# **HIV & AIDS in Colorado**





Integrated Epidemiological Profile of HIV and AIDS Prevention and Care Planning reported through December 2009

April 2012

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# Credits

This edition of the HIV/AIDS Epidemiology Report features data available through December 31, 2009. This report was produced jointly by Colorado Department of Public Health and Environment STI/HIV Section staff:

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For further information about this report contact the STI/HIV Surveillance Program at 303-692-2700.

# **Acronym List**

ADAP	AIDS Drug Assistance Programs
AIDS	Acquired Immune Deficiency Syndrome
CDC	Centers for Disease Control and Prevention
CDOC	Colorado Department of Corrections
CDPHE	Colorado Department of Public Health and Environment
CI	Confidence Interval
DPH	Denver Public Health
eHARS	HIV/AIDS Reporting System
EIA	Enzyme Immunoassay
GED	General Education Development
HCV	Hepatitis C Virus
HIS	HIV Incidence Surveillance
HIV	Human Immunodeficiency Virus
IDU	Injection Drug User
MSA	Metropolitan Statistical Area
MSM	Men Who Have Sex With Men
MSM/IDU	Men Who Have Sex With Men and Injection Drug User
NHBS	National HIV Behavioral Surveillance System
PLWH	Persons Living with HIV
PLWHA	Persons Living with HIV/AIDS
RDS	Respondent Driven Sampling
STARHS	Serologic Testing Algorithm for Recent HIV Seroconversion
STI	Sexually Transmitted Infection
TTH	HIV Testing and Treatment History

# **Executive Summary**

Through 2009, 9,611 AIDS diagnoses and 6,570 cases of HIV infection have been reported in Colorado. Decreases in AIDS diagnoses have been observed both in the U.S. and in Colorado since the introduction and use of highly active antiretroviral therapy (HAART) in 1996. Overall the number of reported cases of AIDS has continued to decrease since a peak of 702 reported cases in 1993.

Antiretroviral therapy has reduced both mortality and morbidity among persons with HIV infection. AIDS-related mortality has decreased by 45 percent from 2005 to 2009 while the prevalence of people living with HIV or AIDS (PLWHA) has continued to increase. As of December 2009, there were 10,885 known PLWHA in Colorado.

The epidemic in Colorado is still driven by sexual exposure, primarily among MSM, which accounts for 75 percent of adult male HIV cases diagnosed in 2009. Among females, heterosexual transmission represents 53 percent of newly diagnosed adult HIV cases.

Cases of HIV/AIDS continue to be geographically centered in the Front Range population of Colorado, while IDU cases and cases with no identified risk continue to be reported more frequently in rural/frontier counties. Although the number of women living with HIV in Colorado continues to increase, perinatal transmission has decreased since 1996. The decrease in transmission rates is attributed to the widespread screening of pregnant women for HIV and the use of HAART during pregnancy and postpartum.

### **Data Sources**

Colorado law requires that both laboratories and physicians report diagnoses 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, all HIV viral loads, including undetectable viral loads, and CD4+ counts of less than 500 mm or <29 percent are reportable.

The data that form the basis of this report are principally reports of HIV and AIDS among persons who were living in Colorado at the time of their diagnosis. Frequently, both HIV and AIDS cases are combined for purposes of characterizing the epidemic and for analysis of trends. Cases are reported to CDPHE's HIV/ AIDS reporting system. AIDS cases in this report meet the 2008 case definition. The Colorado Division of Local Affairs, State Demographer's Office, is the primary state agency for population and demographic information. Demographic and geographic data is based on population forecasts for 2009 whenever possible.

CDPHE's Vital Statistics Section provides mortality and cause of death data from death certificates. The Colorado Department of Corrections (CDOC) provided data on the demographic characteristics of Colorado's prison population. The U.S. Census Bureau provided a variety of demographic and socioeconomic data on 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 state statute. In 1987, CDPHE initiated an active system of surveillance for HIV and AIDS in order to accurately characterize the epidemic in Colorado. CDPHE also collects information on incarceration and hepatitis C virus (HCV) to inform HIV prevention and care planners.

In general, persons who are infected with HIV, without treatment, will eventually progress to AIDS. For some persons, this progression may be relatively rapid (less than two years), but it usually occurs over a five to 10 year period. 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 more than 10 years ago. The introduction of HAART has altered the natural history of HIV and delayed progression to AIDS, making AIDS data less useful for planning purposes. It is important to keep in mind that CDPHE's HIV data only includes persons who have been tested for HIV. The CDC estimates that about 1 in 5 Americans with HIV are unaware of their infection.<sup>13</sup>

Finally, data about risk are less complete for persons newly diagnosed with HIV disease than for persons with AIDS. Investigation of risk factors for HIV occurs over time. Persons who are newly infected may not have discussed the risk factors with HIV counselors, disease intervention specialists, or other health care providers. As the patient seeks care over time, risk factors are more likely to be ascertained.

Where a case of HIV or AIDS is "counted" presents a special challenge. Jurisdiction of an HIV or AIDS case is established at the time of diagnosis. There is no further follow up for changes in address. Thus, it is difficult to measure the effect of in and out migration for counties or the entire state of Colorado .

Lastly, caution should be exercised when interpreting small numbers. Rates based on a small number of cases are often statistically unreliable especially for counties with small populations or where rates are calculated for age, gender or race with very small numbers.

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# **Description of Colorado**

### **Summary**

- Through December 2009, Colorado's population is estimated to be 5,085,517 with an approximately equal distribution of men and women.
- Sixty-six percent of Coloradoans are between the ages of 18 and 65.
- Colorado's population is 68 percent White, 19 percent Hispanic and 4 percent Black. Asian Pacific Islander, American Indian and all other races encompass the remaining 9 percent.
- Colorado's percent of uninsured persons was slightly lower 17 percent than the nation as a whole 19 percent.
- In 2009, cancer remains the leading cause of death in Colorado.
- In 2009, there were 23,210 incarcerated persons in Colorado.

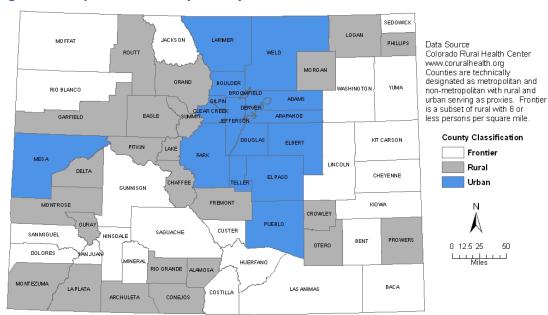


Figure 1: Map of Colorado by County Classification

Source: Colorado Rural Health Center<sup>1</sup>

# Geography

Colorado is a geographically rural state. Colorado has 64 counties across a landmass of 104,095 square miles. The majority of Colorado's population resides in 17 counties designated as metropolitan areas as defined by the U.S. Office of Management and Budget. A metropolitan area has a total population of at least 100,000 inhabitants and at least one urbanized area of at least 50,000 inhabitants. These counties include: Adams, Arapahoe, Boulder, Broomfield, Clear Creek, Denver, Douglas, El Paso, Elbert, Gilpin, Jefferson, Larimer, Mesa, Park, Pueblo, Teller and Weld. The designation of Frontier is a subset of rural, given to those counties with six or fewer persons per square mile. All three classifications and their counties are pictured in **Figure 1** above.

### Age

The median age in Colorado is 36 years in 2009. **Table 1** shows the population by age and gender.

Table 1: 2009 Colorado Population by Age and Gender

Age Group	Male	Percent	Female	Percent	Total	Percent
<10	364,672	14.3	347,463	13.8	712,135	14.0
10-14	168,306	6.6	159,959	6.3	328,265	6.5
15-19	185,874	7.3	176,549	7.0	362,423	7.1
20-24	201,736	7.9	184,669	7.3	386,405	7.6
25-29	173,279	6.8	160,212	6.4	333,491	6.6
30-34	175,018	6.9	162,722	6.5	337,740	6.7
35-39	198,433	7.8	180,836	7.2	379,269	7.5
40-44	185,612	7.3	174,492	6.9	360,104	7.1
45-49	197,533	7.7	194,231	7.7	391,764	7.7
50-54	187,872	7.4	187,866	7.5	375,738	7.4
55-59	164,011	6.4	166,302	6.6	330,313	6.5
60-65	145,000	5.7	147,894	5.9	292,894	5.8
>65	216,205	8.5	278,771	11.1	494,976	9.8
Total	2,554,133	100.0	2,520,395	100.0	5,074,528	100.0

Source: Colorado State Demography Office, State Population by Age and Gender, 2009.<sup>3</sup>

### Race

The following tables show race by gender (**Table 2**) and county (**Table 3**). It should be noted that population totals presented in Table 1 and subsequent tables may vary slightly due to different data sources.

Table 2. 2009 Colorado Population by Race and Gender

Race	Male	Percent	Female	Percent	Total	Percent
White (Non-Hispanic)	1,720,661	67.4	1,729,767	68.6	3,450,428	68.0
Hispanic	499,854	19.6	455,810	18.1	955,664	18.8
Black (Non-Hispanic)	97,485	3.8	89,113	3.5	186,598	3.7
Asian/Hawaiian/Pacific Islander (Non-	60,127	2.4	70,239	2.8	130,366	2.6
Hispanic)						
American	23,223	0.9	22,795	0.9	46,018	0.9
Indian/Alaskan Native (Non-Hispanic)						
Two or More Races (Non-Hispanic)	70,506	2.8	72,105	2.9	142,611	2.8
Total	2,554,151	100.0	2,520,412	100.0	5,074,563	100.0

Source: U.S. Census Bureau, 2009 American Community Survey Detailed Tables, Race by Gender.

