

HIV and AIDS in Alberta

2010 Annual Report

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of Alberta ■**

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Acquired Immunodeficiency Syndrome (AIDS) was first recognized in 1981 and became reportable in 1983 in Alberta. The cause of AIDS, human immunodeficiency virus (HIV) became a notifiable disease in Alberta in 1998.

Both AIDS and HIV are closely associated with what are considered high risk behaviours. These risk factors include – but are not limited to – unprotected sex for both heterosexuals and homosexual males, and needle sharing for intravenous drug users. Immigration patterns to our province also affect the number of new cases; foreign workers and refugees from endemic countries (where a disease is present on a continuous basis) with high HIV infection rates can also increase the number of new cases.

Alberta has released the “Alberta Sexually Transmitted Infections and Blood Borne Pathogens Strategy and Action Plan, 2011-2016” in 2011, as well as undertaken a comprehensive multi-media syphilis campaign. The “HIV and AIDS in Alberta – 2010 Annual Report” predates both the strategy and campaign.

Source of all data in this report is from:

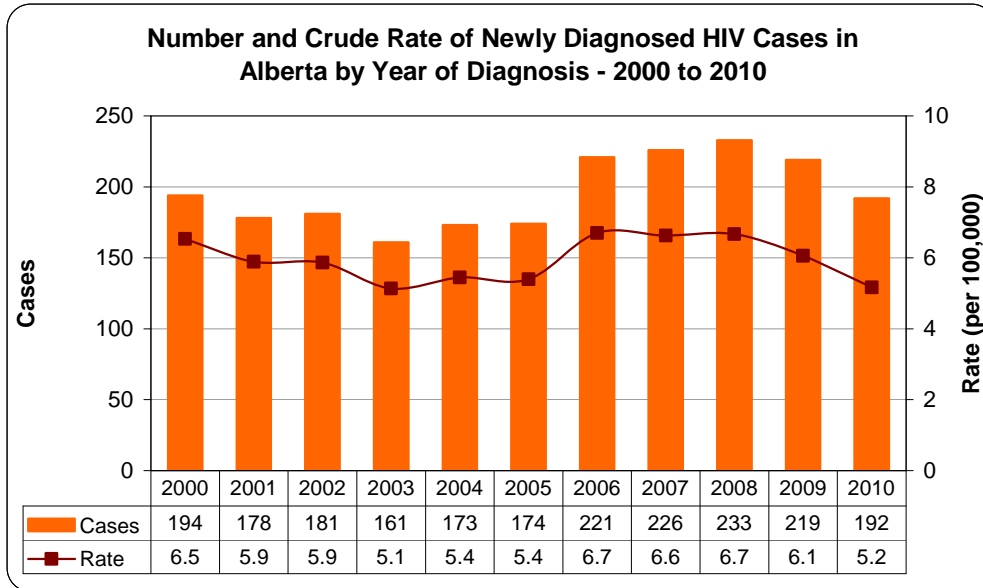
Alberta Health and Wellness,

- 1) Communicable Disease Reporting System, as of 7 September 2011
- 2) Alberta Health Care Insurance Plan Stakeholder Registry

HIV in Alberta - 2000 to 2010

The number of cases of HIV in Alberta between 2000 and 2008 has fluctuated between 161 cases (2003) and 233 (2008), then decreased to 192 cases in 2010.

Figure 1



In Alberta, the highest rate of HIV in the past eleven years was 6.7 cases per 100,000 persons (in 2006 and 2008). In 2010, the rate of HIV was 5.2 cases per 100,000, the second lowest rate since 2000 (Figure 1). The lowest rate was in 2003 with 5.1 cases per 100,000.

Figure 2

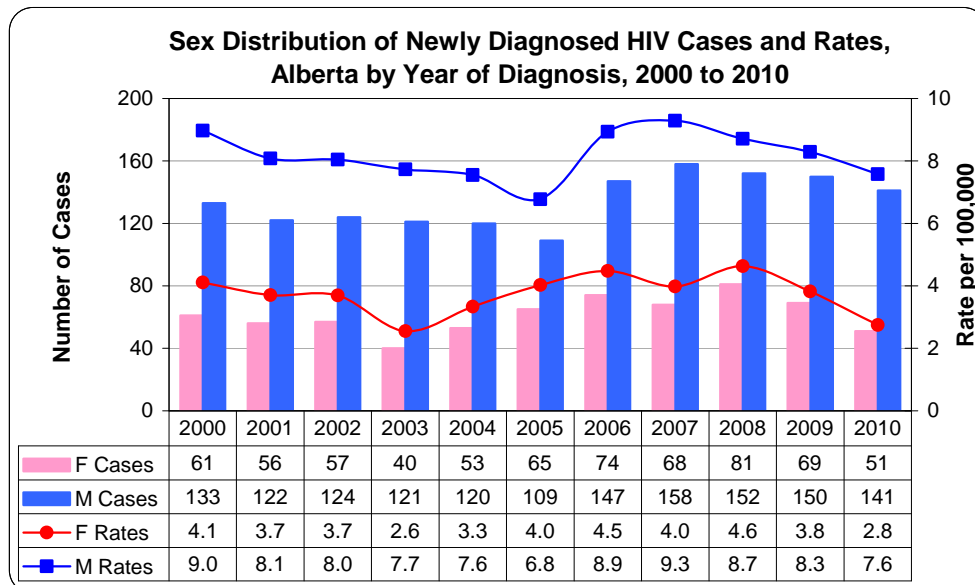
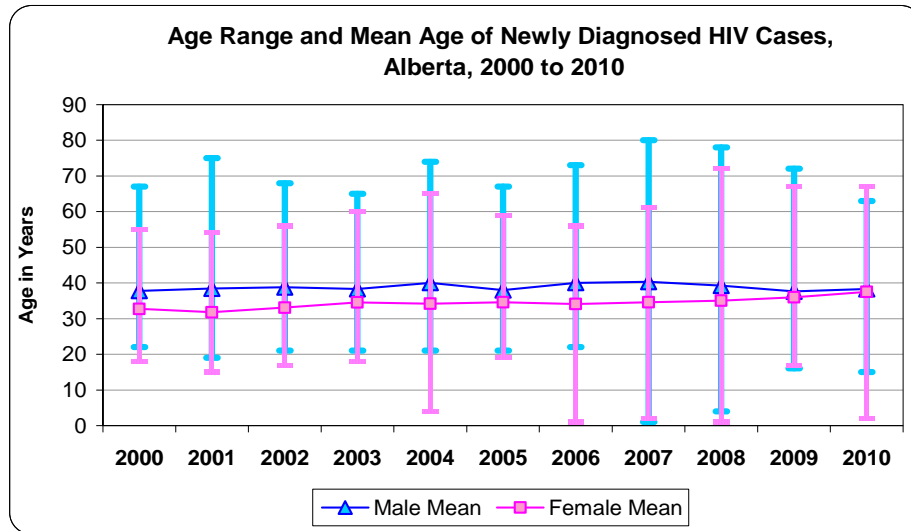


Figure 2 shows that males historically have had higher rates of HIV infection than females in Alberta. In the past eleven years, males had two to five more HIV cases per 100,000 persons than females, annually. Rates for males ranged from the lowest of 6.8 (2005) to the highest of 9.3 (2007). Female

rates increased from the lowest of 2.6 cases per 100,000 females in 2003 to the highest rate of 4.6 in 2008 before declining to 2.8 in 2010 (Figure 2).

