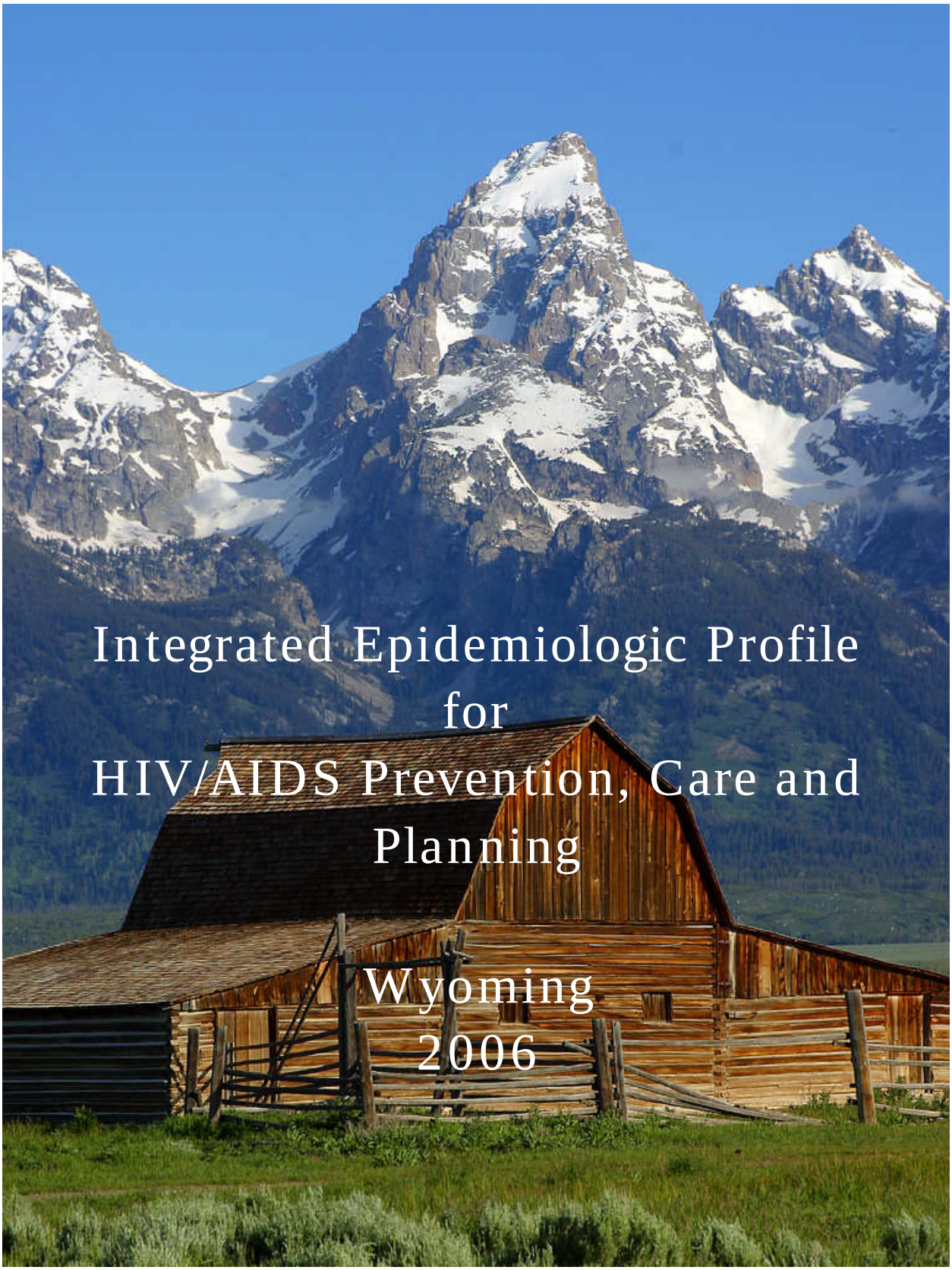

Integrated Epidemiologic Profile for HIV/AIDS Prevention, Care and Planning

Wyoming
2006

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Executive Summary

At the end of 2005, a total of 140 individuals were known to be living with HIV disease in Wyoming (Wyoming and non-Wyoming cases). Ninety-three (66%) were classified as AIDS. This number reflects a revised total of previously released year end data because follow-up was conducted in early 2006 to assess the number of HIV-infected individuals in Wyoming receiving medical care during 2005 (See Section 4 for additional information).

Among persons living with HIV disease (HIV or AIDS) in Wyoming at the end of 2005, the majority were white (77%), male (74%), and by exposure category, men who have sex with men (43%). The combined categories "men who have sex with men" (MSM) and "men who have sex with men and inject drugs" (MSM/IDU) accounted for 54% of all persons living with HIV disease in Wyoming. The exposure categories of injection drug users (IDUs) and heterosexual sex each accounted for 16% of cases.

Among women living with HIV disease in Wyoming at the end of 2005, nearly 49% acquired HIV disease through heterosexual sex while 24% were attributed to injection drug use (IDU). Among female cases attributed to heterosexual sex, 50% reported sexual contact with an injection drug user and nearly 28% reported sex with an HIV infected male partner.

Since 1984, 172 Wyoming residents have been diagnosed and reported with HIV disease. Of these, 60% (98) are classified as AIDS. Of the 98 AIDS cases, 66 (67%) are Wyoming cases and the remaining 32 (33%) are considered to be AIDS cases of other states.

We are unable to provide data regarding HIV disease among most minority populations in Wyoming due to the federal Health Insurance Portability and Accountability Act (HIPAA). It can be said that, for the period 2001 through 2005, persons of Hispanic ethnicity accounted for 10.5% of newly identified cases of HIV disease while other non-whites totaled 14.9% of cases.

HIV disease continues to increase among adult/adolescent females. Between 1996 and 2000, women totaled 22.2% of newly identified cases of HIV disease and increased to represent 28.4% of newly identified cases between 2001 and 2005.

While the number and proportion of cases of HIV among men who have sex with men has decreased over time, this group continues to account for the majority of cases. During the period 2001 through 2005, 47.7% of all newly identified cases of adult/adolescent HIV disease were among men who have sex with men combined with the exposure category men who have sex with men and injected drugs.

During the period 2001 through 2005, 66.2% of newly identified HIV disease was among persons aged 25-44 years. During the same time period, 8.8% of all newly identified cases were aged 13-24 years (the majority were in their early twenties) while individuals aged 45-64 years accounted for 23.5% of newly identified cases.

Pediatric HIV disease remains low in Wyoming. During the period 2001-2005, one case of pediatric HIV disease was reported. A total of 4 pediatric cases have been reported in Wyoming to date.

Target Populations

Men Who Have Sex with Men

HIV disease in Wyoming continues to occur primarily among men who have sex with men (MSM).

Newly identified cases of HIV disease among MSM accounted for slightly over 60% of cases among males (adult/adolescent) and totaled 43% of all adult/adolescent cases reported between 2001 and 2005.

White males totaled 75.9% of all cases reported during the period among MSM. Less than 5 cases were reported among MSM in all other race/ethnic categories.

Sixty-nine percent of cases reported between 2001 and 2005 among gay men were aged 25-44 years and 17% were between the age of 45 and 64 years Cases among young gay males (13-24 years of age) represented 14% of cases among MSM.

By race/ethnicity, 76% of newly identified HIV disease for the period 2001-2005 were white, non-Hispanic. Cases among non-whites totaled 24%.

Cases among MSM/IDU continue to decline. Individuals in this exposure category accounted for 6.3% of cases among adult/adolescent males and 4.5% of all cases reported between 2001 and 2005.

Injection Drug Users (IDUs)

Cases among injection users have declined over time and have remained somewhat stable in recent years. Seven cases in this exposure category were reported between 2001 and 2005.

Between 2001 and 2005, 10.5% of all reported adult/adolescent cases of newly identified HIV disease were among IDUs.

Cases of HIV disease attributed to injection drug use accounted for 8.3% of cases among adult/adolescent males and 15.8% of cases among females.

Women

Newly identified infections among females continue to increase, totaling 19 cases between 2001 and 2005.

Females represented slightly over 28% of all adult/adolescent cases reported during the period 2001-2005.

Among female cases reported during 2001-2005, slightly over 68% were white and 68% were aged 25 to 44 years.

Less than five cases of newly identified HIV disease were reported in each of the other race/ethnic and age groups.

The exposure category of Heterosexual sex contact totaled slightly over 63% of new infections among females for the period. Of these heterosexual sex cases among females, 75% reported sex with an injection drug user.

Data Sources

Data have been compiled from a variety of sources to provide the most complete picture possible. Each of the data sources used has strengths and limitations, which should be considered when interpreting the data.

The majority of data provided in this report are from the Wyoming HIV Surveillance Program and are compiled from reports of HIV and AIDS among Wyoming's population. Data have been aggregated (grouped) to help identify trends over time.

AIDS has been reportable in Wyoming since 1981. Named HIV reporting began in June 1989. Physicians are required to report the diagnosis of HIV and AIDS cases. Laboratories are required to report positive/reactive HIV-related laboratory findings.

The Wyoming Department of Administration and Information, Economic Analysis Division is the source for characteristics of Wyoming's population. For this publication, projections and estimates for 2004 were utilized as detailed 2005 population estimates were not yet available.

Information regarding behaviors of Wyoming's population were obtained from various sources including the Behavioral Risk Factor Surveillance System (BRFSS) Program, the Youth Risk Behavior Survey (YRBS). The BRFSS Program is within the Department of Health and the YRBS is conducted by the Department of Education.

The Youth Risk Behavior Survey (YRBS) was developed by the Centers for Disease Control and Prevention to measure the major health risk behaviors performed by youth. This survey is conducted by The Wyoming Department of Education every other year in high schools and middles schools in Wyoming. This survey was also conducted in Wyoming's Juvenile Justice facilities and is known as the Wyoming Juvenile Justice Youth Risk Behavior Survey (JJYRBS).

Information about the Wyoming Women's Reproductive Health Survey was provided by the Maternal Child Health Program. Funding for this study was provided by the Maternal Child Health Program, the HIV/AIDS Hepatitis Program and the Substance Abuse Division.

The Wyoming STD Program provided data on sexually transmitted diseases occurring in the state while data regarding persons being tested for HIV and information on Hepatitis was obtained from the Wyoming HIV/AIDS/Hepatitis Program.

Substance abuse information among Wyoming residents was obtained from the Treatment Episode Data Set (TEDS) which is a part of SAMHSA's Drug and Alcohol Services Information System (DASIS). TEDS is a compilation of data on the demographic and substance abuse characteristics of admissions and discharges from substance abuse treatment.

The National Survey on Drug Use and Health (formerly called the National Household Survey on Drug Abuse) is a source of information on the prevalence, patterns, and consequences of alcohol, tobacco, and illegal drug use and abuse in the general U.S. civilian non-institutionalized population, aged 12 years and older. The NSDUH is currently conducted by SAMHSA's Office of Applied Studies (OAS).

Information about HIV-related deaths and teenage pregnancy was obtained from the Wyoming Vital Statistics Program.

Profile Strengths and Limitations

It is important to consider the overall strengths and limitations of this document when making planning decisions. Although the profile is comprehensive and draws from a number of different data sources, there are inherent limitations to the information it can provide.

While the HIV/AIDS surveillance system in Wyoming is extensive, it is based only on those people who have been tested confidentially for HIV. Consequently, HIV infections are under-detected and under-reported because only persons with HIV who choose to be tested confidentially are counted. Also, individuals are tested at variable times following HIV infection and many individuals are not tested until they have progressed to AIDS. Thus, it is important to remember that the data in this report do not necessarily represent characteristics of persons who have been recently infected with HIV, nor do the data provide a true measure of HIV incidence. In this document, the term "newly identified HIV disease", refers to individuals who have been recently diagnosed and reported with HIV or AIDS and does not necessarily mean these individuals were recently infected.

Analysis of many different data sets has been presented in this report to provide representations of particular subpopulations. However, demographic and geographic subpopulations are disproportionately sensitive to differences and changes in access to health care, HIV testing patterns, and targeted prevention programs and services. All of these issues must be carefully considered when interpreting HIV data. Therefore, it is important to make comparisons across data sources to get the most complete picture.

The most current analysis available is presented for each source of data; however, the most recent data collected varies from one source to another. One must also keep in mind that data sources are limited in Wyoming, particularly with regard to additional/special HIV-related data sets.

Section 1 – About Wyoming

Based on the July 2004 census estimates, the total population for Wyoming was 506,529. Among Wyoming's 23 counties, populations ranged from a low of 2,272 (Niobrara County) to 85,296 (Laramie County). There are no Metropolitan Statistical Areas (MSAs) in Wyoming. The two largest populated cities in Wyoming are Cheyenne (55,362) and Casper (51,240).

Public Health Regional Structure: Each of Wyoming's counties has at least one public health office. Most of these offices offer services including, but not limited to, child/adult immunizations, HIV counseling and testing, sexually transmitted disease screening, family planning, tuberculosis screening and case management.

Demographic Composition: Based on 2004 census estimates, the racial and ethnic composition of Wyoming's population was estimated to be 88.6% white non-Hispanic, 0.8% Black non-Hispanic, 2.2% American Indian/Alaska Native non-Hispanic, 0.7% Asian non-Hispanic, 0.1% Native Hawaiian/Other Pacific Islander non-Hispanic. Persons of Hispanic ethnicity (of any race) made up 6.7% of the state's population.

Age and Sex: According to census estimates for 2004, the median age for Wyoming male residents was 36.8 years of age while the median age for females was 39.2 years. Persons under 18 years of age accounted for 23.1% of the state's population while those aged 65 years or greater represented 12.1%. The percentage of males (50.4%) in the overall population was slightly higher than females (49.6%).

Poverty, Income and Education: According to the US Census Bureau's *2004 American Community Survey Profiles* the median household income in Wyoming was $44,275.

Slightly over 10% of the population had income below poverty level. A higher number of females (30,708) were at poverty level than males (19,709). For those living at or below poverty level, more than half (53.1%) were less than 24 years of age.

For the population aged 25 years or more, 31.5% graduated from high school; 25.9% obtained an associate or bachelor's degree while 7.6% earned a graduate or professional degree.

Health Indicators: As reported in *America's Health: State Health Rankings, 2005,* Wyoming ranked 19th in nation in 2005; it was 28th in 2004. *America's Health Rankings* is a comprehensive, multi-dimensional, yearly analysis of the relative healthiness of the American population. Information is supplied by sources such as the U.S. Departments of Health and Human Services, Commerce, Education, and Labor and the National Safety Council.

Strengths include a low prevalence of obesity at 20.7% of the population, a low incidence of infectious disease at 8.2 cases per 100,000 population, high per capita public health spending at $354 per person and few limited activity days per month at 1.8 days in the previous 30 days.

Challenges include a high occupational fatalities rate at 15.0 deaths per 100,000 workers, limited access to adequate prenatal care with 67.5% of pregnant women receiving adequate prenatal care and a high infant mortality rate of 8.0 deaths per 1,000 live births.

Significant changes from the previous year include increased per capita public health spending by 43% and the rate of uninsured population decreased by 12%.

Population

In 2004, the total population of Wyoming was estimated at 506,529.

The largest proportion of the population was between the ages of 45-64 years (27.8%), followed closely by those aged 25-44 years (Table 1).

The age distribution among males and females was similar, however, a slightly higher proportion of women were elderly (65 years and older) compared to men.

Table 1: Percentage distribution of the general population, by age group and sex, July 2004 Population Estimates

Age group, years	Males, % (N = 255,056)	Females, % (N = 251,473)	Total Population, % (N = 506,529)
0-12	16.3%	15.5%	15.9%
13-24	19.1%	17.9%	18.5%
25-44	26.0%	25.5%	25.8%
45-65	27.9%	27.7%	27.8%
65 and older	10.7%	13.5%	12.1%

Source: U.S. Bureau of the Census and Wyoming Census Data Center Profile.

Race/Ethnicity

According to the most recent census estimates, nearly 89% of Wyoming residents reported themselves to be non-Hispanic white (Table 2). Non-Hispanic Blacks comprised 0.8% of the population. Hispanics (of any race) totaled 6.7% of population and Native Americans (American Indians) totaled 2.2%.

Table 2: Percentage distribution of the general population, by race/ethnicity and sex, Wyoming, 2004

Race/ethnicity	Males, % (N = 255,056)	Females, % (N = 245,408)	Total Population, % (N = 506,529)
White, not Hispanic	88.3%	88.9%	88.6%
Black, not Hispanic	0.9%	0.6%	0.8%
Hispanic (any race)	6.9%	6.4%	6.7%
American Indian, not Hispanic	2.2%	2.2%	2.2%
Asian, not Hispanic	0.5%	0.7%	0.6%
Native Hawaiian. not Hispanic	0.1%	0.1%	0.1%
Two or more races, not Hispanic	1.1%	1.1%	1.1%

Source: US Bureau of the Census and Wyoming Census Data Center Profile.

Poverty and Income

Persons less than 25 years of age comprised the highest percentage of those who lived below the poverty level statewide. Nearly 57% of males and more than 50% of females living below the poverty level were less than 25 years of age.

Table 3: Percentage distribution of persons living below the poverty level during the past 12 months by sex and age group, Wyoming, 2004

	Below poverty level					
	Wyoming					
	Males		Females		Total	
Age Group	#	%	#	%	#	%
24 years and less	11,212	56.9%	15,557	50.7%	26,769	53.1%
25 - 44	3,476	17.6%	7,453	24.3%	10,929	21.7%
45 – 64	3,847	19.5%	5,357	17.4%	9,204	18.3%
65 years and greater	1,174	6.0%	2,341	7.6%	3,515	7.0%
Total	19,709	100.0%	30,708	100.0%	50,417	100.0%

Source. *US Bureau of the Census and Wyoming Census Data Center Profile.*

Education

As shown in Table 4, 31.5% of residents obtained a high school diploma. A slightly higher proportion of males earned a Graduate or professional degree compared to females while females were more likely to obtain an associate or bachelor's degree

Table 4: Percentage distribution of the population 25 years or older, by educational attainment and sex, Wyoming, 2004

	Wyoming					
	Males		Females		Total	
Education	#	%	#	%	#	%
No schooling	578	0.4%	339	0.2%	917	0.3%
$\leq$ 11th grade	13,082	8.2%	11,225	6.8%	24,307	7.5%
High School, no diploma	2,267	1.4%	2,738	1.7%	5,005	1.5%
High school diploma	50,264	31.3%	52,032	31.7%	102,296	31.5%
Some college	40,356	25.2%	42,801	26.1%	83,157	25.6%
Associate or bachelor's degree	39,639	24.7%	44,454	27.1%	84,093	25.9%
Graduate or professional degree	14,160	8.8%	10,451	6.4%	24,611	7.6%
Total	160,346	100.0%	164,040	100.0%	324,386	100.0%

Source: US Bureau of the Census and Wyoming Census Data Center Profile.

Health Insurance

In Wyoming from 2003-2004, 19% of the state's population aged 19-64 years reported they did not have health insurance coverage (Table 5). Among those with health insurance coverage, 63% received health coverage from their employer.

