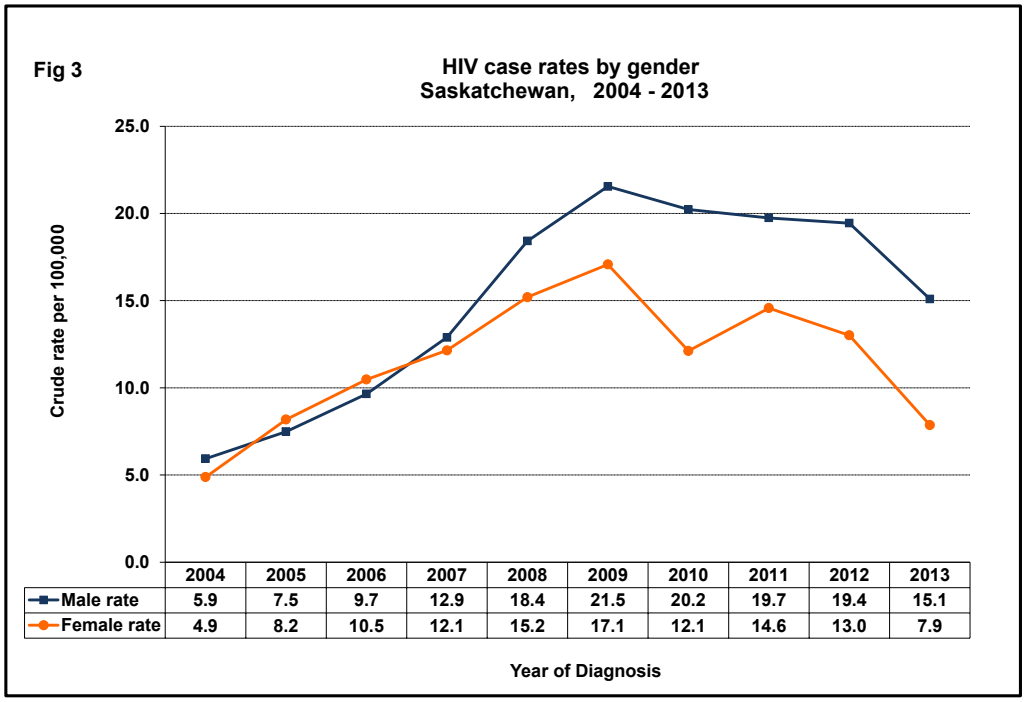
Canadian rates from the Public Health Agency of Canada

There was a sharp drop in both male and female HIV rates in 2013

Over the past ten years, male cases accounted for the majority of HIV positive cases in the province compared to females. In 2013 there were 85 male cases (66%) and 44 female cases. The percentage decline over 2012 in female cases was 35% compared to a 20% drop in male cases. This difference is reflected in both gender rates per 100,000 population. The overall male and female rate trend showed a parallel declining pattern since 2011 with the male rate being double that of females (15.1 versus 7.7 per 100,000) in 2013. (Figure 3)

In 2010 the female rate dropped sharply but rebounded to 14.6 per 100,000 in 2011 with a slight decrease to 13.0 per 100,000 in 2012 but a notable drop to 7.9 per 100,000 in 2013. The drop in female cases in 2010 could be related to a number of reasons including fewer women presenting for testing rather than a true decrease in HIV infection among females. The male rate which fluctuated little between 19.4 and 21.4 cases per 100,000 in the four years, 2009 to 2012, dropped sharply to 15.1 per 100,000 in 2013.

Fig 3



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Male rate	5.9	7.5	9.7	12.9	18.4	21.5	20.2	19.7	19.4	15.1
Female rate	4.9	8.2	10.5	12.1	15.2	17.1	12.1	14.6	13.0	7.9

HIV affected a wide range of ages

HIV male adult cases ranged in age from teenage to over 80 years in 2013 while female adult cases ranged in age from teenage to over 70 years. Cases aged 20-49 years comprised 81% (104 cases) of the 129 cases in 2013, a proportion comparable to previous years throughout the past decade.

Though the age group specific rate is low, the proportion of HIV cases in the 50+ age category increased over the past five years.

