

HIV/AIDS in Saskatchewan to December 31, 2001

This epidemiological report describes the profile of HIV and AIDS in Saskatchewan from the commencement of documented surveillance activities in 1984 to the end of December, 2001. 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. Several records were assigned a different year of diagnosis or risk exposure category as updated information became 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 is not reportable are attributed to the year when re-testing takes place in this province.

AIDS morbidity and mortality

One hundred eighty (180) cases of AIDS comprising 152 males and 28 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. 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). Over half (57%, 16 cases) of the 28 female cases are presumed still living. Fourteen (50%) of those living were diagnosed within the past five years. One-quarter (24%, 36 cases) of the 152 males diagnosed with AIDS is presumed still living. Overall, 29% (52) of AIDS cases are still living. Thirty-four (65%) of the living cases were diagnosed between 1997-2001.

HIV morbidity

Of the 218,842 specimens submitted to Provincial Laboratory since testing for HIV began in late 1984, 394 individuals (0.18%) have tested positive for the antibody (Table 1). A small number of cases can be identified only by specimen number. Though the

annual number of tests has risen from 3,319 in 1989 to 25,000 in 2001, the positivity rate, that is the number of positive specimens per 100 tests done, has fluctuated slightly in the past nine years – between 0.14% and 0.17%. There were 40 laboratory confirmed HIV cases reported during 2001 (3.9/100,000) compared to 35 in 2000 (3.4/100,000). The incidence of laboratory-confirmed HIV cases fluctuated between 16 and 43 cases since 1997 (Fig 3). A slight upward trend in positive HIV tests is evident in the past three years with an increase of 5 new cases per year (Table 1). Because of the small number of reported cases of HIV, crude rates for HIV in Saskatchewan can fluctuate considerably from year to year.

Individuals between 20 to 49 years comprise 86% of total cases reported to the province for which age and sex data are available (Fig 4). Of these, 64% are male (Fig 5). There is no clear pattern indicating an increase in female cases in Saskatchewan and cases fluctuated between 6 and 17 cases in the five years, 1997-2001. In 2001, there were seventeen female cases, the highest annual incidence to date. Twenty-three male cases were reported in 2001. The male:female sex ratio varies widely over the years between 8:1 and 1.3:1.

Ethnicity data is important as it further characterizes populations to support targeted program planning and resource allocation. Ethnicity data, based on self-identification, is known for all but one HIV positive case in 2001. Roughly one-third of HIV cases in 2001 were of Aboriginal ethnicity (35%; 14 of 40 cases) while non-Aboriginal cases comprised 63% (25 of 40 cases) (Fig. 6, Table 2). This compares to an average of 46% of Aboriginal cases and 54% non-Aboriginal over the previous five years, 1996-2000. For purposes of this report, Aboriginal persons comprise Inuit, Metis, and Native Indians (i.e. First Nations). The non-Aboriginal classification comprises Caucasian, African-Canadian, Latin American, Asian, South Asian and Arabic ethnicity.

The self-reported risk exposures shown in Figures 7 and 8 and Tables 3 and 4 depict trends for the most likely risk for acquiring HIV infection. Some individuals disclosed additional risk exposures, however these are deemed to be a less likely source of infection and are not displayed. In the early years of HIV/AIDS notification, risk exposure was often not known or was not reported consistently. Four HIV positive individuals diagnosed in 2001 have yet to disclose a risk exposure

Injection drug use (IDU) is one of the major risk exposures reported by HIV infected cases. From 1984 to 2001, 112 of 394 (28 %) persons newly identified as HIV positive reported use of injection drugs, including those men who also are exposed through having sex with men. (Table 3). In 2001, an incidence of 12 cases self-disclosing IDU (30%) is a decrease from 17 cases in 1999 (56%) and up only slightly from 10 cases in 2000 (29%). Those cases self-reporting both injection drug use and Aboriginal ethnicity comprised 20% of total HIV cases and two-thirds of the twelve cases reporting that risk exposure. The proportion of cases self-reporting injection drug use dropped 15 percentage points to 30% in 2001 from an average of 45% of cases between 1996-2000 (Table 4). This decline, also seen in 2000, is consistent with the national trend but because of the small number of cases in Saskatchewan, this may be random fluctuation and not evidence of a trend.

There was a minimal increase in the number of men stating they had sex with men (MSM) from nine cases in 2000 (26 % of total cases) to eleven cases in 2001 (27% of total). However, this increase is two-fold over 1999 when four cases self-reported MSM risk exposure (13%). This upward pattern is consistent with national projections which indicate an increase in MSM as a re-emerging risk exposure. However, the small number of cases makes any prediction about trends in this province unreliable. Eight of the eleven cases self-reporting this exposure (72%) were among those also self-reporting non-Aboriginal ethnicity.

Trends in heterosexual exposure continue to fluctuate with an average of six cases per year over the past five years. Eight cases were identified in 2001, two less cases than in 2000. This risk exposure represents 20% of HIV cases in 2001. 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 but has no identifiable risk exposure for HIV. This risk exposure was self-reported almost twice as frequently among non-Aboriginal cases as Aboriginal (62% and 38% respectively).

Seven HIV cases were identified as having contracted HIV through heterosexual exposure in countries where HIV and AIDS is endemic. This is higher than previous years which ranged from zero to four cases per year from endemic countries.