Table 5: Insurance Coverage of Adults, 19-64 years of age, 2003-2004

	Wyoming	
Source	#	%
Employer	190,770	63
Individual	27,440	9
Medicaid	14,610	5
Other Public	12,270	4
Uninsured	59,300	19
Total	304,400	100

Source:. State Health Facts, Kaiser Family Foundation

Section 2 – HIV/AIDS in Wyoming

HIV disease has impacted persons in all sex, age and racial/ethnic groups in Wyoming. This impact, however, has not been the same for all population groups. In the beginning of the national epidemic, HIV cases rose most sharply in white men who reported having sex with men. Although white MSM are still disproportionately impacted by the epidemic, recent national trends suggest a shift in the epidemic towards women, blacks, and high-risk heterosexuals. As the national epidemic continues to change and the number of persons living with HIV continues to grow, it is extremely important to identify those populations most impacted and most at-risk for HIV infection, in order to effectively plan for HIV prevention and care and to allocate limited resources.

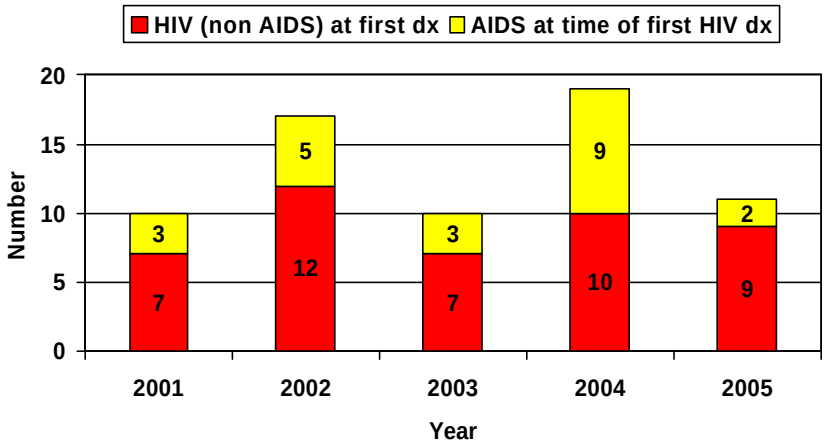
This section provides detailed information about demographic and risk characteristics of HIV-infected individuals and disease trends in the state over time. Unless noted, all data are from the Wyoming HIV/AIDS Surveillance Program. Throughout this document, "newly identified infection" refers to individuals recently reported with HIV disease and who have never tested positive or been diagnosed with HIV disease in the past, regardless of the stage of disease at diagnosis. An individual who was diagnosed and reported as HIV-positive previously, but who recently was reclassified as AIDS, would not be considered a newly identified case of disease.

This epidemiologic profile will not be able to present much data among racial/ethnic minorities due to the Health Insurance Portability and Accountability Act (HIPAA). This federal law prohibits the release of any information that *might* lead to the identification of an individual. Any category or data cell that is less than 5 will be shown as < 5 (less than five) cases and will not provide a specific number for that category in accordance with Wyoming Department of Health Data Release Policy.

Trends in HIV Disease

For the period 2001 through 2005, a total of 68 newly identified infections were reported. Again, "newly identified infections" do not include those individuals who were originally diagnosed as HIV (non-AIDS) in other states and who later were reclassified as AIDS while residing in Wyoming. One pediatric case reported during the period, thus adult/adolescent cases totaled sixty-seven.

Figure 1: Newly Identified HIV Disease, Adults/Adolescents, Wyoming, 2001-2005



During 2005, a total of 11 newly identified cases of HIV disease were reported compared to 19 for 2004.

For cases reported in 2005, nearly 82% were classified as HIV-positive only (not AIDS). Slightly over 18% of newly identified infections in 2005 were classified as AIDS. For the last five years, the proportion of newly identified infections classified as HIV-positive only was higher than the proportion classified as AIDS at the time of the initial case report. Overall for the five-year period, HIV-positive only cases totaled 67% of total morbidity.

Detailed estimates of the 2005 Wyoming population are not available at this time. According to the Centers for Disease Control and Prevention, the 2003 AIDS rate per 100,000 residents was 1.4 and increased to 3.6 for 2004.

By AIDS rate per 100,000 residents, Wyoming ranked 49th (50 states and District of Columbia) for 2004 and 42nd for 2005.

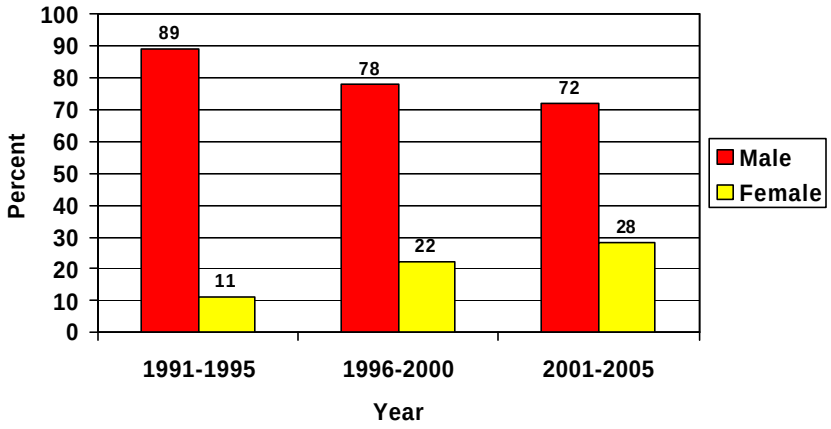
HIV Disease by Gender

Males continue to account for the largest number and proportion of cases although cases reported among females are increasing (Figure 2).

Proportionally, males represented 89% of cases between 1991 and 1995; 78% for the period 1996-2000 and 72% during the most recent time period

For adult/adolescent males, 72 cases were reported between 1991 and 1995. Between 1996 and 2000, 42 cases were reported and 48 cases were reported between 2001 and 2005.

Figure 2: Proportional Distribution of HIV Disease by Gender, Wyoming, 1991-2005



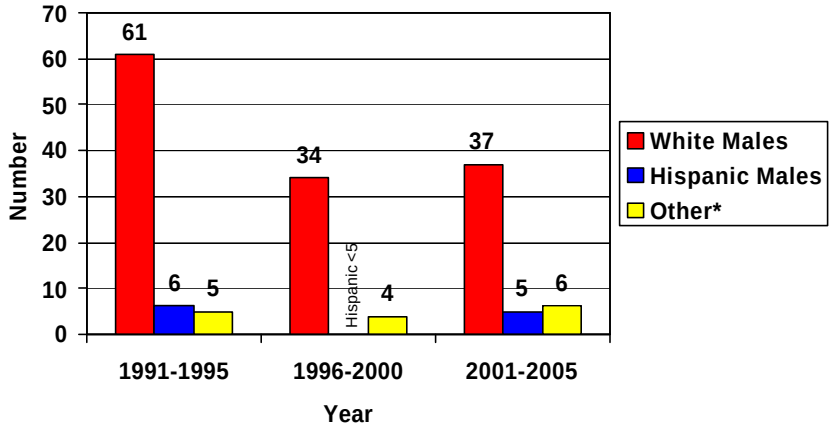
Proportionally, females represented 11% of cases during 1991-1995; 22% of cases between 1996 and 2000 and increased to represent 28% of cases during the most recent time period.

Nine cases were reported among females between 1991 and 1995. During the period 1996-2000, 12 cases were reported and 19 cases were reported among females during the period 2001 through 2005.

HIV/AIDS by Race/Ethnicity and Gender

The number of cases among white males declined when comparing the period 1991-1995 to 1996-2000 but increased slightly when comparing 1996-2000 to 2001-2005. Cases among white males continue to account for the largest number and proportion of cases.

Figure 3: Newly Identified HIV Disease among Adult/Adolescent Males by Race/Ethnicity, Wyoming, 1991-2005



*Restricted by HIPPA - multiple races combined – less than 5 cases per race.

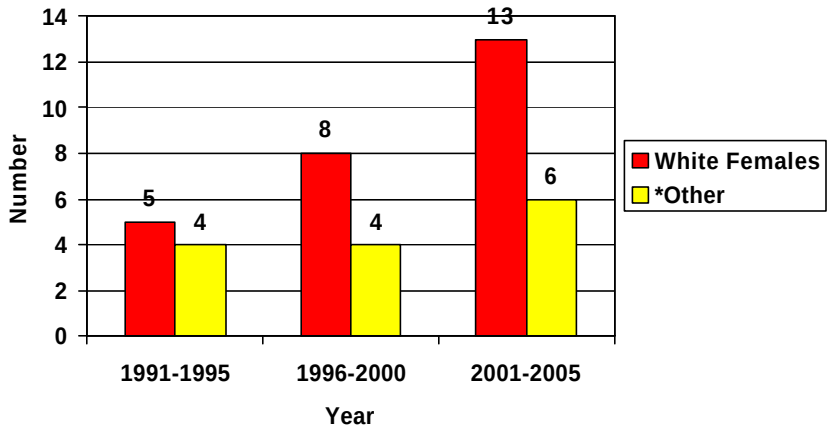
Whites have consistently accounted for the largest number and proportion of cases among males by race/ethnicity. Males of Hispanic ethnicity and "Other" race have remained steady over the past 15 years.

Proportionally, white males represented nearly 85% of cases reported among adult/adolescent males during 1991-1995; nearly 81% between 1996 and 2000 and 77% during 2001-2005.

Proportionally, Hispanic males represented 8.3% of cases in 1991-1995 and increased to represent 10.4% of cases among males between 2001 and 2005.

While the number of males in the "Other" race category remains low, collectively this group of men has increased proportionally from 6.9% of newly identified HIV disease among males between 1991 and 1995 to 12.5% of all male cases during 2001-2005. The category "Other" represents all males except White and Hispanic.

Figure 4: Newly Identified HIV Disease among Adult/Adolescent Females, Wyoming, 1991-2005



*Restricted by HIPPA - multiple races combined – less than 5 cases per race.

Cases of newly identified HIV infection among white females have increased steadily when comparing time periods (Figure 4). During the period 1991-1995, five cases were reported among white females; eight cases were reported during 1996-2000 and 13 cases were reported between 2001 and 2005.

Among females, whites accounted for nearly 56% of newly identified HIV disease during 1991-1995; nearly 67% between 1996 and 2000 and 68% during 2001-2005.

Cases reported among non-white females have remained relatively stable over time.

HIV Disease by Age

As shown in Figure 5, persons aged 25-44 years of age have accounted for the largest number of cases reported in the three most recent five-year periods. Proportionally, individuals aged 25-44 years accounted for 74% of newly identified HIV disease among adults and adolescents during 1991-1996; 61% between 1996 and 2000 and 67% during 2001-2005.

Newly identified cases among individuals aged 13-24 years have remained relatively stable in recent years as have cases among those aged 45-64 years. It should be noted that individuals in the 13 to 24 year age group tend to be in their early twenties.

Figure 5: Newly Identified HIV Disease by Age Groups, Adults/Adolescents, Wyoming, 1991-2005

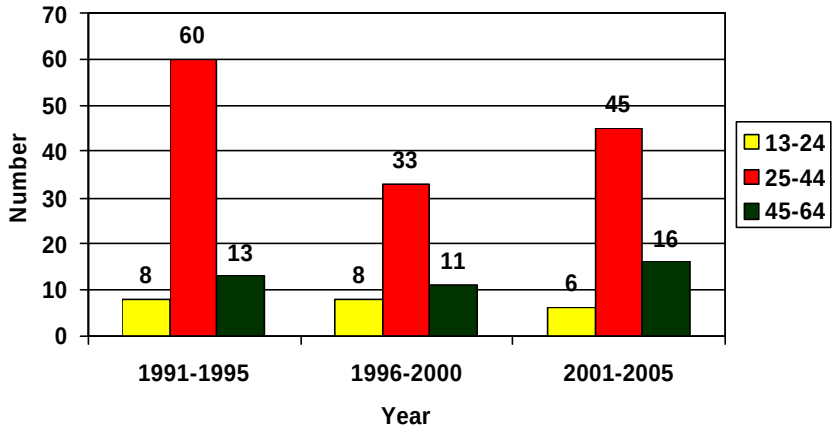
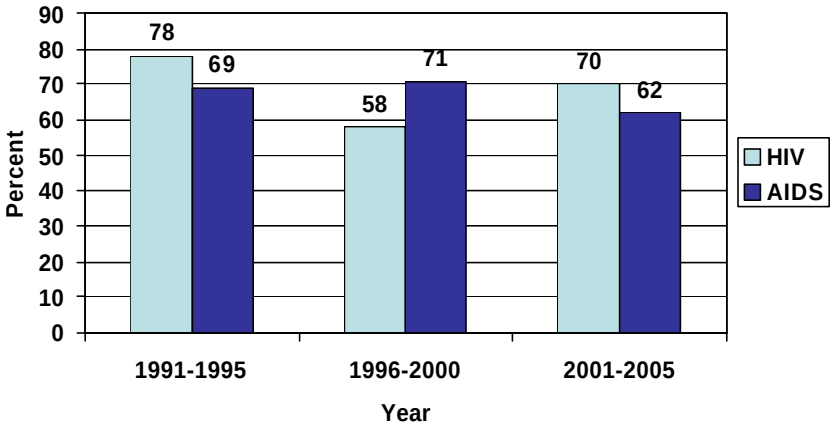


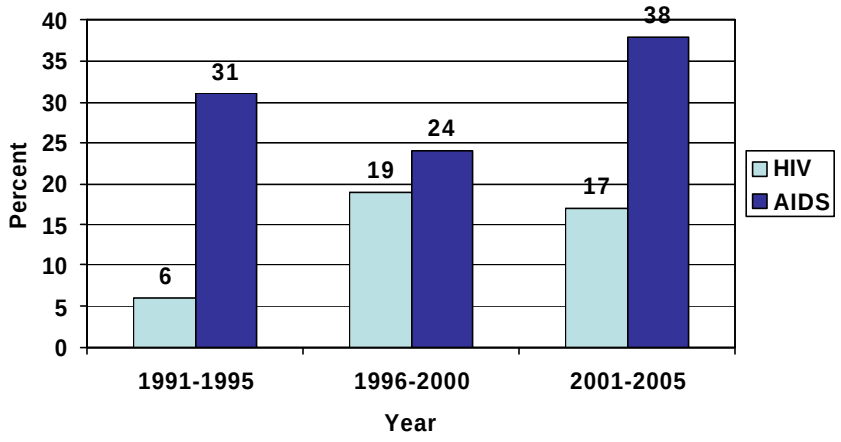
Figure 6: Proportion of Individuals Reported with HIV or AIDS, Aged 25-44 Years, Wyoming, 1991-2005



During 1991-1995, individuals aged 25-44 years represented 78% of HIV-positive only case reports and 69% of those individuals initially reported with AIDS. Between 1996 and 2000, this age group accounted for 58% of HIV cases and 71% of AIDS cases. During the most recent time period, 70% of individuals reported as HIV-positive only were aged 25 to 44 years and 62% of AIDS cases also fell into this age group.

Among males and females, the highest proportion of cases by age for both HIV and AIDS were aged 25 to 44 years. Males in this age group represented 71% of combined HIV and AIDS cases for all males reported between 1991 and 1995; 61% of all cases among men during 1996-2000 and 67% of cases among males between 2001 and 2005.

Figure 7: Proportion of Individuals Reported with HIV or AIDS, Aged 45-64 Years, Wyoming, 1991-2005



While the number of females by age group is restricted for the most part because of HIPAA, it can be said that for each time period, at least 67% of combined HIV and AIDS cases among females were aged 25-44 years of age.

As shown in Figure 7, persons aged 45-65 years represented a higher proportion of individuals who were initially reported as AIDS (no previous HIV diagnosis). This age group represented 31% of AIDS cases between 1991 and 1995; 24% for the period 1996-2000 and 38% of individuals initially reported as AIDS between 2001 and 2005.

HIPAA restricts the release of data for persons aged less than 13 years and those aged 65 years or greater due to the small number of individuals reported with HIV disease in these age groups.

HIV/AIDS by Mode of Exposure

As shown in Figure 8, the largest number of newly identified HIV disease continues to be among the combined categories of MSM and MSM/IDU.

Cases attributed to heterosexual sex contact continue to rise while cases among injection users have declined over time and have remained somewhat stable when comparing 1996-2000 and 2001-2005.

By exposure category, men who have sex with men represented 43.3% of newly identified cases between 2001 and 2005, as shown in Table 6. Those reporting heterosexual sex contact accounted for 22.4%. Cases among injection drug users accounted for slightly over 10% all cases reported during the period.

Figure 8: Newly Identified HIV Disease by Exposure Category, Adults/Adolescents, Wyoming 1991-2005

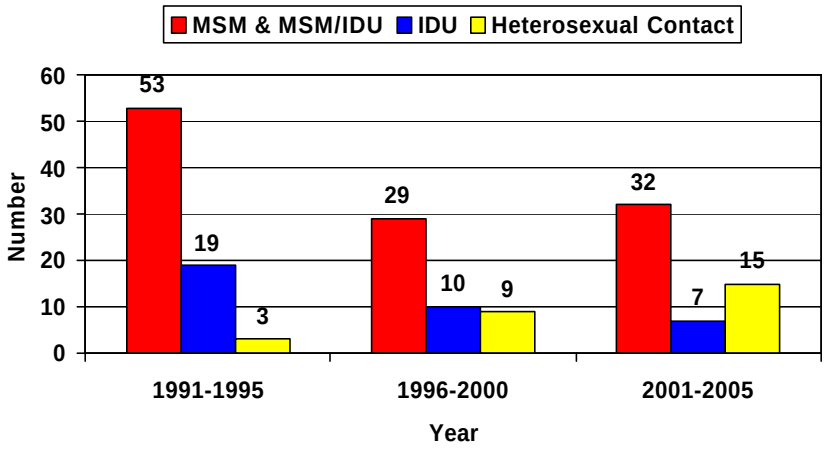


Table 6: HIV disease among adults/adolescents, by exposure category and gender, Wyoming, 2001-2005

	Male		Female		Total	
Exposure Category	#	%	#	%	#	%
Men who have sex with men	29	60.4%	0	0.0%	29	43.3%
Injection drug use	4	8.3%	3	15.8%	7	10.4%
Men who have sex with men and inject drugs	3	6.3%	0	0.0%	3	4.5%
Heterosexual contact	3	6.3%	12	63.2%	15	22.4%
Hemophilia/Transfusion	0	0.0%	1	5.3%	1	1.5%
Risk not reported/not identified	9	18.8%	3	15.8%	12	17.9%
Total	48	100.0%	19	100.0%	67	100.0%

Among males, men who have sex with men accounted for 60.4% of newly identified HIV disease during the time period 2001 through 2005.

Heterosexual sex contact totaled slightly over 63% of new infections among females for the period. Of these heterosexual sex cases among females, 75% reported sex with an injection drug user.

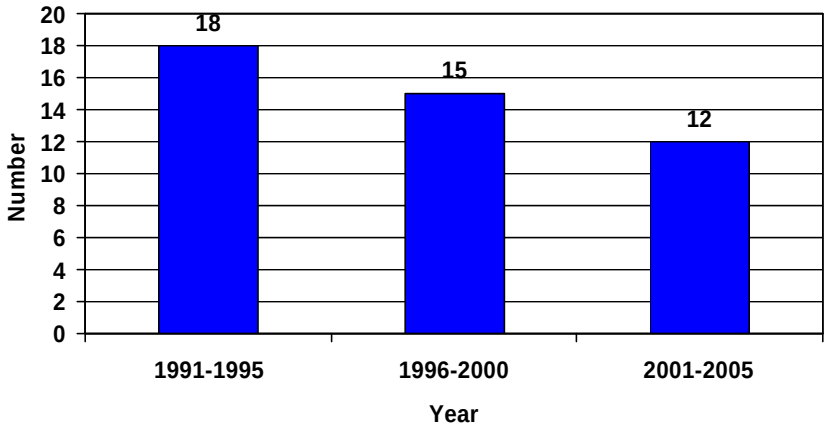
Additional AIDS Cases

It should be mentioned that a number of individuals who were initially diagnosed as HIV positive only in other states have moved to Wyoming and eventually were reclassified as Wyoming AIDS cases. While these individuals represent additional cases counted by Wyoming, they are not newly identified infections as discussed earlier in this document.