Table 3. 2009 Colorado Counties Percent of the Population by Race

	White		Black	Asian/PI	Amer. Indian/	Multiple	
	(Non-		(Non-	(Non-	<b>AK Native (Non-</b>	Races (Non-	Total
County	Hispanic)	Hispanic	Hispanic)	Hispanic)	Hispanic)	Hispanic)	<b>Population</b>
Adams	56.45	34.85	3.09	3.42	0.97	3.42	419,439
Alamosa	50.74	43.84	0.39	2.14	0.90	6.88	15,353
Arapahoe	66.67	16.80	9.40	4.63	0.79	2.92	544,157
Archuleta	81.31	15.35	0.74	0.74	0.08	4.40	12,225
Baca	87.39	9.31	0.57	0.36	1.64	3.77	3,847
Bent	57.91	31.59	5.48	1.17	4.18	1.08	6,128
Boulder	80.14	12.98	0.89	3.70	0.41	2.29	295,524
Broomfield	80.47	11.23	0.66	5.05	0.23	4.43	52,882
Chaffee	86.92	9.08	1.52	0.54	1.08	1.59	16,870
Cheyenne	92.36	6.41	0.00	0.86	0.06	0.31	1,622
Clear Creek	90.92	5.62	0.01	0.41	1.20	2.30	8,886
Conejos	42.30	55.72	0.29	0.15	1.15	6.88	8,021
Costilla	33.12	62.34	0.37	1.13	1.01	9.14	3,282
Crowley	65.54	23.82	7.99	0.57	1.90	1.20	6,311
Custer	92.55	4.39	0.00	1.28	1.78	2.33	3,598
Delta	83.55	13.29	0.67	0.60	0.98	1.52	30,353
Denver	50.83	33.79	9.93	3.16	1.19	2.82	582,447
Dolores	92.60	3.56	0.00	0.23	3.61	0.56	1,771
Douglas	85.79	7.06	1.49	3.61	0.30	2.44	269,451

County	White (Non-	Hispanic	Black (Non-	Asian/PI (Non-	Amer. Indian/ AK Native (Non-	Multiple Races (Non-	Total Population
	Hispanic)		Hispanic)	Hispanic)	Hispanic)	Hispanic)	
Eagle	69.50	27.73	0.12	1.28	0.22	1.27	50,614
Elbert	90.13	5.69	0.91	0.52	1.09	2.30	22,786
El Paso	73.60	13.35	6.23	3.03	0.85	4.66	586,446
Fremont	80.26	10.83	4.57	0.73	2.18	1.80	47,393
Garfield	73.34	23.72	0.71	0.75	0.36	2.07	52,878
Gilpin	90.73	5.47	1.82	0.37	0.58	1.82	5,177
Grand	91.31	5.62	0.35	0.43	0.12	2.29	13,550
Gunnison	89.95	6.36	0.28	0.26	4.20	2.23	14,924
Hinsdale	94.95	0.00	0.00	1.44	3.61	0.00	554
Huerfano	57.64	34.71	2.18	0.58	0.88	7.45	7,713
Jackson	93.64	4.60	0.00	0.00	0.77	0.38	1,305
Jefferson	80.40	13.56	1.24	2.73	0.65	2.52	529,025
Kiowa	94.46	2.98	0.00	1.09	0.97	1.34	1,644
Kit Carson	75.82	18.60	2.69	1.46	0.55	1.49	8,072
Lake	55.33	42.04	0.20	0.79	1.76	0.80	8,025
La Plata	80.75	10.96	0.72	1.00	5.99	2.63	49,678
Larimer	85.28	9.86	0.77	1.84	0.59	2.86	286,978
Las Animas	55.35	40.26	0.80	0.42	2.14	2.79	15,814
Lincoln	80.30	10.73	5.66	1.19	1.00	1.08	5,285
Logan	81.06	13.94	2.47	0.48	0.46	1.84	20,828
Mesa	84.45	11.93	0.67	0.76	1.10	2.74	137,879
Mineral	96.56	1.21	0.00	0.76	0.56	1.21	1,077
Moffat	82.61	14.17	0.00	0.72	1.78	2.96	13,555
Montezuma	75.18	9.74	0.00	0.40	12.76	2.80	25,000
Montrose	79.46	17.41	0.36	0.48	0.55	2.71	39,303
Morgan	64.04	33.54	0.72	0.48	1.02	1.61	27,630
Otero	57.44	38.98	0.72	0.97	1.86	2.53	18,833
Ouray	92.45	6.00	0.00	0.82	0.13	0.97	4,519
Park	91.21	5.59	0.46	1.55	0.73	1.28	16,788
Phillips	75.51	22.71	0.40	0.54	0.58	1.26	4,479
Pitkin	88.46	8.46	0.42	1.21	0.10	1.76	15,314
Prowers	59.53	37.73	0.03	0.48	0.30	3.39	13,206
Pueblo	56.20	39.21	1.79	0.48	1.46	3.61	153,814
Rio Blanco		7.71					
	89.12		0.05	0.00	1.02	3.06	6,183
Rio Grande	59.58	38.13	0.20	0.74	0.50	2.00	11,743
Routt	93.12	4.27	0.54	1.01	0.72	0.61	22,356
Saguache	50.05	47.15	0.27	0.43	2.27	4.23	6,929
San Juan	86.15	10.35	0.00	0.00	0.00	4.81	686
San Miguel	88.22	9.21	0.20	0.96	0.26	1.35	7,385
Sedgwick	88.65	9.04	0.00	1.14	0.84	1.26	2,378
Summit	82.58	13.88	0.58	1.64	0.04	1.46	26,246
Teller	90.34	4.95	0.32	1.10	1.47	2.01	21,554
Washington	88.92	9.79	0.00	0.41	0.47	0.54	4,647
Weld	69.04	27.39	0.60	1.37	0.76	2.25	241,221
Yuma	79.10 Census Bur	19.72	0.09	0.00	0.74	0.45	9,630

Source: U.S. Census Bureau, 2009

### **Poverty and Income**

In 2009, the U.S. American Community Survey estimated Colorado's median household income to be \$56,222 and the state's national poverty ranking was 22<sup>nd</sup>. The United States Department of Agriculture estimates the percent of Coloradoans living below the poverty level to be 13 percent in 2009. **Table 4** shows the percent of population below poverty level per county in 2009.

Table 4: Percentage of the Population Under the Poverty Level by County (2009)

	Percentage Under Poverty		Percentage Under Poverty		Percentage Under Poverty
County	Level	County	Level	County	Level
Colorado	12.6	Elbert	5.4	Montezuma	16.9
		El Paso	11.5	Montrose	12.8
Adams	13.3	Fremont	18.1	Morgan	14.4
Alamosa	22.2	Garfield	8.6	Otero	13.6
Arapahoe	12.3	Gilpin	7.3	Ouray	8.5
Archuleta	12.9	Grand	8.5	Park	9.1
Baca	18.3	Gunnison	13.4	Phillips	12.4
Bent	37.2	Hinsdale	11.2	Pitkin	6.5
Boulder	12.9	Huerfano	26.9	Prowers	23.1
Broomfield	4.9	Jackson	15.0	Pueblo	16.9
Chaffee	12.0	Jefferson	8.1	Rio Blanco	7.7
Cheyenne	13.4	Kiowa	14.8	Rio Grande	17.0
Clear Creek	8.1	Kit Carson	15.4	Routt	6.4
Conejos	24.5	Lake	13.8	Saguache	30.1
Costilla	27.4	La Plata	11.6	San Juan	13.5
Crowley	53.0	Larimer	14.7	San Miguel	10.7
Custer	13.9	Las Animas	18.5	Sedgwick	15.5
Delta	13.9	Lincoln	16.7	Summit	8.7
Denver	18.8	Logan	17.0	Teller	8.2
Dolores	12.4	Mesa	11.8	Washington	12.1
Douglas	3.3	Mineral	10.5	Weld	14.8
Eagle	8.0	Moffat	10.1	Yuma	13.3

Source: U.S. Department of Agriculture, Economic Research Service, 2009 County-Level Poverty Rates for Colorado.

### Insurance

According to the Kaiser Family Foundation, 17 percent of Colorado's population was uninsured in 2008-2009. This is slightly lower than the U.S. estimate of 19 percent in 2009. Table 5 shows that the percentage of Colorado's population not covered by health insurance was much greater among Hispanics (32%) than among Whites (13%).

Table 5: Percentage of the State Non-Elderly Adults without Health Insurance Coverage by Race and Ethnicity (State Data 2008-2009, U.S. 2009)

Race	Colorado	<b>United States</b>
White (Non-Hispanic)	12.8	14.0
Hispanic	32.4	34.0
Black (Non-Hispanic)	25.8	22.6
Other	18.5	17.9
Total	17.4	18.9

Sources: Henry J. Kaiser Family Foundation State Health Facts.

### **Education**

According to the Colorado Department of Education, in 2009 there was a combined public and non-public school enrollment of 832,368 persons in Colorado. School enrollment was comprised of 61 percent White, 28 percent Hispanic, 6 percent Black, 4 percent Asian and 1 percent American Indian. The overall dropout rate in Colorado during the 2008-2009 school year was 3.6 percent. 

Table 6 shows the percent of the population graduating from high school and college by gender. Compared to other MSAs and the state as a whole, the Boulder MSA had the highest proportion of higher education degrees. The Grand Junction MSA had the highest proportion of high school graduates or GEDs. The Greeley MSA had the highest proportion of the population without a high school diploma or GED. 

The Grand Junction MSA had the highest proportion of the population without a high school diploma or GED.

Table 6: Percentage of Population 25 Years Old and Over, High School Graduates or Higher Degree by Gender and Metropolitan Statistical Areas 2009

	No	HS Diploma/	GED	HS (	Grad/Equiva	lent	F F	Higher Degree	
Area	Men	Women	Total	Men	Women	Total	Men	Women	Total
Boulder MSA	7.0	6.2	6.6	13.1	14.5	13.8	63.5	60.6	62.1
Colorado Springs MSA	7.4	7.4	7.4	21.8	24.1	23.0	46.8	42.0	44.4
Denver- Aurora- Broomfield MSA	12.0	11.1	11.5	22.4	22.8	22.6	44.9	43.8	44.4
Fort Collins- Loveland MSA	7.7	5.6	6.7	21.2	21.7	21.4	49.1	49.1	49.1
Grand Junction MSA	11.5	11.1	11.3	33.3	30.1	31.6	31.8	34.5	33.2
Greeley MSA	18.2	14.4	16.3	27.2	27.3	27.2	33.8	35.5	34.6
Pueblo MSA	15.7	14.5	15.0	29.0	29.3	29.2	29.7	31.4	30.6
Colorado	11.8	10.5	11.1	23.7	23.7	23.7	43.4	42.8	43.1
United States	16.1	14.8	15.4	29.2	29.4	29.3	35.0	34.9	35.0

Source: U.S. Census Bureau, 2009 American Community Survey.

