

HIV/AIDS
In
Saskatchewan

2006

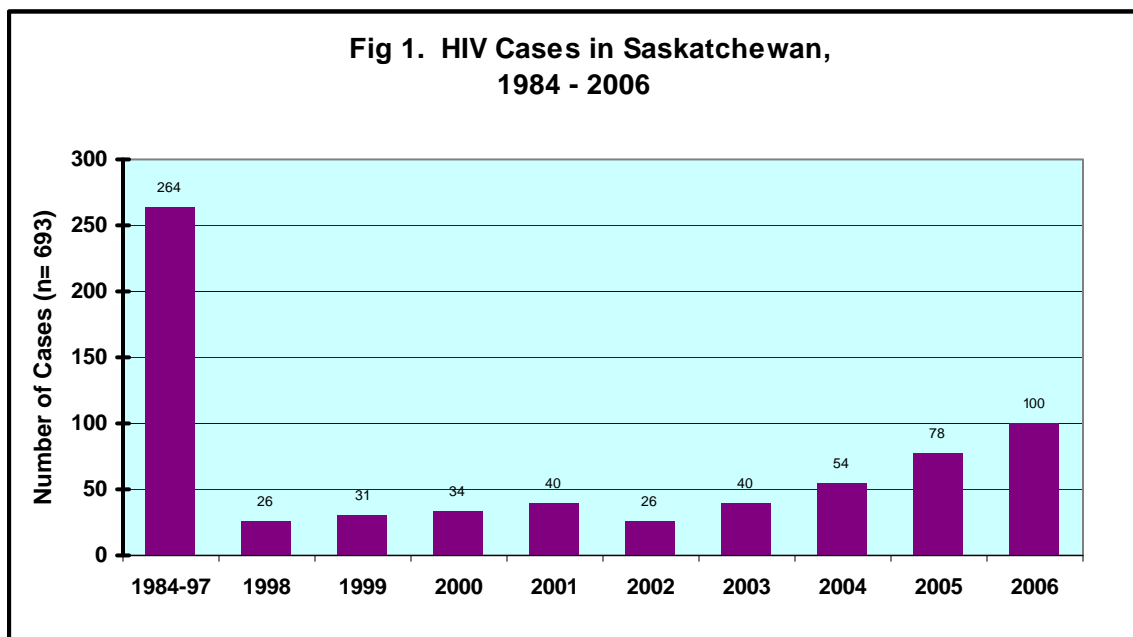
**Saskatchewan Health
Population Health Branch**

HIV/AIDS in Saskatchewan to December 31, 2006

This epidemiological report profiles HIV and AIDS in Saskatchewan from the commencement of documented surveillance activities in 1984 to the end of December, 2006.

HIV morbidity

One hundred (100) laboratory-confirmed HIV cases were reported during 2006 compared to 78 in 2005, 54 in 2004, and 40 in 2003. Because of the small number of reported cases of HIV, crude rates for HIV in Saskatchewan fluctuate widely from year to year and therefore are not displayed. However, in the past four years a rising trend has been observed (Fig 1).



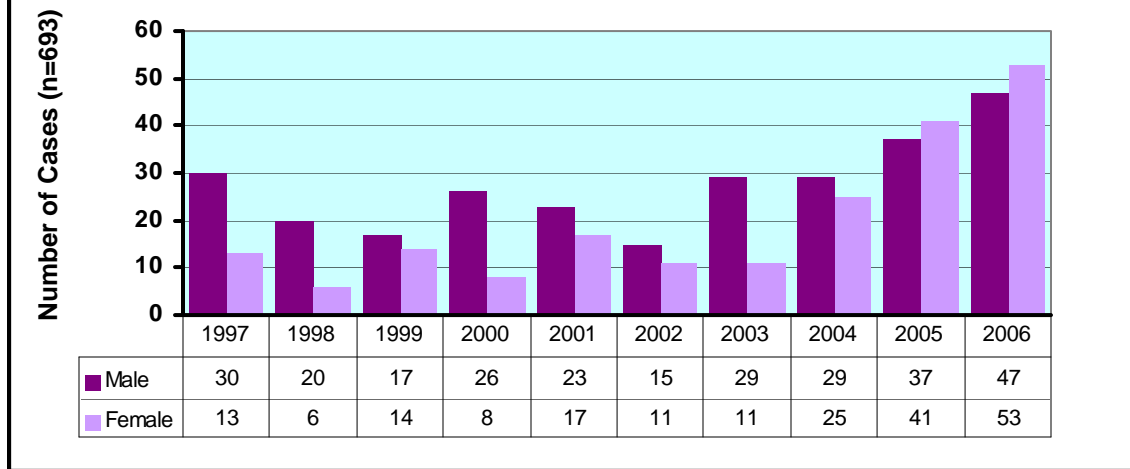
Close to one half of total HIV cases (50%) or 345 of 693 diagnosed since 1984 are evenly distributed between the two major urban centres of Saskatoon and Regina. Address is unknown in 10% of earlier cases prior to 1995. The increase in the case-finding efforts in harder-to-reach, high-risk populations in the two largest regional health authorities (RHAs), Regina Qu'Appelle and Saskatoon, contributed significantly to increase in 2006.