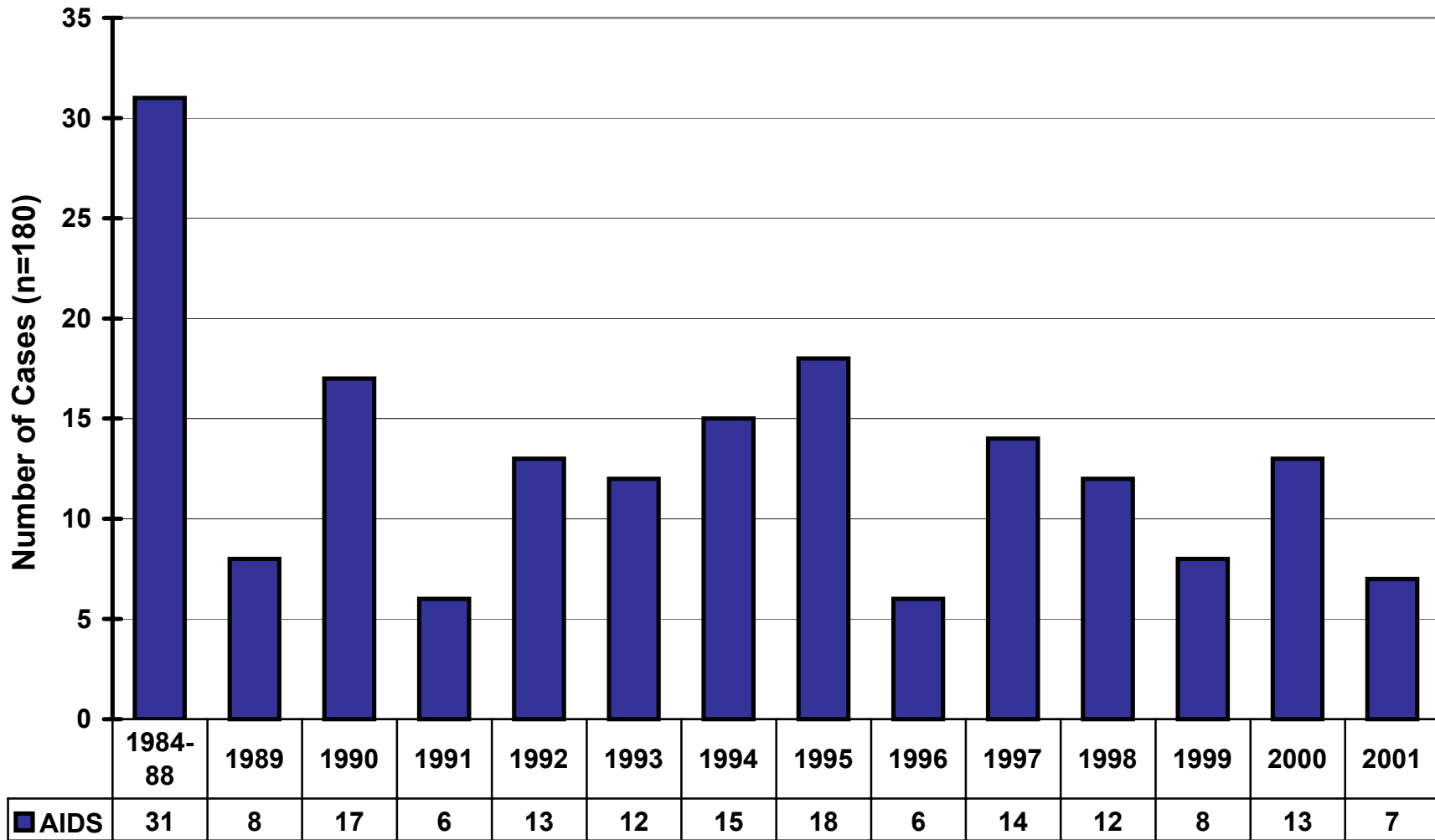
Nine HIV cases have been infected at birth through perinatal transfer of the HIV antibody from infected mothers between 1984 and 2001. No cases of perinatal transfer were reported in 2001.

No cases in 2001 reported having a history of receiving a blood transfusion or blood product. Four HIV positive cases in 2001 have not identified a risk exposure at this time.

An estimated 49,800 people in Canada were living with HIV (including AIDS) at the end of 1999 representing a 24% increase in prevalent infections from 1996 to 1999. An estimated 4,190 persons in Canada were newly infected with HIV in 1999.

This epidemiological report was prepared by Helen Bangura, CD Epidemiologist with the assistance of Lindsay Hembroff, Surveillance Assistant, and Sonia Harmen, Federal Field Surveillance Officer, CDC Unit, Population Health Branch, Saskatchewan Health. The report acknowledges the assistance of the Provincial Laboratory in providing laboratory data, Dr Ross Findlater, Chief Medical Health Officer, for reviewing the document and the public health services of regional health authorities and First Nations jurisdictions in providing epidemiological information. This report was prepared based on information in the HIV/AIDS database as of October, 2002.

