

HIV and AIDS in Colorado



*Integrated Epidemiologic Profile
of HIV and AIDS Prevention
and Care Planning reported
through September 2002*

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Executive Summary

As of September 30, 2001, a cumulative total of 7,560 cases of AIDS and an additional 6,089 cases of HIV infection have been reported in Colorado. AIDS cases peaked in 1993 and decreased by 21% between 1993 and 1995. However, more significant decreases in AIDS incidence and mortality have been observed both in the United States and in Colorado since the introduction and use of new anti-HIV drug therapies in 1996. In Colorado, decreases in AIDS incidence were even more pronounced following the introduction of these new therapies; AIDS cases decreased by 34% between 1995 and 1997. Decreases in AIDS cases are evident across all racial and risk groups.

AIDS-related mortality peaked two years after the peak in AIDS incidence, in 1995 when 512 deaths were reported. The number of deaths related to AIDS also declined dramatically in the late 1990s. In the last four years, deaths related to AIDS has fluctuated between 119 and 98 deaths per year.

In contrast to trends in new AIDS cases, which peaked in 1993, the trend in persons testing positive for

HIV peaked in 1987, which is consistent with new HIV cases peaking in the early to mid 1980s.

As a result of new therapies, fewer people are dying from AIDS and fewer people with HIV are progressing to AIDS. Prevalent cases of HIV or AIDS have increased steadily. By 2001, an estimated 8,790 persons were living with HIV or AIDS in Colorado, 36% which have progressed to AIDS.

Compared to the eastern and southern United States and to larger metropolitan areas, the epidemic in Colorado is still overwhelmingly driven by sexual exposure, primarily among men who have sex with men, which continues to be the most significant risk group for males (at 76% of HIV or AIDS cases). Among females, the impact of injection drug use is undeniable, with 50% of new AIDS or HIV cases in females related either directly (29%) or indirectly through sexual contact (21%).

Racial and ethnic minorities are disproportionately affected by HIV/AIDS, especially Blacks, whose over representation is observed in all risk groups. When more recently infected cases are scrutinized,

increasing proportions of recently infected persons appear to be racial or ethnic minorities or to have acquired their infection through injection drug use.

HIV/AIDS continues to be geographically centered in the Front Range population centers of Colorado, although injection drug users appear to be more likely than other risk groups to live in rural Colorado.

Although the number of women living with HIV in Colorado has increased, perinatal transmission has decreased dramatically since 1996. The decrease in transmission rates is attributed to the widespread screening of pregnant women for HIV and the use of anti-retrovirals during and after pregnancy, labor and delivery. One case of perinatally acquired HIV infection has been reported in infants born to HIV-infected mothers in Colorado in the last two years.

The majority of persons diagnosed with AIDS or HIV in 2001 had access to primary medical care (91%). In 2001, Ryan White Comprehensive AIDS Resource Emergency (CARE) Act funds were used primarily to provide medical care and case management.

Overall Findings: Priority Groups for HIV Prevention

- **Men Who Have Sex With Men**

The HIV epidemic in Colorado continues to consist primarily of MSM (men who have sex with men) and MSM/IDU (men who have sex with men/injection drug use), which comprise over 76% of the cases. In the last five years, the proportion of infected Hispanic MSM has steadily increased more than any other racial category. MSM ages 30 to 39 are over represented by nearly a factor of two among recently diagnosed HIV cases: males in this age group account for 16% of the male population, but account for 43% of recent epidemic.

Recently among MSM, alarming increases in early syphilis and gonorrhea cases indicate increased sexual risk behavior, which increases the possibility of transmission of HIV. Bathhouse contacts continue to be an important source of new infections of both HIV and STD.

- **Blacks**

This group is over represented in the cumulative epidemic of HIV/AIDS in Colorado among recently infected persons and among all risk groups. The AIDS rate per 100,000, for Blacks in Colorado in 2001 was 20.3; nearly five times the rate of Whites. Among females, the differences are even more profound. Black females had rates per 100,000, that were 19 times higher than White females in recently diagnosed HIV cases.

- **Injecting Drug Users**

Blacks are disproportionately affected by injection drug use. Blacks represent 24% of HIV cases diagnosed in 2001, but only 4% of the general population. Additionally, it is worth noting that injection drug users appear to be more likely than other risk groups to live in rural Colorado.

- **Females who are sex partners of persons with HIV, particularly of males who are IDU**

The proportions of females among newly diagnosed HIV cases is increasing. Even though females represent 27% of Colorado's cumulative HIV/AIDS cases among injection drug users (IDU), they comprise over 69% of cases of HIV or AIDS that were acquired as a result of heterosexual contact with an IDU. This data emphasizes the impact of the use of injection drugs on females.



Data Sources

The data that form the basis of this report are principally reports of HIV (infection with the Human Immunodeficiency Virus) and AIDS (the most severe clinical manifestation of HIV) among persons who were living in Colorado at the time of this diagnosis. Frequently, both HIV infections and AIDS cases are combined for purposes of characterizing the whole epidemic and for analysis of trends. When AIDS cases are presented in this report, it is to compare the presumably “older” epidemic with more recently acquired infections. To focus on more recently acquired infections, HIV cases diagnosed in Colorado during 2000–2001 (that have not progressed to AIDS as of September 2002) are also presented in this report. Cases are reported to the Colorado Department of Public Health and Environment (CDPHE), HIV Surveillance Program and are entered into a database known as the HIV and AIDS Reporting System (HARS), that is used in all states (and in 13 cities) to enumerate AIDS and/or HIV infections in these jurisdictions. AIDS cases in this report meet the 1993 Centers for Disease Control and Prevention (CDC) surveillance case definition for AIDS¹, which includes HIV-infected persons with CD4+ counts of less than 200 mm³ or those diagnosed with one of 21 opportunistic infections definitive of AIDS.

HIV infection and AIDS have been reportable by name in Colorado by regulation since 1985 and by statute since 1987. This law requires that both laboratories and physicians report cases of HIV and AIDS within seven days to CDPHE. In the case of laboratories, all tests indicative of or highly correlated with HIV, such as HIV positive antibody tests, HIV viral load by RNA PCR, positive cultures for HIV and CD4+ counts of less than 500 mm³ are reportable.

Since 1988, CDPHE has collaborated with the CDC, local health departments, and other agencies to conduct the HIV seroprevalence surveys, that assess HIV prevalence and incidence in different at-risk populations. These are anonymous unlinked studies, that provide an estimate of HIV infection in persons who have their blood drawn and tested for reasons other than HIV testing in a Denver metro sexually transmitted disease (STD) clinic. All personal identifying information is removed from the specimens, they are assigned a unique anonymous identification, and are then tested for antibodies to HIV. The resulting databases are analyzed for trends in HIV infection and have provided demographic, clinical, risk behavior, and HIV infection status information for this report.

The Division of Local Affairs/State Demographer’s Office has provided information about the characteristics of Colorado’s population to allow comparisons to persons reported with HIV infection or AIDS. Colorado’s demographic and geographic data is based on the 2000 U.S. census and estimates are made each year about changes to Colorado’s population by the State Demographer’s Office.

The Colorado Department of Human Services/Alcohol and Drug Abuse Division has provided estimates about the scope and size of the injection drug population in Colorado.

The Vital Statistics Section of CDPHE has provided cause of death data obtained from death certificates filed with the department through 2001.

The Colorado Department of Corrections has provided data on the demographic characteristics of the prison population.

The U.S. Census Bureau provided a variety of demographic and socio-economic data on Colorado.

The Colorado Department of Labor and Employment provided data on employment in Colorado.

Strengths and Limitations of the Data

Both HIV and AIDS have been reportable by name from laboratories and care providers since 1985 by regulation and since 1987 by statute. In 1987, CDPHE initiated an active system of surveillance for HIV and AIDS in order to accurately characterize the epidemic in Colorado. An evaluation study conducted in 2001 demonstrated that completeness of reporting of AIDS and HIV in Colorado was approximately 97% for recently diagnosed cases. CDPHE also collects local variables, such as incarceration or Hepatitis C status, to provide additional information to HIV prevention and care planners.

In general, persons who are infected with HIV, without treatment, will eventually progress to AIDS; for a few individuals, this progression may be relatively rapid (less than two years) but has usually been over a 5 to 10 year period, however the “incubation period” of HIV progression to AIDS may be substantially longer. Thus, aggregate data about AIDS cases may have limited use for HIV prevention planning because they characterize persons (and their risk behaviors) who may have been infected a decade or more ago. The introduction of highly active anti-retroviral therapies have further altered the natural history of HIV and delayed progression to AIDS, making AIDS data less useful each year for planning purposes.

For purposes of HIV prevention planning, it would be more useful to know who is currently (or at least more recently) becoming infected. Unfortunately, laboratory technology that would allow identification of new infections is not currently widely available. What is available is data about persons with newly diagnosed HIV infection (which does not mean newly infected). Because these persons have not yet progressed to AIDS, they may represent those who are more recently infected with HIV (although this may be confounded by treatment). However, the usefulness of this data is limited because it only includes persons who elected to be tested for HIV. This represents a major limitation of HIV case reporting: they do not represent persons who have never accessed testing.

The usefulness of the data is further confounded by the availability of anonymous testing. Anonymous testing for HIV has been available as a testing option in Colorado since July of 1990; because names are not used when a person is tested anonymously, these cases are not entered in the HIV/AIDS Reporting System database and thus are not included in this report. When these persons access health care, they are reported by their providers and by laboratories that perform testing to assess immune function and at that point are entered into HARS. (One study by Lehman, et al² suggested that persons who are anonymously tested positive for HIV seek medical care more promptly than those who

are tested confidentially.) They are included in this epidemiological profile when they are reported with HIV or AIDS by name and CDPHE can assure that no duplication in reporting has occurred.

Finally, data about risk is less complete for newly diagnosed HIV-infected persons than for persons with AIDS. In 2001, risk data for all AIDS cases reported since 1982 was not available for 4% of cases (n=7,560); for AIDS cases newly diagnosed in 2001, risk was not identified in 9% of cases. However, 15% of HIV cases diagnosed in 2001 (n=246) had no risk reported. The reason for this is that investigation of risk factors for HIV occurs over time; persons who are newly infected may not have discussed risk with HIV counselors, disease intervention specialists, or their care providers. As the patient seeks care and agrees to interviews, risk is more likely to be ascertained.

The location where a case of HIV or AIDS is “counted” presents a special challenge. Jurisdiction of a case of either HIV or AIDS is established at the time of diagnosis. Individual cases are not monitored for changes in address; consequently it is impossible to measure the impact of migration in or out of any county or on Colorado as a whole.

Lastly, caution should be exercised when interpreting small numbers. Population rates based on small numbers may be particularly misleading.



Description of Colorado

Geography

Colorado is geographically a rural state. It is comprised of 64 counties and has a landmass of 104,095 square miles. The largest proportion of Colorado’s population is located in 10 counties along the Front Range (Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Jefferson, Larimer, Pueblo, and Weld Counties) which account for 15% of Colorado’s land area but 81% of the population.³ These counties include the population centers of Colorado Springs, Pueblo, metropolitan Denver, Boulder, Fort Collins, and Greeley.

Population

According to the U.S. census, Colorado’s population reached 4.4 million in 2001. Colorado ranks 24th in the nation in population and accounts for approximately 1.6% of the U.S. population.⁴

Age

The median age in Colorado is 34.9-years for the year 2001, up from 32.4-years in 1990 (the median age is projected to increase to 36.4-years in 2024) and 2.9 million people are under the age of 45-years.⁵ The elderly population (over 65) has remained stable at approximately 10% of the population⁶ during the 1990s and is projected to remain at this level through 2010. The following table illustrates the distribution of the population by gender and age. Twenty-nine per cent are under 20-years of age, 30% are between the ages of 20–39 years and 41% are 40 and over. The gender distributions are similar between males and females.

■ TABLE 1: 2001 Colorado Population by Age and Gender

Age Group	Male	Percent	Female	Percent	Total	Percent
<13	418,840	18.8%	398,557	18.1%	817,397	18.4%
13–19	234,374	10.5%	218,138	9.9%	452,512	10.2%
20–24	163,243	7.3%	144,608	6.6%	307,851	6.9%
25–29	174,415	7.8%	155,905	7.1%	330,320	7.5%
30–39	364,909	16.3%	342,374	15.6%	707,283	16.0%
40–49	366,379	16.4%	363,195	16.5%	729,574	16.5%
>49	510,279	22.9%	575,718	26.2%	1,085,997	24.5%
Total Population	2,232,439		2,198,495		4,430,934	

Source: 2001 Census estimates, Demography section, Colorado Division of Local Government

Race

Statewide, approximately 74% of the population is White, 18% of the population is Hispanic, 4% is Black, 2% is Asian/Pacific Islander and 1% is Native American. It is worth noting that according to the U.S. Census Bureau 2001 Supplementary Survey, 6% of Colorado’s population may be non-citizen immigrants.⁷ Because of Colorado’s migrant workforce, it is likely that these

immigrants are Hispanic. It is not possible to determine whether these immigrants are included Colorado's census figures, although it seems unlikely because the census is conducted in April of the start of each decade, and the immigrant workforce influx generally occurs during the growing season, starting in June.

The following tables show the racial breakdowns in Colorado by sex (**Table 2**) and county (**Table 3**).

■ **TABLE 2: 2001 Colorado Population by Race and Gender**

Race	Male	Percent	Female	Percent	Total	Percent
White	1,632,400	73.1%	1,636,159	74.4%	3,268,559	73.8%
Hispanic	416,601	18.7%	382,824	17.4%	799,425	18.0%
Black	92,890	4.2%	84,384	3.8%	177,274	4.0%
Asian	57,656	2.3%	51,656	2.6%	109,563	2.5%
American Indian	26,852	1.2%	25,625	1.2%	52,477	1.2%
Unknown	11,789	0.5%	11,847	0.5%	23,636	0.5%
Total Population	2,232,439		2,198,495		4,430,934	

Source: 2001 Census estimates, Demography section, Colorado Division of Local Government

■ **TABLE 3: 2001 Colorado Population by Race and County**

County	Hispanic	White	Black	American Indian & Alaska Native	Asian
ADAMS	28.2	63.3	3.0	1.2	3.2
ALAMOSA	41.4	54	1.0	2.3	0.8
ARAPAHOE	11.8	73.9	7.7	0.7	3.9
ARCHULETA	16.8	80.1	0.4	1.4	0.3
BACA	7.0	90.4	0.0	1.2	0.2
BENT	30.2	63.3	3.7	2.2	0.6
BOULDER	10.5	83.6	0.9	0.6	3.1
CHAFFEE	8.6	87.3	1.6	1.1	0.4
CHEYENNE	8.1	90.5	0.5	0.8	0.1
CLEAR CREEK	3.9	94.0	0.3	0.7	0.4
CONEJOS	58.9	39.3	0.2	1.7	0.2
COSTILLA	67.6	28.2	0.8	2.5	1.0
CROWLEY	22.5	66.5	7.0	2.6	0.8
CUSTER	2.5	94.2	0.4	1.1	0.3
DELTA	11.4	86.0	0.5	0.8	0.3
DENVER	31.7	51.9	11.1	1.3	2.8
DOLORES	3.9	92.8	0.1	2.0	0.4
DOUGLAS	5.1	89.7	1.0	0.4	2.5
EAGLE	23.2	74.2	0.3	0.7	0.8
EL PASO	11.3	76.2	6.5	0.9	2.5
ELBERT	3.9	93.2	0.6	0.6	0.4
FREMONT	10.3	81.1	5.3	1.5	0.5
GARFIELD	16.7	81.0	0.4	0.7	0.4
GILPIN	4.2	92.0	0.5	0.8	0.7
GRAND	4.4	93.0	0.5	0.4	0.7
GUNNISON	5.0	92.3	0.5	0.7	0.5
HINSDALE	1.5	96.6	0.0	1.5	0.3
HUERFANO	35.1	58.4	2.7	2.7	0.4
JACKSON	6.5	92.1	0.3	0.8	0.1
JEFFERSON	10.0	84.9	0.9	0.8	2.3
KIOWA	3.1	94.3	0.5	1.1	0.0

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■ **TABLE 3: 2001 Colorado Population by Race and County**
continued from page 7

County	Hispanic	White	Black	American Indian & Alaska Native	Asian
KIT CARSON	13.7	83.4	1.7	0.5	0.3
LAKE	36.1	61.6	0.2	1.3	0.3
LA PLATA	10.4	82.3	0.3	5.8	0.4
LARIMER	8.3	87.5	0.7	0.7	1.6
LAS ANIMAS	41.5	55.2	0.4	2.5	0.4
LINCOLN	8.5	84.2	5.0	0.9	0.6
LOGAN	11.9	84.4	2.0	0.6	0.4
MESA	10.0	87.0	0.5	0.9	0.5
MINERAL	2.0	95.4	0.0	0.8	0.0
MOFFAT	9.5	88.2	0.2	0.9	0.3
MONTEZUMA	9.5	77.5	0.1	11.2	0.2
MONTROSE	14.9	82.4	0.3	1.0	0.4
MORGAN	31.2	67.0	0.3	0.8	0.2
OTERO	37.6	59.2	0.8	1.4	0.7
OURAY	4.1	93.2	0.1	0.9	0.3
PARK	4.3	92.5	0.5	0.9	0.4
PHILLIPS	11.8	86.3	0.2	0.3	0.4
PITKIN	6.5	90.6	0.5	0.3	1.1
PROWERS	32.9	65.1	0.3	1.2	0.4
PUEBLO	38.0	57.7	1.9	1.6	0.7
RIO BLANCO	4.9	92.6	0.2	0.8	0.3
RIO GRANDE	41.7	56.6	0.3	1.3	0.2
ROUTT	3.2	94.8	0.1	0.5	0.4
SAGUACHE	45.3	51.6	0.1	2.1	0.5
SAN JUAN	7.3	91.2	0.0	0.7	0.2
SAN MIGUEL	6.7	90.4	0.3	0.8	0.7
SEDGWICK	11.4	86.5	0.5	0.1	0.8
SUMMIT	9.8	86.7	0.7	0.5	0.9
TELLER	3.5	92.9	0.5	1.0	0.6
WASHINGTON	6.3	92.7	0.0	0.6	0.1
WELD	27.0	70.0	0.6	0.9	0.8
YUMA	12.9	86.1	0.1	0.3	0.1

Source: Table GTC-P6, Census 2000 Summary File 1

Poverty and Income

According to the U.S. Census Bureau, in 1991 Colorado ranked thirty-seventh in the nation in persons living in poverty (10% of the population). In 1997, Colorado's median household income was \$43,233 and Colorado had the lowest rate of poverty in the country (8.2% of the population). By 2001, Colorado's median income increased to \$49,397 and 9% of the population lived in poverty.^{8,9} **Table 4** shows the poverty levels per county. Pitkin County had the smallest percent of people living in poverty (4%) while Costilla County had the largest percent of its population living in poverty (27%) .

■ **TABLE 4: Percentage of the Population Under the Poverty Level by County**

County	Percentage Under Poverty Level	County	Percentage Under Poverty Level	County	Percentage Under Poverty Level
ADAMS	8.9	BENT	19.8	CONEJOS	22.8
ALAMOSA	19.6	BOULDER	7.6	COSTILLA	26.8
ARAPAHOE	6.0	CHAFFEE	11.1	CROWLEY	25.7
ARCHULETA	12.7	CHEYENNE	11.2	CUSTER	12.7
BACA	16.0	CLEAR CREEK	6.2	DELTA	13.6

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■ **TABLE 4: Percentage of the Population Under the Poverty Level by County**

continued from page 8

County	Percentage Under Poverty Level	County	Percentage Under Poverty Level	County	Percentage Under Poverty Level
DENVER	13.5	KIT CARSON	11.9	PROWERS	17.4
DOLORES	12.9	LAKE	10.0	PITKIN	3.8
DOUGLAS	1.9	LA PLATA	10.4	PUEBLO	14.8
EAGLE	5.4	LARIMER	7.3	RIO BLANCO	9.9
EL PASO	8.7	LAS ANIMAS	17.9	RIO GRANDE	20.0
ELBERT	5.1	LINCOLN	13.0	ROUTT	6.2
FREMONT	13.8	LOGAN	12.5	SAGUACHE	22.2
GARFIELD	7.7	MESA	11.3	SAN JUAN	17.2
GILPIN	5.3	MINERAL	10.9	SAN MIGUEL	8.3
GRAND	6.9	MOFFAT	10.0	SEDGWICK	11.7
GUNNISON	10.4	MONTEZUMA	15.5	SUMMIT	5.6
HINSDALE	10.0	MONTROSE	12.3	TELLER	6.6
HUERFANO	20.1	MORGAN	12.5	WASHINGTON	10.9
JACKSON	14.6	OTERO	18.8	WELD	10.2
JEFFERSON	5.0	OURAY	7.5	YUMA	12.1
KIOWA	12.5	PARK	6.1	Entire State	8.9
		PHILLIPS	9.6		

Source: Small Area Income and Poverty Estimates 1999 State and County FTP Files, model based estimates

Employment

There were an estimated 85,295 persons who were unemployed in Colorado in 2001, a rate of 3.7%, according to the Colorado Department of Labor. This number is 37% higher than last year when 62,501 persons were unemployed for a rate of 2.7%.¹⁰ Current estimates of the unemployment rate through September 2002 are 5.2%, which reflects an increasing trend in unemployment in the last two years.

