

HIV/ AIDS
In
Saskatchewan

2004



Saskatchewan Health
Population Health Branch
Communicable Disease Control Unit

HIV/AIDS in Saskatchewan to December 31, 2004

This epidemiological report profiles HIV and AIDS in Saskatchewan from the commencement of documented surveillance activities in 1984 to the end of December, 2004.

AIDS morbidity and mortality

AIDS is a clinical syndrome involving a variety of opportunistic diseases that result when HIV infection progresses and the body's immune system deteriorates. Two hundred and eighteen (218) cases of AIDS comprising 181 males and 37 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. Fifteen (15) new AIDS cases were identified in 2004. 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. (Fig. 1)

Because of earlier and better treatment for patients with AIDS defining illness, the proportion of those living with AIDS and the length of life following diagnosis with AIDS is increasing. Close to one-third of all AIDS cases (33%, 73 cases) are presumed to be living. Half the cases (48%) diagnosed with an AIDS-defining illness in the ten years between 1995-2004 are alive. Half (51%, 47 cases) of the males diagnosed with AIDS in this ten year period are presumed still alive. (Fig. 2) Two-thirds (68%, 17 cases) of the total 25 female AIDS cases diagnosed in the same time period, are presumed still living. This higher proportion than males is in keeping with the trend toward more recent cases of AIDS among females. Fourteen of those females still living were diagnosed within the last six years.

All but two cases diagnosed in 2004 were thirty 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 as a result of earlier identification and treatment.

HIV - lab testing

Of the 312,098 specimens submitted to Provincial Laboratory since testing for HIV began in late 1984, 515 individuals resident in Saskatchewan (0.17%) 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 2004, the positivity rate for the specimens tested was 0.15%. (Table 1)

The annual number of specimens tested has risen steadily from 3,319 in 1989 to 36,778 in 2004. Two-thirds of the specimens in 2004 were from females. 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. Fewer prenatal patients or their physicians are "opting out" of prenatal screening for HIV. In

2004, close to 8,000 or over one-third of all tests on specimens from female patients, were for prenatal testing purposes.

HIV morbidity

Fifty-four (54) laboratory confirmed HIV cases were reported during 2004 compared to 34 in 2000, 40 in 2001, 26 in 2002 and 40 in 2003. (Fig. 3) Because of the small number of reported cases of HIV, crude rates for HIV in Saskatchewan fluctuate considerably from year to year, however, in the past two years a rising trend has been observed.

Over two-thirds of total HIV cases (71%) 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.

HIV mortality

Vital status is recorded for 431 of the 515 individuals diagnosed with HIV since 1984. One hundred eleven of 130 female cases (85%) and 215 of 301 males cases (71%), where vital status is given, are believed to be living. This reflects the greater proportion of female cases being diagnosed in recent years.

HIV morbidity – age and sex profile

In 2004, 25 female and 29 male HIV cases were identified. Individuals, both male and female, between 20 to 49 years comprise 85% of total cases reported to the province since 1984 where age and sex data are available. (Fig. 4) In 2004, 85% of cases (46 cases) fell in that age group. Of these, 54 % (25 cases) were male. Four adolescent female cases were reported in 2004 but no cases under 15 years were identified. Half (72) of the 147 female HIV cases reported since 1988 have been identified in the past five years. The reported female cases fluctuated during that period between 8 and 17 cases per year until 2004 when the number of female cases increased significantly. (Fig. 5) Almost half (7) of the 16 females cases in women aged 15-19 years were identified in the five years between 2000-2004. One-third (15) of the 43 women aged 20-24 years were identified in the same five year period. (Fig 6) The male:female sex ratio varies widely over the years between 13:1 in 1989 to 1.4:1 in 2002, 2.6:1 in 2003 and 1.2:1 in 2004 reflecting the sharp increase of new female cases in 2004 over the eleven female cases in 2003.

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. (Table 2) Fifty-nine percent of HIV cases in 2004 were of Aboriginal ethnicity (32 of 54 cases), the highest proportion since 1998 when 66% of cases were of Aboriginal origin. Comparable figures show an average of 44% of Aboriginal and 56% non-Aboriginal cases over the years, 1995-2003 (1% unknown). (Fig. 7) Sixty-eight percent of females (17 cases) in 2004 were Aboriginal compared to 52% of males (15 cases). The Caucasian group comprised 9 of the 33 non-aboriginal cases in 2004 including three females. Four male and four female cases were of black ethnicity. An equal number of black HIV positive men and women have been reported since 1988 (23 females, 23 males).