**Fig 1. AIDS Cases in Saskatchewan,
1984 - 2001**

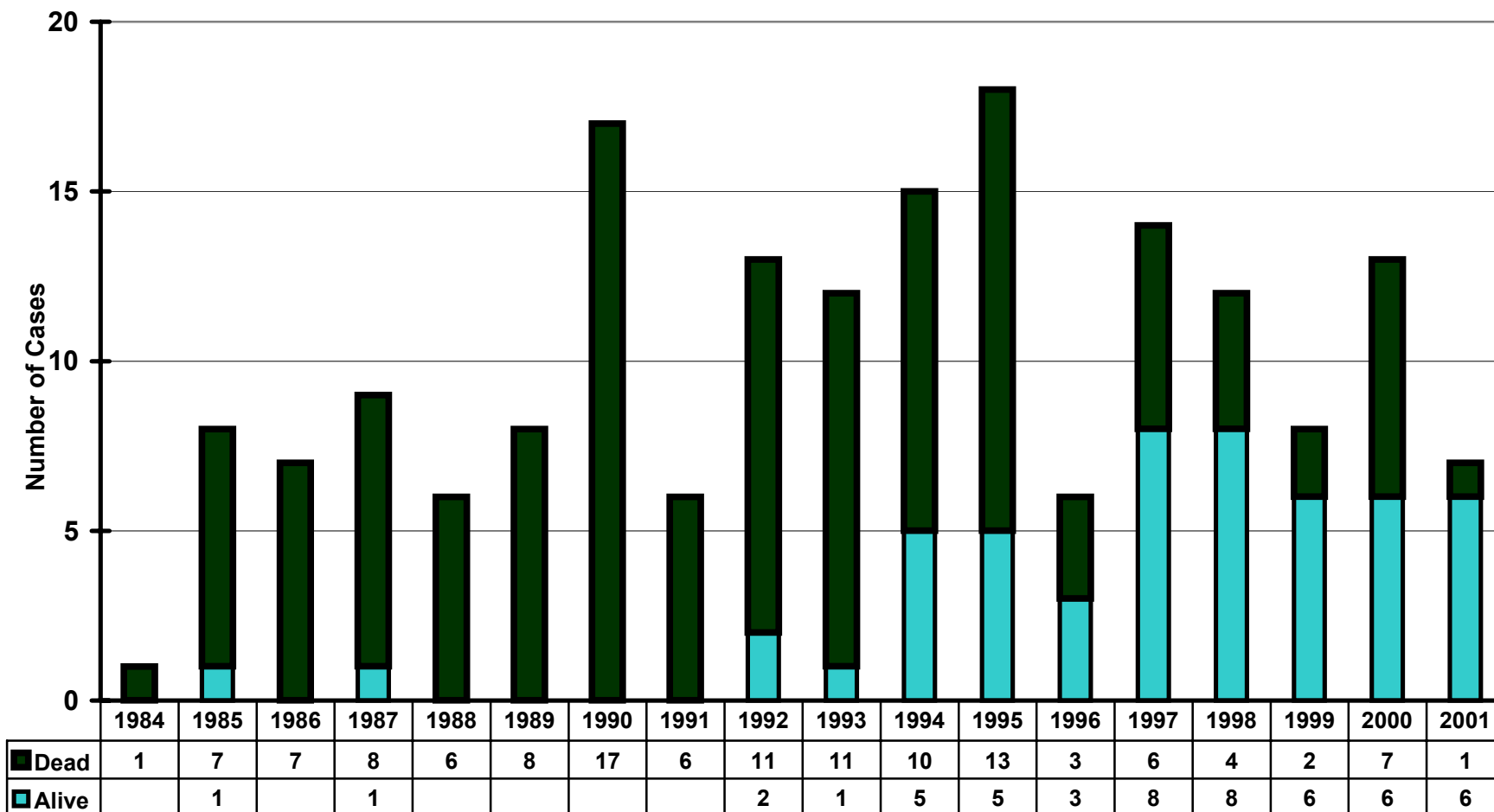


Prepared by: CDC Unit, Population Health Branch

Date Prepared: October, 2002

Source: Saskatchewan HIV and AIDS Case Reporting Surveillance System

Fig 2. AIDS Cases in Saskatchewan Life Status by Year of Diagnosis, 1984 - 2001



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**Table 1 - Positive HIV Antibody Tests in Saskatchewan
1984 - 2001**

	# Specimens Tested	Positive Individuals	% Positive Specimens
1984 - 88	7,602	37	0.49%
1989	3,319	14	0.42%
1990	4,615	26	0.56%
1991	6,440	17	0.26%
1992	12,152	36	0.30%
1993	13,390	16	0.12%
1994	17,814	25	0.14%
1995	16,100	26	0.16%
1996	17,883	23	0.13%
1997	29,664	43	0.14%
1998	22,015	26	0.12%
1999	20,827	30	0.14%
2000	21,954	35	0.16%
2001	25,067	40	0.16%
TOTAL	218,842	394	0.18%