The year of diagnosis does not necessarily reflect the year a person became infected with HIV and it is not always possible to determine when a person became infected.

HIV Morbidity – age and gender

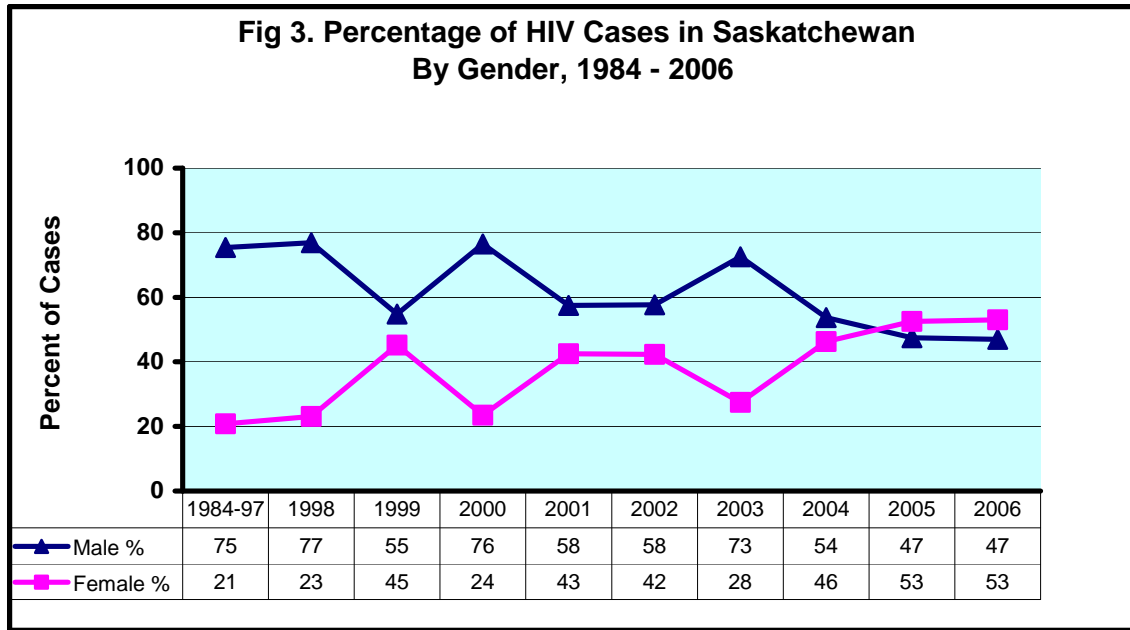
In 2006, 53 female and 47 male HIV cases were identified (Fig. 2). Between 1984-2006, 64% of cases (442) were male.