Seven of seventeen Aboriginal women diagnosed with HIV in 2004 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

Risk exposures 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. (Tables 3 & 4)

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 1 case (4%) in 2002. However, in 2003 the cases with this risk exposure category jumped to 15 (38%). 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 2004 when only five 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 30 cases with this risk in 2004 approaches a three-fold rise over the eleven cases in 2003. Three were males who also engaged in sex with other men. Twenty-six (26) of the 30 cases self-disclosing injection drug use also self-identified as Aboriginal.

Trends in heterosexual exposure continue to fluctuate with an average of nine cases since 1999. The ten cases reported in 2004 are in keeping with this trend. 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 only heterosexual relations and has no identifiable risk exposure for HIV. This risk exposure was self-reported as frequently among non-Aboriginal cases (4 cases) as Aboriginal (6 cases).

An additional eight HIV cases were identified as having been infected through heterosexual exposure in countries where HIV and AIDS is endemic or through heterosexual relations with someone from an endemic country. This is double the numbers of cases reported in previous years among those from endemic countries, normally ranging from zero to three cases per year. This reflects the increased size of 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. No cases of perinatal transfer were reported among children born in the past seven years. 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.

None of the cases reported between 2000 and 2004 had a history of receiving a blood transfusion or blood product.

HIV morbidity – highlights of the national profile

HIV infection is notifiable in all province 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, 2004, 57,674 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 700 of these (696) were under 15 years of age. Over one-quarter of the positive HIV test reports in 2004 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 13% of reports in 1985-1994 and 42% in 2004. Unlike Saskatchewan where injection drug use accounts for 55% of total 2004 cases, 18% of total cases nationally self-disclosed injection drug use. Men having sex with men represented 44% of total cases nationally compared to 9% of total cases in Saskatchewan in 2004. [source: HIV and AIDS Surveillance Report to December 31, 2004, PHAC, April, 2005]

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.

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

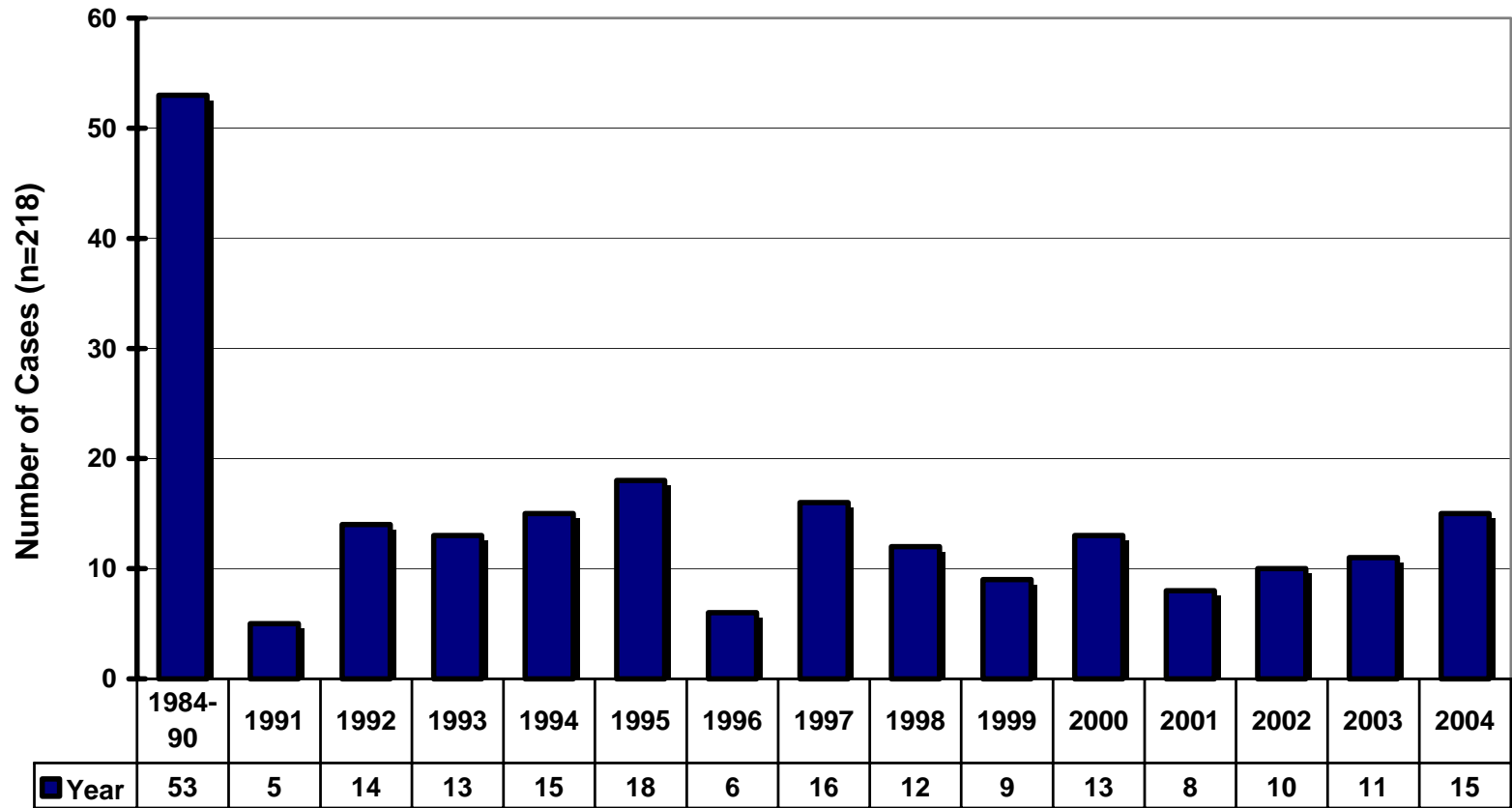
Risk exposure information is self-reported. Some individuals disclosed additional risk exposures, however these are deemed to be a less likely source of infection and are not displayed. Three cases in 2004 had no risk information available as yet.