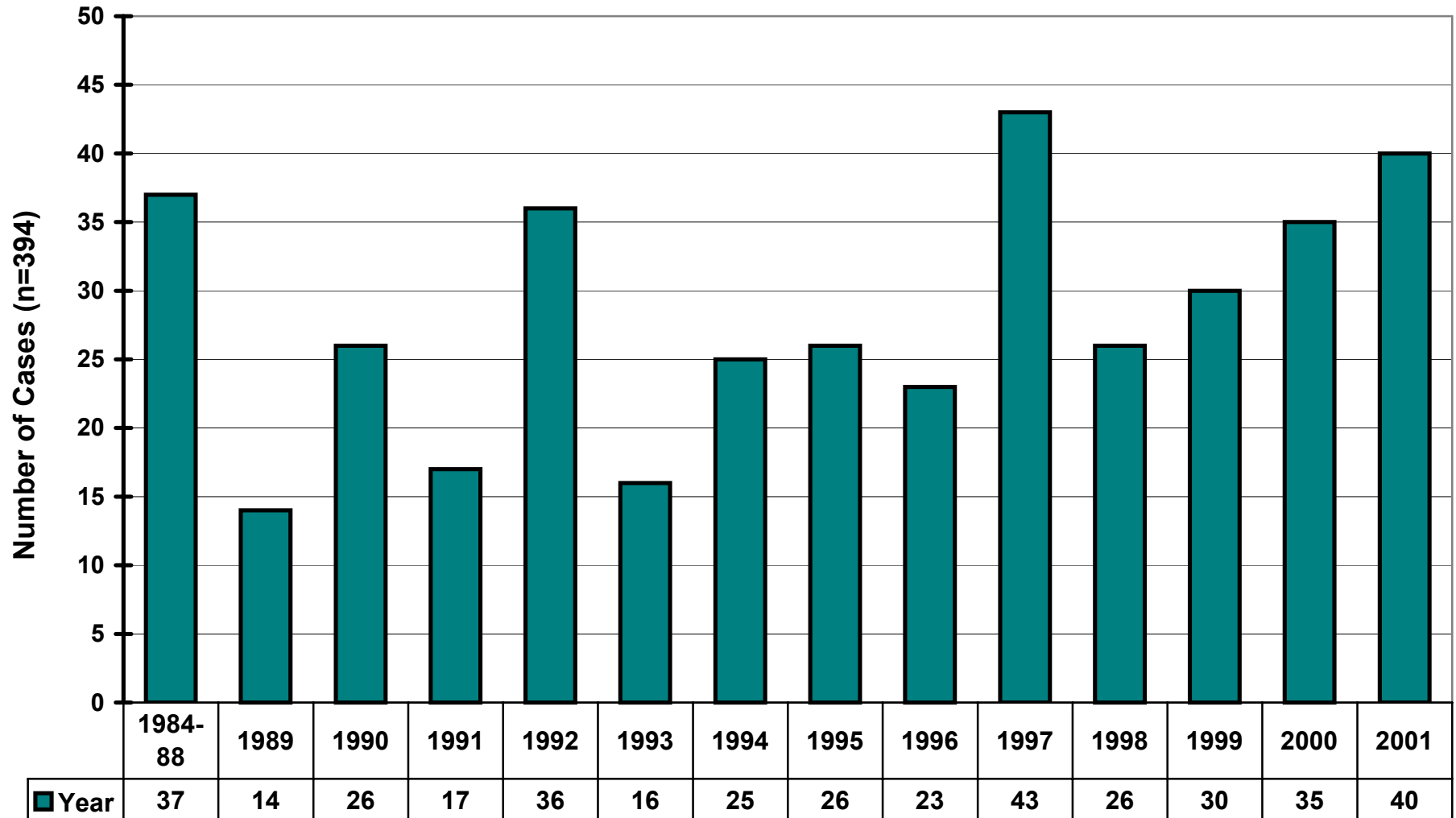
**Adjustments have been made to eliminate repeat positive test results

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**Fig 3. HIV Cases in Saskatchewan,
1984 - 2001**

