

State of Wyoming



Department of Health

2017 Wyoming HIV Surveillance Report

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2017 Wyoming HIV Surveillance Report

Executive Summary

Through 2017, 461 cases of HIV have been diagnosed and reported in Wyoming. Over the past five years, an average of 15 cases have been reported each year, with a decrease in reported cases from 2016 to 2017. Most cases are male, white, and aged 25-34 years. The most frequently noted transmission categories included men who have sex with men, injection drug use, and heterosexual sex. The highest rate of new diagnoses occurred in Goshen County. The intake facility for Wyoming Department of Corrections is located in Goshen County and screens all new inmates for HIV upon entry which contributes to the high rate of infection noted in this report.

Prevalence is concentrated in Laramie County which contains approximately 30% of the epidemic in Wyoming. Most people living in Wyoming with HIV are male and white. Like new diagnoses, transmission among people living with HIV is dominated by sexual behavior including having sex with males for men and heterosexual sex for females. Injection drug use accounts for the next highest transmission category among males and females.

Data Quality and Limitations

Wyoming law requires all providers, laboratories, and local health departments/public health nursing offices to report all HIV-related information including positive or reactive diagnostic tests, CD4 counts, and viral loads within seven (7) days of result to the Wyoming Department of Health (WDH), Public Health Division, Communicable Disease Unit. The law also requires the reporting of any previous HIV test information, regardless of result, for people newly diagnosed with HIV. Identifying and reporting cases of HIV helps WDH develop prevention and intervention strategies to reduce the spread of disease. HIV reporting also allows those diagnosed to be linked to care and enables contact tracing and testing for any exposed partners.

For this report, HIV and HIV Stage 3 (AIDS) cases are combined and called HIV disease unless otherwise noted. Geographical representation of newly diagnosed HIV cases is based on residence at diagnosis. Prevalence of HIV is based on the most recent address. All rates displayed in this report are per 100,000 population.

HIV diagnoses data are reported as date of diagnosis and not date of report to the Wyoming Department of Health. HIV diagnosis date may not be indicative of HIV infection date. HIV diagnosis data may not accurately reflect those infected with HIV because not all persons with HIV have been tested or reported.

Acronyms and Definitions

AIDS: Acquired Immune Deficiency Syndrome. An advanced stage of HIV infection which occurs when the immune system of a person infected with HIV becomes severely compromised or a person infected with HIV acquires an opportunistic infection

Case Rate: The number of reported cases divided by the number of people in the same area at risk for the disease

CD4 Count: The number of CD4 white blood cells in a specific volume (1 microliter) of a person's blood

Exposure Category: The risk behavior(s) that most likely lead to transmission of HIV

Gender: A person's self-reported gender at the time of HIV diagnosis

HIV: Human Immunodeficiency Virus

HIV Prevalence: The total number of people living with HIV disease during a specific time period in Wyoming

HIV Stage 3: see AIDS

HIV Surveillance: The systematic collection, evaluation, interpretation, and dissemination of HIV-related information

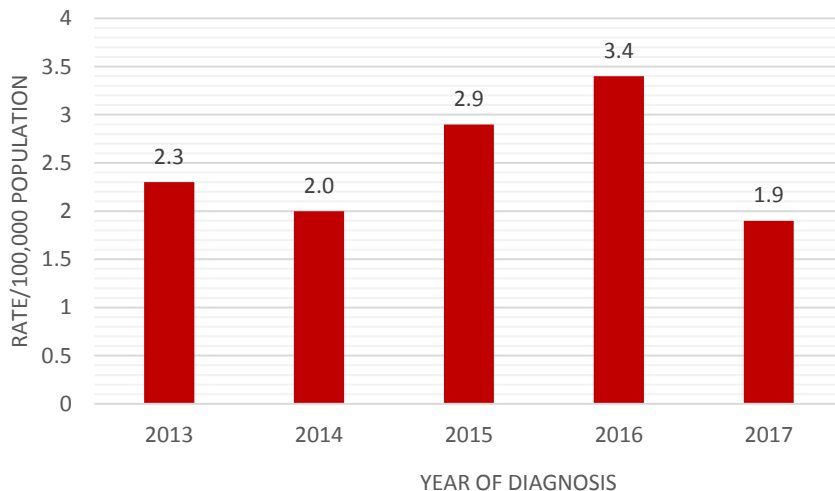
Viral Load: The number of HIV viral copies in a person's body measured as HIV RNA copies per milliliter of blood.

