HIV & AIDS in Colorado

HIV/AIDS Epidemiology Annual Report
For cases diagnosed through December 2013

Colorado Department of Public Health and Environment
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Table of Contents

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Acronym List

ADAP	AIDS Drug Assistance Program
AIDS	Acquired Immune Deficiency Syndrome
ARVDR	Antiretroviral Drug Resistance
BMSA	Boulder Metropolitan Statistical Area
CARE Act	Comprehensive AIDS Resources Emergency Act
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	Enhanced HIV and AIDS Reporting System
EIA	Enzyme Immunoassay
GED	General Education Development
HCV	Hepatitis C Virus
HET	Heterosexual
HIS	HIV Incidence Surveillance
HIV	Human Immunodeficiency Virus
HRA	High Risk Area
IDU	Injection Drug Use or Injection Drug User
MAI	Minority AIDS Initiative
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
NNRTI	Non-Nucleoside Reverse Transcriptase Inhibitor
NRTI	Nucleoside Reverse Transcriptase Inhibitor
PLWH	Persons Living with HIV
PLWHA	Persons Living with HIV/AIDS
SPNS	Special Projects of National Significance
STARHS	Serologic Testing Algorithm for Recent HIV Seroconversion
STI	Sexually Transmitted Infection
TTH	HIV Testing and Treatment History

Executive Summary

Through 2013, 10,618 cases of AIDS and 7,215 cases of HIV infection have been diagnosed and reported in Colorado. Significant decreases in AIDS incidence have been observed both in the United States and in Colorado since the introduction and use of new anti-HIV drug therapies in 1996. Overall the number of reported cases of AIDS each year in Colorado has continued to decrease since a peak of 704 reported cases in 1993.

Antiretroviral treatment has reduced both mortality and morbidity among persons with HIV infections. AIDS-related mortality has decreased by 39.4 percent from 2009 to 2013 while the prevalence of PLWHA has increased steadily. By December 2013, 12,635 persons were known to be living with HIV or AIDS in Colorado.

Acquisition of HIV disease in Colorado is still overwhelmingly driven by sexual exposure, primarily among men who have sex with men. MSM continues to be the most significant risk group and accounted for 74.6 percent of adult male HIV cases diagnosed in 2013. Among females, heterosexual transmission represent 56.8 percent of newly diagnosed adult HIV cases.

Diagnosed cases of HIV/AIDS remained geographically centered in the Front Range and urban population centers of Colorado. Although the number of women living with HIV in Colorado has been increasing, 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 antiretroviral drugs during and after pregnancy, labor and delivery.

Data Sources

Colorado 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, all HIV viral loads, and CD4+ counts of less than 500 mm^3 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 the CDPHE STI/HIV Surveillance

Program and are entered into eHARS, the CDC sponsored database that is used to enumerate HIV and AIDS cases in Colorado. AIDS cases in this report meet the 1993 U.S. Centers for Disease Control and Prevention surveillance case definition for AIDS, which includes HIV-infected persons with CD4+ counts of less than 200 mm^3 or those diagnosed with one of 21 opportunistic infections definitive of AIDS.

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 or AIDS when possible. Otherwise, population characteristics came from the U.S. Census Bureau.

The Vital Statistics Branch of CDPHE has provided cause of death data obtained from death certificates filed with the department through 2013.

The CDOC has provided data on the demographic characteristics of the prison population.

The U.S. Census Bureau provided a variety of demographic and socioeconomic 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 state statute. In 1987, CDPHE initiated an active system of surveillance for HIV and AIDS in order to accurately characterize the epidemic in Colorado. The CDPHE also collects local variables, such as incarceration or positive hepatitis C virus 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 some persons, this progression may be relatively rapid (less than 2 years) but it usually occurs over a five to ten 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 highly active antiretroviral therapies have further altered the natural history of HIV and delayed progression to AIDS, making AIDS data less useful each year for planning purposes. Data is available for persons recently diagnosed with HIV (which does not mean newly infected). However, the

usefulness of this data may be limited because it only includes persons who elected to be tested for HIV. Prevention strategies initiated in Colorado to test, diagnose and treat targeted population groups at risk for HIV infection can find more people who may not know they are infected with HIV and provide them with ongoing care services to reduce transmission of HIV.

Finally, data about risk are less complete for newly diagnosed HIV-infected persons 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 their health 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. Changes in address are reported through passive surveillance. Consequently, it is difficult to measure the impact of migration in or out of any county or Colorado as a whole.

When appropriate, changes in disease trends over time are calculated using 95 percent confidence intervals. Statistical significance is noted when the calculated disease rate from one time period to the next fall outside the limits set by the confidence intervals.

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

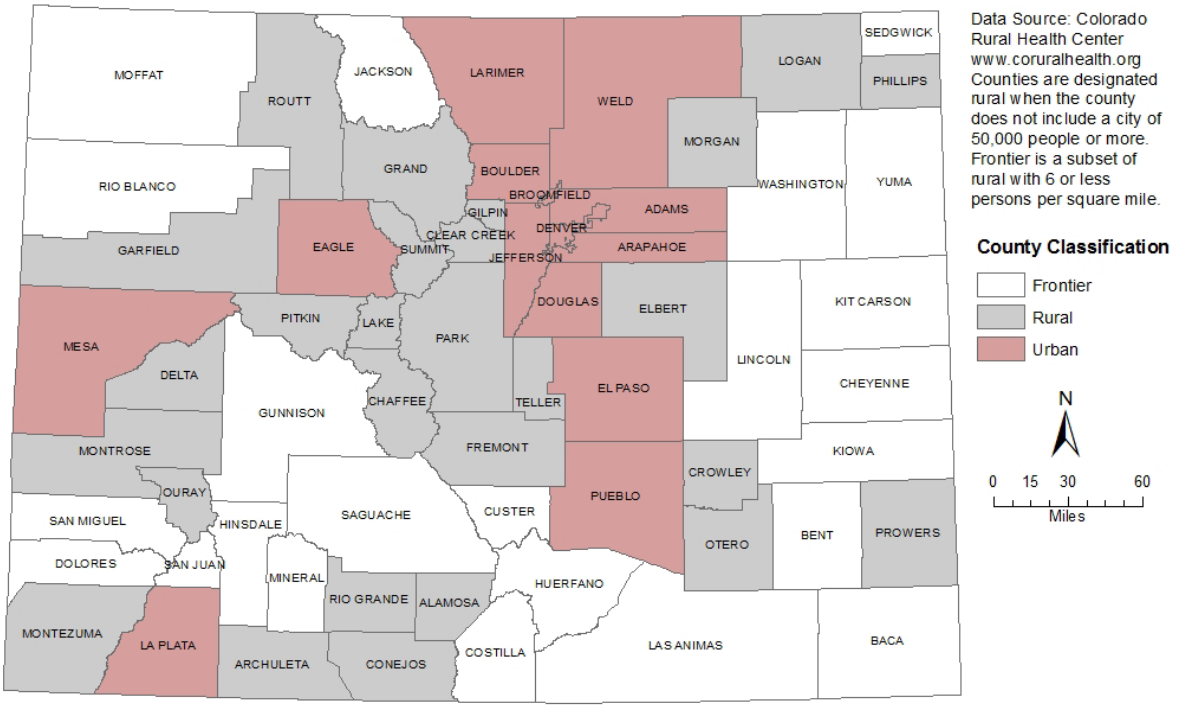
List of Tables and Figures

Description of Colorado

Summary

- The majority of Colorado's population resided in 12 counties.
- As of December 2013, Colorado's population was estimated to be 5,268,367 with an approximately equal distribution between men and women.
- Sixty-five percent of Coloradans were between the ages of 18 and 65.
- Colorado's population was 69.4 percent White, 21.0 percent Hispanic and 3.9 percent Black. Asian/Pacific Islander, American Indian, multiple races, and other races comprise the remaining 5.7 percent.
- Colorado ranked 15th in the nation's poverty level rating in 2013.
- In 2013, Douglas County had the lowest percent of persons living in poverty (3.9%), while Crowley County had the highest percent of persons living in poverty (29.1%).
- Colorado's unemployment was 6.5 percent in 2013 compared to 7.7 percent in 2012.
- Colorado's percent of nonelderly uninsured persons was lower (14%) than reported nationally (15%) in 2013.
- In 2013, cancer was the leading cause of death in Colorado.
- The number of incarcerated persons in Colorado decreased from 22,009 in 2012 to 20,551 in 2013.

Figure 1: Map of Colorado by County Classification



Source: Colorado Rural Health Center[1]

Geography

Colorado is a geographically rural state. It is made up of 64 counties and has a landmass of 104,095 square miles. The majority of Colorado's population resided in 12 counties designated as urban by the U.S. Census Bureau. Urban counties include: Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, El Paso, Jefferson, Larimer, Mesa, Pueblo and Weld. A county is designated rural when the county does not include a micro- or metropolitan area of 50,000 people or more. Counties classified as frontier, a subset of rural, have six or fewer persons per square mile. All three classifications and their counties are pictured in **Figure 1** above.

Population

The 2013 Census estimation produced a population of 5,268,367 for Colorado. The state ranks 22nd in the nation in population, accounting for approximately 1.64 percent of the U.S. population.[2]

Age

The median age in Colorado was 36 years old in 2013. Of the state's population, 64.6 percent was between the ages of 18 and 65. The elderly population (over 65) continued to increase slightly over the last few years starting with 9.8 percent in 2009 and was 12.3 percent in 2013.[3] **Table 1** illustrates the distribution of the population by age and gender.

Table 1: 2013 Colorado Population by Age and Sex

	Male			Female			Total	
Age Group	Number	Row %	Column %	Number	Row %	Column %	Number	Column %
<10	354,269	51.3	13.4	336,350	48.7	12.8	690,619	13.1
10-14	177,801	51.1	6.7	170,450	48.9	6.5	348,251	6.6
15-19	175,756	51.8	6.6	163,751	48.2	6.2	339,507	6.4
20-24	195,885	52.3	7.4	178,961	47.7	6.8	374,846	7.1
25-29	204,111	52.1	7.7	187,341	47.9	7.1	391,452	7.4
30-34	200,185	51.6	7.6	188,049	48.4	7.2	388,234	7.4
35-39	181,134	51.4	6.8	170,993	48.6	6.5	352,127	6.7
40-44	185,982	51.3	7.0	176,682	48.7	6.7	362,664	6.9
45-49	172,889	50.3	6.5	170,734	49.7	6.5	343,623	6.5
50-54	184,540	49.4	7.0	188,952	50.6	7.2	373,492	7.1
55-59	173,726	49.1	6.6	180,114	50.9	6.9	353,840	6.7
60-64	147,535	48.8	5.6	154,786	51.2	5.9	302,321	5.7
≥65	292,633	45.2	11.1	354,758	54.8	13.5	647,391	12.3
Total	2,646,446	50.2	100.0	2,621,921	49.8	100.0	5,268,367	100.0

Source: U.S. Census Bureau, 2013 Colorado Sex by Age[3]

Race/Ethnicity

Statewide, 69.4 percent of population classified themselves as Non-Hispanic White, 21.0 percent as Hispanic, 3.9 percent as Black, 3.0 as Asian/Pacific Islander, and 2.1 percent classified themselves as Multiple race. The following tables show the racial breakdowns in Colorado by gender (**Table 2**) and county (**Table 3**). It should be noted that some of the subsequent tables may have slightly different denominators.

Table 2: 2013 Colorado Population by Race and Sex

	Male			Female			Total	
Race	Number	Row %	Column %	Number	Row %	Column %	Number	Column %
White, Non-Hispanic	1,827,574	50.0	69.1	1,826,398	50.0	69.7	3,653,972	69.4
Hispanic, all races	566,580	51.1	21.4	541,848	48.9	20.7	1,108,428	21.0
Black, Non-Hispanic	108,771	53.3	4.1	95,426	46.7	3.6	204,197	3.9
Asian/Hawaiian/ Pacific Islander, Non-Hispanic	72,212	45.6	2.7	86,226	54.4	3.3	158,438	3.0
American Indian/ Alaskan Native, Non-Hispanic	17,136	50.7	0.6	16,694	49.3	0.6	33,830	0.6
Two or More Races, Non-Hispanic	54,173	49.5	2.0	55,329	50.5	2.1	109,502	2.1
Total	2,646,446	50.2	100.0	2,621,921	49.8	100.0	5,268,367	100.0

Source: U.S. Census Bureau, 2013 Colorado Counties by Age, Gender and Race/Ethnicity[4]

Table 3: 2013 Colorado Counties Percent of the Population by Race/Ethnicity

County	White, Non-Hispanic	Hispanic, all races	Black, Non-Hispanic	Asian/PI, Non-Hispanic	Amer. Indian/ AK Native, Non-Hispanic	Multiple Races, Non-Hispanic	Total Population
Adams	52.4	38.6	2.8	3.8	0.6	1.8	469,193
Alamosa	49.6	45.4	1.1	1.0	1.2	1.6	16,253
Arapahoe	62.7	18.6	9.9	5.5	0.4	2.9	607,070
Archuleta	77.5	18.2	0.3	0.8	1.5	1.8	12,194
Baca	86.5	9.9	0.8	0.3	1.1	1.5	3,682
Bent	59.1	31.1	6.6	1.0	1.5	0.8	5,688
Boulder	78.6	13.7	0.9	4.4	0.4	2.0	310,048
Broomfield	77.7	12.6	1.3	5.8	0.5	2.0	59,471
Chaffee	85.4	10.3	1.6	0.8	0.9	1.1	18,510
Cheyenne	85.0	12.2	0.6	0.6	0.9	0.8	1,890
Clear Creek	91.1	5.1	0.8	0.8	0.8	1.3	9,031
Conejos	43.6	53.9	0.2	0.5	0.8	1.0	8,277
Costilla	32.0	64.6	0.4	1.1	1.0	0.9	3,518
Crowley	57.1	29.6	9.1	1.3	1.6	1.3	5,322
Custer	91.3	5.2	1.1	0.5	0.7	1.3	4,285
Delta	82.1	14.6	0.6	0.8	0.6	1.3	30,483
Denver	53.4	30.9	9.3	3.6	0.6	2.2	649,495
Dolores	89.6	4.1	0.3	0.4	3.1	2.5	2,029
Douglas	84.3	8.1	1.2	4.0	0.3	2.0	305,963
Eagle	67.4	29.8	0.6	1.1	0.3	0.8	52,460
El Paso	70.8	15.9	6.0	3.1	0.6	3.5	655,044
Elbert	90.0	6.3	0.6	1.0	0.5	1.5	23,733
Fremont	79.7	12.8	3.9	0.6	1.5	1.4	46,451
Garfield	68.8	28.2	0.6	0.7	0.5	1.2	57,302
Gilpin	88.8	6.1	1.1	1.7	0.8	1.6	5,601
Grand	89.0	7.9	0.4	0.9	0.4	1.4	14,289
Gunnison	87.9	9.1	0.4	0.7	0.7	1.3	15,507
Hinsdale	92.5	3.9	0.5	0.5	0.7	1.8	813
Huerfano	61.4	34.7	0.5	0.9	1.0	1.6	6,519
Jackson	86.4	11.4	0.1	0.1	1.0	1.1	1,365
Jefferson	79.1	15.0	1.0	2.7	0.5	1.6	551,798
Kiowa	92.0	6.0	0.5	0.1	0.5	0.9	1,423
Kit Carson	76.6	18.8	2.2	0.8	0.6	0.9	8,037
Lake	79.6	12.5	0.4	0.7	5.0	1.7	7,306
La Plata	58.7	38.4	0.5	0.6	0.8	1.0	53,284
Larimer	83.8	10.9	0.9	2.1	0.4	1.8	315,988
Las Animas	53.0	42.3	1.4	0.9	1.3	1.0	14,446
Lincoln	79.3	12.8	5.2	0.9	0.7	1.2	5,430
Logan	77.4	16.0	4.0	0.7	0.9	1.0	22,450
Mesa	82.4	13.8	0.7	0.9	0.6	1.6	147,554

County	White, Non-Hispanic	Hispanic, all races	Black, Non-Hispanic	Asian/PI, Non-Hispanic	Amer. Indian/ AK Native, Non-Hispanic	Multiple Races, Non-Hispanic	Total Population
Mineral	93.9	3.6	0.3	0.4	0.8	1.0	721
Moffat	82.6	14.1	0.4	0.7	0.7	1.4	13,103
Montezuma	73.9	11.9	0.3	0.6	11.3	2.0	25,642
Montrose	76.6	20.4	0.4	0.7	0.6	1.3	40,713
Morgan	60.5	35.0	2.6	0.6	0.4	0.9	28,404
Otero	55.1	41.5	0.7	0.8	0.7	1.2	18,703
Ouray	92.5	4.9	0.2	0.7	0.3	1.3	4,557
Park	90.5	5.7	0.5	0.7	0.8	1.9	16,121
Phillips	77.3	20.0	0.7	0.7	0.3	0.9	4,356
Pitkin	86.5	9.8	0.7	1.5	0.2	1.2	17,379
Prowers	61.2	36.3	0.6	0.4	0.6	0.9	12,291
Pueblo	53.1	42.3	1.8	0.9	0.7	1.3	161,451
Rio Blanco	83.7	11.9	0.9	0.5	1.1	1.9	6,807
Rio Grande	53.1	44.2	0.3	0.4	0.9	1.0	11,803
Routt	90.3	7.0	0.5	0.8	0.3	1.1	23,513
Saguache	57.2	38.5	0.4	1.0	1.2	1.7	6,208
San Juan	81.5	15.6	0.0	0.7	0.7	1.4	692
San Miguel	87.4	9.4	0.3	1.0	0.5	1.4	7,678
Sedgwick	82.5	14.4	0.4	0.8	0.4	1.4	2,360
Summit	82.6	14.4	0.8	1.0	0.3	1.0	28,649
Teller	89.8	6.1	0.6	0.9	0.7	1.9	23,275
Washington	88.0	9.6	0.7	0.3	0.2	1.1	4,803
Weld	67.3	28.4	1.0	1.4	0.6	1.4	269,785
Yuma	76.9	21.6	0.2	0.3	0.4	0.6	10,151

Source: U.S. Census Bureau, 2013 Colorado Counties by Age, Gender and Race/Ethnicity[4]

Poverty and Income

In 2013, the U.S. American Community Survey (ACS) estimated Colorado's median household income to be $58,433 (±$314) using a 5-year estimate.[5] The ACS estimated the percent of Coloradans living below the poverty level to be 13.2 percent in 2013[6] which was up from 2012 at 12.9 percent. **Table 4** shows the percent of the population below poverty level per county in 2013. Douglas County had the lowest percentage of people living in poverty (3.9%) while Crowley County had the highest percentage of people in poverty (29.1%). The county whose percent below poverty had decreased the most was Jackson County with 12.4 percent of people below the poverty level in 2012.

