HIV/ AIDS

In

Saskatchewan

2003

Saskatchewan Health
Population Health Branch
Communicable Disease Control Unit

HIV/AIDS in Saskatchewan to December 31, 2003

This epidemiological report profiles HIV and AIDS in Saskatchewan from the commencement of documented surveillance activities in 1984 to the end of December, 2003.

AIDS morbidity and mortality

Two hundred and three (203) cases of AIDS comprising 170 males and 33 females have been reported since notifications were first received in 1984 (Fig 1). 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. Eleven (11) new AIDS cases were identified in 2003. 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.

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 (Fig 2). Close to one-third (32%, 64 cases) of all AIDS cases are presumed to be living. Half the cases (51%) diagnosed with an AIDS-defining illness in the ten years between 1994-2003 are alive. Half (52%, 17 cases) of the total 33 female AIDS cases diagnosed over the years beginning in 1992, are presumed still living. Fourteen of those still living were diagnosed within the last six years. One-quarter (27%, 46 cases) of the 170 males diagnosed with AIDS are presumed still alive.

HIV - lab testing

Of the 245,183 specimens submitted to Provincial Laboratory since testing for HIV began in late 1984, 465 individuals resident in Saskatchewan (0.19%) have tested positive for the antibody (Table 1). Between 24 and 43 individuals test positive each year.

The annual number of specimens tested rose steadily from 3,319 in 1989 to 30,137 in 2003. Two-thirds of the specimens were from female patients. 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 for the increase in test requests. Fewer prenatal patients or their physicians are "opting out" of prenatal screening for HIV. In the latter half of 2003, over 7,000 prenatal tests for HIV were performed.

HIV morbidity

Forty (40) laboratory confirmed HIV cases were reported during 2003 (4.0/100000) compared to 34 in 2000 (3.5/100,000), 40 in 2001 (3.9/100000) and 26 in 2002 (2.5/100000) (Fig 3). Because of the small number of reported cases of HIV, crude rates for HIV in Saskatchewan fluctuate considerably from year to year.

Almost two-thirds of total cases (62%) 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 384 of the 465 individuals diagnosed with HIV since 1984. Ninety-one (85%) of 107 female cases and 196 (70%) of 277 males cases, where vital status is given, are believed to be living. This reflects the greater proportion of females cases being diagnosed in recent years. The vital status of 11 cases diagnosed prior to 1990 indicates they are still alive, however, this is uncertain.

HIV morbidity – age and sex profile
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 2003, 83% of cases (33 cases) fell in that age group. Of these, 78 % (26 cases) were male. Two adolescent female cases were reported in 2003 but no cases under 15 years were identified. Half (61) of the 122 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, providing an unclear pattern regarding an increase in the number of cases (Fig 5). In 2003, eleven female and twenty-nine male HIV cases were identified. The male:female sex ratio varies widely over the years between 13**:**1 in 1989 to 1.4:1 in 2002 and 2.6**:**1 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 slightly after a 3-year plateau between 2000 and 2002 (Fig. 6). Half the HIV cases in 2003 were of non-Aboriginal ethnicity (50%; 20 of 40 cases) (Table 2). This proportion is also found in each gender category. Comparable figures show an average of 44% of Aboriginal and 56% non-Aboriginal cases over the years, 1995-2002 (1% unknown). The Caucasian group comprised 17 of the 20 non-aboriginal cases in 2003 including three females.

Four of six Aboriginal women diagnosed with HIV in 2003 were in the 15 to 24 year age group. The majority of the 14 Aboriginal male cases were in the 20 to 34 year age group (4/14) and 35 to 49 year age group (10/14).

HIV morbidity – self reported risk exposure to infection
The risk exposures shown in Tables 3 and 4 depict trends for the most likely risk for acquiring HIV infection. In the early years of HIV/AIDS notification, risk exposure was often not known or was not reported consistently.

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%) (Fig 7). Twelve of these were men in the Caucasian ethnic group. This sharp rise is related in part to recidivism, a reluctance to continue using preventive measures during potentially high risk exposures. 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. The fluctuating number of cases among males engaging in sex with other men makes any prediction about future trends in this province difficult.