Between 16-20% of male cases each year were in this older age group. The proportion of female cases 50 years and older doubled from 4% in 2007 to 9% in 2013. This trend could relate to a delay in obtaining an HIV diagnosis and not necessarily the year they became infected.

HIV rates declined among young adults in 2013

The rate of HIV infection showed a marked decrease in 2013 among young adults of both sexes aged 20-29 years. The disease rate among males in this age group peaked at 29.1 per 100,000 in 2009 before a sustained annual decline to 18.6 per 100,000 in 2013. (Figure 4) By contrast, females in this age group declined to 26.9 per 100,000 in 2011 from a high of 52.1 per 100,000 in 2009 (38 cases) but rebounded to 33.2 per 100,000 in 2012 followed by a marked drop in the 2013 rate to 8.7 cases per 100,000 (7 cases). (Figure 5)

While the number of male cases aged 20-24 years fluctuated over the past decade, of note is the marked decline in the number of infected 20-24 year old females since 2007 when two-thirds of females in the 20-29 year age group were between 20 and 24 years (17 of 26 cases). In 2013, less than one-third of cases in young females in the 20-29 year age group were between 20 and 24 years (2 of 7 cases).

The burden of HIV infection shifted to older males 40 to 49 years of age

The HIV male case rate in 2012 was highest among those aged 30-39 years, however, in 2013 the highest HIV male rate shifted to the 40-49 age group at 38.0 per 100,000. The rate among those 30-39 years steadily declined from 57.9 per 100,000 in 2011 and 49.9 per 100,000 in 2012 followed by a notable drop to 32.4 per 100,000 in 2013.

The HIV female case rate in 2013 was 25.7 per 100,000 for those aged 30-39 years, a decrease from 28.6 per 100,000 in 2012. In contrast to the male cases aged 40-49 years, the rate among females aged 40-49 years declined from a high of 23.9 per 100,000 in 2011 to 21.7 per 100,000 in 2012 with a marked drop to 14.5 per 100,000 in 2013.

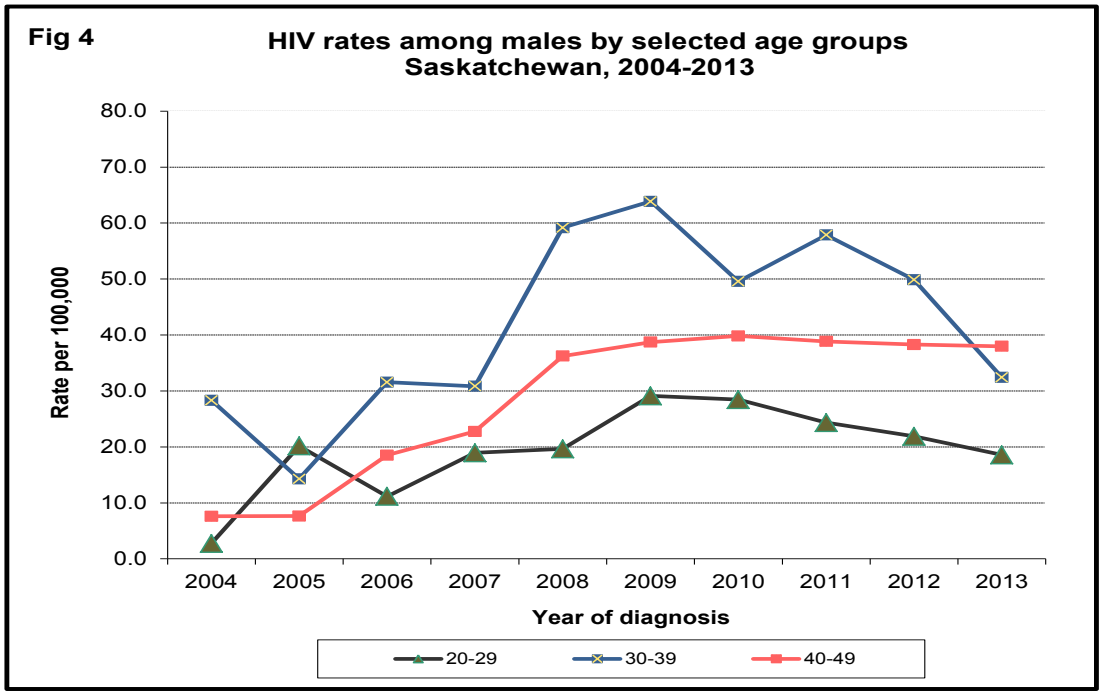
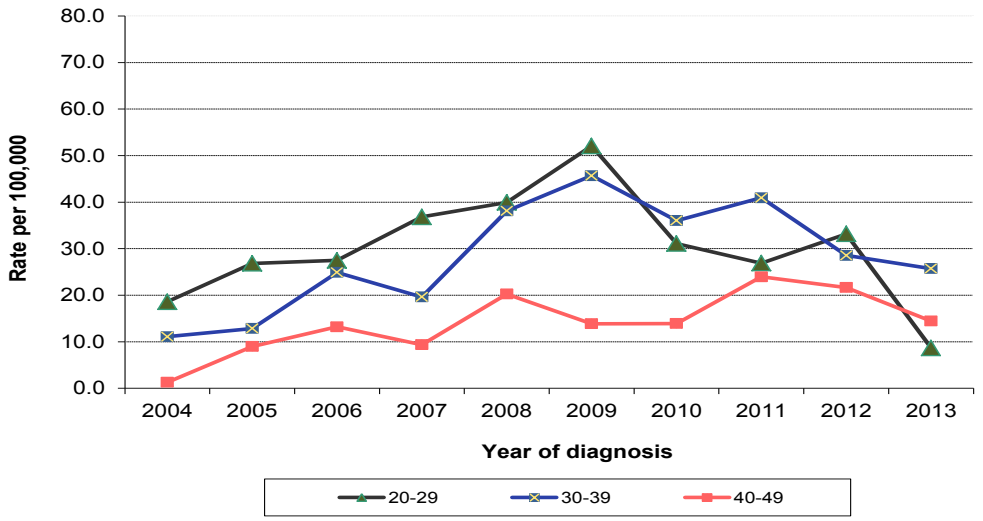