Health Insurance

According to the U.S. Census Bureau, the number of Coloradans with health insurance decreased in 2001. In 2001, 15.6% of Colorado's population were uninsured, compared to 13.3% in 2000. This is the highest rate since 1996 when 16.6% of Coloradans were uninsured.¹¹ Estimates by the Kaiser Family Foundation (**Table 5**) show the percent of the population not covered by health insurance was much greater among Hispanics (35%) than among Whites (11%) or Blacks (18%).

■ **TABLE 5: Percentage of the State Non-Elderly Adults Without Health Insurance Coverage by Race/Ethnicity**

Race/Ethnicity	Percent Uninsured
Non-Hispanic White	11%
Non-Hispanic Black	18%
Hispanic	35%
Other	25%

Sources: Urban Institute and Kaiser Foundation Commission on Medicaid and the Uninsured estimates based on pooled March 2000 and 2001 Current Population Surveys

Mortality

According to the Vital Statistic Section of the CDPHE, Colorado's death rate in 2001 was 637.4 per 100,000 population with 28,243 deaths reported. Heart disease continues to be the leading cause of death, followed by cancer. While Colorado reported lower rates of death than the nation, Colorado's suicide rate (16.2 per 100,000) in 2001 continues to be substantially higher than the US suicide rate (10.6 per 100,000) in 2000.¹²

Education

According to the Colorado Department of Education, in 2001 there was a combined public and non-public school enrollment of 801,351 in Colorado. There are 2,108 schools and 180 districts in the state.¹³ Whites comprised 67% of school enrollment, Blacks 6%, Hispanics, 23%, Native Americans 1% and Asians 3%. The overall drop out rate in Colorado in 2001 was 3%: dropout rates among Whites were the lowest at 2%, and Hispanics were the highest at 5%. Rates for Blacks were 4% and for Native Americans, 5%.¹⁴

Table 6 shows the percent of the population graduating from high school and college. Compared to other metropolitan statistical areas (MSAs) and the state as a whole, Boulder county-Longmont PMSA had the highest proportion of high school and 4-year college graduates. Denver county MSA had a slightly lower proportion of high school graduates than the state as a whole but a somewhat higher percent of college graduates.

■ **TABLE 6: Percentage of Population 25 Years and Over, High School Graduates or with Bachelors Degree or Higher, 2001**

Area	Percent High School Graduate or Higher	Percent Bachelors Degree or Higher
Boulder-Longmont, CO PMSA	92.3%	52.9%
Colorado Springs, CO MSA	90.4%	35.3%
Denver, CO PMSA	86.3%	35.8%
Entire State	86.8%	33.8%

Sources: Census 2001 Supplementary Survey, Profile data available for selected areas from Table 2

Incarcerated persons

According to data from the Colorado Department of Corrections (DOC), 17,150 persons were in the custody of DOC in 2001 (an 11% increase over 2000); 12,589 were incarcerated in 22 state correctional facilities in 2001; nine (41%) of the DOC facilities are located in Fremont County. The remaining 4,561 were housed in contract facilities or county jails. Of the total 17,150 inmates, 8% were females and 92% were males. The racial and ethnic make-up of the 2001 Department of Corrections population is: 45% White, 23% Black, 29% Hispanic, 2% Native American, and 1% Asian.



Epidemiological Trends in HIV and AIDS in Colorado

Through September 30, 2002, a cumulative total of 7,560 cases of AIDS and 4,580 AIDS-related deaths have been reported. An additional 6,089 cases of HIV infection (persons who have not progressed to AIDS) have been reported. Colorado ranks 23rd in total cases of AIDS in the U.S. (0.9 % of all reported AIDS cases) and ranks twenty-fourth in population (1.6% of U.S. population).

Table 7 and 8 compare the demographic characteristics of newly diagnosed Colorado AIDS cases with U.S. AIDS cases for 2001. Persons diagnosed with AIDS in Colorado are more often male (85%) as compared to the U.S. (74%) cases. **Table 7** shows a breakdown of U.S. and Colorado cases by race and gender. The majority of newly diagnosed AIDS cases in Colorado are White (57%), compared to 28% of U.S. cases. Blacks represent 18% of newly diagnosed AIDS in Colorado, compared to a substantial higher percent nationwide (50%). Hispanics represents a higher percent of new AIDS cases in Colorado (24%), compared to U.S. cases (20%).

■ **TABLE 7: AIDS and HIV Adult/Adolescent Cases by Race**

Race	Colorado Aids Cases Diagnosed in 2001			U.S. Aids Cases Diagnosed in 2001		
	Male (p=232)	Female (p=42)	Total (p=274)	Male (p=30,500)	Female (p=10,808)	Total (p=41,308)
White	62%	35%	57%	33%	16%	28%
Black	13%	42%	18%	45%	65%	50%
Hispanic	24%	23%	24%	21%	18%	20%
Asian	<1%	0%	<1%	1%	1%	1%
American Indian	<1%	0%	<1%	<1%	<1%	<1%
Unknown	0%	0%	0%	<1%	<1%	<1%

Table 8 on the following page illustrates the exposure categories for AIDS diagnosed in 2001 in Colorado and nationwide. Among Colorado male AIDS cases, MSM remains the main exposure category and comprise a substantially greater proportion in Colorado (66%) than for U.S. AIDS cases reported in men (54%). IDU comprise a greater proportion of U.S. AIDS cases in both men (24%) and women (32%) compared to Colorado (11% in men and 21% in women). Heterosexual contact in U.S. cases (28%) is over twice that in Colorado cases (12%) and is influenced by the substantially higher percent of U.S. men (15%).

■ **TABLE 8: AIDS and HIV Adult/Adolescent Cases by Risk**

Exposure Category	Colorado Aids Cases Diagnosed in 2001			U.S. Aids Cases Diagnosed in 2001		
	Male (n=232)	Female (n=42)	Total (n=274)	Male (n=30,500)	Female (n=10,808)	Total (n=41,308)
Male to Male Sex (MSM)	66%	•	55%	54%	•	40%
Injecting Drug Use (IDU)	11%	21%	13%	24%	32%	26%
MSM/IDU	8%	•	7%	6%	•	4%
Heterosexual Contact	3%	64%	12%	15%	65%	28%
Other/No Identified Risk*	12%	14%	13%	1%	3%	2%

*Other includes cases exposed through hemophilia/coagulation disorders and receipt of blood transfusion, blood components or tissue

AIDS/HIV among Adults/Adolescents in Colorado

Figure 1 illustrates that diagnosed cases of AIDS peaked in 1993 and have declined steadily since. In 1993, 732 persons were diagnosed with AIDS, compared with 275 persons diagnosed with AIDS in 2001. There was an 18% decline between 2000 and 2001, from 334 to 275 persons, respectively. The number of HIV cases peaked in 1987 with 602 cases and decreased to a low of 215 in 1998. There was an increase in between 1998 and 2001, from 215 to 246 persons, respectively. Recent declines in AIDS incidence and deaths are thought to be primarily due to the success of anti-retroviral therapies introduced in 1996 that delay disease progression.

■ **FIGURE 1: Colorado AIDS and HIV by Year of Diagnosis, 1986–2001**

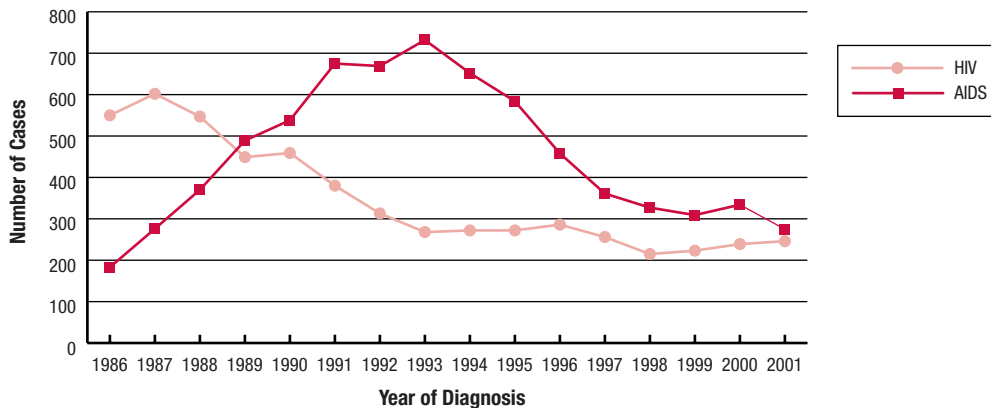


Figure 2 demonstrates that deaths have declined in both males and females since peaking in 1995. Deaths decreased dramatically from 1995 to 1997 and rate of decrease appeared to have leveled off since 1998. Among males, deaths declined 68%, from 498 in 1995 to 161 in 1997. Among females, deaths declined 57%, from 37 in 1995 to 16 in 1997. In the last five 5-years, male deaths have declined from 161 in 1997 to 103 in 2001, while female deaths have remained relatively stable (14 female deaths were reported in 2001).

■ **FIGURE 2: Annual Deaths among Persons Diagnosed with HIV/AIDS in Colorado, 1986–2001**

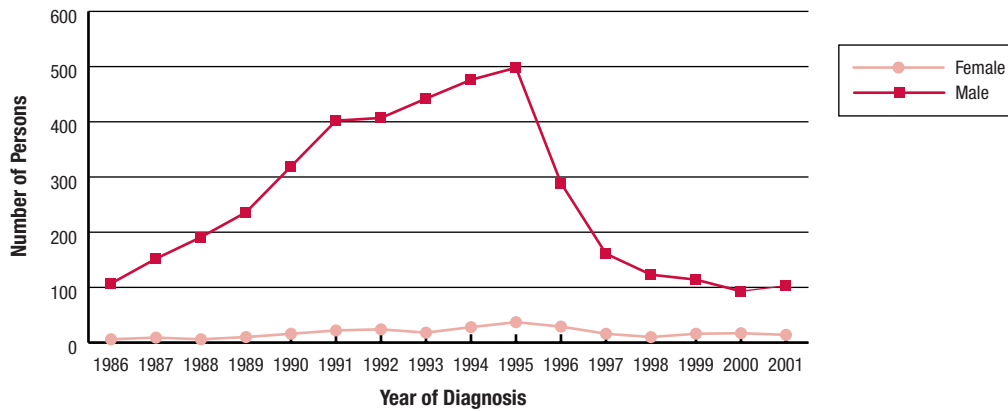


Figure 3 shows an increase in the number of persons living with either HIV or AIDS in Colorado. The number of persons living with full-blown AIDS contributes to this increase in prevalent cases because of improved survival for persons with AIDS who receive treatment, and due to decreases in the number of deaths from AIDS. By 2001, an estimated 8,790 persons were living with HIV or AIDS in Colorado (an increase of 5% over 2000, when 8,386 persons were living with HIV or AIDS.) The proportion of persons living with AIDS has increased from 29% in 1992 to 36% in 2001.

■ **FIGURE 3: Annual Number of Diagnosed Persons Living with HIV/AIDS in Colorado, 1986–2001**

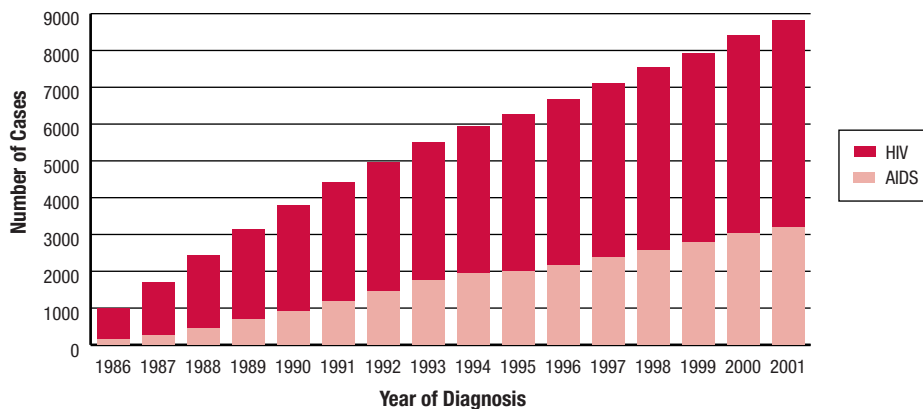


Table 9 on the next page illustrates the characteristics of persons living with HIV/AIDS. Males constitute the majority (91%) of persons living with HIV/AIDS. Blacks continue to be disproportionately impacted by the epidemic. Although the percentage of Blacks in the total population is 4%, they represent 14% of prevalent cases. Cases of AIDS were more likely to be older than persons with HIV only. MSM is the predominate risk factor (63%) of persons living with HIV/AIDS. The majority (93%) live in urban areas.

■ **TABLE 9: Characteristics of Persons Living with HIV/AIDS in Colorado**

Characteristic	Persons living with HIV	Persons living with AIDS	Total living with either HIV/AIDS
Sex			
Male	90%	91%	91%
Female	10%	9%	9%
Age Group			
<13	<1%	<1%	<1%
13–19	2%	<1%	2%
20–24	15%	3%	10%
25–29	26%	12%	21%
30–39	41%	49%	44%
40–49	12%	27%	16%
>49	3%	8%	5%
Race			
White	70%	68%	70%
Black	14%	14%	14%
Hispanic	13%	17%	14%
American Indian	1%	1%	1%
Asian	1%	<1%	<1%
Unknown	2%	0%	1%
Exposure Category			
MSM	63%	65%	63%
IDU	9%	11%	10%
MSM/IDU	10%	10%	10%
Heterosexual Contact	6%	8%	7%
No Identified Risk	12%	5%	9%
Other	1%	2%	1%
Region			
Urban	94%	92%	93%
Rural	6%	8%	7%

HIV and AIDS by Gender

Although increases in prevalent cases (**Figure 4**) are seen in both men and women, women accounted for an increasing proportion of persons living with HIV/AIDS. In 2001, women accounted for over 9% of persons living with HIV or AIDS, up from under 2% in 1986 and 5% in 1990.

■ **FIGURE 4: Cumulative Living HIV/AIDS Cases by Sex Reported Through 9/30/02, Colorado**

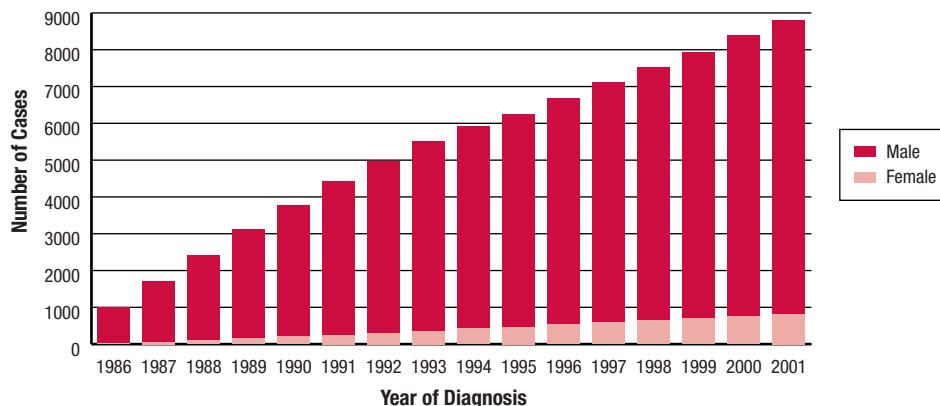


Figure 5 illustrates changes in the epidemic by comparing the gender characteristics of the earliest diagnosed AIDS cases with more recently diagnosed HIV cases. Among AIDS cases in the early years (1985 to 1989) of the epidemic, females accounted for only 5% of reported cases. When HIV cases reported from 1997–2001 are analyzed by gender, the proportion of cases among females had increased to 15%.

■ **FIGURE 5: HIV and AIDS by Sex**

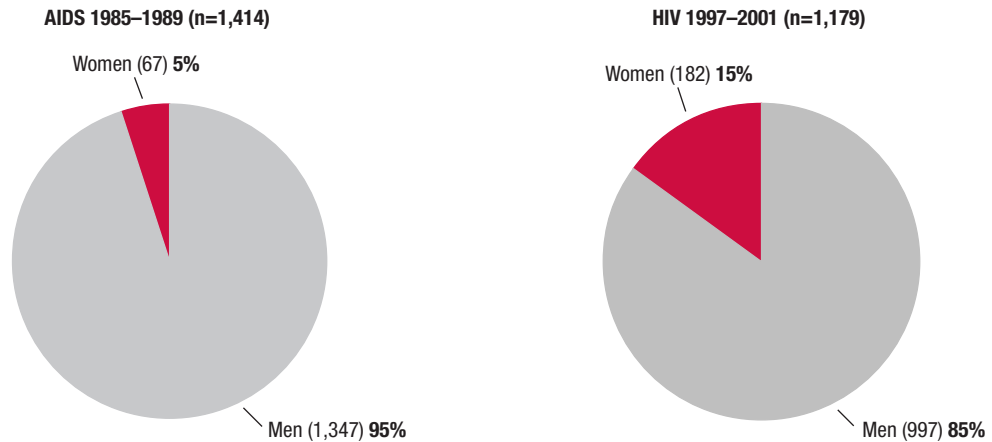
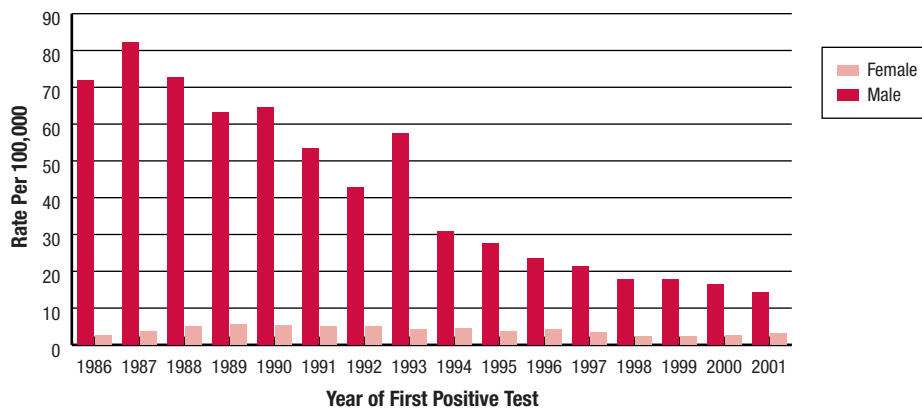


Figure 6 shows that HIV and AIDS rates per 100,000 population for males have decreased by 83% between 1987 and 2001 (from a rate of 82.2 per 100,000 to 14.4). Rates among females have remained low, but have not decreased as significantly (14%, from 3.6 to 3.1 per 100,000) in the same time period. There was a 19% increase from 2000 to 2001, from 2.6 to 3.1 per 100,000.

■ **FIGURE 6: HIV/AIDS Rate per 100,000 by Year of First Positive Test and Sex Reported Through 9/30/02, Colorado**



AIDS/HIV by Race

The following pie charts (**Figure 7**) illustrate the changes in the racial distribution of Colorado's HIV epidemic by comparing persons presumed to have been infected in the 1980s (AIDS 1985–1989) versus those presumed to be more recently infected (HIV 1997–2001). Using this model, the proportion of Whites is smaller (from 83% of AIDS cases to 61% of HIV cases), while the percentage of Blacks is larger across the same groups (from 7% of AIDS cases to 16% of HIV cases). The differences in the percentage of Hispanics also indicates that they are an increasing proportion of more recently infected persons, from 9% to 20%.