An additional 12 adult/adolescent AIDS cases were counted by Wyoming between 2001 and 2005 that had been previously counted as HIV cases in other states. Over time, the number of such cases has decreased slightly, ranging from 18 during 1991-1995; 15 during 1996-2000 and 12 between 2001 and 2005.

Individuals in this category are mostly white males. By exposure category, the majority of cases have been among men who have sex with other men.

Figure 9: Wyoming AIDS Cases Previously Classified as HIV Cases of Other States, 1991-2005



For the 12 cases added to Wyoming morbidity during the period 2001-2005, 10 were male and 2 were female. Most were white. By exposure category, 50% were MSM, 25% were attributed to inject drug use and 16.67% were among MSM/IDU.

Imported Cases of HIV Disease

Imported cases of HIV disease represent individuals whose HIV or AIDS diagnosis occurred in another state and who moved to Wyoming after diagnosis. Case morbidity for these individuals is claimed by the state where the individual resided at the time of diagnosis. However, if an individual was diagnosed as HIV (not AIDS) in another state, moved to Wyoming and then progressed to AIDS, the AIDS case will be claimed by Wyoming.

At the end of 2005, a total of 76 adult/adolescent individuals with HIV disease diagnosed in other states were known or thought to be residing in Wyoming. Twenty-seven (36%) of these individuals were classified as HIV (not AIDS) and the remaining 49 individuals (64%) were classified as AIDS.

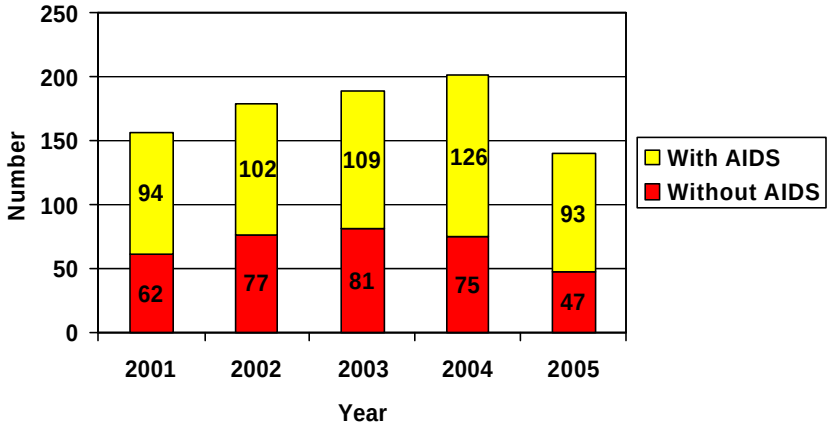
The demographics of imported cases of HIV disease residing in Wyoming do not differ greatly from those associated with Wyoming cases nor do the demographics of imported HIV cases and imported AIDS cases differ greatly.

By gender, 80% of imported cases of HIV disease are male. Forty-two percent of cases are MSM and 16% are attributed to heterosexual sex contact. IDUs account for 18% of imported cases while 16% are among MSM/IDU.

By race/ethnicity, 71% are white and 16% are Hispanic. Less than 5 cases have been reported in other race categories.

Persons Living with HIV Disease in Wyoming

Figure 10: Persons Living with HIV/AIDS, Wyoming, 2001-2005



At the end of 2005, the number of persons known to be residing in Wyoming totaled 140. The decrease in the number of persons living in Wyoming during 2005 compared to previous year is due to intense follow-up of individuals known or *presumed* to be living in 2005.

Table 7. Race/Ethnicity of Persons Living with HIV Disease at Year End 2005, Wyoming

	All Persons	
Race/Ethnicity	#	%
White	108	77%
Black	5	4%
Hispanic	17	12%
Native American	8	6%
Other	2	1%
Total	140	100.0%

As shown in Table 7, 77% of persons living with HIV disease in Wyoming at the end of 2005 were white. Hispanics were the second largest group, totaling 12% of all persons with HIV disease living in Wyoming at the end of 2005. Cases among Native Americans totaled 8 or 6%.

White males accounted for nearly 58% of all cases living in the state at the end of 2005. Cases among Hispanic males totaled 9% of all cases while cases among Black males represent nearly 3% of total cases residing in Wyoming at the end of 2005.

White females totaled 18% of all cases of HIV disease living in Wyoming at the end of 2005. Hispanic females represented 16% of cases among females.

Table 8: Age Group at Diagnosis of Persons Living with HIV Disease at Year End 2005, Wyoming.

	Total	
Age Group	#	%
0-12 yrs.	2	1%
13-24 yrs.	15	11%
25-44 yrs.	97	69%
45-64 yrs.	25	18%
65+ yrs.	1	1%

By age group at earliest diagnosis of HIV disease, 69% of persons living with HIV disease at the end of 2005 were between 25 and 44 years of age at diagnosis (Table 8). This particular age group also accounts for the largest proportion of individuals by gender.

A larger proportion of younger males (aged 13 to 24 years at diagnosis) and males aged 45-64 years were living with HIV disease than females in the same age groups at the end of the year.

As shown in Table 9, men who have sex with men account for the largest proportion of individuals living with HIV disease at the end of 2005. If combined with men who have sex with men and inject drugs, this exposure category accounts for over half of all individuals living in the state with HIV disease. Heterosexual injection drug users account for 16% of all cases while those exposed to HIV through heterosexual sex makeup 17% of cases.

Table 9: Exposure Categories of Adult/Adolescent Persons Living with HIV disease in Wyoming at Year End 2005.

	Male		Female		Total	
Exposure Category	No.	%*	No.	%*	No.	%
MSM	60	43%	-	-	60	43%
IDU	14	10%	9	6%	23	16%
MSM/IDU	15	11%	-	-	15	11%
Heterosexual	5	4%	18	13%	23	16%
No Identified Risk	8	6%	6	4%	14	10%
Perinatal	0	0%	2	1%	2	1%
Hemophilia/Transfusion	1	1%	2	1%	3	2%
Total	103	74%	37	26%	140	100.0%

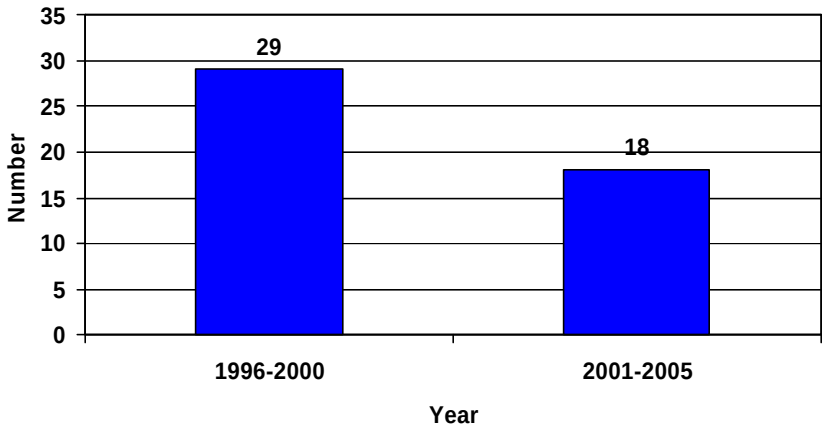
*Calculated on total cases.

Among females, nearly half of all cases are attributable to heterosexual sex while cases associated with injection drug use account for 24% of cases.

Mortality Trends

In more recent years the number of deaths among persons with AIDS in Wyoming has decreased compared to the earlier years of the AIDS epidemic, mainly due to effective drug therapies.

Figure 11: Deaths among Persons Diagnosed with AIDS, Wyoming, 1996-2005



Section 3 – Characteristics of High-Risk Populations

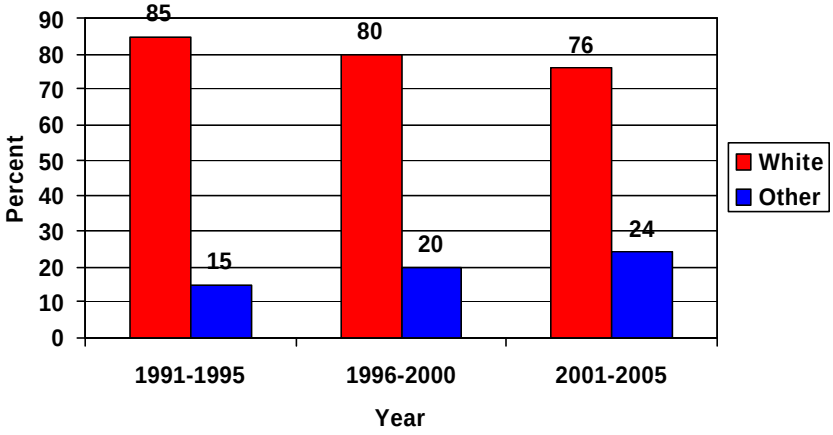
Men who have sex with other men

During the period 1991 through 1995, newly identified HIV disease among men who have sex with other men totaled 46 cases. During the last two five year periods cases reported among this group have remained relatively stable with 26 cases reported during 1996-2000 and 29 cases reported between 2001 and 2005.

Proportionally, during the period 1991-1995, 85% of newly identified cases of HIV disease among MSM were white. Slightly over 80% were white between 1996 and 2000 and during the period 2001 through 2005, nearly 76% of reported cases among MSM were white.

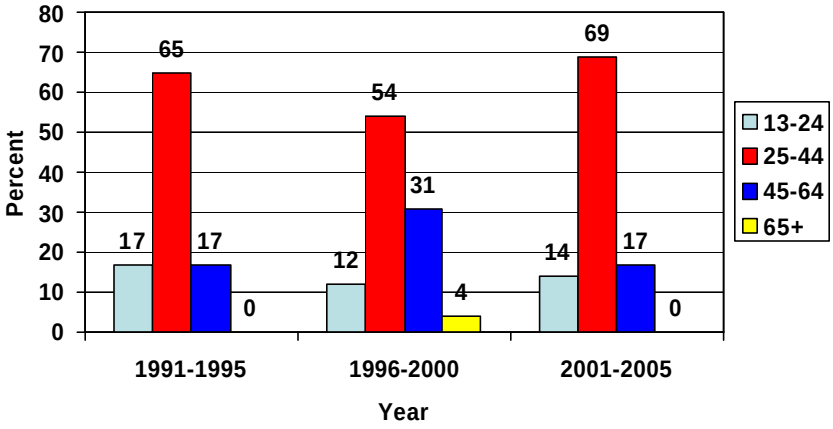
Cases among non-white have increased both in number and proportion during the last two five-year periods. During 1996-2000, 3 cases (11.5%) among non-white MSM were reported. In the most recent period, cases among non-whites increased to 7 or 24% of cases reported among MSM.

Figure 12: Proportional Distribution of HIV Disease among MSM by Race, Wyoming, 1991-2005



As show in Figure 13, among MSM the majority of newly identified HIV was among persons aged 25 to 44 years at the time of initial diagnosis. Between 1991 and 1995, 65% of all cases reported among MSM were aged 25 to 44 years at their original diagnosis of either HIV or AIDS. Fifty-four percent of cases among MSM were in this age group during the period 1996 to 2000 and 69% between 2001 and 2005.

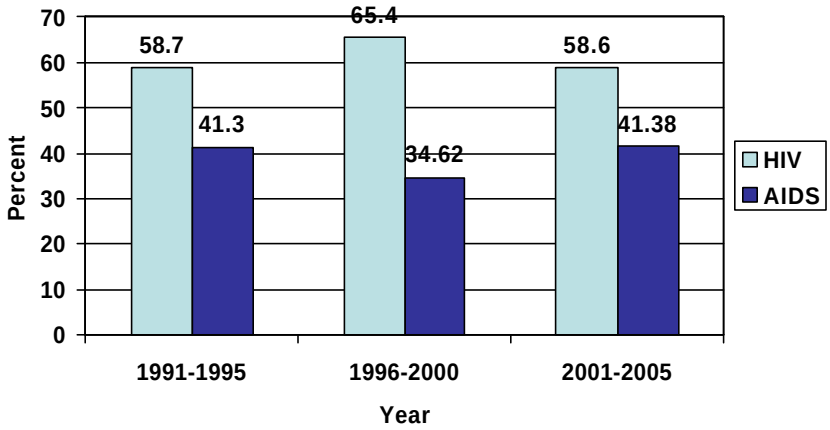
Figure 13: Proportional Distribution of HIV Disease among MSM by Age Groups, Wyoming, 1991-2005



As show in Figure 14, a larger proportion of MSM have been diagnosed as HIV positive only at initial diagnosed than have been diagnosed as AIDS.

Among MSM, during the period 1991-1995, 58.7% were initially diagnosed as HIV positive only; 65.4% between 1996 and 2000 and 58.6% during the period 2001 to 2005.

Figure 14: Proportional Distribution of HIV Disease among MSM by Disease Stage at Initial Diagnosis, Wyoming, 1991-2005



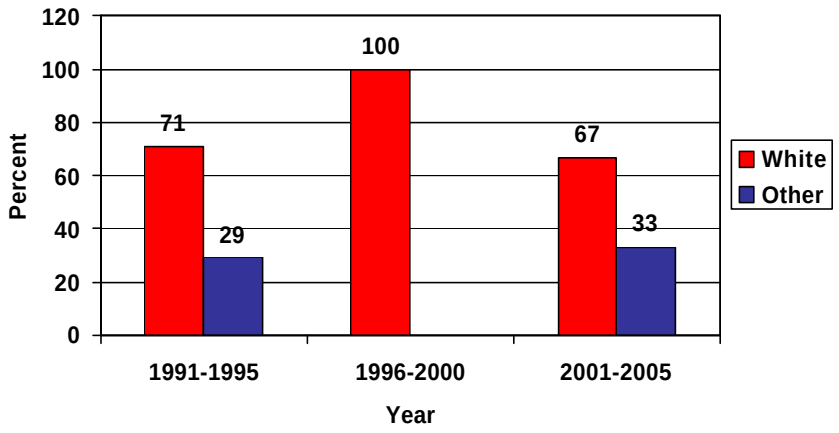
MSM/IDU

Although newly identified HIV disease among MSM who also reported injection drug use has remained relative low over time, this exposure category should be considered when planning prevention activities for both MSM and IDUs.

Between 1991 and 1995, newly identified HIV disease among MSM/IDU totaled seven cases. Three cases were reported during the last two five-year periods.

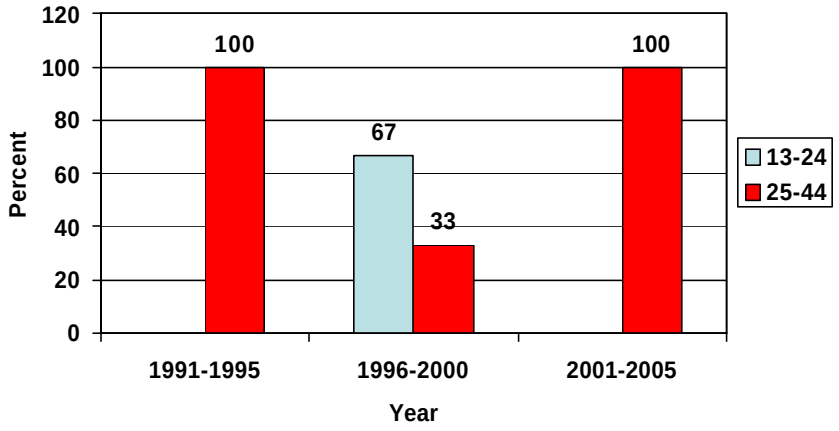
By race/ethnicity, the majority of MSM reported with HIV disease have been white. Seventy-one percent of cases among MSM/IDU reported between 1991 and 1995 were white. Between 1996 and 2000, 100% (3 cases) were white compared to 67% between 2001 and 2005 (Figure 15).

Figure 15: Proportional Distribution of HIV Disease among MSM/IDU by Race, Wyoming, 1991-2005



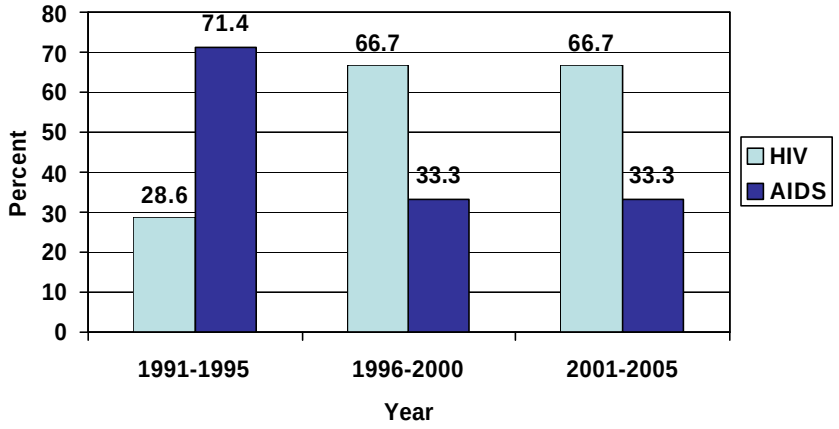
As shown in Figure 16, the majority of newly identified cases of HIV disease among MSM/IDUs have been aged 25-44 years.

Figure 16: Proportional Distribution of HIV Disease among MSM/IDU by Age Group, Wyoming, 1991-2005



As shown in Figure 17, between 1991 and 1995, a larger proportion of MSM/IDUs were initially diagnosed as AIDS rather than HIV-positive only. However, in more recent years, a larger proportion of cases among MSM/IDUs were initially diagnosed as HIV-positive only.

Figure 17: Proportional Distribution of HIV Disease among MSM/IDU by Disease Stage at Initial Diagnosis, Wyoming, 1991-2005



Injection Drug Users

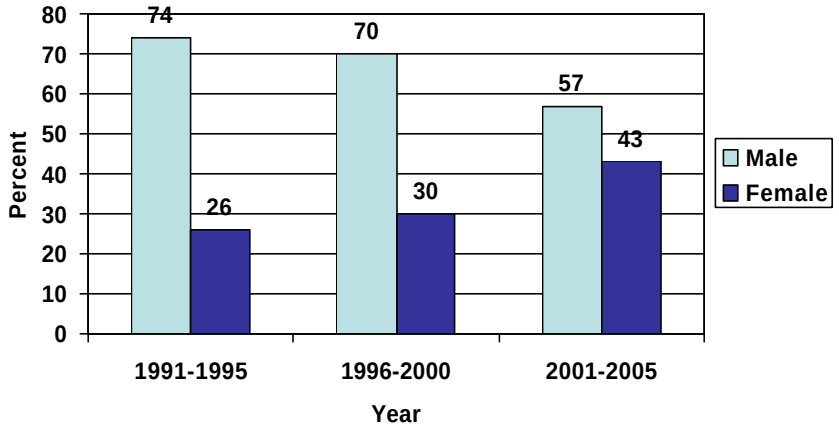
Newly identified cases among injection drug users have declined over time with 19 cases reported between 1991 and 1995; 10 cases reported during 1996-2000; and 7 cases reported during the period 2001 through 2005.

The majority of cases reported among IDUs have been males however proportionally, the gap between male and female cases narrowed when comparing 2001-2005 to other time periods.