However, similar patterns of high risk activity among men engaging in sex with men, noted in other jurisdictions, have resulted in increased HIV cases.

Injection drug use (IDU) is one of the major risk exposures reported by HIV infected cases. The incidence of 12 cases with this risk in 2003 is a slight drop from the 14 cases in 2002, but comparable to the 12 cases in 2001 and 10 cases in 2000 and less than the 17 cases in 1999 (Fig 7). All twelve cases self-disclosing injection drug use also self-identified as Aboriginal. Three were males who also engaged in sex with other men.

Trends in heterosexual exposure continue to fluctuate with an average of eight cases since 1997. In 2003 a sharp rise to 14 cases compares to seven cases identified in 2002, eight cases in 2001 and ten cases in 2000 (Fig 7). 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 (6 cases) as Aboriginal (8 cases).

Two 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 comparable to the numbers of cases among those from endemic countries in previous years, normally ranging from zero to three cases per year.

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 six 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 2003 had a history of receiving a blood transfusion or blood product.

HIV morbidity – national profile

At the end of 2002, an estimated 56 000 (46 000-66 000) people in Canada were living with HIV infection (including AIDS), which represents an increase of about 12% from the point estimate of 49,800 at the end of 1999. In terms of exposure category, these prevalent infections in 2002 comprised 32 500 MSM (58% of total), 11 000 IDU (20% of total), 10 000 heterosexuals (18% of total), 2200 MSM-IDU (4% of total), and 300 attributed to other exposures (< 1% of total) The largest absolute increase was in the MSM exposure category, which had 2900 more prevalent infections than in 1999 (10% relative increase). There were an estimated 2000 more prevalent infections in the heterosexual exposure category (25% increase) and 1300 more among IDU (13% increase). Canadian HIV statistical reports may be viewed on-line at http://www.hc-sc.gc.ca/pphb-dgspsp/hast-vsmt/public_e.html

Technical notes

Extensive data cleaning was performed on the database over the summer of 2002 at which time epidemiological information on HIV and AIDS cases notified prior to 1994 were added to the existing electronic database. Duplicate records were removed and case information was validated. As a result, over 40 previously counted cases were 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.