Epidemiology of HIV in Wyoming

New Diagnoses

From 2013-2017, 77 cases of HIV were reported in Wyoming. Figure 1 displays the case rate by year of diagnosis from 2013 through 2017. The rate of newly diagnosed infection decreased from 2016 to 2017. Of the 77 cases reported, 28 (36%) were reported as AIDS. This suggests that over one third of the new diagnoses during this time were late testers. Late testing results in missed opportunities for HIV prevention and treatment.

Figure 1. Newly diagnosed HIV disease case rates by year, Wyoming, 2013-2017



Most cases were white, male, and between the ages of 35 and 54 years in 2017 (Table 1). Males accounted for 88% of all cases diagnosed between 2013 and 2017. Most newly diagnosed HIV infections were among non-Hispanic Whites (91%) in 2017. Infection rates decreased from 2016 to 2017 among non-Hispanic Whites, Hispanics of all races, those with more than one race, and American Indian/Alaska Natives. The average rate of infection from 2013-2017 among non-Hispanic Blacks (33.5) was notably higher than that of any other race/ethnicity.

In 2017, the highest rate of infection was among those aged 35-44 years followed by those aged 45-54 years. From 2013 to 2017, the rate of infection among those aged 15-24, 25-34, and 55 years and older decreased. The rate among those aged 35-44 and 45-54 increased.

Table 1. Newly diagnosed HIV cases and rates by demographic factors, Wyoming, 2013-2017

Year of HIV Diagnosis	2013		2014		2015		2016		2017	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Total	16	2.3	13	2.0	17	2.9	20	3.4	11	1.9
Gender										
Male	14	4.7	10	3.4	15	5.1	18	6.1	10	3.4
Female	2	0.7	3	1.1	2	0.7	2	0.7	1	0.4
Age at HIV Diagnosis										
<15	0	0.0	2	1.7	0	0.0	0	0.0	0	0.0
15-24	4	5.0	0	0.0	5	6.3	3	3.8	0	0.0
25-34	4	4.9	5	6.2	5	6.2	11	13.5	3	3.7
35-44	5	7.2	3	4.3	4	5.8	0	0.0	4	5.7
45-54	2	2.6	3	4.0	2	2.6	3	4.0	4	5.5
55+	1	0.6	0	0.0	1	0.6	3	1.9	0	0.0
Race/Ethnicity										
White	11	2.2	6	1.2	11	2.2	15	3.1	10	1.9
Black	2	33.5	5	83.7	3	50.2	0	0.0	0	0.0
Hispanic (all races)	3	5.4	2	3.6	3	5.4	3	5.4	1	1.8
Asian	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Native Hawaiian/Pacific Islander	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
American Indian/Alaska Native	0	0.0	0	0.0	0	0.0	1	9.1	0	0.0
Multiple Race	0	0.0	0	0.0	0	0.0	1	8.6	0	0.0