During 1996-2000, men accounted for 70% of cases related to injection drug use but represented only 57% of cases among injection drug users between 2001 and 2005.

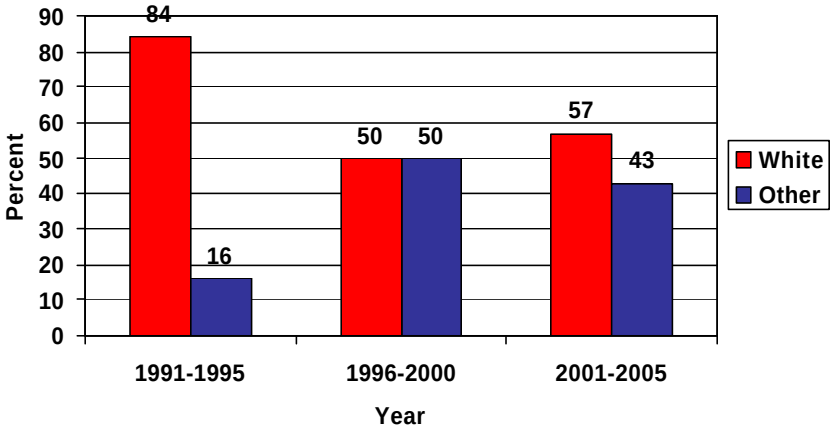
While the actual number of females among reported IDU cases remained the same with 3 cases reported during 1996-2000 and 2001-2005, the proportion of female cases among injection drug users rose from 30% between 1995 and 2000 to 43% during 2001 through 2005 (Figure 18).

Figure 18: Proportional Distribution of HIV Disease among IDUs by Gender, Wyoming, 1991-2005



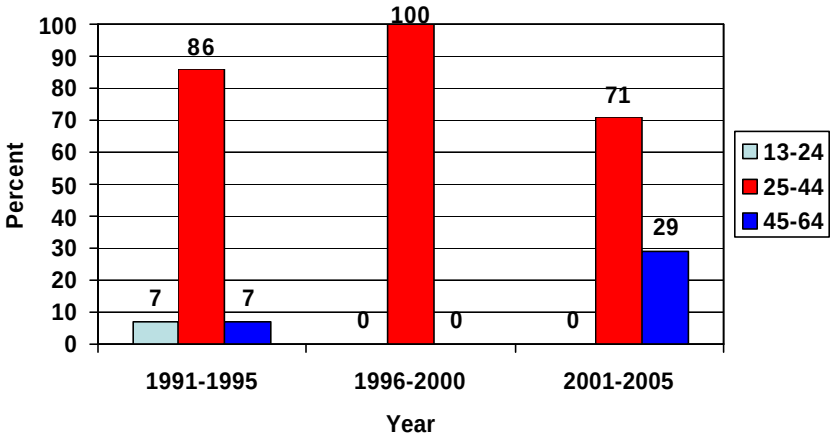
Cases among injection drug users have been mostly white over time but have decreased proportionally from 84% of cases between 1991 through 1995 to 57% of cases among IDUs during the most recent five-year period (Figure 19).

Figure 19: Proportional Distribution of HIV Disease among IDUs by Race, 1991-2005



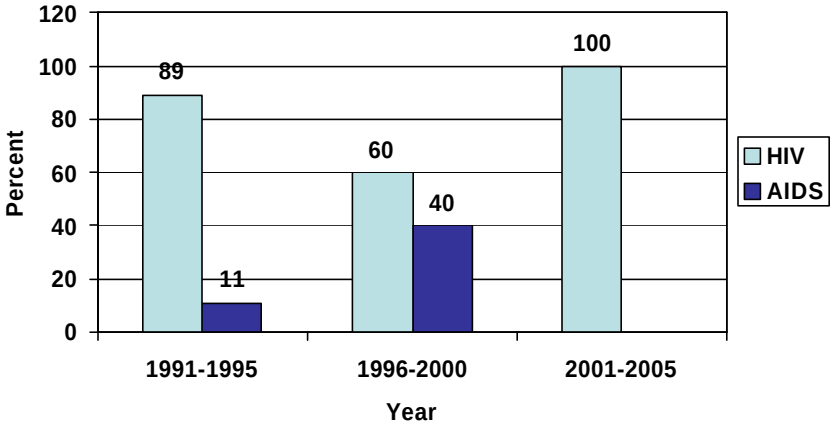
The majority of IDUs reported in the last 15 years were between the age of 25 and 44 years as shown in Figure 20.

Figure 20: Proportional Distribution of HIV Disease among IDUs by Age Group, Wyoming, 1991-2005



As demonstrated in Figure 21, during the period 2001 through 2005, 100% of the seven cases reported among IDUs were HIV-positive only at initial diagnosis.

Figure 21: Distribution of HIV Disease among IDUs by Disease Stage at Initial Diagnosis, Wyoming, 1991-2005

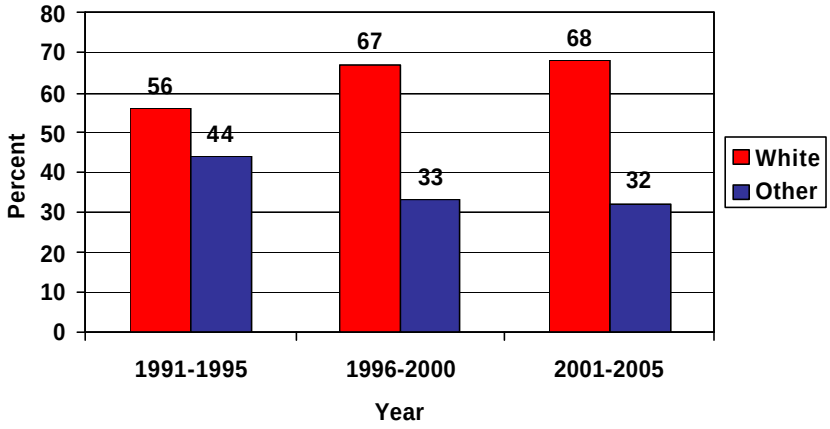


Women

Newly identified HIV disease among women has increased steadily over the years. In 1991-1995, 9 cases were reported. In 1996-2000, 12 cases were reported among females and the number of cases increased to 19 for the period 2001 through 2005.

As with cases among males in Wyoming, most reported female cases have been white. During the period 1991 to 1995, fifty-six percent of newly identified HIV disease among women were white. Between 1996 and 2000, white women accounted for 67% of cases reported among females and they represented 68% of cases during the period 2001-2005 (Figure 22).

Figure 22: Proportional Distribution of HIV Disease among Women by Race, Wyoming, 1991-2005

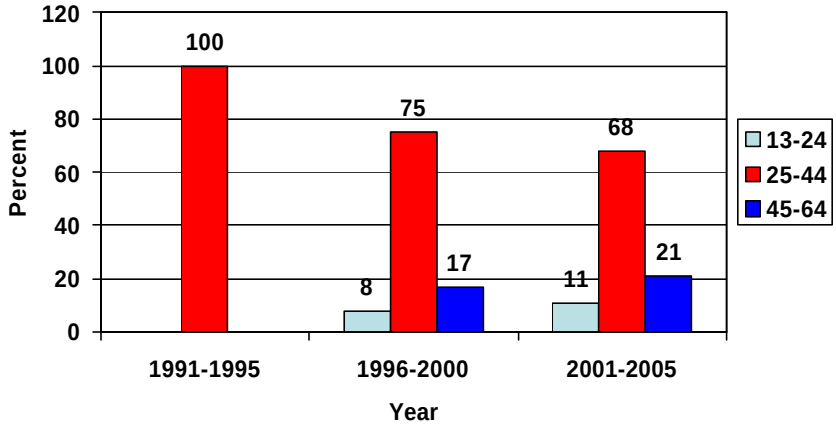


As shown in Figure 23, females aged 25 to 44 years account for the largest number and proportion of newly identified cases among females.

During the period 1991 to 1995, 100% of cases among females were aged 25-44 years but represented only 68% by 2001-2005. Cases among females aged 13 to 24 years represented 8% of

female cases between 1996 and 2000 and 11% during 2001-2005. Women aged 45-64 years of age totaled 17% of female cases between 1996 and 2000 and 21% between 2001 and 2005.

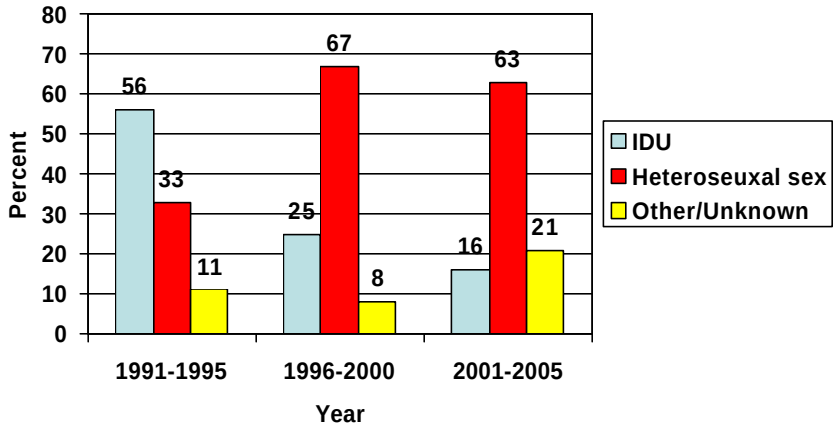
Figure 23: Proportional Distribution of HIV Disease among Women by Age Group, 1991-2005



As shown in Figure 24, newly identified HIV disease among females reporting injecting drug use has declined over time. During the period 1991 through 1995, injection drug use was attributed to 56% of all cases reported among females. By the time period 2001-2005, females in this exposure category totaled only 16%.

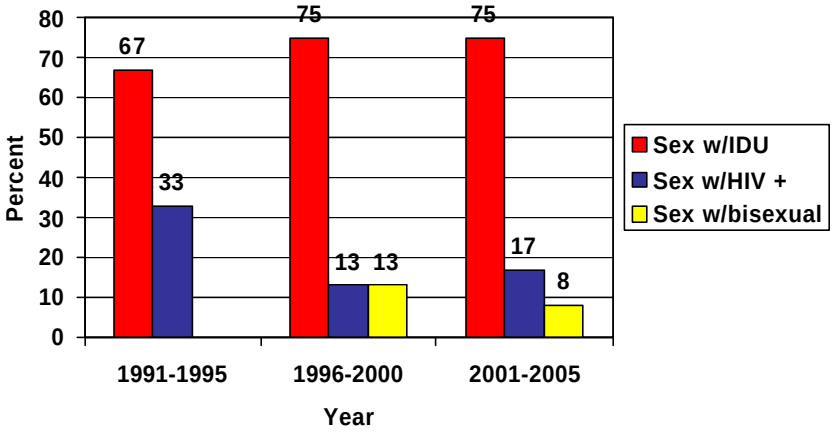
Newly identified cases attributed to heterosexual sex contact are on the increase among women. This exposure category totaled 33% of cases between 1991 and 1995 and rose to 63% of cases for the period 2001-2005.

Figure 24: Proportional Distribution of HIV Disease among Women by Exposure Category, Wyoming, 1991-2005



Among females reported whose exposure category was heterosexual sex contact, many reported sexual contact with a male at increased risk for HIV. Among female heterosexual cases between 1991 and 1995, 67% having sex with an injection drug user. The proportion of females reporting heterosexual sex with an injection drug user increased to represent 75% of all female cases attributed to sex during 2001-2005.

Figure 25: Proportional Distribution of HIV Disease among Women by Expanded Exposure Categories, Wyoming, 1991-2005



Indicators of Risk for HIV Disease in Wyoming

Persons most likely to become infected with HIV are those who engage in high-risk behaviors with persons that live in communities with high HIV prevalence. Although Wyoming is considered to be a low prevalence for HIV, the following section examines the trends and characteristics of populations practicing high-risk behaviors in Wyoming, to help community planning groups understand the varying risks for HIV infection in Wyoming. The primary focus of this section is on two high-risk populations: injection drug users and heterosexuals.

The previous section addressed the level of HIV infection in various groups affected by HIV. This section examines direct and indirect measures of risk behavior in groups most at risk for acquiring HIV infection. Direct measures of risk provide information about risk behavior that is directly associated with HIV transmission. Indirect measures do not directly describe HIV risk behaviors; however, they serve as indicators of possible HIV risk that may need further investigation. For example, an increase in STD or teen pregnancy rates does not directly indicate that HIV exposure is increasing, but may indicate an increase in unprotected sex.

Direct Measures of Risk Behavior

Injection and Other Substance Use

This section addresses measures of risk behavior among injection and other drug users in Wyoming that may increase the risk for acquiring or transmitting HIV infection.

The National Survey on Drug Use and Health (NSDUH) and Youth Risk Behavior Survey (YRBS) provide information on risk behavior related to substance abuse. The NSDUH is a source of information on the prevalence, patterns, and consequences of alcohol, tobacco, and illegal drug use and abuse in the general U.S. civilian non-institutionalized population, age 12 and older. The survey is currently conducted by SAMHSA's Office of Applied Studies (OAS) and provides information on substance abuse in state populations.

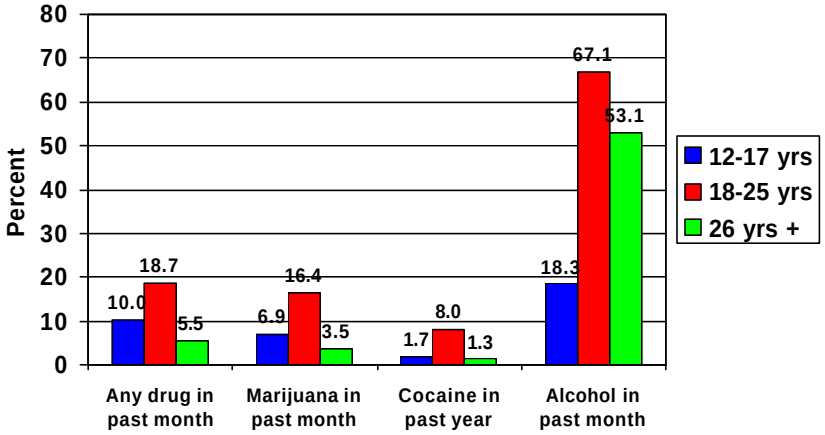
The YRBS is a self-administered questionnaire given to a representative sample of 6th through 12th grade students at the state and local levels. Because this survey is administered in school, students at highest risk, who may be more likely to be absent from school or to drop out, might be underrepresented in this survey; students in older grade levels are more likely not to be in school. (For a more detailed description of these surveys and their strengths and limitations, please refer to Appendix A.)

Among the general population in Wyoming interviews in the NSDUHs, nearly 19% of persons aged 18 to 25 years reported using an illicit drug at least once during the past month. Individuals in this age group, for the most part, accounted for the highest use of all substances. Illicit drugs included marijuana/hashish, cocaine, inhalants, hallucinogens, heroin, and any other prescription-type psychotherapeutic drug used non-medically.

By far, more respondents (regardless of age) reported a higher use of alcohol as compared to other substances.

Individuals aged 18 to 25 years, for the most part, accounted for the highest use of all substances (Figure 26).

Figure 26: Selected Substance Use by Age Group, Wyoming, Annual Averages Based on 2003 and 2004 NSDUHs

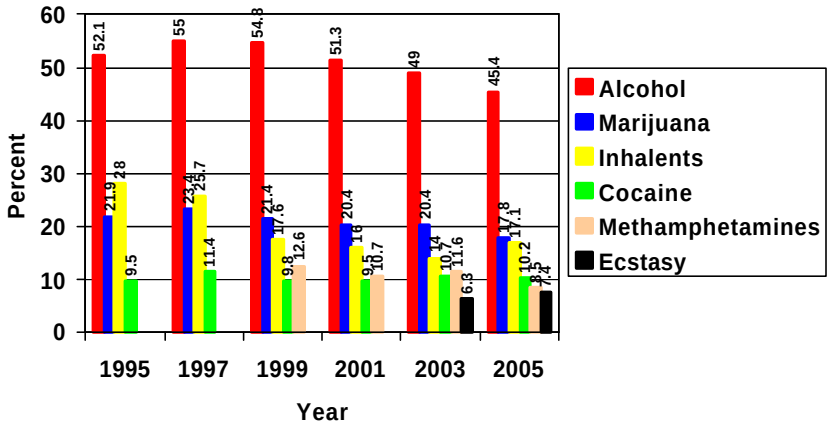


The Youth Risk Behavior Survey (YRBS)

The percentage of students who had at least one drink of alcohol on one or more of the past 30 days has been declining since 1997. In 1997, 55% of high school students reported alcohol use. In 2005, the percentage of high school students reporting alcohol use decreased to 45.4%. In general, a slightly larger percent of males claimed to have used alcohol compared to females.

Marijuana use among high school students has decreased from 21.9% in 1995 to 17.8% in 2005. A slightly higher percentage of males reported using marijuana one or more times during the past 30 days. In 2005, 18.5% of male respondents reported marijuana use compared to 17.1% of females.

Figure 27: Selected Substance Use among Wyoming High School Students, 2005



The percentage of high school students who sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high one or more times decreased between 1995 (28%) and 2003 (14%) but increase slightly in 2005. In 2003, 14% reported the use of inhalants compared to 17.1% in 2005. The percentage of students reporting this type of use did not vary greatly when comparing males and females.

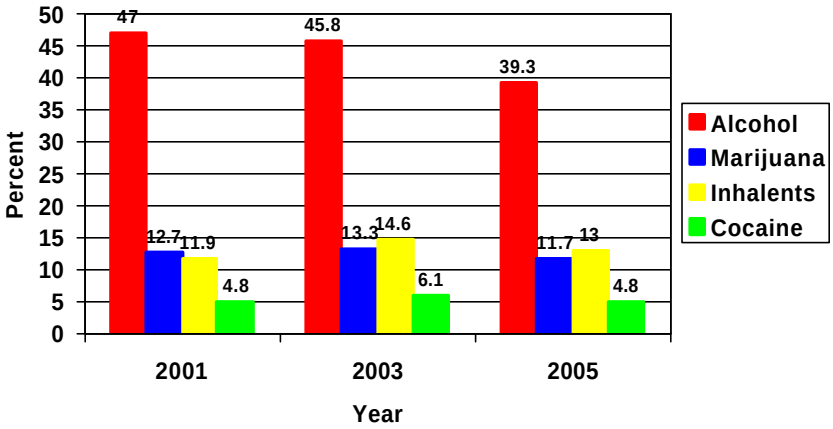
The use of any form of cocaine, including powder, crack, or freebase one or more times has remained relatively stable among high school students. In 1995, 9.5% of students reported use of cocaine compared to 10.2% in 2005. As with inhalants, the percentage of students using cocaine did not vary greatly by gender.

The use of methamphetamines one or more times has decreased slightly when comparing 1999 to 2005. In 1999, 12.6% of students reported using methamphetamines one or more times during their lifetimes compared to 8.5% in 2005. The use of this drug did not vary greatly be gender, with 8.5% of males and females reporting use at least once in their lifetime in the 2005 survey.

While not shown in Figure 27, the use of heroin among high school students in Wyoming remains low. In 1999, 2.9% of students reported the use of heroin at least once during their lifetime, increasing to 3.7% in 2005. The greatest disparity by gender was in 2005 when 5% of males reported heroin use compared to 2.4% of females.

Information about the use of ecstasy among Wyoming high school students was collected in the last two surveys. In 2003, 6.3% of high schoolers reported ecstasy use compared to 7.4% in 2005.