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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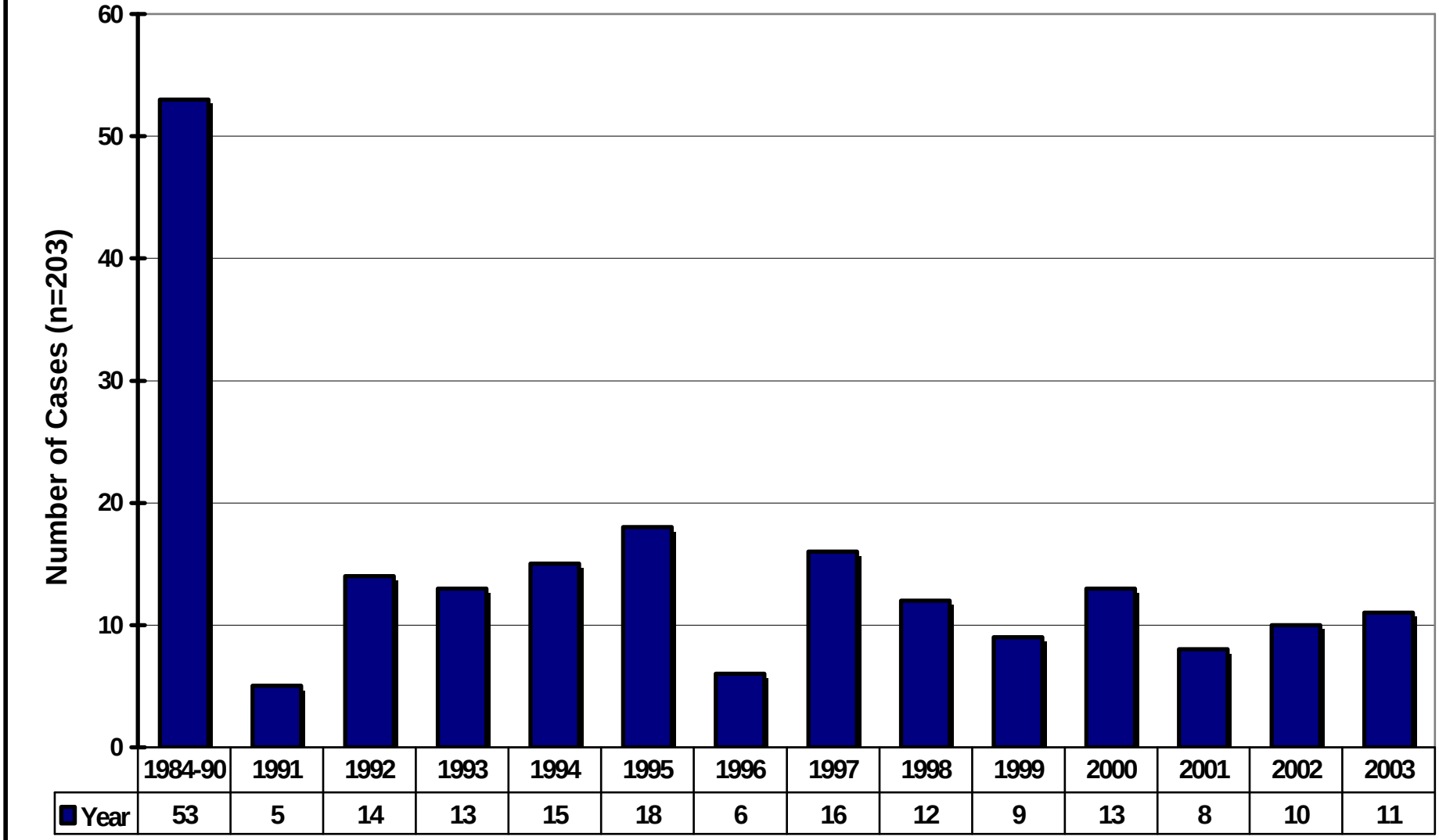
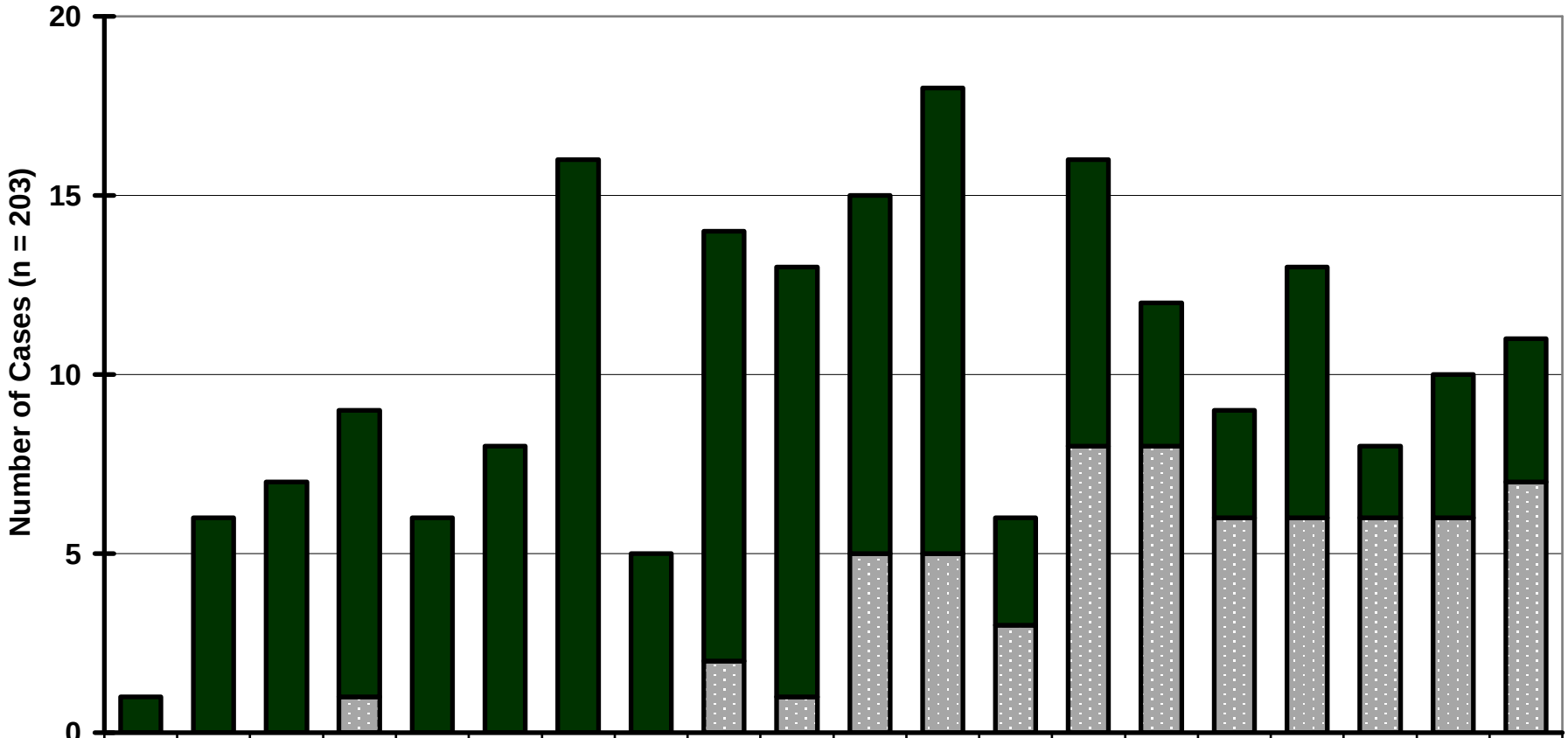
Fig 1. AIDS Cases in Saskatchewan, 1984 - 2003