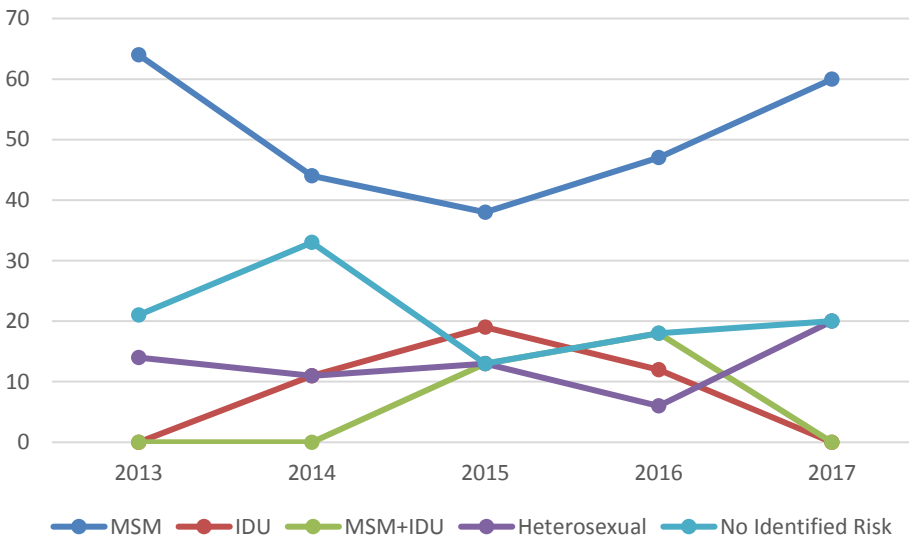
Men who have sex with men accounted for the highest percentage of cases among males from 2013-2017 (49%), whereas heterosexual contact was the highest reported risk among females (67%) (Table 2). Two cases of pediatric HIV infection were reported due to perinatal transmission.

Table 2. Newly diagnosed HIV disease cases by gender and exposure category age 15 and older, Wyoming, 2013-2017

Year of HIV Diagnosis	No. (%)
Male	65 (100%)
Men who have sex with men (MSM)	32 (49%)
Injection Drug Use (IDU)	6 (9%)
MSM and IDU	5 (8%)
Heterosexual Contact	8 (12%)
No Identified Risk (NIR)/Other	14 (22%)
Female	9 (100%)
IDU	0 (0%)
Heterosexual Contact	6 (67%)
No Identified Risk (NIR)	3 (33%)

Transmission through injection drug use increased among men from 2013 to 2016 but no cases were attributed to injection drug use in 2017. The percentage of male cases attributed to sex with men increased from 2014 to 2017.

Figure 2. Percent of newly diagnosed HIV cases by exposure category, Males, Wyoming, 2013-2017



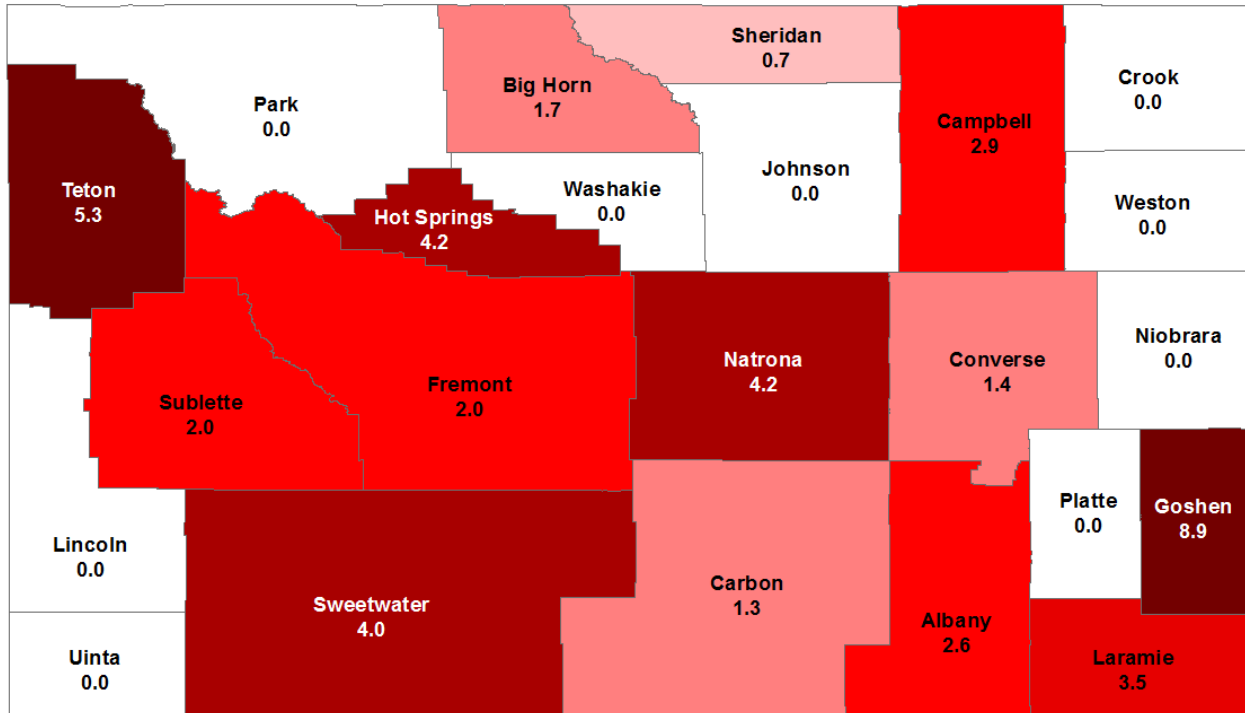
Laramie and Natrona Counties accounted for the highest number of newly diagnosed infections from 2013 to 2017 (22% each), followed by Sweetwater (12%). Nine counties did not report any newly diagnosed cases of HIV during this time period. (Table 3).