# **Incarcerated persons**

According to the Colorado Department of Corrections, 23,210 persons were incarcerated in 2009 . Twenty-two state correctional facilities housed 14,615 inmates, and the remaining 8,595 inmates were housed in contract facilities or county jails. Seven CDOC facilities are located in Fremont County. Colorado's incarcerated population is 12.5 percent female and 87.5 percent male. Racial characteristics of the inmate population are as follows: 44 percent White, 35 percent Hispanic, 17 percent Black, 3 percent American Indian, and 1 percent Asian.<sup>11</sup>

# **Epidemiological Trends in HIV and AIDS in Colorado**

### **Summary**

- By the end of 2009, an estimated 10,885 persons were living with HIV/AIDS in Colorado (an increase of 2.8 percent from 2008).
- Of the total number of people diagnosed with AIDS through 2009, 49 percent were White, 34 percent were Hispanic and 14 percent were Black.
- Blacks continue to be disproportionately affected by the HIV/AIDS epidemic and represent 14 percent of PLWHA (prevalent cases) while comprising only 4 percent of Colorado's population.
- The 25-29 year old age group accounts for the largest proportion of newly diagnosed HIV cases (20%).
- Ninety-two percent of newly diagnosed HIV/AIDS cases were reported in urban counties.
- There have been 4,898 AIDS-related deaths reported in Colorado since 1982.

# **HIV/AIDS** in Colorado

A cumulative total of 9,611 AIDS diagnoses and 6,570 cases of HIV disease have been reported in Colorado through 2009. Colorado's HIV prevalence of 264 persons per 100,000 population is lower than the U.S. prevalence of 334 in 2009. Colorado's AIDS prevalence is 112 persons per 100,000 population compared to the U.S. prevalence of 191 during this same time period. Colorado ranks 29th in total AIDS cases reported among all states and represents 0.92 percent of all reported AIDS cases.

**Table 7** compares the racial characteristics of Colorado and U.S. AIDS cases through 2009. The majority of Colorado AIDS cases are White (61 percent) compared to the U.S. (34 percent). Blacks represent a lower percent of PLWA in Colorado, compared to the U.S. (15 percent to 44 percent, respectively), whereas Hispanics represent a slightly higher percent of AIDS cases in Colorado (22 percent), compared to the U.S. (19 percent).

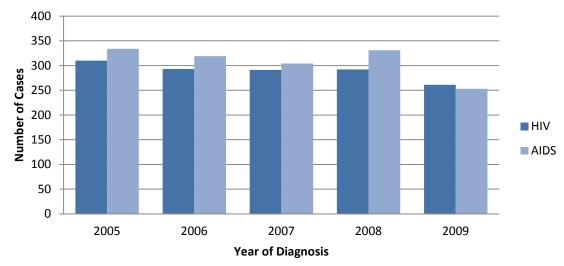
Table 7: Adults/Adolescents Living with AIDS by Race, 2009

	Colo	rado	United	States
Race	Number	Percent	Number	Percent
White	2,875	61.0	162,391	34.3
Hispanic	1017	21.6	91,840	19.4
Black	711	15.1	205,680	43.5
Asian/PI	42	0.9	5,133	1.1
American Indian	41	0.9	1,725	0.4
Multiple Races	25	0.5	6,074	1.3
Total	4,711	100.0	472,843	100.0

Source: CDC HIV/AIDS Surveillance Report, AIDS diagnoses, by race/ethnicity and selected characteristics, 2009 – United States, Vol. 21, Table 22a<sup>12</sup>

**Figure 2** illustrates reported cases of HIV infection (excluding concurrent diagnoses) and AIDS between 2005 and 2009. Newly diagnosed cases of HIV have decreased from 310 cases in 2005 to 261 cases in 2009. Similar to HIV, there has been a decrease in the number of newly diagnosed AIDS cases from 2005 to 2009 (18 percent).

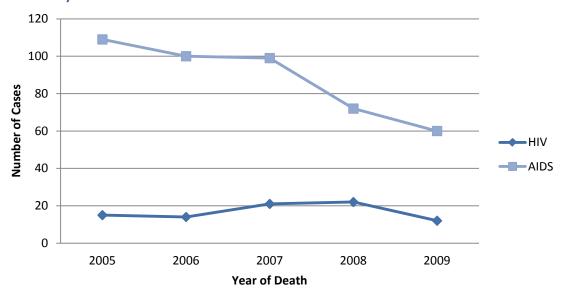
Figure 2: Colorado AIDS and HIV\* by Year of Diagnosis (2005-2009)



<sup>\*</sup>HIV numbers exclude concurrent AIDS diagnoses

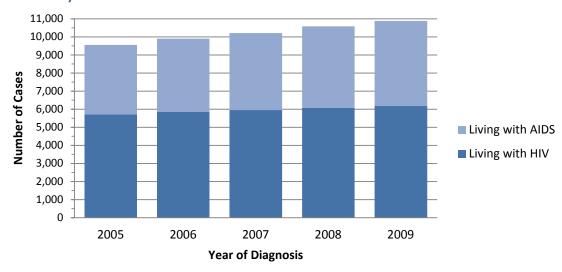
**Figure 3** shows the annual number of deaths among HIV and AIDS cases in Colorado. Deaths among AIDS cases have declined between 2005 and 2009, when a 45 percent decrease in HIV related mortality was observed.

Figure 3: Annual Deaths among Persons Diagnosed with HIV and AIDS – Colorado (2005-2009)



**Figure 4** shows an increase in the number of PLWHA in Colorado during the last five years. By the end of 2009, there was an estimated 10,885 PLWHA in Colorado, a 14 percent increase from 2005.

Figure 4: Annual Number of Diagnosed Persons Living with HIV and AIDS – Colorado (2005-2009)



**Tables 8a** and **8b** show the characteristics of PLWHA. Males represent the majority (89 percent) of PLWHA. Whites constitute the largest racial group living with HIV/AIDS, representing 65 percent of cases. Blacks continue to be disproportionately impacted by the epidemic. Although the percentage of Blacks in Colorado is 4 percent, this racial group represents 14 percent of PLWHA. Men who have sex with men is the predominant risk group representing 64 percent of PLWHA. The majority (94 percent) of PLWHA live in the urban areas of Colorado.

Table 8a: Characteristics of PLWHA in Colorado Through 12/31/09

	Living w	ith HIV	Living w	ith AIDS	Living with HIV/AIDS	
Gender	Number	Percent	Number	Percent	Number	Percent
Male	5,501	89.1	4,196	89.0	9,697	89.1
Female	671	10.9	517	11.0	1,188	10.9
Race						
White	4,209	68.2	2,876	61.0	7,085	65.1
Hispanic	953	15.4	1,017	21.6	1,970	18.1
Black	832	13.5	712	15.1	1,544	14.2
Asian/PI	50	0.8	42	0.9	92	8.0
American Indian	45	0.7	41	0.9	86	0.8
Multiple Races	17	0.3	25	0.5	42	0.4
Unknown	66	1.1	0	0.0	66	0.6
Risk						
MSM	4,003	64.9	2,976	63.1	6,979	64.1
IDU	439	7.1	445	9.4	884	8.1
MSM/IDU	493	8.0	421	8.9	914	8.4
Heterosexual Contact	500	8.1	494	10.5	994	9.1
No Identified Risk	686	11.1	332	7.0	1,018	9.4
Pediatric	37	0.6	12	0.3	49	0.5
Transfusion/Hemophilia	14	0.2	33	0.7	47	0.4
Region						
Urban	5,875	95.2	4,373	92.8	10,248	94.1
Rural	241	3.9	307	6.5	548	5.0
Frontier	43	0.7	33	0.7	76	0.7
Unknown	13	0.2	0	0.0	13	0.1

Table 8b: Age Characteristics of PLWHA in Colorado through 12/31/09

800000	Living w	ith HIV	Living w	ith AIDS	Living with	HIV/AIDS
<b>Current Age Group</b>	Number	Percent	Number	Percent	Number	Percent
<5	6	0.1	1	0.0	7	0.1
5-9	8	0.1	0	0.0	8	0.1
10-12	3	0.0	1	0.0	4	0.0
13-14	5	0.1	1	0.0	6	0.1
15-19	19	0.3	1	0.0	20	0.2
20-24	137	2.2	43	0.9	180	1.7
25-29	327	5.3	150	3.2	477	4.4
30-34	427	6.9	257	5.5	684	6.3
35-39	582	9.4	512	10.9	1,094	10.1
40-44	935	15.1	819	17.4	1,754	16.1
45-49	1,285	20.8	1111	23.6	2,396	22.0
50-54	1,037	16.8	764	16.2	1,801	16.5
55-59	760	12.3	577	12.2	1,337	12.3
60-64	365	5.9	275	5.8	640	5.9
>65	276	4.5	201	4.3	477	4.4
Age Group at HIV Diag	nosis					
<5	29	0.5	32	0.7	61	0.6
5-9	7	0.1	6	0.1	13	0.1
10-12	3	0.0	5	0.1	8	0.1
13-14	3	0.0	4	0.1	7	0.1
15-19	163	2.6	94	2.0	257	2.4
20-24	910	14.7	540	11.5	1,450	13.3
25-29	1430	23.2	907	19.2	2,337	21.5
30-34	1364	22.1	1041	22.1	2,405	22.1
35-39	1031	16.7	862	18.3	1,893	17.4
40-44	613	9.9	532	11.3	1,145	10.5
45-49	318	5.2	359	7.6	677	6.2
50-54	157	2.5	177	3.8	334	3.1
55-59	83	1.3	79	1.7	162	1.5
60-64	34	0.6	43	0.9	77	0.7
>65	27	0.4	32	0.7	59	0.5
Age Group at AIDS Dia	gnosis					
<5			4	0.1	4	0.1
5-9			3	0.1	3	0.1
10-12			0	0.0	0	0.0
13-14			3	0.1	3	0.1
15-19			21	0.4	21	0.4
20-24			171	3.6	171	3.6
25-29			578	12.3	578	12.3
30-34			974	20.7	974	20.7
35-39			1083	23.0	1,083	23.0
40-44			822	17.4	822	17.4
45-49			536	11.4	536	11.4
50-54			291	6.2	291	6.2
55-59			127	2.7	127	2.7
60-64			63	1.3	63	1.3
>65			37	0.8	37	0.8

# **HIV/AIDS** by Gender

Increases in the number of PLWHA can be observed among both men and women in the last five years (Figure 5). In 2005, women accounted for 10 percent of living cases of HIV/AIDS whereas, they account for 11 percent of cases as of December 31, 2009.