	1984-90	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Year	53	5	14	13	15	18	6	16	12	9	13	8	10	11

Fig 2. AIDS Cases in Saskatchewan
Life Status by Year of Diagnosis, 1984 - 2003



	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Dead	1	6	7	8	6	8	16	5	12	12	10	13	3	8	4	3	7	2	4	4
Alive				1					2	1	5	5	3	8	8	6	6	6	6	7

Table 1 - Positive HIV Antibody Testing in Saskatchewan, 1984 - 2003

Year	# Individuals Tested	Positive Individuals	% Positive Specimens
1984 - 90	15,536	78	0.50%
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%
TOTAL	**245,183**	**465**	**0.19%**

***Adjustments have been made to eliminate repeat positive test results**

Prepared: October, 2004
Source: Provincial Laboratory, Laboratory Services Branch, Saskatchewan Health

Fig 3. HIV Cases in Saskatchewan, 1984 - 2003

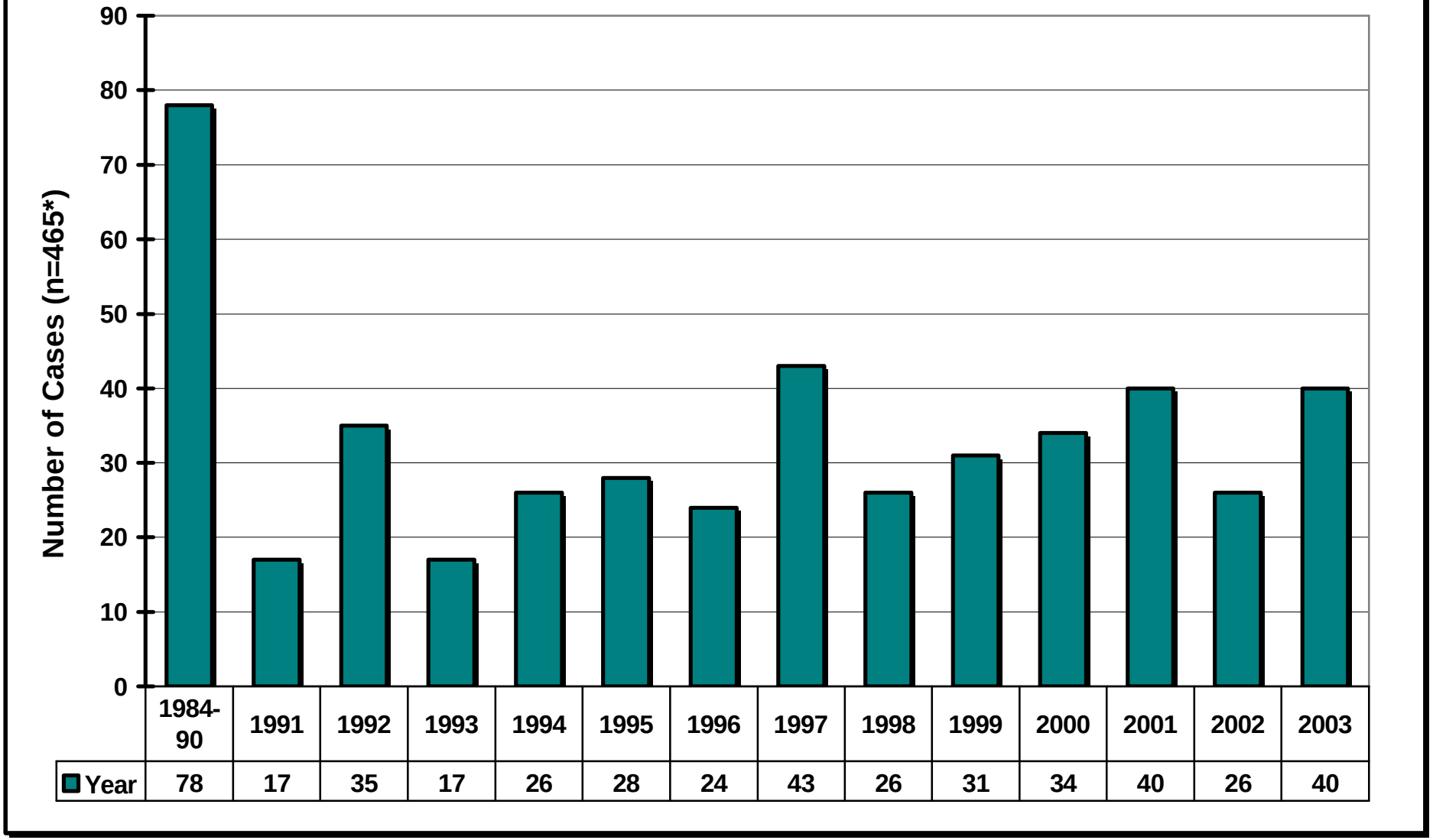


Fig 4. HIV Cases in Saskatchewan
Age Group by Sex, 1984 - 2003

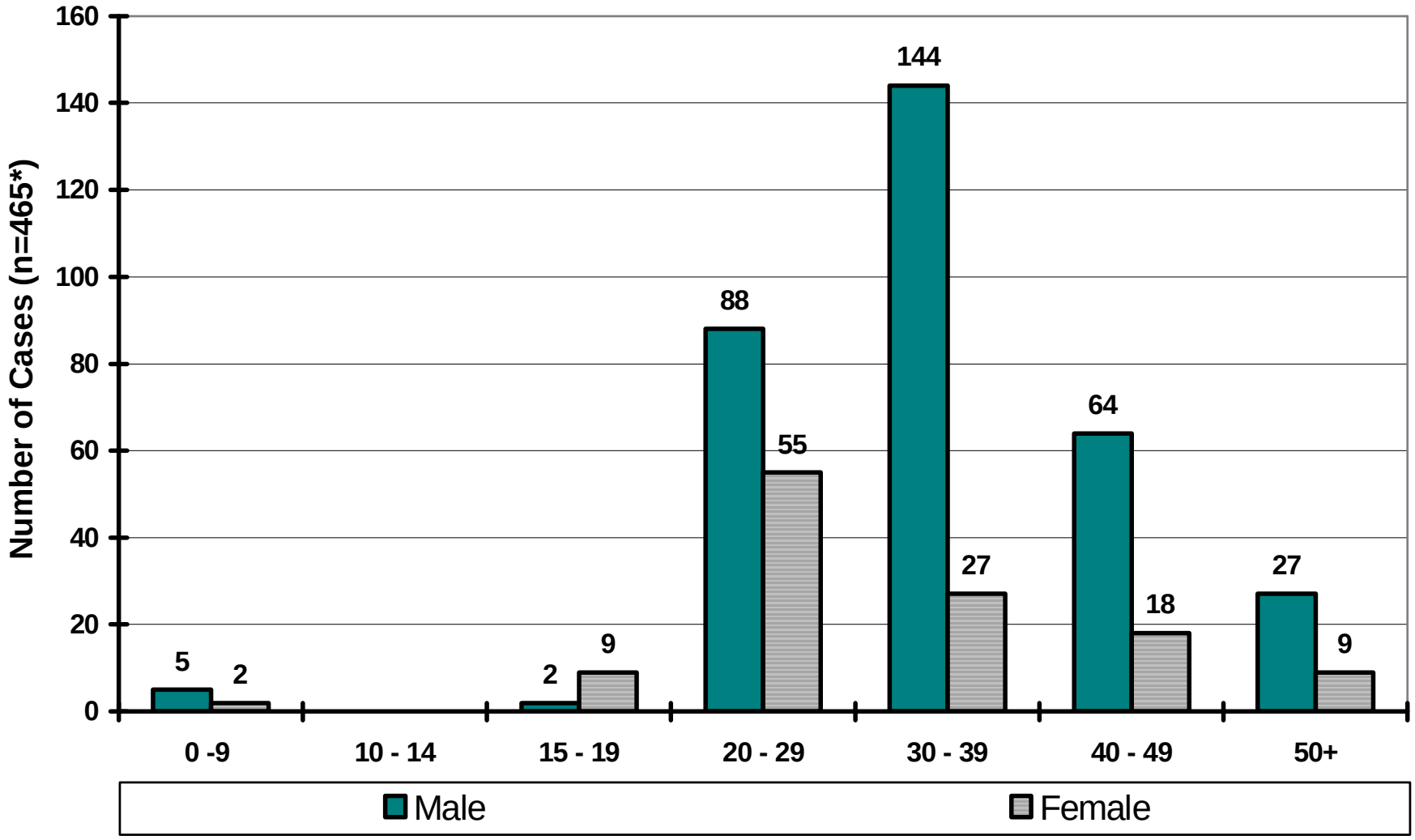
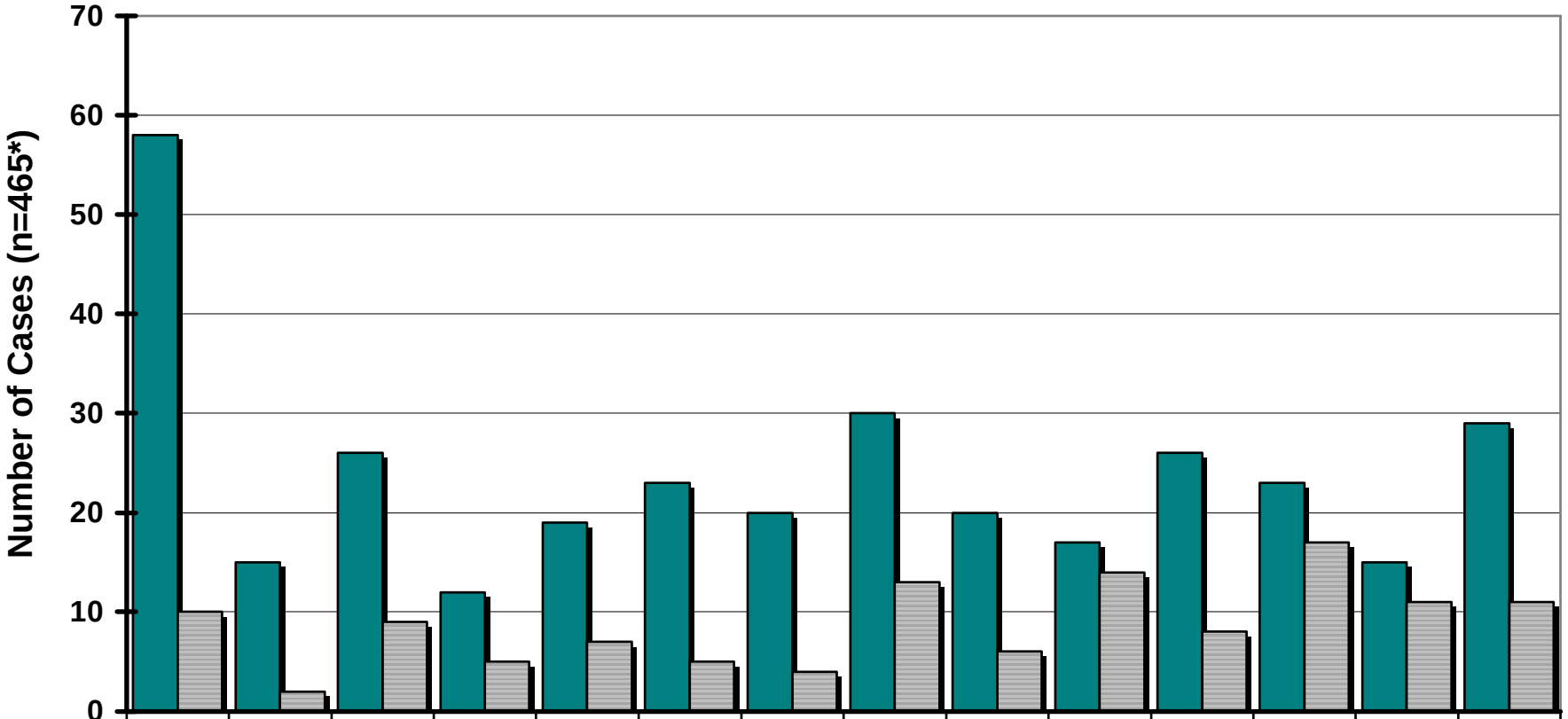