Figure 3 below shows that the average age of newly diagnosed HIV cases for males ranged from 37 to 40 years while the average age of cases for females has been steadily increasing from 31 to 38 years over the past eleven years.

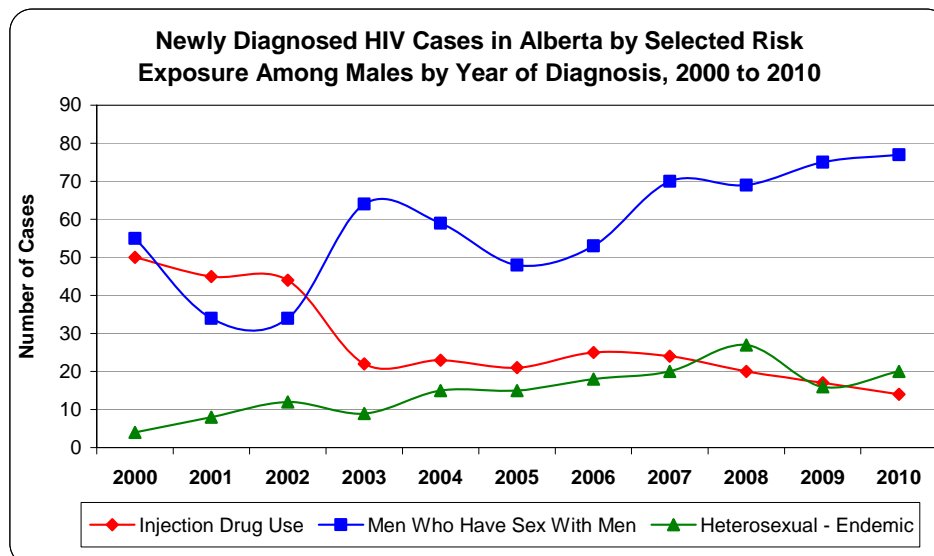
Figure 3



For the years 2000 to 2005, with the exception of 2004, the range of ages between the youngest and oldest cases did not fluctuate much until 2006. In 2006 through 2008 and then 2010, very young children were diagnosed with HIV, related to vertical transmission. At the same time, the age of the oldest cases were as high as 72 years (females) and 80 years (males).

Prior to 2003, Figures 4 and 5 show that one of the most common risk exposures among newly reported HIV cases was intravenous drug use (IDU). Between 2002 and 2003, the number of cases for both males and females declined significantly.

Figure 4



Among males, 35 per cent to 38 per cent of cases in 2000 to 2002 listed IDU as a risk exposure. In 2010, 10 per cent of newly diagnosed male cases (or 14/141 cases) reported IDU exposure.

Men having sex with men (MSM) has been a dominant risk exposure throughout the last eleven years. The proportion of cases with MSM as an exposure risk ranges from 27 per cent in 2002 to 55 per cent in 2010.

Figure 5 shows that among females, IDU exposure was identified for 46 per cent to 57 per cent of cases between 2000 and 2002. After 2002, the number of IDU exposed cases decreased, and in 2010, 18 per cent of female cases reported IDU as a risk exposure. At the same time, female heterosexual cases from endemic countries were increasing every second year. In 2003, 13 per cent of female cases were from endemic countries, a proportion which increased to 43 per cent in 2004. In 2008, more than half (51 per cent) of female cases were from countries in which HIV is endemic. The percentage of female heterosexual cases from endemic countries dropped to 37 per cent in 2010.

Figure 5

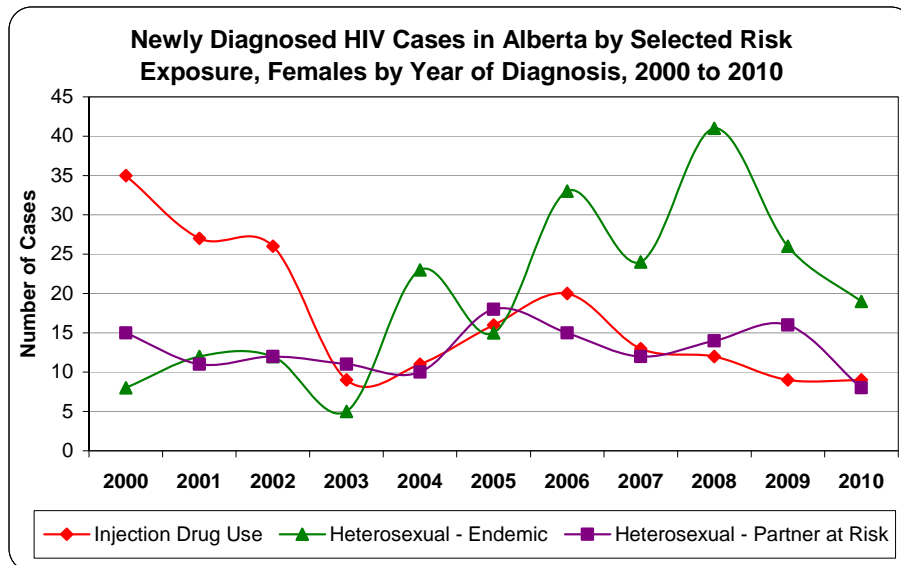
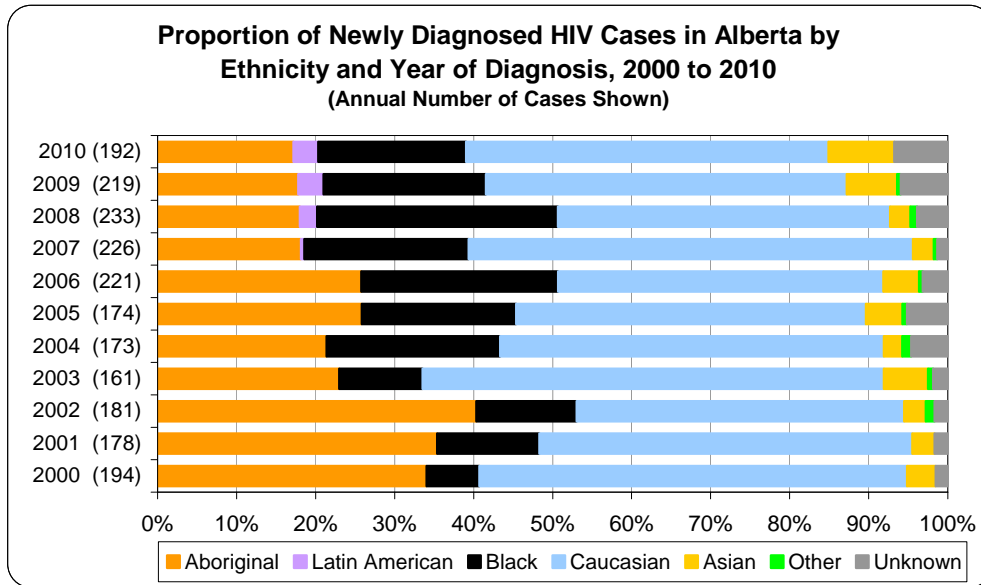