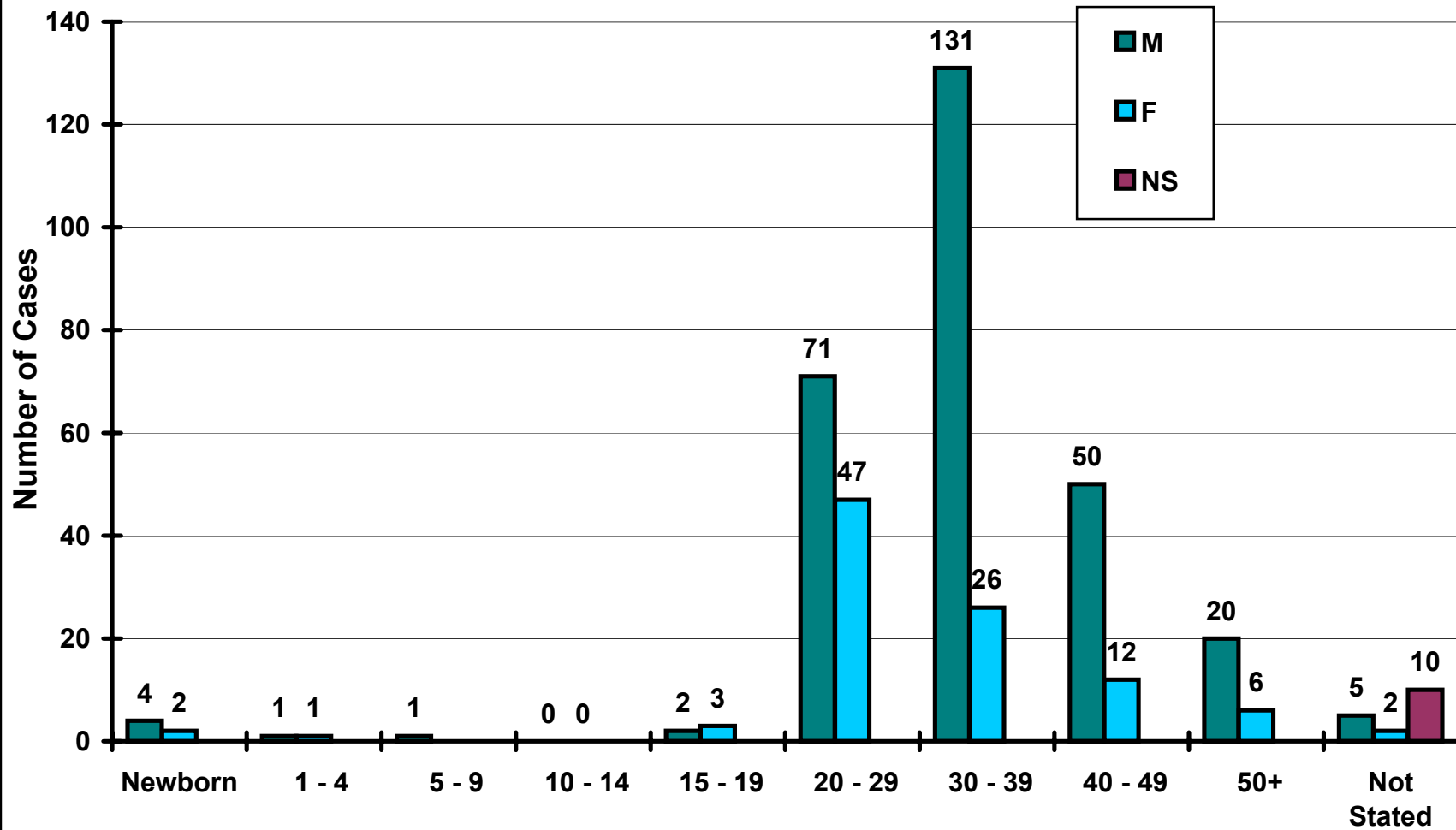


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**Fig 4. HIV Cases in Saskatchewan Age Group
by Sex, 1984 - 2001**