■ **FIGURE 7: AIDS and HIV Cases by Race, Colorado**

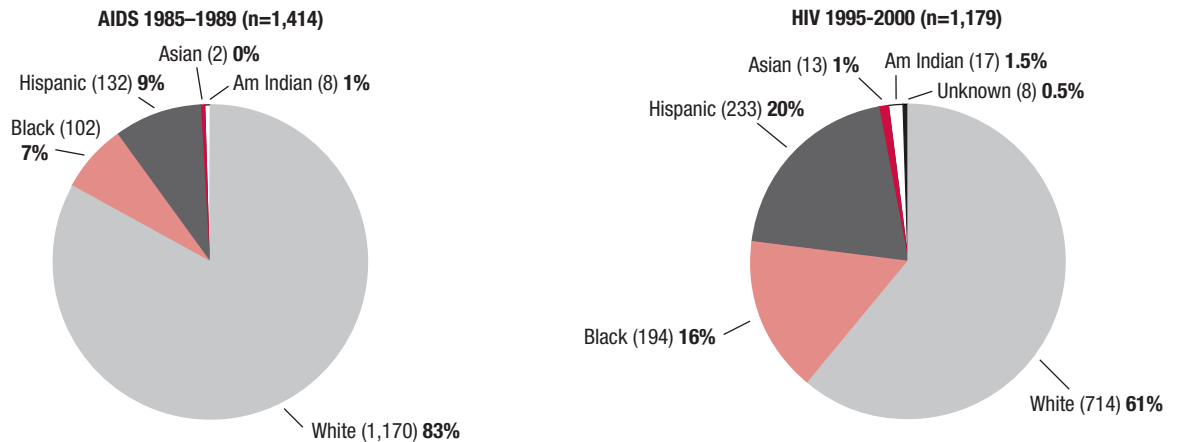
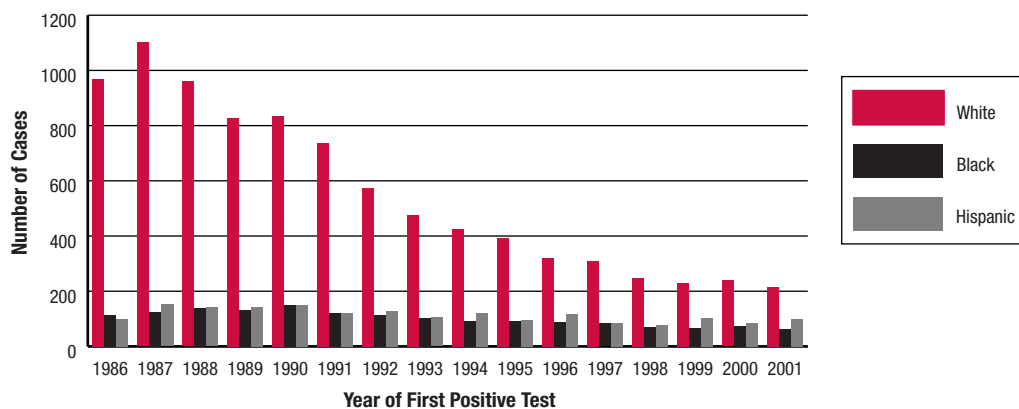


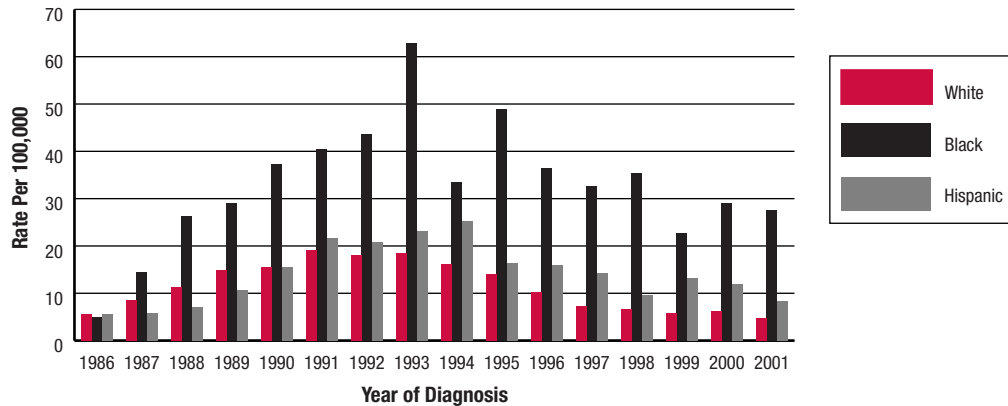
Figure 8 illustrates that the number of persons testing positive for HIV peaked in 1987 and has decreased substantially through 2001. Whites had the most dramatic decrease (80%), from 1,101 cases in 1987 to 215 in 2001. Ethnic minorities have not demonstrated the same rate of decrease. Blacks declined from 124 cases in 1987 to 64 in 2001, a 48% decrease. Hispanics declined from 152 cases in 1987 to 100 cases in 2001, a 34% decrease.

■ **FIGURE 8: HIV/AIDS Cases by Race and Year of First Positive Test Reported Through 9/30/02, Colorado**



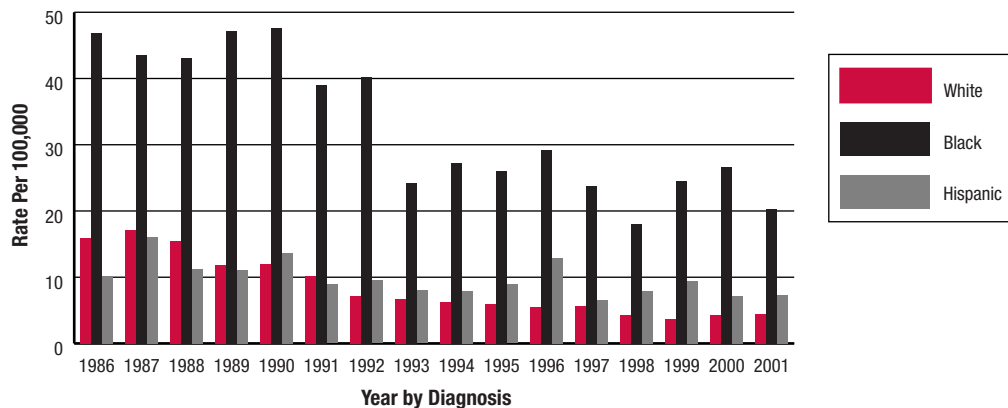
Although Whites comprise the largest number of both AIDS and HIV cases, **Figures 9 and 10** illustrate that when population rates are compared, both Blacks and Hispanics are disproportionately affected by this epidemic. As **Figure 9** shows, while there appears to have been a decrease in AIDS by population rates since 1993 among all racial groups, Blacks demonstrate disproportionately higher rates, at 27.6 per 100,000 in 2001, compared to 4.8 per 100,000 in Whites and 8.3 per 100,000 in Hispanics.

■ **FIGURE 9: AIDS Rate per 100,000 Population by Race in Colorado, 1986–2001**



When more recent infection is examined (**Figure 10**) the differences in population rates among racial groups are even more significant. All groups have experienced decreases in population rates per 100,000 since the late 1980s; rates in Whites decreased steadily from a high of 17.1 per 100,000 in 1987 to 4.4 per 100,000 in 2001 (a decrease of 74%). Rates in Blacks indicate that this group is still more affected by this epidemic; rates in Blacks decreased from a rate per 100,000 population of nearly 43.5 in 1987 to 20.3 in 2001, a decrease of 53%. During the same time period, rates in Hispanics also decreased (a high of 16.1 per 100,000 in 1987 to 7.3 per 100,000 in 2001, a decrease of 55%). Ethnic minorities are disproportionately effected in rates per 100,000, with Black rates nearly five times those of Whites, and Hispanic rates nearly twice those of Whites.

■ **FIGURE 10: HIV Rate per 100,000 Population by Race in Colorado, 1986–2001**



As illustrated by **Figure 11**, here have been substantial decreases since the epidemic peaked in 1993 in the number of diagnosed AIDS cases by year among Whites and Blacks (Hispanics peaked in 1994). Among Whites, cases decreased 70% from 525 cases in 1993 to 158 cases in 2001. Cases decreased among Whites by 57% from 1993 to 1997 and by 22% from 2000 to 2001. Decreases are also significant for both Blacks and Hispanics. Blacks decreased by 49% in the period 1993 to 2001, from 96 to 49 cases, while Hispanics decreased by 37%, from 104 cases in 1993 to 66 cases in 2001. Blacks decreased by 43% from 1993 to 1997 and increased 2% from 2000 to 2001. Hispanics decreased by 29% from 1993 to 1997 and by 16% from 2000 to 2001.

■ **FIGURE 11: Number of AIDS Cases by Race and Year of Diagnosis Reported Through 9/30/02, Colorado**

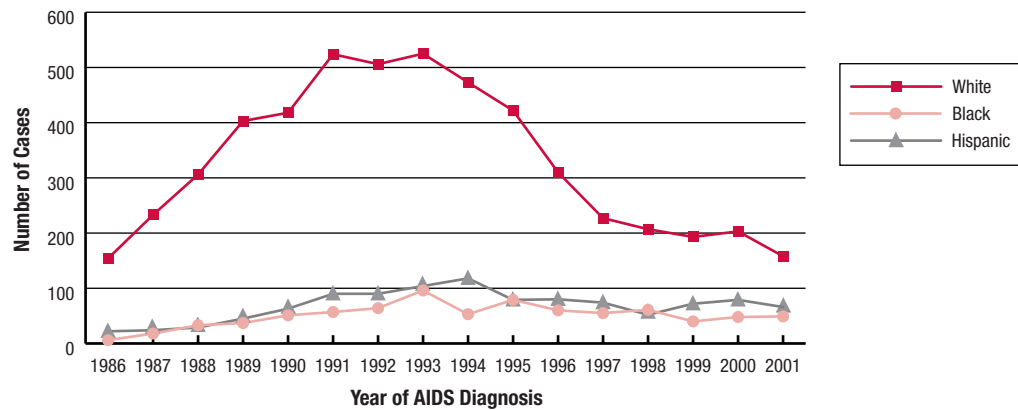
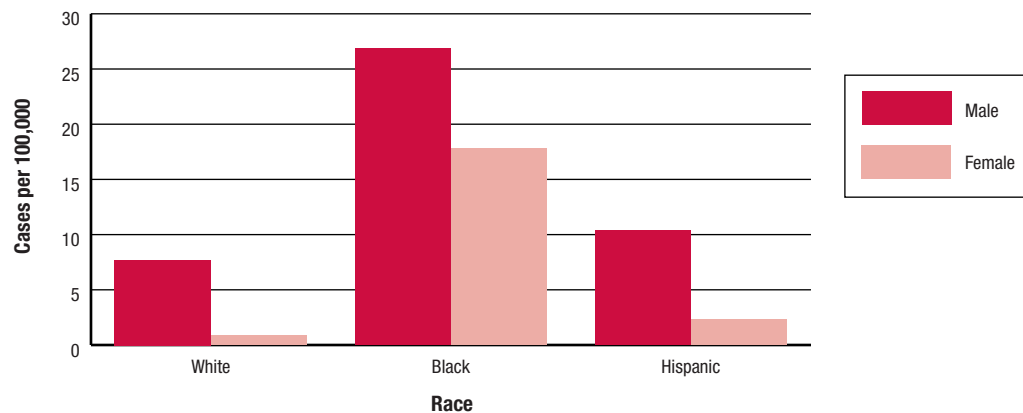


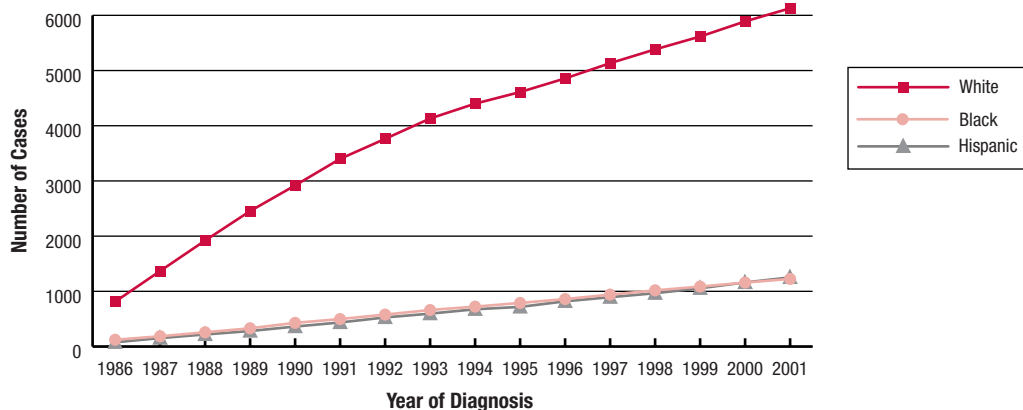
Figure 12 demonstrates the increasing burden of HIV on racial and ethnic minority populations in Colorado by illustrating recently diagnosed HIV cases: the rate among Black males (26.9 per 100,000 population) is over three times that of White males (7.7 per 100,000). Hispanic male rates (10.4 per 100,000) are higher than that of White males. Among females the racial differences are even more profound: the rate among Black females (17.8 per 100,000) is over 19 times that in White females (0.9 per 100,000), and in Hispanic females (2.3 per 100,000) it is over two and one-half times that of White females.

■ **FIGURE 12: Average Annual HIV Case Rates 2000–2001 by Sex and Race, Colorado**



Cases of persons living with HIV and AIDS by race are illustrated in **Figure 13**. Whites constitute the largest number and percentage of prevalent HIV/AIDS cases (6,128 out of 8,790 or 70% in 2001). Blacks and Hispanics have nearly identical numbers of living cases which is why the graph lines intersect throughout much of the graph. In 2001, Blacks and Hispanics account for 14% each (1,190 and 1,253, respectively) of prevalent cases of HIV in Colorado.

■ **FIGURE 13: Living HIV/AIDS Cases by Race Reported Through 9/30/02, Colorado**



Although not graphically illustrated, the percent of foreign-born persons has been increasing among ethnic minorities. In HIV cases newly diagnosed in 2001, 27% of Hispanics were foreign born, their primary country of origin was Mexico. Among Blacks, 19% were foreign-born, their place of origin was the continent of Africa. Cultural and language barriers make these group a challenge for prevention and care providers.

AIDS and HIV by Risk

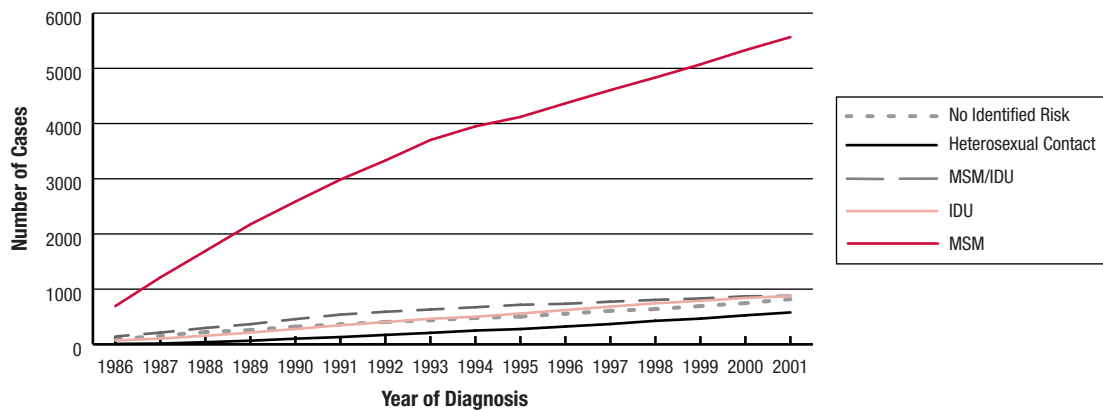
Table 10 displays HIV diagnosed in 2001 by risk categories and gender. One hundred forty-seven (60%) were persons classified as being infected through male-to-male sex (MSM), 27 (11%) through a heterosexual mode of exposure, 22 (9%) were injection drug use and 37 (15%) had no identified risk. Among males, the predominant mode of exposure was MSM (72%) followed by no identified risk (10%). Among females, the predominant mode of exposure was heterosexual contact (40%) followed by no identified risk (38%). Injection drug use is higher in females (21%) than in males (6%). No identified risk does not mean the person does not have any risk, it may not have yet been disclosed.

■ **TABLE 10: Colorado HIV Cases by Risk and Gender, 2001**

Exposure Category	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
Male to Male Sex (MSM)	147	72%	•	•	147	60%
Injecting Drug Use (IDU)	13	6%	9	21%	22	9%
MSM/IDU	12	6%	•	•	12	5%
Heterosexual Contact	10	5%	17	40%	27	11%
Maternal Transmission	1	<1%	0	0%	1	<1%
No Identified Risk	21	10%	16	38%	37	15%
Other	0	0%	0	0%	0	0%
Total	204	100%	42	100%	246	100%

As shown in **Figure 14**, the vast majority of cases of persons living with HIV and AIDS in Colorado are men who have sex with men (5,566 cases representing 63%; MSM/IDU constitute another 10% (880 cases) of HIV cases who were living in 2001. Prevalent MSM cases increased by 4% from 2000 to 2001, while MSM/IDU increased by only 4%. All other risk groups are far behind MSM, including IDU, which constitutes 10% (841 cases) of prevalent cases in 2001 and increased by 4% over the past year. Heterosexual contact appears to be a growing risk group (increasing 10% in the past year) but is far behind all other groups at 6% (578 cases) of persons living with HIV or AIDS at the end of 2001. Persons with no identified risk (NIR) also demonstrated a substantial increase from 2000 to 2001, a 9% increase to 818 cases.

■ **FIGURE 14: Living HIV/AIDS Cases by Risk Reported Through 9/30/02, Colorado**



AIDS and HIV by Age

Table 11 demonstrates the 246 cases of newly diagnosed HIV by age group and sex. The majority of females were in the 20–39 age group. The largest percent of males were in the 30–39 age group (42%).

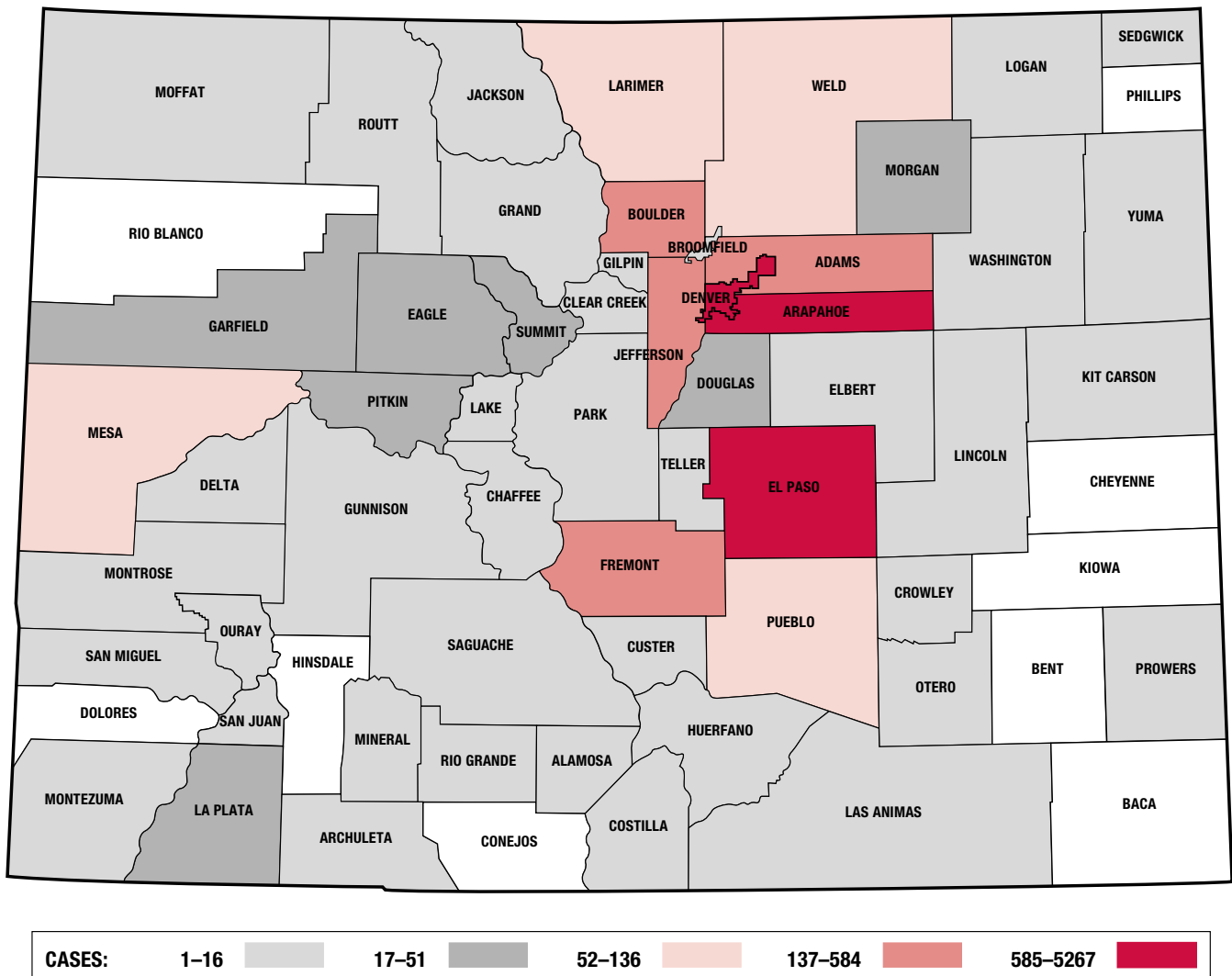
■ **TABLE 11: Colorado HIV Cases by Age Group and Gender, 2001**

Age Group	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
<13	2	1%	0	0%	2	1%
13–19	5	2%	1	2%	6	2%
20–24	28	14%	5	12%	33	13%
25–29	36	18%	12	29%	48	20%
30–39	85	42%	16	38%	101	41%
40–49	37	18%	5	12%	42	17%
>49	11	5%	3	7%	14	6%
Total	204	100%	42	100%	246	100%

Geographical Characteristics of HIV

Figure 15 demonstrates that the HIV epidemic in Colorado is concentrated in the Front Range in the counties (and population centers) of Denver, Boulder, Adams, Arapahoe, Jefferson, Douglas, and El Paso. These counties represent 89% of prevalent HIV/AIDS cases, and 64% of Colorado's population. This map shows that Fremont County appears to have a disproportionate share of HIV because it is home to the Colorado State correctional facility that houses virtually all HIV infected prisoners. Because these patients are incarcerated, they do not place a burden for HIV care or prevention services on the surrounding rural community. Current statistics and county level data on HIV and AIDS can be obtained by accessing the internet URL www.cdph.state.co.us/dc/HIV_STDSurv/MonitortheEpi.PDF.