12000 10000 **Number of Cases** 8000 6000 Female 4000 Male 2000 0 2005 2006 2007 2008 2009 Year

Figure 5: Number of Persons Living with HIV or AIDS by Gender – Colorado (2005-2009)

# **HIV/AIDS** by Race

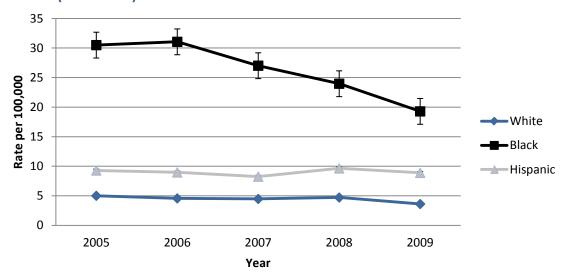
In 2009, 373 persons were newly diagnosed with HIV (including those with a concurrent AIDS diagnoses), 326 (87%) were male and 47 (13%) were female. By race/ethnicity, 191 (51%) were White, 57 (15%) were Black, 115 (31%) were Hispanic, 4 (1.1%) were Asian/Pacific Islander, and 4 (1.1%) were American Indian (Table 9). Females had a higher proportion of newly diagnosed HIV cases among Non-Hispanic Blacks (38%) compared to males (12%).

Table 9: Colorado HIV Cases Diagnosed by Race and Gender in 2009

	M	ale	Fen	nale	То	tal
Race	Number	Percent	Number	Percent	Number	Percent
White (Non-Hispanic)	176	54.0	15	31.9	191	51.2
Hispanic	105	32.2	10	21.3	115	30.8
Black (Non-Hispanic)	39	12.0	18	38.3	57	15.3
Asian/Hawaiian/Pacific						
Islander (Non-Hispanic)	2	0.6	2	4.3	4	1.1
American						
Indian/Alaskan Native						
(Non-Hispanic)	2	0.6	2	4.3	4	1.1
Two or More Race (Non-						
Hispanic)	2	0.6	0	0.0	2	0.5
Total	326	87.4	47	12.6	373	100.0

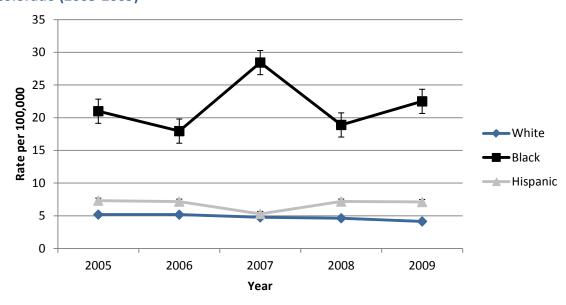
Although Whites represent the largest number of both HIV and AIDS cases, **Figures 6** and **7** illustrate that when rates by race are compared, Blacks, and to a lesser degree, Hispanics, are disproportionately affected.

Figure 6: AIDS Rate per 100,000 Population by Race (with standard error bars) – Colorado (2005-2009)



**Figure 7** demonstrates trends in rates of persons with a newly reported HIV diagnosis. Again, communities of color, particularly Blacks, are disproportionately affected with rates 5.4 times greater than those of Whites.

Figure 7: HIV Rate per 100,000 Population by Race (with standard error bars) – Colorado (2005-2009)



The number of PLWHA by race is illustrated in **Figure 8**. While Whites constitute the largest number and percentage of HIV/AIDS cases, Blacks and Hispanics continue to be disproportionately affected by HIV/AIDS in Colorado.

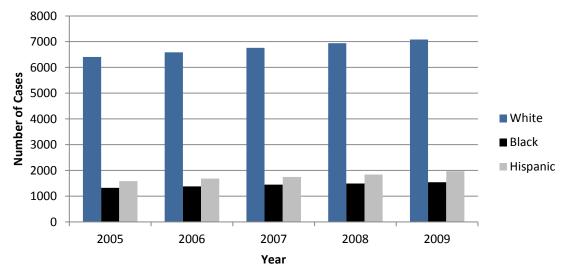


Figure 8: Persons Living with HIV/AIDS by Race – Colorado (2005-2009)

Although not graphically illustrated, the percent of foreign-born persons diagnosed with HIV/AIDS has been increasing Among HIV cases newly diagnosed in 2009, 26 percent of Hispanics were foreign-born. Among Blacks, 27 percent were foreign-born. Cultural and language barriers may be a challenge for prevention and care providers.

# **HIV/AIDS** by Risk

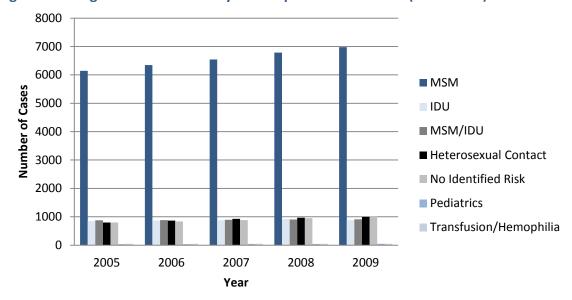
**Table 10** displays HIV cases diagnosed in 2009 by risk and gender. Two hundred twenty-eight males (70 percent) reported MSM exposure; 12 males (4 percent IDU exposure), 10 males (3 percent) reported high-risk heterosexual contact, and 59 males (18 percent) had no identified risk. Heterosexual contact remains the largest risk factor for females, accounting for 53 percent of the cases. A larger proportion of Females reported (40 percent) no identified risk compared to males (18 percent).

Table 10: Colorado HIV Cases by Risk and Gender, Diagnosed 2009

	M	ale	Fem	ale	То	tal
Risk	Number	Percent	Number	Percent	Number	Percent
MSM	228	69.9	0	0.0	228	61.1
IDU	12	3.7	2	4.3	14	3.8
MSM/IDU	15	4.6	0	0.0	15	4.0
Heterosexual Contact	10	3.1	25	53.2	35	9.4
No Identified Risk	59	18.1	19	40.4	78	20.9
Pediatric	2	0.6	1	2.1	3	0.8
Transfusion/Hemophilia	0	0.0	0	0.0	0	0.0
Total	326	87.4	47	12.6	373	100.0

As shown in **Figure 9** the majority of PLWHA in Colorado are MSM (6,979 cases representing 64 percent). MSM/IDU constitute an additional 8.4 percent (914 cases), and IDU comprise 8 percent (884 cases) of PLWHA through 2009. Heterosexual contact is a growing risk group increasing 25 percent from 2005 to 2009. Individuals reporting no identified risk increased nearly 28 percent over the past five years. Care should be taken when interpreting some of these numbers due to small cell sizes.

Figure 9: Living with HIV Disease by Risk Reported – Colorado (2005-2009)



# **HIV** by Age

**Table 11** describes the 373 newly diagnosed HIV disease cases by age and gender. Females had a larger proportion of cases in the 20-24 age group (17 percent female versus 14 percent male). However, the majority of both female (62 percent) and male (59 percent) diagnoses occurred in the 20-39 age range.

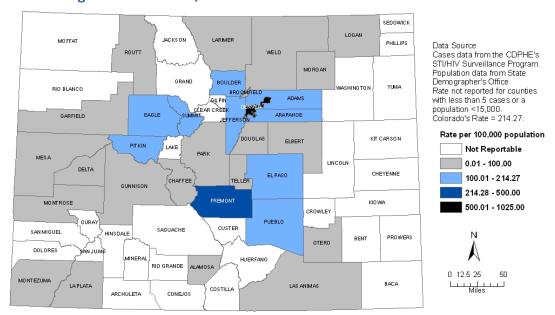
Table 11: Colorado HIV Cases by Age Group and Gender, Diagnosed 2009

	Male		Fem	Female		Total	
Age Group	Number	Percent	Number	Percent	Number	Percent	
<5	1	0.3	1	2.1	2	0.5	
5-9	1	0.3	0	0.0	1	0.3	
10-12	0	0.0	0	0.0	0	0.0	
13-14	0	0.0	0	0.0	0	0.0	
15-19	7	2.1	2	4.3	9	2.4	
20-24	44	13.5	8	17.0	52	13.9	
25-29	69	21.2	7	14.9	76	20.4	
30-34	42	12.9	8	17.0	50	13.4	
35-39	36	11.0	6	12.8	42	11.3	
40-44	39	12.0	2	4.3	41	11.0	
45-49	40	12.3	6	12.8	46	12.3	
50-54	17	5.2	3	6.4	20	5.4	
55-59	14	4.3	3	6.4	17	4.6	
60-64	10	3.1	0	0.0	10	2.7	
>65	6	1.8	1	2.1	7	1.9	
Total	326	87.4	47	12.6	373	100.0	

### **Geographical Characteristics of HIV**

**Figure 10** illustrates that the highest rates of HIV in Colorado occur in the Front Range counties of Adams, Arapahoe, Boulder, Denver, Eagle, El Paso, Jefferson, Pitkin, Pueblo and Summit. These ten counties represent 90 percent of HIV/AIDS cases and 66 percent of Colorado's population. The map shows that Fremont County has a disproportionate share of PLWHA. The Colorado state correctional facility houses the majority of state prisoners with HIV disease. Due to their incarceration, these individuals do not place a burden for HIV care or prevention services on the surrounding rural community. Counties with fewer than five reported cases and those with a population less than 15,000 are not included on this map.