Figure 6

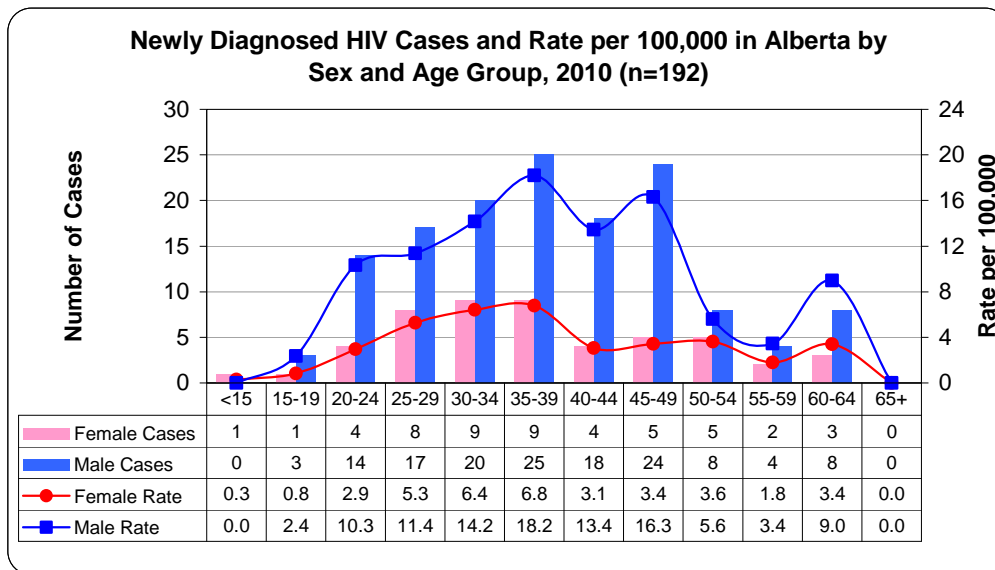


The ethnic background of newly diagnosed HIV cases has changed over the past eleven years. In the first half of the decade, Aboriginals made up the second largest group of HIV cases with known ethnicity. After 2006 there have been more Blacks diagnosed with HIV than Aboriginals in Alberta. Caucasians have consistently represented the largest ethnic group during this time period (Figure 6).

HIV in Alberta, 2010

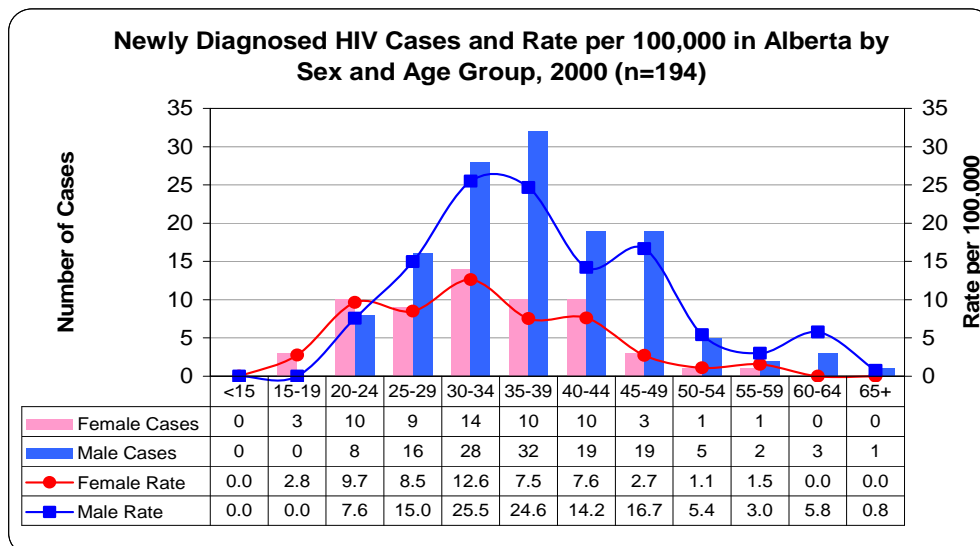
In 2010, 192 Albertans were newly diagnosed with HIV. Their ages ranged from 2 years to 64 years of age, with 72 per cent total cases (139/192 cases) being between 25 and 49 years of age. The male to female ratio of HIV cases in Alberta was 2.8:1 (141 males to 50 females). The highest HIV rates for both males and females were among 35 to 39 years olds with 18 cases and 7 cases per 100,000 persons in 2010, respectively (Figure 7).

Figure 7



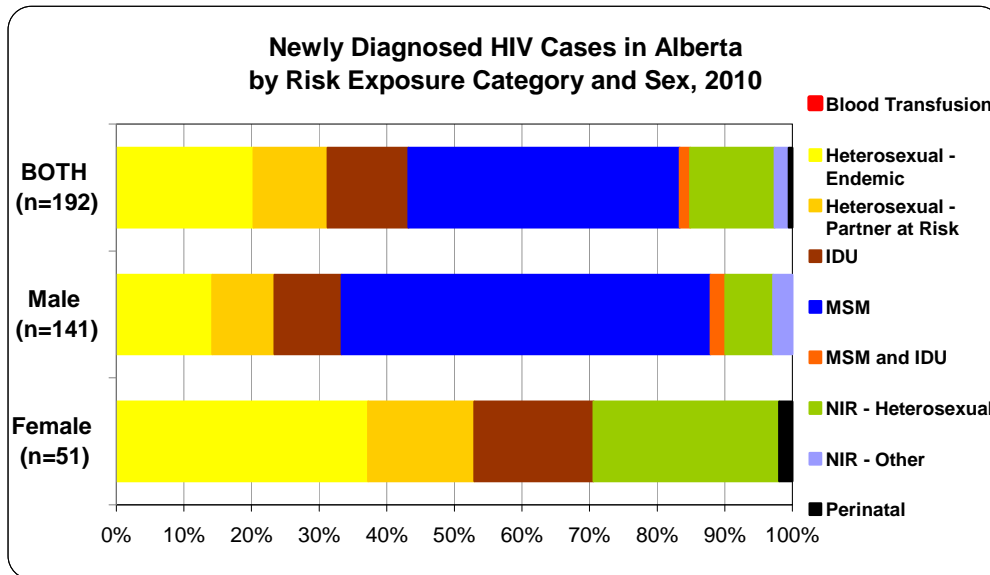
Looking back to 2000, Figure 8 shows how rates differed from those in 2010. The most significant difference between 2000 and 2010 was that females under 25 years of age had higher rates than males. In addition, the highest rates of newly diagnosed HIV cases for males in 2000 was in 30 to 34 year olds, whereas in 2010 it was in 35 to 39 year olds.

Figure 8



As noted in the previous section, risk exposures to HIV differ for males and females. In 2010, Figure 9 shows that more than half of male cases reported their risk category as MSM (77/141 cases). The most common exposure category for females was emigrating from an endemic country (37 per cent or 19/51 cases).