Fig 5 HIV rates among females by selected age groups Saskatchewan, 2004-2013

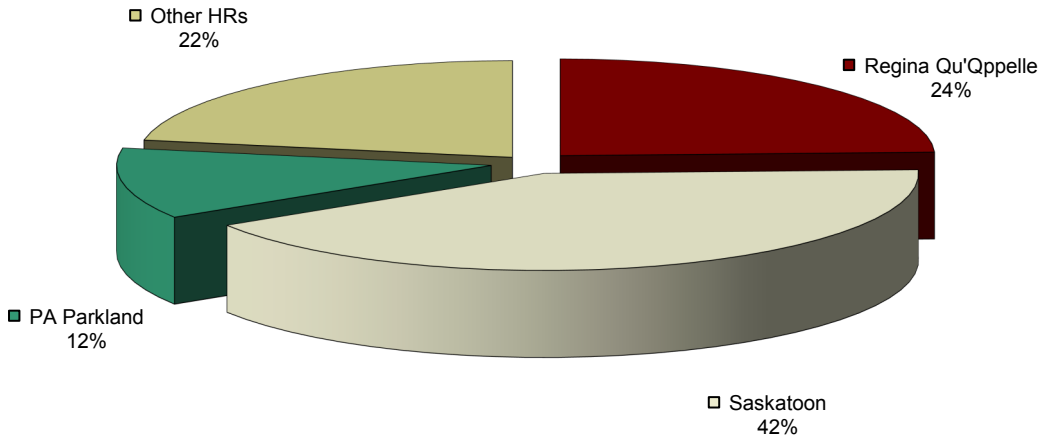


The majority of people living with HIV were from large urban centres

The highest proportion of HIV cases continued to be found in the health regions containing the province's three largest urban centres of Saskatoon, Regina and Prince Albert. This geographic distribution of HIV cases was seen even prior to 2004 when the number of HIV cases began to rise in the province.

From 2004 to 2013, 42% of the cases within the province occurred in the Saskatoon Health Region, compared to Regina Qu'Appelle Heath Region (24%) and Prince Albert Parkland Health Region (12%). (Figure 6) While the case rates have declined since 2009 in all three health regions, the rate in Prince Albert Parkland Health Region approached twice that seen in the other two health regions in 2013 (20.9 cases per 100,000 versus 10.7 per 100,000 in Regina Qu'Appelle Health Region and 12.8 per 100,000 in Saskatoon Health Region).