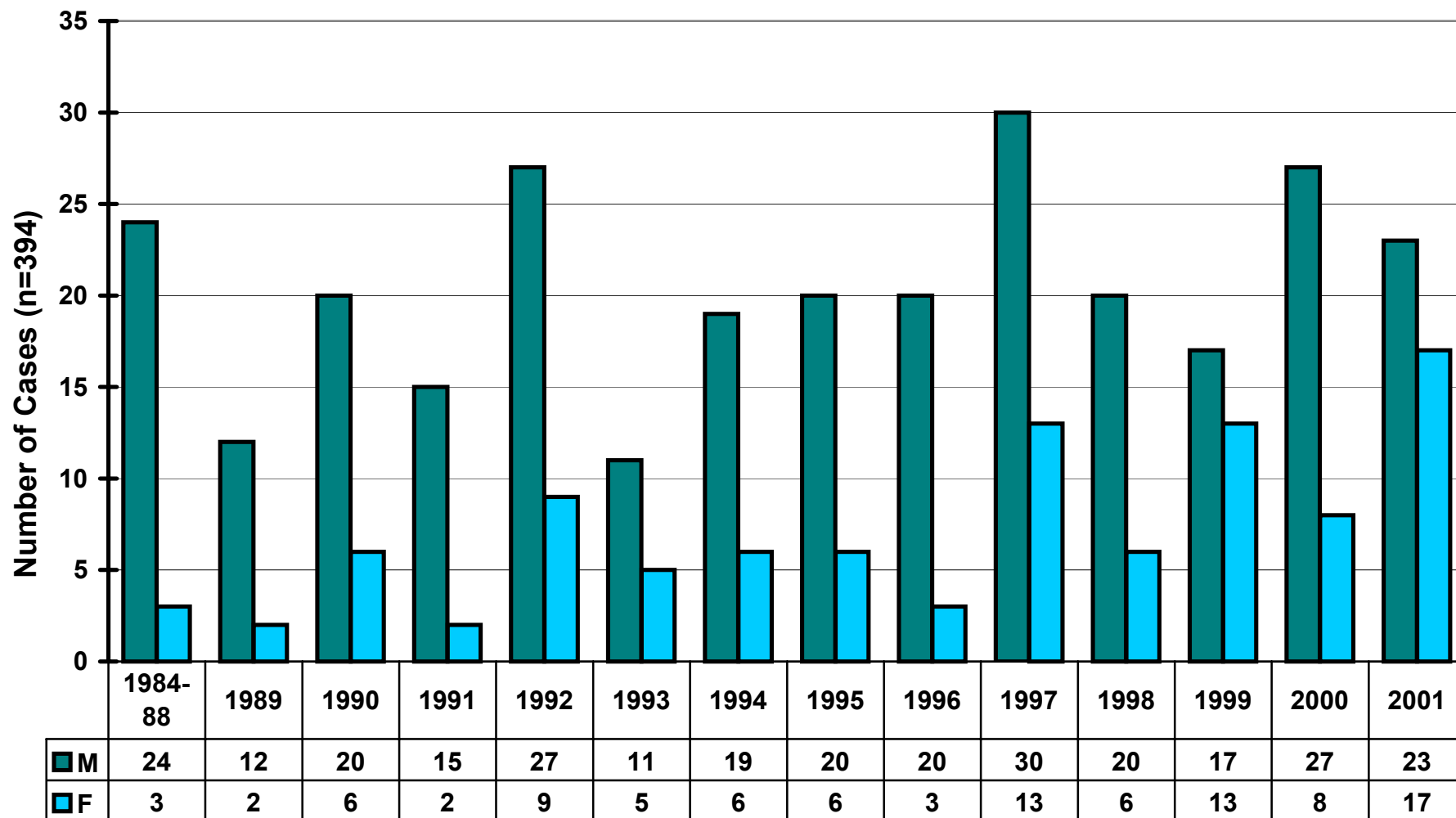


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Source: Saskatchewan HIV and AIDS Case Reporting Surveillance System.

**Fig 5. HIV Cases in Saskatchewan by Sex,
1984 - 2001**



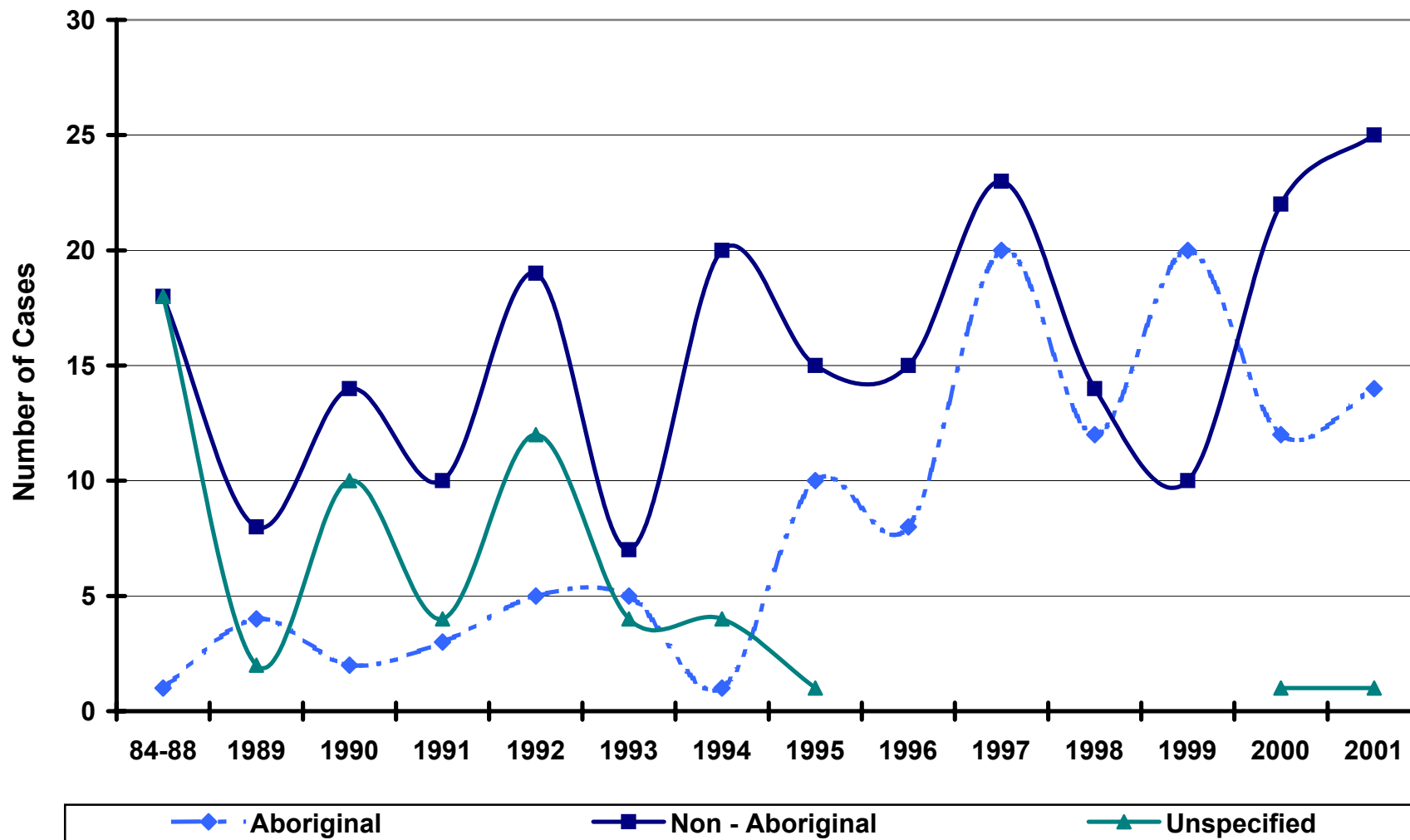
* 1984 - 1988 has 10 cases with unknown sex

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**Fig 6. Saskatchewan HIV Cases by Selected Ethnicity,
1984 - 2001**