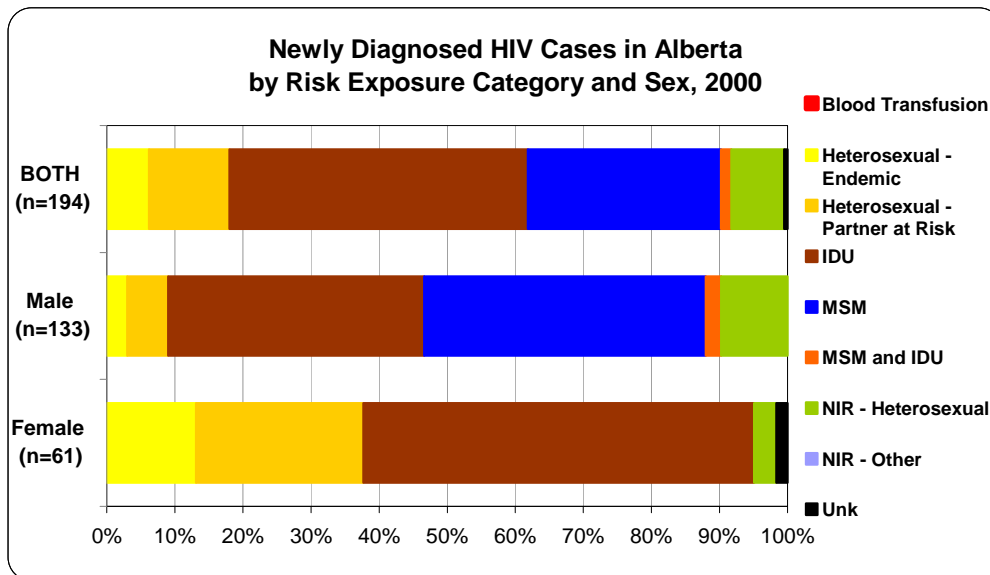
Figure 9



*NIR refers to No Inherent Risk

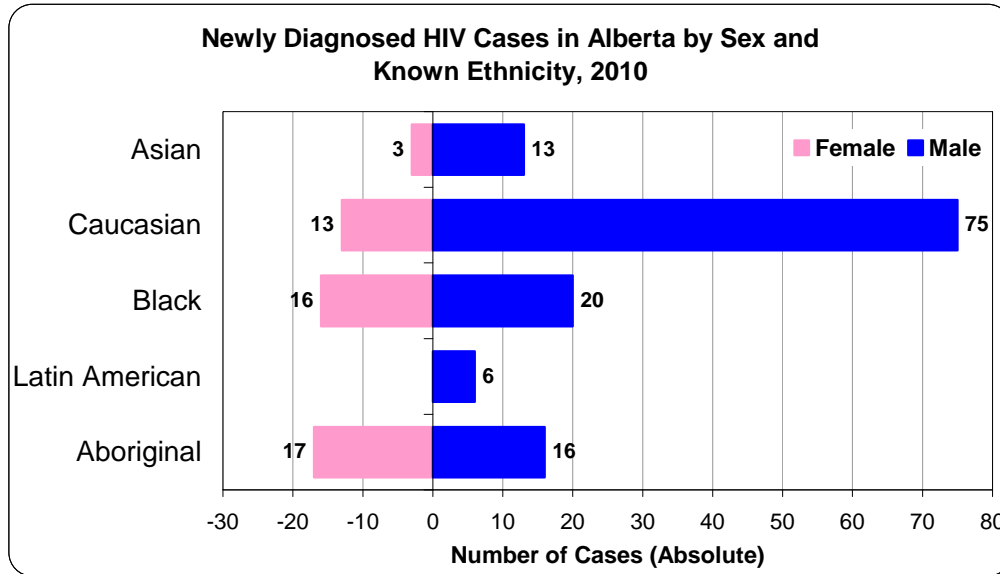
Figure 10 shows that since 2000, the proportion of newly diagnosed HIV cases related to the various risk exposures has changed. In 2000, the most common risk exposure for females was IDU (57 per cent). IDU was the second most common reported exposure in males (38 per cent) in 2000, with males' most common risk exposure that year being MSM (41 per cent).

Figure 10



There is a visible difference in ethnicity between males and females with HIV in 2010. The vast majority of male cases with known ethnicity are Caucasian, while the largest ethnic group for females is Aboriginal, followed by Black (Figure 11).

Figure 11

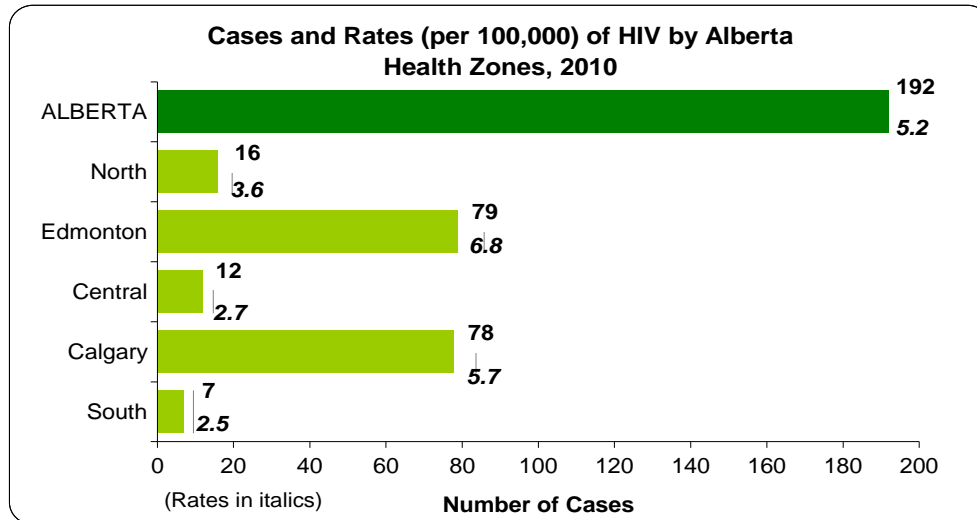


Two-thirds of male Caucasians reported MSM as a risk exposure (51/75 cases). All Black female cases reported emigration from an endemic country as the risk exposure category (16). The majority of Aboriginal female cases indicated ‘intravenous drug user’ (7). The remaining Aboriginal female cases reported either ‘partner at risk’ or no inherent risk.

HIV by Zone

Examining HIV cases by health zone (referred to as zone in this report) provides further insight to the differences in HIV cases and their risks by smaller geographic regions, which in turn can focus prevention programs to certain sub-populations depending on the zone.

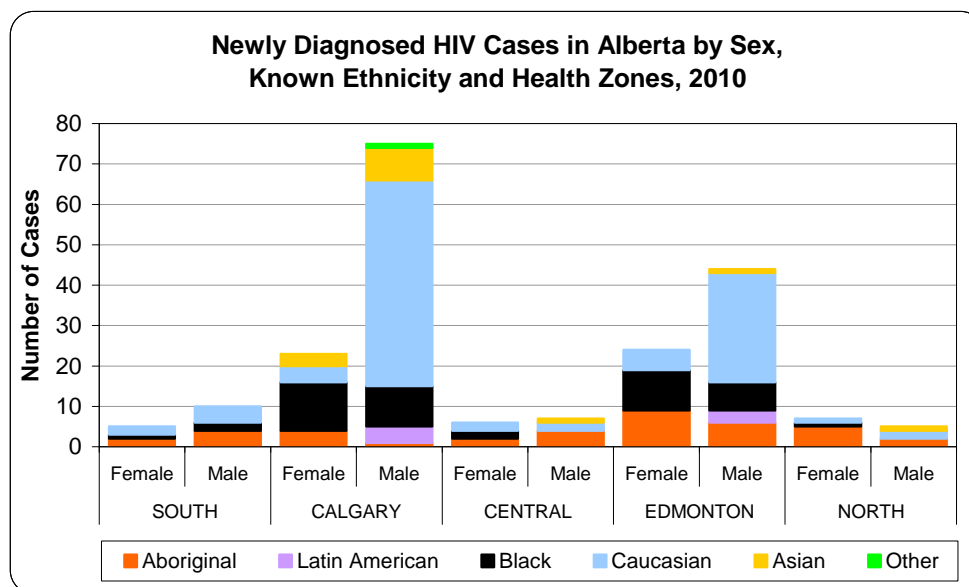
Figure 12



In 2010, the zones with the greatest population (Edmonton and Calgary zones) had rates of HIV higher than the provincial rate of 5.2 cases per 100,000 persons (Figure 12).