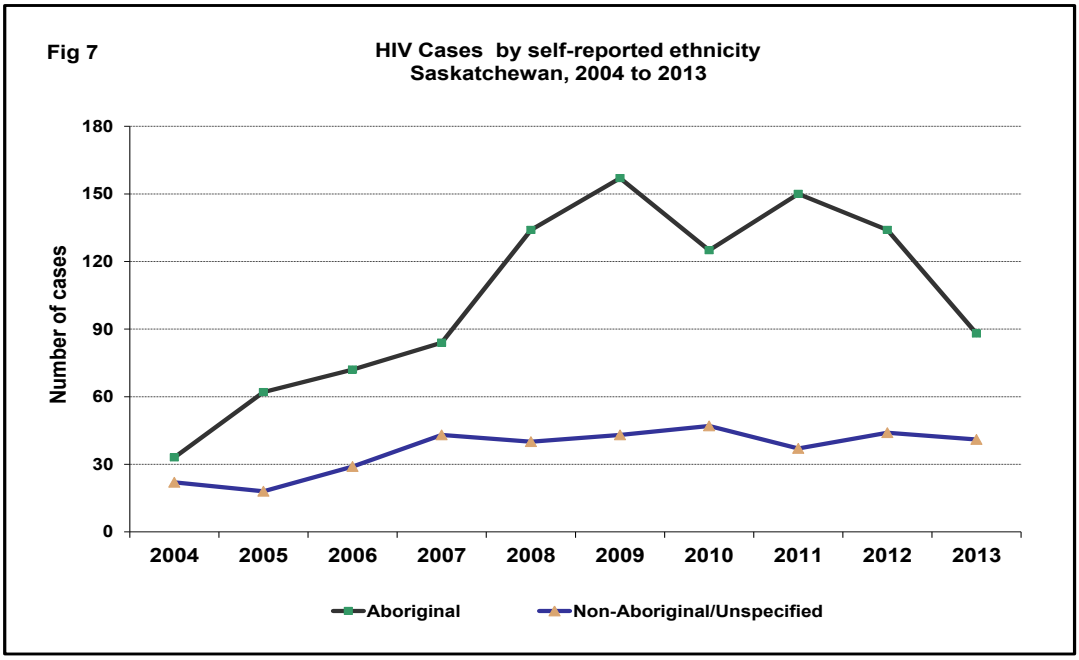
Fig 6 Proportion of HIV cases reported by selected health regions Saskatchewan, 2004-2013



There was a marked decline in people with HIV who self-reported Aboriginal ethnicity

People self reporting as Aboriginal ethnicity continue to be highly represented among the number of newly diagnosed HIV cases in the province though this number declined markedly from 2012. In 2013, 68% (88 cases) of all newly diagnosed HIV cases self-reported Aboriginal ethnicity (Figure 7), a 7% decrease from the number in 2012. The number of cases self-reporting other ethnicities, including Caucasian, rose from 25 cases in 2012 (does not include unspecified cases) to 41 cases in 2013. This is in part to more complete reporting of ethnicity with no missing ethnicity data in the 2013 case records compared to an 11% gap in 2012.

Female cases reporting Aboriginal ethnicity comprised 84% (37 of 44 cases) of all female cases for 2013 and 42% of all Aboriginal cases. Males self-reporting Aboriginal ethnicity made up 60% (51 of 85 cases) of all male cases this year.



Injecting drugs remained the highest self-reported risk for acquiring HIV infection

Information about risk exposures to the HIV virus is self-reported in Saskatchewan. Cases are assigned to an exposure according to a hierarchy of highest risk for acquiring the virus.

Injection drug use continued to be the most commonly reported risk exposure. The number of people with HIV infection acquired through injection drug use increased to a peak of 157 cases in 2009, in part related to enhanced case finding. (Figure 8) In 2012, two thirds of cases (67%, 118 cases) self-reported injection drug use as their main exposure to the virus, a decrease from 76% of cases in 2011. The proportion reporting injecting drugs in 2013 continued to decrease to 55% of all HIV cases. Men comprised 63% of infected individuals self-reporting this exposure. The age range for all HIV cases in 2013 reporting injection drug use was early teens to over 80 years. Two-thirds of male HIV cases reporting injection drug use were between 25 and 44 years of age and 81% of female cases reporting this exposure were between 25-44 years of age.