Table 4: Percentage of the Population Under the Poverty Level by County, 2013

County	Percentage Under Poverty Level	County	Percentage Under Poverty Level	County	Percentage Under Poverty Level
Colorado	13.2	Elbert	6.5	Montezuma	19.3
		El Paso	12.4	Montrose	16.0
Adams	14.2	Fremont	17.6	Morgan	13.3
Alamosa	26.5	Garfield	11.9	Otero	25.2
Arapahoe	12.1	Gilpin	10.8	Ouray	5.6
Archuleta	9.7	Grand	11.1	Park	9.1
Baca	15.2	Gunnison	17.7	Phillips	19.9
Bent	19.1	Hinsdale	5.1	Pitkin	10.1
Boulder	14.2	Huerfano	20.6	Prowers	23.3
Broomfield	7.1	Jackson	8.9	Pueblo	19.1
Chaffee	8.0	Jefferson	8.6	Rio Blanco	14.9
Cheyenne	7.2	Kiowa	17.4	Rio Grande	19.2
Clear Creek	10.2	Kit Carson	13.8	Routt	9.1
Conejos	19.4	Lake	14.3	Saguache	24.7
Costilla	22.2	La Plata	11.4	San Juan	17.1
Crowley	29.1	Larimer	14.1	San Miguel	10.6
Custer	14.6	Las Animas	17.8	Sedgwick	18.9
Delta	15.5	Lincoln	13.7	Summit	13.7
Denver	19.1	Logan	17.6	Teller	7.0
Dolores	14.9	Mesa	14.7	Washington	13.1
Douglas	3.9	Mineral	6.4	Weld	14.7
Eagle	10.9	Moffat	11.5	Yuma	8.2

Source: U.S. Census Bureau, 2013 ACS 5 yr Tables, Poverty Status by County[6]

Employment

There were an estimated 180,461 persons who were unemployed in 2013, a rate of 6.5 percent, according to the Colorado Department of Labor. This rate is 15.6 percent lower than 2012 when 210,703 persons were unemployed at a rate of 7.7 percent.[7]

Insurance

According to the Kaiser Family Foundation, 14 percent of Colorado's population was uninsured in 2013. This was lower than the U.S. estimate of 15 percent in 2013 and ranked the state at 24th for uninsured nonelderly in the nation.[8] **Table 5** shows that the percentage of Colorado's population not covered by health insurance was much greater among Hispanics (22%) and Blacks (22%) than among Whites (12%).

Table 5: Percentage of the Non-Elderly Adults without Health Insurance Coverage by Race and Ethnicity, Colorado and United States, 2013

Race/Ethnicity	Colorado	United States
White, Non-Hispanic	12%	12%
Black, Non-Hispanic	22%	17%
Hispanic, all races	22%	26%
Other	N/A	15%
Total	14%	15%

N/A: Estimates with denominators under 100 or with relative standard errors greater than 30% are not provided.
Source: Henry J. Kaiser Family Foundation State Health Facts[8]

Education

According to the Colorado Department of Education, in 2013 there was a combined public and non-public school enrollment of 876,999 persons in Colorado. School enrollment was comprised of 55.0 percent White, 32.8 percent Hispanic, 4.7 percent Black, 3.3 percent Asian/Pacific Islander, 3.5 percent Multiple races and 0.7 percent American Indian.[9] The overall dropout rate in Colorado during the 2012-2013 school year was 2.5 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 and the Greeley 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 (MSA), 2013

	Men			Women			Total		
Area	No HS Diploma/GED	HS Grad/ Equivalent	Higher Degree	No HS Diploma/GED	HS Grad/ Equivalent	Higher Degree	No HS Diploma/GED	HS Grad/ Equivalent	Higher Degree
Boulder MSA	6.4	29.0	64.6	5.8	31.0	63.2	6.1	30.0	63.9
Colorado Springs MSA	6.2	47.2	46.6	6.6	48.3	45.2	6.4	47.7	45.9
Denver-Aurora-Broomfield MSA	10.8	42.3	46.9	9.9	43.5	46.6	10.4	42.9	46.7
Fort Collins-Loveland MSA	6.2	41.6	52.2	5.0	42.1	53.0	5.6	41.8	52.6
Grand Junction MSA	11.0	56.0	33.0	9.7	54.5	35.8	10.4	55.2	34.4
Greeley MSA	15.6	51.6	32.8	13.2	50.1	36.7	14.4	50.9	34.8
Pueblo MSA	13.9	56.3	29.8	12.0	53.4	34.5	12.9	54.8	32.3
Colorado	10.4	44.9	44.7	9.2	45.0	45.7	9.8	45.0	45.2
United States	14.7	49.3	36.0	13.3	49.4	37.3	14.0	49.4	36.7

Source: U.S. Census Bureau, 2013 Census ACS 5 yr Estimate Data Tables, Education Attainment by Metropolitan Statistical Areas[10]

Incarcerated Persons

According to data from the Colorado Department of Corrections, 20,551 persons were incarcerated in 2013; this was a decrease from 2012 when 22,009 persons were incarcerated. Twenty state correctional facilities housed 13,630 inmates, and the remaining 6,921 inmates were housed in contract facilities or county jails. Seven CDOC facilities were located in Fremont County. Colorado's incarcerated population was 91 percent male and 9 percent female. Racial characteristics of the inmate population were as follows: 45 percent White, 33 percent Hispanic, 19 percent Black, 4 percent Other.[11]

Epidemiological Trends in HIV and AIDS in Colorado

Summary

- By the end of 2013, an estimated 12,635 Colorado residents were living with HIV disease.
- Of the total number of people diagnosed with AIDS through 2013, 58.8 percent were White, 22.2 percent were Hispanic and 16.4 percent were Black.
- Blacks continued to be disproportionately affected by HIV disease and represented 15.5 percent of PLWHA (prevalent cases of HIV and AIDS) while comprising only 3.9 percent of Colorado's population.
- The 25-29 year old age group accounted for the largest proportion of newly diagnosed HIV cases (18.6%) in 2013.
- Ninety-seven percent of newly diagnosed HIV disease cases were reported in urban counties in 2013.
- There have been 6,079 HIV/AIDS-related deaths reported in Colorado from the early 1980's through the end of 2013.

HIV Disease in Colorado

A cumulative total of 11,300 cases of AIDS and 7,565 cases of HIV infection have been reported in Colorado, and an estimated 12,635 persons were living with HIV disease through the end of 2013. Colorado's HIV (not AIDS) prevalence of 129 persons per 100,000 population was lower than the U.S. prevalence of 292 in 2012. Colorado's 2012 AIDS prevalence was 106 persons per 100,000 population compared to the U.S. prevalence of 162 during the same year. In 2013, Colorado ranked 23rd in total cumulative AIDS cases reported among all states and represented 0.90 percent of all reported AIDS cases in 2012.

Table 7 compares the racial characteristics of Colorado and U.S. AIDS cases through 2012. The majority of Colorado AIDS cases were White (58.8%), compared to the U.S. (31.6%). Blacks represented a lower percent of PLWA in Colorado, compared to the U.S. (16.4% to 42.0%, respectively), whereas Hispanics represented a higher percent of AIDS cases in Colorado (22.2%), compared to the U.S. (21.4%).

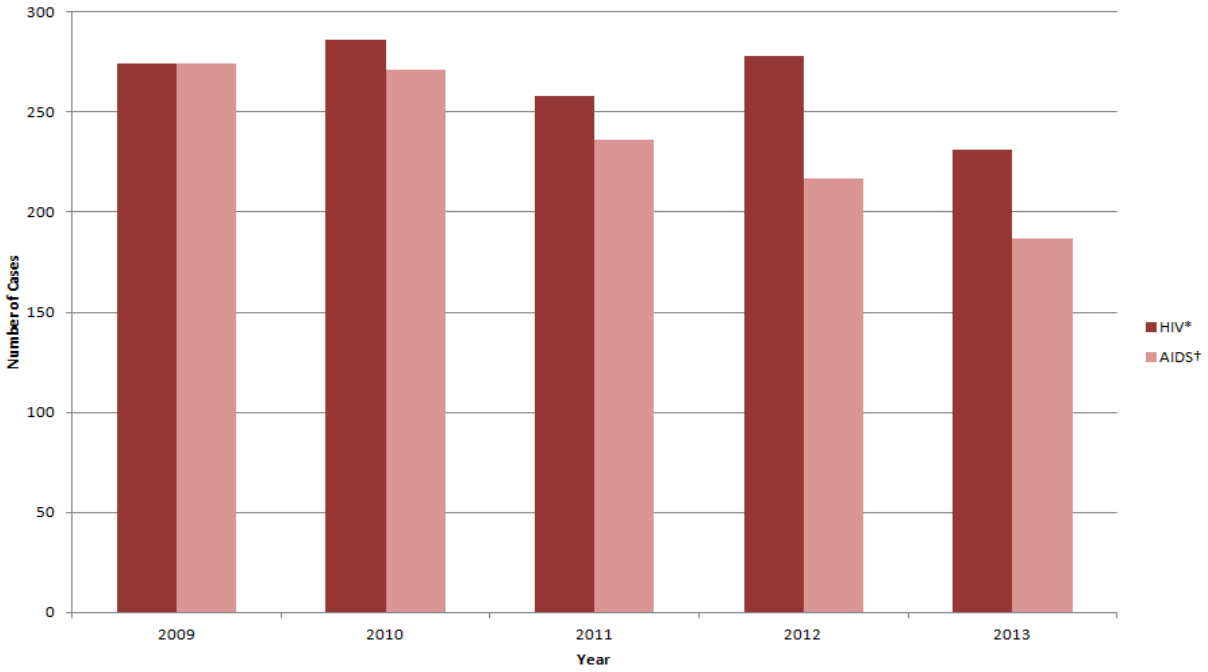
Table 7: Adults/Adolescents Living with AIDS by Race, Colorado 2013 and United States 2012

	Colorado		United States*	
Race	Number	Percent	Number	Percent
White, Non-Hispanic	3,371	58.8	159,803	31.6
Hispanic, all races	1,273	22.2	108,219	21.4
Black, Non-Hispanic	942	16.4	212,296	42.0
Asian/PI, Non-Hispanic	57	1.0	6,217	1.2
American Indian/Alaskan Native, Non-Hispanic	49	0.9	1,536	0.3
Multiple Race, Non-Hispanic	42	0.7	17,897	3.5
Total	5,734	100.0	505,968	100.0

*Source: CDC HIV/AIDS Surveillance Report, Adults and adolescents living with diagnosed HIV infection ever classified as stage 3 (AIDS), by race/ethnicity and area of residence, year-end 2012 - United States and 6 dependent areas, U.S. subtotal, Vol. 25, Table 21[12]

Figure 2 illustrates reported cases of HIV and AIDS between 2009 and 2013. Newly diagnosed cases of HIV that did not progress to AIDS in the same year have decreased slightly, from 274 cases in 2009 to 231 cases in 2013. Similar to HIV, there has been a decrease in the number of newly diagnosed AIDS cases from 2009 to 2013 (274 to 187).

Figure 2: Colorado HIV and AIDS by Year of Diagnosis (2009-2013)



*Excludes those with an AIDS diagonosis in the same year
†AIDS diagnosis regardless of time since HIV diagnosis, HIV infection case may be counted in a previous displayed year

Figure 3 demonstrates the annual number of deaths among HIV and AIDS cases in Colorado. Deaths among AIDS cases have declined between 2009 and 2013, during which a 39.4 percent decrease in deaths was observed.

Figure 3: Annual Deaths among Persons Diagnosed with HIV and AIDS - Colorado (2009-2013)

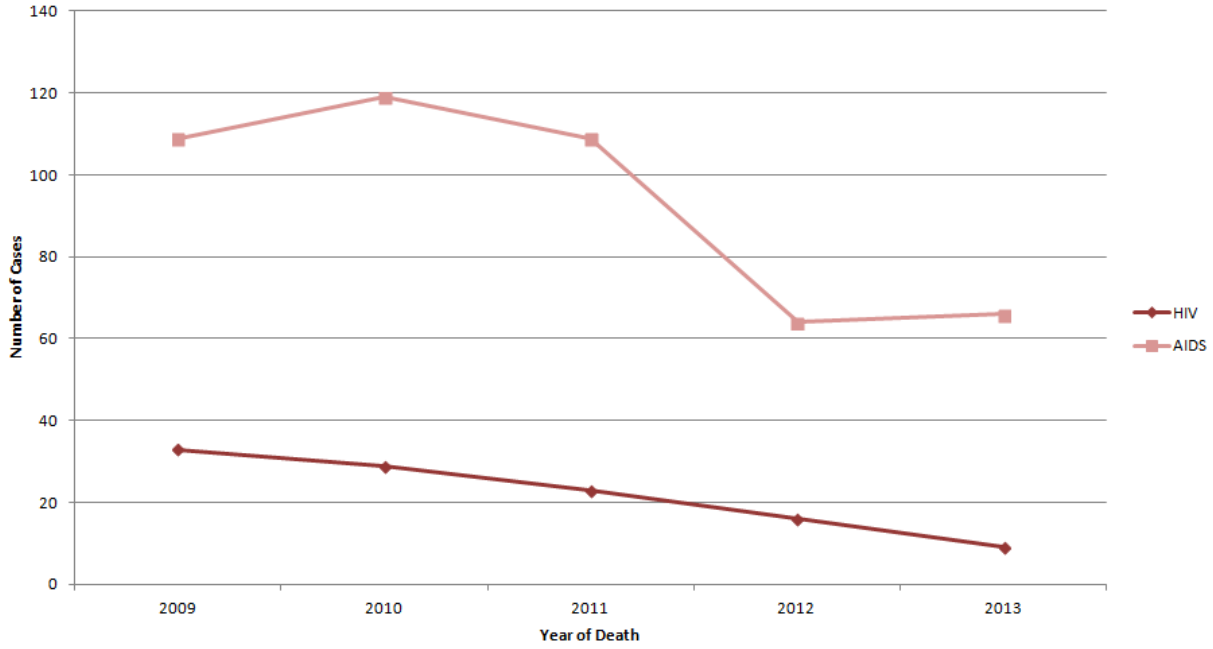
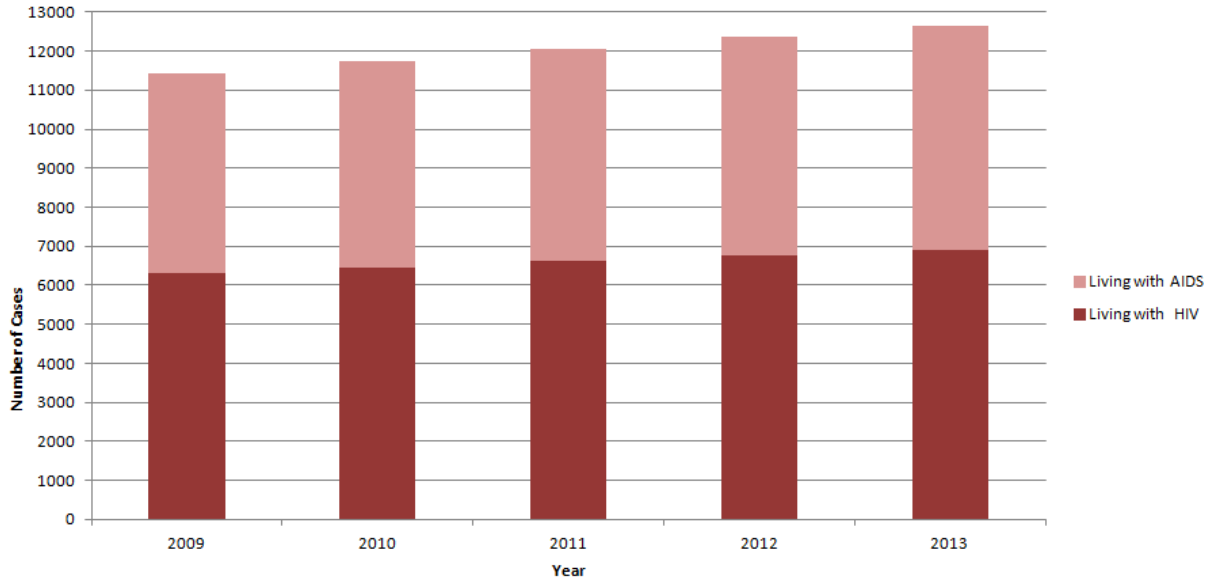


Figure 4 shows an increase in the number of PLWHA in Colorado during the last five years. By the end of 2013, there was an estimated 12,635 PLWHA in Colorado, an increase of 2.1 percent from 12,373 in 2012.

Figure 4: Annual Number of Diagnosed Persons Living with HIV and AIDS - Colorado (2009-2013)



Tables 8a and **8b** illustrate the demographic characteristics of PLWHA. Males represented the majority (88.1%) of PLWHA. Whites constituted the largest racial group living with HIV disease, representing 62.7 percent of cases. Blacks continued to be disproportionately impacted by the epidemic. Although the percentage of Coloradans who identify as Black was 3.9 percent, Blacks represented 15.5 percent of PLWHA. Men who have sex with men was the predominant risk group, representing 64.3 percent of PLWHA. The majority (95.0%) of PLWHA lived in the urban areas of Colorado.