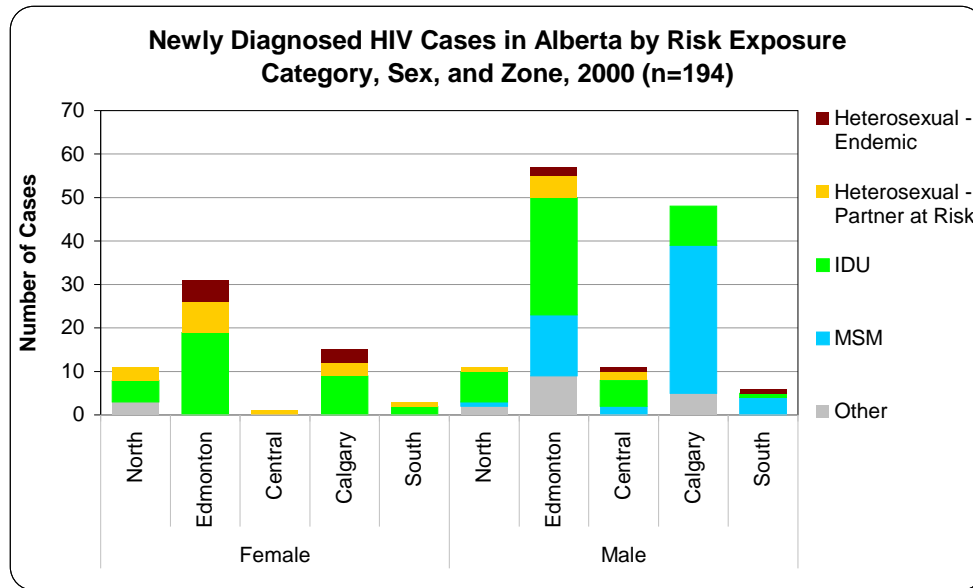
Breaking down the zones by sex and known ethnicity of cases, male Caucasians made up the largest number of cases in the two “urban” zones in 2010 (Figure 13).

Figure 13



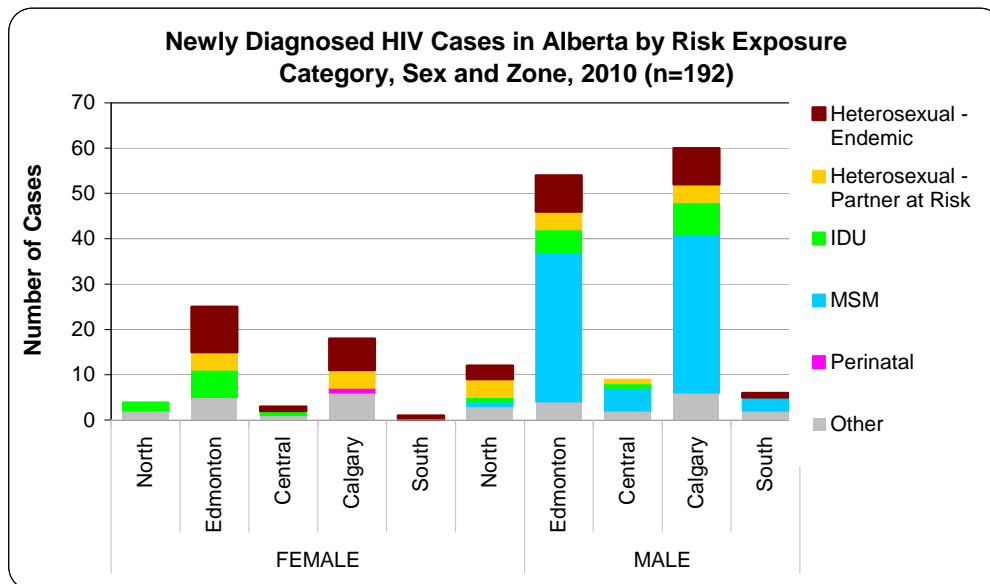
HIV in 2010 by zone is different than in 2000. The first chart on this page shows HIV cases by sex for each zone for 2000. Intravenous drug use for both males and females was dominant. Men having sex with men accounted for the largest proportion of male HIV cases in the South and Calgary zones (Figure 14).

Figure 14



The picture changes substantially in 2010. Cases reporting from endemic countries are seen in all zones for females and increased in males in the Edmonton, Calgary and South zones. Risk exposure from IDU was reported in all zones. For males, MSM reported cases have increased since 2000, especially in the Edmonton and Calgary zones (Figure 15).