Figure 28: Selected Substance Use among Wyoming Middle School Students, 2005



As with high school students, the most commonly used substance among Wyoming middle school students appears to be alcohol. In 2001, 47% of middle school students surveyed reported ever having a drink of alcohol, other than a few sips. In 2005, 39.3% reported alcohol use at some point during their lives. A slightly higher percentage of males reported the use of alcohol compared to females.

The percentage of middle school students reporting having ever used marijuana use has remained relatively stable over time. In 2001, 12.7 percent of students reported marijuana use; 13.3% in 2003 and 11.7% in 2005.

The use of inhalants was more common among middle school males until 2005. In 2005, 13.6% of females reported ever having sniffed glue, breathed the contents of spray cans, or inhaled any paints or sprays to get high compared to 12.4% of males. In 2003, 15.8% of males reported use of inhalants compared to 12.4% in 2005.

It is important to keep in mind that one limitation of YRBS is that it is administered in school. Since students at highest risk may be more likely to be absent from school or to drop out, they may be underrepresented, especially among older grade levels.

Wyoming Juvenile Justice Youth Risk Behavior Survey

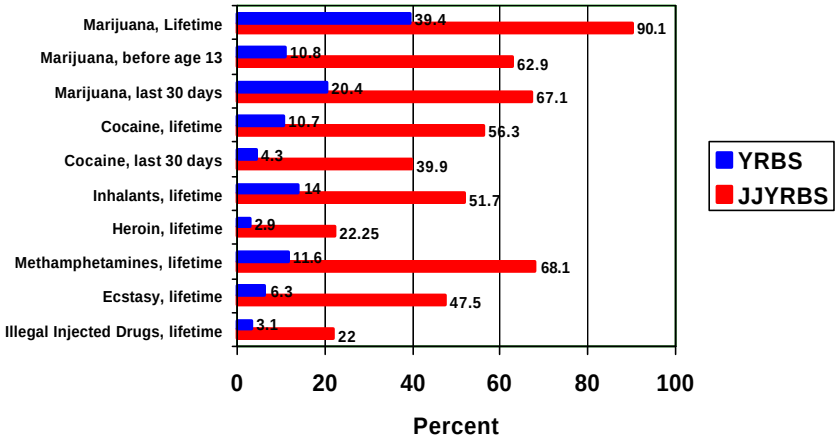
The Wyoming Survey & Analysis Center (WYSAC) was contracted to conduct the first administration of the YRBS to youth in Wyoming's Juvenile Justice facilities. The purpose of administering the survey to youth in the Juvenile Justice facilities was to establish a baseline of the Juvenile Justice population for comparison with their age mates in Wyoming's public secondary education system. Because of the youth's involvement in the Juvenile Justice system, the high school version of Wyoming's YRBS was modified to ask more questions related to high risk behavior and included additional questions related to the youth's involvement with the Juvenile Justice system.

Wyoming has three Juvenile Justice facilities that house juvenile offenders on a long-term basis and all three facilities participated in the survey. The sites were the Wyoming School for Boys (Worland), the Wyoming School for Girls (Sheridan) and the Wardle Academy of Frontier Correction in Cheyenne which housed both genders. Parental or guardian consent was required for participation in the survey and participation was not mandatory. Of the estimated 180 youth in the

facilities at the time of the survey, 144 surveys were returned by participants. The survey was conducted in the summer of 2004.

One of be greatest contrasts found between the Juvenile Justice population and Wyoming's high school students is the area of illegal drug use. With most questions regarding the use of illegal drugs, whether over the course of a lifetime, in the year before incarceration, or thirty days prior to incarceration, juvenile justice respondents reported several times the usage rate of Wyoming's high school population. As shown in Figure 29, the usage rate for the Juvenile Justice population raged from roughly twice that of the high school population (for ever using marijuana) to eight times the high school rate (for use of cocaine in the last 30 days).

Figure 29: Illegal Drug Use Comparison: 2004 YRBS and 2003 JJYRBS, Wyoming



Indirect Measures of Risk Behavior

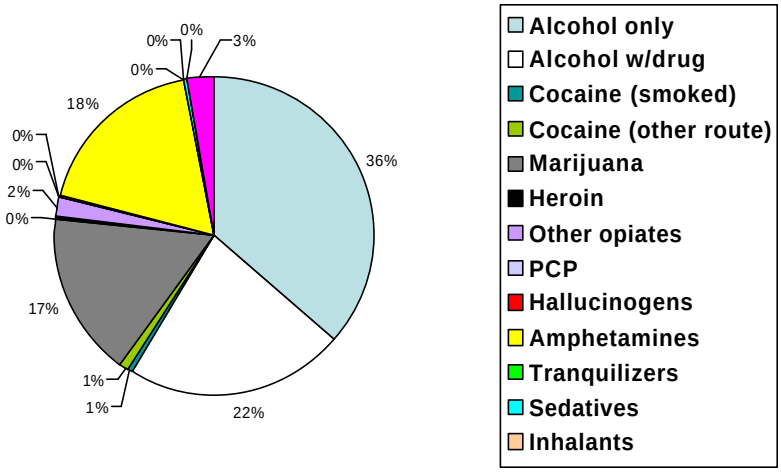
Drug Use

The Treatment Episode Data Set (TEDS) provides information that may identify the potential occurrence of behaviors related to injection drug use. TEDS, which is maintained by the Substance Abuse and Mental Health Services Administration, offers a way to indirectly measure the prevalence of injection drug use in Wyoming. This survey compiles routinely reported substance abuse treatment admission data from facilities that receive state and federal funding. Because TEDS is an admission-based system, the admissions may not represent unduplicated individuals. However, they may represent multiple admissions within a calendar year for an individual. (For more detailed descriptions of this data source, please refer to Appendix A.)

There were a total of 4,976 substance abuse admissions in Wyoming during 2004.

Those admitted for alcohol use only totaled 36.5% of admissions; 22% were associated with the use of alcohol and a secondary drug, 16.8% were marijuana-related and nearly 18% of admissions were due to amphetamine use (Figure 30).

Figure 30: Selected Drug Treatment Admissions, Wyoming, Treatment Episode Data Set (TEDS), 2004



As show in Table 10, by gender, 69.7% of admissions were male and 30.3% were female.

A larger percentage of females were admitted than males for the following drugs: cocaine (smoked), tranquilizers, sedatives and other opiates. Among these, 100% of admissions among those using tranquilizers were female.

Table 10. 2004 Treatment Episode Date Set, Percent of Admissions by Substance and Gender

	Male %	Female %
Admissions (4,976)	69.7	30.3
Alcohol only (1,817)	71.7	28.3
Alcohol w/secondary drug (1,095)	74.4	25.6
Cocaine (smoked) (30)	43.3	56.7
Cocaine (other route) (40)	65	35
Marijuana (834)	78.4	21.6
Heroin (18)	55.6	44.4
Other opiates (97)	35.1	64.9
PCP (1)	0	100
Hallucinogens (8)	62.5	37.5
Amphetamines (878)	58.5	41.5
Tranquilizers (3)	0	100
Sedatives (12)	41.7	58.3
Inhalents (4)	75	25
Other/Unknown (139)	61.9	38.1

Table 11. 2004 Treatment Episode Data Set, Admissions by Substance and Age Groups

	Age Group						
	12-17 %	18-25 %	26-30 %	31-40 %	41-55 %	56+ %	Unknown %
Admissions (4,976)	12.3	32.6	13.2	20.5	18.8	2.6	0.1
Alcohol only (1,817)	7.5	29.7	11.6	20.1	25.6	5.3	0.1
Alcohol w/secondary drug (1,095)	12.4	30.2	13.2	21.8	20.6	1.8	0.2
Cocaine (smoked) (30)	0	16.7	16.7	40.0	26.7	0	0
Cocaine (other route) (40)	5	27.5	15	20.0	32.5	0	0
Marijuana (834)	30.5	42.1	9.7	10.6	6.8	0.4	0
Heroin (18)	0	22.2	22.2	27.8	27.8	0	0
Other opiates (97)	3.1	18.5	15.5	26.8	30.9	5.2	0
PCP (1)	0	100	0	0.0	0	0	0
Hallucinogens (8)	50	37.5	0	0.0	12.5	0	0
Amphetamines (878)	5.8	34.5	20.2	26.9	12.3	0.1	0.2
Tranquilizers (3)	66.7	0	0	0.0	0	33.3	0
Sedatives (12)	16.7	25	8.3	33.3	8.3	8.3	0
Inhalants (4)	75	25	0	0.0	0	0	0
Other/Unknown (139)	12.9	36	10.1	24.4	15.1	1.4	0

Individuals aged 18-25 years accounted for 32.6% of all admissions. This age group also accounted for the largest proportion of admissions for alcohol, alcohol with a secondary drug, marijuana, PCP, amphetamines, and substances in the other/unknown category (Table 11).

Admissions for use of cocaine (smoked) and sedatives were mostly among those aged 31-44 years while those aged 41-45 accounted for the largest proportion of admissions for use of cocaine via another route, and other opiates. Each of these age groups accounted for 27.8% of admissions due to the use of heroin.

As shown in Table 12, overall, 86.3% of admissions were among whites. Whites accounted for at least 70% of all admissions by type of substance.

American Indians/Alaska Natives accounted for the second largest group by race with 5.1% of all admissions during 2004. This group accounted for 7.5% of admissions due to cocaine (other route) use; 7.3% of admissions due to alcohol combined with a secondary drug and 5.3% of admissions due to the use of alcohol alone.

Table 12. 2004 Treatment Episode Data Set, Percent of Admissions by Race

	Race					
	White %	Black %	American Indian or Alaskan Native %	Asian or Native Hawaiian or Other Pacific Islander %	Other %	Unknown %
Admissions (4,976)	86.3	1.9	5.1	0.3	4.7	1.7
Alcohol only (1,817)	87.4	1.5	5.3	0.1	4.2	1.5
Alcohol w/secondary drug (1,095)	82.6	2.6	7.3	0.5	5.6	1.5
Cocaine (smoked) (30)	83.3	3.3	0	0	10	3.3
Cocaine (other route) (40)	70	7.5	7.5	0	12.5	2.5
Marijuana (834)	84.4	2.6	4.3	0.4	5.9	2.4
Heroin (18)	94.4	0	5.6	0	0	0
Other opiates (97)	96.9	0	1	0	1	1
PCP (1)	100	0	0	0	0	0
Hallucinogens (8)	75	0	12.5	0	12.5	0
Amphetamines (878)	89.4	1.3	3.5	0.6	3.8	1.5
Tranquilizers (3)	100	0	0	0	0	0
Sedatives (12)	100	0	0	0	0	0
Inhalants (4)	100	0	0	0	0	0
Other/Unknown (139)	87.8	2.2	3.6	0	2.9	3.6

Persons of non-Hispanic ethnicity (any race) accounted for 83.6% of 2004 TEDS admissions while persons of Hispanic ethnicity accounted for 9.2% of admissions.

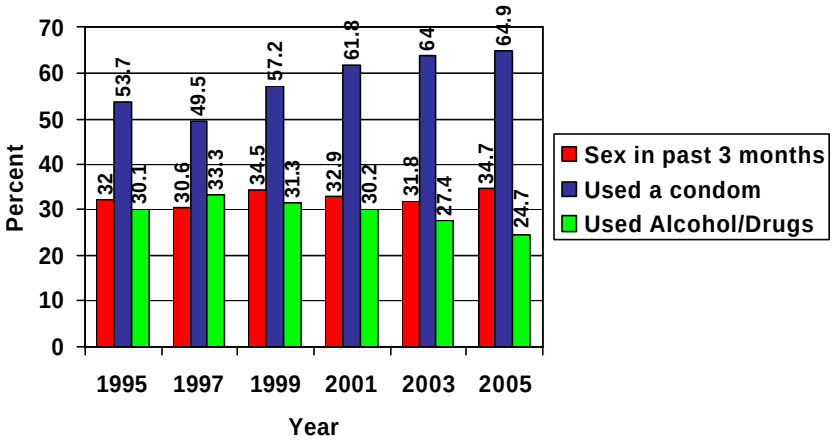
Heterosexual Populations - Direct Measures of Risk Behavior

YRBS is a data source for Wyoming that provides information on risk behavior related to sexual activity in a presumed heterosexual population. Another data source is the Wyoming Women's Reproductive Health Study conducted by the Maternal Child Health Program within the Wyoming Department of Health.

YRBS

The YRBS distributes a self-administered questionnaire to a representative sample of 6th through 12th grade students at the state level. Youth were asked whether they had ever had sexual intercourse, whether they had sexual intercourse in the past 3 months and whether they had sexual intercourse with four or more partners in their lifetime. Respondents who had sexual intercourse within 3 months prior to the interview were asked whether they had used a condom during the last intercourse and whether they drank or used drugs before the last intercourse. Because this survey is administered in school, students at highest risk may be underrepresented because they may be more likely to be absent from school or to drop out of school, especially among older grade levels. This data source is also limited in that it does not address the general heterosexual population of the state. (For a more detailed description of each data source and its strengths and limitations, please refer to Appendix A).

Figure 31: Selected Sexual Behaviors among Wyoming High School Students, 2005



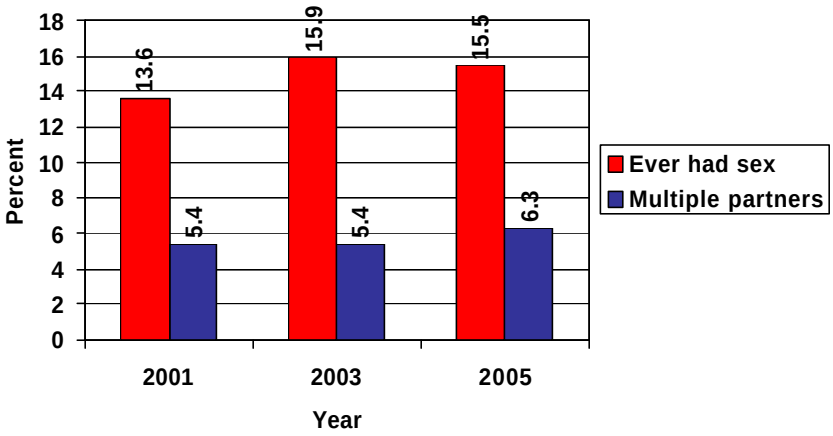
While not shown in Figure 31, in 2005 47.1% of high school students reported ever having had sexual intercourse.

In 2005, 34.7% of high school students reported having had sex with one or more people during the past three months. Of these, 64.9% reported the use of a condom.

Among high school students who reported having sex in the past three months, 24.7% reported the use of alcohol or drugs before their last sexual encounter.

As shown in Figure 31, the percentage of high school students having sex in the past three months and the percentage reporting the use of alcohol or drugs before their last sexual encounter has remained relatively stable over time. However, among those reporting sex in the last three months before the survey, the use of condoms has steadily increased since 1997.

Figure 32: Selected Sexual Behaviors among Wyoming Middle School Students, 2005



The percentage of middle school students reporting ever having sex has remained relatively stable over time, ranging from 13.6% in 2001 to 15.5% in 2005. Male students were more likely to have had sex. In 2005, 18.5% of males reported ever having sexual intercourse compared to 12.3% of females

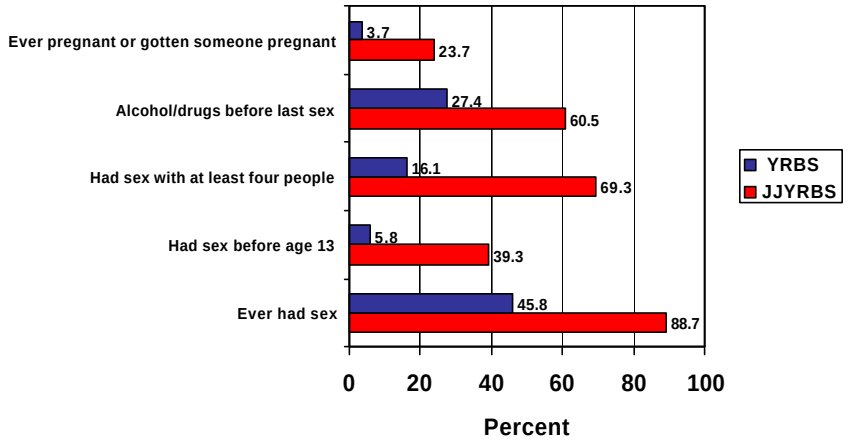
Overall, 6.3% of students reported having three or more sex partners. Among males, this figure was 8.2% compared to 4.2% of females.

Wyoming Juvenile Justice Youth Risk Behavior Survey

Youth in Wyoming Juvenile Justice facilities were asked a number of questions regarding their sexual behaviors. Results were compared with the Youth Risk Behavior Survey among high school students.

As shown in Figure 33, youth in Wyoming Juvenile Justice facilities reported engaging in sexual behavior at rakes markedly higher than the rates reported by Wyoming's high school students. Seven times more Juvenile Justice youth reported having had sex before age 13 or reported having ever been pregnant (or gotten someone pregnant). They were also four times more likely to have had sex with four or more people in their lifetime, and more than twice as apt to have drunk alcohol or used drugs the last time they had sexual intercourse.

Figure 33: Sexual Behavior Comparison: 2003 High School and 2003 JJYRBS, Wyoming



The Wyoming Women's Reproductive Health Survey

Funding for this study was provided by the Maternal Child Health Program, the HIV/AIDS Hepatitis Program and the Substance Abuse Division. Among the purposes of study was the need to identify risky behaviors and to provide information on health disparities, needs and gaps in services. Data was collected at public health nursing sites, family planning sites and by private physicians. Women aged 15 to 45 years participated in the study and 29 clinic sites (23 public and 6 private) located in 22 of Wyoming's counties were included. The study was conducted between January and October 2004 and 1049 women participated in the study of which 97.9% completed their survey documents.

Table 13. Participant Demographics, Wyoming Women's Reproductive Health Survey, 2004

	Percent
Clinic Type	
Public	60.9
Private	39.1
Race/Ethnicity	
White	86.25
Hispanic	7.8
Native American	2.47
Other	1.83
Black	0.82
Asian/Pacific Islander	0.73
Age Groups	
15-19	19.47
20-24	29.87
25-35	34.1
36-45	16.56

Of the 126 pregnant women in the survey, 18.3% were teenagers and 5 tested positive for methamphetamine use. Among all women in the survey, 14% self-reported methamphetamine use within their lifetime with the mean age being 18.6 years at first use. Nine individuals overall reported current use of methamphetamine. Among methamphetamine users in the survey, over 60% reported never using a condom and users had a higher number of sex partners (over 16 compared to 6.2 for non users). Nearly 50% of methamphetamine users had a sexually transmitted disease at some point compared to 23% among non-users.

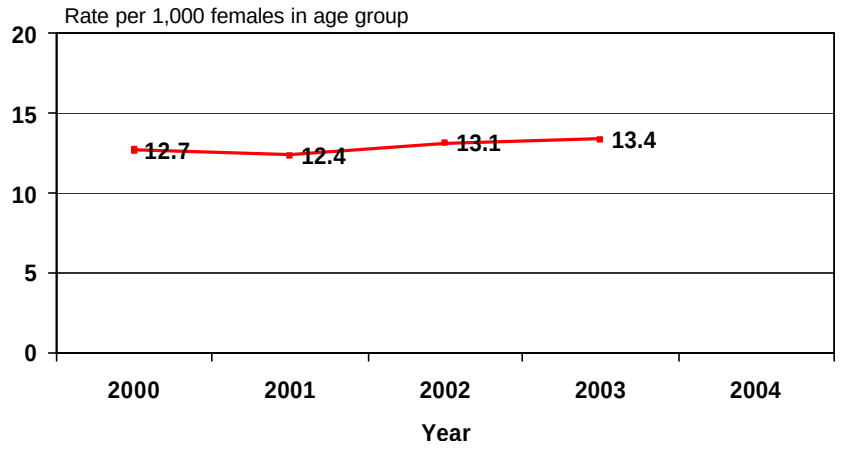
Slightly over 43% of survey participants indicated that healthcare providers had never talked to them about HIV while 54% of participants said they have been tested for HIV (45% were tested while pregnant). Of the women who had never been tested for HIV, nearly 73% did not believe they were at risk for acquiring HIV.