Table 8a: Characteristics of PLW HIV and AIDS in Colorado Through 12/31/13

	Living with HIV			Living with AIDS			Living with HIV/AIDS	
	Number	Row %	Column %	Number	Row %	Column %	Number	Column %
Total	6,901	54.6	100	5,734	45.4	100	12,635	100
Gender								
Male	6,072	54.5	88.0	5,063	45.5	88.3	11,135	88.1
Female	829	55.3	12.0	671	44.7	11.7	1,500	11.9
Race								
White	4,552	57.5	66.0	3,371	42.5	58.8	7,923	62.7
Hispanic	1123	46.9	16.3	1,273	53.1	22.2	2,396	19.0
Black	1014	51.8	14.7	942	48.2	16.4	1,956	15.5
Asian	70	57.4	1.0	52	42.6	0.9	122	1.0
Pacific Islander	9	64.3	0.1	5	35.7	0.1	14	0.1
American Indian	43	46.7	0.6	49	53.3	0.9	92	0.7
Multiple Races	33	44.0	0.5	42	56.0	0.7	75	0.6
Unknown	57	100.0	0.8	0	0.0	0.0	57	0.5
Risk								
MSM	4,540	55.8	65.8	3,590	44.2	62.6	8,130	64.3
IDU	412	46.8	6.0	469	53.2	8.2	881	7.0
MSM/IDU	529	50.3	7.7	523	49.7	9.1	1052	8.3
Heterosexual Contact	649	49.2	9.4	671	50.8	11.7	1,320	10.4
No Identified Risk	692	61.9	10.0	426	38.1	7.4	1,118	8.8
Pediatric	69	72.6	1.0	26	27.4	0.5	95	0.8
Transfusion/Hemophilia	10	25.6	0.1	29	74.4	0.5	39	0.3
Region								
Urban	6,614	55.1	95.8	5,385	44.9	93.9	11,999	95.0
Rural	230	43.6	3.3	298	56.4	5.2	528	4.2
Frontier	45	47.9	0.7	49	52.1	0.9	94	0.7
Unknown	12	85.7	0.2	2	14.3	0.0	14	0.1

Table 8b: Age Characteristics of PLW HIV and AIDS in Colorado Through 12/31/13

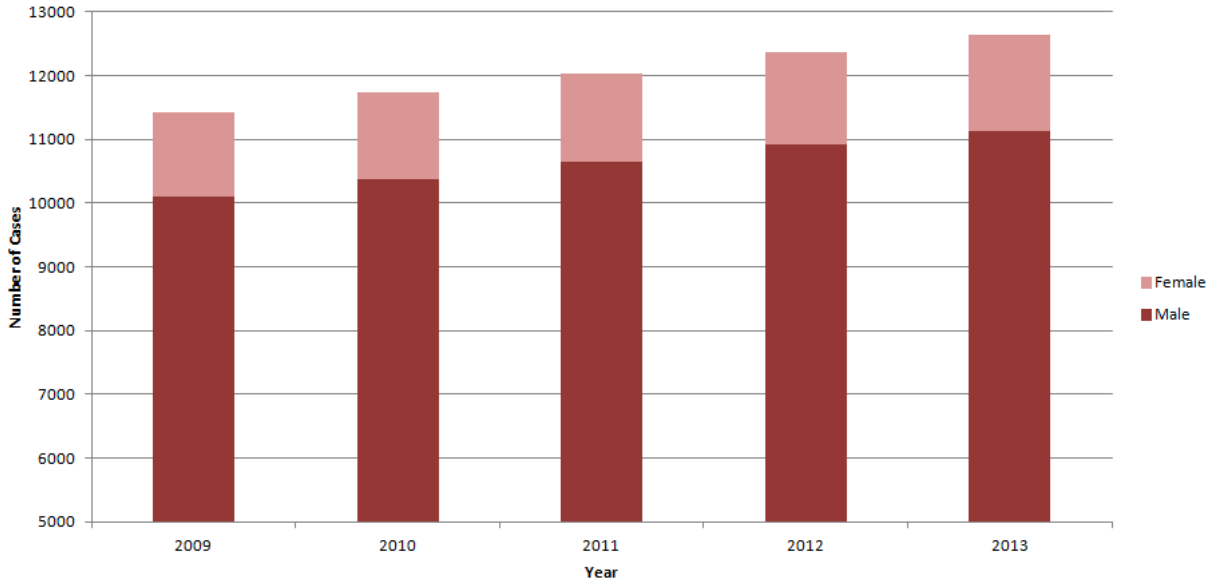
	Living with HIV			Living with AIDS			Living with HIV/AIDS	
	Number	Row %	Column %	Number	Row %	Column %	Number	Column %
Total	6,436	54.6	100.0	5,107	45.4	100.0	11,543	100.0
Current Age Group								
<5	5	100.0	0.1	0	0.0	0.0	5	0.0
5-9	23	92.9	0.4	2	7.1	0.0	25	0.2
10-12	6	100.0	0.1	0	0.0	0.0	6	0.1
13-14	1	100.0	0.0	1	0.0	0.0	2	0.0
15-19	19	79.2	0.3	5	20.8	0.1	24	0.2
20-24	167	79.0	2.6	36	21.0	0.7	203	1.8
25-29	320	70.9	5.0	146	29.1	2.9	466	4.0
30-34	508	63.9	7.9	275	36.1	5.4	783	6.8
35-39	506	55.6	7.9	413	44.4	8.1	919	8.0
40-44	714	48.7	11.1	742	51.3	14.5	1,456	12.6
45-49	1,092	48.2	17.0	1,051	51.8	20.6	2,143	18.6
50-54	1,182	51.1	18.4	1,001	48.9	19.6	2,183	18.9
55-59	915	55.8	14.2	683	44.2	13.4	1,598	13.8
60-64	561	55.9	8.7	446	44.1	8.7	1,007	8.7
>65	417	56.2	6.5	306	43.8	6.0	723	6.3
Age Group at HIV Diagnosis								
<5	38	74.6	0.6	7	25.4	0.1	45	0.4
5-9	15	71.4	0.2	7	28.6	0.1	22	0.2
10-12	2	40.0	0.0	5	60.0	0.1	7	0.1
13-14	3	57.1	0.0	3	42.9	0.1	6	0.1
15-19	164	55.3	2.5	110	44.7	2.2	274	2.4
20-24	987	60.9	15.3	591	39.1	11.6	1,578	13.7
25-29	1,480	59.0	23.0	983	41.0	19.2	2,463	21.3
30-34	1,385	53.8	21.5	1,085	46.2	21.2	2,470	21.4
35-39	1,041	52.1	16.2	899	47.9	17.6	1,940	16.8
40-44	636	51.0	9.9	593	49.0	11.6	1,229	10.6
45-49	344	46.9	5.3	425	53.1	8.3	769	6.7
50-54	190	48.3	3.0	190	51.7	3.7	380	3.3
55-59	91	45.3	1.4	97	54.7	1.9	188	1.6
60-64	33	40.7	0.5	52	59.3	1.0	85	0.7
>65	27	42.6	0.4	60	57.4	1.2	87	0.8
Age Group at AIDS Diagnosis								
<5				4	100	0.1	4	0.0
5-9				3	100	0.1	3	0.0
10-12				0	0.0	0.0	0	0.0
13-14				3	100	0.1	3	0.0

15-19		24	100	0.5	24	0.2
20-24		221	100	4.3	221	1.9
25-29		637	100	12.5	637	5.5
30-34		1,007	100	19.7	1,007	8.7
35-39		1,115	100	21.8	1,115	9.7
40-44		892	100	17.5	892	7.7
45-49		602	100	11.8	602	5.2
50-54		323	100	6.3	323	2.8
55-59		160	100	3.1	160	1.4
60-64		72	100	1.4	72	0.6
>65		44	100	0.9	44	0.4

HIV Disease by Gender

Increases in the number of PLWHA can be observed among both men and women in the last five years (**Figure 5**). In 2009, women accounted for 11.6 percent of the living cases of HIV disease whereas, they accounted for 11.9 percent of cases as of December 31, 2013.

Figure 5: Number of Persons Living with HIV or AIDS by Gender – Colorado (2009-2013)



HIV Disease by Race

In 2013, 328 persons were newly diagnosed with HIV (including those who progressed to AIDS in the same year). Of those, 284 (86.6%) were male and 44 (13.4%) were female. By race/ethnicity, 159 (48.5%) were White, 59 (18.0%) were Black, 98 (29.9%) were Hispanic, 8 (2.4%) were Asian/Pacific Islander, and 2 (0.6%) were American

Indian (**Table 9**). By gender, a greater proportion of females identified as Non-Hispanic Blacks (34.1%) compared to males (15.5%).

Table 9: Colorado HIV Cases Diagnosed by Race and Gender in 2013

	Male			Female			Total	
Race	Number	Row %	Column %	Number	Row %	Column %	Number	Column %
White (Non-Hispanic)	145	91.2	51.1	14	8.8	31.8	159	48.5
Hispanic	88	89.8	31.0	10	10.2	22.7	98	29.9
Black (Non-Hispanic)	44	74.6	15.5	15	25.4	34.1	59	18.0
Asian/Hawaiian/Pacific Islander (Non-Hispanic)	6	75.0	2.1	2	25.0	4.5	8	2.4
American Indian/Alaskan Native (Non-Hispanic)	1	50.0	0.4	1	50.0	2.3	2	0.6
Multiple Races (Non-Hispanic)	0	0.0	0.0	2	100.0	4.5	2	0.6
Total	284	86.6	100	44	13.4	100	328	100

Although Whites represent the largest number of HIV/AIDS cases, **Figure 6** and **Figure 7** illustrate that when comparing population rate, Blacks, and to a lesser degree, Hispanics, were disproportionately affected by this epidemic. **Figure 6** demonstrates trends in rates of persons reported with an HIV diagnosis. **Figure 7** demonstrates trends in rates of persons with a newly reported AIDS diagnosis. Blacks had an HIV rate 7.4 times greater than that of Whites in 2013.

Figure 6: HIV Rate per 100,000 Population by Race (with standard error bars) – Colorado (2009-2013)

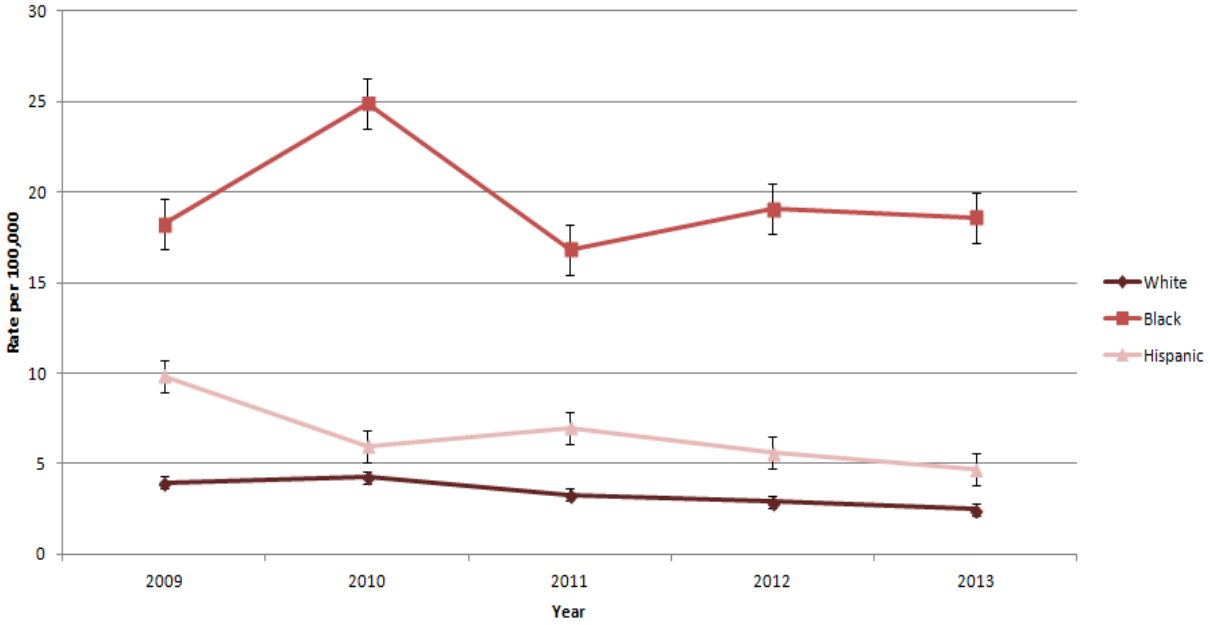
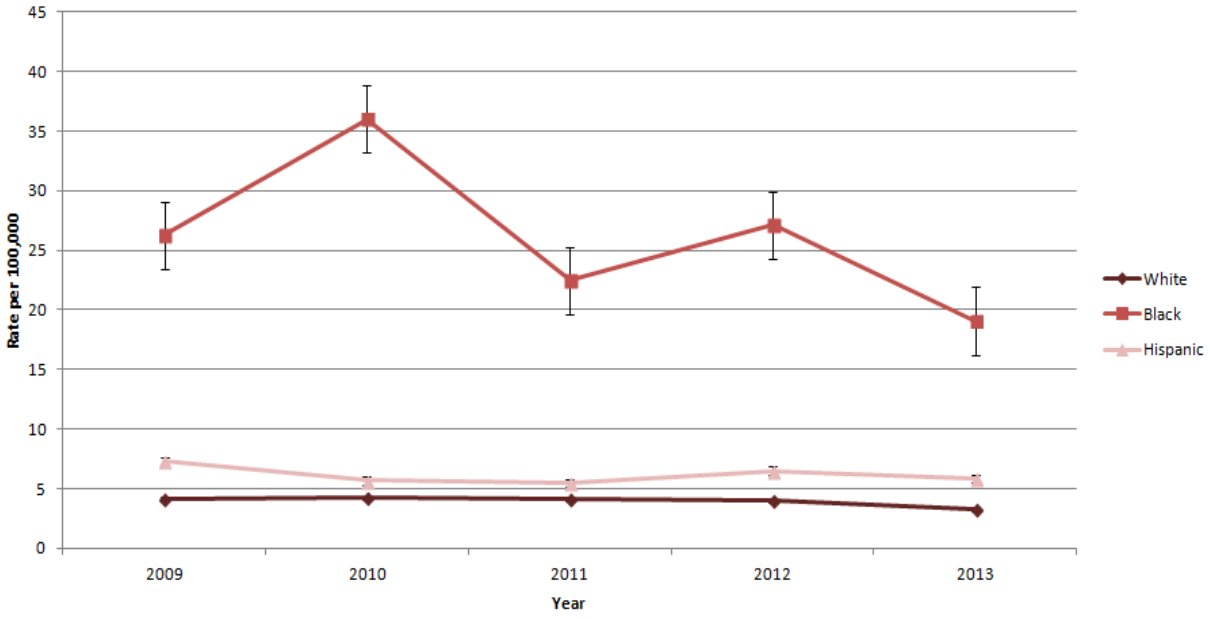
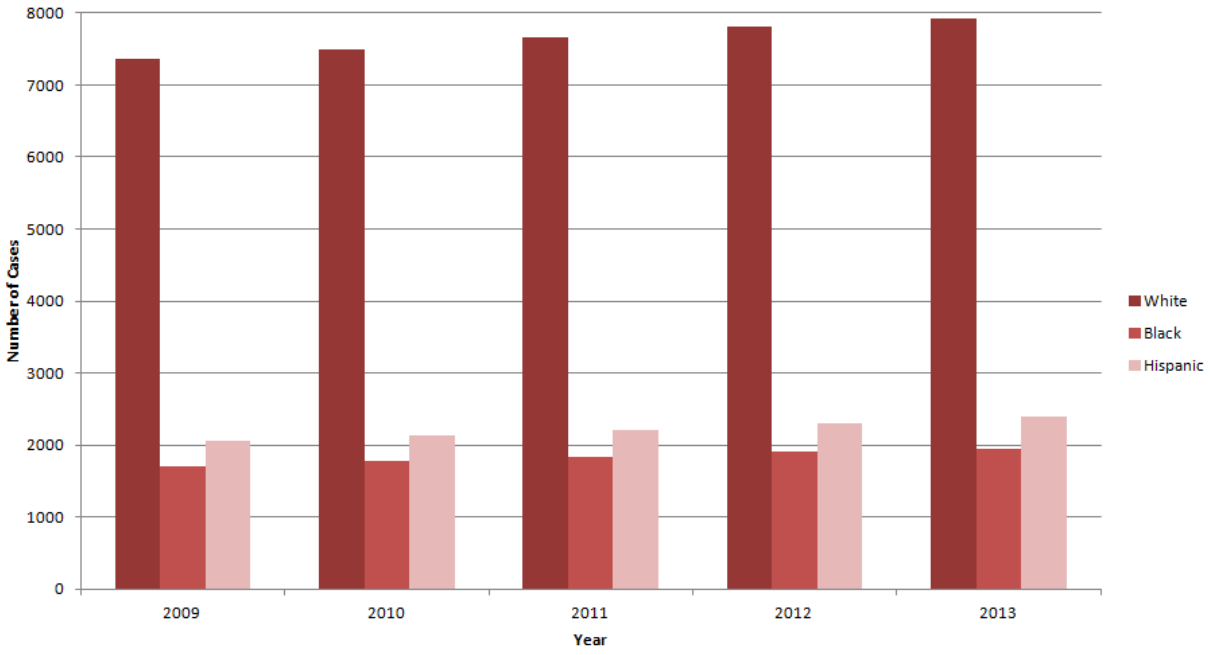


Figure 7: AIDS Rate per 100,000 Population by Race (with standard error bars) – Colorado (2009-2013)



The number of PLWHA by race is illustrated in **Figure 8**. Whites constituted the largest number and percentage of HIV/AIDS cases.

Figure 8: Persons Living with HIV/AIDS Cases by Race – Colorado (2009-2013)



The percent of foreign-born persons diagnosed with HIV/AIDS had been increasing among communities of color in the past five years. Among HIV cases newly diagnosed in 2013, 35.7 percent of those identified as Hispanics were foreign-born. The

majority of these persons were born in Mexico (71.4%). Twenty percent of new HIV diagnoses among Blacks were foreign-born. The largest proportion of foreign-born blacks was born in Ethiopia and Uganda (25.0% each) and all were born in Africa. Cultural and language barriers can make these groups a challenge for prevention services and care providers.

HIV Disease by Risk

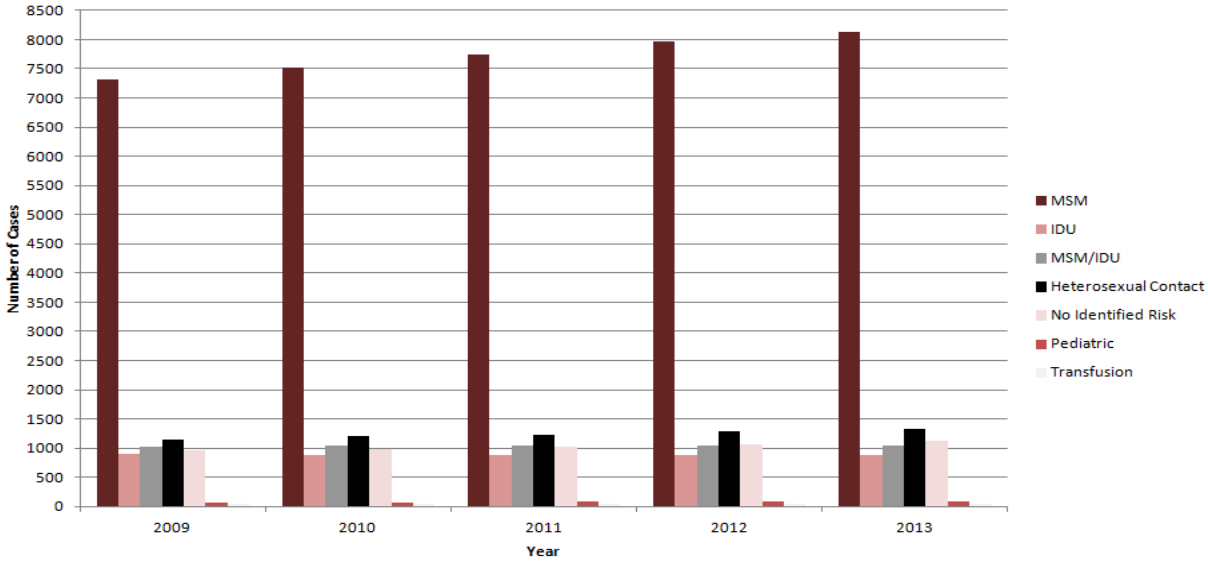
Table 10 displays HIV cases diagnosed in 2013 by risk categories and gender. The largest proportion of males (74.6%) was classified as MSM. High-risk heterosexual contact continued to be the largest risk factor for females, accounting for 56.8 percent of the cases. Females also had a higher percentage (34.1%) of no identified risk compared to males (13.7%). The cases infected from pediatric transmission in 2013 were all born in foreign countries, particularly Africa, who immigrated or were adopted into the country following the leniency of immigration HIV testing.