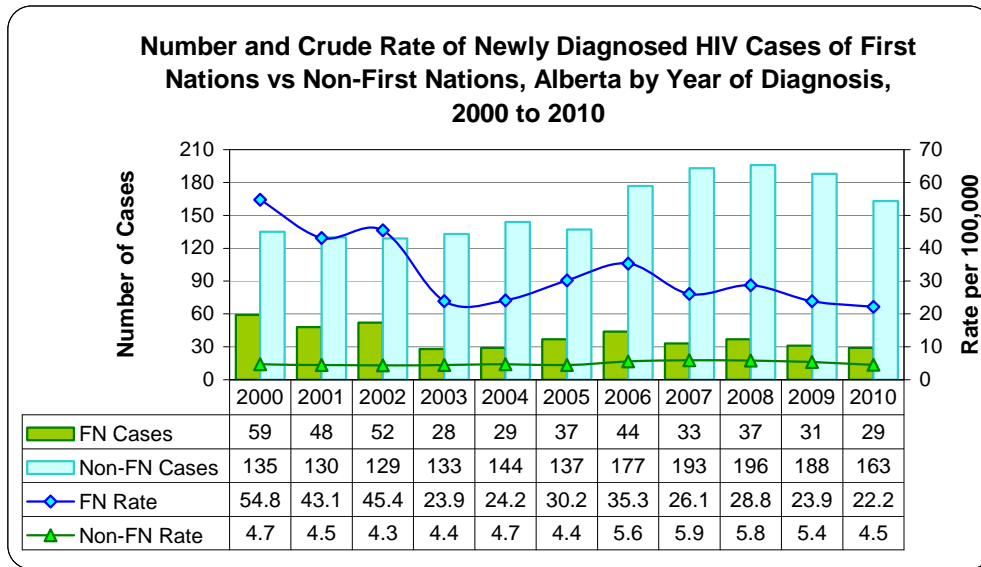
Figure 15



HIV Among First Nations in Alberta

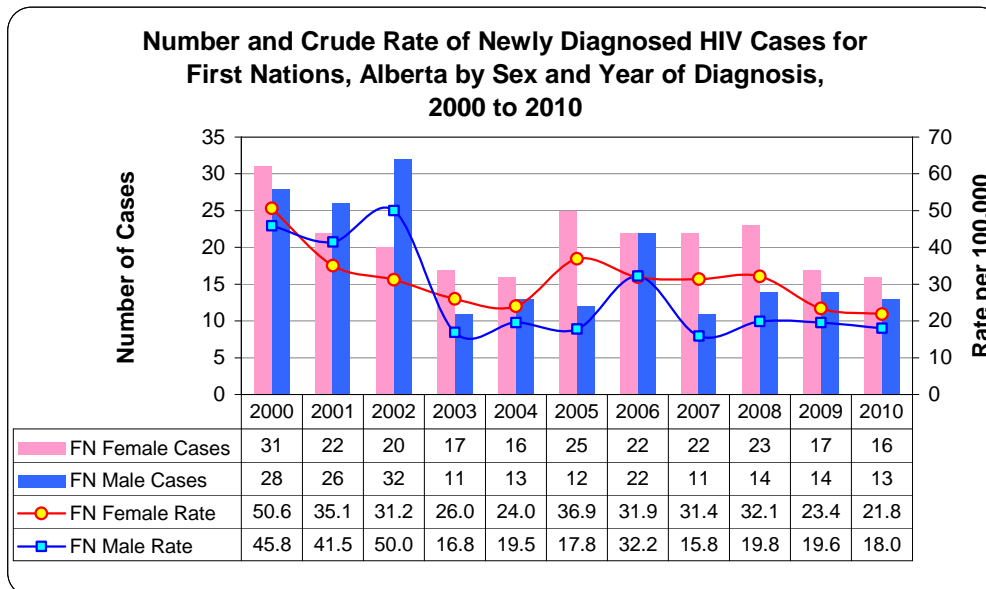
The rate of HIV among First Nations has been historically higher than for non-First Nations. In 2010, there were approximately 22 cases of newly diagnosed HIV per 100,000 First Nations population; this is down from 55 cases per 100,000 in 2000 (Figure 16).

Figure 16



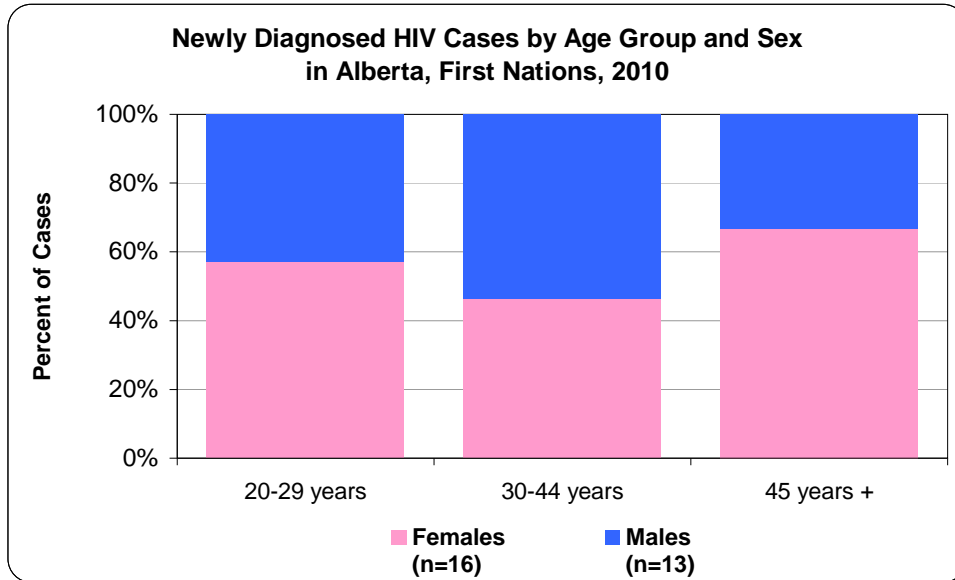
Among First Nations HIV cases, rates have generally decreased since 2000, although there were fluctuations in some years, especially when breaking rates down by sex (as seen in figure 17).

Figure 17



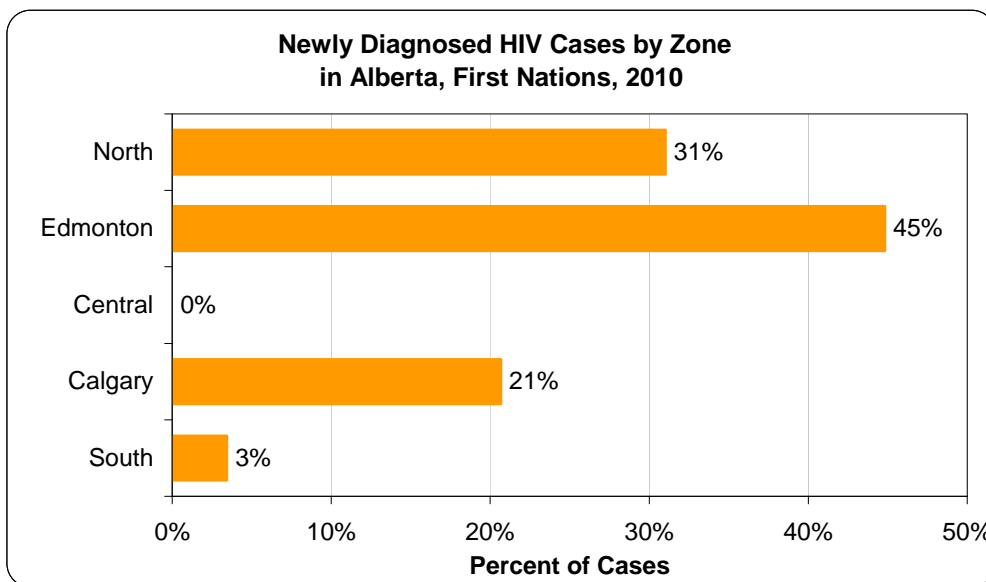
Cases of HIV in 2010 occurred in every age group except children and adults 65 years and older. Due to small numbers, HIV incidence by age group and sex for First Nations cases are presented in broader age groups. (Figure 18). There was a higher proportion of females in two of the three broad age groups.

Figure 18



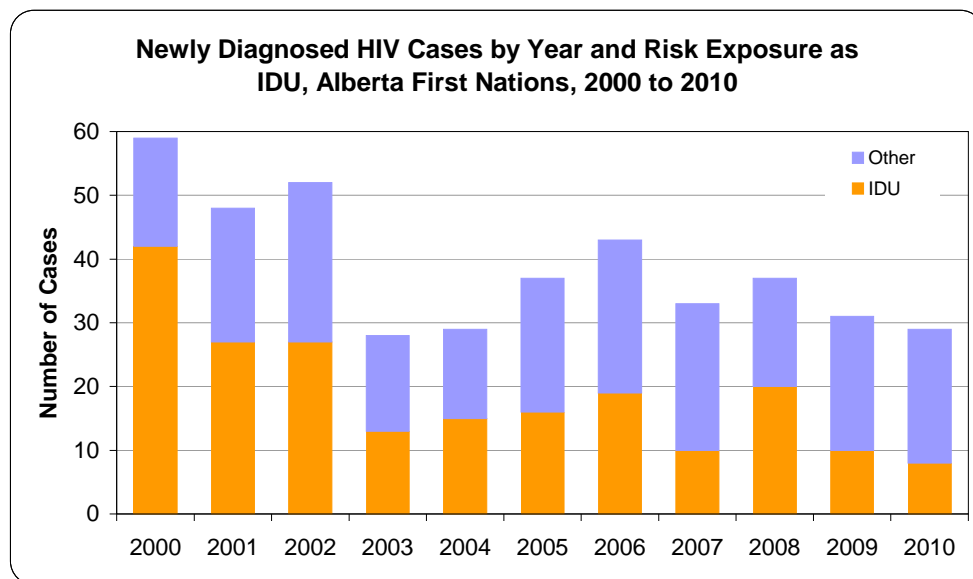
In 2010, the largest proportion of newly diagnosed HIV cases among First Nations was in the Edmonton zone (Figure 19).