Heterosexual activity reported by HIV cases remains the second most commonly reported exposure risk. A steady upward trend in cases reporting this risk factor emerged in 2005 and was maintained into 2013. In 2013 the number of cases reporting heterosexual activity increased by three cases over 2012 to 35 cases, however, with the decrease in injection drug use cases, the proportion of heterosexual cases increased from 19% to 27% of total HIV cases. Heterosexual activity includes partnering with individuals at risk for contracting HIV. Since 2004, the highest proportion of heterosexually exposed cases has consistently been males aged 20-49 years (56%), though just under one-third (30%) of male cases who identified high risk heterosexual activity were 50 years and older. In 2013, seven of ten female cases reporting heterosexual activity, two in the 15-19 age group, stated their partner was likely at high risk for being infected. The other three cases, one in the 50 year and older age group, identified heterosexual partnering with an individual having no known risks for being HIV infected.

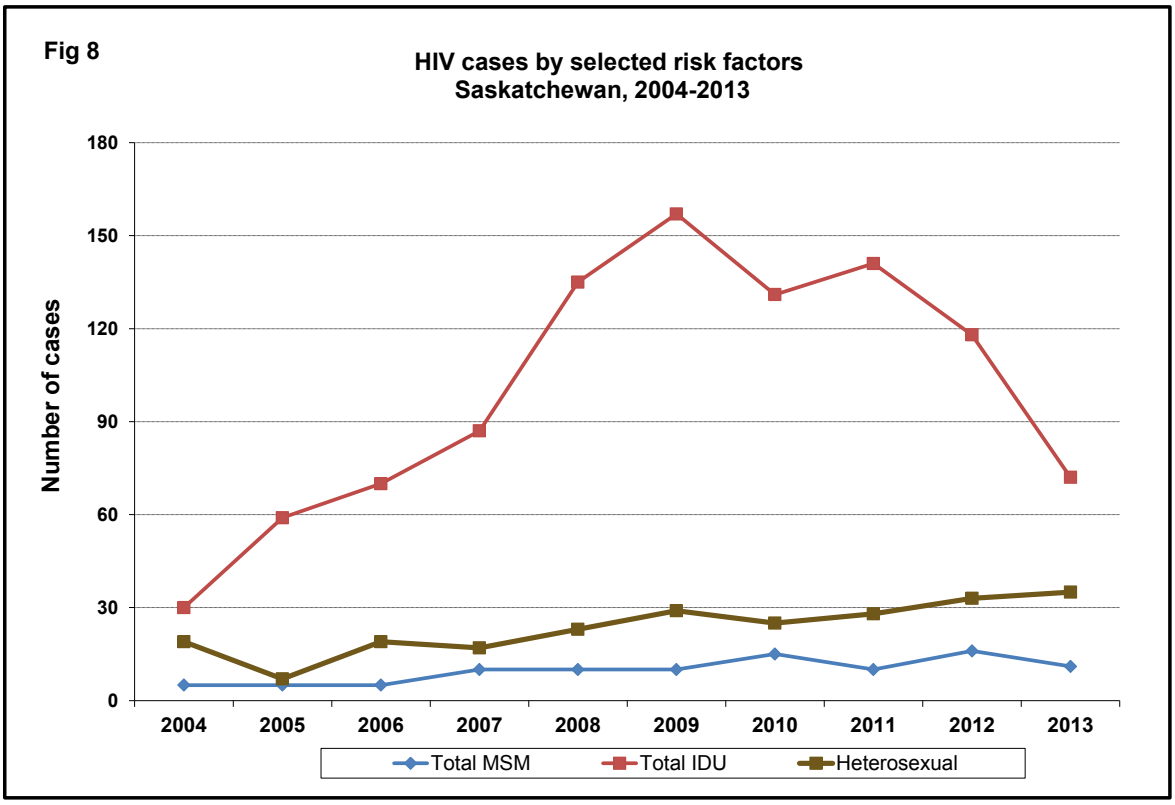
Unlike other jurisdictions in Canada, in Saskatchewan, men engaging in sex with other men (MSM) has been a lesser reported risk among HIV positive individuals. In 2013, this risk exposure was reported by 9% (11 cases) of HIV cases between the ages 20 and 39 years, compared to 2012 where the age range of MSM cases was 15-60 years and older. In the decade, 1994-2003, 25% of cases fell in the MSM risk category compared to the most recent decade, 2004-2013, where only 5% of cases were in this category. This is a result of the increased number of infected cases from injection drug use over the past decade when the proportion of cases doubled compared to 1994-2003.