Figure 10: Living HIV/AIDS Rate per 100,000 Population by County of Residence at Time of Diagnosis – Colorado, 2009



# **HIV Related Mortality**

The overall HIV related death rate for Colorado is 710 deaths per 100,000 population. The top two causes of death in 2009 were cancer and heart disease. The death rate for cancer and heart disease was 154 per 100,000 and 142, respectively. HIV related death rates by age and gender are illustrated in **Tables 12** and **13** below.

Table 12: HIV Related Death Rate by Gender, 2009

			Death Rate per 100,000
Gender	Population	Deaths	Population
Male	2,554,133	114	4.46
Female	2,520,395	12	0.48
Total	5,074,528	126	2.48

Table 13: HIV Related Death Rate by Age, 2009

			Death Rate per 100,000
Age Group	<b>Population</b>	Deaths	Population
<20	1,402,823	0	0.00
20-24	386,405	2	0.52
25-29	333,491	7	2.10
30-34	337,740	4	1.18
35-39	379,269	10	2.64
40-44	360,104	12	3.33
45-49	391,764	23	5.87
50-54	375,738	19	5.06
55-59	330,313	24	7.27
60-65	292,894	14	4.78
>65	494,976	11	2.22
Total	5,074,528	126	2.48

# Demographic Characteristics of New HIV Disease Diagnoses in High Risk Populations

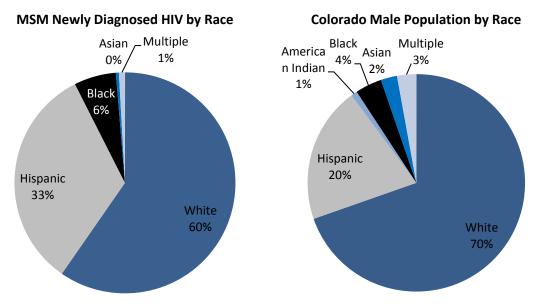
### Men Who Have Sex with Men

- The majority of Colorado's new HIV diagnoses can be attributed to MSM risk (63 percent of cases).
- New HIV diagnoses among MSM ages 20-29 years have increased by 22 percent in the last five years.

### Racial /Ethnic Trends Among MSM

There are considerable racial disparities in HIV infection. **Figure 11** illustrates these disparities for the last 5 years (2005 – 2009). Black MSM are over represented among new HIV disease diagnoses (8 percent) as Black males comprise 4 percent of Colorado's male population. Hispanic MSM are also disproportionately affected, representing 23 percent of new HIV disease diagnoses while comprising 20 percent of Colorado's male population.

Figure 11: HIV Positive MSM by Race, Compared to Male Population – Colorado (2009)



### **Age Trends Among MSM**

**Figure 12** depicts the percentage of newly diagnosed HIV cases among MSM by age. In Colorado, 50 percent of new HIV disease diagnoses are found among 25-39 year olds, which represents only 21 percent of the male population. Young men ages 20-29 years are particularly over represented, accounting for 15 percent of the male population and 37 percent of the HIV epidemic.

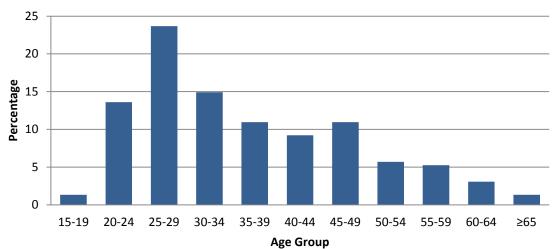


Figure 12: Percent of MSM HIV Cases by Age at Diagnosis – Colorado (2009)

**Figure 13** illustrates the number of HIV and AIDS cases diagnosed from 2005 to 2009 among MSM by age at diagnosis. HIV/AIDS cases diagnosed in MSM age 40-49 years have decreased by 36 percent, whereas ages 20-29 years have increased by 22 percent from 2005 to 2009.

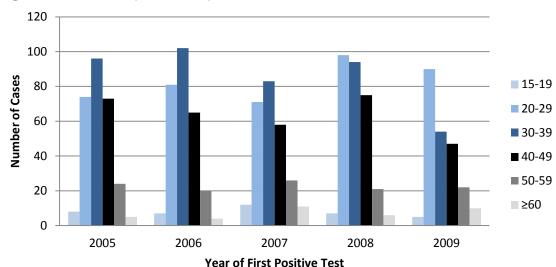


Figure 13: Number of MSM with HIV/AIDS by Year of First Positive Test and Age at Diagnosis – Colorado (2005-2009)

# **Injection Drug Use**

- IDU and MSM/IDU account for 18 percent of Colorado HIV/AIDS diagnoses.
- Eighty-six percent of IDU-attributed HIV/AIDS cases are reported among males.
- Whites comprised 57 percent of IDU-only HIV/AIDS cases in 2009. Hispanics accounted for 29 percent while Blacks represented 14 percent.
- IDU related cases of HIV/AIDS are most commonly diagnosed in the 35-39 age group.

# **Proportion of Epidemic among IDU**

Through December 31, 2009, a cumulative total of 2,952 cases of HIV/AIDS were associated with IDU or MSM/IDU risk. Of these, 86 percent were reported in males and 14 percent were females. **Figure 14** shows the epidemic by risk group. IDU and MSM/IDU comprise 18 percent of the total HIV/AIDS cases reported in Colorado.

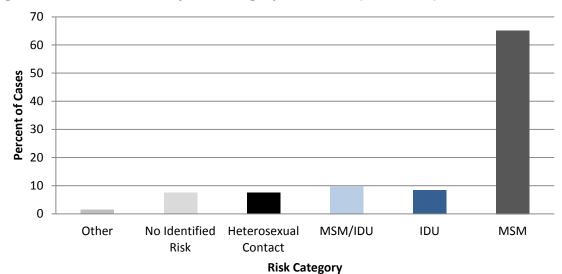


Figure 14: HIV/AIDS Cases by Risk Category – Colorado (1982-2009)

### Racial/Ethnic Trends among IDU

The following two graphs illustrate the impact of IDU risk behaviors in both adult/adolescent males and females. Among males, 2,665 cumulative cases of HIV or AIDS were related to IDU, either through IDU, MSM/IDU or heterosexual contact to an IDU. **Figure 15** shows that among the 123 males reporting IDU risk, Whites account for 61 (50%) cases, Hispanics for 44 (36%) cases, and Blacks for 18 (15%) cases. Among the 194 males who are MSM/IDU, White males account for over two-thirds of the cases (132 or 68%), Hispanics for 42 (22%) cases, and Blacks for 20 cases (10%).

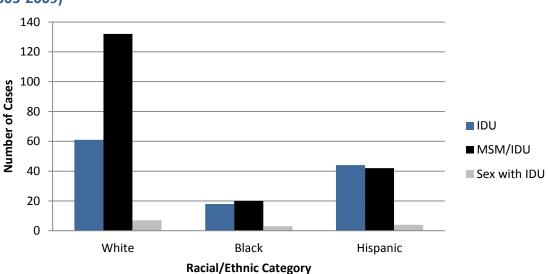
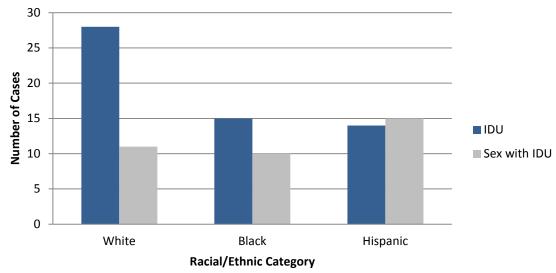


Figure 15: Cumulative IDU-Associated HIV/AIDS Cases by Race in Males – Colorado (2005-2009)

The number of IDU-related HIV or AIDS cumulative cases (655) is considerably smaller among females as shown in **Figure 16**. From 2005 to 2009, 57 cases of HIV/AIDS in females were due to IDU risk. Across all racial/ethnic groups many more females acquired HIV disease as a result of heterosexual contact with an IDU (N =36). White females account for 28 (49%), Blacks for 15 (26%) and Hispanics constitute 14 (25%) cases.

Figure 16: Cumulative IDU-Associated HIV/AIDS Cases by Race in Females – Colorado (2005-2009)



### Age Trends among IDU

**Figure 17** illustrates new HIV and AIDS diagnoses for 2005 through 2009 among IDU. The number of cases declined for all age groups except 15-19 year olds among which one case was reported in 2009. However, it should be noted that the number of IDU attributed HIV/AIDS cases remains small.

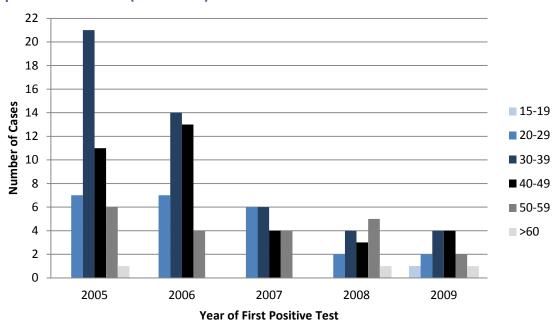


Figure 17: Number of IDUs with HIV/AIDS by Year of First Positive Test and Age Reported – Colorado (2005-2009)

# **HIV among IDU by Region**

**Figure 18** demonstrates the urban concentration of IDU related HIV diagnoses for 2005 through 2009. This is consistent with other risk groups, affirming that the Colorado HIV epidemic is largely centered in urban areas. Urban areas reported 87 percent of cases, rural areas 11 percent, and frontier areas reported 2 percent of cases. This geographic pattern of HIV/AIDS diagnoses among urban, rural and frontier regions has remained stable since the beginning of the epidemic.