Heterosexual Populations - Indirect Measures of Risk Behavior

STD surveillance data and Vital Statistics data on teen pregnancy rates provide information that may help identify the potential occurrence of high-risk heterosexual behavior. Although increases in STD or teen pregnancy rates do not directly indicate that HIV exposure is increasing, these measures may indicate an increase in unprotected sex.

Teen Pregnancy Rates

Figure 34: Trends in Teenage (15-19 yrs) Pregnancy Rates, Wyoming, 2000-2003



The overall teen pregnancy rate has decreased from 47.8 per 1,000 teens in 1998 to 38.9 in 2002. In 2000, the national rate for teen births was 48.5 per 1,000; Wyoming's rate for the same year was 41.9.

Gonorrhea

As show in Figure 35, gonorrhea among both males and females has been increasing since 2004 and females account for a larger number of cases than males, mainly because of routine screening at statewide Title X and non-Title X (family planning) clinics.

Figure 35: Gonorrhea Cases by Gender, Wyoming 2001-2005

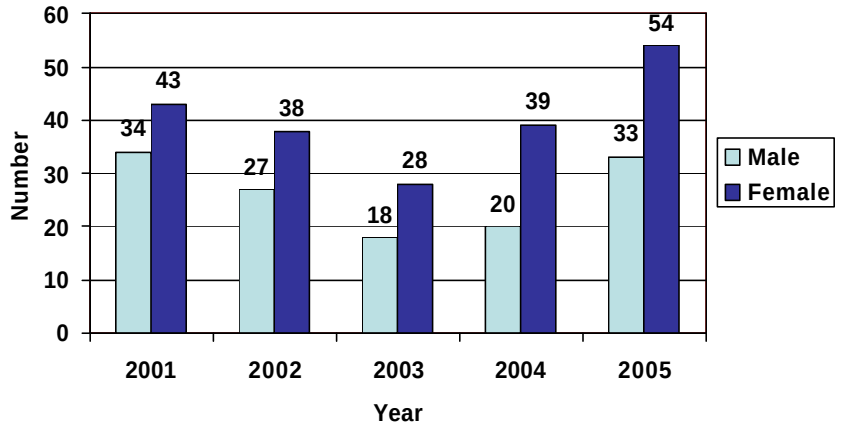
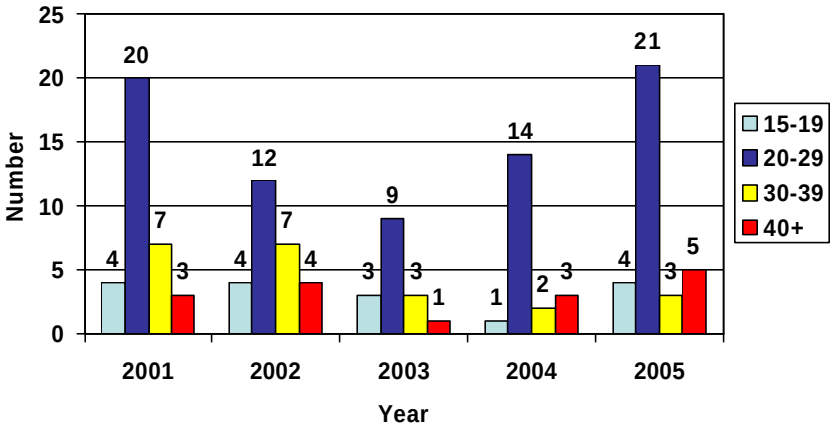


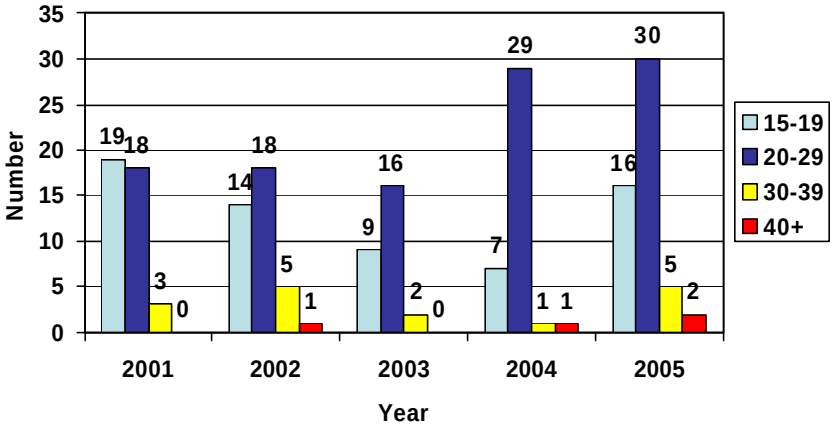
Figure 36: Gonorrhea Cases by Age Group, Male, Wyoming, 2001-2005



Individuals aged 20-29 years account for the largest number of reported gonorrhea cases among males. Cases among males aged 20-29 years have increased in the last two years compared to 2003. An increase in reported cases has also occurred for males aged 40 years or greater in the last few years.

Those aged 20-29 years of age accounted for 64% of cases reported among males in 2005. Individuals aged 20-29 years account for the largest number of reported gonorrhea cases among males. Cases among males aged 20-29 years have increased in the last two years compared to 2003. An increase in reported cases has also occurred for males aged 40 years or greater in the last few years.

Figure 37: Gonorrhea Cases by Age Group, Female, Wyoming, 2001-2005



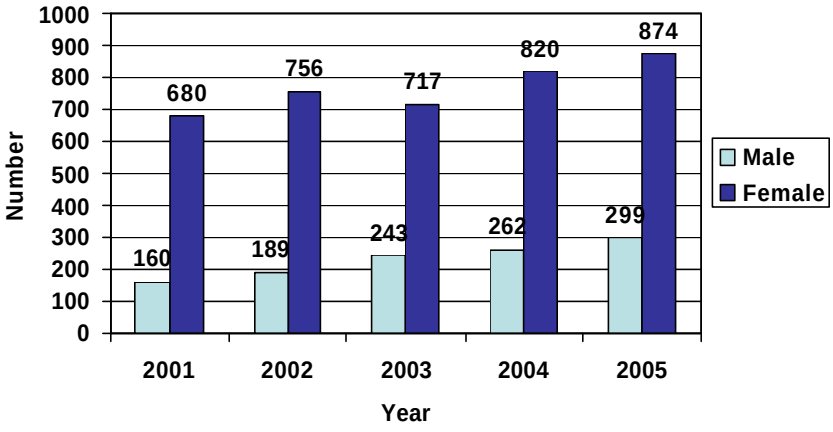
Among females, the largest number of reported gonorrhea cases in Wyoming is among those aged 20-29 years, followed by those in the 15-19 years age group.

Females aged 20-29 years accounted for 56% of cases among females during 2005.

Chlamydia

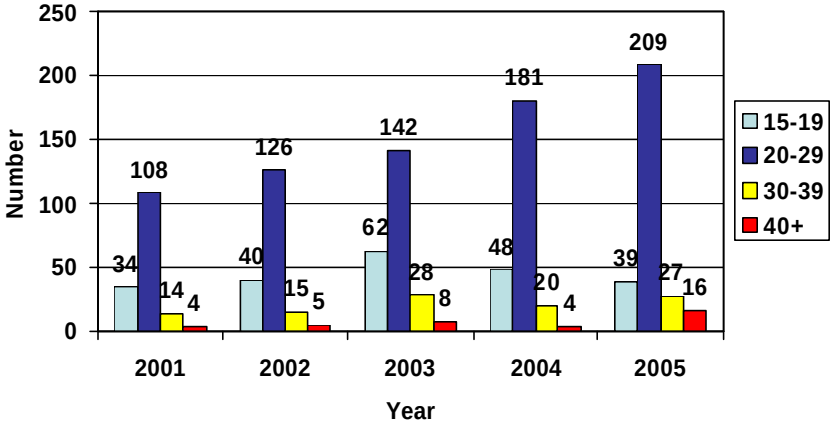
Reported chlamydia cases in Wyoming have increased since 2003. Females account for the largest number of cases. In 2005, 75% of reported chlamydia cases were female.

Figure 38: Chlamydia Cases by Gender, Wyoming, 2001-2005



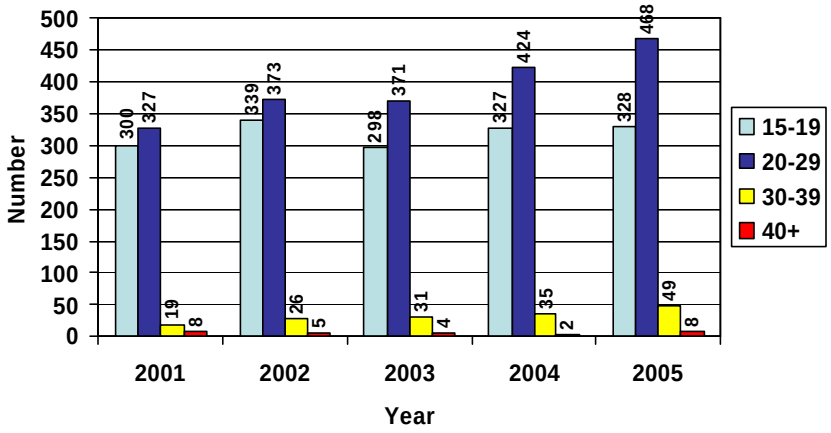
Males aged 20-29 years account for the largest number of cases. Cases reported among teenaged males have been decreasing since 2003. In 2005, 70% of cases reported among males were aged 20-29 years.

Figure 39: Chlamydia by Age Group, Male, Wyoming, 2001-2005



Among females, chlamydia among those aged 20-29 years of age accounts for the largest number of cases by age group and has been increasing since 2003. Among females reported with chlamydia in 2005, 54% were 20-29 years of age and 38% were aged 13-19 years.

Figure 40: Chlamydia Cases by Age Group, Female, Wyoming, 2001-2005



Syphilis

During the period 2001 through 2005, five cases of early (primary, secondary or early latent) syphilis were reported in Wyoming.

Forty percent (2 cases) were among males while the remaining 60% (3 cases) were among females. Eighty-percent (4 of 5 cases) were white.

By age groups, 1 case each was reported in the 15-19 and 25-29 years of age. Two cases were reported among individuals aged 3-35 years while the remaining case was in the 35-39 years age group.

The primary and secondary syphilis rate per 100,000 Wyoming residents in 2004 was 0.6 and the rate for early latent syphilis was 0.0. For the United States, the primary and secondary syphilis rate per 100,000 population in 2004 was 2.7 while the rate for early latent syphilis was also 2.7.

Hepatitis A

Hepatitis A is a vaccine preventable liver disease caused by infection with hepatitis A virus (HAV). HAV infection induces lifelong protection against subsequent infection. Transmission of HAV generally occurs as a result of ingestion by a susceptible person of virus shed in the feces of an infected person. Close personal contact is the most common mode of HAV transmission as demonstrated by high rates of infection among household and sexual contacts of persons with acute hepatitis A, and among children in daycare settings.

In addition, HAV transmission can occur as a result of blood exposures such as injection drug use as viremia occurs prior to onset of illness in infected persons; however, such transmission is rare.

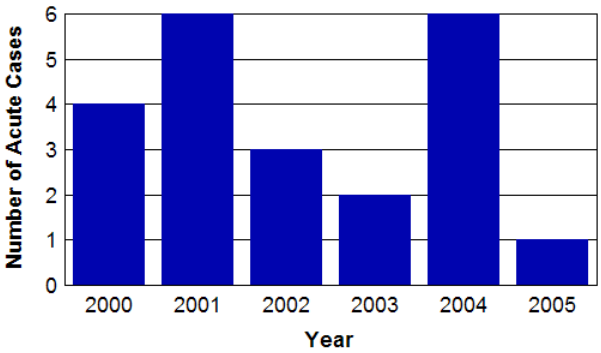
The most frequently reported source of infection for reported hepatitis A cases is close personal contact (household or sexual) with an infected person, which is consistently reported nationwide by about 25 percent of persons with acute hepatitis A. This information is especially important for persons engaging in anal sex due to the risk of blood and fecal contamination. About 15 percent of cases involve a child or employee at a daycare center or a contact of a daycare related case, and 5-7 percent involve persons with a history of recent international travel or of being part of a recognized food or waterborne outbreak. Injection drug use is generally associated with less than 5 percent of

cases; however, prolonged outbreaks in which person-to-person contact has been thought to be the predominant source of infection have occurred among persons with this risk factor.

One case of acute hepatitis A that met the Centers for Disease Control and Prevention (CDC) confirmed case status was received by the Wyoming Department of Health (WDH) in 2005. An investigation by the WDH revealed no identifiable risk factor for patient exposure.

In addition, the WDH received 5 reports of individuals who showed no jaundice, but had slightly elevated aminotransferase levels and tested HAV-IgM positive. The CDC has reported increased incidence of false-positive tests nationwide, especially in elderly patients.

Figure 41: Reported Acute Hepatitis A Cases, Wyoming, 2001-2005



Hepatitis B

In the United States, hepatitis B is largely a disease of young adults. The incidence rate is highest for persons 20-39 years of age. Rates among children less than 15 years of age are relatively low; however, the rate of infection in this age group is higher than reflected from reported cases because infection in children is often asymptomatic and; therefore, often not detected through disease surveillance

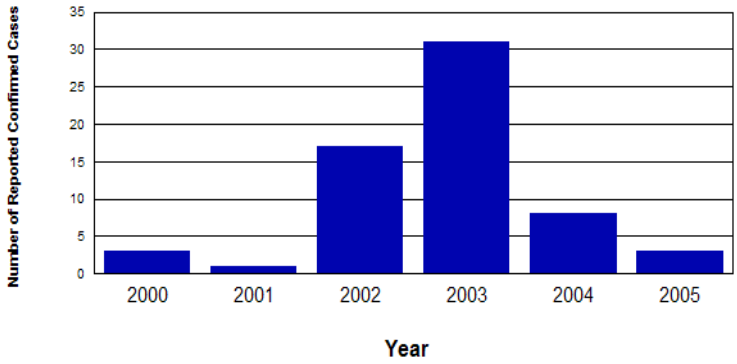
HBV is transmitted by percutaneous or permucosal exposure to infectious blood or body fluids from persons who have either acute or chronic HBV infection. The highest concentrations of virus are in blood and serous fluids; lower concentrations are found in semen, vaginal fluid, and saliva. Therefore, blood exposure and sex contact are relatively efficient modes of transmission. Saliva can be a vehicle of transmission through bites; however, transmission has not been documented to occur as a result of other types of exposure to saliva, including kissing. HBsAg has also been detected in low concentrations in other body fluids, including tears, sweat, urine, feces, breast milk, cerebrospinal fluid, and synovial fluid; however, these fluids have not been associated with transmission.

In the United States, the most important route of HBV transmission is by sexual contact with an infected person. Direct transmission of HBV by needles during injection drug use is also an important mode of transmission. Transmission occurrences through the sharing of contaminated drug paraphernalia (cookers, spoons, cotton, rinse water, syringes, and needles) have also been documented. Transmission of HBV may also occur by needle sticks or other injuries from sharp instruments sustained by medical personnel; however, these exposures account for only a small

proportion of reported cases in the United States. In addition, transmission can occur perinatally from a chronically or acutely infected mother to her infant, most commonly by contact of maternal blood to the infant's mucous membranes at the time of delivery.

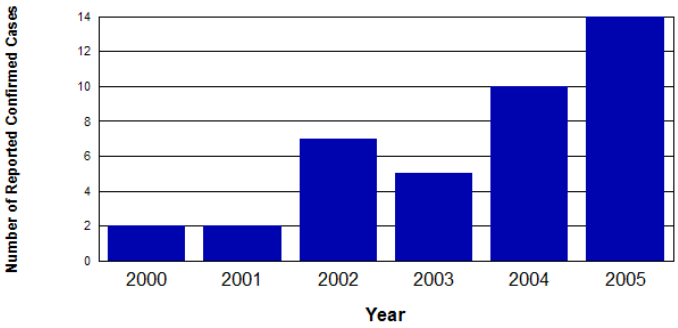
Three cases of acute hepatitis B reported to the Wyoming Department of Health (WDH) in 2005 met the requirements for confirmed status as defined by the Centers for Disease Control and Prevention (CDC). One case reported a recent history of injection drug use as the primary risk factor, while two cases reported recent unprotected sex as the primary risk factor. The average age of the cases was 25 years (range 23-28 years).

Figure 42: Reported Acute Hepatitis B Confirmed Cases, Wyoming, 2000-2005



In 2005, the WDH received 14 reports of chronic hepatitis B. The mean age of the cases was 41 years (range 20-69 years), and 12 (85%) of the cases were female.

Figure 43: Reported Chronic Hepatitis B Confirmed Cases, Wyoming, 2000 - 2005



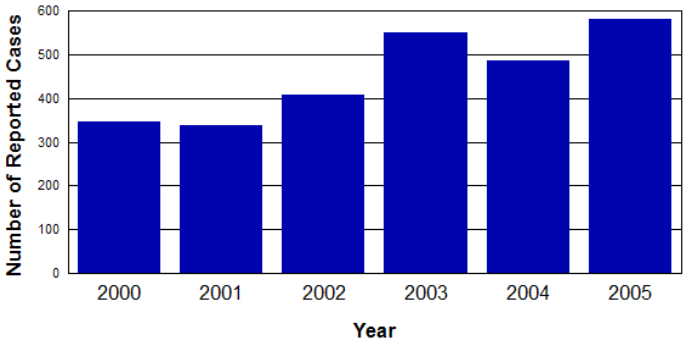
Hepatitis C

HCV is spread primarily by contact with contaminated blood and blood products. Blood transfusions and the use of shared, unsterilized, or poorly sterilized needles and syringes have been the main cause of the spread of HCV in the United States. Routine blood screening for HCV began in 1988 for the HCV antibody and improvements in the test in 1992 have significantly decreased

transmission from transfusion related cases. Transmission of HCV through exchange of body fluid during sexual activity, pregnancy, solid organ transplants, and blood products have also been detected.

A total of 563 cases (292 confirmed and 271 unconfirmed) of chronic hepatitis C were reported to the WDH in 2005. Of the 292 confirmed cases, 136 were HCV-RNA positive by PCR, indicating current infection. The remaining 156 confirmed cases were HCV antibody positive, indicating current or past infection. The 271 unconfirmed cases were HCV antibody positive, but the test results had not been verified by an additional more specific assay or the signal to cutoff ratio was not reported.