Endemic risk exposure includes people whose origin is in a country where HIV infection is endemic. From 2004-2013, 1% (18 cases) of HIV positive individuals reported this risk exposure. The number of HIV cases from endemic countries has dropped sharply over the past decade to one to two cases annually.

No babies were born infected with HIV in 2013. Between 2002 and 2010, nine cases of perinatal transmission occurred: 2005 (3 babies), 2007 (4 babies) 2009 (1 baby) and 2010 (1 baby). Infected babies are born mainly to mothers who are unaware of their HIV status at time of delivery and where the newborn does not receive prophylactic treatment post delivery.

No risk exposures for HIV infection could be identified by four people in 2013.

Fig 8



The majority of people diagnosed with HIV in the past decade are still alive

Between 2004 and 2013, 1,402 people were diagnosed with HIV, of whom 1,176 people (84%) are still alive. Of the 203 people where year of death is known, 195 lived with HIV between one and nine years following their diagnosis. Forty-one people died in the same year they were diagnosed with HIV. The primary cause of death may not have been directly related to their HIV infection.

The profile of people living with AIDS in Saskatchewan

The number of females living with AIDS increased in 2013

Over 397 people in Saskatchewan are living or have lived with an AIDS defining illness since 1984 when HIV/AIDS became a provincially notifiable disease. Over two-thirds of AIDS cases in the most recent decade were diagnosed in the latter half, 2009-2013 (127 of 187 cases). This reflects the progression of disease among those who may not have accessed treatment early in their infection.

The 34 female AIDS cases diagnosed in the past three years, 2011-2013, was double that of the previous three years (17 cases) and constituted over one-third of all female AIDS cases diagnosed in Saskatchewan since 1984 (97 cases). This reflects the disease progression among HIV infected women to a diagnosis of AIDS. The eleven female AIDS cases diagnosed in 2013 ranged between older teenage to over 70 years. The 13 male AIDS cases in 2013, ranging in age from young adults to over 60 years, totaled 10 cases less than the number diagnosed in 2012. (Figure 9)

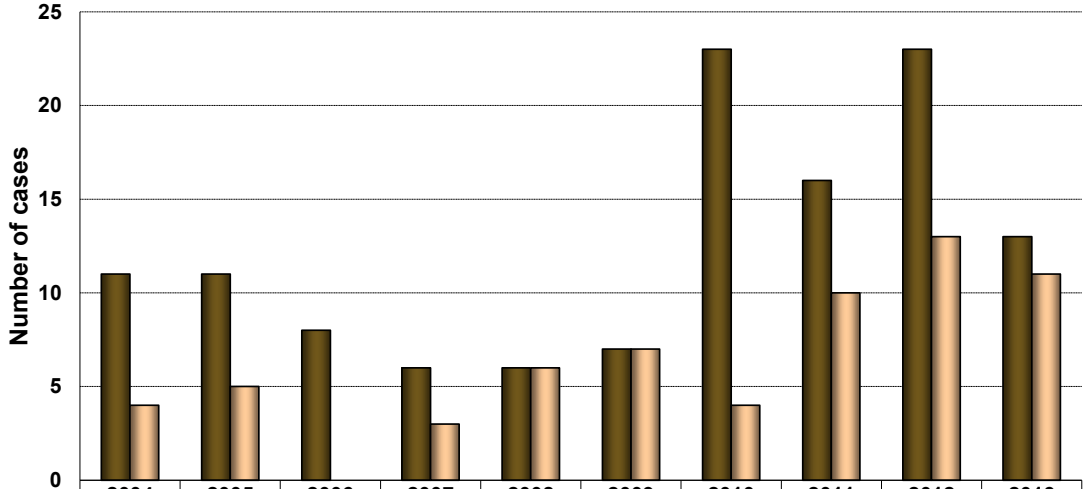
Fewer individuals were diagnosed with AIDS late in their disease progression

The average length of time between first being tested positive for HIV and being diagnosed with AIDS in 2013 was approximately 4.1 years (range 0 to 17 years). Under one-third of the AIDS cases (7 of 24 cases) in 2013 had their initial positive HIV test at the same time they were diagnosed with an AIDS defining illness, down from one-half in 2012.