Figure 19



In the past eleven years, the First Nation sub-population with HIV has been different from that of non-First Nation in Alberta. Even though IDU identified as a risk exposure has decreased from the start of the decade, it still remains an area of concern among the First Nations population (Figure 20).

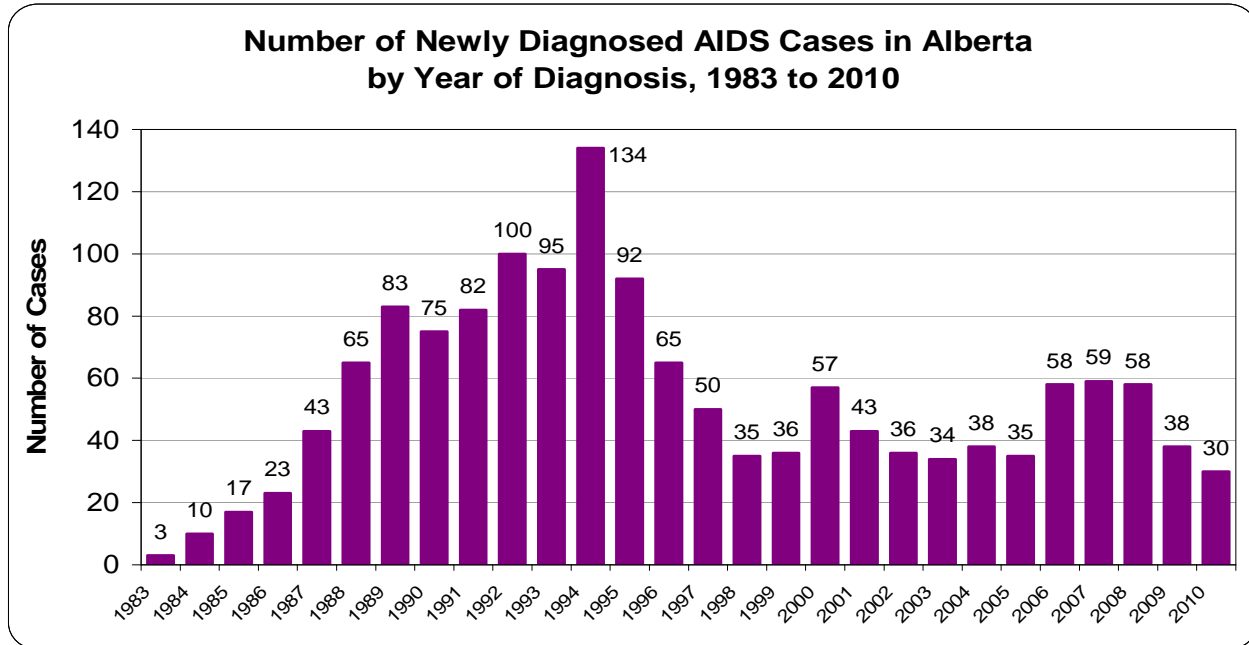
Figure 20



AIDS in Alberta

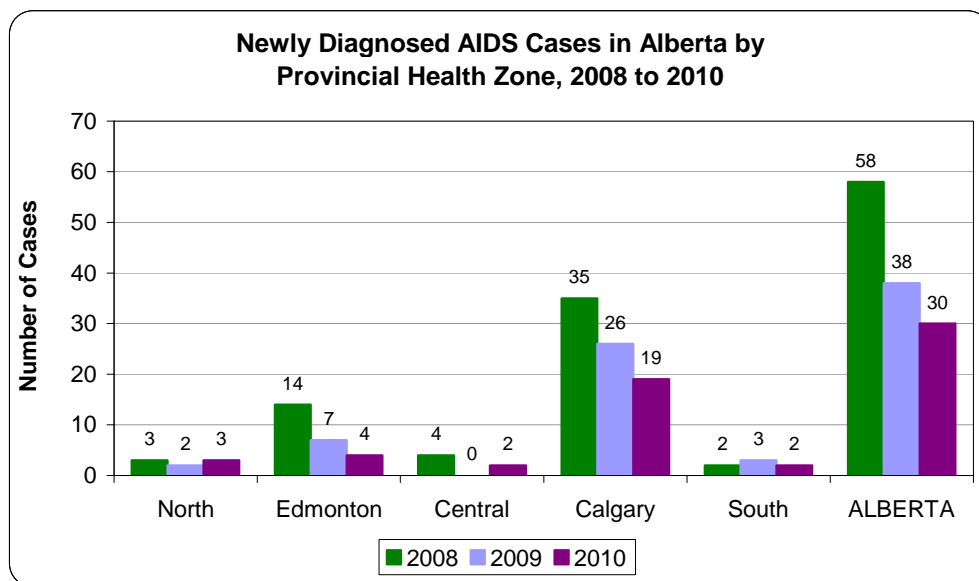
Figure 21 shows that cases of AIDS in Alberta have dramatically declined since peaking in 1994. In 2010, there were 30 newly diagnosed cases of AIDS. The rate of AIDS in Alberta for 2010 was 0.8 case per 100,000.

Figure 21



In 2010, the number of AIDS cases decreased mainly in the Edmonton and Calgary zones. Three of the 30 AIDS cases in 2010 were female and 27 were male. (Figure 22).

Figure 22



Overall, in the past three years, the proportion of AIDS among Caucasians and Blacks decreased while the proportion of Aboriginal and Asian cases increased (Figure 23). In 2010, fifty-seven percent of cases with known ethnicity were Caucasian.