Table 3. Newly diagnosed HIV cases by county, Wyoming, 2013-2017

County	No. (%)
Albany	5 (6%)
Big Horn	1 (1%)
Campbell	7 (9%)
Carbon	1 (1%)
Converse	1 (1%)
Crook	0 (0%)
Fremont	4 (5%)
Goshen	6 (8%)
Hot Springs	1 (1%)
Johnson	0 (0%)
Laramie	17 (22%)
Lincoln	0 (0%)
Natrona	17 (22%)
Niobrara	0 (0%)
Park	0 (0%)
Platte	0 (0%)
Sheridan	1 (1%)
Sublette	1 (1%)
Sweetwater	9 (12%)
Teton	6 (8%)
Uinta	0 (0%)
Washakie	0 (0%)
Weston	0 (0%)
Total	77 (100%)

Goshen County had the highest rate of infection from 2013-2017 (8.9 cases/100,000 population). This high rate reflects the fact that Goshen County houses the Wyoming Department of Corrections intake facility which conducts testing on all new inmates. Teton County had the second highest rate of infection (5.3 cases/100,000 population) followed by Natrona and Hot Springs counties (4.2 cases/100,000 population).

Figure 3. Average newly diagnosed HIV case rate by county, Wyoming, 2013-2017



Prevalence

As of December 31, 2017, 312 people with HIV disease lived in Wyoming. Of those, males accounted for the bulk of cases (79%). The majority of cases living in Wyoming were classified as HIV Stage 3 (55%) (Table 4).

Table 4. HIV prevalence, Wyoming, by status and demographic factors as of December 31, 2017

Status	HIV No. (%)	HIV Stage 3 (AIDS) No. (%)
Total	141 (100%)	171 (100%)
Gender		
Male	106 (75%)	142 (83%)
Female	35 (25%)	29 (17%)
Current Age		
<15	8 (6%)	0 (0%)
15-24	7 (5%)	2 (1%)
25-34	30 (21%)	12 (7%)
35-44	33 (23%)	36 (21%)
45-54	37 (26%)	50 (29%)
55+	26 (18%)	71 (42%)
Race/Ethnicity		
White	99 (70%)	115 (67%)
Black	16 (11%)	12 (7%)
Hispanic (all races)	18 (13%)	32 (19%)
Asian	1 (1%)	0 (0%)
Native Hawaiian/Pacific Islander	0 (0%)	1 (1%)
American Indian/Alaska Native	5 (4%)	7 (4%)
Multiple Race	2 (1%)	4 (2%)

Reported transmission among male cases residing in Wyoming was due to men who have sex with men (64%) followed by those who were MSM and injected drugs (13%). Heterosexual sex was the most common risk reported among females (48%)(Table 5).