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.

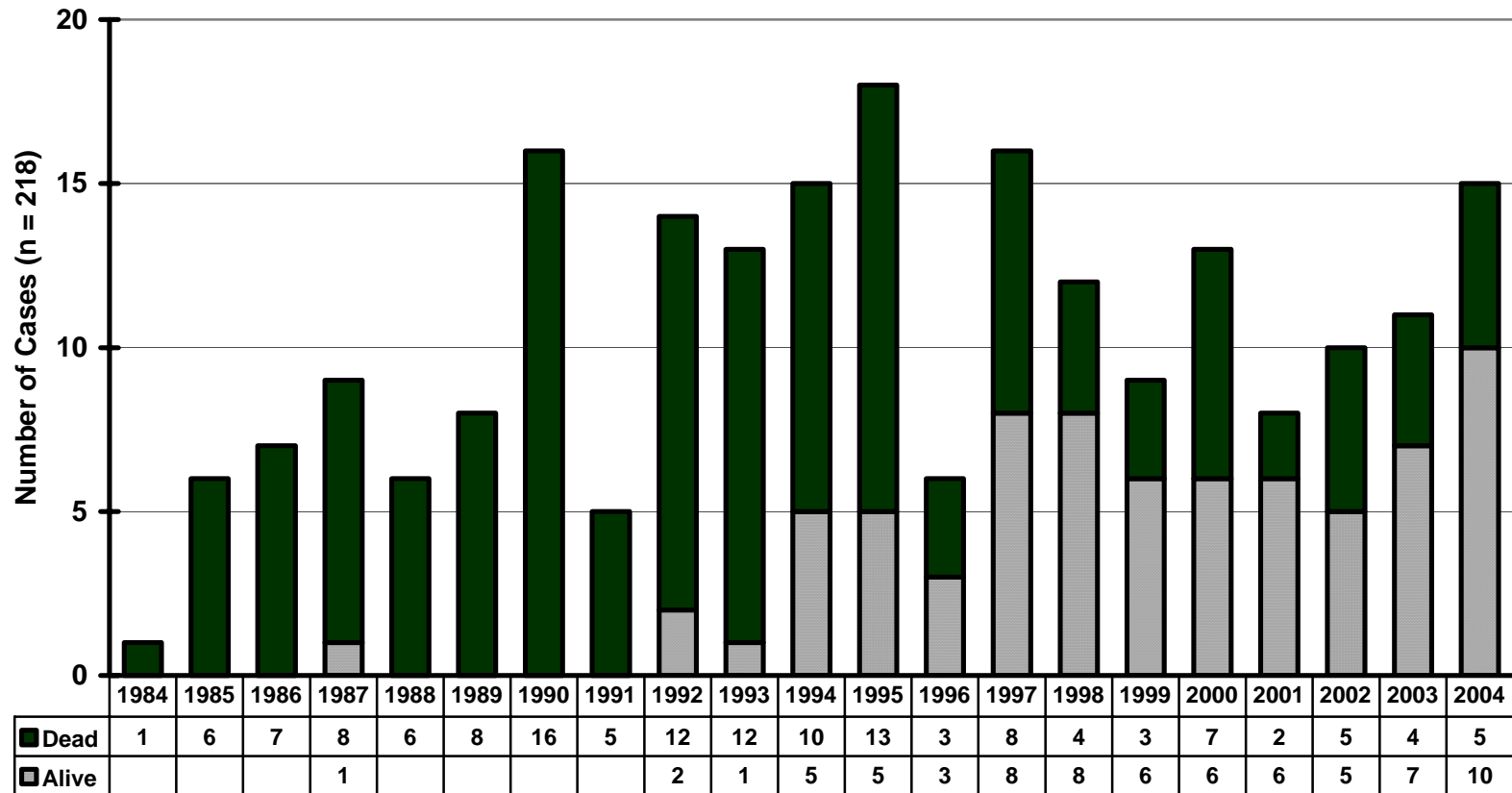
Acknowledgements

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**Fig 1. AIDS Cases in Saskatchewan,
1984 - 2004**