Less than half of the 24 HIV cases whose infection progressed to AIDS in 2013 have died (10 deaths). (Figure 10)

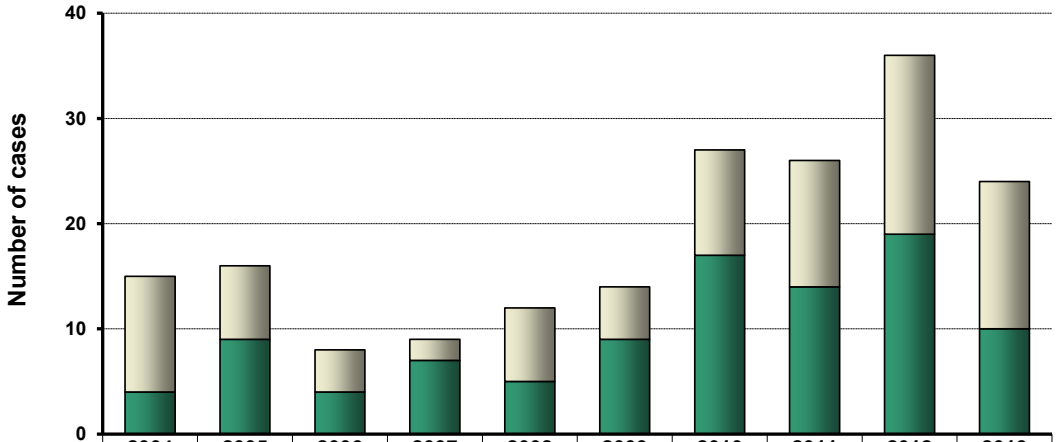
Fig 9

AIDS cases by year and gender
Saskatchewan, 2004-2013



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Males	11	11	8	6	6	7	23	16	23	13
Females	4	5		3	6	7	4	10	13	11

Fig 10 **Life status of AIDS cases by year of diagnosis Saskatchewan, 2004-2013**



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Alive	11	7	4	2	7	5	10	12	17	14
Dead	4	9	4	7	5	9	17	14	19	10

Year of AIDS diagnosis

Technical notes and data limitations

Health region proportions do not include Aboriginal people identified as living on First Nations reserves located within the boundaries of the regional health authorities. First Nations individuals known to be living on reserve at the time of HIV diagnosis are included in the "other health authorities" category.

Delays occur in the reporting of HIV and AIDS data, specifically for ethnicity and risk exposure categories, as well as for AIDS cases and death 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.

Data in this report is based on information extracted by the Ministry of Health from the EpiData database on October 27, 2014.

Ethnicity is self-reported. For purposes of this report, Aboriginal persons comprise Inuit, Métis, and First Nations. The non-Aboriginal classification includes Caucasian, Black, Latin-American, Asian, South Asian and other ethnicities.

Risk exposure information is self-reported, thus limiting the accuracy and completeness of the data. In this report HIV and AIDS cases are assigned to a single exposure category based on a nationally recognized 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

IDU – Injection Drug Use

MSM/IDU – Men reporting both injection drug use and having sex with men

Het-Exposure – Heterosexual exposure includes partnering with an individual at risk for HIV or partners who have no known risk for HIV

Endemic – Origin from an HIV endemic country

Perinatal – Born to an HIV positive mother

NIR – No identified risk, unknown risk and less likely sources of infection

Heterosexual exposure category in this report includes both those who report heterosexual contact with someone who is either HIV-infected or who is at increased risk for HIV infection. This category also includes those individuals where heterosexual contact is the only exposure activity reported.

Cases stating both MSM and IDU as their risk for acquiring HIV have been included in both the IDU and MSM risk exposure categories in the risk analysis.

The annual 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.

All Saskatchewan HIV rates cited in this report are reported as 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.