FIGURE 15: Living Colorado HIV/AIDS Cases by County of Residence at Time of Diagnosis



HIV Related Mortality

Figure 12 illustrates the leading causes of death in males 25 to 44 years of age in 2001. Although HIV was the leading cause of death among young adult males (surpassing injuries) in 1992; in 2001 it was the seventh leading cause of death. The five leading causes of death in males, in order of ranking are unintentional injuries, suicide, heart disease, malignant neoplasm and chronic liver disease.

■ **TABLE 12: Top Ten Leading Causes of Death in Males Aged 25–44 Years in Order of Ranking**

Cause of Death	Crude Rate	Number
1. Unintentional Injuries	54.6%	395
2. Suicide	28.2%	204
3. Heart Disease	14.4%	104
4. Malignant Neoplasm	13.0%	94
5. Chronic Liver Disease	9.0%	65
6. Homicide	7.2%	52
7. HIV	6.2%	45
8. Events of Undetermined Intent	4.1%	30
9. Diabetes Mellitus	3.0%	22
10. Cerebrovascular Disease	2.6%	19

HIV is no longer among the ten leading causes of death in young-adult females aged 25 to 44. HIV peaked in 1995 as the seventh leading cause of death in this group and tied with pneumonia in 1998 as the tenth leading cause of death. In 2001, HIV dropped to the twelfth leading cause of death. The five leading causes of death in women are malignant neoplasms, unintentional injuries, heart disease, suicide and chronic liver disease, in order of ranking.



Characteristics of HIV and AIDS in High Risk Populations

Men Who Have Sex With Men (MSM)

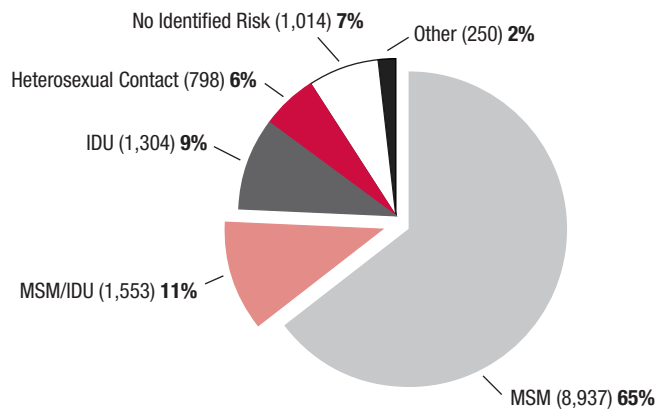
Estimates of Men Who Have Sex with Men in Colorado

According to the U.S. Census Bureau, there are 1,567,670 males in Colorado between the ages of 15–64 in 2001, which is the age range when persons are most sexually active. A search of the literature¹⁵ indicates that the percentage of men who have sex with men (MSM) ranges from 2.1% to 10.1%, with the average at 2.9%. This would mean that the number of MSM in Colorado could be estimated to be 45,465 although the range is much broader.

Proportion of the Epidemic Among Men Who Have Sex with Men

The vast majority of persons with HIV or AIDS in Colorado (as shown in **Figure 16**) are MSM (65% or 8,937 cases); all other modes of acquisition are far behind this significant group. Because MSM behavior appears to hierarchically present the greatest risk of acquiring HIV in Colorado, men who report both sex with men and injecting drug use (MSM/IDU) are included in the MSM group for purposes of this analysis. When this population (MSM/IDU), representing 11% (or 1,553 cases) of the total, is combined with MSM, together they comprise 76% of the epidemic in Colorado.

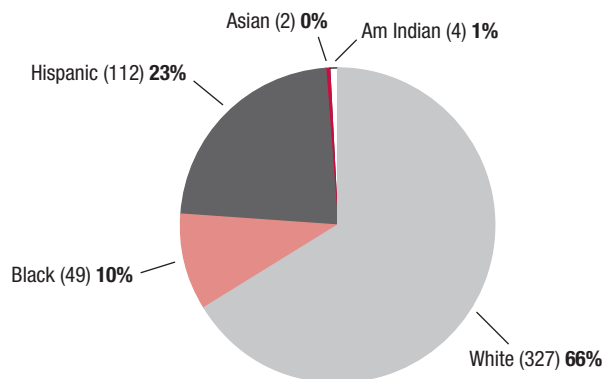
■ **FIGURE 16: HIV/AIDS by Risk Reported Through 9/30/02, Colorado**



Racial/Ethnic Trends Among Men Who Have Sex with Men

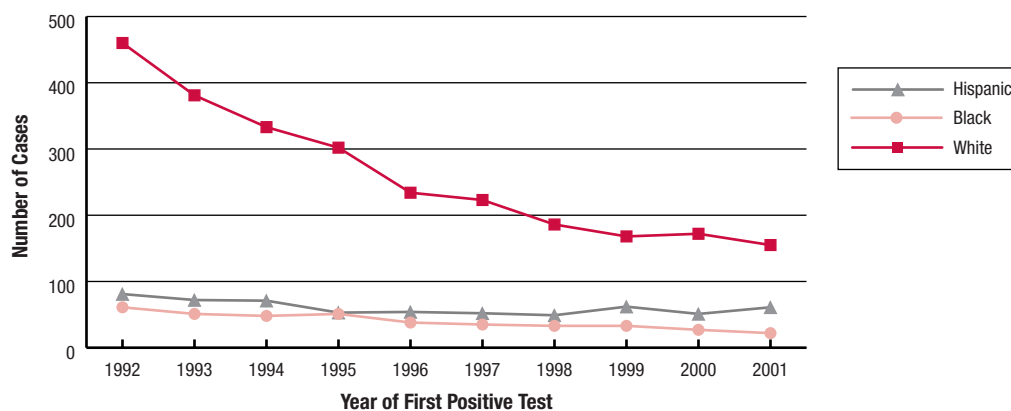
As **Figure 17** on the next page demonstrates, Blacks are over represented in the HIV epidemic among MSM and MSM/IDU; they account for 4% of Colorado's population but are 10% of recently diagnosed HIV/AIDS cases in this group. Whites are under represented and Hispanics are slightly over representative for their proportion of the population (18%).

■ **FIGURE 17: MSM & MSM/IDU HIV Diagnosed Positive (+) 2000–2001 by Race Reported Through 9/30/02, Colorado**

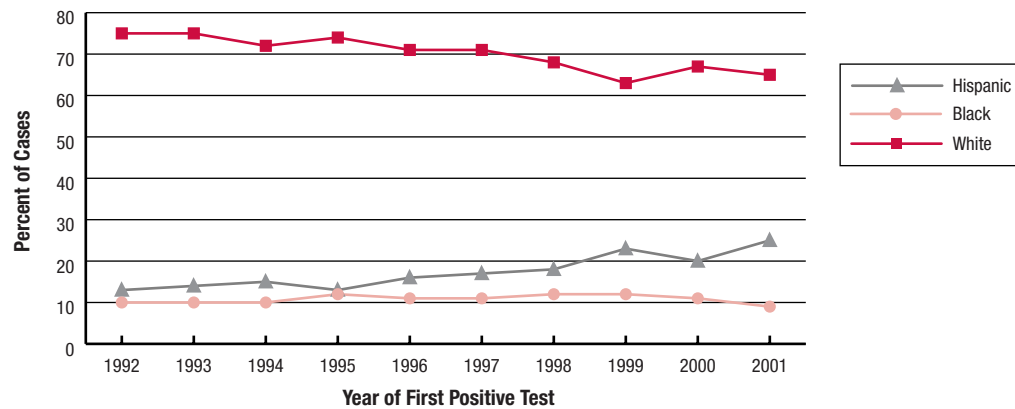


Figures 18 and 19 illustrate the changes in the number and proportion of HIV cases among White, Black and Hispanic MSM and MSM/IDU. The number of new cases (**Figure 18**) has decreased steadily for Whites since 1987, but has remained stable for Blacks and Hispanics. **Figure 19** shows Whites accounted for 75% of the HIV burden among MSM and MSM/IDU in 1992, and 65% in 2001, a 13% decrease. The proportion of Blacks remained relatively stable in this period, from 10% in 1992 to 9% in 2001. Hispanics doubled in proportion, increasing from 13% in 1992 to 25% in 2001. In the last five-years Hispanics have shown a steady increase in percentage of cases, from 17% in 1997 to 25% in 2001.

■ **FIGURE 18: Number of MSM and MSM/IDU with HIV/AIDS by Year of First Positive Test and Race Reported Through 9/30/02, Colorado**



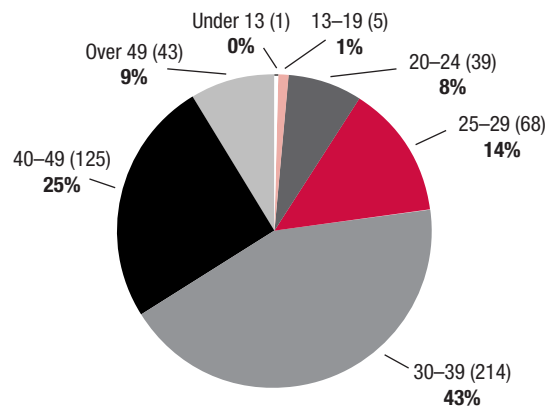
■ **FIGURE 19: Percentage of MSM and MSM/IDU with HIV/AIDS by Year of First Positive Test and Race Reported Through 9/30/02, Colorado**



Age Trends Among Men Who Have Sex With Men

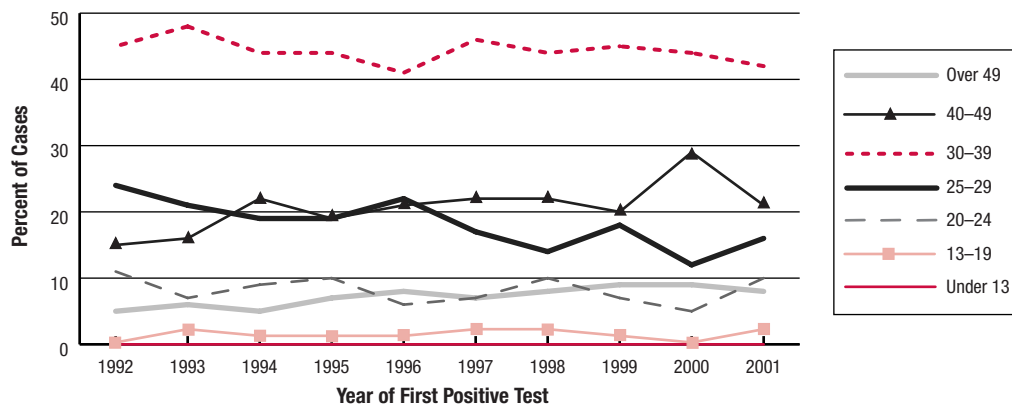
Figure 20 describes the recent HIV epidemic among MSM and MSM/IDU by age. In Colorado, 43% of the HIV epidemic in this group is in the 30–39 age group, which represents 16% of the male population. Men ages 40–49 comprise 25% of the recent HIV cases and are 16% of the male population. Young men ages 20–29 are over represented: they are 15% of the male population, but account for 21% of the epidemic. Teenagers ages 13–19 are 11% of Colorado’s population, yet comprise only 1% of the epidemic.

■ **FIGURE 20: MSM & MSM/IDU HIV Diagnosed Positive 2000–2001 by Age Reported Through 9/30/02, Colorado**

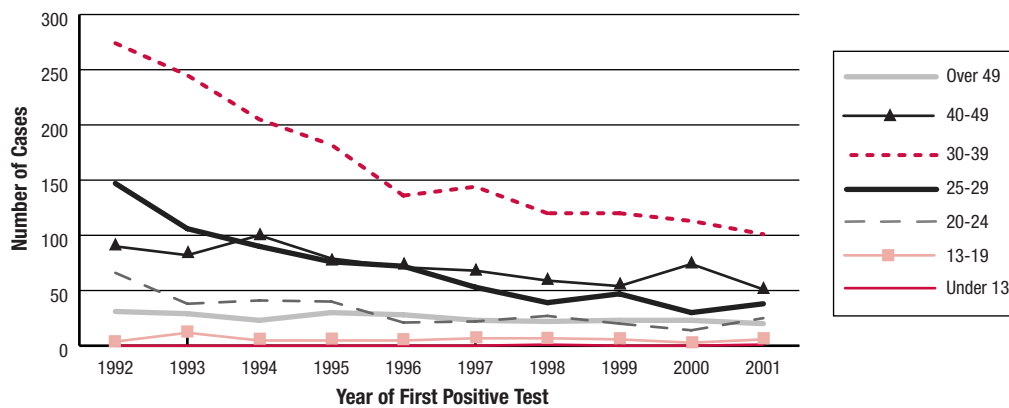


Figures 21 and 22 on the next page illustrate the number and proportion of HIV cases over time among MSM and MSM/IDU by age. **Figure 21** shows that the proportion of positive HIV tests by age groups have remained relatively stable, with some exceptions; 20–24 year olds have decreased from 17% to 6% in the time period from 1986 to 2001. In the 25 to 29 age group, the proportion decreased from 24% to 16% from 1992 to 2001. In the 40–49 age group, there has been a significant increase, from 15% in 1992 to 21% in 2001, and in the over 49-year age group, from 5% in 1992 to 8% in 2001. The 13–19 age group is too small to illustrate significant changes. Decreases in the number of reported cases have been observed for all age groups (**Figure 22**) since peaking in the late 1980s.

■ **FIGURE 21: Percentage of MSM and MSM/IDU with HIV/AIDS by Year of First Positive Test and Age Reported Through 9/30/02, Colorado**



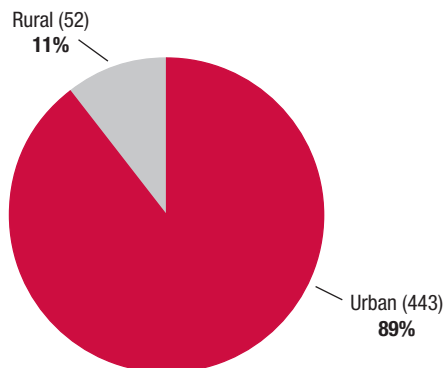
■ **FIGURE 22: Number of MSM and MSM/IDU with HIV/AIDS by Year of First Positive Test and Age Reported Through 9/30/02, Colorado**



HIV in Men Who Have Sex With Men by Region

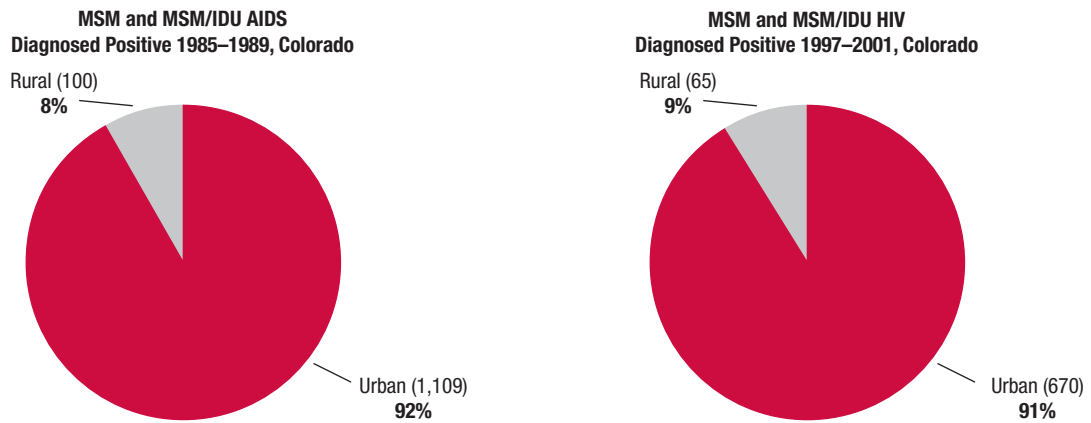
The HIV epidemic in Colorado among MSM, with or without a history of injecting drug use, is clearly centered in urban Colorado (the counties of Adams, Arapahoe, Boulder, Denver, Jefferson and El Paso) which accounts for 63% of the state’s population but 89% of the recent HIV epidemic. **Figure 23** illustrates that only 11% of recently diagnosed HIV and AIDS cases in this risk group are residents of rural Colorado (37% of Colorado’s population).

■ **FIGURE 23: MSM and MSM/IDU HIV Diagnosed Positive 2000–2001 by Region Reported Through 9/30/02, Colorado**



Steady decreases in the reported number of HIV or AIDS cases among MSM has been observed in both urban and rural areas since peaking in 1986 and 1987. **Figure 24** shows that HIV has remained a proportionately stable urban epidemic and has not become more rural over time. The changes in the regional distribution of MSM has increased only 1% between AIDS diagnosed in 1985–1989 and more recently diagnosed HIV in 1997–2001.

■ **FIGURE 24: MSM and MSM/IDU with HIV and AIDS**

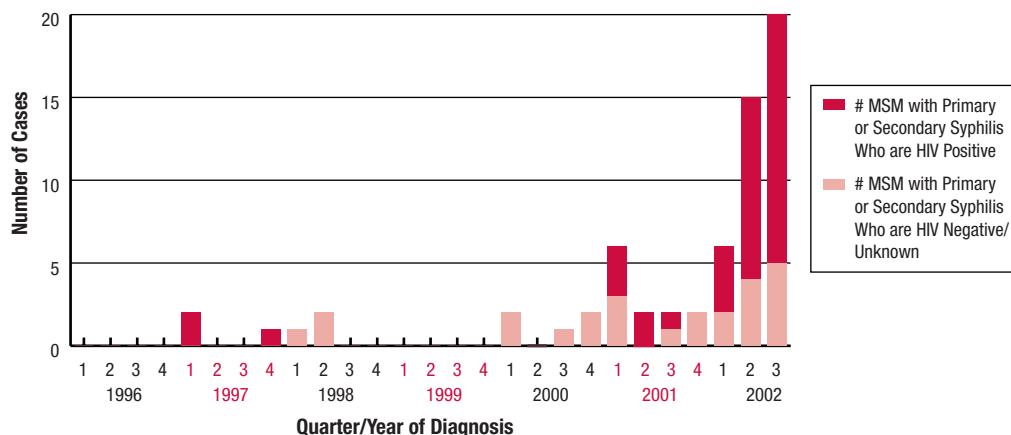


Other Factors Contributing to Risk Among Men Who Have Sex With Men (MSM)

Recent Trends in Syphilis and Gonorrhea Among Men Who Have Sex With Men

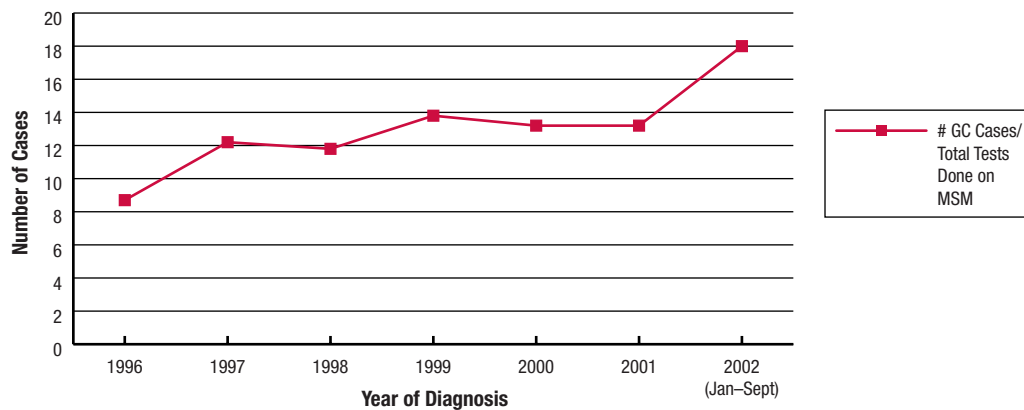
In 2002, the trends in sexually transmitted diseases (STDs) among MSM continue to increase in the Denver Metro area and at the Denver Metro Health (STD) clinic (DMHC), despite continued prevention efforts. These data raise concerns about continued increases in sexual risk behavior and the possibility for increased HIV transmission. For the Denver Metro area there was a greater than three-fold increase in primary and secondary syphilis among MSM with 12 cases in 2001 and 41 cases in the first three quarters of 2002 (**Figure 25**). Eighty-six percent of all syphilis cases for the Denver Metro area were among MSM. This trend mirrors syphilis outbreaks seen in other large U.S. cities in recent years, including the majority of syphilis cases in the Denver Metro area (74%) among men who were HIV positive. Among MSM with primary and secondary syphilis in the Denver Metro area, 71% were White, 17% were Hispanic, and 5% were Black. By age group, 26% of cases were age 21–30 years of age, 45% were age 31–40, and 29% were greater than 40 years of age.