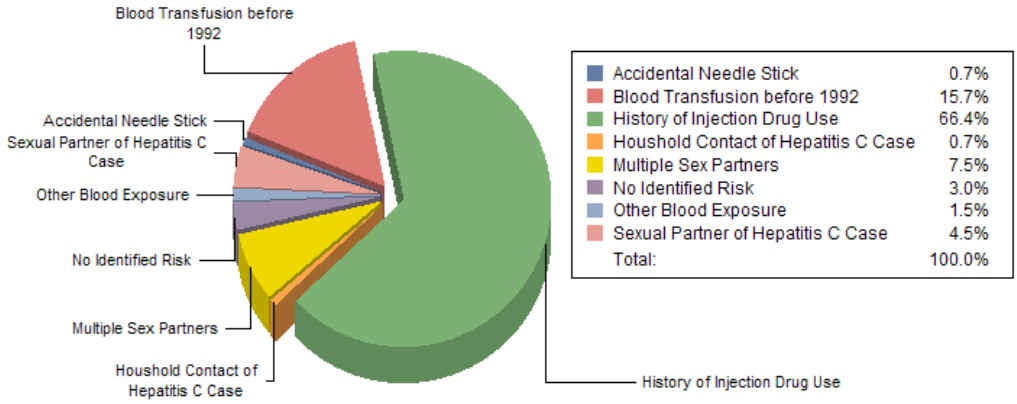
Figure 44: Reported Hepatitis C Chronic Cases, Wyoming, 2000 - 2005



Sheridan County had the highest incidence of reported chronic hepatitis C cases in 2005; followed by Laramie County. The facilities of the State of Wyoming Department of Corrections (Wyoming State Penitentiary, Wyoming Women's Center, Wyoming Honor Farm, and the Wyoming Honor Conservation) reported a collective total of 58 chronic hepatitis C cases.

The WDH received risk factor information on 134 (24%) chronic hepatitis C cases. A history (recent or in the past) of injection drug was the most commonly reported risk factor for HCV infection (66.4%), followed by receiving a blood transfusion prior to June, 1992 (15.7%), and a history of multiple sex partners (7.5%). Of the 134 risk factor reports, 84 (63%) were submitted by health care providers likely to care for high risk patients without health insurance (county public health offices, substance abuse treatment providers, correctional facilities, etc.).

Figure 45: Reported Chronic Hepatitis C Risk Factors, Wyoming, 2005



In 2005, chronic hepatitis C was reported primarily among White/Non-Hispanics (80%) between the ages 41-50 years (44%). The average age of all reported cases was 46 years (range 15-94). A majority of the 2005 reported chronic hepatitis C cases in Wyoming were among males (63%).

Because existing serologic tests cannot distinguish between acute and chronic cases of hepatitis C infection and the symptoms of acute hepatitis C infection are often subtle, very few cases of acute hepatitis C are diagnosed and reported. In 2005, the WDH received one reports of HCV infection that met the CDC case classification for confirmed acute hepatitis C.

HIV Testing

Data on HIV testing patterns provide information that is helpful in targeting HIV counseling and testing programs. The data may also be used to help identify potential gaps in HIV surveillance data, which represent only persons who have been tested for HIV. In Wyoming HIV testing data are available only from surveys conducted in the general population (BRFSS) and from publicly funded HIV counseling and testing sites.

Testing in the General Population (BRFSS)

Individuals were asked if they'd ever been tested for HIV, not counting testing as part of a blood donation, as part of the Wyoming 2005 BRFSS. A larger number of females indicated they had been tested compared to males; the majority of individuals who had been tested aged 3544 years and most were white.

A larger number of females reported having been tested for HIV in the past 12 months compared to males. By age group, a greater number of persons had been tested who were 25 to 34 years of age and most were white.

Respondents were asked if they were at high risk for HIV infection (IDU in the past year; treated for STD in past year; given/received money or drugs for sex in past year or had anal sex without a condom in past year). Similar to the other HIV-related questions in the survey, most respondents

were females and most were white. Those aged 35 to 44 years and those 55 years of age or greater were more likely to consider themselves at high risk for acquiring HIV.

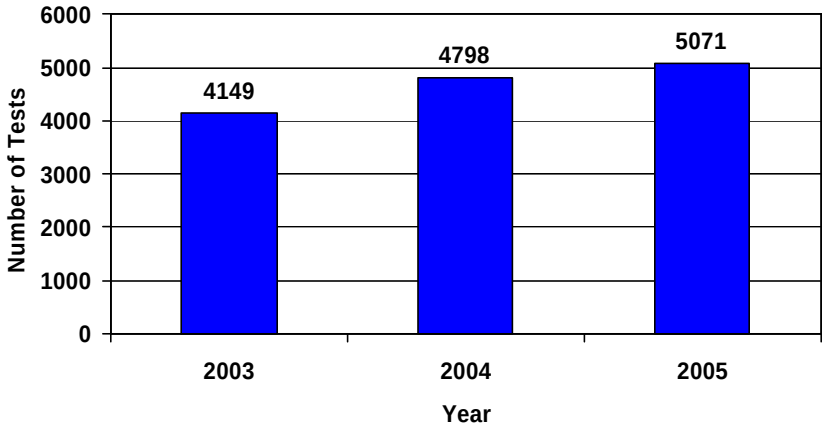
Table 14: BRFSS, HIV-Related Questions, Wyoming, 2005

	Ever Tested for HIV		Tested in Last 12 Months		At High-Risk	
Population Group	Number	Sample Size	Number	Sample Size	Number	Sample Size
Total	1,195	3,662	226	3,659	86	3,720
Gender						
Males	489	1,506	89	1,505	32	1,536
Females	706	2,156	137	2,154	54	2,184
Age Groups (years)						
18 - 24	118	277	55	276	25	278
25 - 34	313	612	67	610	22	625
35 - 44	348	825	55	825	12	834
45 - 54	284	1134	34	1134	25	1153
55 - 64	132	814	15	814	2	830
Race/ethnicity						
White, non-Hispanic	1,054	3,319	184	3,316	69	3,375
Hispanic	72	190	17	190	12	192
Other	65	134	25	134	4	134
Education						
<High School grad	64	174	13	174	6	176
High School grad	310	1139	68	1138	35	1159
Some college	422	1,169	80	1,169	29	1,183
College grad	399	1176	65	1174	16	1198
Income						
<$25K	256	703	63	703	34	715
$25K - $49,999	390	1,147	77	1,146	25	1,166
$50K - $74,999	249	796	37	795	10	799
$75K+	242	754	39	754	13	768

Testing at Publicly Funded Counseling and Testing Sites (Wyoming HIV/AIDS/Hepatitis Program)

Currently, Wyoming has 30 publicly funded HIV counseling and testing sites. The majority of these sites are located in county public health nursing offices. The number of tests performed at these sites has increased slightly over the past few years.

Figure 46: Testing at HIV Counseling and Testing Sites, Wyoming, 2005



Both anonymous and confidential HIV testing are offered at publicly funded testing sites. However, the majority of tests conducted have been confidential. In 2003, 6% of testing was anonymous and 7% in both 2004 and 2005. When comparing anonymous and confidential testing, proportional demographics (gender, race and age) did not differ greatly.

As shown in Table 15, when comparing the demographics of those testing anonymously compared to those testing confidentially, there is no great difference in the two groups.

Overall, a slightly higher percentage of women were tested in the three year period. Most were white while the majority were 20 to 29 years of age. As for reason for testing, the largest proportion was among those reporting heterosexual sex with no other acknowledge risk (22%) followed closely by those reporting a sex part at risk (18%). Seventeen percent of tests were among heterosexual inject drug users while 13% reported engaging in sex while using drugs.

Table 15. Characteristics of persons testing anonymously and confidentially for HIV, Counseling and Testing Sites, Wyoming, 2003-2005*

	Test Type					
	Confidential (N = 112,556)		Anonymous (N = 946)		Total (N= 13,502)	
Demographics	No.	%	No.	%	No.	%
Sex						
Male	6009	48	481	51	6490	48
Female	6529	52	461	49	6990	52
Unknown	18	0	4	0	22	0
Race/Ethnicity						
White	10,325	82	755	80	11080	82
Black	311	2	26	3	337	2
Hispanic	1,210	10	87	9	1297	10
Asian/Pacific Islander	95	1	10	1	105	1
Native American	337	3	47	5	384	3
Other	117	1	13	1	130	1
Undetermined	26	0	3	0	29	0
Unknown	135	1	5	1	140	1
Age Group						
<5 yrs	6	0	1	0	7	0
5-12 yrs	30	0	1	0	31	0
13-19 yrs	1,904	15	117	12	2021	15
20-29 yrs	5,874	47	457	48	6331	47
30-39 yrs	2,368	19	158	17	2526	19
40-49 yrs	1,580	13	144	15	1724	13
50+ yrs	615	5	58	6	673	5
Unknown	0	0	1	0	1	0
Not specified	179	1	9	1	188	1
Reason for Test						
MSM/IDU	101	1	6	1	107	1
MSM	374	3	71	8	445	3
Heterosexual IDU	2268	18	78	8	2346	17
Sex Partner at-risk	2281	18	147	16	2428	18
Child of + Woman	0	0	0	0	0	0
STD Diagnosis	1024	8	94	10	1118	8
Sex for drugs/money	29	0	5	1	34	0
Sex while using drugs	1639	13	119	13	1758	13
Hemophilia/Blood recipient	90	1	4	0	94	1
Sexual assault victim	226	2	18	2	244	2
Healthcare worker exposure	250	2	19	2	269	2
No acknowledged risk	1339	11	141	15	1480	11
Heterosexual no other risk	2703	22	225	24	2928	22
Other	47	0	9	1	56	0
Not Specified	185	1	10	1	195	1

** Data are subject to change as demographic information for 2005 was still being submitted at the time of this narrative.*

Section 4 – HIV-infected Individuals and Care

In order to more accurately compare demographics of individuals receiving HIV-related care to those receiving no care, follow-up activities were conducted on the 194 individuals known or presumed to be residing in Wyoming at the end of 2005.

One individual of the 194 residing in Wyoming at the end of 2005 could not be identified at the time of this narrative, thus 193 individuals were eligible for review and/or follow-up.

Records were reviewed and any individual who had at least one reported laboratory test performed during 2005 was considered to be receiving care at some level. Follow-up was conducted on individuals who had no laboratory finding reported during 2005.

Follow-up included, but was not limited to, records searches at the national level (possible matches based on date of birth, gender and soundex), record searches by other states and contact with physicians and case managers.

By surveillance classification, 52 of the individuals were classified as Wyoming HIV cases, 63 were Wyoming AIDS cases, 51 were non-Wyoming AIDS cases and 27 were considered to be HIV cases of other states.

One-hundred thirty-two individuals were initially found to have had at least one laboratory test performed and reported during 2005. Follow-up was then conducted on the 61 individuals with no reported laboratory finding in 2005.

The sixty-one individuals eligible for follow-up represented 16 Wyoming HIV cases, 7 Wyoming AIDS cases, 26 non-Wyoming AIDS cases and 12 non-Wyoming HIV cases.

As a result of follow-up activities, 30 individuals were found to have moved to another state, 12 individuals were classified as lost to follow-up, 11 were considered active in care to some degree but had no laboratory tests performed in 2005 (many had tests in either 2004 or 2006), 4 were updated with 2005 laboratory findings, and 4 remained "open" (lab information was possibly forthcoming) but were classified as no lab findings as of the date of this narrative.

In the end, 140 individuals were identified as living in Wyoming at some time during 2005 as compared to the 194 initially known/presumed to be residing in the state at the end of 2005. A total of 16 (12%) individuals considered to be living in Wyoming during 2005 had no laboratory tests performed and were considered to be not receiving care.

Table 16. Characteristics of persons believed to be receiving care vs. characteristics of those believed to not be receiving care, Wyoming, 2005

	In Care		Not In Care		Total	
	#	%	#	%	#	%
Classification						
AIDS	84	68%	9	56%	93	66%
HIV-positive (not AIDS)	40	32%	7	44%	47	34%
Gender						
Male	92	74%	11	69%	103	74%
Female	32	26%	5	31%	37	26%
Race/Ethnicity						
Hispanic, all races	16	13%	1	6%	17	12%
American Native, not Hispanic	8	6%	0	0%	8	6%
Black, not Hispanic	5	4%	0	0%	5	4%
White, not Hispanic	93	75%	15	94%	108	77%
Other, not Hispanic	2	2%	0	0%	2	1%
Exposure Category						
MSM	51	41%	9	56%	60	43%
IDU	21	17%	2	13%	23	16%
MSM/IDU	14	11%	1	6%	15	11%
Blood products	2	2%	1	6%	3	2%
Heterosexual sex	20	16%	3	19%	23	16%
Unknown/not identified	14	11%	0	0%	14	10%
Perinatal	2	2%	0	0%	2	1%
Age at Earliest Diagnosis						
<13 years	2	2%	0	0%	2	1%
13-24 years	11	9%	4	25%	15	11%
25-44 years	85	69%	12	75%	97	69%
44-64 years	25	20%	0	0%	25	18%
65 years or greater	1	1%	0	0%	1	1%

The characteristics of those believed to be receiving some level of medical care in Wyoming do not differ greatly from those believed to not be receiving care.

In each category, the majority of individuals were classified as having AIDS and most were male. By race and ethnicity, whites account for the largest group in both categories and, by exposure category, the majority are men who have sex with men.

Ryan White CARE Act (TITLE II/ADAP)

In 1990, Congress enacted the Ryan White CARE Act to provide funding for states, territories, and eligible metropolitan areas to offer primary care, prescription medications and support services for individuals living with HIV disease who lack sufficient financial resources for their care. Congress reauthorized the Ryan White CARE Act in 1996 and in 2000 to support Titles I-IV, Special Projects of National Significance (SPNS), the HIV/AIDS Education Training Centers, and the Dental Reimbursement Program, all of which are part of the CARE Act. It should be noted that Wyoming receives funding only under Title II of the CARE Act at this time.

The purpose of Title II funding is to improve the quality, availability, and organization of health care and support services for individuals and families living with HIV disease in each state or territory. In addition, the funding provides access to needed pharmaceuticals through the AIDS Drug Assistance Program (ADAP), which is part of Title II.

As of October 26, 2005, a total of 81 individuals were enrolled in the Ryan White Title II/ADAP program in Wyoming. The program spends approximately $80,000 per month providing prescription medications, primary medical care, diagnostic laboratory testing and other supportive services.

The demographics of those receiving assistance from this program (Table 17) do not differ greatly from those of individuals receiving some level of care during 2005 (Table 16).

Table 17. Characteristics of persons enrolled in CARE/ADAP, Wyoming, 2005

	Persons Enrolled	
Gender	#	%
Male	59	73%
Female	22	27%
Transgender	0	0%
Other	0	0%
Race		
White	62	77%
Black	6	7%
Asian	1	1%
American Native	2	2%
More Than One	4	5%
Unknown	6	7%
Ethnicity		
Hispanic	12	15%
Non-Hispanic	63	78%
Unknown	6	7%
Total	81	100%
Disease Stage		
AIDS	49	60%
HIV-positive only (not AIDS)	32	40%

No special studies have been conducted in Wyoming regarding the unmet needs of individuals with HIV/AIDS. However, the overall unmet has been estimated to be approximately 20% of individuals infected with HIV but the actual percentage may be lower.

Appendix A: Profile Data Sources

1. Core HIV/AIDS Surveillance

AIDS Surveillance

Overview: AIDS is a reportable condition in all states and territories. The AIDS surveillance system was established to monitor incidence of the disease and the demographic profile of AIDS cases; to describe the modes of HIV transmission among persons diagnosed with AIDS; to guide the development and implementation of public health intervention and prevention programs; and to assist in the evaluation of the efficacy of public health interventions. AIDS surveillance data are also used to allocate resources for Titles I and II of the Ryan White CARE Act.

In Wyoming, the HIV/AIDS Surveillance Program actively solicits case reports from health care providers and laboratories. Standardized case report forms are used; these forms are used to collect socio-demographic information, mode of exposure, laboratory and clinical information, vital status, and referrals for treatment or services.

Population: All persons who meet the CDC AIDS surveillance case definition.

Strengths: This is the only source of AIDS information that is available in all states. The data reflect the impact of AIDS on communities and trends of the epidemic within communities. AIDS surveillance has been determined to be >85% complete. The data include all demographic groups (age, race/ethnicity, sex).

Limitations: Due to the prolonged and variable period from infection to the development of AIDS, trends in AIDS surveillance do not represent recent HIV infections. Conversely, asymptomatic HIV-infected persons also are not represented by AIDS case data. In addition, incomplete HIV or CD4+ t-cell testing may interfere with the completeness of reporting. Further, the widespread use of HAART complicates the interpretation of AIDS case surveillance data and estimation of the impact of HIV disease in an area. Newly reported AIDS cases may reflect treatment failures or the failure of the health care system to halt progression of HIV infection to AIDS. AIDS cases represent late stage HIV infections.

HIV Surveillance

Overview: Since the human immunodeficiency virus was identified and a test for HIV was licensed, CDC and other professional organizations have recommended reporting of HIV infections to health authorities as an integral part of AIDS surveillance activities. As part of ongoing, active HIV surveillance, health departments educate providers on reporting requirements, establish active surveillance sites, and establish liaisons with laboratories that test for HIV infection. Moreover, HIV/AIDS surveillance programs routinely evaluate the completeness of HIV reporting and conduct follow-up on HIV cases that are of epidemiologic importance.

Population: All persons who test positive for Human Immunodeficiency Virus (HIV).

Strengths: HIV surveillance data represent more recent infections, compared with AIDS surveillance data. Based upon previous evaluations, HIV infection (non-AIDS) reporting in Wyoming was found to be 99% complete within six months of diagnosis for persons who tested positive for HIV between 1995 and 1999. For persons diagnosed with AIDS, 90% of cases were reported within 6 months of diagnosis for the same time period. At the national level, 88% of HIV cases and 78% of AIDS cases were reported to surveillance offices within six months of diagnosis.

Consequently, HIV surveillance provides a minimum estimate of the number of persons known to be HIV-infected and reported to the health department, identifies emerging patterns of transmission, and can be used to detect trends in HIV infections among populations of particular interest (e.g., children, adolescents, and women) that may not be evident from AIDS surveillance. Additionally, HIV surveillance provides a basis for establishing and evaluating linkages to the provision of prevention and early intervention services, and can be used to anticipate unmet needs for HIV cases.

Limitations: HIV surveillance data may underestimate the level of recently infected persons because some infected persons either do not know they are infected or have not sought testing. Persons who have tested positive in an anonymous test site and who have not sought medical care where they would be confidentially tested, are not included in HIV surveillance statistics. HIV surveillance data represent infections in jurisdictions where reporting laws for HIV are in place. HIV reporting laws vary by jurisdiction; therefore, consultation with area surveillance staff is advised on how to interpret local HIV surveillance data. Furthermore, reporting of behavioral risk information may not be complete.

2. Supplemental HIV/AIDS Surveillance Projects

The Wyoming HIV/AIDS Surveillance Program does not qualify for funding to conduct supplemental surveillance projects because of the low number of HIV and AIDS cases reported in the state.

3. Behavioral Surveys

Behavioral Risk Factor Surveillance System (BRFSS)
Overview: The BRFSS is a state-based random digit-dialed telephone survey of adults that monitors state-level prevalence of the major behavioral risks associated with premature morbidity and mortality. Each month, a sample of households is contacted and one person in the household who is 18 years or older is randomly selected for an interview. Multiple attempts are made to contact the sampled household. A Spanish translation of the interview is available. Respondents to the BRFSS questionnaire are asked a variety of questions about their personal health behaviors and health experiences. A sexual behavior module is added to this survey in some years but not in others
Population: All non-institutionalized adults, 18 years and older that reside in a household with a telephone.