**Fig 2. AIDS Cases in Saskatchewan
Life Status by Year of Diagnosis, 1984 - 2004**

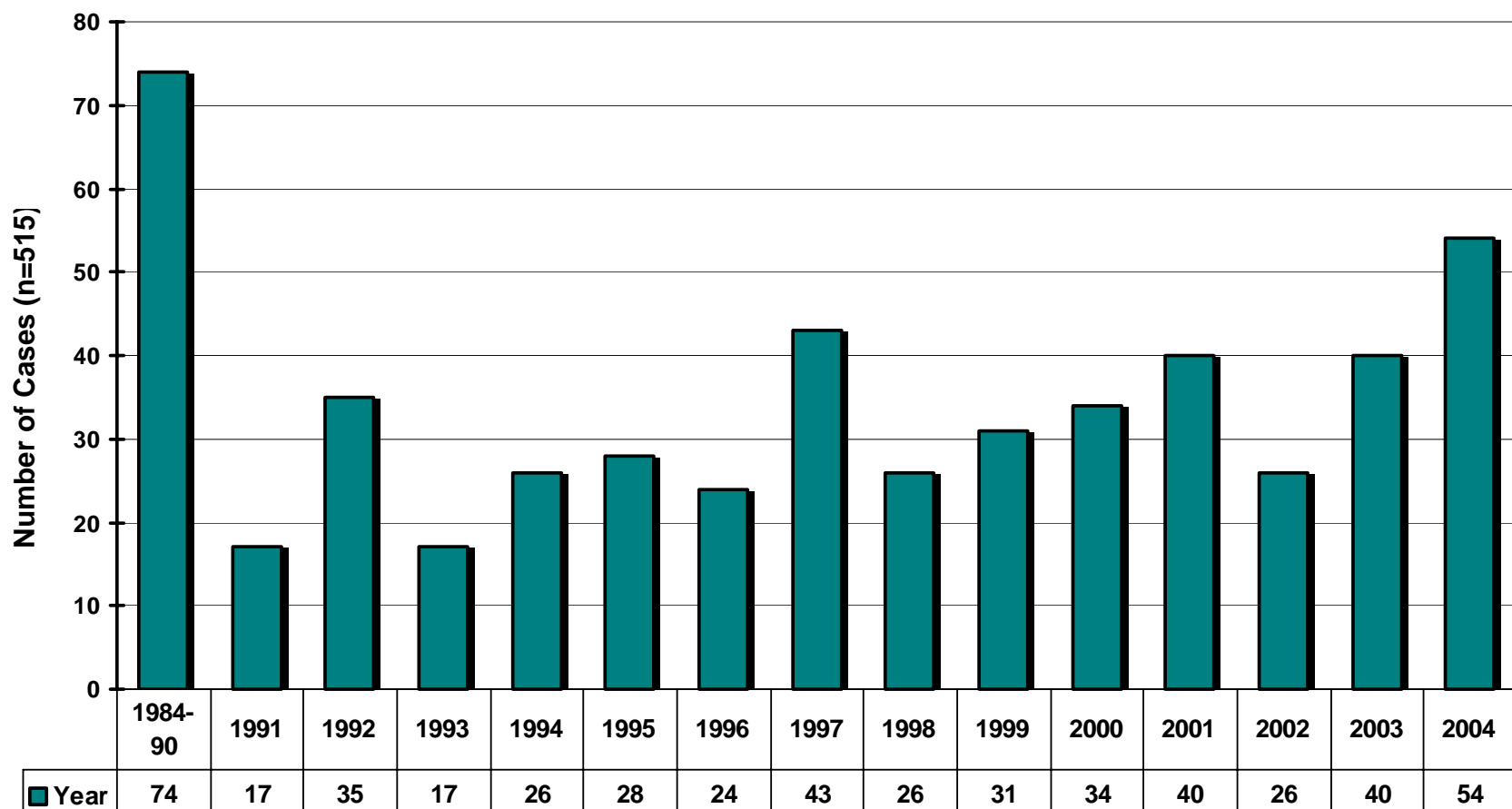


**Table 1 - Positive HIV Antibody Testing in Saskatchewan,
1984 - 2004**

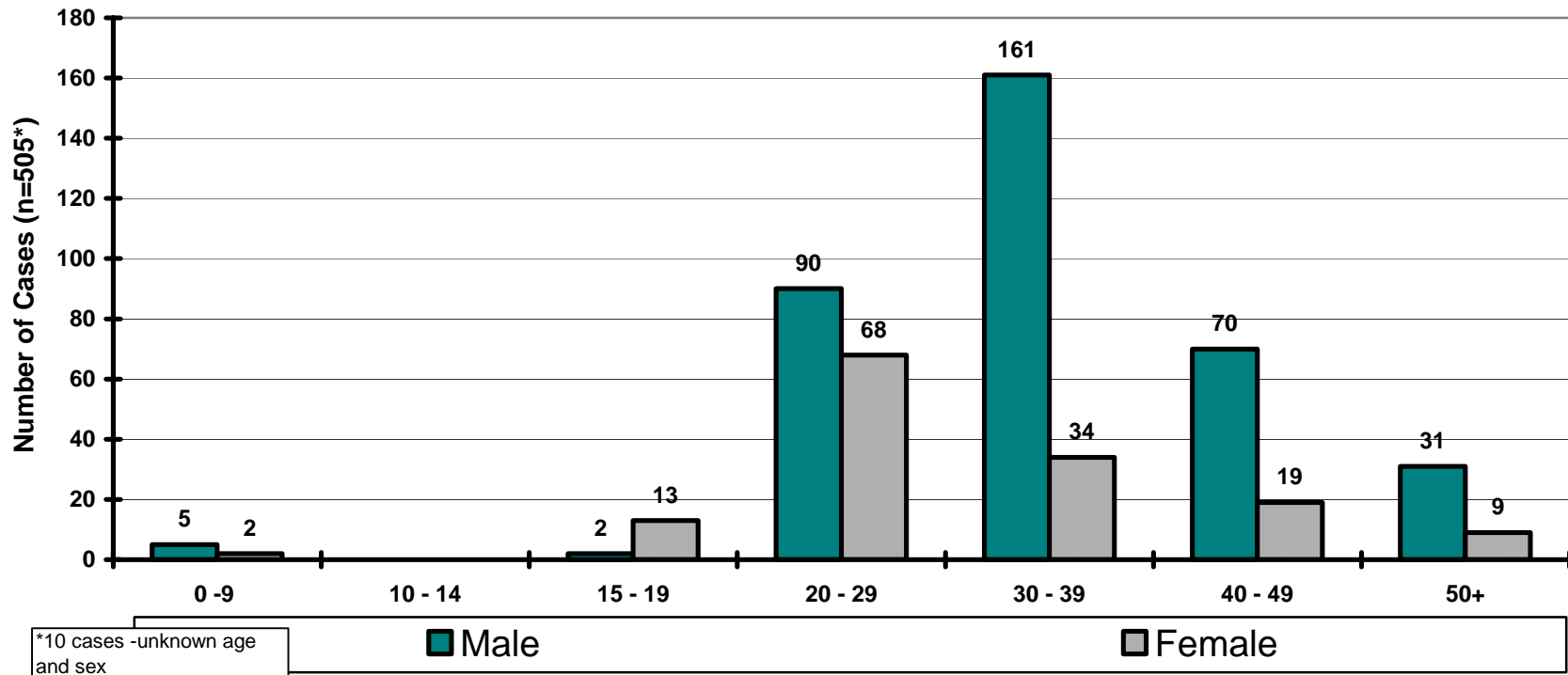
Year	# Individuals Tested	Positive Individuals	% Positive Specimens
1984 - 90	15,536	74	0.48%
1991	6,440	17	0.26%
1992	12,152	35	0.29%
1993	13,390	17	0.13%
1994	17,814	26	0.15%
1995	16,100	28	0.17%
1996	17,883	24	0.13%
1997	29,664	43	0.14%
1998	22,015	26	0.12%
1999	20,827	31	0.15%
2000	21,954	34	0.15%
2001	25,067	40	0.16%
2002	26,341	26	0.10%
2003	30,137	40	0.13%
2004	36,778	54	0.15%
TOTAL	312,098	515	0.17%