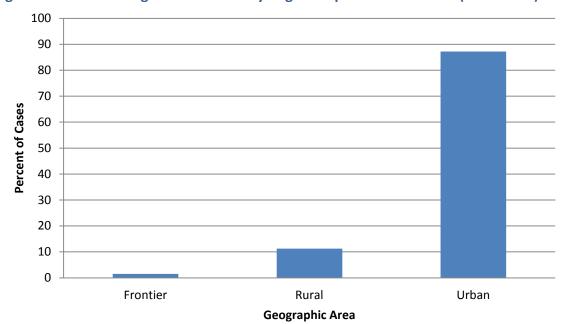


Figure 18: IDU HIV Diagnosed Positive by Region Reported – Colorado (2005-2009)

### **Heterosexual Transmission**

- Heterosexual HIV transmission has decreased from 12 percent in 2005 to 9 percent in 2009.
- Females represent 71 percent of heterosexually transmitted HIV/AIDS diagnoses.
- Blacks are most affected by heterosexual transmission among racial groups, representing 53 percent of HIV diagnoses in 2009.
- Heterosexual transmission of HIV is most commonly diagnosed in 30-34 year olds which represent 20 percent of cases.

# Estimates of High Risk Heterosexual Behavior in Colorado

It is difficult to estimate the number of individuals who engage in heterosexual contact putting them at risk for HIV disease. However, a sexually transmitted infection is indicative of unsafe sexual practices. In 2009, 20,006 cases of chlamydia, 2,823 cases of gonorrhea, and 105 cases of primary and secondary syphilis were reported to CDPHE. HIV prevention strategies should be directed toward these persons.

# **Proportion of Epidemic among Heterosexuals**

Overall, heterosexual transmission accounts for 8 percent of Colorado's cumulative HIV/AIDS cases, as shown in **Figure 19**.

70 60 50 Percent of Cases 40 30 20 10 0 No Identified Heterosexual Other MSM/IDU IDU MSM Risk Contact

Figure 19: HIV/AIDS Cases Reported by Risk Category – Colorado

**Figure 20** illustrates the number of heterosexually transmitted HIV/AIDS cases by year of first positive test and gender from 2005 to 2009. The overall number of heterosexually transmitted HIV/AIDS cases has decreased by 36 percent. Care should be taken in identifying trends in this group due to the small number of cases.

**Risk Category** 

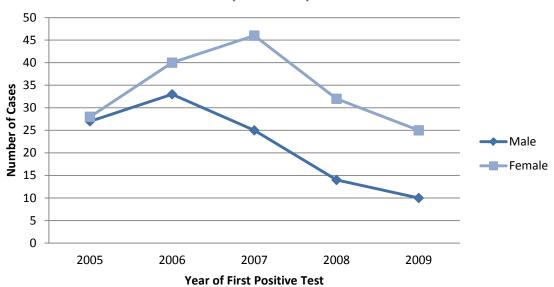


Figure 20: Number of Heterosexually Transmitted HIV/AIDS Cases by Year of First Positive Test and Gender – Colorado (2005-2009)

# Racial/Ethnic Trends Among High Risk Heterosexuals

Recently diagnosed cases of HIV attributed to heterosexual transmission are illustrated in **Figure 21**. Racial disparities are evident as Blacks are most affected with 16 (53%)

cases diagnosed in 2009. Hispanics account for 20 percent of cases and Whites account for 27 percent. Compared to their proportion of the general population, racial/ethnic minorities are over-represented.

18
16
14
18
16
14
2
0
White Black Hispanic
Racial/Ethnic Category

Figure 21: Newly Identified Cases of Heterosexually Transmitted HIV Cases by Racial Category – Colorado (2009)

# **Age Trends Among High Risk Heterosexuals**

New HIV disease diagnoses among high risk heterosexuals by age group is shown in **Figure 22**. This graph indicates that the largest percentage (20%) of newly diagnosed cases occurred in the 30-34 year old age group. The 35-39 year old age group represents 17 percent of the cases. Young adults aged 25-29 years represent 14 percent of heterosexually transmitted HIV diagnoses.

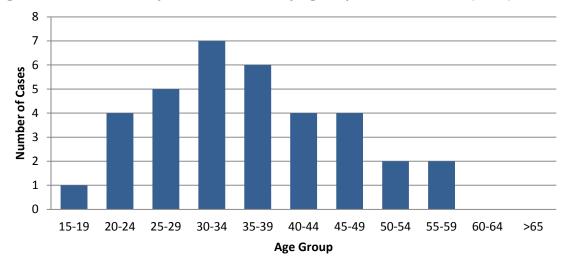


Figure 22: Heterosexually Transmitted HIV by Age Reported – Colorado (2009)

### Infants Born to HIV-infected Women

As shown in Table 14, the number of infants known to be born to HIV-infected mothers in Colorado peaked in 2005 with 31 births from 2005 to 2009. During 2005 to 2009, there have been two cases of confirmed perinatal transmitted HIV infection reported. According to CDPHE's birth certificate data, 1.4 percent of mothers who delivered a child in 2009 did not receive prenatal care. Eighty-nine percent reported an HIV test during pregnancy.

Table 14: Number of Infants Born to HIV-infected Women by Year of Birth – Colorado (2005-2009)

	Number of Infants born to HIV	Number of Infants who acquired
Year of Birth	<b>Positive Women</b>	HIV perinatally
2005	31	0
2006	28	0
2007	30	1
2008	28	0
2009	29	1
Total	146	2

### **Unmet Need**

Of the estimated number of PLWA, 37 percent did not have a CD4 or viral load test reported to CDPHE in 2009 and may be out of care. Of the estimated number of PLWH, 68 percent did not have a CD4 or viral load test reported and likewise may not be accessing care. This estimate does not include cases diagnosed outside Colorado who have moved into the state and have not yet accessed HIV care. Prior to April 2010, Colorado regulations did not require labs to report undetectable viral loads. This limited

our ability to account for individuals with viral suppression / undetectable viral load achieved by effective HAART.

Among PLWA, the risk groups with the largest proportion of persons not in care are IDU and individuals with no identified risk, 43 and 38 percent, respectively. Forty-one percent of PLWA who live in rural counties are out of care compared to 35 percent out of care among urban residents. Though comprising a small number of the PLWA, Native Americans are the racial group most likely to be out of care (44 percent). Forty percent of Blacks are out of care, followed by Asian/Hawaiian/Pacific Islanders, of whom 39 percent are out of care. Males are more likely than females to be out of care, 37 percent and 30 percent, respectively. Forty-two percent of males who reported high-risk heterosexual contact are out of care compared with 30 percent of women who report this risk. The highest proportion of females who are out of care are those with no risk identified (35 percent).

# National HIV Behavioral Surveillance - Denver, Colorado

### **Summary**

- Racial distribution of participants -- 51 percent White, 27 percent Hispanic, and 13 percent Black
- 69 percent male and 31 percent female
- Mean age of participants was 43
- 40 percent reported sharing needles at least once in the past 12 months
- 88 percent reported ever being tested for HIV with 5 percent being HIV positive
- 61 percent reported being homeless in the past 12 months, and 70 percent of those, report continuing homelessness
- 55 percent reported having no health insurance
- 75 percent reported receiving healthcare in the past 12 months

### **National HIV Behavioral Surveillance System**

In 2003, CDC, in collaboration with state and local health departments, initiated the NHBS system. The objective of the NHBS system is to monitor risk behaviors and access to prevention services among three populations at highest risk for HIV infection in the United States: MSM, IDU, and heterosexual adults in high risk areas. The system rotated 12 month long surveillance cycles at three intervals for the high risk populations. In 2009, the second cycle of IDU was completed leaving only the heterosexual high risk population left for the second iteration. Denver is among 26 participating MSAs in the U.S. (Figure 23). The Denver NHBS system is a collaborative effort between CDPHE and DPH.

Seattle

| Botton | NewWrit | Nassau Surfolk | New York City | Philadelphia | New York City | New York City | Nassau Surfolk | Norfall |

Figure 23: Participating Metropolitan Statistical Areas in the National HIV Behavioral Surveillance System

Not pictured: San Juan and Puerto Rico

### **Overall Methods**

A core questionnaire was administered to participants in all three cycles. The questionnaire included demographics, sexual behavior, injection and non-injection drug use, and HIV testing behavior. Specific questions were added for each cycle to address the specific needs of each target population. Interviews were administered in person using a handheld personal computer. Participation in all three cycles was voluntary and anonymous.

### **IDU Cycle**

Eligibility: All potential participants must have: 1) been age 18 years or older, 2) injected illicit drugs in the past 12 months, 3) lived in the participating MSA, 4) been able to complete the eligibility screener and interview in English or Spanish, 5) not previously completed an interview for NHBS-IDU, and 6) been able to provide consent. Additional eligibility criteria include having physical evidence of recent injection (fresh track marks) or having current knowledge of drug packaging, pricing, and locations where drugs are sold.

### **Respondent-Driven Sampling**

Participants were recruited through a chain-referral strategy called RDS. RDS is started with a limited number of "seeds" chosen by referral from key informants. After the seeds completed the interview, they were then asked to recruit up to three members from their network who are also IDU.

Interviews were conducted from August to December 2009. Seeds were identified through interviews with key stakeholders. Seeds were given up to three "coupons" to give to IDUs in their network. Referrals were interviewed at several sites including community-based organizations and local public health departments. Participants were compensated when they completed the survey and for each eligible person they recruited into the project. Voluntary HIV testing was conducted as part of the IDU cycle with extra compensation provided.

# **Cycle Demographics**

As shown in **Table 15**, the majority of participants were White (51%) males (69%). Fifty-five percent reported having no health insurance, an annual income less than \$10,000 (60%) and being homeless in the past 12 months (62%). Of those who reported being homeless in the past 12 months, 70 percent reported still being homeless.