Fig 2. HIV Cases in Saskatchewan By Gender, 1997 - 2006



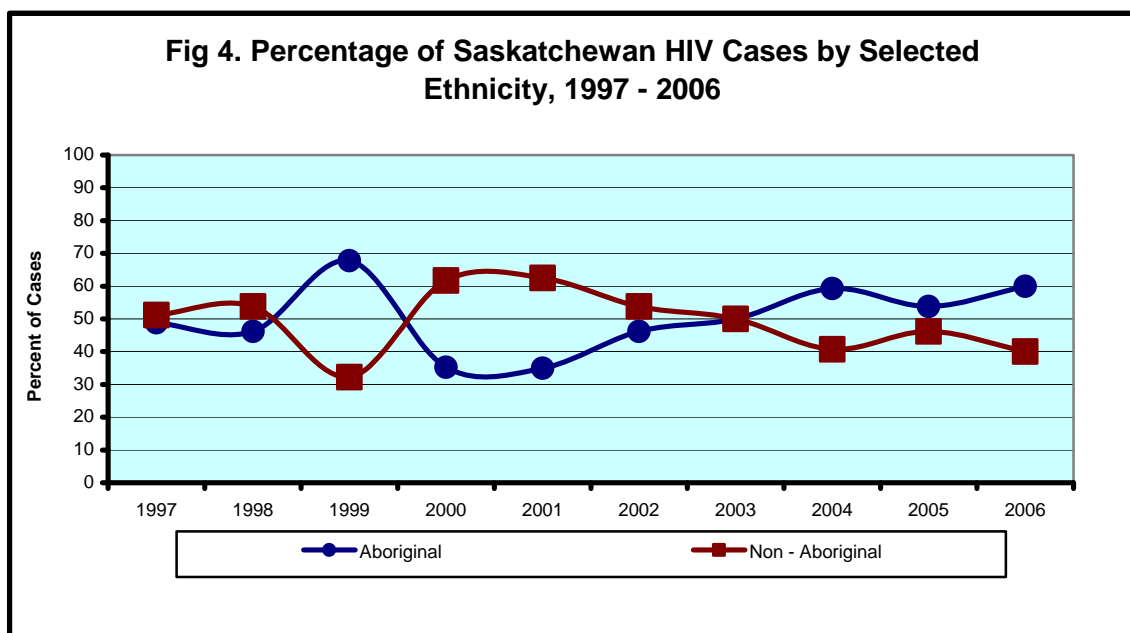
Since 1986, there has been an increasing, though fluctuating, proportion of females cases in the province. The reported female cases fluctuated during the period 1988 to 2003 between one and 17 cases per year. Fifty-seven percent (141) of the 246 female HIV cases reported since 1984 have been identified in the past five years. In 2004 the number of female cases began to increase, surpassing the number of male cases in 2005 and 2006. Two adolescent female cases, under the age of 15 years were reported in 2006. This could reflect female access in testing more readily than males.

Seventy-four percent (17 cases) of the all cases in woman aged 15 -19 years were identified between 2001-2006 inclusive and 57% (31) of all cases in women aged between 20 –24 years were identified in the same five-year period. A marked change in the male:female sex ratio has occurred from 13.0 males for every female in 1989 with the gap closing to 0.9 male for every female in 2006. This reflects the upward trend in number of female cases being identified beginning in 2004 to the present. (Fig. 3)



HIV morbidity – ethnicity profile

Ethnicity data is important as it further characterizes populations to support targeted program planning and resource allocation. The fluctuating trend in Aboriginal cases rose sharply in 2004 after a 3-year plateau between 2000 and 2002 followed by a slight increase in 2003. Sixty percent of HIV cases in 2006 were of Aboriginal ethnicity (60 of 100 cases). This proportion has decreased since 1999 decreases when 68% of cases were of Aboriginal origin. By comparison there was an average of 52% Aboriginal and 47% non-Aboriginal cases over the years 1997-2006 (< 1% unknown) (Fig. 4).



Sixty nine percent of females (37 cases) in 2006 were Aboriginal compared to 50% of males (23 cases). The Caucasian group comprised ten of the 40 non-Aboriginal cases in 2006 including one female. No male and two female cases were of Black ethnicity. An almost equal number of Black HIV positive men and women have been reported since 1988 (27 females, 23 males).

Seven of seventeen Aboriginal females diagnosed with HIV in 2006 were in the 15 to 24 year age group while 10 of 17 were between 25 and 44 years. The 15 Aboriginal male cases were slightly older in the 20 to 34 year (6/15) and 35 to 49 year age groups (9/15).