Table 10: Colorado HIV Cases by Risk and Gender, Diagnosed 2013

	Male			Female			Total	
Risk	Number	Row %	Column %	Number	Row %	Column %	Number	Column %
MSM	212	100	74.6	---	---	---	212	64.6
IDU	9	75.0	3.2	3	25.0	6.8	12	3.7
MSM/IDU	5	100	1.8	---	---	---	5	1.5
Heterosexual Contact	16	39.0	5.6	25	61.0	56.8	41	12.5
No Identified Risk	39	72.2	13.7	15	27.8	34.1	54	16.5
Pediatric	3	75.0	1.1	1	25.0	2.3	4	1.2
Transfusion/Hemophilia	0	0.0	0.0	0	0.0	0.0	0	0.0
Total	284	86.6	100	44	13.4	100	328	100

Figure 9 demonstrates that the majority of PLWHA in Colorado were MSM (8,130 cases representing 64.3 percent). MSM/IDU constituted an additional 8.3 percent (1,052 cases), and IDU constitute 7.0 percent (881 cases) of PLWHA through 2013. Heterosexual contact was a growing risk group (increasing 15.8 percent from 2009 to 2013), and persons with no identified risk increased 16.9 percent over the past five years.

Figure 9: Living with HIV Disease Cases by Risk Reported – Colorado (2009-2013)



HIV Disease by Age

Table 11 describes the 328 cases of newly diagnosed HIV by age group at diagnosis and gender. Females had a higher percentage of cases in the 30-34 age group (27.3 percent in females versus 15.8 percent of males). The majority of female cases (63.6%) are in the 20-34 age range and male cases (59.1%) were in the 20-39 age range.

Table 11: Colorado HIV Cases by Age Group and Gender, Diagnosed 2013

	Male			Female			Total	
Age Group	Number	Row %	Column %	Number	Row %	Column %	Number	Column %
<5	1	100	0.4	0	0.0	0.0	1	0.3
5-9	2	100	0.7	0	0.0	0.0	2	0.6
10-12	0	0.0	0.0	1	100	2.3	1	0.3
13-14	0	0.0	0.0	0	0.0	0.0	0	0.0
15-19	6	100	2.1	0	0.0	0.0	6	1.8
20-24	42	85.7	14.8	7	14.3	15.9	49	14.9
25-29	52	85.2	18.3	9	14.8	20.5	61	18.6
30-34	45	78.9	15.8	12	21.1	27.3	57	17.4
35-39	29	87.9	10.2	4	12.1	9.1	33	10.1
40-44	40	88.9	14.1	5	11.1	11.4	45	13.7
45-49	32	91.4	11.3	3	8.6	6.8	35	10.7
50-54	18	94.7	6.3	1	5.3	2.3	19	5.8
55-59	6	85.7	2.1	1	14.3	2.3	7	2.1
60-64	6	85.7	2.1	1	14.3	2.3	7	2.1
>65	5	100	1.8	0	0.0	0.0	5	1.5
Total	284	86.6	100	44	13.4	100	328	100

HIV Disease by Stage of Disease

A late stage diagnosis is defined as a Stage 3 (AIDS) diagnosis within 365 days of an initial HIV diagnosis. As **Figure 10** demonstrates, the overall number and percentage of late stage diagnosed cases has been relatively consistent for the last ten years. The percentage has ranged from 29 to 37 percent. In 2013, 103 of 328 new HIV diagnoses were late stage HIV diagnoses (31.4%).

Figure 10: New HIV Disease Late Stage Cases and Percentage, Colorado, 2004 – 2013

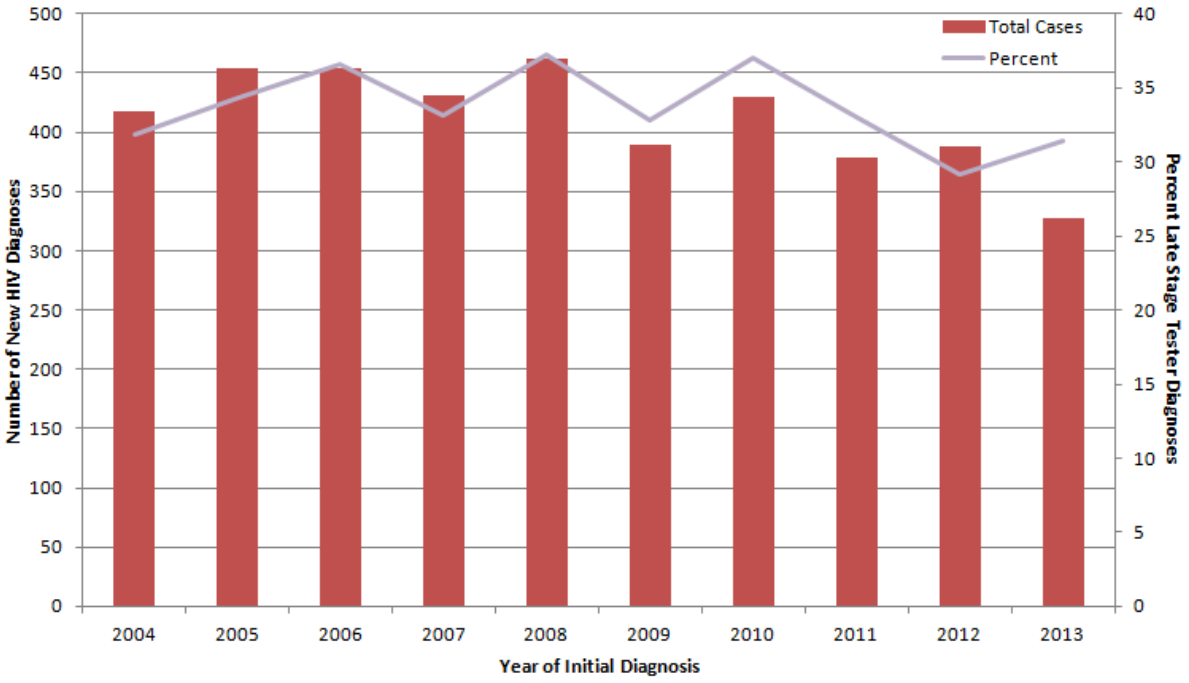


Table 12: Characteristics of New HIV Disease Diagnoses by Late Stage Determination, Colorado, 2013

	Late Stage Diagnosis			Non-Late Stage Diagnosis			Total	
	Number	Row %	Column %	Number	Row %	Column %	Number	Column %
Total	103	31.4	100	225	68.6	100	328	100
Gender								
Male	93	32.7	90.3	191	67.3	84.9	284	86.6
Female	10	22.7	9.7	34	77.3	15.1	44	13.4
Race								
NH White	43	27.0	41.7	116	73.0	51.6	159	48.5
Hispanic (all races)	34	34.7	33.0	64	65.3	28.4	98	29.9
NH Black	21	35.6	20.4	38	64.4	16.9	59	18.0
NH Asian/PI	3	37.5	2.9	5	62.5	2.2	8	2.4
NH American Indian	0	0.0	0.0	2	100.0	0.9	2	0.6
NH Multiple Races	2	100	1.9	0	0.0	0.0	2	0.6
Age Group at HIV Diagnosis								
<5	0	0.0	0.0	1	100	0.4	1	0.3
5-9	0	0.0	0.0	2	100	0.9	2	0.6
10-12	0	0.0	0.0	1	100	0.4	1	0.3
13-14	0	0.0	0.0	0	0.0	0.0	0	0.0
15-19	0	0.0	0.0	6	100	2.7	6	1.8
20-24	8	16.3	7.8	41	83.7	18.2	49	14.9
25-29	13	21.3	12.6	48	78.7	21.3	61	18.6
30-34	18	31.6	17.5	39	68.4	17.3	57	17.4
35-39	13	39.4	12.6	20	60.6	8.9	33	10.1
40-44	16	35.6	15.5	29	64.4	12.9	45	13.7
45-49	13	37.1	12.6	22	62.9	9.8	35	10.7
50-54	13	68.4	12.6	6	31.6	2.7	19	5.8
55-59	3	42.9	2.9	4	57.1	1.8	7	2.1
60-64	4	57.1	3.9	3	42.9	1.3	7	2.1
>65	2	40.0	1.9	3	60.0	1.3	5	1.5
Risk								
MSM	61	28.8	59.2	151	71.2	67.1	212	64.6
IDU	5	41.7	4.9	7	58.3	3.1	12	3.7
MSM/IDU	0	0.0	0.0	5	100	2.2	5	1.5
Heterosexual Contact	9	22.0	8.7	32	78.0	14.2	41	12.5
No Identified Risk	28	51.9	27.2	26	48.1	11.6	54	16.5
Pediatric	0	0.0	0.0	4	100	1.8	4	1.2
Transfusion/Hemophilia	0	0.0	0.0	0	0.0	0.0	0	0.0
Region								
Urban	99	30.9	96.1	221	69.1	98.2	320	97.6
Rural	4	66.7	3.9	2	33.3	0.9	6	1.8

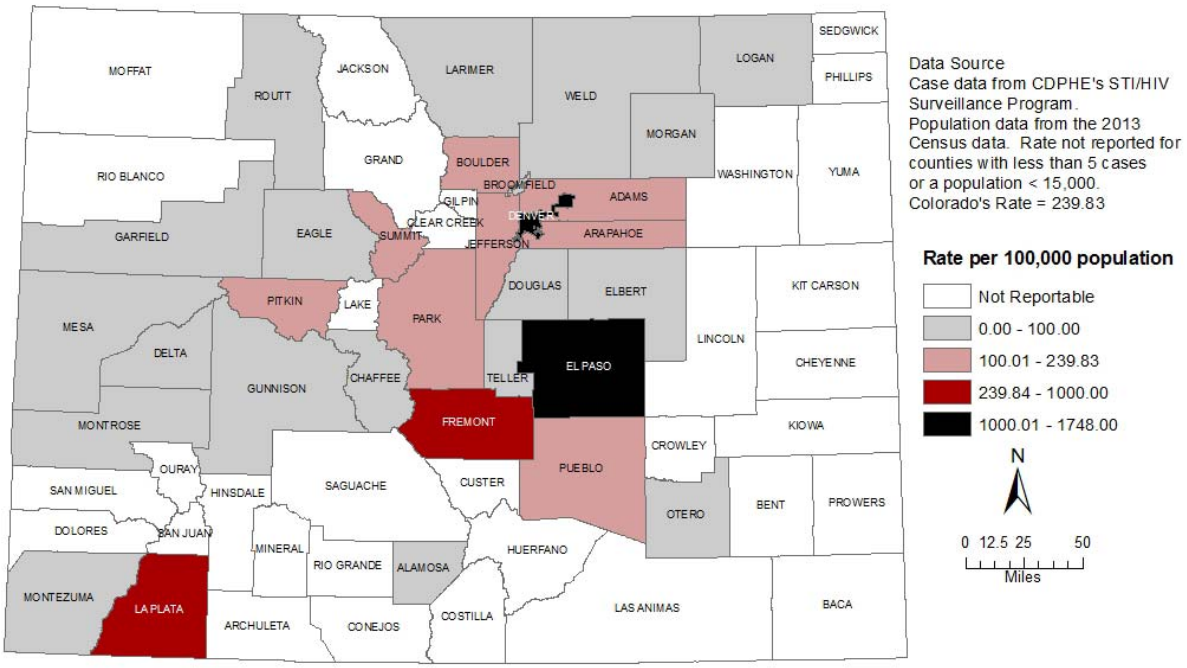
Frontier	0	0.0	0.0	2	100	0.9	2	0.6
Unknown	0	0.0	0.0	0	0.0	0.0	0	0.0
Birth Country								
United States (50 states)	71	26.2	68.9	200	73.8	88.9	271	82.6
Foreign Born	32	56.1	31.1	25	43.9	11.1	57	17.4
African	5	41.7	15.6	7	58.3	28.0	12	21.1
Asian	2	33.3	6.3	4	66.7	16.0	6	10.5
Caribbean	0	0.0	0.0	2	100	8.0	2	3.5
C. American	2	50.0	6.3	2	50.0	8.0	4	7.0
S. American	1	50.0	3.1	1	50.0	4.0	2	3.5
European	1	50.0	3.1	1	50.0	4.0	2	3.5
Mexico	18	72.0	56.3	7	28.0	28.0	25	43.9
Pacific Island	1	100	3.1	0	0.0	0.0	1	1.8
U.S. Dependent Areas	0	0.0	0.0	0	0.0	0.0	0	0.0
Other / Unknown	2	66.7	6.3	1	33.3	4.0	3	5.3

As shown in **Table 12**, foreign born persons comprise a larger percent of late stage diagnosed cases (31%) compared to non-late stage diagnosed cases (11%). Late stage diagnosed cases tended to be older than non-late stage diagnosed cases with a larger percentage in the 35-54 year old age group (53.4% vs. 34.2%). Of those late stage diagnoses that were foreign born, 16 percent were from Africa, 56 percent were from Mexico and the remainder was from Asia, Europe, South and Central America and the Pacific Islands.

Geographical Characteristics of HIV

Figure 11 demonstrates that the highest rates of HIV in Colorado was in the Front Range counties (and population centers) of Adams, Arapahoe, Boulder, Denver, El Paso, Fremont, Jefferson, La Plata, Park, Pitkin, Pueblo and Summit. These twelve counties represent 90.2 percent of HIV/AIDS cases and 67.7 percent of Colorado's population. This map shows that Fremont County had a disproportionate share of HIV cases. The Colorado state correctional facility that housed virtually all HIV infected state prisoners was located in Fremont County. Due to their incarceration, these cases did not place a burden for HIV care or prevention services on the surrounding rural community. Counties with fewer than five reported cases or with a population less than 15,000 are not included on this map.

Figure 11: Living HIV/AIDS Rate per 100,000 Population by County of Residence at Time of Diagnosis – Colorado, 2013



HIV Related Mortality

The overall age-adjusted death rate for Colorado was 650 deaths per 100,000 population in 2013. The top two causes of death were cancer and heart disease. The age-adjusted death rate for these two causes was 138 and 125, respectively. The HIV related death rates by age and gender are illustrated in **Table 13** and **Table 14** below. [13]

Table 13: HIV Related Death Rate by Gender, 2013

Gender	Population	Deaths	Age Adjusted Death Rate per 100,000 population
Male	2,635,638	55	2.1
Female	2,629,256	3	0.1
Total	5,264,894	58	1.1

CoHID Death Data Statistics, 2013[13]

Table 14: HIV Related Death Rate by Age, 2013

Age Group	Population	Deaths	Age Adjusted Death Rate per 100,000 population
<25	1,757,385	0	0
25-34	747,277	3	0.4
35-44	720,840	5	0.7
45-54	727,904	21	2.9
55-64	659,961	23	3.5
65-74	386,163	5	1.3
≥75	265,363	0	0
Total	5,264,894	58	1.1

CoHID Death Data Statistics, 2013[13]

Demographic Characteristics of HIV Disease in High Risk Populations

Summary

Men Who have Sex With Men

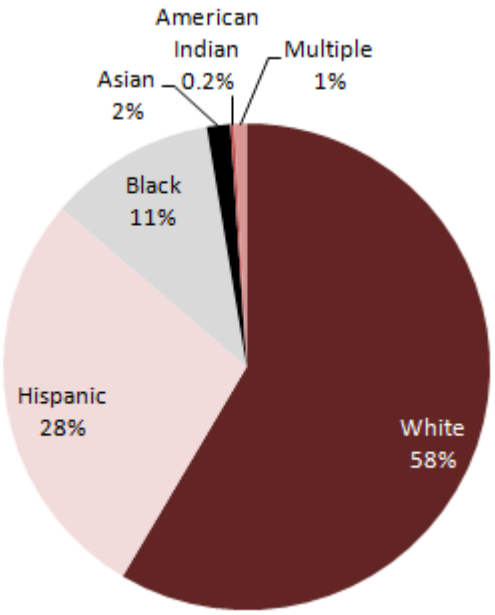
- The majority of Colorado's HIV/AIDS cases can be attributed to MSM risk behaviors (64.6 percent of all cumulative cases).
- The number of new MSM HIV/AIDS cases remained relatively stable since 2009 among Whites, remained relatively stable the past 5 years among Blacks, and has been increasing since 2010 among Hispanics.
- HIV/AIDS cases diagnosed for MSM ages 20-29 years have decreased by 38.0 percent in the last five years.

Racial/Ethnic Trends Among MSM

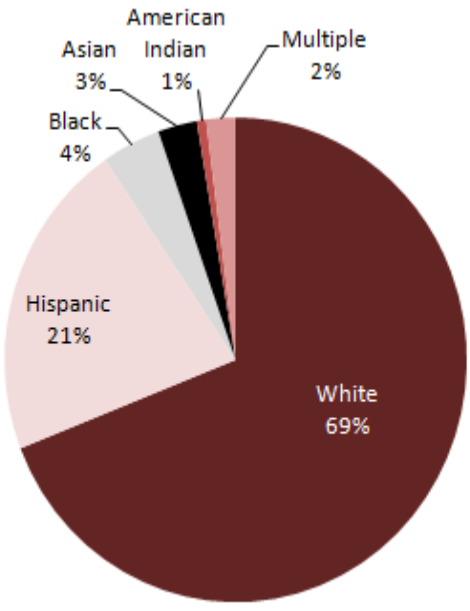
As **Figure 12** demonstrates, Blacks were overrepresented in the HIV proportion among MSM; accounting for 4.1 percent of Colorado's male population but 11.1 percent of HIV cases diagnosed in MSM from 2009-2013. Hispanics were also overrepresented (27.8 percent of newly diagnosed HIV MSM cases) for their proportion of the male population (21.4%), while Whites represented 58.5 percent of newly diagnosed HIV MSM cases and 69.1 percent of the male population.

Figure 12: HIV Positive MSM by Race (2009-2013) Compared to Male Population (2013) – Colorado

MSM Newly Diagnosed HIV by Race, 2009-2013



Colorado Male Population by Race, 2013



Age Trends Among MSM

Figure 13 depicts the percentage of newly diagnosed HIV cases among MSM by age in 2013. Fifty-three percent of new HIV diagnoses occurred among 20-34 year olds, which represented only 22.7 percent of the male population. Young men ages 20-29 years were overrepresented, accounting for 38.0 percent of the HIV epidemic and 15.1 percent of the male population.