Table 15: Sociodemographic Characteristics of Participants in the Second Cycle of IDU in 2009, National HIV Behavioral Surveillance Study – Denver (N=432)

Gender         Male       297 (68.8)         Female       134 (31.0)         Transgender       1 (0.2)         Race/Ethnicity       White, non-Hispanic         White, non-Hispanic       221 (51.1)         Hispanic       116(26.9)         Black, non-Hispanic       56 (13.0)         Other       39 (9.0)         Age group (yrs)       28 (6.5)         18-24       28 (6.5)         25-34       83 (19.3)         35-44       107 (24.8)         45-54       121 (28.1)         255       93 (21.5)         Mean Age (SE)       43.7 (0.57)         Education       CHigh School         4 High School or Equivalent       180 (41.7)         >High School or Equivalent       180 (41.7)         >High School       132 (30.5)         Health Insurance       Private         Private       169 (27.8)         Public       27 (6.3)         None       235 (54.5)         Annual Income       S0-9,999         \$20,000-39,999       47 (11.0)         \$40,000 or more       24 (5.6)         Employment Status       Employment Status         Unletime or Part-time	Characteristic	N (%)
Female 134 (31.0) Transgender 1 (0.2)  Race/Ethnicity White, non-Hispanic 221 (51.1) Hispanic 116(26.9) Black, non-Hispanic 56 (13.0) Other 39 (9.0)  Age group (yrs)  18-24 28 (6.5) 25-34 83 (19.3) 35-44 107 (24.8) 45-54 121 (28.1) ≥55 93 (21.5) Mean Age (SE) 43.7 (0.57)  Education < High School 120 (27.8) High School 120 (27.8) High School 132 (30.5)  Health Insurance Private 169 (27.8) Public 27 (6.3) None 235 (54.5)  Annual Income \$0-9,999 258 (60.4) \$10,000-19,999 98 (22.9) \$20,000-39,999 47 (11.0) \$40,000 or more 24 (5.6)  Employment Status Full-time or Part-time 82 (19.2) Disabled for Work 129 (37.8) Unemployed 190 (44.4) Other (homemaker, student, retired) 27 (6.3)  Homeless in last 12 months No 163 (38.1) Yes, not currently 79 (18.4)	Gender	
Transgender       1 (0.2)         Race/Ethnicity       White, non-Hispanic         Hispanic       116(26.9)         Black, non-Hispanic       56 (13.0)         Other       39 (9.0)         Age group (yrs)       28 (6.5)         18-24       28 (6.5)         25-34       83 (19.3)         35-44       107 (24.8)         45-54       121 (28.1)         ≥55       93 (21.5)         Mean Age (SE)       43.7 (0.57)         Education       43.7 (0.57)         High School       120 (27.8)         High School or Equivalent       180 (41.7)         >High School       132 (30.5)         Health Insurance       169 (27.8)         Private       169 (27.8)         Public       27 (6.3)         None       235 (54.5)         Annual Income       29.999         \$20,000-19,999       98 (22.9)         \$20,000-39,999       47 (11.0)         \$40,000 or more       24 (5.6)         Employment Status       101-11 (10.0)         Full-time or Part-time       82 (19.2)         Disabled for Work       129 (37.8)         Unemployed       190 (44.4)	Male	297 (68.8)
Race/Ethnicity         White, non-Hispanic       221 (51.1)         Hispanic       116(26.9)         Black, non-Hispanic       56 (13.0)         Other       39 (9.0)         Age group (yrs)       28 (6.5)         18-24       28 (6.5)         25-34       83 (19.3)         35-44       107 (24.8)         45-54       121 (28.1)         ≥55       93 (21.5)         Mean Age (SE)       43.7 (0.57)         Education       120 (27.8)         High School Fully School       120 (27.8)         High School Fully School       132 (30.5)         Health Insurance       169 (27.8)         Private       169 (27.8)         Public       27 (6.3)         None       235 (54.5)         Annual Income       \$0.9,999         \$20,000-19,999       258 (60.4)         \$10,000-19,999       98 (22.9)         \$20,000-39,999       47 (11.0)         \$40,000 or more       24 (5.6)         Employment Status         Full-time or Part-time       82 (19.2)         Disabled for Work       129 (37.8)         Unemployed       190 (44.4)         Other (homemaker, stud	Female	134 (31.0)
White, non-Hispanic Hispanic Black, non-Hispanic Other 39 (9.0)  Age group (yrs)  18-24 28 (6.5) 25-34 38 (19.3) 35-44 40 (107 (24.8) 45-54 121 (28.1) ≥55 Mean Age (SE) 43.7 (0.57)  Education ≺ High School High School High School 120 (27.8) High School 132 (30.5)  Health Insurance Private Pri	Transgender	1 (0.2)
Hispanic 116(26.9) Black, non-Hispanic 56 (13.0) Other 39 (9.0)  Age group (yrs)  18-24 28 (6.5) 25-34 83 (19.3) 35-44 107 (24.8) 45-54 121 (28.1) ≥55 93 (21.5) Mean Age (SE) 43.7 (0.57)  Education  < High School 120 (27.8) High School 132 (30.5)  Health Insurance Private 169 (27.8) Public 27 (6.3) None 235 (54.5)  Annual Income  \$0-9,999 258 (60.4) \$10,000-19,999 98 (22.9) \$20,000-39,999 47 (11.0) \$40,000 or more 24 (5.6)  Employment Status Full-time or Part-time 82 (19.2) Disabled for Work 129 (37.8) Unemployed 190 (44.4) Other (homemaker, student, retired) 27 (6.3) Homeless in last 12 months No 163 (38.1) Yes, not currently 79 (18.4)	Race/Ethnicity	
Black, non-Hispanic 56 (13.0) Other 39 (9.0)  Age group (yrs)  18-24 28 (6.5) 25-34 83 (19.3) 35-44 107 (24.8) 45-54 121 (28.1) ≥55 93 (21.5) Mean Age (SE) 43.7 (0.57)  Education < High School 120 (27.8) High School 132 (30.5)  Health Insurance Private 169 (27.8) Public 27 (6.3) None 235 (54.5)  Annual Income \$ (9.9,999 \$ 258 (60.4) \$ 10,000-19,999 9 8 (22.9) \$ 20,000-39,999 47 (11.0) \$ 40,000 or more 24 (5.6)  Employment Status Full-time or Part-time 82 (19.2) Disabled for Work 129 (37.8) Unemployed 190 (44.4) Other (homemaker, student, retired) 27 (6.3) Homeless in last 12 months No 163 (38.1) Yes, not currently 79 (18.4)	White, non-Hispanic	221 (51.1)
Other       39 (9.0)         Age group (yrs)       18-24       28 (6.5)         25-34       83 (19.3)       35-44       107 (24.8)         45-54       121 (28.1)       ≥55       93 (21.5)         Mean Age (SE)       43.7 (0.57)       Education         < High School	Hispanic	116(26.9)
Age group (yrs)         18-24       28 (6.5)         25-34       83 (19.3)         35-44       107 (24.8)         45-54       121 (28.1)         ≥55       93 (21.5)         Mean Age (SE)       43.7 (0.57)         Education       120 (27.8)         High School requivalent       180 (41.7)         >High School       132 (30.5)         Health Insurance       169 (27.8)         Public       27 (6.3)         None       235 (54.5)         Annual Income       50-9,999       258 (60.4)         \$10,000-19,999       98 (22.9)         \$20,000-39,999       47 (11.0)         \$40,000 or more       24 (5.6)         Employment Status       50 (19.2)         Disabled for Work       129 (37.8)         Unemployed       190 (44.4)         Other (homemaker, student, retired)       27 (6.3)         Homeless in last 12 months       No         No       163 (38.1)         Yes, not currently       79 (18.4)	Black, non-Hispanic	56 (13.0)
18-24 28 (6.5) 25-34 83 (19.3) 35-44 107 (24.8) 45-54 121 (28.1) ≥55 93 (21.5)  Mean Age (SE) 43.7 (0.57)  Education  < High School 120 (27.8)  High School 132 (30.5)  Health Insurance  Private 169 (27.8)  Public 27 (6.3)  None 235 (54.5)  Annual Income  \$0-9,999 258 (60.4) \$10,000-19,999 98 (22.9) \$20,000-39,999 47 (11.0) \$40,000 or more 24 (5.6)  Employment Status  Full-time or Part-time 82 (19.2)  Disabled for Work 129 (37.8) Unemployed 190 (44.4) Other (homemaker, student, retired) 27 (6.3)  Homeless in last 12 months No 163 (38.1) Yes, not currently 79 (18.4)	Other	39 (9.0)
25-34 83 (19.3) 35-44 107 (24.8) 45-54 121 (28.1) ≥55 93 (21.5) Mean Age (SE) 43.7 (0.57)  Education < High School 120 (27.8) High School 132 (30.5)  Health Insurance Private 169 (27.8) Public 27 (6.3) None 235 (54.5)  Annual Income \$0-9,999 258 (60.4) \$10,000-19,999 98 (22.9) \$20,000-39,999 47 (11.0) \$40,000 or more 24 (5.6)  Employment Status Full-time or Part-time 82 (19.2) Disabled for Work 129 (37.8) Unemployed 190 (44.4) Other (homemaker, student, retired) 27 (6.3) Homeless in last 12 months No 163 (38.1) Yes, not currently 79 (18.4)	Age group (yrs)	
35-44 107 (24.8) 45-54 121 (28.1) ≥55 93 (21.5) Mean Age (SE) 43.7 (0.57)  Education  < High School 120 (27.8) High School 120 (27.8) High School 132 (30.5)  Health Insurance Private 169 (27.8) Public 27 (6.3) None 235 (54.5)  Annual Income \$0-9,999 258 (60.4) \$10,000-19,999 98 (22.9) \$20,000-39,999 47 (11.0) \$40,000 or more 24 (5.6)  Employment Status Full-time or Part-time 82 (19.2) Disabled for Work 129 (37.8) Unemployed 190 (44.4) Other (homemaker, student, retired) 27 (6.3)  Homeless in last 12 months No 163 (38.1) Yes, not currently 79 (18.4)	18-24	28 (6.5)
45-54 121 (28.1) ≥55 93 (21.5)  Mean Age (SE) 43.7 (0.57)  Education  < High School 120 (27.8)  High School 132 (30.5)  Health Insurance  Private 169 (27.8)  Public 27 (6.3)  None 235 (54.5)  Annual Income  \$0-9,999 258 (60.4) \$10,000-19,999 98 (22.9) \$20,000-39,999 47 (11.0) \$40,000 or more 24 (5.6)  Employment Status  Full-time or Part-time 82 (19.2)  Disabled for Work 129 (37.8)  Unemployed 190 (44.4)  Other (homemaker, student, retired) 27 (6.3)  Homeless in last 12 months  No 163 (38.1)  Yes, not currently 79 (18.4)	25-34	83 (19.3)
≥55 Mean Age (SE)  ### 43.7 (0.57)    Mean Age (SE)    Mean Age (SE)   43.7 (0.57)   Mean Age (SE)   43.7 (0.57)   Mean Age (SE)   43.7 (0.57)   Mean Age (SE)   120 (27.8)   High School or Equivalent   180 (41.7)   High School   132 (30.5)   Health Insurance   Private   169 (27.8)   Public   27 (6.3)   None   235 (54.5)   Annual Income	35-44	107 (24.8)
Mean Age (SE)       43.7 (0.57)         Education       120 (27.8)         High School or Equivalent       180 (41.7)         >High School       132 (30.5)         Health Insurance       Private         Private       169 (27.8)         Public       27 (6.3)         None       235 (54.5)         Annual Income       \$0-9,999         \$0-9,999       258 (60.4)         \$10,000-19,999       98 (22.9)         \$20,000-39,999       47 (11.0)         \$40,000 or more       24 (5.6)         Employment Status       Full-time or Part-time       82 (19.2)         Disabled for Work       129 (37.8)         Unemployed       190 (44.4)         Other (homemaker, student, retired)       27 (6.3)         Homeless in last 12 months       No         No       163 (38.1)         Yes, not currently       79 (18.4)	45-54	121 (28.1)
Education       120 (27.8)         High School or Equivalent       180 (41.7)         >High School       132 (30.5)         Health Insurance       169 (27.8)         Private       169 (27.8)         Public       27 (6.3)         None       235 (54.5)         Annual Income         \$0-9,999       258 (60.4)         \$10,000-19,999       98 (22.9)         \$20,000-39,999       47 (11.0)         \$40,000 or more       24 (5.6)         Employment Status         Full-time or Part-time       82 (19.2)         Disabled for Work       129 (37.8)         Unemployed       190 (44.4)         Other (homemaker, student, retired)       27 (6.3)         Homeless in last 12 months       No         No       163 (38.1)         Yes, not currently       79 (18.4)	≥55	93 (21.5)
< High School	Mean Age (SE)	43.7 (0.57)
High School or Equivalent  >High School  132 (30.5)  Health Insurance  Private  Private  Public  27 (6.3)  None  235 (54.5)  Annual Income  \$0-9,999  \$10,000-19,999  \$20,000-39,999  \$47 (11.0)  \$40,000 or more  Employment Status  Full-time or Part-time  Disabled for Work  Unemployed  Other (homemaker, student, retired)  Homeless in last 12 months  No  163 (38.1)  Yes, not currently  190 (44.4)  190 (18.4)	Education	
High School or Equivalent  >High School  132 (30.5)  Health Insurance  Private  Private  Public  27 (6.3)  None  235 (54.5)  Annual Income  \$0-9,999  \$10,000-19,999  \$20,000-39,999  \$47 (11.0)  \$40,000 or more  Employment Status  Full-time or Part-time  Disabled for Work  Unemployed  Other (homemaker, student, retired)  Homeless in last 12 months  No  163 (38.1)  Yes, not currently  190 (44.4)  190 (18.4)	< High School	120 (27.8)
Health Insurance         Private       169 (27.8)         Public       27 (6.3)         None       235 (54.5)         Annual Income       \$0-9,999         \$0-9,999       258 (60.4)         \$10,000-19,999       98 (22.9)         \$20,000-39,999       47 (11.0)         \$40,000 or more       24 (5.6)         Employment Status         Full-time or Part-time       82 (19.2)         Disabled for Work       129 (37.8)         Unemployed       190 (44.4)         Other (homemaker, student, retired)       27 (6.3)         Homeless in last 12 months       No         No       163 (38.1)         Yes, not currently       79 (18.4)	High School or Equivalent	
Private       169 (27.8)         Public       27 (6.3)         None       235 (54.5)         Annual Income       \$0-9,999         \$10,000-19,999       258 (60.4)         \$20,000-39,999       47 (11.0)         \$40,000 or more       24 (5.6)         Employment Status         Full-time or Part-time       82 (19.2)         Disabled for Work       129 (37.8)         Unemployed       190 (44.4)         Other (homemaker, student, retired)       27 (6.3)         Homeless in last 12 months       No         No       163 (38.1)         Yes, not currently       79 (18.4)	>High School	132 (30.5)
Public       27 (6.3)         None       235 (54.5)         Annual Income       \$0-9,999         \$10,000-19,999       98 (22.9)         \$20,000-39,999       47 (11.0)         \$40,000 or more       24 (5.6)         Employment Status         Full-time or Part-time       82 (19.2)         Disabled for Work       129 (37.8)         Unemployed       190 (44.4)         Other (homemaker, student, retired)       27 (6.3)         Homeless in last 12 months         No       163 (38.1)         Yes, not currently       79 (18.4)	Health Insurance	
None       235 (54.5)         Annual Income       \$0-9,999         \$10,000-19,999       98 (22.9)         \$20,000-39,999       47 (11.0)         \$40,000 or more       24 (5.6)         Employment Status       Full-time or Part-time         Full-time or Part-time       82 (19.2)         Disabled for Work       129 (37.8)         Unemployed       190 (44.4)         Other (homemaker, student, retired)       27 (6.3)         Homeless in last 12 months       No         No       163 (38.1)         Yes, not currently       79 (18.4)	Private	169 (27.8)
Annual Income         \$0-9,999       258 (60.4)         \$10,000-19,999       98 (22.9)         \$20,000-39,999       47 (11.0)         \$40,000 or more       24 (5.6)         Employment Status         Full-time or Part-time       82 (19.2)         Disabled for Work       129 (37.8)         Unemployed       190 (44.4)         Other (homemaker, student, retired)       27 (6.3)         Homeless in last 12 months       163 (38.1)         Yes, not currently       79 (18.4)	Public	27 (6.3)
\$0-9,999	None	235 (54.5)
\$10,000-19,999 98 (22.9) \$20,000-39,999 47 (11.0) \$40,000 or more 24 (5.6)  Employment Status  Full-time or Part-time 82 (19.2)  Disabled for Work 129 (37.8)  Unemployed 190 (44.4)  Other (homemaker, student, retired) 27 (6.3)  Homeless in last 12 months  No 163 (38.1)  Yes, not currently 79 (18.4)	Annual Income	
\$20,000-39,999	\$0-9,999	258 (60.4)
\$40,000 or more 24 (5.6)  Employment Status  Full-time or Part-time 82 (19.2)  Disabled for Work 129 (37.8)  Unemployed 190 (44.4)  Other (homemaker, student, retired) 27 (6.3)  Homeless in last 12 months  No 163 (38.1)  Yes, not currently 79 (18.4)	\$10,000-19,999	98 (22.9)
Employment Status         Full-time or Part-time       82 (19.2)         Disabled for Work       129 (37.8)         Unemployed       190 (44.4)         Other (homemaker, student, retired)       27 (6.3)         Homeless in last 12 months       163 (38.1)         Yes, not currently       79 (18.4)	\$20,000-39,999	47 (11.0)
Full-time or Part-time  Disabled for Work  Unemployed  Other (homemaker, student, retired)  Homeless in last 12 months  No  163 (38.1)  Yes, not currently  82 (19.2)  129 (37.8)  190 (44.4)  27 (6.3)  163 (38.1)  79 (18.4)	\$40,000 or more	24 (5.6)
Disabled for Work 129 (37.8) Unemployed 190 (44.4) Other (homemaker, student, retired) 27 (6.3)  Homeless in last 12 months No 163 (38.1) Yes, not currently 79 (18.4)	Employment Status	
Unemployed       190 (44.4)         Other (homemaker, student, retired)       27 (6.3)         Homeless in last 12 months       163 (38.1)         No       163 (38.1)         Yes, not currently       79 (18.4)	Full-time or Part-time	82 (19.2)
Other (homemaker, student, retired) 27 (6.3)  Homeless in last 12 months  No 163 (38.1)  Yes, not currently 79 (18.4)	Disabled for Work	129 (37.8)
Homeless in last 12 months  No 163 (38.1)  Yes, not currently 79 (18.4)	Unemployed	190 (44.4)
No 163 (38.1) Yes, not currently 79 (18.4)	Other (homemaker, student, retired)	27 (6.3)
Yes, not currently 79 (18.4)	Homeless in last 12 months	
Yes, not currently 79 (18.4)	No	163 (38.1)
Yes, currently 186 (43.5)	Yes, not currently	
	Yes, currently	186 (43.5)