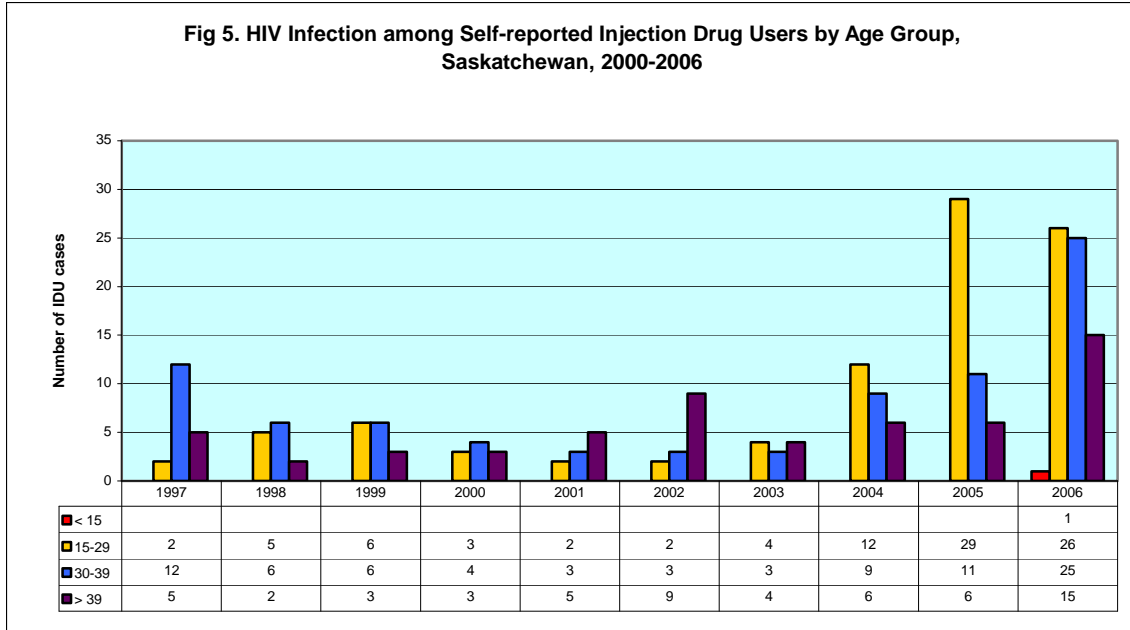
HIV morbidity – self reported risk exposure to infection

The categories of risk exposures in this report indicate the most likely reason for acquiring HIV infection. In the early years of HIV/AIDS notification, risk exposure was often not known or was not reported consistently. Risk exposure information is self-disclosed by the client.

The number of male cases whose primary risk exposure for HIV infection was engaging in sex with other men declined from 14 of 17 cases (82%) in 1991 to one of 26 cases (4%) in 2002. However, in 2003 the cases in this risk exposure category jumped to 12 out of 40 cases (30%). Increased testing in this population, resulting from a heightened awareness of those health risks, may account in part for the large number of identified cases in this population. This increase did not continue into 2006 when only four cases (9%) self-identified this risk.

Injection drug use (IDU) is one of the major risk exposures reported by HIV infected cases. The incidence of 67 cases with this risk in 2006 approaches a three-fold rise over the 27 cases in 2004. Seventy-five percent (75%) of the 67 cases self-disclosing injection drug use also self-identified as Aboriginal (Fig 5).

Fig 5. HIV Infection among Self-reported Injection Drug Users by Age Group, Saskatchewan, 2000-2006



Heterosexual exposure is acquired through sexual relations with a known HIV positive partner or with a partner from a country where HIV infection is endemic, or where the case has had heterosexual relations and has no other identifiable risk exposure for HIV. Trends in heterosexual exposure continue to fluctuate with an average of nine cases since 1999. The seventeen cases reported in 2006 are in keeping with this trend.

In 2006, one HIV case was identified as having ever lived or originated from a country where HIV and AIDS is endemic. This reflects the immigrant population from HIV endemic countries in the province and a greater comfort level with presenting for testing.

Increasingly, prenatal HIV testing is being offered to all pregnant women, not only to pregnant women with identified risks for exposure to HIV. Infants born to HIV infected mothers are tested postnatally on a scheduled basis to determine if perinatal transfer has taken place. A child whose test remains positive at 18 months is considered an HIV positive case. Two cases of perinatal transfer were reported among children born in 2006. Seven children born between 1987 and 1997 were infected at birth through perinatal transfer of the HIV virus. Five of these were born to women from endemic countries who did not declare or were unaware of their HIV positive status at the time of giving birth. Two infants were born of infected mothers in 2005 (Table 1).

None of the cases reported between 2000 and 2006 had a history of receiving a blood transfusion or blood product.