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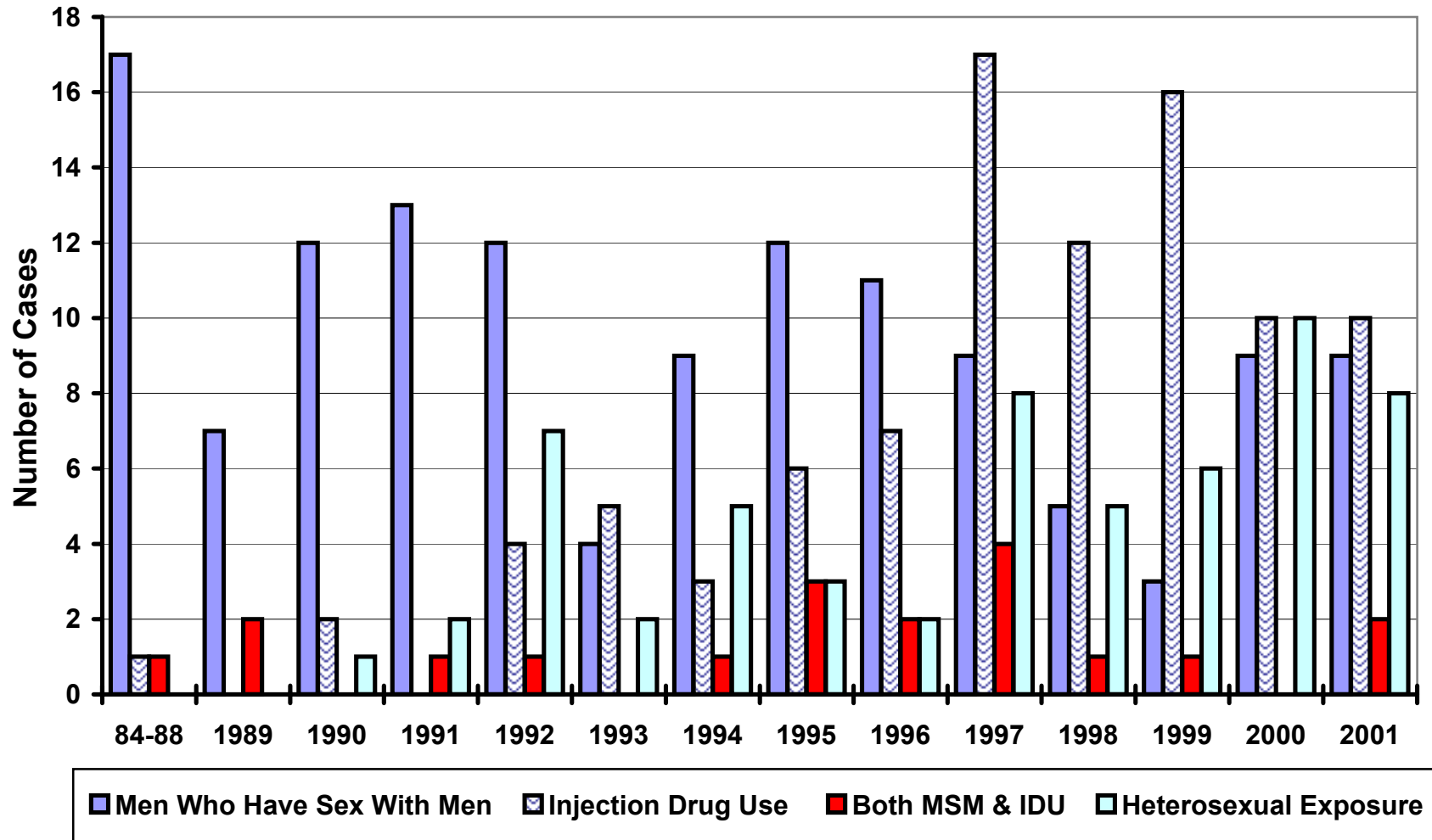
**Table 2 - Total Saskatchewan HIV Cases by Ethnicity
1984 - 2001**

	84-88	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Total
Aboriginal	1	4	2	3	5	5	1	10	8	20	12	20	12	14	117
Non - Aboriginal	18	8	14	10	19	7	20	15	15	23	14	10	22	25	220
Unspecified	18	2	10	4	12	4	4	1					1	1	57
Total	37	14	26	17	36	16	25	26	23	43	26	30	35	40	394

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 Risk Factor, 1984 - 2001



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**Table 3 - Total Saskatchewan HIV Cases by Risk Factor
1984 - 2001**

	84-88	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Total
Men Who Have Sex With Men	17	7	12	13	12	4	9	12	11	9	5	3	9	9	132
Injection Drug Use	1		2		4	5	3	6	7	17	12	16	10	10	93
Both MSM & IDU	1	2		1	1		1	3	2	4	1	1		2	19
Heterosexual Exposure			1	2	7	2	5	3	2	8	5	6	10	8	59
Partner at Risk							(1)		(1)	(5)		(1)	(4)	(1)	
Lived in Endemic Area							(3)	(1)	(1)	(2)	(1)	(3)	(1)	(4)	
NIR - Heterosexual orientation						(2)	(1)	(2)		(1)	(4)	(2)	(5)	(3)	
Recipient of Blood/Products	2	1	4			3				1		1			12
Endemic	2	3	2		4		3	1	1	2	2	3	2	7	32
Perinatal Transfer	1		3		1			1		2			1		9
Other*													1		1
No Identified Risk	13	1	2	1	7	2	4				1		2	4	37
Total	37	14	26	17	36	16	25	26	23	43	26	30	35	40	394