■ **FIGURE 25: Syphilis Among MSM in Denver Metro Area by HIV Status by Quarter 1996–2002**



Similar trends have been seen at the DMHC, where sexual orientation data can be determined for all patients with an STD. In parallel with the metrowide outbreak, the number of cases of primary and secondary syphilis among MSM increased nearly five-fold from three cases in 2001 to 14 cases in the first three-quarters of 2002. For gonorrhea, as reported in last year's Epidemiologic Profile, rates among MSM have steadily increased since 1996, with a two-fold increase from 1996 to 2002 (8.7 % to 17.2 %). The largest increase in gonorrhea rates was between 2001 (13.2%) and 2002 (18.0%) (**Figure 26**). The absolute number of cases of gonorrhea among MSM has increased even more dramatically, from 51 cases in 1996 to 204 cases in the first three-quarters of 2002. The rates of gonorrhea have increased among specific racial/ethnic groups as well, from 1996 to 2002 rates increased from 9.1% to 18.5% for whites, from 10.0% to 11.7% for Hispanics, and from 15.4% to 23.1% for Blacks. Gonorrhea rates have also increased for all age groups, except for men less than 20-years-old.

■ **FIGURE 26: Rates of Gonorrhea Among MSM at DMHC 1996-2002**



From 1996 to 2002, MSM who were infected with gonorrhea reported increased rates of both insertive (70.6% to 83.9%) and receptive anal sex (45.1% to 64.6%), as well as increased rates of having multiple sex partners in the past few months (64.6% to 76.6%). Similar to MSM with syphilis, a significant percentage of MSM with gonorrhea are co-infected with HIV, 17.5% in the first three quarters of 2002. The increases in the incidence of syphilis and gonorrhea appear to have also been accompanied by an increase in HIV incidence. As with HIV, these STD incidence trends highlight the growing need for enhanced and innovative prevention efforts among MSM.

Bath House Screening

Following the increase in syphilis cases in the Denver Metro area in the spring of 2002, some of which had been linked to exposures in the gay bath houses, Denver Public Health (DPH) with support from the CDPHE, extended bath house outreach screening in May 2002. HIV testing in the Denver bath houses had been an ongoing activity of DPH for many years, but with added funding from CDPHE, the number of outreach screening hours were increased as were the number of screening sites, and syphilis serology was added to the screening. Currently, syphilis and HIV screening is offered at all three bath houses at least once a week. Gonorrhea and chlamydia testing will also be offered starting in January 2003. Hours at each site differ from week to week in order to reach a wide range of clients. Through (December 18, 2002), a total of 273 persons had been tested for syphilis and 241 persons for HIV. This represents respectively 6% and 5% of all persons who were present at the time

of screening and were thus eligible for testing. Of persons tested, five (2%) were positive for syphilis, and nine (4%) were positive for HIV. Notification of results were documented for four of the five syphilis cases and seven of nine HIV cases.

Thus far, the screening project has been moderately successful. Efforts are under way to increase the number of persons willing to be tested, including a social marketing campaign and offering incentives. Onsite rapid HIV testing with results available while the client waits, may also increase the willingness to be tested and at the same time increase the proportion of persons receiving HIV test results. However, while a rapid test has recently been approved by the Food and Drug Administration (FDA), this test is not yet available for outreach use.

Sex Partner Characteristics of Men Who Have Sex with Men (MSM) Attending the Denver Metro Health Clinic

The recent increases in STDs and associated high-risk behaviors among MSM and the possibility that these may herald a new episode in the HIV epidemic, have prompted a heightened awareness of factors associated with STDs and HIV in this population. With support from the CDC, DPH implemented a project in the DMHC (STD) clinic to collect additional information among MSM visiting the clinic as part of the standard risk assessment. This information assists the clinician in the client-centered prevention counseling process, while (blinded) analyses of aggregate data provide insights in current risk behaviors among MSM that may assist the community HIV prevention planning process. In this section, we briefly report on sex partner characteristics, places of partner recruitment and discussion of serostatus with sex partners among 1,070 MSM for whom additional data collection was completed. Data is summarized in **Table 13**, both for the total group of MSM as well as by HIV status of the index case (the person for whom the data was collected), either by self-report or by HIV testing at the date of visit.

TABLE 13: Sex Partner Characteristics, Recruitment, and Discussion of Serostatus Among MSM Visiting DMHC, January 2000–December 2002

	All	HIV Infection	
		Yes	No
Number	1,070	150	845
	Mean	Mean	Mean
All Sex Partners	2.9	2.8	3.0
New Sex Partners	1.8	1.0	1.9
Anonymous Partners	2.3	2.4	2.2
Met via Internet	0.6	0.5	0.6
Met in Bath House	1.4	2.3	1.3
Met in Other Public Setting	0.4	0.1	0.4
Exchanged Money or Drugs	0.1	0.1	0.1
Discussed HIV Status	1.8	1.9	1.8
Known HIV Positive	0.3	1.5	0.2
Unknown HIV Status	2.0	1.6	2.1

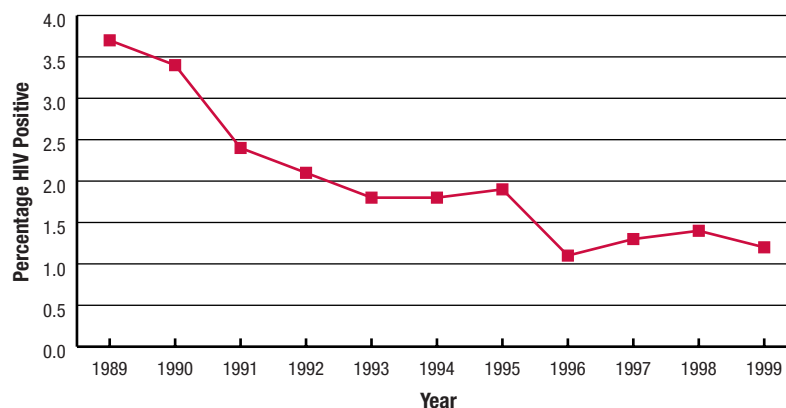
Surveyed MSM reported a total of 3,078 sex partners in the past four months. Of these, 62% were reported as “new” partners, and 79% as anonymous partners. Of all sex partners, approximately 50% were met in a bath house and slightly over 20% were met via the Internet. HIV status was discussed with 62% of partners, but HIV status was unknown for over 70% of sex partners, either because serostatus was not discussed or because the partner had not been tested. Persons with HIV infection were less likely to report new sex partners and more likely to report sex with partners who are also HIV-infected. Still among the latter group, 58% of sex partners were of unknown HIV serostatus. These data confirm that bath houses are important venues for HIV prevention activities and also suggest the importance of serostatus discussion and disclosure as part of these interventions.

Sexually Transmitted Disease Clinic Unlinked Survey: 1989–1999

STD Clinic Population: This survey was conducted over 11 years from 1989 to 1999 in two Denver Metro STD clinics. Leftover sera from routine syphilis testing were unlinked from all personal identifying information, and tested for HIV antibodies to obtain a least-biased estimate of HIV prevalence in persons receiving an STD exam on their first visit during each annual survey period. Males comprised 63% of the survey population. (Table 14) Blacks and Hispanics were over represented, and Whites under represented, (31% versus 22% versus 43%) when compared to the general population of Colorado. Nearly 50% were aged 20–29 years. Most (88%) stated heterosexual risk behavior, while 7% MSM, and nearly 6% reported IDU. Overall, in this population, 7% received a diagnosis of gonorrhea at their initial clinic visit, and nearly 1% was diagnosed with syphilis. Over time, gonorrhea diagnoses were nearly non-existent from 1990 through 1996, then climbed steadily each year to over 10% in 1999. Syphilis diagnoses remained below 2% during this survey, yet appeared to decrease from 1994 through 1999. Currently in 2002, the Denver metro area is experiencing a syphilis outbreak, as reported above.

HIV Prevalence: Overall HIV infection status decreased steadily over time from 3.7% in 1989 to 1.2% in 1999. (Figure 27) This decrease was most evident in White MSM, and persons ages 30–39 years. Overall, males were more likely to be infected than females (3.0% versus 0.4%), as were Whites compared to Hispanics or Blacks (3.0% versus 1.5% versus 1.2%). Persons age 30 and over were more likely to be infected with HIV at their initial clinic visit. (Table 14)

■ FIGURE 27: HIV Seroprevalence in STD Clinics Unlinked Survey, Denver, Colorado 1989–1999



■ **TABLE 14: Demographics and HIV Seroprevalence STD Clinic Unlinked Survey, 1989–1999, Denver, Colorado**

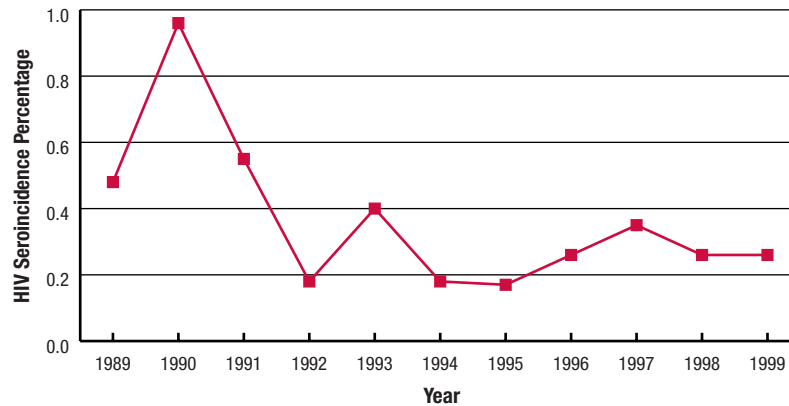
Population	All n=40,292	HIV Positive n=741	HIV Seroprevalence Percentage HIV Positive
Total	100%	100%	1.8%
Sex			
Male	63%	94%	3%
Female	37%	6%	0.4%
Race			
White	43%	63%	3%
Black	31%	19%	1.2%
Hispanic	22%	17%	1.5%
Asian/Pacific Islander	1%	1%	0%
American Indian/Alaskan Native	1%	0%	2%
Other	1%	1%	60%
Age Group			
<20	16%	0%	0.1%
20–29	47%	36%	1.6%
30–39	24%	45%	3.7%
>40	13%	18%	2.8%
Exposure Category			
MSM/IDU	1%	12%	29.5%
MSM	7%	70%	21.6%
Heterosexual/IDU	5%	4%	1.4%
Heterosexual	88%	14%	0.4%
STD			
Gonorrhea Dx	7%	12%	3.2%
Syphilis Dx	1%	3%	7.6%

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HIV-Infected Population: Males were nearly eight-times more likely to be infected than females, and were 94% of the HIV-infected population. The predominant behavioral risk was MSM (70%). (**Table 14**) Only 14% of those infected stated heterosexual risk behavior, and half of these had been diagnosed with an STD. MSM/IDU comprised 12% of this population and heterosexual IDU was reported as 4%. In HIV positive women, heterosexual IDU, or STD diagnosis were the most common risks identified (34% each), followed by sexual partner at risk (21%) and heterosexual risk behavior only (11%).

HIV Incidence: Using the Serologic Testing Algorithm for Recent HIV Seroconversion (STARHS) method, seroincidence (defined as recent infection within the past four to six months) was nearly 10-times greater in MSM than in male or female heterosexuals. Over time, overall seroincidence appeared to decrease from higher levels in 1989–1991 to lower levels in 1994–1995, while remaining below 0.35% from 1996 to 1999. (**Figure 28** on the next page) This trend is partly mirrored in MSM, with the adjusted seroincidence reaching a low of 1.86% per year in 1994–95, while increasing slightly through 1999. More recent STARHS data from MSM who were tested for HIV at DMHC from August 2001 to September 2002, indicate that HIV seroincidence has increased to 5.73% per-year in a subgroup of MSM who accepted voluntary counseling and testing at DMHC. These HIV incidence trends underscore the acute need for increased prevention efforts among MSM.

■ **FIGURE 28: HIV Seroprevalence in STD Clinics, Denver, Colorado 1989–1999**

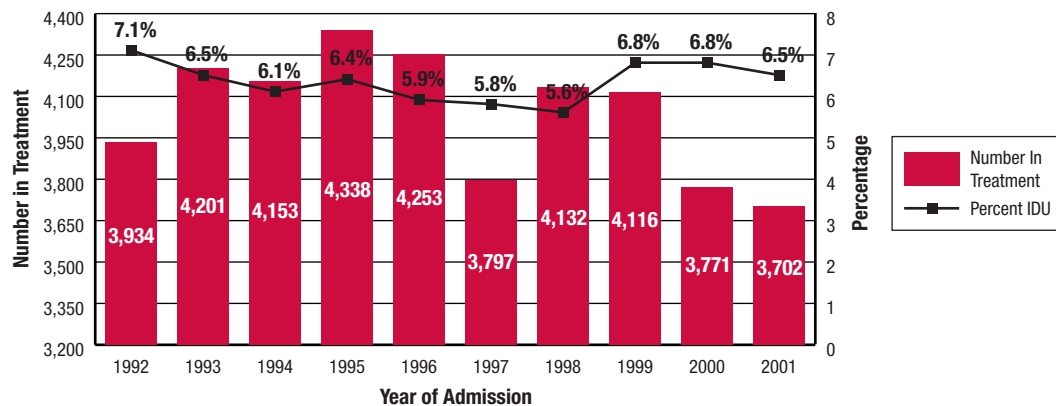


Injecting Drug Use (IDU)

Estimate of Injecting Drug Use in Colorado

According to data supplied by the Colorado Department of Human Services/Alcohol and Drug Abuse Division (ADAD), there were 3,702 injection drug users (IDU) in treatment in Colorado in 2001. Since 1998 there has been a steady decrease of IDU in treatment, from 4,132 in 1998 to 3,702 in 2001. ADAD staff indicates that it is generally acceptable to estimate the number of IDU in the population as six-times the number of IDU in treatment; this means there are approximately 22,200 IDU currently injecting illicit drugs in Colorado.

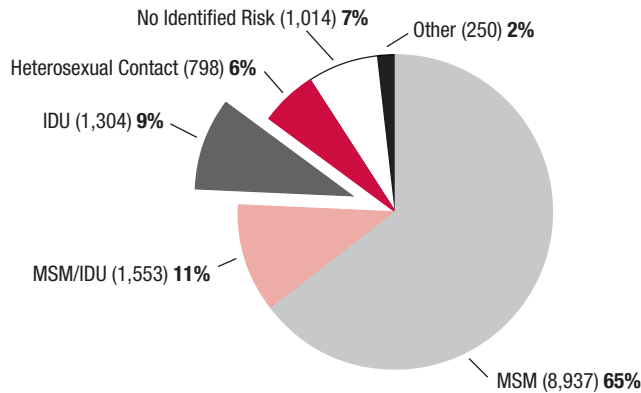
■ **FIGURE 29: Injection Drug Users in Treatment: 1992–2001**



Proportion of Epidemic Among Injection Drug Users

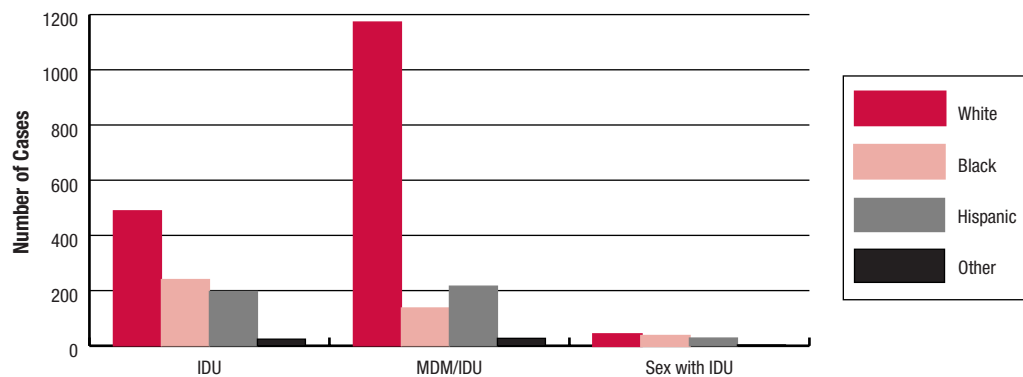
Through September 30, 2002, there were a cumulative total of 1,735 cases of AIDS and 1,302 cases of HIV infection associated with IDU (either IDU alone reported by the patient, reported MSM/IDU, or sex with an IDU). Of these, 81% were reported in men and 19% were reported in women. Of the cumulative HIV/AIDS reported through September 30, 2002, IDU accounts for 9% of the total epidemic.

■ **FIGURE 30: HIV/AIDS by Risk Reported Through 9/30/02, Colorado**



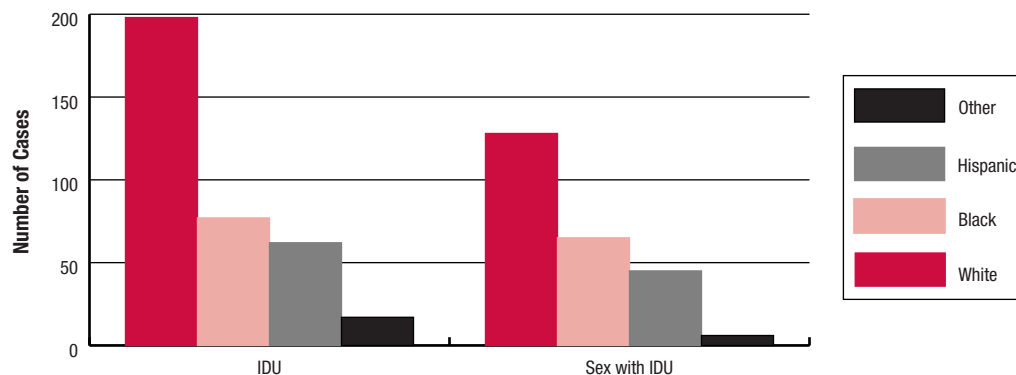
The following two graphs illustrate the impact of the use of drugs by injection on both males and females. **Figure 31** illustrates that among 950 males with HIV or AIDS whose only risk is injection drug use, Whites account for 489 cases (51%), Blacks for 240 (25%) cases, and Hispanics for 197 cases (21%). Among males who are MSM/IDU, the impact on racial/ethnic minorities is less profound; of the 1,553 cases, Whites account for the overwhelming majority (1,173 or 76%) of these cases, Blacks for 137 cases (9%) and Hispanics for 216 cases (14%). Among men who acquired HIV through heterosexual contact with an IDU (a total of 107 cases), Whites males represent 38% (41 cases), Blacks males represent 33% (35 cases). Twenty-eight (26%) of cases were reported among male Hispanics in this risk group.

■ **FIGURE 31: Cumulative IDU-Associated HIV/AIDS in Males Reported Through 9/30/02, Colorado**



In females, the number of IDU-related HIV or AIDS cases is smaller than for males; 354 cases of HIV or AIDS in females are directly related to IDU; Whites account for 56% these cases (198). Blacks account for 77 cases and are over represented at 22% of females in this risk group. Hispanics constitute 18% (62 cases) and are also over represented among female IDU. The number of cases of females who acquired their infection as a result of heterosexual contact with an IDU is significantly higher than for males in all racial/ethnic groups (244 total cases). White females comprise 52% (or 128 cases), Black females are over represented at 27% (65 cases) and Hispanic females comprise 18% (45 cases) of this group.