Note: Categories may not add up to total due to missing data for individual variables, percentages do not reflect missing data.

# **Drug Using Behaviors**

**Table 16** shows the drug using and HIV testing behaviors of the 2009 IDU cycle participants. Most participants reported using injection drugs for more than 25 years (42%). Eighty percent of participants reported injecting with a used needle at least once

in the past 12 months and 40 percent shared needles at least once in the past 12 months. The majority of participants reported never attending drug or alcohol treatment (59%).

# **HIV Testing Behaviors**

The majority of participants had an HIV test in the past (88%) with 70 percent of those who were positive being aware of their positivity. Seventy-five percent had a healthcare visit during the past 12 months and of those, 41 percent were offered an HIV test.

Table 16: Prevalence of Various HIV Surveillance Behaviors of Participants in the Second Cycle of IDU in 2009, National HIV Behavioral Surveillance Study – Denver (N=432)

Behavior	N (%)	Total
Drug Use Behavior		
Number of Years Injecting		428
0-5	69 (16.1)	
6-15	90 (21.0)	
16-25	91 (21.3)	
≥26	178 (41.6)	
Has injected with a used needle at least once in the last 12 months	342 (79.9)	428
Has participated in sharing needles at least once in the last 12 months	171 (40.0)	428
Received needles from a drug dealer in the last 12 months	80 (18.7)	428
Received needles from a needle exchange in the last 12 months	66 (15.4)	428
Has been to drug or alcohol treatment in the last 12 months	176 (41.1)	428
HIV Testing Behavior		
Ever Tested for HIV	376 (87.6)	429
Aware of their positivity	14 (3.3)	429
NHBS HIV seroprevalence	20 (4.7)	429
Visited a healthcare professional in last 12 months	325 (75.2)	432
HIV test offered at healthcare visit	133 (40.9)	325

Note: Categories may not add up to total due to missing data for individual variables.

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