Strengths: Data from the BRFSS survey are population-based; thus, estimates about testing attitudes and practices can be generalized to the adult population of a state. Information collected from the BRFSS survey may be useful for planning community-wide education programs.

Limitations: BRFSS data are self-reported, thus the information may be subject to recall bias. BRFSS respondents are contacted by telephone, thus the data are not representative of households that do not have telephones. In addition, BRFSS data are representative of the general, non-institutionalized adult population in an area, not just persons at highest risk for HIV/AIDS. The extent of HIV behavioral risk information collected by the BRFSS questionnaire is limited and inferences can only be made at the sate level.

Youth Risk Behavior Survey (YRBS) and the Wyoming Juvenile Justice Youth Risk Behavior Survey
Overview: The YRBS was established to monitor six priority high-risk behaviors that contribute to the leading causes of mortality, morbidity, and social problems among youth and young adults in the United States. YRBS was developed to collect data that are comparable nationally, statewide, and

locally. It is a self-administered questionnaire that is given to a representative sample of 6th through 12th grade students at the state level. The survey collects information on six categories of behaviors, including sexual behaviors that contribute to unintended pregnancy and STDs, including HIV. Questions are also asked about exposure to HIV prevention education materials, sexual activity (age of debut, number of partners, condom use, preceding drug or alcohol use), contraceptive use, and pregnancy history.

Population: YRBS surveys a representative sample of 6th through 12th grade students at the state level. The JJYRBS is conducted among youth of high school age who are housed within Wyoming Juvenile Justice facilities.

Strengths: YRBS samples adolescents in public schools and is population-based. The YRBS questionnaire is administered to students anonymously during school. Efforts are made to survey students who are not in attendance. Inferences from YRBS estimates can be drawn about behaviors and attitudes of adolescents in school, which makes the information useful for developing community-wide prevention programs aimed at younger persons. YRBS uses a standardized questionnaire so that comparisons can be made across participating jurisdictions. Jurisdictions have the option to ask specific questions to meet their needs.

Limitations: The YRBS project relies upon self-reported information; therefore, reporting of sensitive behavioral information may not be accurate (under- or over-reporting may occur). Also, since the YRBS questionnaire is administered in school, the data are only representative of children who are enrolled in school and can not be generalized to all youth. For example, students at highest risk, who may be more likely to be absent from school or to drop out of school, may be underrepresented in this survey, especially among older grade levels. The questionnaire does not ask about homosexual or bisexual behavior.

The Wyoming Women's Reproductive Health Survey

Overview: Funding for this study was provided by the Maternal Child Health Program, the HIV/AIDS Hepatitis Program and the Substance Abuse Division. Among the purposes of study was the need to identify risky behaviors and to provide information on health disparities, needs and gaps in services. Data was collected at public health nursing sites, family planning sites and by private physicians. Women aged 15 to 45 years participated in the study and 29 clinic sites (23 public and 6 private) located in 22 of Wyoming's counties were included. The study was conducted between January and October 2004 and 1049 women participated in the study of which 97.9% completed their survey documents. This study is in the final stages of review and will be available for general release soon.

Population: Women between the age of 15 and 45 years at 29 clinic sites across Wyoming. Public health nursing sites, family planning sites and private physician offices participated in the study.

Strengths: Assess risk behaviors among Wyoming women of child-bearing age seeking health services and public and private clinics.

Limitations: This survey is limited to women seeking health care services.

4. STD Surveillance

STD Case Reporting

Overview: The Wyoming Department of Health, STD Program conducts statewide surveillance to determine sexually transmitted disease (STD) incidence and to monitor trends. In Wyoming, chancroid, chlamydia, gonorrhea and syphilis are reportable STDs.

Population: All persons who are diagnosed with an infection that meets the CDC case definition for the infection and are reported to the STD Program.

Strengths: STD surveillance data can serve as the surrogate marker for unsafe sexual practices and demonstrate the prevalence of STDs in the state. STD data are widely available at the state and county level. Because of shorter incubation time periods between exposure and infection, STDs can serve as a marker of recent unsafe sexual behavior. In addition, certain STDs (i.e., ulcerative STDs) can facilitate transmission and/or acquisition of HIV infection. Finally, changes in trends of STDs may indicate changes in community sexual norms, such as unprotected sex.

Limitations: STDs are reportable, but requirements vary across states. Reporting of STDs from the private sector providers may be less complete. Although STD risk behaviors result from unsafe sexual behavior, they do not necessarily correlate with HIV risk.

5. HIV Counseling and Testing Data

Counseling and Testing System (CTS)

Overview: The Wyoming HIV/AIDS Hepatitis Program provides funding for the HIV CTS in 30 different sites across the state. These sites are mostly located in county public health departments. The CTS collects information on counseling and testing services delivered, as well as the characteristics of clients receiving the services. The characteristics include demographics, insurance, risk information, and testing information (data, testing history, test result). All sites offer both anonymous and confidential testing options.

Population: All clients who receive confidential or anonymous HIV testing services at a counseling and testing site funded through a CDC cooperative agreement.

Strengths: CTS provides standardized data on clients who are tested for HIV, which is available at the county level. It may offer insights into HIV infection rates in a state's high-risk population. CTS testing data may highlight the impact of prevention programs upon populations being targeted.

Limitations: CTS collects test-based, rather than person-based data. Information is collected only from persons who seek counseling and testing services or agree to be tested after consultation with a counselor at a testing site. Therefore, estimation of HIV statewide prevalence is not possible with CTS data because the clients self-select for testing. However, in certain sites where testing is universal, individuals that are HIV positive may reflect the prevalence in that population. Because a person can repeatedly seek testing, it is not possible to distinguish individuals who have been tested multiple times; however a "previous HIV test" variable is available on the client abstract form to quantify prior testing. Since the CTS system gathers data on HIV testing program activities, changes in testing patterns may reflect changing program priorities rather than testing patterns of individuals.

6. Substance Abuse Data

Treatment Episode Data Set (TEDS)

Overview: TEDS is a national data set maintained by the Office of Applied Studies, Substance Abuse and Mental Health Services Administration (SAMHSA). Data are captured annually on more than 1.5 million records of treatment admissions for substance abuse. TEDS is comprised of data that are routinely collected by States to help monitor their individual substance abuse treatment programs. TEDS collects information on client demographics; information about the number of prior treatments; usual route of administration for each problem substance; frequency of use; age at first use; and services provided. Facilities that report TEDS data usually receive state funding for the provision of substance abuse treatment.

Population: Individuals admitted to substance abuse treatment facilities reporting to TEDS.

Strengths: While TEDS does not represent the total demand for substance abuse treatment, it does include a significant proportion of all admissions to substance abuse treatment. It includes admissions that constitute a burden on public funds.

Limitations: TEDS is based on records of admissions and does not represent individuals. Because of this, an individual admitted to treatment twice within the same calendar year would be counted as two admissions. Also, because most states cannot identify individuals that have been assigned a unique ID at the state level to protect their confidentiality, TEDS is unable to follow individual clients through a sequence of treatment episodes. TEDS does not represent the total substance abuse treatment burden, or the prevalence of substance abuse in the general population.

The National Survey on Drug Use and Health

Overview: The National Survey on Drug Use and Health (formerly called the National Household Survey on Drug Abuse) source of information on the prevalence, patterns, and consequences of alcohol, tobacco, and illegal drug use and abuse in the general U.S. civilian non-institutionalized population, aged 12 years and older. The survey is currently conducted by SAMHSA's Office of Applied Studies (OAS).

Population: Non-institutionalized, civilian U.S. population aged 12 years or older.

Strengths: NSDUH is a national, standardized survey of drug use behaviors among the general population. To increase the level of honest reporting, since 1999, information has been collected using a combination of computer-assisted interviewing methods. This provides respondents with a more private and confidential means of responding to questions about substance use and other sensitive behaviors.

Limitations: Direct state-level estimates are available only for 8 states; other states must rely on statistical estimates. NSDUH estimates represent behaviors in the general population, thus the survey may underestimate the level of substance use in the population at highest risk for HIV. Further, data for the NSDUH are self-reported and are subject to recall bias, which may result in under-reporting the level of sensitive behavior.

7. Vital Statistics Data

Birth Data
Overview: The National Center for Health Statistics (NCHS) receives information on births and deaths in the U.S. through a program of voluntary cooperation with state government agencies (i.e., state departments of health, state offices of vital statistics) called Vital Statistics Cooperative Program. States use a standard form (U.S. Standard Certificate of Live Birth) to collect birth data and report this information annually to NCHS. The birth certificate form collects newborn, maternal, and paternal demographics; insurance; prenatal care; prenatal risk factors; maternal morbidity; mode of delivery; pregnancy history; and clinical characteristics of the newborn.

Population: All live births occurring within Wyoming.

Strengths: Vital records capture all births that occurred within an area. Reporting is approximately 100% complete. Therefore, inferences can be made concerning the population of live births in a service area. The revised birth certificate collects additional information on maternal insurance status, smoking, and morbidity that may be useful for targeting prevention resources.

Limitations: Birth certificate data are often not complete for data that is obtained from patient medical records (i.e., smoking history, morbidity).

Death Data
Overview: NCHS receives information on births and deaths through a program of voluntary cooperation with state government agencies (i.e., state departments of health, state offices of vital statistics) called Vital Statistics Cooperative Program. A standard death certificate of death is used to record death information on each decedent. Death certificates capture decedent demographics, underlying cause of death (using ICD-10 code), and contributions of selected factors to the death (i.e., smoking, accident, or injury).

Population: All deaths occurring within Wyoming.

Strengths: Reporting of deaths in Wyoming is universal and 100% complete. The data are widely available and can be used to determine the impact of deaths related to HIV infection in a service area. Standardized procedures are used throughout the nation to collect death certificate data.

Limitations: Deaths resulting from or whose underlying cause was HIV infection may be under-reported on a death certificate. Clinical information related to HIV or AIDS may be missing. Death records are less timely than AIDS case reports.

8. Population Data

U.S. Bureau of the Census (Census Bureau)
Overview: The Census Bureau collects and provides timely information about the people and economy of the U.S. The Census Bureau's Web site (http://www.census.gov) includes data on demographic characteristics (e.g., age, race, Hispanic ethnicity, sex) of the population, family structure, educational attainment, income level, housing status, and the percentage of persons living at or below the poverty level. Tables and maps of census data are available for all geographic areas to the block level. Summaries of the most requested information for states and counties are provided, as well as analytical reports on population changes, race, age, family structure, and apportionment.

Population: U.S. population.

Strengths: A wide range of online statistical data on the U.S. population is available in different formats (e.g., tables, maps). State- and county-specific data are easily accessible. Links to other census information Web sites are provided.

Limitations: Some files may take longer to download.

State of Wyoming, Administration & Information, Economic Analysis Division
Overview: This data center is administered by the State of Wyoming. The Website for the center (http://eadiv.state.wy.us/index.asp) includes current population estimates and projections; economic, income and poverty status information; demographic profiles and rankings; and census geography. Information is available for the state, counties and cities/towns.

Population: Wyoming population.

Strengths: A wide range of online statistical data on the Wyoming population is available in different formats (e.g., tables, maps). Links to other census information Web sites are provided.

Limitations: Some files may take longer to download.

9. Ryan White Care Data

Ryan White Title II Data
Overview: The Wyoming HIV/AIDS/Hepatitis Program compiled the first reliable database to track patient data in October 2001. This data base includes key information on all persons receiving assistance through any of the Ryan White Title II funded programs. Such programs include health insurance continuation, home based care, case management, transportation, medication assistance, child care, mental health therapy counseling, limited emergency rent, mortgage and utility payments. Information collected from enrollment forms includes basic demographic information and sexual orientation on each of the clients, eligibility verification data (current address, current income, and HIV/AIDS diagnosis), and the type of services received, the data and quantity of services received, the cost of these services, and other pertinent information. The data collected are used by the HIV/AIDS/Hepatitis Program staff to perform monthly service delivery and fiscal monitoring activities, track utilization trends for quality assurance purposes, and to meet the HIV/AIDS Bureau/HRSA requirements set forth in the Annual Administrative Report and in the new CADR.

Population: All HIV-infected persons receiving services funded by Ryan White Title II. In order to be eligible for Ryan White Title II services a person must be living with HIV/AIDS, be a resident of the State of Wyoming, and have an income that is equal to or less than 200% of the current year's federal poverty level.

Strengths: The program database is a comprehensive database that includes key fields of information on all persons receiving Ryan White Title II services. The database is an important tool for monitoring which Ryan White resources are being utilized, how often and by whom. The program is able to "unduplicate" clients within a particular service area and can also "unduplicate" clients across all services. This provides a more accurate picture of how many people are truly seeking care through services provided by Ryan White Title II. Data are collected on an on-going basis as services are utilized.

Limitations: The data captured in the program database cannot be generalized to all HIV-infected persons living in this state, since it only collects data on persons who know their HIV serostatus, who are currently seeking care and treatment services through Ryan White Title II-funded providers, and who are financially eligible to receive services.

Appendix B: Glossary of Terms

AIDS: AIDS stands for acquired immunodeficiency syndrome. An HIV-infected person receives a diagnosed of AIDS after developing one of the CDC-defined AIDS indicator illnesses (see *opportunistic infection*) or on the bases of certain blood tests (i.e., having a CD4 count of less than 200 or a CD4 percent of less than 14). A positive HIV test result does not mean that a person has AIDS.

Bias: Bias occurs when there is a systematic error in data that leads to results that do not represent the true findings. For example, if individuals feel uncomfortable about reporting that they have engaged in high-risk behaviors, then these behaviors will be systematically under-reported. Consequently, conclusions about the occurrence of such behaviors would be considered "biased."

CDC: The Centers for Disease Control and Prevention (CDC), within the U.S. Department of Health and Human Services, is the lead federal agency for protecting the health and safety of the people of the Untied States. CDC accomplishes its mission through developing and applying disease prevention and control, environmental health, and health promotion and education activities designed to improve public health in the U.S. The CDC provides the majority of funding for HIV prevention, and all of the funding for HIV surveillance activities in Wyoming.

Exposure categories: In order to monitor how HIV is being transmitted, HIV/AIDS cases are classified into one of several exposure (risk) categories developed by the CDC.

- Men who have sex with men (MSM) refers to men who report having had sexual contact with other men, i.e., homosexual or bisexual contact.
- Injection drug user (IDU) cases are those who report ever using drugs that require injection. While it may be valuable to know that a person has used illicit drugs through other routes, this information would not be enough to classify a case as IDU.
- High-risk heterosexual contact (HRH) cases have reported heterosexual contact with a partner who is at increased risk for HIV infection, i.e., a homosexual or bisexual man or an IDU, or a partner with documented HIV infection.
- Hemophilia/Transfusion/Transplant cases are those who report having received a transfusion of blood or blood products prior to 1985.
- Perinatal cases are cases of HIV infection in children resulting in transmission from an HIV positive mother.
- Unspecified or "no identified risk (NIR)" cases are those cases who have no reported history of exposure at the time of publication. This category includes persons for whom the surveillance protocols to document risk information have not yet been completed, persons whose exposure history is incomplete because they have died, persons who have declined to disclose their risk behavior or who deny any risk behavior, and persons who do not know the HIV status or risk behaviors of their sexual partners.

HAART: Highly Active Antiretroviral Therapy (HAART) refers to aggressive anti-HIV treatments that usually include a combination of protease and reverse transcriptase inhibitors, which interrupt the HIV life cycle, and whose purpose is to reduce a person's viral load to undetectable levels.

HIV: HIV is an acronym for "Human Immunodeficiency Virus," which is the virus that causes AIDS. A person who has contracted the virus is aid to be HIV-positive or HIV-infected.

HIV Disease: In the context of this document, HIV disease describes both individuals who have been diagnosed as HIV positive only and those diagnosed with AIDS. Individuals with either carry the HIV virus.

Incidence: Incidence refers to the number of new cases of disease that occur in a population during a specified time period, usually a year. Even though HIV data are often presented as "new cases of HIV," these data do not represent new infections (true HIV incidence), because a person may not be tested for HIV in the same time period that he or she became infected. On the other hand, incidence can be presented for diseases (e.g., some STDs). These diseases have clear symptoms that are detectable when a person becomes infected, and which cause a person to be tested or to seek treatment shortly after infection.

Perinatal: The word "Perinatal" means "around birth" and is used to describe events that occur during labor and birth, and immediately following delivery. When "perinatal" is used to describe HIV transmission, however, this work applies more broadly and describes any time that a mother may pass HIV to her child – either while she is pregnant, during birth, or through breast-feeding.

Prevalence: Prevalence refers to the total number of persons with a specific disease or condition at any given time. HIV prevalence data are generally presented as "persons living with HIV." HIV prevalence data provided by HIV surveillance programs will underestimate the true HIV prevalence because HIV-infected persons who have not yet been tested or reported to the health department are not included.

Proportion (percentage): A proportion is a type of ratio in which the numerator is included in the denominator. Because the numerator is a subset of the denominator, a proportion can be thought of as a ration of a "part" of the "whole." A proportion is usually expressed as a percentage.

Rate: A rate is a special type of ratio that includes a specification on time. In epidemiology, rates express the probability or risk of disease or other events in a defined population over a specified period of time, often one year.

Ryan White CARE Act: The Ryan White Comprehensive AIDS Resources Emergency Act was created to provide federal assistance to increase the availability of primary health care and support services for persons living with HIV disease, to increase access to care for underserved populations, and to improve the quality of life for those affected by HIV. The CARE Act was first enacted by Congress in 1990 and was reauthorized in 1996 and 2000.

HRSA implements the CARE Act and directs assistance through the following channels:

- Title I provides support to Eligible Metropolitan Areas (EMAs) with the largest numbers of reported AIDS cases, to meet emergency service needs of persons living with HIV;
- Title II provides support to all states and territories to improve the quality, availability, and organization of health care and support services for persons living with HIV and their families;
- Title III supports outpatient early intervention HIV services through funding to public and private nonprofit entities;
- Title IV funds public and private nonprofit entities to conduct projects to coordinate services to children, youth, women, and families with HIV/AIDS; and
- Part F provides support for Special Projects of National Significance (SPNS) to develop and evaluate innovative models of HIV/AIDS care, for AIDS Education and Training Centers (AETC) to conduct education and training for health care providers, and for the HIV?AIDS Dental Reimbursement Program to assist with providing oral health services to HIV-infected patients.

Surveillance: In a public health context, surveillance refers to the intentional collection of data on diseases or other important health conditions in order to monitor where the condition occurs and to determine the risk factors associated with the condition.

Testing (anonymous, confidential): In Wyoming, an individual can choose to be tested anonymously or confidentially for HIV in a publicly funded testing site. Both anonymous and confidential HIV-positive test results are reported to the health department where information is maintained under the strictest security and confidentiality measures. Persons who are tested anonymously do not provide their names when taking the HIV test. Persons who are tested confidentially do provide their names when taking the HIV test.

Appendix C: List of Acronyms

ADAP: AIDS Drug Assistance Program

BRFSS: Behavioral Risk Factor Surveillance System

CDC: Centers for Disease Control and Prevention

CTS: Counseling and Testing System

HAART: Highly Active Antiretroviral Therapies

HRSA: Health Resources and Services Administration

IDU: Injection Drug User

JJYRBS: Juvenile Justice Youth Risk Behavior Survey

MSA: Metropolitan Statistical Area

MSM: Men who have Sex with Men

NSDUH: National Survey on Drug Use and Health

STD: Sexually Transmitted Disease

TEDS: Treatment Episode Data Set

YRBS: Youth Risk Behavior Survey