■ **FIGURE 32: Cumulative IDU-Associated HIV/AIDS in Females Reported Through 9/30/02, Colorado**

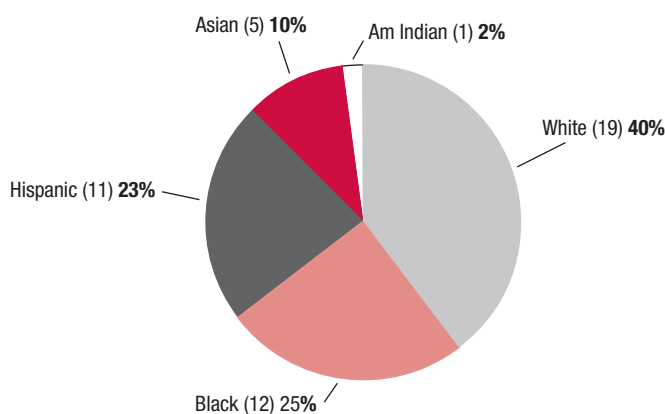


Although not graphically illustrated, of the cumulative 90 pediatric HIV positive and AIDS cases in children in Colorado, 27% were associated with IDU because the mother reported a history of injection drug use, and 18% because the mother reported sexual contact with an IDU.

Racial/Ethnic Trends Among Injection Drug Users

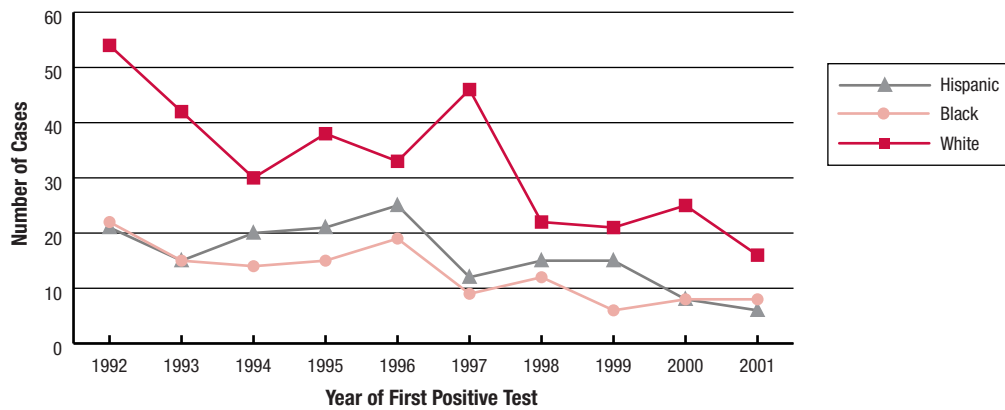
Figure 33 shows recently diagnosed HIV cases among persons who report injection drug use, by race/ethnicity. At 60% of new HIV cases, ethnic minorities are noticeably over represented based on their proportion of the state’s population. (Blacks are over represented at 25%, and Hispanics at 23%. Whites are under represented at 40% of the recent HIV burden.

■ **FIGURE 33: IDU HIV Diagnosed Positive 2000–2001 by Race Reported Through 9/30/02, Colorado**

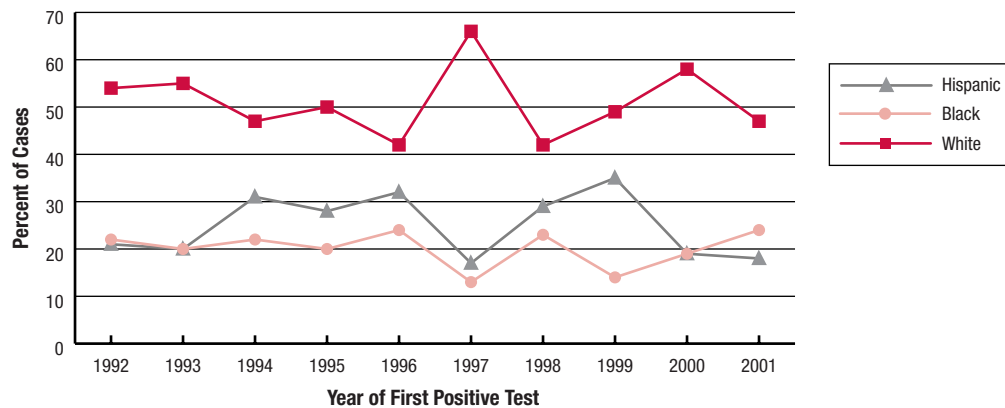


Figures 34 and 35 show the number and percent of new HIV cases among IDU by race/ethnicity. The number of reported cases demonstrates (**Figure 34**) a decreasing trend among all racial groups since peaking in the early 1990s; this decrease is more apparent among Whites. From 1992 to 2001, cases among Whites decreased from 54 in 1992 to 16 in 2001, a decrease of 70%. Cases among Blacks decreased in the same time period from 22 to eight cases, a decrease of 64%. Cases among Hispanics also decreased in the same time period from 21 to six cases, a decrease of 71%. When the proportion of cases is compared, IDU appear to be remaining relatively stable. These numbers are so small that this might not be significant. **Figure 35** shows that the percent of IDU among different racial groups has been relatively stable in the last 10-years.

■ **FIGURE 34: Number of IDU with HIV/AIDS by Year of First Positive Test and Race Reported Through 9/30/02, Colorado**



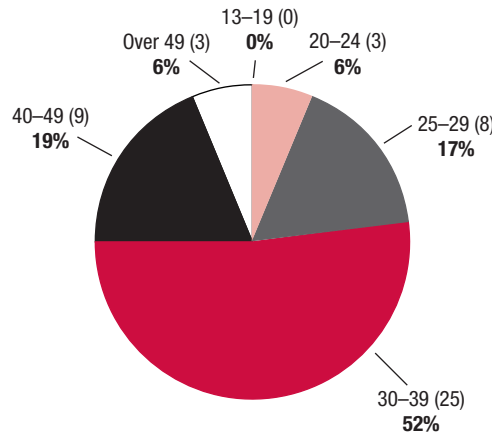
■ **FIGURE 35: Percentage of IDU with HIV/AIDS by Year of First Positive Test and Race Reported Through 9/30/02, Colorado**



Age Trends Among Injection Drug Users

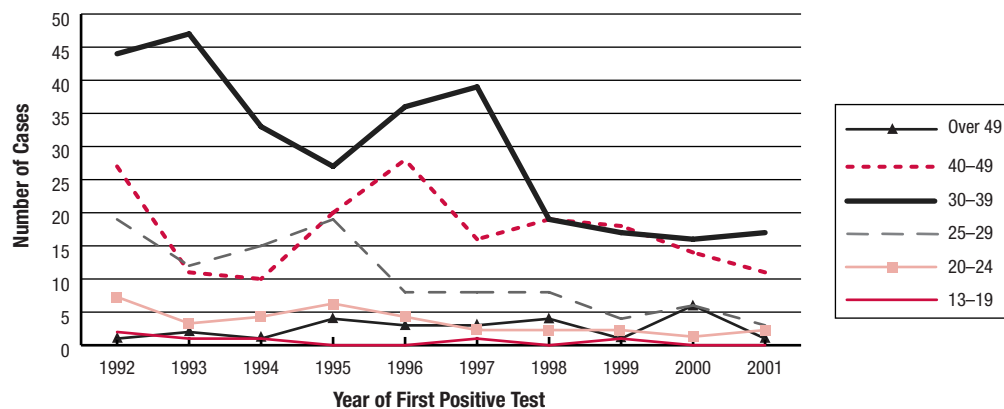
Figure 36 on the next page shows recently diagnosed HIV by age group. HIV is clearly epidemic among older IDU (between the ages of 30–49) who comprise 71% of the recent (2000–2001) IDU epidemic and only 33% of Colorado’s population. The 30–39 age group has the largest proportion of cases (52% or 25 cases). IDUs ages 20–29 represent 23% (11 cases). Adolescents (ages 13–19) do not appear to be profoundly affected by HIV related to IDU; no cases were reported in this time period.

■ **FIGURE 36: IDU HIV Diagnosed Positive 2000–2001 by Age Reported Through 9/30/02, Colorado**

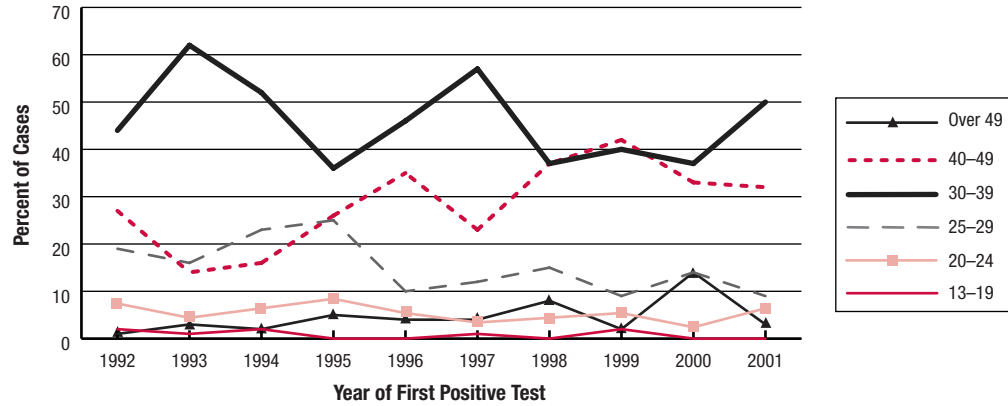


The following two graphs (**Figures 37 and 38**) illustrate trends among IDU by age. Reported HIV and AIDS cases peaked for most age groups (20–24, 25–29, and 30–39 years) in the late 1980s, with the exception of persons in the 40–49 age group, which peaked in 1996 with a high of 28 cases that year. Percentages of reported cases among IDU by age have remained relatively stable across all age groups, with the exception of an increase in the proportion of older IDU (ages 40–49) in the past five-years, from 23% of reported cases in 1997 to 32% of cases reported in 2001. The historically highest age group, 30–39, remains high at 50% of new cases in 2001, down from 57% in 1997. The numbers of reported cases among IDU by age are small, so caution should be exercised in interpreting them

■ **FIGURE 37: Number of IDU with HIV/AIDS by Year of First Positive Test and Age Reported Through 9/30/02, Colorado**



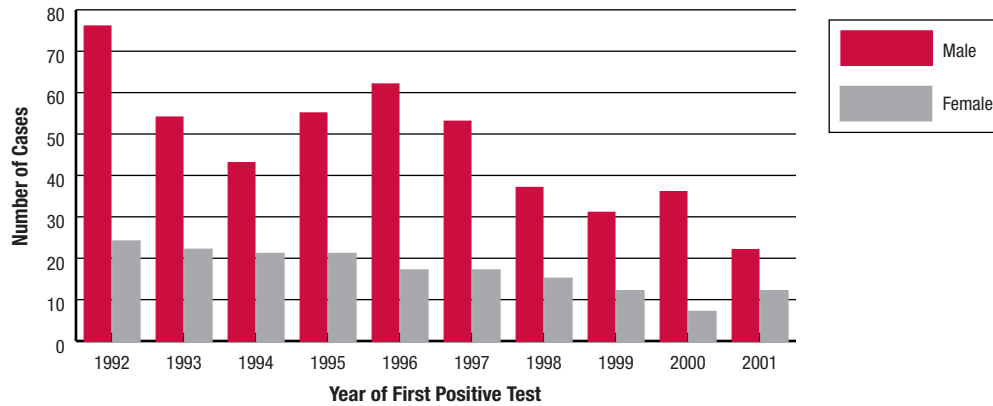
■ **FIGURE 38: Percentage of IDU with HIV/AIDS by Year of First Positive Test and Age Reported Through 9/30/02, Colorado**



Comparisons of HIV Among IDU by Sex

The following two graphs (**Figures 39 and 40**) show both number and percentage of HIV and AIDS cases among IDU by sex since 1992. Male IDUs declined 71% from 76 cases in 1992 to 22 cases in 2001. Female IDUs declined 50% from 24 cases in 1992 to 12 cases in 2001. The sexual characteristics of the epidemic since 1992 among IDU have remained relatively stable, (**Figure 39**) with females representing between approximately one-third and one-quarter of the proportion of HIV/AIDS cases among IDU.

■ **FIGURE 39: Number of IDU with HIV/AIDS by Year of First Positive Test and Sex Reported Through 9/30/02, Colorado**



■ **FIGURE 40: Percentage of IDU with HIV/AIDS by Year of First Positive Test and Sex Reported Through 9/30/02, Colorado**

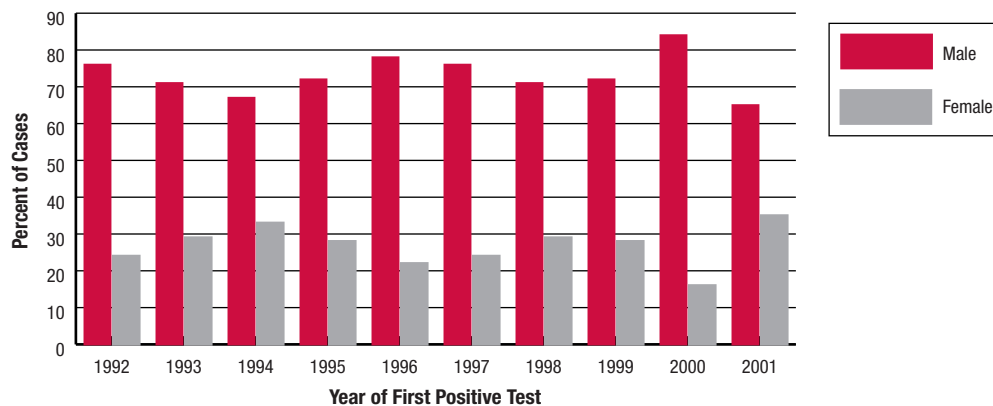
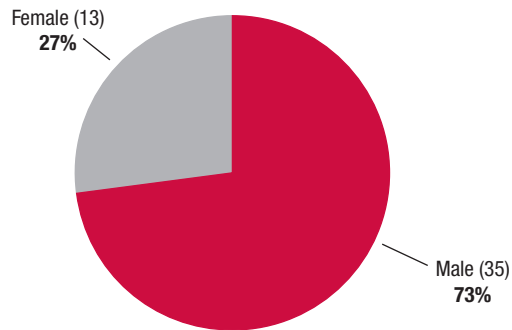


Figure 41 shows that males appear to bear a much larger burden of the recent HIV epidemic among IDU. Females account for 27% (13 cases) of recently diagnosed IDUs, males account for 73% (35 cases).

■ **FIGURE 41: IDU HIV Diagnosed Positive 2000–2001 by Sex Reported Through 9/30/02, Colorado**



HIV Among IDU by Region

Figure 42 demonstrates that the recent HIV epidemic among IDU is largely urban (90%) compared to 10% rural. Urban Colorado is defined as the front range counties of Adams, Arapahoe, Boulder, Denver, Jefferson and El Paso). Rural Colorado comprises 37% of the states population.

■ **FIGURE 42: IDU HIV Diagnosed Positive 2000–2001 by Region Reported Through 9/30/02, Colorado**

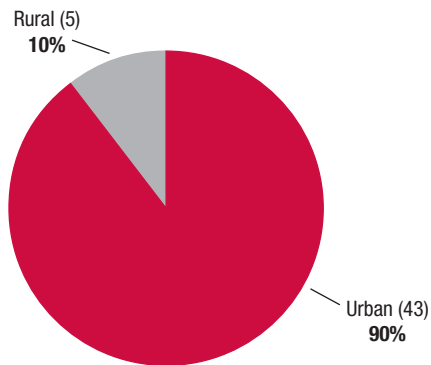
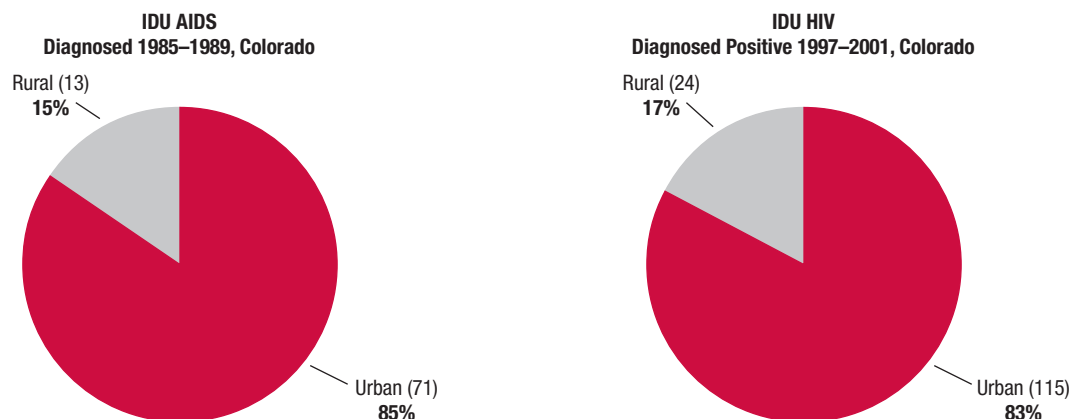


Figure 43 illustrates the geographic distribution of the proportion and number of HIV/AIDS cases among IDU. The small number of reported rural cases has fluctuated but has remained relatively stable over time. In AIDS cases diagnosed between 1985 and 1989, 15% of the cases resided in rural areas and 85% lived in urban areas. HIV diagnosed between 1997 and 2001 (presumably more recent infection) showed that 17% lived in rural areas compared to 83% in urban areas.

■ **FIGURE 43: IDU HIV and AIDS by Region**



Other Factors Contributing to Risk Among Injection Drug Users (IDU)

Injecting Drug User HIV/Hepatitis C Virus (HCV) Incidence Study, 1996-2001

General IDU Study Population: This study was conducted from 1996–2001, and HIV and HCV testing data were collected on 1,393 injection drug users in the Denver Metro area using street-based outreach methods. In this population, 65% were male and 35% female, with 46% White, 15% Black, 32% Hispanic, 4% American Indian/Alaskan Native, and less than 4% reported other or unknown racial group (including Asian/Pacific Islander). Five percent were 19-years or younger at the time of first HIV test, 21% were ages 20–29 years, 28% were ages 30–39 years, 34% were ages 40–49 years, and 12% were 50-years or older. All had injected drugs within the past 12 months, and sexual behavior risks were reported as 91% heterosexual, 7% MSM, 1% women who have sex with women (WSW), and 2% reported no sex. While sexual risks appear to be somewhat comparable to the general population, this group over represented males, persons of Hispanic or Black race/ethnicity, and persons under 50-years of age. (Table 15)

■ **TABLE 15: Demographics and HIV Seroprevalence IDU HIV/HCV Incidence Study, 1996–2001**

Population	All n=1,393	HIV Positive n=28	HIV Seroprevalence
Total	100%	100%	2%
Sex			
Male	65%	93%	2.9%
Female	35%	7%	0.4%
Race			
White	46%	36%	1.6%
Black	15%	32%	4.4%
Hispanic	32%	29%	1.8%
Asian/Pacific Islander	1%	0%	0%
American Indian/Alaskan Native	4%	4%	0%
Other	2%	0%	0%

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■ **TABLE 15: Demographics and HIV Seroprevalence IDU HIV/HCV Incidence Study**
continued from page 39

Population	All n=1,393	HIV Positive n=28	HIV Seroprevalence
Total	100%	100%	2%
Age Group			
<20	5%	0%	0%
20–24	12%	4%	0.6%
25–29	9%	11%	2.3%
30–34	10%	32%	6.4%
35–39	18%	18%	2.1%
40–49	34%	32%	1.9%
>49	12%	4%	0.6%
Exposure Category			
MSM/IDU	7%	46%	13.5%
Heterosexual/IDU	91%	50%	1.1%
WSW/IDU	1%	0%	0%
IDU/No sex	2%	4%	4%
HCV Infection Status			
HCV Co-infected	38%	54%	2.8%
Not HCV infected	18%	18%	2%
Not HCV-tested	42%	29%	1.4%
Primary Drug of Injection			
Heroin-primary inj. drug	33%	39%	2.4%
Cocaine-primary inj. drug	7%	14%	3.8%
Amphetamines	4%	0%	0%
Unknown	55%	46%	1.7%

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HIV Seroprevalence and Incidence: Males were more likely to be infected with HIV than females (2.9% versus 0.4%). (**Table 15**) Blacks were more likely to be infected with HIV than Hispanics or Whites (4.4% versus 1.8% versus 1.6%). Persons aged 30–34 were most likely to be infected in this IDU population (6.4%), and very little infection was detected in persons aged 25 and under (0.3%). Heterosexual behaviors were associated with less HIV infection in this group than MSM (1.1% versus 13.5%). Persons who were infected with HCV were slightly more likely to be infected with HIV (2.8% versus 2.0%), yet these differences are minimal. When collected, data showed heroin or cocaine as the primary drugs of injection in this group, and those who injected cocaine were somewhat more likely to be HIV infected (3.8% versus 2.4%).