Figure 13: Percent of MSM HIV Cases by Age at Diagnosis – Colorado (2009-2013)

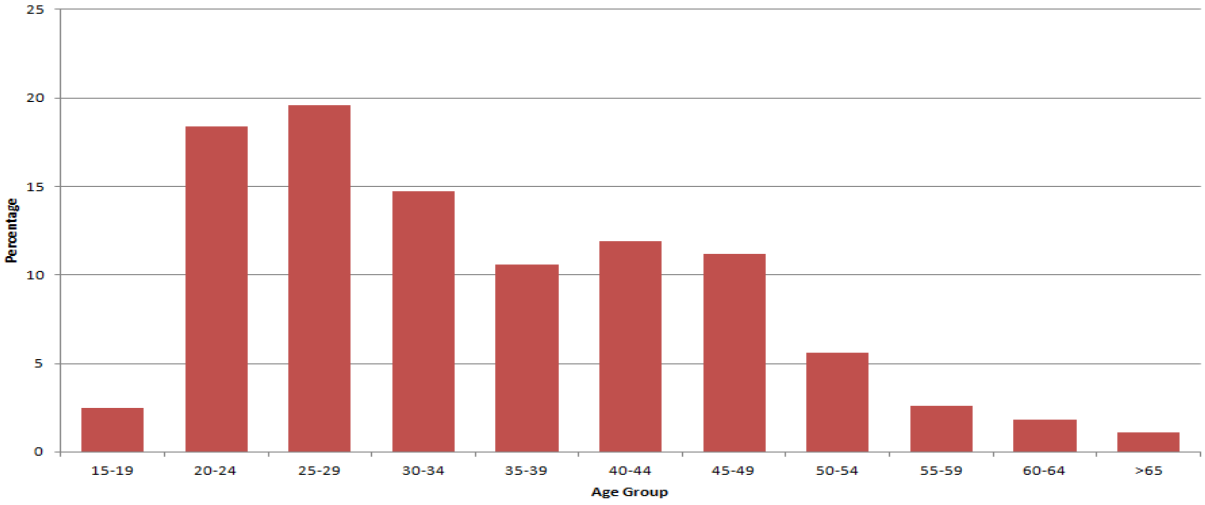
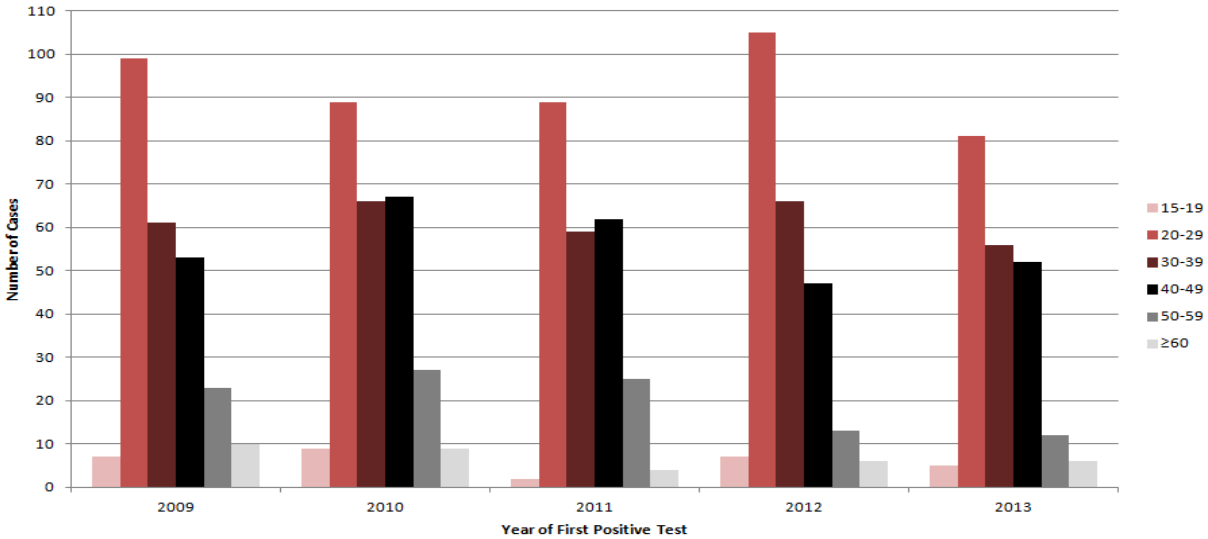


Figure 14 illustrates the number of HIV and AIDS cases diagnosed between 2009 and 2013 among MSM by age at diagnosis. HIV/AIDS cases diagnosed in MSM age 30-39 years have decreased by 8.2 percent whereas 20-29 years have increased by 18.2 percent from 2009 to 2013.

Figure 14: Number of MSM with HIV/AIDS by Year of First Positive Test and Age at Diagnosis – Colorado (2009-2013)



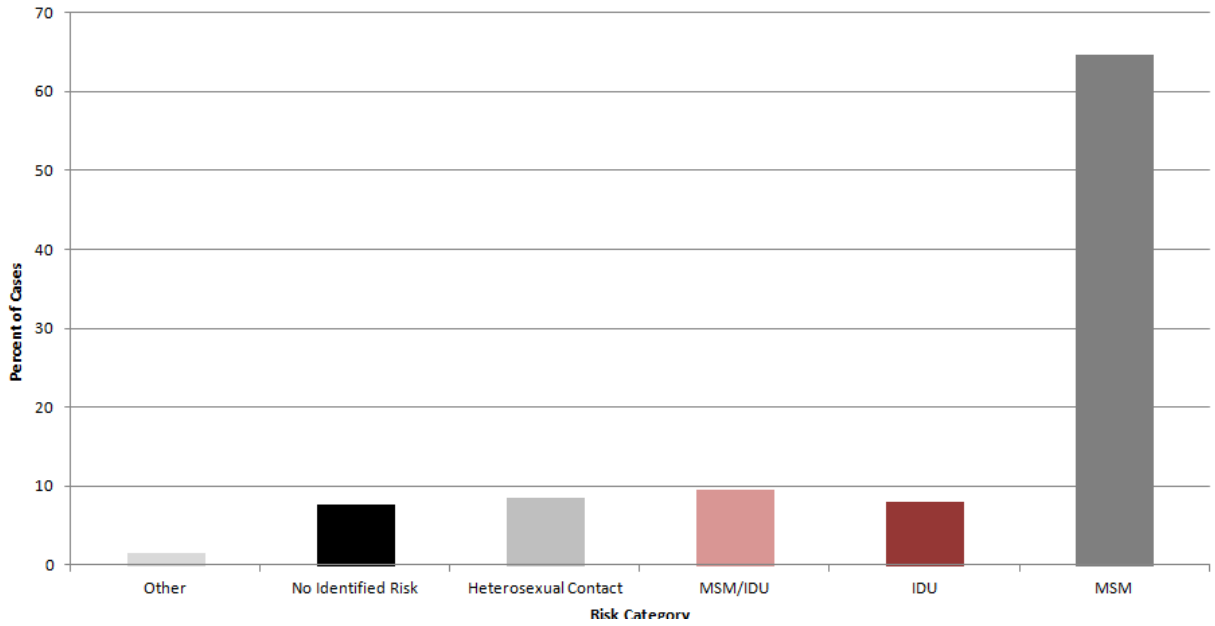
Persons Who Inject Drugs

- IDU and MSM/IDU HIV/AIDS cases made up 17.7 percent of Colorado cases.
- Males accounted for 86.4 percent of IDU-attributed HIV/AIDS cases reported.
- Whites made up 56.5 percent of IDU-only new HIV cases 2009-2013, while Hispanics made up 26.1 percent of IDU cases, and Blacks comprise 11.6 percent.
- IDU-related cases of HIV/AIDS were most commonly diagnosed in the 25-34 age group in the past 5 years.

Proportion of Epidemic among IDU

Through December 31, 2013, a cumulative total of 3,334 cases of HIV/AIDS were associated with IDU or MSM/IDU risk. Of these, 86.4 percent were reported in men and 13.6 percent were reported in women. **Figure 15** shows the proportion of the epidemic by risk group. IDU and MSM/IDU comprise 17.7 percent of the total HIV/AIDS cases reported in Colorado.

Figure 15: HIV/AIDS Cases by Risk Category – Colorado (1982-2013)

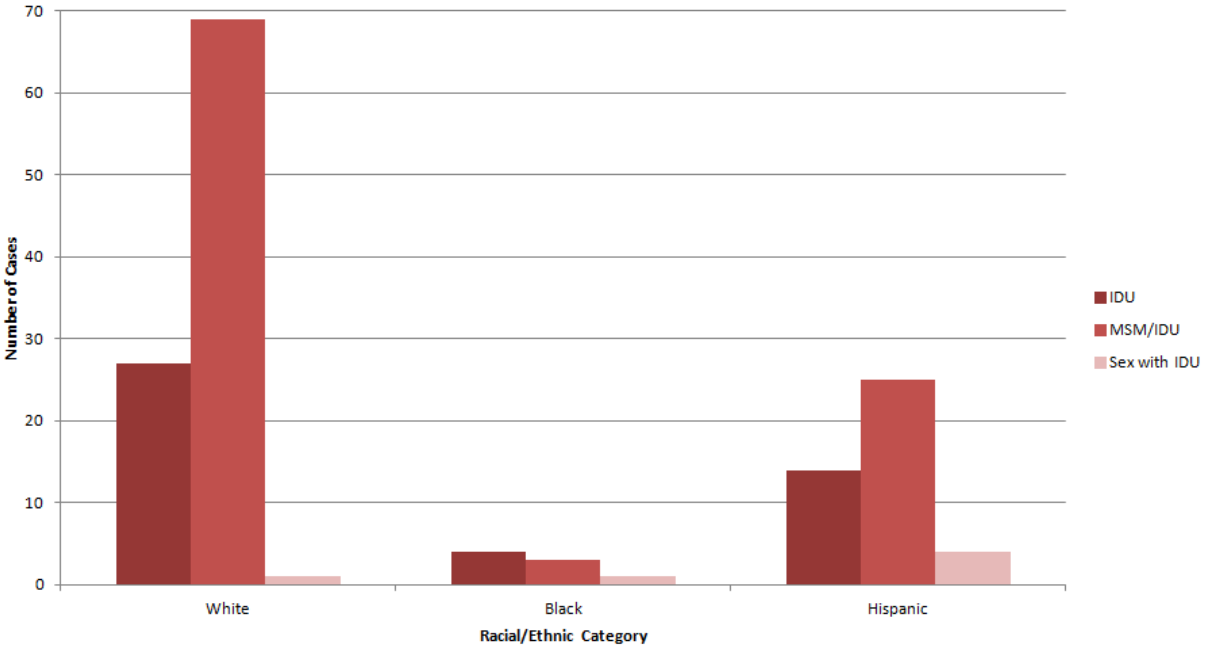


Racial Ethnic Trends among IDU

The following two graphs illustrate the impact of IDU risk behaviors in both males and females. Among males, 2,880 cumulative cases of HIV or AIDS were related to IDU, either through IDU, MSM/IDU, or heterosexual contact to an IDU. **Figure 16** shows that among the 48 males diagnosed with HIV in 2009-2013 whose only risk was IDU,

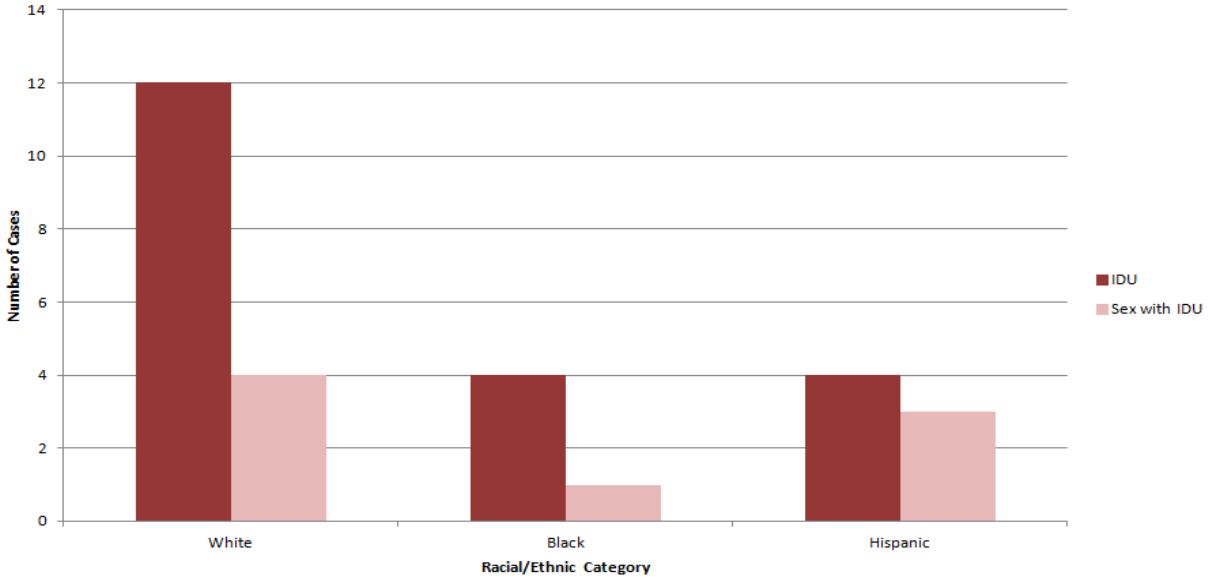
Whites account for 27 (56.3%) cases, Hispanics for 14 (29.2%) cases, and Blacks for 4 (8.3%) cases. Among the 99 males who were MSM/IDU, White males accounted for the overwhelming majority of these cases (69 or 69.7%), Hispanics for 25 (25.3%) cases, and Blacks for 3 cases (3.0%).

Figure 16: IDU-Associated HIV/AIDS Cases by Race in Males – Colorado (2009-2013)



Among females, the number of IDU-related HIV or AIDS cumulative cases (454) was smaller than for males. From 2009 to 2013, 21 cases of HIV or AIDS in females were directly related to IDU. As shown in **Figure 17**, Whites accounted for 12 (57.1%), Blacks accounted for 4 (19.0%) and Hispanics constitute 4 (19.0%) cases. The number of cases of females who acquired their infection as a result of heterosexual contact with an IDU (N=13) was higher than for males. White females comprised 30.8 percent (N=4), Hispanic females comprised 23.1 percent (N=3), and Black females represented 7.7 percent (N=1) of this risk group.

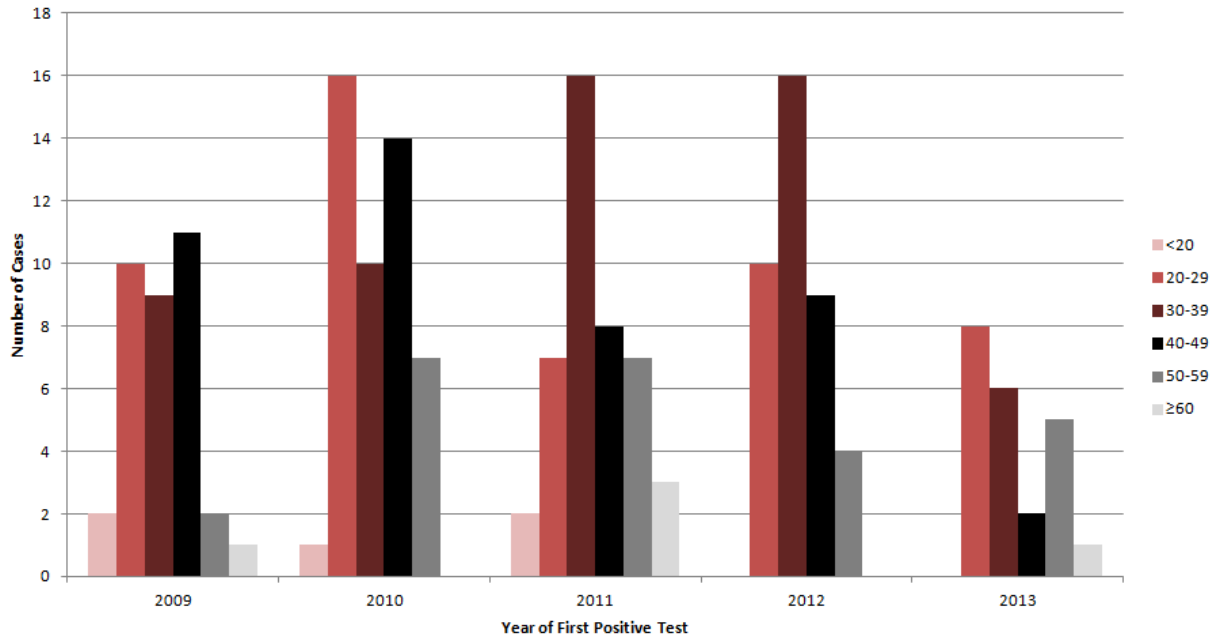
Figure 17: IDU-Associated HIV/AIDS Cases by Race in Females – Colorado (2009-2013)



Age Trends among IDU

Figure 18 illustrates newly diagnosed cases of HIV and AIDS for a five-year period from 2009 through 2013 among IDU. When reviewing cases of HIV and AIDS, all age groups showed a fairly steady trend in the number of cases reported from 2009 to 2013. However, it should be noted that the number of IDU attributed HIV/AIDS cases remained small and caution should be exercised when interpreting these numbers.

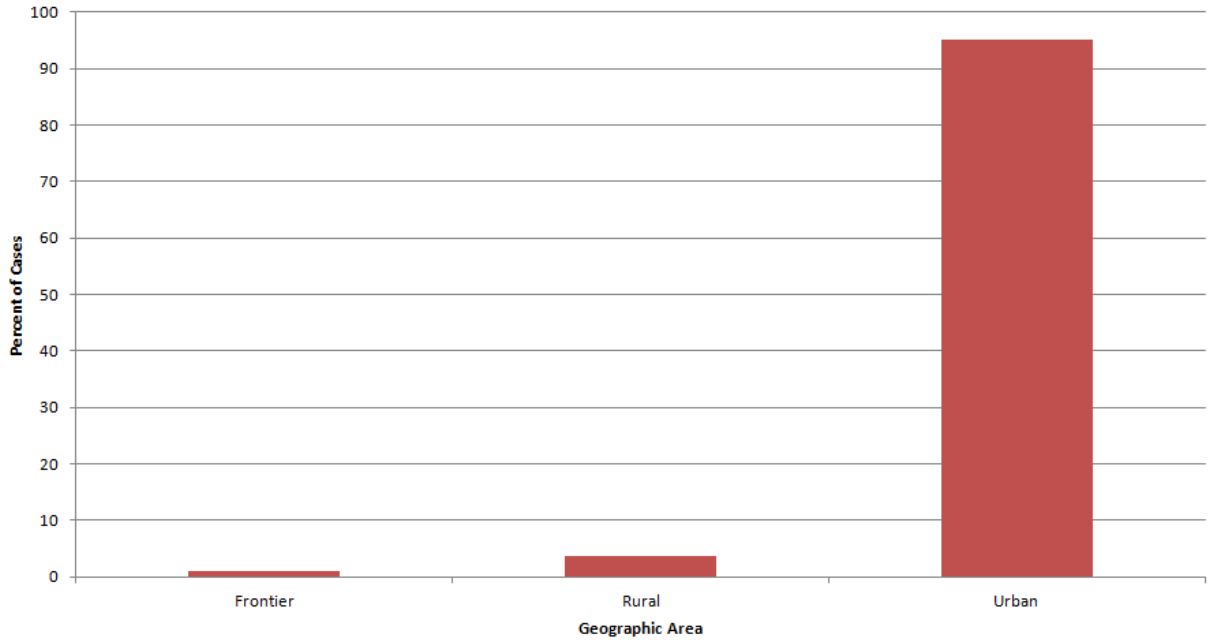
Figure 18: Number of IDUs with HIV/AIDS by Year of First Positive Test and Age at Diagnosis – Colorado (2009-2013)



HIV Among IDU by Region

Figure 19 demonstrates that those IDU HIV cases diagnosed during the five year time period of 2009 through 2013 had largely been concentrated in urban areas. This was consistent with other risk groups, affirming that the Colorado HIV epidemic was largely centered in urban areas. Urban areas reported 95.2 percent of cases, rural areas 3.7 percent, and frontier areas 1.1 percent of cases. This pattern of HIV/AIDS case distribution among urban, rural and frontier regions has remained fairly stable since the beginning of the epidemic.