Table 5. HIV prevalence, Wyoming, aged 15 years and older by status and reported exposure category as of December 31, 2017

Status	HIV No. (%)	AIDS No. (%)
Male	101 (100%)	142 (100%)
MSM	64 (63%)	91 (64%)
Injection Drug Use (IDU)	11 (11%)	11 (8%)
MSM and IDU	12 (12%)	19 (13%)
Heterosexual Contact	3 (3%)	7 (5%)
No Identified Risk	10 (10%)	13 (9%)
Other	1 (1%)	1 (1%)
Female	32 (100%)	29 (100%)
IDU	6 (19%)	10 (34%)
Heterosexual Contact	17 (53%)	12 (41%)
No Identified Risk	7 (22%)	6 (21%)
Other	2 (6%)	1 (3%)

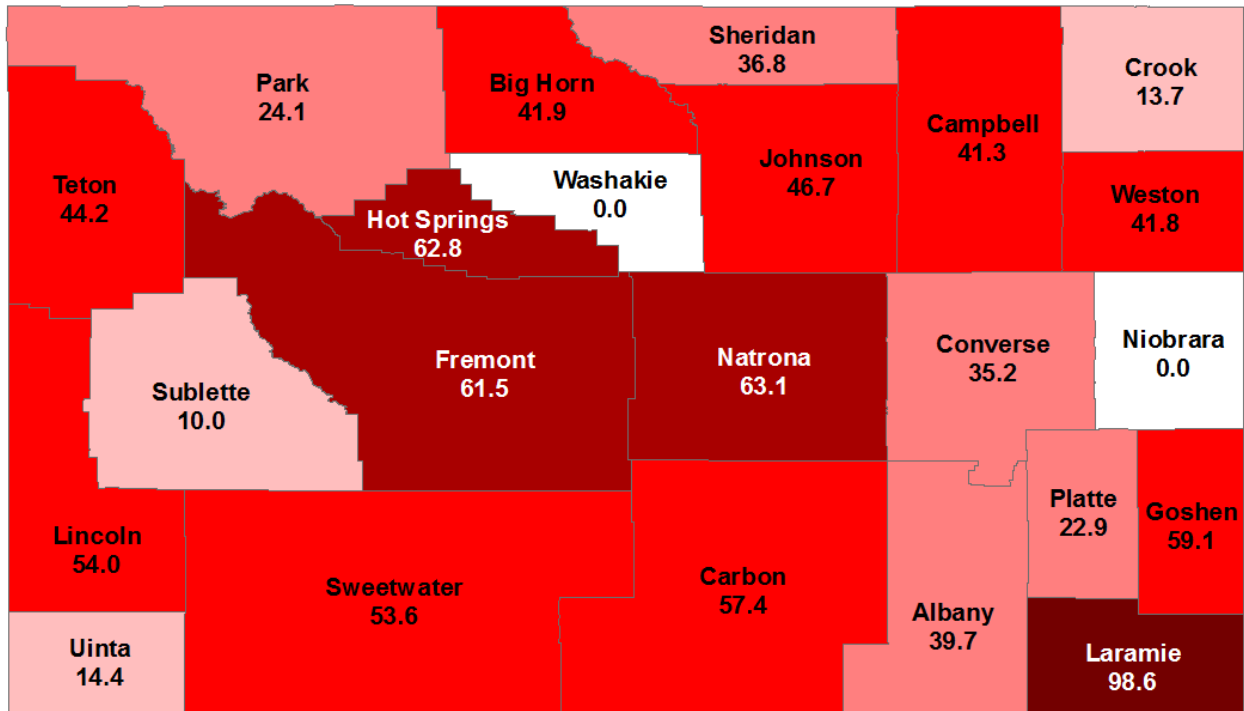
The majority of cases resided in Laramie County (30%), Natrona County (16%), Fremont County (8%), and Sweetwater County (8%) in 2017 (Table 6).