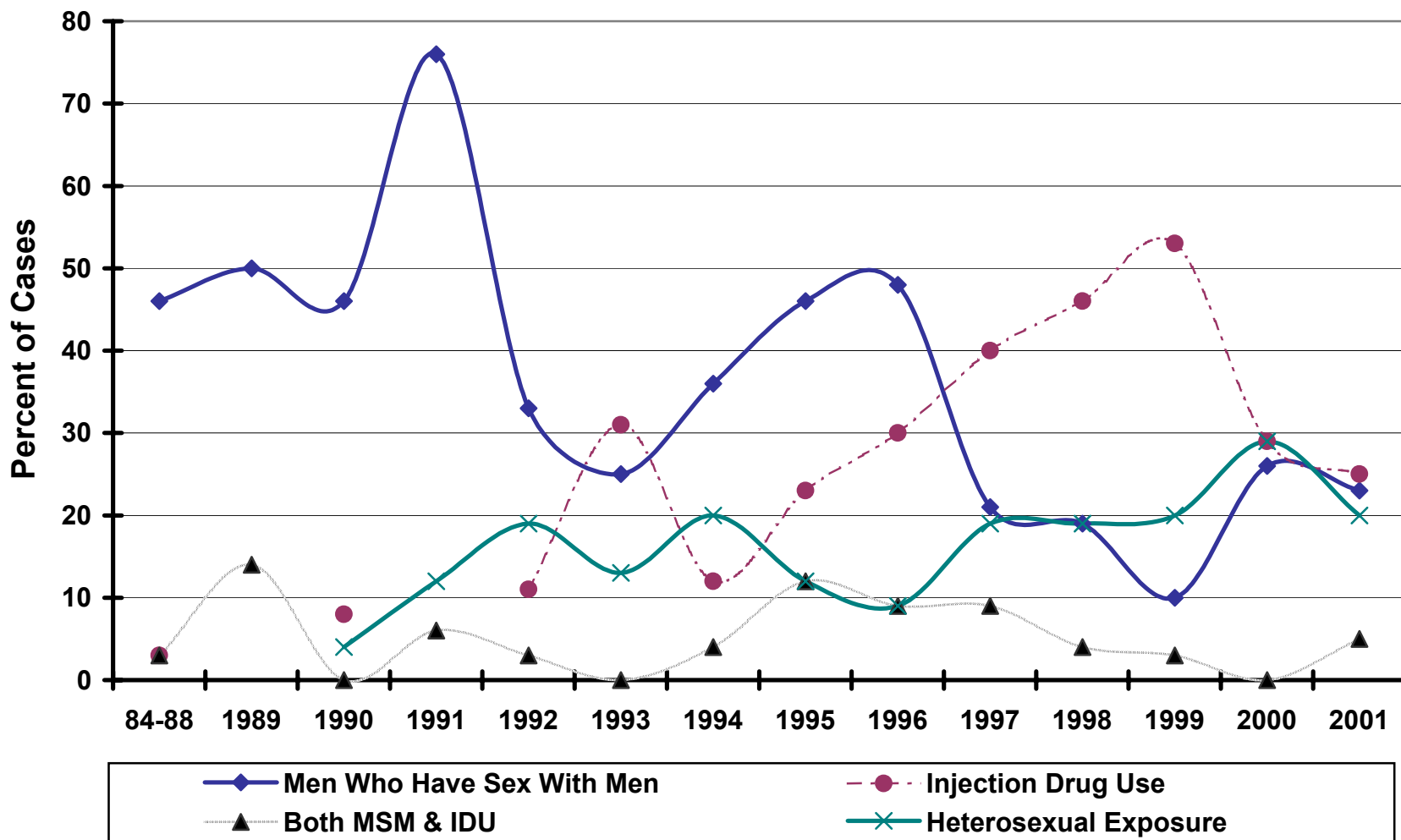
***Other Includes:** Occupational Exposure

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Source: Saskatchewan HIV and AIDS Case Reporting Surveillance System

Fig 8. Selected Risk Factors as a Percentage of Saskatchewan HIV Cases, 1984 - 2001



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**Table 4 - Saskatchewan HIV Cases as a Percentage by Risk Factor
1984 - 2001**

	84-88	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Men Who Have Sex With Men	46	50	46	76	33	25	36	46	48	21	19	10	26	23
Injection Drug Use	3		8		11	31	12	23	30	40	46	53	29	25
Both MSM & IDU	3	14	0	6	3	0	4	12	9	9	4	3	0	5
Heterosexual Exposure			4	12	19	13	20	12	9	19	19	20	29	20
Recipient of Blood/Products	5	7	15			19				2		3		
Endemic	5		8		11		12	4	4	5	8	10	6	18
Perinatal Transfer	3		12		3			4		5			3	0
Other*	35	7	8	6	19	13	16				4		9	10

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

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