Figure 23

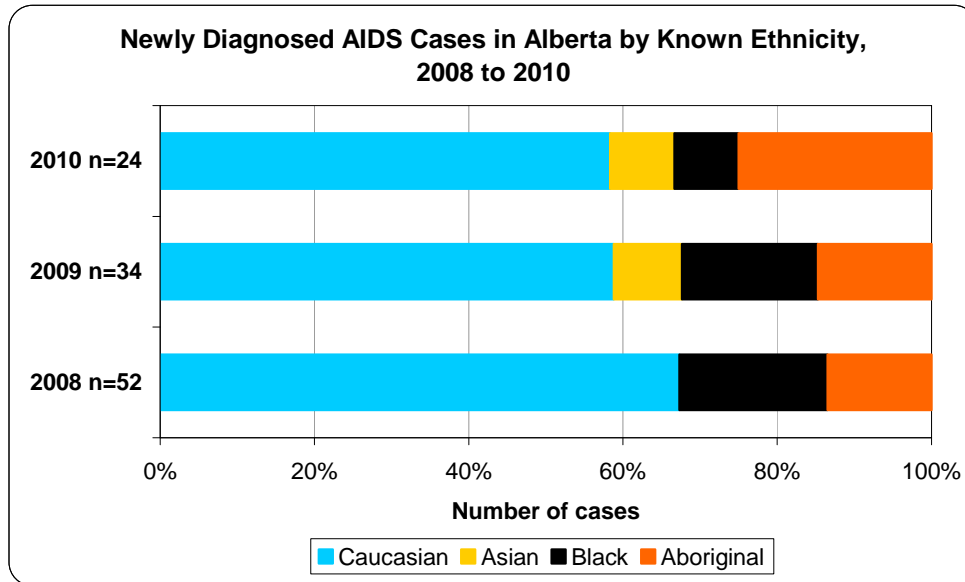
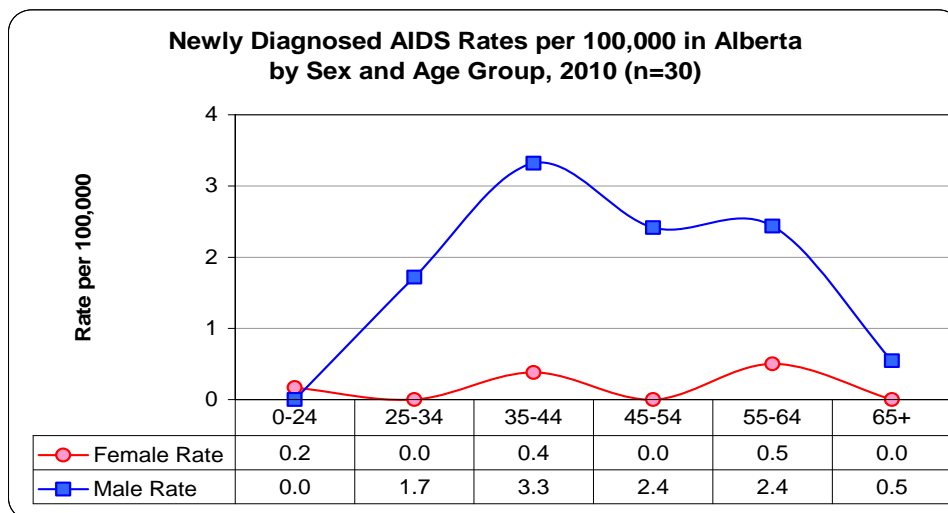


Figure 24 shows that for AIDS, males continue to have a higher rate of disease than females in Alberta. Overall, in 2010, the disease rate for males was 1.5 cases per 100,000 and 0.2 cases per 100,000 for females. In those 35-44 years of age, males had the highest disease rate (3.3 cases per 100,000).

Figure 24



Ninety percent of newly diagnosed AIDS cases in Alberta in 2010 were male (27/30), of which 44 per cent (12/27) reported their risk exposure category as MSM. The second most common risk category for all AIDS cases was IDU (6/30).

Appendices – Data Tables

Table 1											
Newly Diagnosed HIV Cases by Age Group & Sex in Alberta by Year of Diagnosis, 2000 to 2010											
FEMALE	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<i>Mean</i>	32.7	31.8	33.1	34.5	34.2	34.6	34.1	34.6	35.0	36.0	37.5
<i>Median</i>	31.0	32.0	33.0	33.0	32.0	33.0	33.0	33.0	34.0	34.0	38.0
<i>Range</i>	37	39	39	42	61	40	55	59	71	50	62
<i>Lowest</i>	18	15	17	18	4	19	1	2	1	17	2
<i>Highest</i>	55	54	56	60	65	59	56	61	72	67	64
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<15	0	0	0	0	1	0	1	3	3	0	1
15-19	3	4	4	1	4	1	3	1	4	2	1
20-24	10	11	7	7	9	9	6	5	2	7	4
25-29	9	9	10	8	3	8	14	12	11	11	8
30-39	24	20	25	12	17	27	29	26	39	25	18
40-59	15	12	11	11	17	20	21	20	20	21	16
60+	0	0	0	1	2	0	0	1	2	3	3
ALL AGES	61	56	57	40	53	65	74	68	81	69	51
MALE											
<i>Mean</i>	37.8	38.4	38.8	38.3	40.0	38.0	40.0	40.3	39.2	37.6	38.3
<i>Median</i>	37.0	37.0	38.0	38.0	39.5	38.0	40.0	40.5	39.5	37.5	38.0
<i>Range</i>	45	56	47	44	53	46	51	79	74	56	48
<i>Lowest</i>	22	19	21	21	21	21	22	1	4	16	15
<i>Highest</i>	67	75	68	65	74	67	73	80	78	72	63
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<15	0	0	0	0	0	0	0	1	1	0	0
15-19	0	1	0	0	0	0	0	1	1	3	3
20-24	8	4	4	10	5	10	7	11	16	18	14
25-29	16	17	16	12	12	11	17	23	14	21	17
30-39	60	49	47	51	43	41	43	36	44	42	45
40-59	45	46	56	42	56	44	77	79	68	60	54
60+	4	5	1	6	4	3	3	7	8	6	8
ALL AGES	133	122	124	121	120	109	147	158	152	150	141

Table 2
Proportion of Newly Diagnosed HIV Cases in Alberta by Risk Exposure Category Among Males by Year of Diagnosis, 2000 to 2010

Exposure Category	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Blood/Blood Products	0	0	0	1	0	0	0	0	1	1	0
Heterosexual - Endemic	4	8	12	9	15	15	18	20	27	16	20
Heterosexual - Partner at Risk	8	12	10	13	3	11	14	11	11	11	13
IDU	50	45	44	22	23	21	25	24	20	17	14
MSM	55	34	34	64	59	48	53	70	69	75	77
MSM and IDU	3	6	4	3	1	1	7	3	4	5	3
NIR - Heterosexual	13	15	12	8	15	10	23	23	14	20	10
NIR - Other	0	2	8	0	2	2	5	6	5	5	4
Occupation	0	0	0	0	1	0	1	0	0	0	0
Perinatal	0	0	0	0	0	0	0	1	1	0	0
Unknown	0	0	0	1	1	1	1	0	0	0	0
TOTAL	133	122	124	121	120	109	147	158	152	150	141

Table 3
Proportion of Newly Diagnosed HIV Cases in Alberta by Risk Exposure Category Among Females by Year of Diagnosis, 2000 to 2010

Exposure Category	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Blood/Blood Products	0	0	0	0	0	0	0	0	0	0	0
Heterosexual - Endemic	8	12	12	5	23	15	33	24	41	26	19
Heterosexual - Partner at Risk	15	11	12	11	10	18	15	12	14	15	8
IDU	35	27	26	9	11	16	20	13	12	9	9
MSM	0	0	0	0	0	0	0	0	0	0	0
MSM and IDU	0	0	0	0	0	0	0	0	0	0	0
NIR - Heterosexual	2	6	7	14	7	14	4	14	10	15	14
NIR - Other	0	0	0	0	0	2	1	3	2	4	0
Occupation	0	0	0	0	0	0	0	0	0	0	0
Perinatal	0	0	0	0	1	0	1	2	2	0	1
Unknown	1	0	0	1	1	0	0	0	0	0	0
TOTAL	61	56	57	40	53	65	74	68	81	69	51