Table 6. HIV prevalence, Wyoming, by status and county as of December 31, 2017

County	HIV No. (%)	AIDS No. (%)	Total No. (%)
Albany	7 (5%)	8(5%)	15 (5%)
Big Horn	2 (1%)	3 (2%)	5 (2%)
Campbell	9 (6%)	11 (6%)	20 (6%)
Carbon	5 (4%)	4 (2%)	9 (3%)
Converse	2 (1%)	3 (2%)	5 (2%)
Crook	1 (1%)	0 (0%)	1 (0%)
Fremont	8 (6%)	17 (10%)	25 (8%)
Goshen	2 (1%)	6 (4%)	8 (3%)
Hot Springs	1 (1%)	2 (1%)	3 (1%)
Johnson	1 (1%)	3 (2%)	4 (1%)
Laramie	42 (30%)	53 (31%)	95 (30%)
Lincoln	7 (5%)	3 (2%)	10 (3%)
Natrona	26 (18%)	25 (15%)	51 (16%)
Niobrara	0 (0%)	0 (0%)	0 (0%)
Park	3 (2%)	4 (2%)	7 (2%)
Platte	1 (1%)	1 (1%)	2 (1%)
Sheridan	4 (3%)	7 (4%)	11 (4%)
Sublette	0 (0%)	1 (1%)	1 (0%)
Sweetwater	10 (7%)	14 (8%)	24 (8%)
Teton	8 (6%)	2 (1%)	10 (3%)
Uinta	2 (1%)	1 (1%)	3 (1%)
Washakie	0 (0%)	0 (0%)	0 (0%)
Weston	0 (0%)	3 (2%)	3 (1%)
Total	141 (100%)	171 (100%)	312 (100%)

Prevalence rates were highest in Laramie, Natrona, and Hot Springs counties. No cases of HIV lived in Washakie or Niobrara counties in 2017 (Figure 4).

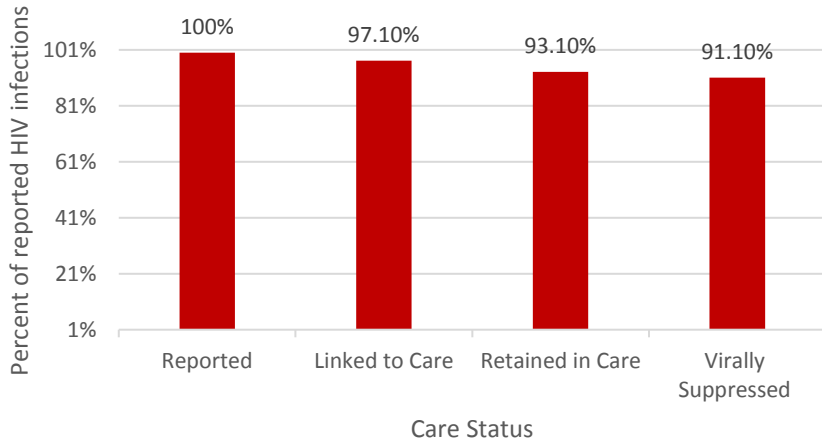
Figure 4. HIV prevalence rate by county, Wyoming, 2017



HIV Care Continuum

The HIV Care Continuum includes the steps a person with HIV goes through from initial diagnosis to successful treatment. The continuum includes cases reported, those who were linked to care after diagnosis, those who remained in care in 2017, and those in care who had a suppressed viral load. Retained in care is defined as having at least one CD4 test or viral load test conducted within the year. Annually, the Communicable Disease Unit assesses and investigates cases that are presumed to be out of care in order to re-engage those who need assistance. The HIV Care Continuum shown in Figure 5 was created after 2017 out of care investigations were completed. Wyoming has a high percentage of cases linked and retained in care. Most of those retained in care (91.1%) had a suppressed viral load in 2017. National estimates of 2014 data indicate approximately 49% of people with HIV have a suppressed viral load.¹

Figure 5. HIV Care Continuum, Wyoming, 2017



Since the beginning of the epidemic, 178 cases of HIV cases residing in Wyoming have died corresponding to a case fatality rate of 39%.

Table 7. Number of cases, deaths, and case fatality rates by time of diagnosis, Wyoming, 1989-2017.

Year	Number of Cases	Deaths	Case Fatality Rate %
1989-2017	461	178	39

References

1. The Centers for Disease Control and Prevention. HIV Continuum of Care, U.S. 2014, Overall and by Age, Race/Ethnicity, Transmission Route and Sex. <https://www.cdc.gov/nchstp/newsroom/2017/HIV-Continuum-of-Care.html>. Accessed April 6, 2018.