Figure 19: IDU HIV Diagnosed Positive by Region Reported – Colorado (2009-2013)



Heterosexual Transmission

- Heterosexual HIV transmission has decreased slightly from 13.1 percent in 2009 to 12.5 percent in 2013.
- Females represented 61.0 percent of heterosexually transmitted HIV/AIDS cases in 2013.
- Of new HIV cases transmitted by heterosexual contact in 2013, Whites made up 41.5 percent, while Blacks made up 29.3 percent, and Hispanics comprised 22.0 percent.
- Heterosexual transmission of HIV was most commonly diagnosed in those persons aged 30-34 years representing 18.3 percent of cases.

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 put them at high risk for contracting HIV. A diagnosis of a sexually transmitted infection (STI) would suggest that the person had engaged in unsafe sexual practices. Specific HIV prevention strategies should be directed toward these persons. In 2013, 20,386 cases of chlamydia and 2,820 cases of gonorrhea were reported to CDPHE.

Proportion of Epidemic among Heterosexuals

Heterosexual transmission (**Figure 20**) accounted for 8.5 percent of Colorado's cumulative HIV/AIDS cases from years 1982 through 2013.

Figure 20: HIV/AIDS Cases Reported by Risk Category – Colorado (1982-2013)

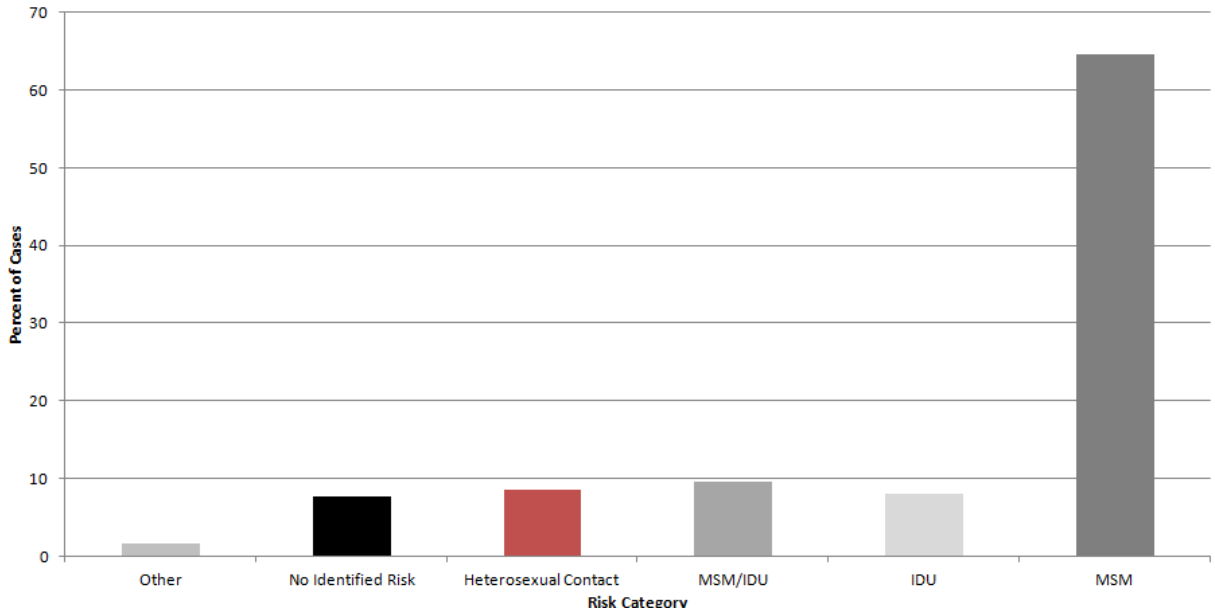
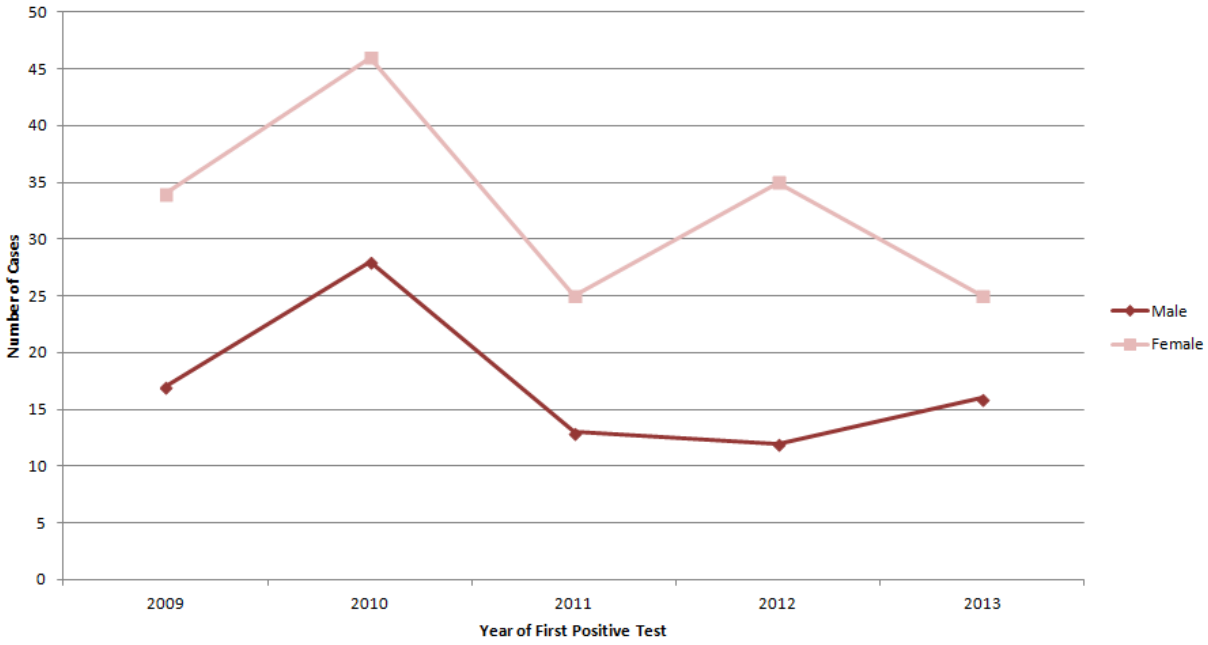


Figure 21 illustrates the number of heterosexually transmitted HIV/AIDS cases by year of first positive test and gender between 2009 and 2013. The overall number of heterosexually transmitted HIV/AIDS cases had remained relatively similar during the five-year time period. Care should be taken in identifying trends in this group due to the small number of cases.

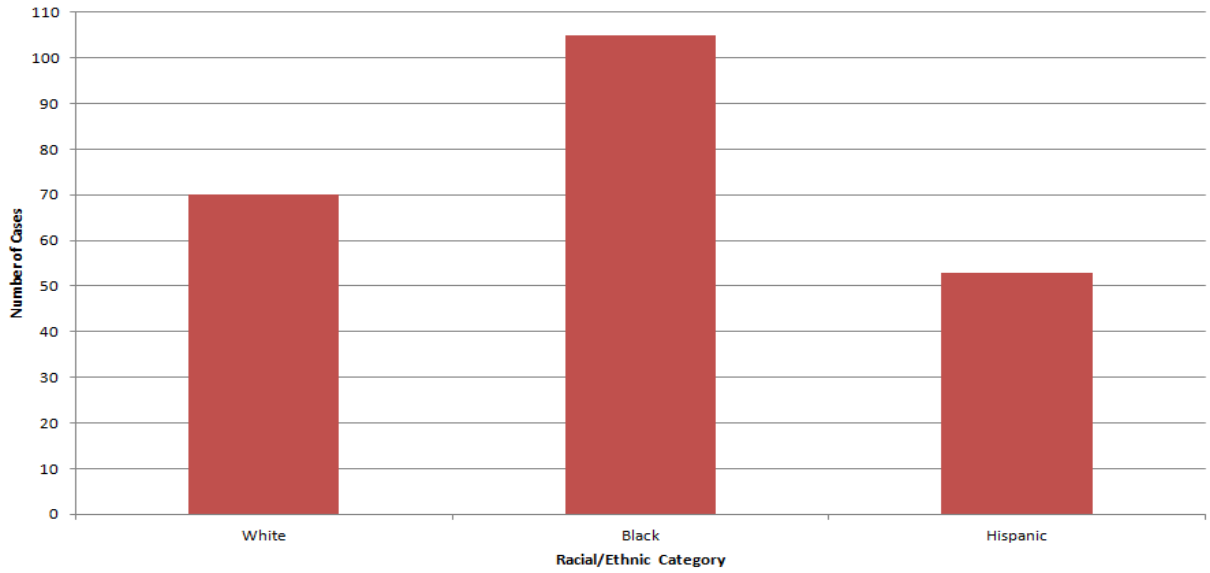
Figure 21: Number of Heterosexually Transmitted HIV/AIDS Cases by Year of First Positive Test and Gender – Colorado (2009-2013)



Racial/Ethnic Trends Among High Risk Heterosexuals

Recently diagnosed cases of HIV attributed to heterosexual transmission are illustrated in **Figure 22**. Blacks accounted for the largest with 105 (41.8%) cases, Whites accounted for 27.9 percent (N=70) of cases and Hispanics accounted for 21.1 percent (N=53) of cases. In comparison to their percentage of the total population, racial/ethnic population, Blacks were overrepresented among heterosexually transmitted HIV cases.

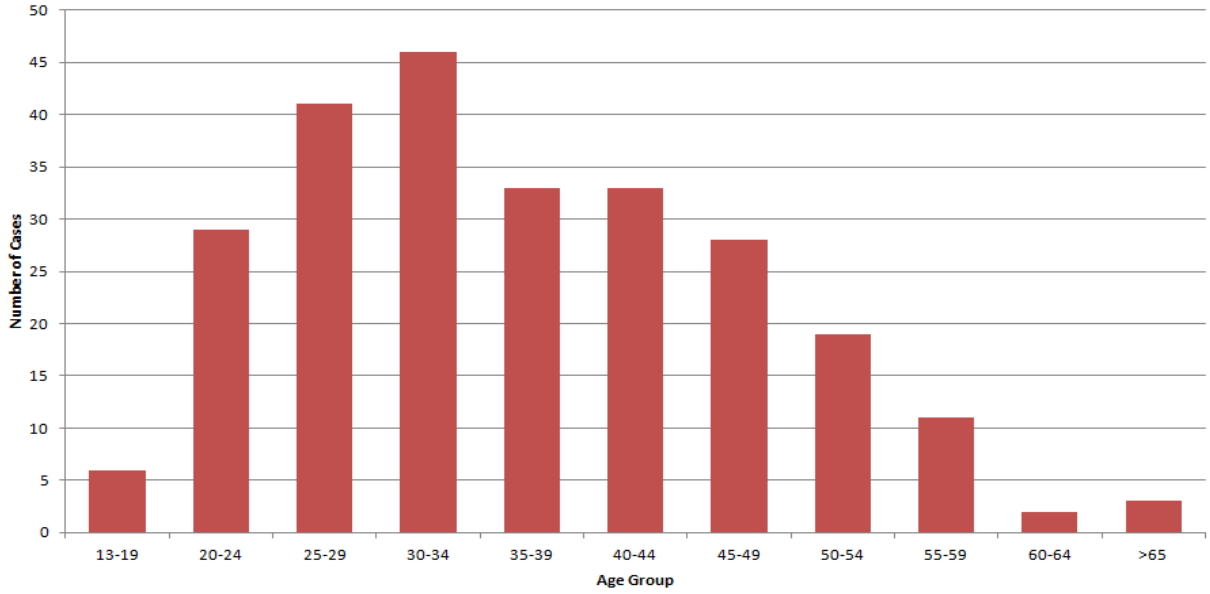
Figure 22: Newly Identified Cases of Heterosexually Transmitted HIV Cases by Racial Category – Colorado (2009-2013)



Age Trends Among High Risk Heterosexuals

Figure 23 illustrates recently diagnosed cases of HIV attributed to heterosexual contact by age. This graph indicates that the largest proportion (18.3%) of newly diagnosed cases occurred in the 30-34 year old age group. The 25-29 year old age group followed, representing 16.3 percent of the cases. The next highest contributing age groups were 35-39 & 40-44 representing 13.2 percent each of heterosexually transmitted HIV cases in Colorado.

Figure 23: Heterosexually Transmitted HIV by Age at Diagnosis – Colorado, 2009-2013



Infants Born to HIV-infected Women

As shown in **Table 15**, the number of infants known to be born to HIV-infected mothers remained approximately 25 except 2009 and 2012. Of these 128 births to HIV positive women in Colorado, there have been no infants who seroconverted to become HIV positive. According to CDPHE vital statistics data obtained from birth certificates, 1.9 percent of mothers who delivered a child in 2013 did not receive prenatal care, and 95.7 percent had reported an HIV test during pregnancy.[14]

Table 15: Number of Infants Born to HIV-infected Women by Year of Birth – Colorado (2009-2013)

Year of Birth	Number of Infants born to HIV Positive Women	Number of Infants who acquired HIV perinatally
2009	29	0
2010	24	0
2011	22	0
2012	30	0
2013	23	0
Total	128	0

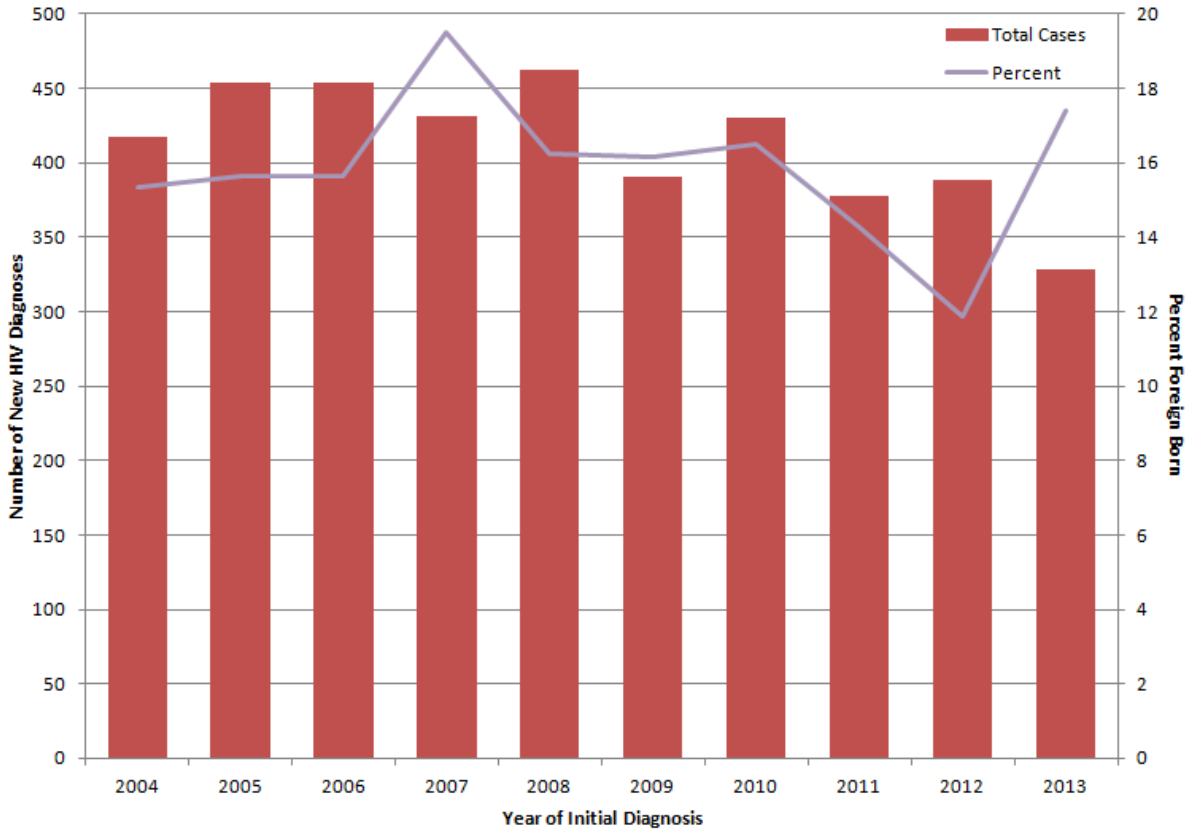
Foreign Born

- Foreign born persons account for 15.2 percent of new HIV cases and 11.0 percent of prevalent cases.
- Majority of foreign born persons diagnosed with HIV occurred in those aged 25-39 years representing 57.9 percent of cases.
- Seventy one percent of foreign born PLWHA through 2013's transmission category was MSM (37.2%) or heterosexual contact (33.7%), whereas MSM accounts for a majority (50.9%) of 2013 new diagnoses.
- Seventy seven percent of foreign born Hispanics diagnosed between 2009-2013 were born in Mexico and ninety six percent of Blacks were born in Africa.

Proportion of Epidemic among Foreign Born Persons

Foreign born persons account for 15.2 percent (291) of Colorado's new HIV diagnoses from years 2009 through 2013 and 11.0 percent (1,385) of Colorado's PLWHA through 2013. As **Figure 24** shows the percentage of foreign born persons diagnosed with HIV disease has been relatively consistent for the last ten years. The percentage has ranged from 11.9 to 19.49 percent.

Figure 24: Newly Identified Cases of HIV and Percentage of Foreign Born Persons in Colorado, 2004-2013



From 2009-2013, 291 foreign born persons were newly diagnosed with HIV. **Figure 25** shows the newly diagnosed foreign born persons by race/ethnicity and region of birth. Of those, 139 (47.8%) were Hispanic, 109 (37.5%) were Black, 23 (7.9%) were Asian and 20 (6.9%) were White. Of the 139 Hispanics, 107 (77.0%) were born in Mexico. Of the 109 Blacks, 105 were born in Africa and of those 37 (35.2%) were born in Ethiopia and 11 (10.5%) were born in Uganda. Of the 23 Asians 16 (69.6%) were born in southeastern Asia. Of the 20 Whites, 8 (40.0%) were born in Eastern Europe.