None of the persons in this group became HIV positive through a documented sero-conversion over the course of this study. However, 4 of 581 persons reporting a previous negative HIV test tested positive in this group. Of note, only 7 of 39 persons who reported a previous positive HIV test were currently infected, and 3 of 84 persons who reported a previous indeterminate or unknown test result tested positive for HIV antibodies in this study.

About one-third of all persons tested received their HIV test results within 30-days in a post-test interview and an additional 20% received their results after 30-days. Thus, one of every two IDUs

tested actually received their HIV results, and those who reported ever being tested before may have been somewhat confused about their actual status based on personal reported knowledge of previous test results. Unfortunately, no data were available about sharing needles or works in this group.

HIV-Infected IDUs: A total of 28 persons tested HIV positive from 1996 through 2001. The majority were male (93%). (Table 15) Race/ethnicity was fairly evenly split at about one-third White, Black and Hispanic. The age distribution partially mirrored the total study group, however, those persons ages 30–39 were over represented in this HIV positive group of injection drug users. In contrast to the over-all study participants, sexual risk behavior of heterosexual/IDU versus MSM/IDU were nearly evenly split (50% versus 45%). These data suggest that IDU is a greater HIV risk for this group than is MSM behavior based on these proportions, yet the analysis sub-population was pre-selected for injecting drug use within the past 12 months. These numbers are small and must be interpreted with caution.

HCV Seroprevalence and Incidence: Of 806 persons who tested for HCV and HIV, 537 (67%) were infected with HCV. (Table 16) These data yield a high baseline HCV seroprevalence of 67% in this group of injecting drug users. Males were somewhat more likely than females to be infected with HCV (71% versus 58%); as were Hispanics (82%) and Blacks (73%), than Whites (56%). HCV infection rates steadily increased over age groups, with 16% of persons less than 20-years of age infected and 94% of those 50-years and older testing HCV positive. MSMs and WSWs were less likely to be HCV-infected than were heterosexuals or IDUs who reported no sex (53%,50% versus 68%,73%), and the numbers, though small, support the trend of IDU as the main behavioral risk for HCV infection. When collected, data showed those whose primary drug of injection was amphetamine were less likely to be infected with HCV than those who mainly injected cocaine or heroin (39% versus 71%, 69%).

■ **TABLE 16: Demographics and HCV Seroprevalence and Seroincidence IDU HIV/HCV Incidence Study**

Population	All n=806	HIV Positive n=537	HCV Seroprevalence	HCV Seroincidence Per 100 Person-Years
Total	100%	100%	67%	39
Sex				
Male	67%	71%	71%	41
Female	33%	29%	58%	30
Race				
White	50%	42%	56%	43
Black	14%	16%	73%	0
Hispanic	27%	34%	82%	37
Asian/Pacific Islander	1%	1%	30%	0
American Indian/Alaskan Native	4%	5%	72%	0
Other	2%	2%	86%	0
Age Group				
<20	6%	1%	16%	48
20–24	14%	7%	34%	54
25–29	14%	12%	48%	10
30–34	10%	10%	66%	0
35–39	40%	37%	73%	132
40–49	31%	39%	85%	52
>49	13%	22%	94%	0

continued on page 42

■ **TABLE 16: Demographics and HCV Seroprevalence and Seroincidence IDU HIV/HCV Incidence Study**
continued from page 41

Population	All n=806	HIV Positive n=537	HCV Seroprevalence	HCV Seroincidence Per 100 Person-Years
Total	100%	100%	67%	39
Exposure Category				
MSM/IDU	8%	6%	53.2%	46.6
Heterosexual/IDU	90%	91%	67.8%	36.9
WSW/IDU	1%	1%	50%	0
IDU/No sex	2%	2%	73.3%	0
<hr/>				
Heroin-primary inj. drug	43%	45%	69%	nc*
Cocaine-primary inj. drug	11%	11%	71%	nc*
Amphetamines	5%	3%	39%	nc*
Unknown	40%	40%	66%	nc*

*Not calculated

Colorado Department of Public Health and Environment, Disease Control and Environmental Epidemiology Division,
HIV Serosurveillance

Documented seroincidence was also very high in this group. Over four-years of HCV testing from 1998 to 2001, 14 IDUs became HIV positive after an initial negative HCV test. These data suggest that of 100 HCV-negative IDUs followed for one-year, nearly 40 can be expected to become HCV positive. Males, as well as Whites and Hispanics were more likely to seroconvert. About 50 of 100 persons under the age 25 would be expected to become HCV positive if followed for one-year, based on these data.

HIV-HCV Co-Infection: Fifteen persons (all male) of those infected with HCV were also infected with HIV. Thus, 2.8% of the HCV positive IDUs (15 of 537) in this study were co-infected with HIV. Person who were infected with both HIV and HCV were more likely to be White, MSM, and aged 40–49 years.

Hepatitis C and HIV Co-Infection

Table 17 illustrates the comparison of the HIV reporting database to the database of persons infected with HCV since 1993: 1,102 persons with HIV were co-infected with HCV in this time period. Compared to the database of persons diagnosed since 1993 with HIV, persons co-infected with HCV were more likely to be IDU, female, older, and Black or Hispanic. Co-infection with HCV poses special clinical challenges for the treatment of HIV. Additionally, recent anecdotal reports¹⁶ have suggested that persons who are infected with HIV and Hepatitis C at the same time may have a delayed sero-conversion period for HIV of up to 13-months. This phenomenon has profound implications for agencies testing persons at risk for both infections and may require that different information about follow-up testing be given to this group.

■ **TABLE 17: Hepatitis C and HIV/AIDS Cases in Colorado, Diagnosed Since 1993 and Reported Through 9/30/02**

	HIV/AIDS with HCV		Total HIV and AIDS	
Sex				
Male	935	84.8%	6,324	88.9%
Female	167	15.2%	787	11.1%
Age				
<13	2	0.2%	30	0.4%
13–19	12	1.1%	89	1.3%
20–29	213	19.3%	1,603	22.5%
30–39	524	47.5%	3,246	45.6%
40–49	294	26.7%	1,604	22.6%
>49	55	5.0%	538	7.6%
Unknown	2	0.2%	1	0.0%
Race				
White	642	58.3%	4,699	66.1%
Black	214	19.4%	1,013	14.2%
Hispanic	217	19.7%	1,269	17.8%
Asian	6	0.5%	40	0.6%
Am Indian	21	1.9%	65	0.9%
Unknown	2	0.2%	25	0.4%
Mode of HIV Acquisition				
MSM	265	24.0%	4,392	61.8%
IDU	405	36.8%	785	11.0%
MSM/IDU	312	28.3%	677	9.5%
Hemophilia	27	2.5%	18	0.3%
Heterosexual Contact	47	4.3%	581	8.2%
Transfusion	3	0.3%	23	0.3%
No Identified Risk	40	3.6%	606	8.5%
Perinatal	3	0.3%	29	0.4%
Total	1,102		7,111	

15.5% of HIV/AIDS cases are co-infected with Hepatitis C

High Risk Heterosexual Contact

Estimates of High-Risk Heterosexual Behavior in Colorado

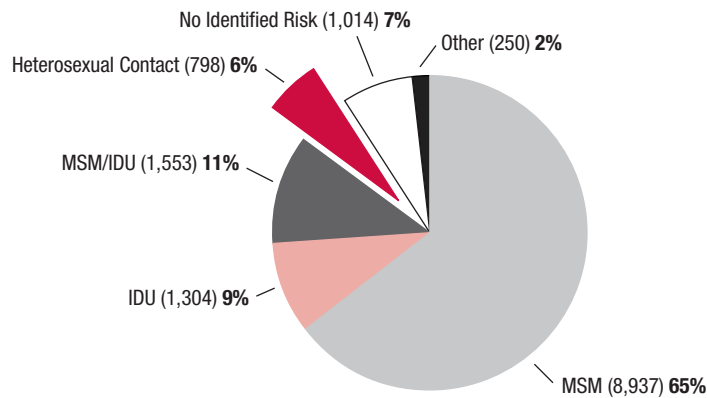
It is difficult to make an assessment of the number of persons in Colorado who engage in heterosexual contact that puts them at high risk for HIV acquisition. Despite the fact that the population of those persons who acquire HIV heterosexually is not the same as those who acquire STDs, a diagnosis of a STD would suggest that the individual is engaging in unsafe sexual practices. HIV prevention messages should be directed toward these individuals. In 2001, 13,168 cases of chlamydia (a 23% increase over 2000) and 3,188 cases of gonorrhea (a three percent increase over 2000) were reported to CDPHE. Females are clearly at higher risk of acquiring chlamydia: among cases reported in 2001, females accounted for 74%. Among gonorrhea cases, females comprised 50%. Data about racial or ethnic characteristics of chlamydia cases is not available, but among reported gonorrhea, Blacks (36% of cases reported in 2001) and Hispanics (21%) are over represented.

To assure the accuracy of data about heterosexual acquisition of HIV, in order for a case of HIV or AIDS to be classified as heterosexual acquisition, a CDPHE investigation must demonstrate that the individual had heterosexual contact with a person who has documented HIV infection or AIDS, or had heterosexual contact with a person who is in a high-risk group for HIV (IDU or MSM). A report by the patient that he or she acquired HIV heterosexually will not automatically classify that individual into the category of heterosexual acquisition.

Proportion of Epidemic Among Heterosexuals

Heterosexual transmission (**Figure 44**) accounts for only six percent of Colorado’s HIV/AIDS epidemic.

■ **Figure 44: HIV/AIDS by Risk Reported Through 9/30/02, Colorado**



Gender Trends in High-Risk Heterosexual Contact

According to **Figure 45**, females are more likely to be affected by heterosexually transmitted recent HIV than males; females account for 66% of this transmission category. Males account for 34% of this risk group.

■ **Figure 45: Heterosexually Transmitted HIV Diagnosed Positive 2000–2001 Reported Through 9/30/02, Colorado**

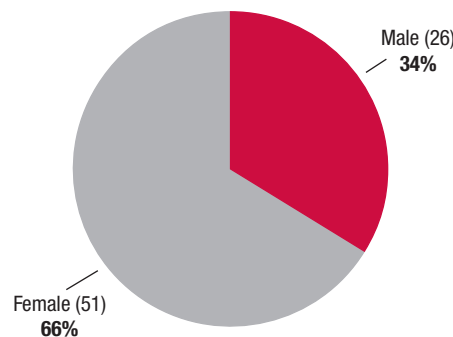
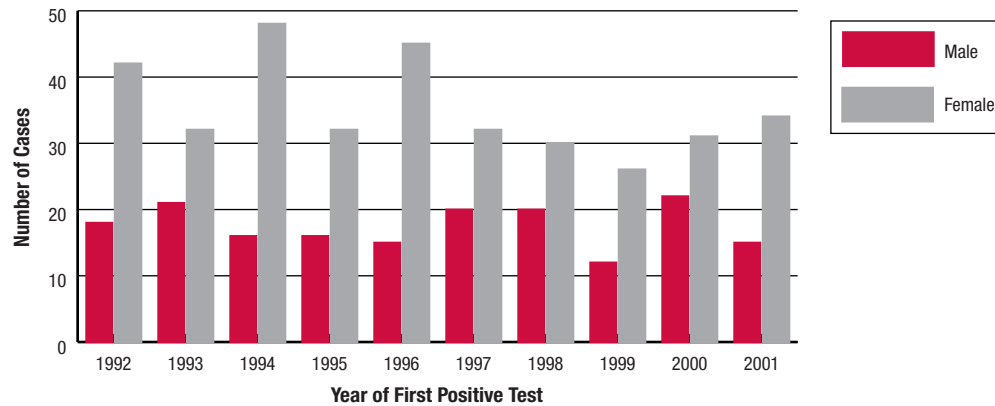


Figure 46 illustrates that the number of female cases in this group has been decreasing from 1994 to 2001. This graph demonstrates that the number of heterosexually transmitted HIV cases in females and males has remained relatively stable the last five years. Care should be taken in interpreting trends in this group, especially in recent years, due to the small number of cases. The percentage of cases by sex has remained relatively stable in the last 10-years

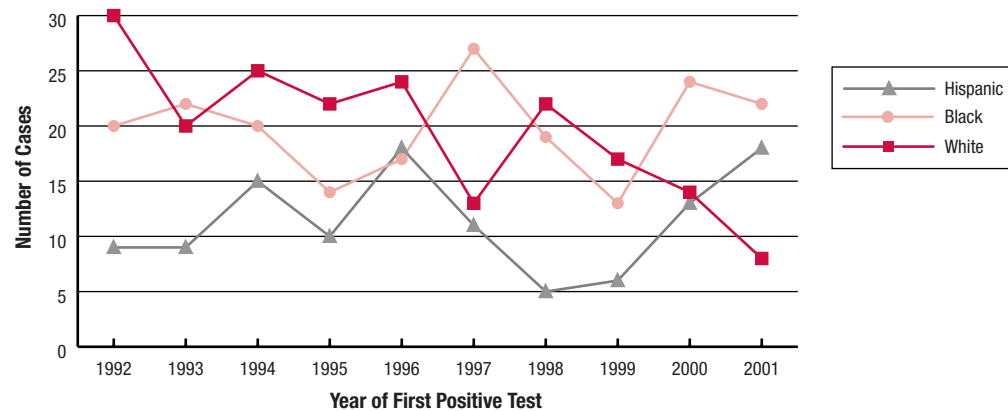
■ **Figure 46: Number of Heterosexually Transmitted HIV/AIDS by Year of First Positive Test and Sex Reported Through 9/30/02, Colorado**



Racial/ethnic Trends among High-Risk Heterosexuals

Figure 47 shows changes in the number of cases of heterosexually transmitted HIV infection since 1992. These numbers are small and they should be interpreted cautiously. This chart shows fairly substantial fluctuations in reported cases in each racial group. In the last five-years, Whites and Blacks displayed overall decreases since 1997. Cases in Whites decreased from 13 cases in 1997 to eight cases in 2001, Blacks from 27 in 1997 to 22 in 2001. However, an increase is observed in Hispanics, from 11 cases in 1997 and 18 cases in 2001.

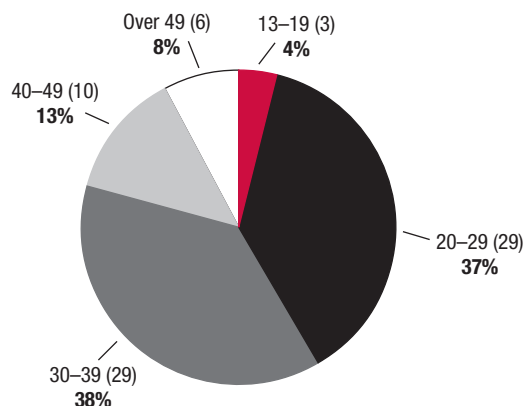
■ **Figure 47: Number of Heterosexually Transmitted HIV/AIDS by Year of First Positive Test and Race Reported Through 9/30/02, Colorado**



Age Trends Among High-Risk Heterosexuals

Recently diagnosed cases of HIV and AIDS attributed to heterosexual contact by age are illustrated in **Figure 48** on the next page. This pie chart indicates that the largest percentages (38%) of newly diagnosed cases are in the 30–39 age group and 37% are in the 20–29 age group (it is worth noting that these individuals may have been infected as adolescent or young adults). Adolescents comprise only four percent of newly diagnosed cases.

■ **Figure 48: Heterosexually Transmitted HIV Diagnosed Positive 2000–2001 by Age Reported Through 9/30/02, Colorado**



Infants Born to HIV-infected Women

As shown in **Table 18**, the number of infants born to HIV infected women in Colorado peaked in 2000 with 29 births. However, the number of infants who acquired HIV from their mothers peaked in 1994 and 1995 with four cases each year. Perinatal transmission dropped dramatically after that, with the widespread use of anti-retrovirals during pregnancy, labor and delivery. Exposed infants are also given

■ **TABLE 18: Number of Infants Born to HIV-infected Women by Year of Birth**

Year of Birth	Number of Infants born to HIV Positive Women	Number of Infants who acquired HIV perinatally
1992	19	3
1993	15	1
1994	21	4
1995	19	4
1996	18	0
1997	16	1
1998	15	1
1999	12	1
2000	29	0
2001	20	1

anti-retroviral drugs for six weeks after their birth. Use of these drugs did not become a standard of medical care until 1996. Since 1996, there have been four cases of confirmed HIV infection reported in infants. One was a treatment failure on AZT monotherapy. One woman, had a negative prenatal HIV test performed during her first-trimester, seroconverted later in her pregnancy. The other two infants were infected because their mothers did not receive prenatal care and were not administered the anti-retroviral drugs.

Other Modes of Transmission

It is important for HIV prevention planning that the HIV epidemic be characterized by mode of transmission. Persons who are diagnosed with HIV and AIDS are interviewed, and their medical records are examined to determine their risk category.

Data about risk is less complete for newly diagnosed HIV-infected persons than for persons with AIDS. Through September 2002, risk data for cumulative AIDS cases was not available for 276 or four percent of cases (n=7,560); for AIDS cases newly diagnosed in 2001, risk was not identified in 13% of the cases. Similarly, 15% of newly diagnosed HIV cases (n=246) had no risk reported. No cases of female-to-female transmission have been documented.

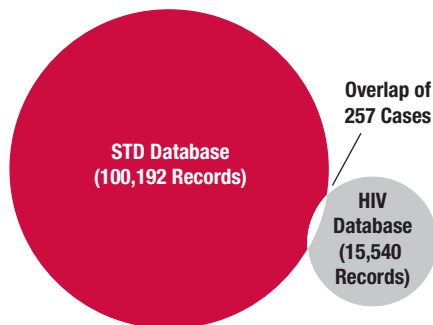
Other modes of transmission (blood transfusion, organ or tissue transplant, hemophilia, and health care worker exposure) account for two percent of AIDS cases (159 per 7,560) through September 2002. Transfusion recipients account for 77 cumulative AIDS cases since 1982, transplant recipients for one; hemophiliacs (recipients of clotting factor) for 80, and occupational acquisition for two (both were health care workers who sustained percutaneous needlestick injuries from HIV-infected patients and seroconversion was documented; one other probable case of occupational acquisition is classified as “no identified risk”).

It is important to articulate here that “no identified risk” does not mean that there are new or unidentified means of transmission.

HIV-infected Persons with a Previous STD Diagnosis

In September 2001, the HIV/AIDS reporting system was compared to the STD management information system (STD-MIS) databases. Information about sexual orientation is not routinely collected as a STD surveillance activity, but a comparison of the two databases will provide a picture of whether a STD is a surrogate marker for HIV and the associated risk factors. STDs can facilitate the transmission of HIV. There were a total of 15,540 records in HARS dating back to 1982 and a total of 100,192 records in STD-MIS of reports of gonorrhea, syphilis and chlamydia dating back to 1990. The overlap comprised a total of only 257 individuals who contracted a STD prior to their HIV diagnosis. This overlap of cases is illustrated in **Figure 49**. There is a relatively small proportion (two percent) of HIV-infected persons who had a previous reported STD diagnosis. It should be noted that herpes is not reportable to CDPHE and that ulcerative diseases may put people more at risk of transmission for HIV.

■ **Figure 49: HIV/AIDS and Sexually Transmitted Disease Case Overlap**



One hundred eighty-nine cases of gonorrhea, 89 cases of syphilis and seven cases of chlamydia were reported in person prior to their HIV diagnosis. Details about the demographics of this group are seen in **Table 19**.

■ **TABLE 19: Characteristics of People Infected with an STD Prior to Their HIV Diagnosis (n=257)**

Sex		
Male	226	88%
Female	31	12%
Race		
White	130	51%
Black	72	28%
Hispanic	52	20%
Asian	1	0%
Am Indian	2	1%
Age		
<13	0	0%
13–19	4	2%
20–29	79	31%
30–39	115	45%
40–49	45	18%
>49	14	5%
Risk		
MSM	154	60%
IDU	26	10%
MSM/IDU	36	14%
Heterosexual Contact	22	9%
No Identified Risk	19	7%

Delays in HIV Testing

As **Table 20** shows, the time between the first positive HIV test and AIDS diagnosis was examined for cases of AIDS diagnosed between 1992 and 2001. A significant number of AIDS cases are tested relatively late in the course of their HIV infection: 35% were tested for HIV within two-months and 42% within 12-months of AIDS diagnosis. These individuals pose a challenge to HIV prevention efforts. Knowing one's serostatus allows for early medical evaluation and possible appropriate clinical intervention as well as behavior changes that may prevent transmission to others.

Women tend to test later in their course of infection than men. People of color test later than Whites, and the Asian population tests latest (64% tested within 12-months of AIDS diagnosis). Heterosexual contact and cases with no identified risk test later in their infection than other risk groups. The numbers in these groups are small, with the majority of the cases among White MSM. Persons who live in rural Colorado appear to seek testing for HIV later in the course of infection than person living in urban Colorado. The delay in testing late in course of HIV infection appears to be increasing, 40% tested within 12-months of their AIDS diagnosis in 1992 compared to 51% in 2001.