Fig 5. HIV Cases in Saskatchewan By Gender, 1984 - 2003



	1984-90	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Male	58	15	26	12	19	23	20	30	20	17	26	23	15	29
Female	10	2	9	5	7	5	4	13	6	14	8	17	11	11

Table 2 - Total Saskatchewan HIV Cases by Ethnicity
1984 - 2003

	84-90	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total
Aboriginal	9	3	5	5	1	9	8	21	12	21	12	14	12	20	152
Non - Aboriginal	44	10	19	11	21	18	16	22	14	10	21	25	14	20	265
Unspecified	25	4	11	1	4	1					1	1			48
Total	**78**	**17**	**35**	**17**	**26**	**28**	**24**	**43**	**26**	**31**	**34**	**40**	**26**	**40**	**465**

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 6. Saskatchewan HIV Cases by Selected Ethnicity, 1991 - 2003

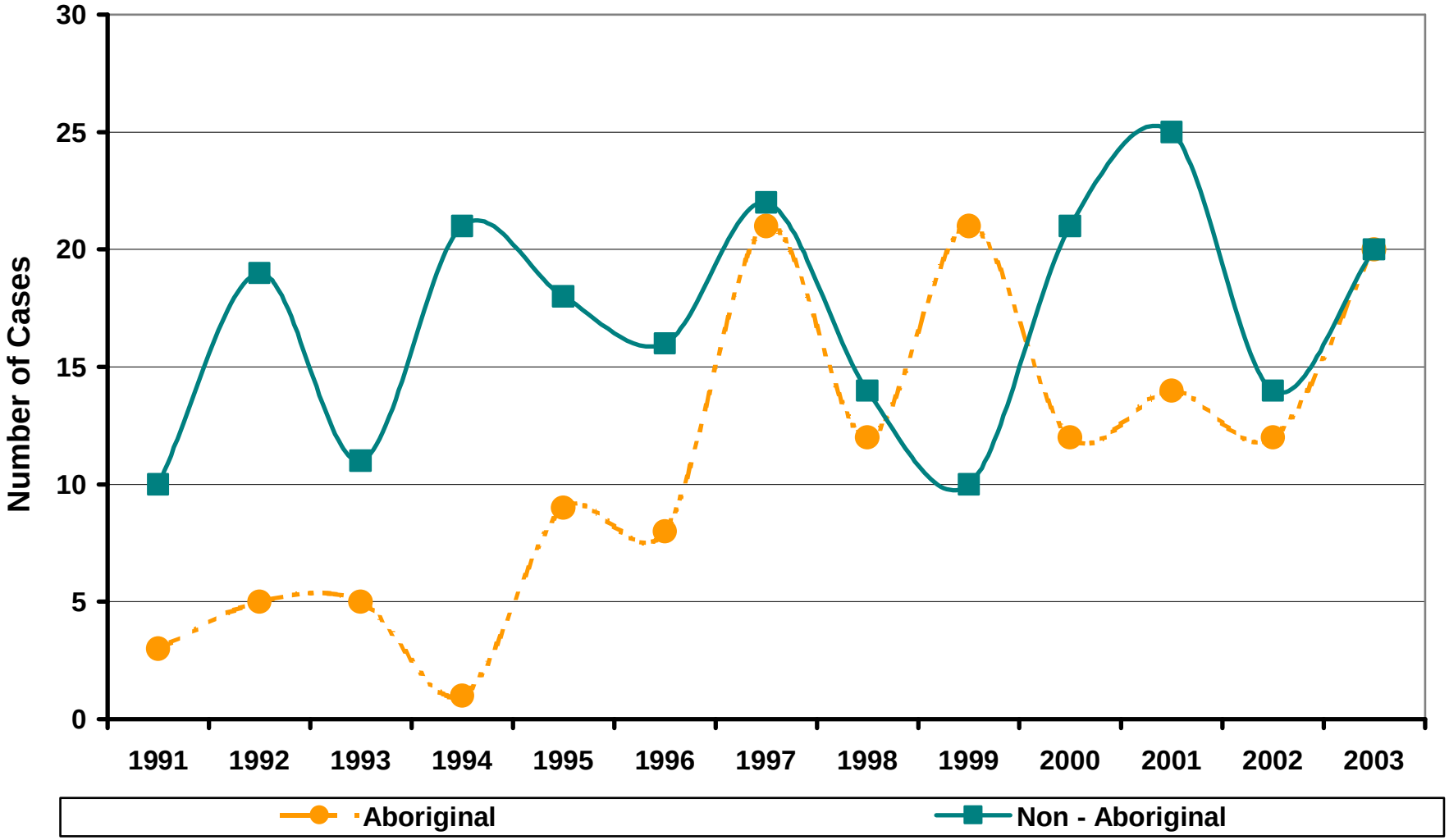


Table 3 - Saskatchewan HIV Cases by Risk Factor
1984 - 2003

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	37	4	5	5	6	4	3	14	78
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
Cummulative Total	**145**	**119**	**30**	**88**	**11**	**30**	**7**	**35**	**465**

***Other Includes**: No Identified Risk, Occupational Exposure

Table 4 - Saskatchewan HIV Cases as a Percentage by Risk Factor 1984 - 2003

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	47	5	6	6	8	5	4	18
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		
% of Cummulative Total	**31**	**26**	**6**	**19**	**2**	**6**	**2**	**8**

***Other Includes**: No Identified Risk, Occupational Exposure

Fig 7. Saskatchewan HIV Cases by Selected Risk Exposures 1984 - 2003