Figure 25: Newly Identified Cases of HIV among Foreign Born Persons by Racial Category and Region of Birth – Colorado (2009-2013)

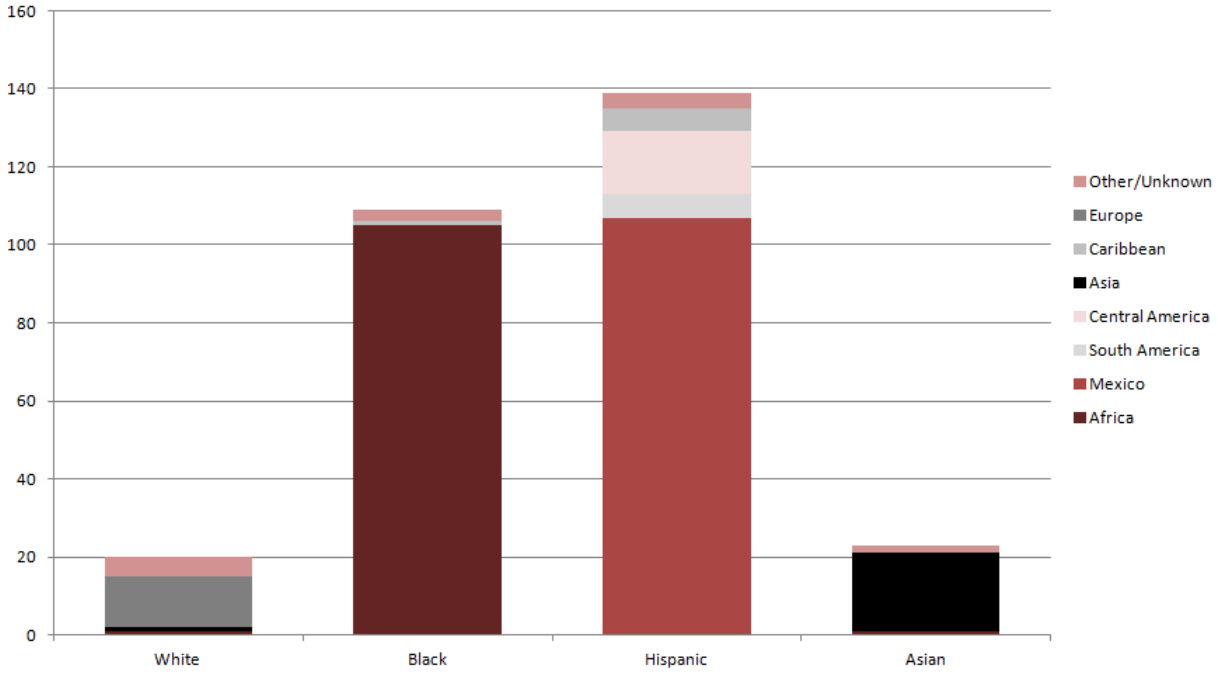


Figure 26 illustrates the number of HIV cases diagnosed between 2009 and 2013 among foreign born persons by age at diagnosis. The percent of HIV cases in foreign born persons age 40-49 years have decreased by 72.4% from 2009 to 2013 and 20-29 year olds have increased by 21.6%.

Figure 26: Percent of HIV Diagnoses Among Foreign Born Persons by Year of First Positive Test and Age at Diagnosis - Colorado (2009-2013)

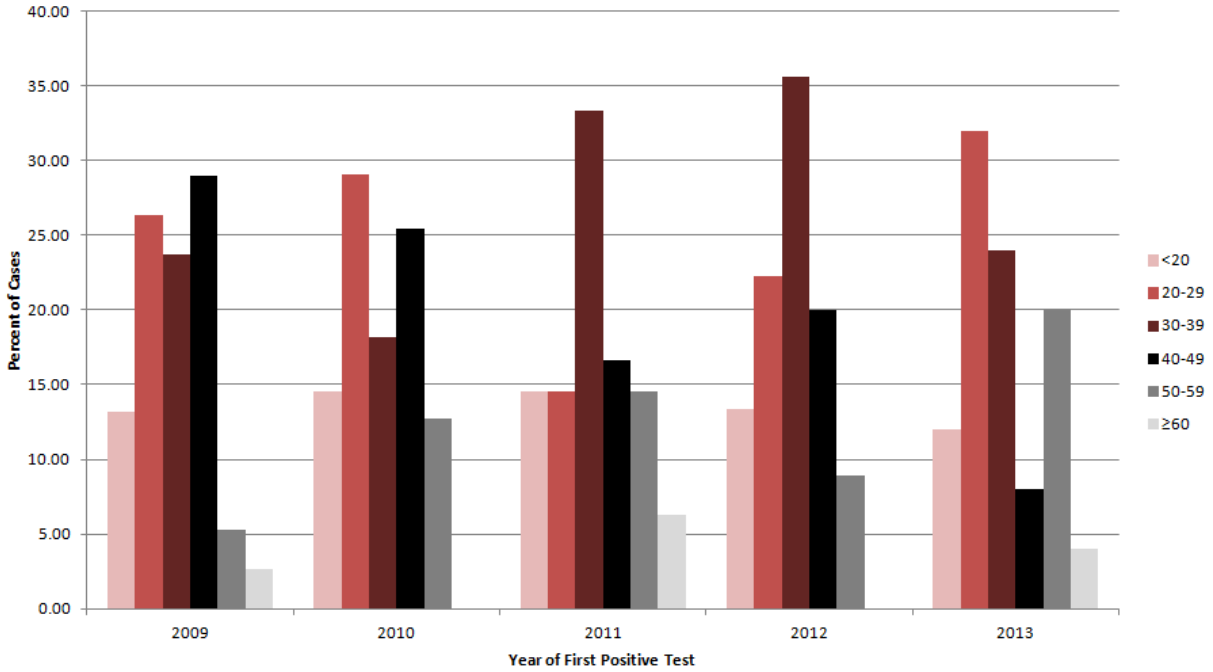


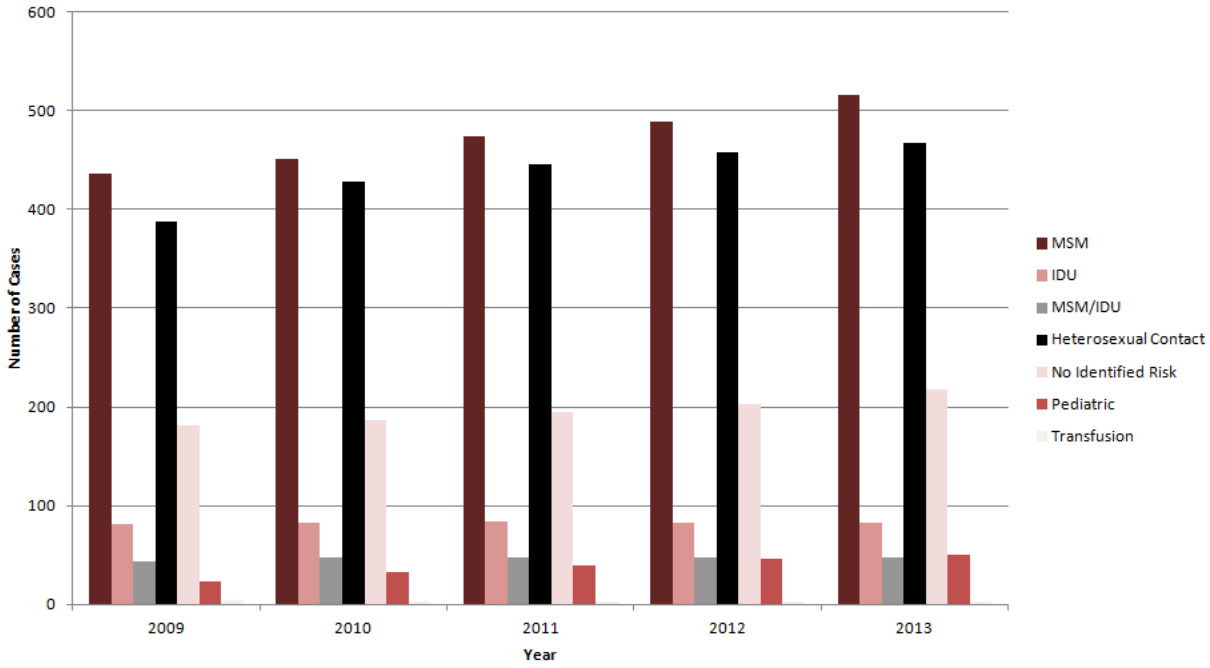
Table 16 shows the HIV cases diagnosed from 2009 to 2013 among foreign born persons by transmission category and gender. The largest proportion of males (50.3%) was classified MSM. Like Colorado's overall new 2013 cases, heterosexual contact is the largest risk factor for foreign born females accounting for 68.1 percent of cases. During the same time period, there were two cases of confirmed perinatal transmitted HIV infection reported in Colorado. Of these perinatal cases both were born prior to 2009 outside of the United States.

Table 16: Foreign Born Colorado HIV Cases by Risk and Gender, 2009-2013

	Male			Female			Total	
Risk	Number	Row %	Column %	Number	Row %	Column %	Number	Column %
MSM	99	100	50.3	---	---	---	99	34.0
IDU	5	100	2.5	0	0.0	0.0	5	1.7
MSM/IDU	5	100	2.5	---	---	---	5	1.7
Heterosexual Contact	32	33.3	16.2	64	66.7	68.1	96	33.0
No Identified Risk	41	68.3	20.8	19	31.7	20.2	60	20.6
Pediatric	15	57.7	7.6	11	42.3	11.7	26	8.9
Transfusion/ Hemophilia	0	0.0	0.0	0	0.0	0.0	0	0.0
Total	197	67.7	100	94	32.3	100	291	100

Figure 27 demonstrates that the majority of foreign born PLWHA in Colorado had a transmission category of MSM (37.2%) or Heterosexual Contract (33.7%). IDU constituted an additional 6.0 percent and MSM/IDU were another 3.5 percent of PLWHA through 2013. Since 2010 and the lift of the ban of HIV positive immigrants and refugees, the population of PLWHA who got HIV through pediatric transmission and living in Colorado has increased. This particular transmission category in foreign born PLWHA through 2013 constitutes 3.7 percent.

Figure 27: Living with HIV Disease Among Foreign Born Persons by Risk Reported – Colorado (2009-2013)

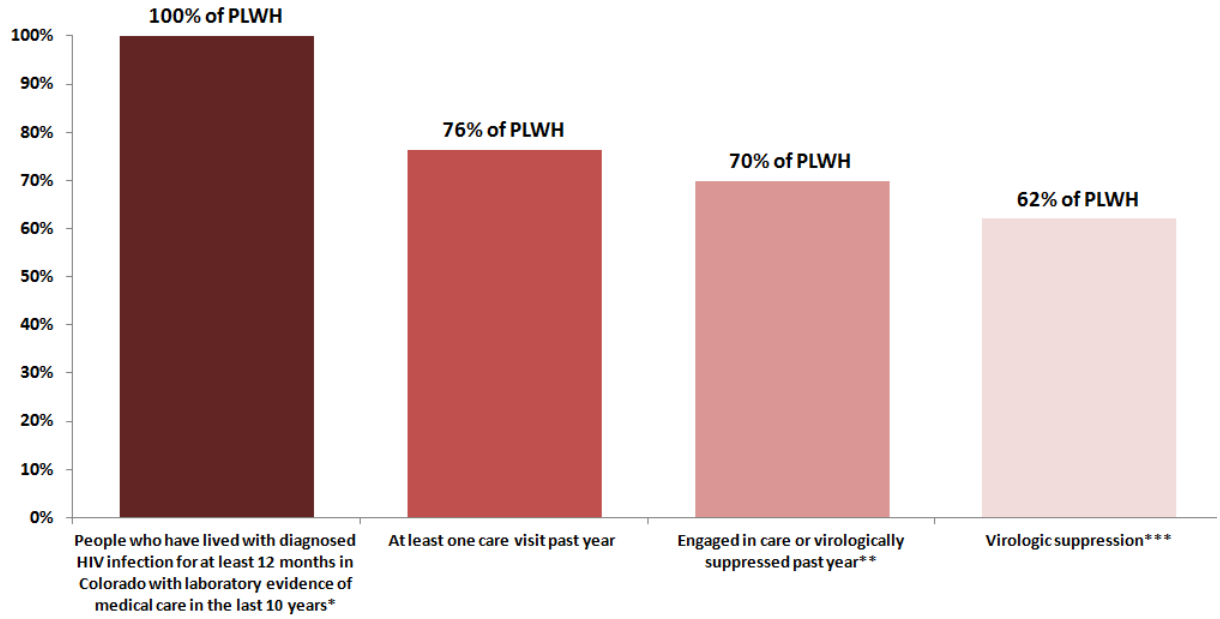


HIV Care Continuum

Summary

- Seventy six percent were in care.
- Seventy percent were retained in care.
- Sixty two percent were virally suppressed.

Figure 28: HIV Care Continuum as of December 31, 2014, Colorado



* Data source: Enhanced HIV/AIDS Reporting System (eHARS). Defined as persons diagnosed with HIV infection (regardless of stage of disease) through year- end 2012, who were alive at year-end 2013.

** Data source: CDPHE's CD4/VL database and eHARS. Calculated as the percentage of persons who had ≥2 CD4 or viral load results at least 3 months apart during 2013 among those diagnosed with HIV through year-end 2012 and alive at year-end 2013 or as the percentage of persons who were virologically suppressed at the time of their last lab during 2013, but did not have any additional lab >90 days away from this during 2013.

*** Calculated as number of persons who had suppressed VL (<=200 copies/mL) at most recent test during 2013, among those diagnosed with HIV through year-end 2012 and alive at year-end 2013.

Definitions:

Diagnosed: Persons diagnosed with HIV infection (regardless of stage of disease) through December 31, 2013, alive as of December 31, 2014, live in Colorado to the best of our knowledge and have lab evidence of medical care in Colorado in the last 10 years (2005-2014).

Engaged in Care: Percent of diagnosed with at least one CD4 or viral load lab test during the time period of January 1, 2014 – December 31, 2014, reported to the state.

Retained in Care: Percent of diagnosed with at least two lab tests at least 90 days apart during the time period of January 1, 2014 – December 31, 2014, reported to the

state OR virally suppressed at the time of their last lab during the time period of January 1, 2014 – December 31, 2014, but did not have any additional lab > 90 days away from this time period.
Virally Suppressed: Percent of diagnosed where their most recent (January 1, 2014 – December 31, 2014) viral load test had a result of <200 cells/µL.

National HIV Behavioral Surveillance - Denver, Colorado

High Risk Heterosexual Cycle

Summary

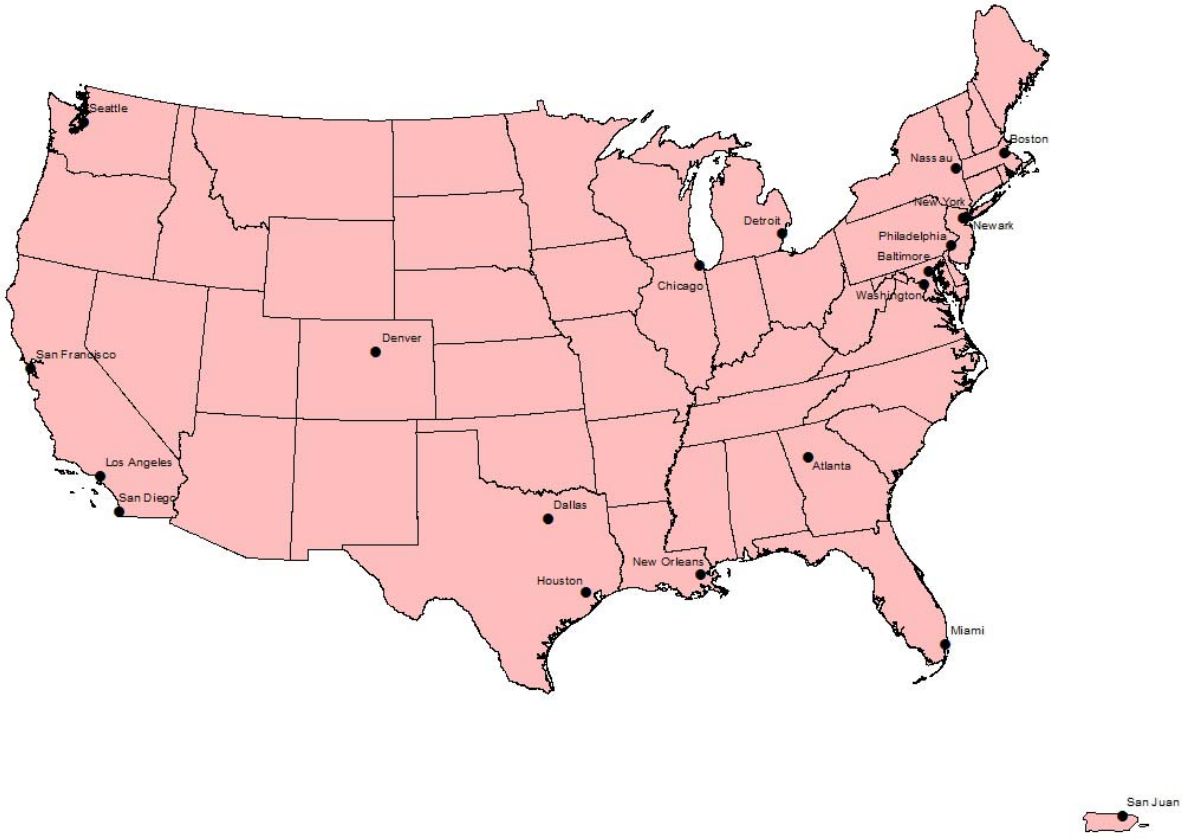
- Among participants 10.4 percent were White, 56.7 percent were Hispanic, and 25.5 percent were Black.
- The majority of participants were between 35 and 54 years of age (51.7%).
- Participants identified themselves mostly as heterosexual (92.2%), with the remaining identifying as homosexual (0.2%) or bisexual (7.6%).
- Among participants, 29.1 percent have been homeless at one point in their life with 63.4 percent of those being currently homeless.
- Sixty-two percent of participants currently have health insurance with 6.2 percent having private insurance and 90.9 percent with public insurance. 72.3 percent reported visiting a healthcare professional in the prior 12 months.
- Almost two-thirds (61.9%) used non-prescription drugs in the prior 12 months with marijuana being reported by a vast majority (87.7%) of those.
- A majority of participants have had an HIV test (70.0%) with 26.9% having had a test within the prior 12 months.
- Twenty-nine percent of participants reported receiving free condoms in the prior 12 months and 70.8% of those reported using the condoms.

Introduction

National HIV Behavioral Surveillance System

In 2003, CDC, in collaboration with state and local health departments, initiated the National HIV Behavioral Surveillance (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 involved rotating cycles lasting 12 months of surveillance in these three populations. In 2013, the third cycle of high risk heterosexuals was completed; this is the third and last population in the third iteration. Denver is one of 20 participating MSAs across the country (**Figure 29**). The Denver NHBS system is a collaborative effort between CDPHE and Denver Public Health (DPH).

Figure 29: Participating Metropolitan Statistical Areas in the National HIV Behavioral Surveillance System



Overall Methods

A core questionnaire was administered to participants in all three cycles. The questionnaire included information about 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.

Heterosexual Cycle

Eligibility: All potential participants must have: 1) Been 18 years or older, 2) reported vaginal or anal sex with a person of the opposite sex in the past 12 months, 3) lived in the Denver-Aurora metropolitan statistical area, 4) been male or female, not transgender, 5) not previously completed an interview for NHBS-HET3, 6) been able to complete the eligibility screener and interview in English or Spanish, and 7) been able to provide consent.

Respondent-Driven Sampling: Participants were recruited through a chain-referral strategy called Respondent-Driven Sampling (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 heterosexual.

Interviews were conducted between July 23 and December 13, 2013. 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 were also compensated a smaller amount for each eligible person they recruited into the project. Voluntary HIV testing was also conducted as part of the HET cycle with extra compensation provided.

Cycle Demographics

As shown in **Table 17**, the majority of participants were Hispanic (56.7%), 35-54 years old (51.7%) and female (51.9%). A majority of participants reported a high school or higher education (60.3%), having an annual income below $10,000 (54.8%), and have health insurance (61.9%). Only 29.1 percent reported ever being homeless.