■ **TABLE 20: Colorado AIDS Cases Diagnosed 1992–2001**

	n	Time between HIV test and AIDS diagnosis			
		Within 2 months		Within 12 months	
Total	4,854	1,716	35.3%	2,049	42.2%
Sex					
Male	4,425	1,549	35.0%	1,842	41.6%
Female	429	167	38.9%	207	48.3%
Race					
White	3,302	1,106	33.5%	1,301	39.4%
Black	637	240	37.7%	299	46.9%
Hispanic	855	346	40.5%	418	48.8%
Asian	25	12	50.0%	16	64.0%
Am Indian	35	12	34.2%	15	42.9%
Risk					
MSM	3,154	1,118	35.4%	1,329	42.1%
IDU	511	153	29.9%	191	37.4%
Heterosexual Contact	359	171	47.6%	213	59.3%
No Identified Risk	239	149	62.3%	167	69.9%
Region					
Urban	4,229	1,466	34.6%	1,759	41.6%
Rural	625	250	40.0%	290	46.4%
Date of Diagnosis					
1992	669	221	33.0%	265	39.6%
1993	732	222	30.3%	275	37.6%
1994	652	196	30.1%	233	35.7%
1995	584	171	34.2%	218	37.3%
1996	458	157	34.2%	194	42.4%
1997	361	162	44.9%	177	49.0%
1998	327	139	42.5%	161	49.2%
1999	309	127	41.1%	145	46.9%
2000	334	137	41.0%	167	50.0%
2001	275	120	43.6%	141	51.3%

HIV in Colorado's Prisons*

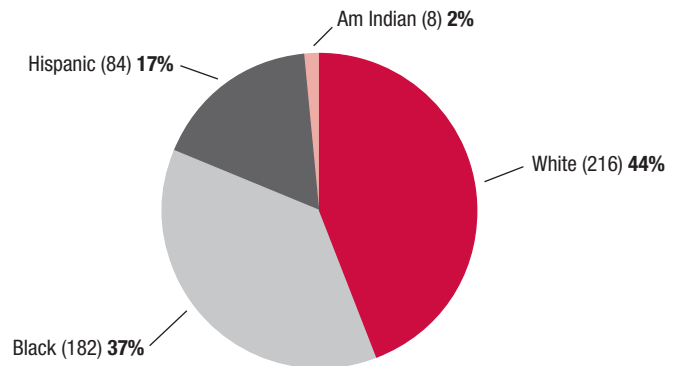
Since 1985, the Colorado Department of Corrections (DOC) has screened inmates for HIV when they were admitted to a DOC facility. Through September 2002, 490 HIV-infected inmates have been admitted to DOC. The overwhelming majority of these inmates are housed at the Colorado Territorial Correctional Facility in Canon City (CTCF), where specialized medical care is available. (There are three exceptions to housing HIV-infected inmates at CTCF: 1.) When inmates pose a serious threat to the safety of other inmates, guards, or to themselves, they are incarcerated at the Colorado State Penitentiary, or so-called "Super-Max," where the inmate is confined to his cell 23-hours a day and does not have contact with other inmates; 2.) when the patient is about to be released and is assigned to Camp George West, a pre-release facility; and, 3.) when the patient is hospitalized in a DOC mental health facility).

Figure 50 shows that the racial and ethnic composition of HIV and AIDS cases in the Colorado DOC is markedly different than the composition of Colorado's population (Whites account for 75% of the state, Blacks 4% and Hispanics 15%) and somewhat different than the DOC racial characteristics. The DOC population is 45% White, 23% Black and 29% Hispanic. Blacks are over represented by a factor of four in terms of their contribution to the recent statewide HIV epidemic, and appear to be over represented among incarcerated persons by a factor of six when compared to Colorado's population and by a factor of 1.5 when compared to the DOC population. Although not graphically illustrated, of the 490 case of HIV or AIDS at DOC, 92% are male and 8% are female, which is consistent with the sexual characteristics of DOC.

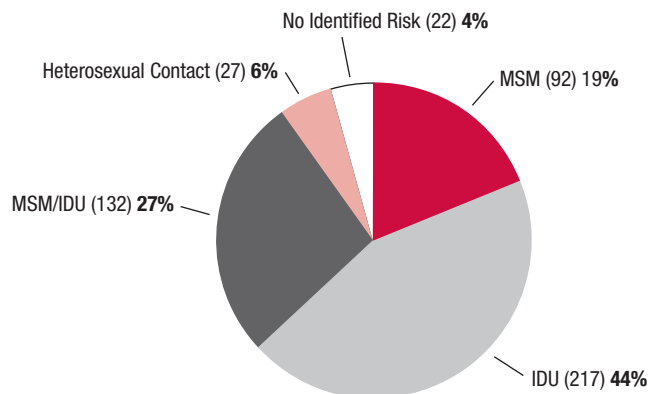
Figure 51 shows the risk characteristics of HIV in DOC. When compared to risk for Colorado's epidemic, prisoners with HIV are more likely to be IDU (44%) MSM/IDU (27%). They are less likely to be MSM (19%). Not surprisingly, this suggests that IDUs are more likely to be incarcerated than MSM.

* This data excludes federal prisons, which do not routinely screen for HIV, but will test for HIV on the inmate's request; 86 HIV positive tests have been reported from the four federal correctional facilities in Colorado since 1987.

■ **Figure 50: HIV/AIDS in DOC by Race Reported Through 9/30/02, Colorado**



■ **Figure 51: HIV/AIDS in DOC by Risk Reported Through 9/30/02, Colorado**





Ryan White HIV/AIDS Care Act Special Questions and Considerations

On August 18, 1990, Congress enacted Public Law 101-381, the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act. The CARE Act has been reauthorized twice, and represents the largest dollar investment made by the Federal Government to date specifically for the provision of services for people living with HIV disease (PLWH).

The CARE Act is intended to help communities and States increase the availability of primary health care and support services, in order to reduce utilization of more costly inpatient care, increase access to care for underserved population, and improve the quality of life of those affected by the epidemic. Briefly, the Act directs assistance through the following channels:

- Title I** Eligible Metropolitan Areas (EMAs) with the largest numbers of reported cases of AIDS, to meet emergency service needs of people living with HIV disease.
- Title II** All States, the District of Columbia, Puerto Rico, and eligible U.S. Territories to improve the quality, availability, and organization of health care and support services for individuals living with HIV disease and their families.
- Title III** Public and private non-profit entities to support outpatient early intervention HIV services for People Living With HIV.
- Title IV** Public and private nonprofit entities for projects to coordinate services to, and provide enhanced access to research for children, youth, women, and families with HIV/AIDS.
- Part F** Special Projects of National Significance (SPNS) to support the development of innovative models of HIV/AIDS care that are designed to be replicable and have a strong evaluation component; AIDS Education and Training Centers (AETC) to conduct education and training for health care providers; and the HIV/AIDS Dental Reimbursement Program to assist accredited dental schools and post-doctoral dental programs with uncompensated costs incurred in providing oral health treatment to HIV-positive patients.

The State of Colorado receives funding from all Titles, as well as Part F. Of interest here are Titles I and II.

As an EMA the five-county Denver Metro area receives Title I funding. These funds are administered by the Mayor's Office of HIV Resources and support a variety of community-based services related to HIV/AIDS.

In Colorado, Title II funding is administered by the CDPHE. The purpose of these funds is to improve the quality, availability, and organization of health care and support services for individuals and families with HIV disease. Title II funds support a wide range of services statewide, including the AIDS Drug Assistance Program (ADAP), Health Insurance assistance, and a multitude of health related services provided by regional consortia across the state.

What are the HIV Service Utilization Patterns of Individuals in Colorado?

Title I - Denver Metro Area

Table 21 shows a comparison between clients served by the Ryan White Title I in 2001 and persons diagnosed with AIDS in the Denver metro area in 2001. CARE Act funds are serving a smaller proportion of communities of color when compared with persons diagnosed with AIDS in 2001 within those populations. The majority of clients are male, but similar to the proportion of AIDS cases. In terms of age, most clients fall within the 30 to 49 age range (72%), similar to surveillance data (78%).

In 2001, 2,748 clients received services funded through the Ryan White Title I award; of these 234 were new clients. Of the clients who received services during 2001 (**Table 22**), the majority of persons (1,756) received medical care, 1,249 received case management, 818 received dental care, 773 received mental health services, and 244 received substance abuse treatment. The average number of visits for each service are as follows: substance abuse treatment averaged 18.2 visits, case management 12.9, mental health services 10.1, medical care 9.4, and dental care 3.6. Substance abuse services include both outpatient and residential care. In a residential treatment setting, visits are often counted in terms of inpatient days. Therefore this data must be interpreted with caution.

■ **TABLE 21: Title I Client Characteristics by Race/Ethnicity, Sex, and Age in the Denver metropolitan area, 2001**

Client Characteristics	CARE ACT Clients Title % of Clients	Denver Metro AIDS Surveillance Data % of Clients
Race/Ethnicity		
White	55%	51%
Black	18%	22%
Hispanic	22%	27%
Asian/Pacific Islander	<1%	0%
Am Indian/Alaska Native	1%	<1%
Other/Unknown	4%	0%
Sex		
Male	83%	87%
Female	17%	13%
Other/Unknown	<1%	0%
Age		
<13	4%	<1%
13–24	3%	2%
25–29	6%	9%
30–39	36%	46%
40–49	36%	32%
>49	15%	11%

■ **TABLE 22: Title I Average Number of Visits per Client by Type of Service, 2001***

	Medical Care	Dental Care	Mental Health Services	Substance Abuse Treatment	Case Management
Number of Clients	1,756	818	773	244	1,249
Number of Visits	16,501	2,948	7,781	4,452	16,139
Average Number of Visits per Client	9.4	3.6	10.1	18.2	12.9

Other services provided by Title I included home health care, hospice care, client advocacy, emergency financial, food bank/home delivered meals, housing services, permanency planning, transportation, day/respite care, and other support services.

Title II Statewide

Table 23 shows a comparison between clients served by the Ryan White Title II in 2001 and persons diagnosed with AIDS in Colorado in 2001. In 2001, 2,687 clients received services funded through the Ryan White Title II award; of these 806 were new clients. Title II is providing services to a smaller proportion of Blacks and Hispanics than were diagnosed with AIDS in 2001. The majority of clients are male, but similar to the proportion of AIDS cases. Most of the clients receiving services fall within the ages of 20 to 44.

Of the 2,687 clients receiving services funded through Title II award (**Table 24**); the majority of clients received case management (1079).

Two hundred thirty received medical care, 55 received mental health services, 31 received dental care, and 12 received substance abuse treatment. The average number of visits per client was greatest among those receiving substance abuse treatment (57.3), followed by mental health services (37.1), case management (5.7), medical care (3.0), and dental care (1.5).

■ **TABLE 23: Title II Client Characteristics by Race/Ethnicity, Sex, and Age in Colorado, 2001**

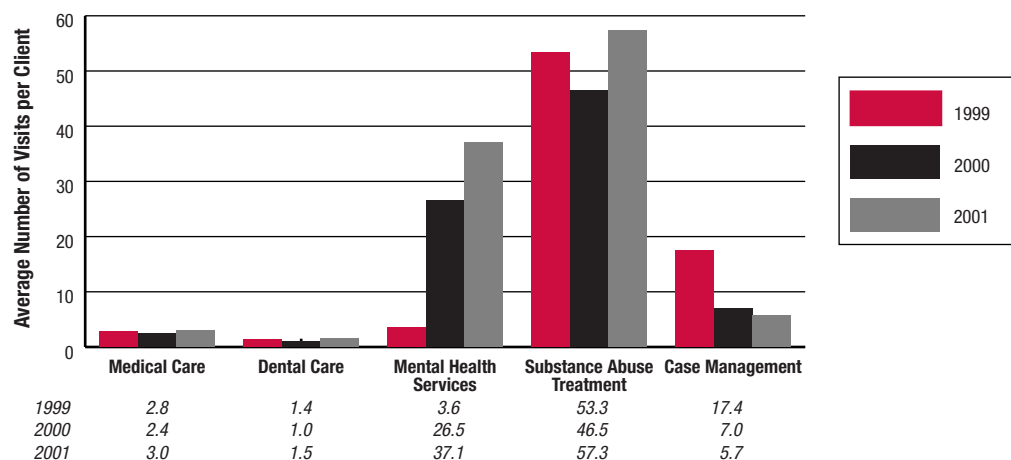
Client Characteristics	CARE ACT Clients Title % of Clients	Colorado AIDS Surveillance Data % of Clients
Race/Ethnicity		
White	66%	57%
Black	10%	18%
Hispanic	19%	24%
Asian/Pacific Islander	<1%	<1%
Am Indian/Alaska Native	1%	<1%
Other/Unknown	4%	0%
Sex		
Male	86%	84%
Female	14%	16%
Other/Unknown	<1%	0%
Age		
<13	1%	<1%
13–19	<1%	0%
20–44	67%	73%
>44	31%	26%
Other/Unknown	<1%	0%

■ **TABLE 24: Average Number of Visits per Client by Type of Title II Service, 2001**

	Medical Care	Dental Care	Mental Health Services	Substance Abuse Treatment	Case Management
Number of Providers with Valid Data	2	2	3	2	6
Number of Clients	230	31	55	12	1,079
Number of Visits	694	46	2,040	687	6,170
Average Number of Visits per Client	3	1.5	37.1	57.3	5.7

Figure 52 shows the average number of visits per client over a three-year period. Medical care, dental care and substance abuse treatment were relatively stable between 1999 through 2001. There has been more than a ten-fold increase in mental health services, from 3.6 visits in 1999 to 37.1 visits in 2001. Case management has declined from 17.0 visits in 1999 to 5.7 visits in 2001.

■ **FIGURE 52: Average Number of Visits per Client by Type II Service, 1999–2001**



AIDS Drug Assistance Program (ADAP)

Since 1987, Congress has appropriated funds to assist states in providing FDA-approved anti-retroviral therapies to AIDS patients. With the initial passage of the Ryan White CARE Act in 1990, the assistance programs for anti-retroviral therapies were incorporated into the Title II award and became commonly known as ADAP. ADAP now provides FDA-approved HIV-related prescription drugs to under-insured and uninsured individuals living with HIV/AIDS. For many people with HIV, access to ADAP serves as a gateway to a broad array of healthcare and supportive services, as well as other sources of coverage including Medicaid, Medicare, and private insurance.

In Colorado, persons enrolled in ADAP have been able to receive the following classes of anti-retroviral drugs: nucleoside analogues, protease inhibitors, non-nucleosides, and most medications to treat opportunistic infections. During the calendar year 2001, approximately 1,200 clients accessed ADAP, with 460 being new clients. Most Colorado ADAP clients were male (85%), and fell within the age range of 20 to 44 (65%), and were primarily White (54%), Hispanic (22%), or Black (14%). Asian, American Indian/Alaska Native, and other were represented in very small numbers.

Prior to July 1, 2001, the financial eligibility criteria for ADAP were at or below 185% of the Federal Poverty Level. On July 1, 2001, the financial eligibility was expanded to 300% of the Federal Poverty Level.

What are the Number and Characteristics of Individuals Who Know They are HIV-positive but Who are Not in Care?

The framework developed by Health Resources and Service Administration (HRSA) for measuring unmet need for HIV primary medical care defines unmet need as lack of evidence of any of the following three components of HIV primary medical care: viral load, CD4 count, or use of anti-retroviral therapy during a 12-month period. Colorado requires that laboratories report all tests indicative of HIV infection to CDPHE. All viral load tests and CD4 counts under 500mm³ absolute or under 29% are reported to the surveillance program. The results are entered into the HARS on a yearly basis. Viral load and CD4 tests are used by care providers to determine if it is appropriate to initiate anti-retroviral treatment. These tests enable us to characterize HIV infected persons who are receiving primary medical care and those who are not in care. Additional laboratory information is obtained by conducting medical record chart reviews and contact with primary care providers. The following table determines the pattern of primary medical care.

Table 25 shows the determination of unmet need. Of the 251 persons diagnosed with AIDS in 2001, three (1%) were not receiving primary medical care. There was a much higher percentage of HIV diagnosed in 2001 that were not receiving medical care (17%). This may be the result of persons who had a previous recent negative HIV test and know they were recently infected and may not feel they need immediate medical care. The combined results show that nine percent of newly diagnosed HIV and AIDS were not in care.

Table 26 shows the demographic characteristics of the 44 persons recently diagnosed with HIV or AIDS not in primary medical care by diagnostic category. The majority are male (84%). Whites comprise the highest percent by racial group (50%) while Blacks show disproportionately higher percent (23%) in relation to the population of new AIDS cases (18%) statewide. The majority of persons not in care are in the 30 to 49 age group. MSM are the major risk group not in care (41%), followed by persons with no identified risk (23%) and injection drug users (20%).

■ **TABLE 25: Colorado Determination of Unmet Need**

	Number of Persons Living	Number of Persons Receiving Primary Medical Care	Number of Persons Who are Not in Primary Medical Care (unmet need)
AIDS Diagnosed 2001	251	248 (99%)	3 (1%)
HIV Diagnosed 2001	242	201 (83%)	41 (17%)
Total HIV/AIDS Diagnosed 2001	493	449 (91%)	44 (9%)

■ **TABLE 26: Demographics of Persons Not in Primary Medical Care Diagnosed in 2001**

	Person Living with HIV (n=41)	Person Living with AIDS (n=3)	Total (n=44)
Sex			
Male	35 (85%)	2 (67%)	37 (84%)
Female	6 (15%)	1 (33%)	7 (16%)
Race			
White	19 (46%)	3 (100%)	22 (50%)
Black	10 (24%)	0 (0%)	10 (23%)
Hispanic	11 (27%)	0 (0%)	11 (25%)
Asian	1 (2%)	0 (0%)	1 (2%)
Am Indian	0 (0%)	0 (0%)	0 (0%)
Age			
<13	0 (0%)	0 (0%)	0 (0%)
13–19	1 (2%)	0 (0%)	1 (2%)
20–24	6 (15%)	0 (0%)	6 (14%)
25–29	8 (20%)	0 (0%)	8 (18%)
30–39	17 (41%)	1 (33%)	18 (41%)
40–49	9 (22%)	2 (67%)	11 (25%)
>49	0 (0%)	0 (0%)	0 (0%)
Risk			
MSM	17 (41%)	1 (33%)	18 (41%)
IDU	8 (20%)	1 (33%)	9 (20%)
MSM/IDU	3 (7%)	0 (0%)	3 (7%)
Heterosexual Contact	4 (10%)	0 (0%)	4 (9%)
No Identified Risk	9 (22%)	1 (33%)	10 (23%)
Perinatal Transmission	0 (0%)	0 (0%)	0 (0%)

Table 27 shows the demographic characteristics of the 449 persons receiving medical care who were diagnosed with either HIV or AIDS in 2001. When compared to persons not in care, they are more likely to be White and MSM. Persons in the 20 to 29 age group, IDU and person with no identified risk are less likely to be receiving primary medical care.

■ **TABLE 27: Demographics of Persons in Primary Medical Care Diagnosed in 2001**

	Person Living with HIV (n=201)	Person Living with AIDS (n=248)	Total (n=449)
Sex			
Male	165 (82%)	209 (84%)	374 (83%)
Female	36 (18%)	39 (16%)	75 (17%)
Race			
White	123 (61%)	144 (58%)	267 (59%)
Black	26 (13%)	45 (18%)	71 (16%)
Hispanic	46 (23%)	57 (23%)	103 (23%)
Asian	3 (1%)	1 (0%)	4 (1%)
Am Indian	2 (1%)	1 (0%)	3 (1%)
Unknown	1 (<1%)	0 (0%)	1 (<1%)
Age			
<13	2 (1%)	1 (0%)	3 (1%)
13–19	5 (2%)	0 (0%)	5 (1%)
20–24	27 (13%)	6 (2%)	33 (7%)
25–29	40 (20%)	20 (8%)	60 (13%)
30–39	84 (42%)	113 (46%)	197 (44%)
40–49	30 (15%)	82 (33%)	112 (25%)
>49	13 (6%)	26 (10%)	39 (9%)
Risk			
MSM	127 (63%)	137 (55%)	264 (59%)
IDU	14 (7%)	33 (13%)	47 (10%)
MSM/IDU	9 (4%)	15 (6%)	24 (5%)
Heterosexual Contact	23 (11%)	30 (12%)	53 (12%)
No Identified Risk	27 (13%)	32 (13%)	59 (13%)
Perinatal Transmission	1 (<1%)	1 (<1%)	2 (<1%)

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