Adjustments have been made to eliminate repeat positive test results

**Fig 3. HIV Cases in Saskatchewan,
1984 - 2004**



**Fig 4. HIV Cases in Saskatchewan
Age Group by Sex, 1984 - 2004**



**Fig 5. HIV Cases in Saskatchewan
By Gender, 1984 - 2004**

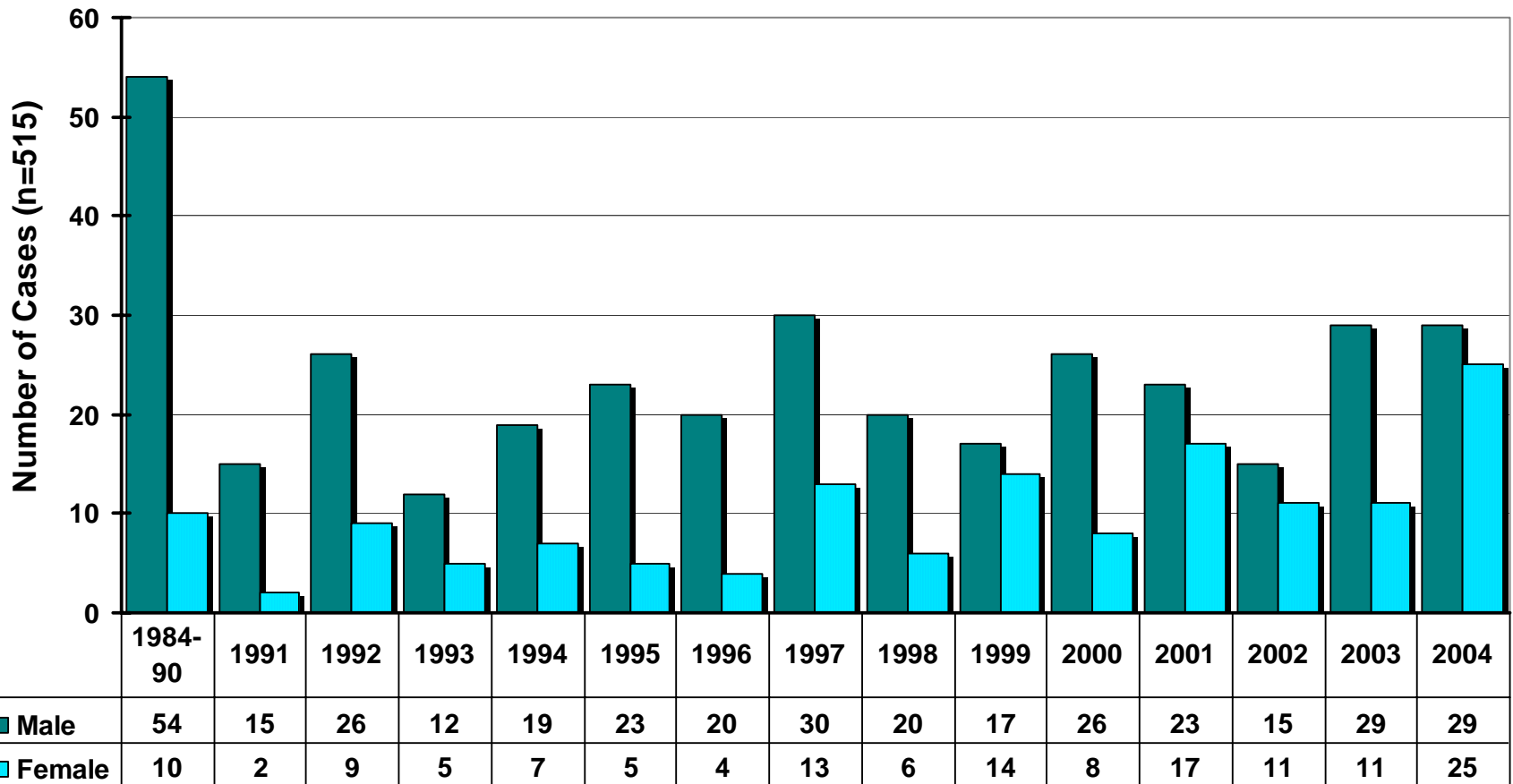
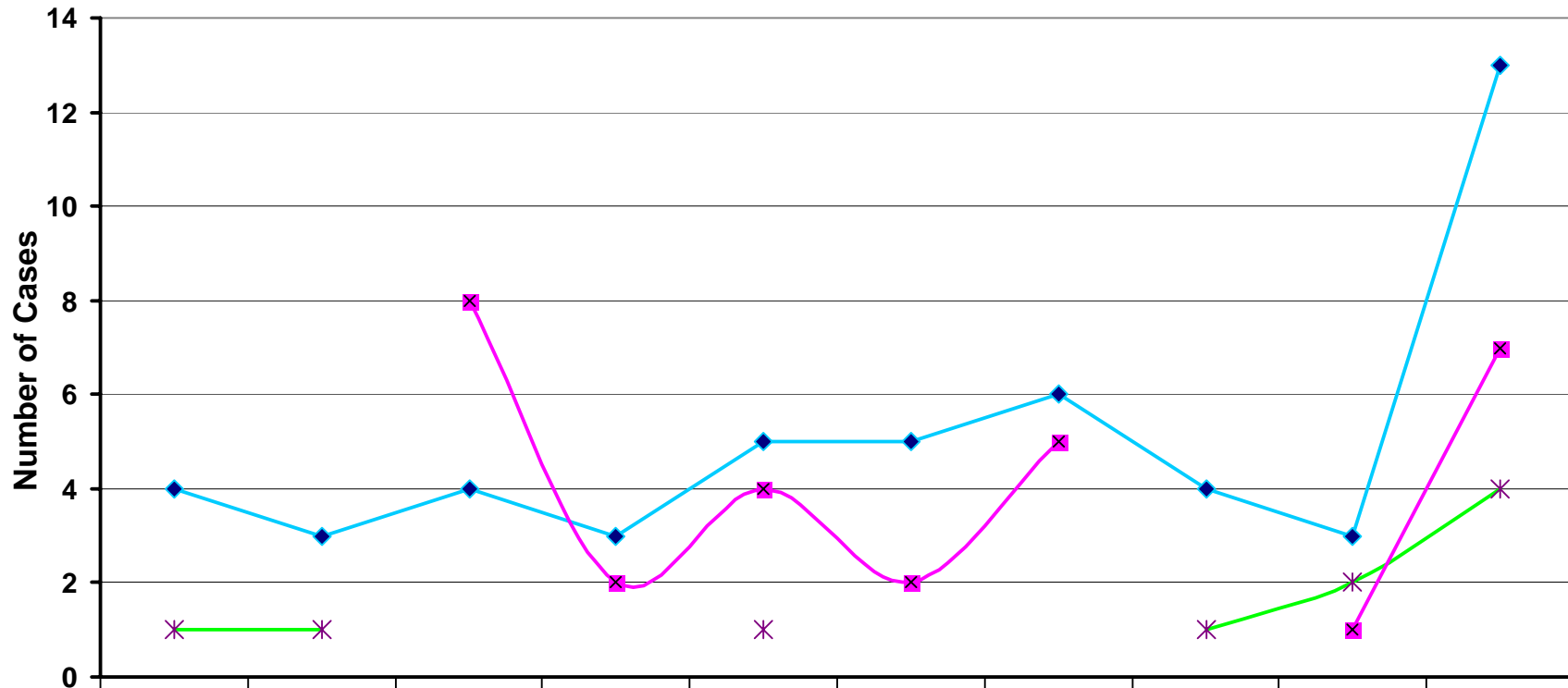