Table 17: Sociodemographic Characteristics of Participants in the Third Cycle of HET, National HIV Behavioral Surveillance Study – Denver (N=499), 2013

Gender	N (%)	Total
Male	240 (48.1)	499
Female	259 (51.9)	499
Transgender	0 (0)	499
Race/Ethnicity		
White, non-Hispanic	52 (10.4)	499
Black, non-Hispanic	127 (25.5)	499
Hispanic	283 (56.7)	499
American Indian/Alaskan Native, non-Hispanic	21 (4.8)	499
Asian/Pacific Islander, non-Hispanic	1 (>1)	499
Multiple Race, non-Hispanic	12 (2.4)	499
Age group (yrs)		
18-24	77 (15.4)	499
25-34	107 (21.5)	499
35-44	103 (20.6)	499
45-54	155 (31.1)	499
≥55	57 (11.4)	499

Education		
< High School	198 (39.7)	499
High School or Equivalent	211 (42.3)	499
>High School	90 (18.0)	499
Sexual Identity		
Homosexual	1 (>1)	499
Bisexual	38 (7.6)	499
Heterosexual	460 (92.2)	499
Health Insurance		
Currently have health insurance	309 (61.9)	499
Private	19 (6.2)	309
Public	281 (90.9)	309
Other	9 (2.9)	309
None	190 (38.1)	499
Annual Income		
$0-9,999	260 (54.8)	474
$10,000-19,999	107 (22.6)	474
$20,000-39,999	62 (13.1)	474
$40,000-74,999	38 (8.0)	474
$75,000 or more	7 (1.5)	474
Employment Status		
Full-time or Part-time	157 (31.5)	499
Homemaker	41 (8.2)	499
Full-time Student	14 (2.8)	499
Retired	9 (1.8)	499
Disabled	127 (25.5)	499
Unemployed	132 (26.4)	499
Other	19 (3.8)	499
Incarceration History		
Ever been in jail or prison for more than 24 hours	365 (73.2)	499
Been in jail or prison for more than 24 hours in the past 12 months	103 (28.2)	365
Ever homeless		
No	354 (70.9)	499
Yes, not currently	53 (36.6)	145
Yes, currently	92 (63.4)	145

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

High-Risk Sexual Behaviors

The majority reported their first sexual experience before the age of 20 years (98.4%). Almost ninety percent reported vaginal or anal sex without a condom with a main partner (88.4%). Less than half reported vaginal or anal sex without a condom with a casual partner (44.3%). Forty percent reported being under the influence of either alcohol or drugs during their last sexual encounter and nearly half (46.7%) knew their partner's HIV status.

Table 18a: Prevalence of HIV Surveillance Sexual Behaviors of Male Participants in the Third Cycle of HET, National HIV Behavioral Surveillance Study – Denver (N=499), 2013

Age at first sexual experience	N (%)	Total
≤20	233 (97.9)	238
21-30	5 (5.1)	238
>30	0 (0)	238
Number of partners in last 12 months		
0	0 (0)	238
1-10	220 (92.4)	238
11-20	8 (3.4)	238
21-30	7 (2.9)	238
>30	3 (1.3)	238
Number of main partners		
0	35 (25.2)	139
1-2	82 (59.0)	139
3-5	17 (12.2)	139
6-9	4 (2.9)	139
>10	1 (<1)	139
Number of casual partners		
1-10	105 (86.1)	122
11-20	8 (6.6)	122
21-30	7 (5.7)	122
>30	2 (1.6)	122
Main Partners		
Unprotected vaginal sex in last 12 months	167 (70.2)	238
Unprotected anal sex in last 12 months	25 (10.5)	238
Gave money, drugs, etc in exchange for sex	9 (4.7)	193
Received money, drugs, etc. in exchange for sex	14 (7.3)	193
Casual Partners		
Unprotected vaginal sex in last 12 months	101 (42.4)	238
Unprotected anal sex in last 12 months	21 (8.8)	238

Gave money, drugs, etc in exchange for sex	16 (6.7)	238
Received money, drugs, etc. in exchange for sex	26 (16.3)	160
Last Sex Partner		
Unprotected vaginal sex	185 (81.1)	228
Unprotected anal sex	16 (94.1)	17
Under the influence of alcohol or drugs		
Neither	120 (50.4)	238
Both	33 (13.9)	238
Alcohol	69 (29.0)	238
Drugs	16 (6.7)	238
Marijuana	37 (75.5)	49
Speedballs (heroin and cocaine together)	11 (22.5)	49
Heroin	1 (2.0)	49
Crack cocaine	0 (0)	49
Knew partner's HIV status	110 (46.2)	238
HIV Positive	0 (0)	110

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

Table 18b: Prevalence of HIV Surveillance Sexual Behaviors of Female Participants in the Third Cycle of HET, National HIV Behavioral Surveillance Study – Denver (N=499), 2013

Age at first sexual experience	N (%)	Total
≤20	258 (98.9)	261
21-30	3 (1.1)	261
>30	0 (0)	261
Number of partners in last 12 months		
0	0 (0)	261
1-10	257 (98.5)	261
11-20	2 (<1)	261
21-30	1 (<1)	261
>30	1 (<1)	261
Number of main partners		
0	19 (13.6)	140
1-2	115 (82.1)	140
3-5	6 (4.3)	140
6-9	0 (0)	140
>10	0 (0)	140
Number of casual partners		
1-10	121 (97.6)	124
11-20	1 (<1)	124
21-30	1 (<1)	124

>30	1 (<1)	124
Main Partners		
Unprotected vaginal sex in last 12 months	217 (83.1)	261
Unprotected anal sex in last 12 months	32 (12.3)	261
Gave money, drugs, etc in exchange for sex	1 (<1)	237
Received money, drugs, etc. in exchange for sex	9 (3.8)	237
Casual Partners		
Unprotected vaginal sex in last 12 months	87 (33.3)	261
Unprotected anal sex in last 12 months	12 (4.6)	261
Gave money, drugs, etc in exchange for sex	4 (3.1)	129
Received money, drugs, etc. in exchange for sex	19 (14.7)	129
Last Sex Partner		
Unprotected vaginal sex	206 (81.4)	253
Unprotected anal sex	5 (100)	5
Under the influence of alcohol or drugs		
Neither	179 (68.8)	260
Both	25 (9.6)	260
Alcohol	47 (18.1)	260
Drugs	9 (3.5)	260
Marijuana	27 (79.4)	34
Speedballs (heroin and cocaine together)	7 (20.6)	34
Heroin	0 (0)	34
Crack cocaine	0 (0)	34
Knew partner's HIV status	123 (47.1)	261
HIV Positive	2 (1.6)	123

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

Drug Use Behaviors

Twelve percent of participants reported ever injecting drugs, where the vast majority of those (86.9%) were 30 years old or younger when first started injecting. However, though 61 participants reported past injection drug use, no participant reported using in the past 12 months. Over half (61.9%) used non-injection non-prescription drugs in the prior 12 months with marijuana being reported by a vast majority (87.7%). The majority of participants reported never attending drug treatment (69.9%).

Table 19: Prevalence of HIV Surveillance Substance Use Behaviors of Participants in the Third Cycle of HET, National HIV Behavioral Surveillance Study – Denver (N=499), 2013

Injection Drug Use	N (%)	Total
Ever injected drugs	61 (12.2)	499
Age when first injected		
≤20	27 (44.3)	61
21-30	26 (42.6)	61
>31	8 (13.1)	61
Recent Injection		
Injected drugs in last 12 months	0 (0)	61
Non-Injection Drug Use		
Non-prescription drug use in last 12 months	309 (61.9)	499
Marijuana	271 (87.7)	309
Crystal meth	54 (17.5)	309
Crack cocaine	88 (28.5)	309
Powdered cocaine (smoked or snorted)	99 (32.0)	309
Downers (Valium, Ativan, Xanax)	33 (10.7)	309
Painkillers (Oxycontin, Vicodin, Percocet)	77 (24.9)	309
Hallucinogens (LSD, mushrooms)	31 (10.0)	309
X or Ecstasy	37 (12.0)	309
Heroin (smoked or snorted)	13 (4.2)	309
Viagra, Levitra or Cialis	6 (2.5)	238
Used for erectile dysfunction	3 (50.0)	6
Alcohol Use		
Binge drinking (5 or more in one sitting - males) in last 12 months		
Never	20 (10.0)	201
At least once a day	35 (17.4)	201
At least once a week	76 (37.8)	201
At least once a month	50 (24.8)	201
Less than once a month	20 (10.0)	201
Binge drinking (4 or more in one sitting - females) in last 12 months		
Never	25 (11.4)	219
At least once a day	16 (7.3)	219
At least once a week	66 (30.1)	219
At least once a month	70 (32.0)	219
Less than once a month	42 (19.2)	219
Binge drinking (5 or more in one sitting - males) in last 30 days		
0	46 (25.3)	182
1-10	97 (53.3)	182

11-20	21 (11.5)	182
21-30	18 (9.9)	182
>31	0 (0)	182
Binge drinking (5 or more in one sitting - females) in last 30 days		
0	66 (35.1)	188
1-10	100 (53.2)	188
11-20	15 (8.0)	188
21-30	7 (3.7)	188
>31	0 (0)	188
Alcohol and Drug Treatment		
Ever participated in alcohol treatment program	173 (34.7)	499
Participated in last 12 months	42 (24.3)	173
Ever participated in drug treatment program	150 (30.1)	499
Participated in last 12 months	35 (23.3)	150

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

STI/HIV Testing & Prevention Behaviors

Nearly three-quarters (72.3%) of participants reported visiting a healthcare professional in the prior 12 months and only a quarter (28.7%) of those were offered an HIV test at the visit. One quarter (24.5%) reported getting tested for an STI (excluding HIV and hepatitis) in the prior 12 months. A great majority have been tested for HIV (70.0%). Only 34.1 percent have not tested for HIV in the prior two years and almost three quarters (73.1%) have not tested for HIV in the prior 12 months. A quarter (28.9%) received free condoms in the prior 12 months and 70.8 percent of those used the free condoms.

Table 20: Prevalence of HIV Surveillance Testing & Prevention Behaviors of Participants in the Third Cycle of HET, National HIV Behavioral Surveillance Study – Denver (N=499), 2013

STI Testing Behavior	N (%)	Total
Tested for STI in last 12 months	122 (24.5)	498
Chlamydia	116 (95.1)	122
Gonorrhea	102 (84.3)	121
Syphilis	87 (72.5)	120
Other STI	26 (22.0)	118
STI diagnosis in last 12 months		
Chlamydia	28 (5.6)	499
Gonorrhea	18 (3.6)	499
Syphilis	2 (<1)	499
Other STI	6 (1.2)	499

Hepatitis		
Ever had a blood test for hepatitis B	153 (32.6)	469
Ever had a blood test for hepatitis C	266 (54.9)	485
Ever told had hepatitis by health care provider	43 (8.7)	497
A	0 (0)	42
B	41 (97.6)	42
C	1 (2.4)	42
Other (alcohol induced)	0 (0)	42
Other STIs		
Ever told had genital herpes by health care provider	7 (1.4)	499
Ever told had genital warts by health care provider	21 (4.2)	499
Ever told had human papillomavirus (HPV) by health care provider	23 (4.6)	499

HIV Testing Behavior

Visited a healthcare professional in last 12 months	361 (72.3)	499
HIV test offered at health care visit	102 (28.7)	355
Ever tested for HIV	345 (70.0)	493
Tested for HIV while in jail or prison in last 12 months	17 (16.8)	101
Number of times tested in past two years		
0	170 (34.1)	499
1-5	163 (32.7)	499
6-10	8 (1.6)	499
>10	158 (31.6)	499
Result of most recent HIV test		
Negative	328 (95.4)	344
Positive	5 (1.5)	344
Never obtained results	11 (3.2)	344
Indeterminate	0 (0)	344
Reason not tested for HIV in last 12 months		
Think at a low risk for infection	115 (31.5)	365
Afraid of result	42 (11.5)	365
Don't have time	24 (6.6)	365
Some other reason	8 (2.2)	365
No particular reason	176 (48.2)	365

HIV Positive Individuals

Recent positive test was first positive test	3 (60.0)	5
Asked for names of partners by health dept	3 (60.0)	5
Gave names of partners	2 (66.7)	3
Ever had a negative test before first positive test	2 (66.7)	3
Seen by health care provider for HIV infection	3 (60.0)	5

Reason never gone to health care provider for HIV care		
Feel good, don't need to go	0 (0)	2
Don't want to think about being positive/denial	0 (0)	2
Don't have money or insurance	1 (50.0)	2
Inconvenient (location/hours/time, etc.)	0 (0)	2
Forgot to go/Missed appointment	0 (0)	2
Drinking or using drugs	0 (0)	2
Appointment pending	1 (50.0)	2
Other	0 (0)	2
Currently taking antiretroviral medications	3 (100)	3
HIV Prevention		
Received free condoms in last 12 months	144 (28.9)	499
Received free condoms from which place(s)		
HIV/AIDS-focused community-based organization	127 (88.2)	144
IDU outreach program	13 (9.0)	144
Health center or clinic	2 (1.4)	144
Drug or alcohol treatment program	0 (0)	144
Some other place	1 (<1)	144
Used free condoms received	102 (70.8)	144
Received free sterile needles in last 12 months	0 (0)	499
Received individual-level HIV counseling in last 12 months	27 (5.4)	499
Received group-level HIV counseling in last 12 months	17 (3.4)	499

Glossary

AIDS (Acquired Immune Deficiency Syndrome) - An HIV-infected person receives a diagnosis of AIDS after the development of one the CDC-defined AIDS indicator illnesses (see opportunistic infection) or on the basis of the results of specific blood tests (i.e., a CD4+ count of less than or equal to 200 cells/mL or a CD4+ percentage of less than 14, if the percentage is all that is available). A positive HIV test result does not mean that a person has AIDS.

Antiretroviral therapy - Anti-HIV treatments designed to reduce the levels of HIV in a person's body.

Care Continuum Categories:

Diagnosed - All people diagnosed with HIV disease through December 31, 2012, living through December 31, 2013, having evidence of care by way of laboratory testing in the last 10 years (2004-2013) and having a last known residence in Colorado.

Engaged - Laboratory testing in 2013.

Retained - Laboratory testing at least 90 days apart in 2013 or was virally suppressed at the most recent viral load in 2013.

Suppressed - Viral load of undetectable or below 200 particles per milliliter.

CDC - The Centers for Disease Control and Prevention, in the U.S. Department of Health and Human Services, is the lead federal agency for protecting the health and safety of the people of the United States. CDC provides most of the funding for HIV Prevention and HIV Surveillance activities in Colorado.

Confidence Interval - a range within which there is a 95% chance of containing the true rate estimate.

Cumulative - Refers to the total number of HIV, AIDS or HIV/AIDS cases reported in Colorado since surveillance for this condition began in 1982.

Exchange partner - A sexual partner who receives money or drugs for sex.

Exposure categories - To monitor how HIV is being transmitted, HIV/AIDS cases are classified as one of several exposure (risk) categories developed by CDC.

MSM - refers to Male-to-male sexual contact, that is homosexual or bisexual contact.

IDU (Injection drug-use) - refers to the use of forms of drugs that require injection.

High-risk heterosexual (HET) contact - refers to heterosexual contact with a partner who is at increased risk for HIV infection (i.e., a MSM, IDU, or a person with documented HIV infection).

Hemophilia/transfusion/transplant - refers to cases resulting from a confirmed transfusion of blood or blood products before 1985).

Perinatal - refers to cases in children resulting from transmission from an HIV-positive mother.

Unspecified, or no identified risk cases - those persons who have no reported history of exposure at the time of the report date. This category includes persons for whom the surveillance protocols to document risk behavior information have not yet been completed, persons who have declined to disclose their risk behavior or who deny any risk behavior, and persons who do not know the HIV status or risk behaviors of their sex partners.

Frontier County - Refers to a subset of rural counties that have six or fewer persons per square mile.

Genotype - The genetic constitution of an individual or group.

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

HIV (Human Immunodeficiency Virus) - The virus that causes AIDS. A person who has contracted the virus is said to be HIV-positive or HIv infected.

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

Late Stage Diagnosis - Refers to those diagnoses where the AIDS diagnosis is within 365 days of the initial HIV diagnosis.

Perinatal - The word means "around birth" and is used to describe events that occur during labor and birth, immediately after delivery. When used to describe HIV transmission, however, this word applies more broadly and describes any time that a

mother may transmit HIV to her child-while she is pregnant, during birth, or through breast-feeding.

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

Rate - Type of ratio that includes a specification of time and a comparative value. In public health rates are typically expressed in the number of events per 100,000 persons but can be expressed using differing comparative values such as per 1,000; 10,000, etc. In epidemiology, rates express the probability of, or risk for, disease or other events in a defined population during a specified period, often one year.

Rural County - Refers to a county that does not contain a city 50,000 people or more.

Transcriptase - an enzyme that catalyzes the formation of RNA from a DNA template during transcription. AKA RNA polymerase.

Urban County - Refers to a county that does contain a city of 50,000 or more.

Virally Suppressed - a viral load of undetectable or below 200 particles per milliliter.

Resources

1. Colorado Rural Health Center. http://www.coruralhealth.org
2. US Census Bureau, 2013 Census ACS 1-year Estimate Data Table B01003 (geography: State of Colorado). http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
3. US Census Bureau, 2013 Census ACS 1-year Estimate Data Table B01001 (geography: State of Colorado). http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
4. US Census Bureau, 2013 Census County Population Estimates by Age, Sex, Race and Hispanic Origin (geography: State of Colorado). http://www.census.gov/popest/estimates.html.
5. US Census Bureau, 2013 Census ACS 5-year Estimate Data Table B19013 (geography: State of Colorado). http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
6. US Census Bureau, 2013 ACS 5-year Estimate Data Table S1701 (geography: State of Colorado and all counties within) http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
7. Colorado Department of Labor and Employment. Colorado LMI Gateway, Labor Force Information. http://lmigateway.coworkforce.com
8. The Henry J. Kaiser Family Foundation. State Health Facts. Colorado: Uninsured Rates for the Nonelderly by Race/Ethnicity, states (2012-2013), US (2013). http://www.statehealthfacts.org/prfileind.jsp?ind=143&cat=3&rgn=7
9. Colorado Department of Education. Fall 2013 Pupil Membership. http://www.cde.state.co.us/cdereval/rv2010pmlinks.htm
10. US Census Bureau, 2013 ACS 5-year Estimate Data Table B15002 (geography: Colorado Metropolitan Statistical Areas) http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml.
11. Colorado Department of Corrections. Statistical Report, Fiscal Year 2012. February 2014. https://www.colorado.gov/pacific/cdoc/departmental-reports-and-statistics
12. Centers for Disease Control and Prevention. HIV/AIDS Surveillance Report, 2013. Vol. 25. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, February 2015. http://cdc.gov/hiv/topics/surveillance/resources/reports/
13. Colorado Health Information Dataset (CoHID). Death Data Statistics, 2013. http://www.chd.dphe.state.co.us/cohid/Default.aspx
14. Colorado Health Information Dataset (COHID). Birth Data Statistics, 2013. http://www.chd.dphe.state.co.us/cohid/Default.aspx