Table 1 - Saskatchewan HIV Cases by Risk Factor

1984 - 2006

Year	MSM	IDU	MSM/IDU	Het-Exposure	Blood/Products	Endemic	Perinatal	Other*	Total
1984-1997	101	49	23	35	9	13	7	27	264
1998	5	11	1	6		2		1	26
1999	3	16	1	8	1	2			31
2000	10	10		10		1		3	34
2001	10	10	2	8		7		3	40
2002	1	14		7		3		1	26
2003	12	9	3	14		2			40
2004	2	27	3	6		8		8	54
2005	6	44	1	5			2	20	78
2006	4	68		15				13	100
Cummulative Total	154	258	34	114	10	38	9	76	693

MSM = Men having sex with men

IDU = Injection Drug User

Het-Exposure = Heterosexual Exposure

Blood Products = Recipient of Blood/Blood Products

Endemic = Having lived in or from an Endemic Country

Perinatal = Born to an HIV positive mother

Other – includes no identified risk and occupational exposure

HIV mortality

Vital status is recorded for 693 of the individuals diagnosed with HIV since 1984. Two hundred nineteen (219) of 246 female cases (89%) and 343 of 442 males cases (76%), where vital status is known, are presumed to be living.

HIV - lab testing

Of the 385,453 specimens submitted to Provincial Laboratory since testing for HIV began in late 1984, 693 individuals resident in Saskatchewan (0.18%) have tested positive for the antibody. Between 24 and 54 individuals tested positive for the first time each year in the past ten years. In 2006, the positivity rate for the specimens tested was 0.23%.

Table 1 – Positive HIV Antibody Testing in Saskatchewan, 1984 – 2006

YEAR	# Individual Tested	Positive Individuals	% Positive Specimens
1984-92	34,128	126	0.37%
1993	13,390	17	0.13%
1994	17,814	26	0.15%
1995	16,100	28	0.17%
1996	17,883	24	0.13%
1997	29,664	43	0.14%
1998	22,015	26	0.12%
1999	20,827	31	0.15%
2000	21,954	34	0.15%
2001	25,067	40	0.16%
2002	26,341	26	0.10%
2003	30,137	40	0.13%
2004	36,778	54	0.15%
2005	40,500	78	0.13%
2006	42,955	100	0.23%
TOTAL	395,553	693	0.18%

The annual number of specimens tested has risen steadily from 3,319 in 1989 to 42,955 in 2006. This increase in testing reflects a growing awareness of the need for testing following potential exposure to HIV and the accessibility to testing facilities. Requirements for organ transplant screening and immigration applications also account in part for the increase in test requests.

HIV morbidity – highlights of the national profile

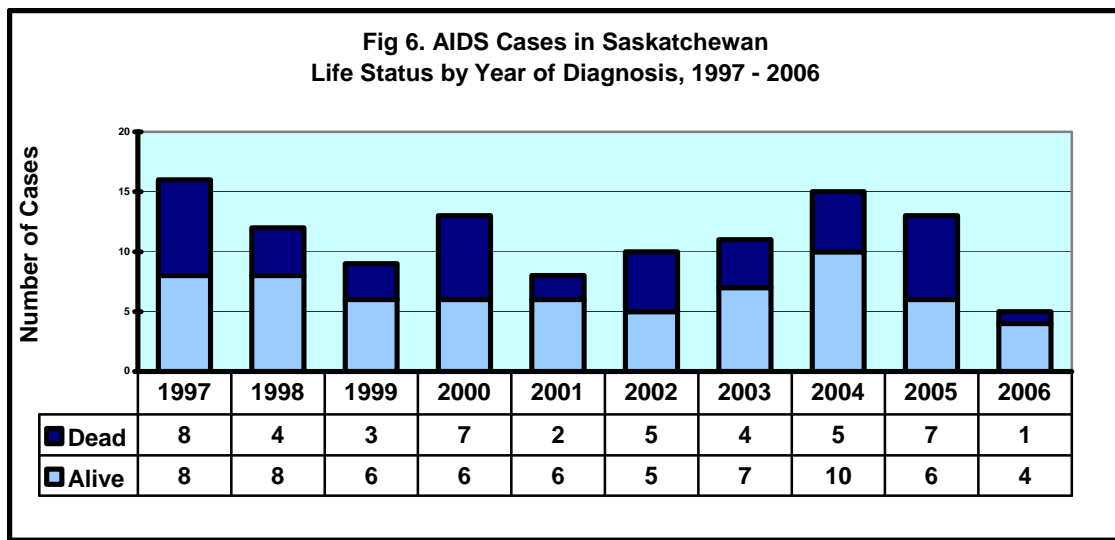
HIV infection is notifiable in all provinces and territories in Canada. The number of HIV positive individuals reported annually to the Public Health Agency of Canada has increased steadily. At the end of December, 2006, 62,561 reports had been received though a small proportion of these would be counted two or more times as the client moves among jurisdictions. Close to 577 of these (696) were under 15 years of age. Of the 2,558 positive HIV tests in 2006, 698 (27.3%) were women, which is a notable increase from the years prior to 1995, where they represented less than 10% of the cases. Up one-quarter, or 698 of 2,558 of the positive HIV test reports in 2006 were among women, which is a notable change from the years prior to 1995 where they represented less than 10% of cases. The largest rise in this proportion is seen among the 15-29 year age group where females represented 17% of reports in 1985-1999 and 33% in 2006. Unlike Saskatchewan where injection drug use accounts for 67% of total 2006 cases, 20% of total cases nationally self-disclosed injection drug use. Men having sex with men represented 45% of total cases nationally compared to 4% of total cases in Saskatchewan in 2006. [source: HIV and AIDS Surveillance Report to December 31, 2006, PHAC, Revised]