Fig 6. Saskatchewan Female HIV Cases by Selected Age Group, 1995 - 2004



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
✱ 15 - 19	1	1			1			1	2	4
◆ 20 - 29	4	3	4	3	5	5	6	4	3	13
✱ 30 - 39			8	2	4	2	5		1	7

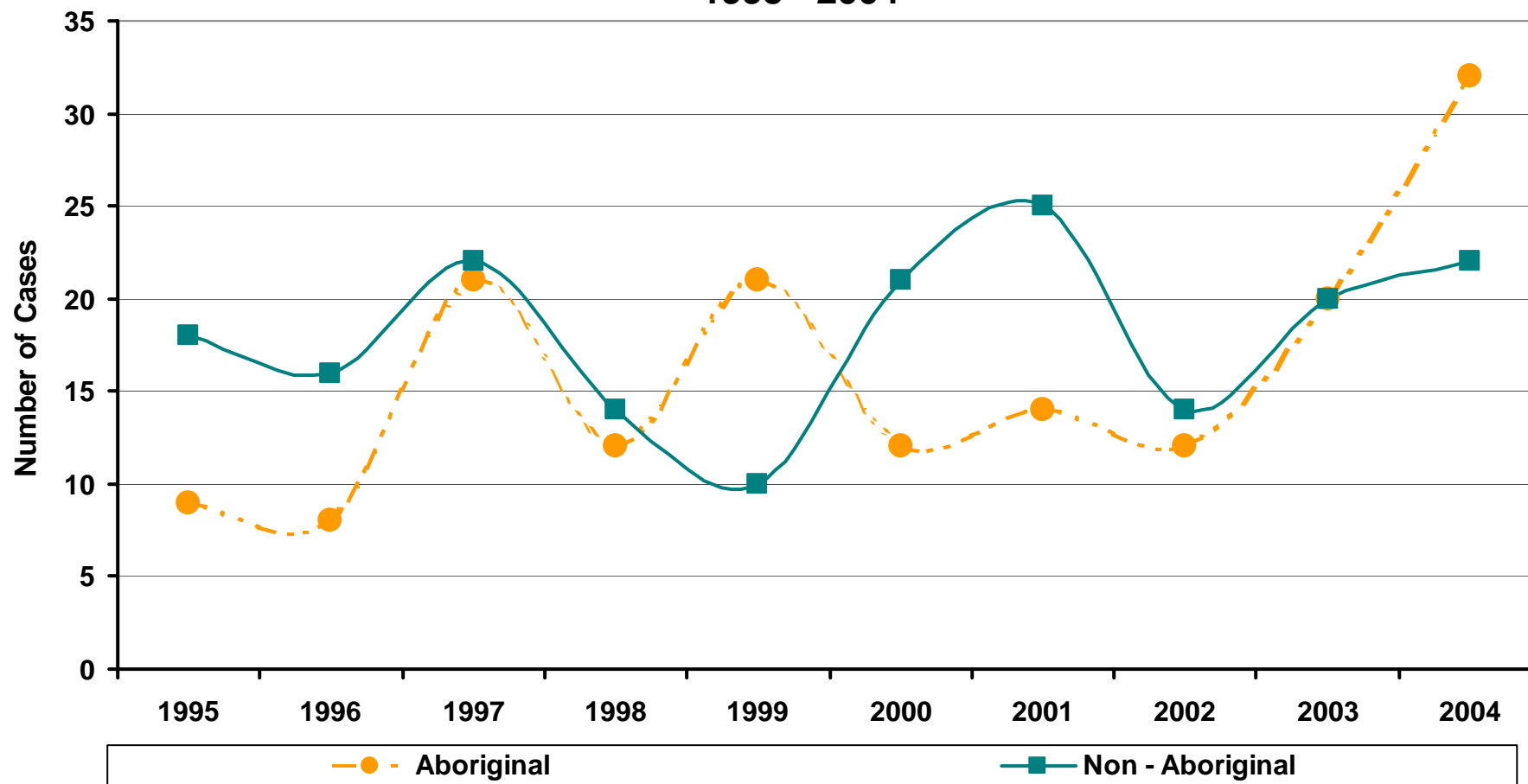
**Table 2 - Total Saskatchewan HIV Cases by Ethnicity
1984 - 2004**

	84-90	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Total
Aboriginal	9	3	5	5	1	9	8	21	12	21	12	14	12	20	32	184
Non - Aboriginal	44	10	19	11	21	18	16	22	14	10	21	25	14	20	22	287
Unspecified	21	4	11	1	4	1					1	1				44
Total	74	17	35	17	26	28	24	43	26	31	34	40	26	40	54	515

Aboriginal: (e.g., Metis, Inuit, Non-Registered and Registered Indian)

Non - Aboriginal : (e.g., Caucasian, African-Canadian, Latin American, Asian, South Asian, Arb/West Asian.)

**Fig 7. Saskatchewan HIV Cases by Selected Ethnicity,
1995 - 2004**



**Table 3 - Saskatchewan HIV Cases by Risk Factor
1984 - 2004**

Year	Men Who Have Sex With Men (MSM)	Injection Drug Use (IDU)	Both MSM & IDU	Heterosexual Exposure	Recipient of Blood/Products	Endemic	Perinatal Transfer	Other*	Total
1984-90	34	4	5	5	5	4	3	14	74
1991	13		1	2				1	17
1992	12	4	2	7	1	2		7	35
1993	4	6		3	2		1	1	17
1994	8	3	2	6		3	1	3	26
1995	11	8	5	2		1		1	28
1996	10	6	4	2		1	1		24
1997	9	18	4	8	1	2	1		43
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
Cummulative Total	144	146	33	94	10	38	7	43	515

*Other Includes: No Identified Risk, Occupational Exposure

**Table 4 - Saskatchewan HIV Cases as a Percentage by Risk Factor
1984 - 2004**

Year	Men Who Have Sex With Men (MSM)	Injection Drug Use (IDU)	Both MSM & IDU	Heterosexual Exposure	Recipient of Blood/Products	Endemic	Perinatal Transfer	Other*
	%	%	%	%	%	%	%	%
1984-90	46	5	7	7	7	5	4	19
1991	76		6	12				6
1992	34	11	6	20	3	6		20
1993	24	35		18	12		6	6
1994	31	12	8	23		12	4	12
1995	39	29	18	7		4		4
1996	42	25	17	8		4	4	
1997	21	42	9	19	2	5	2	
1998	19	42	4	23		8		4
1999	10	52	3	26	3	6		
2000	29	29		29		3		9
2001	25	25	5	20		18		8
2002	4	54		27		12		4
2003	30	23	8	35		5		
2004	4	50	6	11		15		
% of Cumulative Total Cases	28	28	6	18		7		8

*Other Includes: No Identified Risk, Occupational Exposure