AIDS morbidity and mortality

Two hundred and thirty three (233) cases of AIDS comprising 193 males and 40 females have been reported since notifications were first received in 1984. The annual incidence pattern is erratic and does not necessarily reflect the year in which the client was infected but rather the year in which he/she first sought health care for their illness and was diagnosed with an AIDS defining illness. Five (5) new AIDS cases were identified in 2006. With an incubation period of 11 to 15 years, the epidemiological profile of AIDS best describes the pattern of HIV infection approximately one to one and a half decades prior to the trends displayed in the charts accompanying this report.

All but one case diagnosed in 2006 were forty years and older, a profile similar to cases diagnosed in previous years. Seventy percent (70%) of total AIDS cases are or were thirty years and older at time of diagnosis. It is expected this age profile will not change as the incubation period for AIDS is extended due to earlier identification and treatment.

Close to one-third of all AIDS cases reported since 1984 (33%, 81 cases) are presumed to be living. Half the cases (48%) diagnosed with an AIDS-defining illness in the ten years between 1997-2006 are alive (Fig 6). Half (51%, 51 cases) of the males diagnosed with AIDS in this ten-year period are presumed still alive. Two-thirds (68%, 17 cases) of the total 29 female AIDS cases diagnosed in the same ten year period are presumed to be living. This higher proportion of living females than males is in keeping with the increasing number of infected females and their progression to AIDS defining illnesses. Nine of the females diagnosed in the last six years are still living. (Fig 6).



Technical notes

Notification of HIV and AIDS cases to the local medical health officer and the Coordinator of Communicable Disease Control, Saskatchewan Health, is mandated by the Disease Control Regulations under the Public Health Act, 1984.

As a result of data cleaning some previously counted cases are removed from the database after being identified as either not meeting the case definition for HIV and AIDS or as being previously reported in Saskatchewan or in another jurisdiction where reporting of HIV is legislated. A small number of cases can be identified only by laboratory specimen number and may be synonymous with another case in the database. Ongoing maintenance of the database may result in records being assigned a different year of diagnosis or risk exposure category as updated information becomes available.

This report is based on the number of HIV and AIDS cases diagnosed by laboratory confirmation while resident in this province. Out-of-province residents testing positive for HIV in Saskatchewan are not counted in provincial statistics nor are residents who tested positive while living in a jurisdiction where HIV was reportable at the time. Several provincial jurisdictions did not require reporting of AIDS when Saskatchewan began surveillance for the syndrome. Some people living with AIDS in Saskatchewan were tested positive in jurisdictions where HIV was non-reportable and are counted among the AIDS cases in this report. Individuals from jurisdictions where HIV was not reportable are attributed to the year when re-testing took place in this province.

Year of HIV has been assigned to cases to the year in which they were first lab confirmed since the date of infection cannot be determined. An exception is infant cases born to infected mothers, assigned by the year of birth. Individuals tested by Citizenship and Immigration Canada as part of the immigration process are not included in this report.

Ethnicity is self-identified. For purposes of this report, Aboriginal persons comprise Inuit, Métis, and Native Indians (i.e. First Nations). The non-Aboriginal classification includes Caucasian, African-Canadian, Latin American, Asian, South Asian and Arabic ethnicity.

Risk exposure information is self-reported. Some individuals disclosed additional risk exposures, however these are deemed to be a less likely source of infection and are not displayed.

The annual data for HIV serology reflects the number of patients tested, with any repeat tests during that year removed. Some may be follow up tests on individuals tested in previous years.

PREPARED IN NOVEMBER 2008