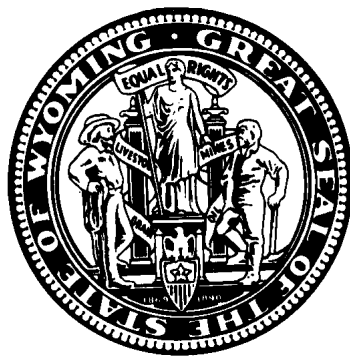


# State of Wyoming



## Department of Health

### 2020 Wyoming HIV Surveillance Report

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Interim Director

7/9/2021

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**State of Wyoming  
Department of Health**

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2020 Wyoming HIV Surveillance Report is published by the  
Public Health Division  
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# 2020 Wyoming HIV Surveillance Report

## Executive Summary

Through 2020, 503 cases of HIV have been diagnosed and reported in Wyoming. Over the past five years, an average of 14 cases have been reported each year, with a slight increase in reported cases from 2017 to 2019. 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 Teton County followed by Goshen, Natrona, and Hot Springs counties. 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 with HIV in Wyoming are male and white. Transmission among people living with HIV typically occurs through 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 within 24 hours of result and 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

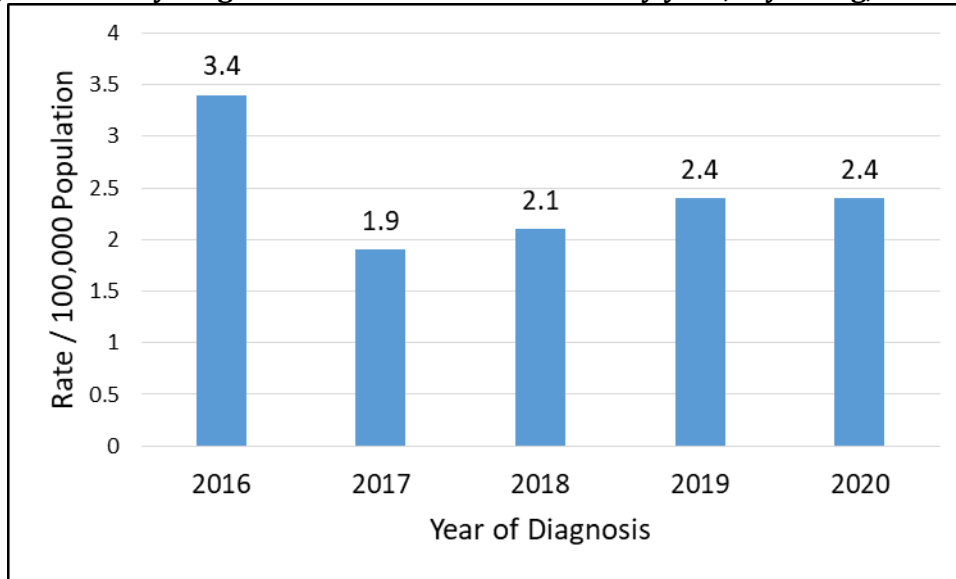
**Viral Load:** The number of HIV viral copies in a person's body measured as HIV RNA copies per milliliter of blood

## Epidemiology of HIV in Wyoming

### New Diagnoses

From 2016-2020, 71 cases of HIV were reported in Wyoming. Figure 1 displays the case rate by year of diagnosis from 2016 through 2020. The rate of newly diagnosed infection increased from 2017 to 2018 and maintained the same rate from 2019 to 2020. Of the 71 cases reported, 25 (35%) were reported as HIV Stage 3 (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, 2016-2020**



Most cases were white, male, and between the ages of 25 and 44 years in 2020 (Table 1). Males accounted for 86% of all cases diagnosed between 2016 and 2020. Most newly diagnosed HIV infections were among non-Hispanic Whites (64%) in 2020. The average rate of infection from 2016-2020 among those of Hispanic ethnicity peaked in 2019 (8.6) and declined in 2020 (3.5).

In 2020, the highest rate of infection was among those aged 35-44 years followed by those aged 25-34 years. From 2016 to 2020, the rate of infection among those aged 15-24 decreased. The rate among those aged 45-54 years increased.

**Table 1. Newly diagnosed HIV cases and rates by demographic factors, Wyoming, 2016-2020**

| Year of HIV Diagnosis       | 2016      |            | 2017      |            | 2018      |            | 2019      |            | 2020      |            |
|-----------------------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
|                             | No.       | Rate       | No.       | Rate       | No.       | Rate       | No.       | Rate       | No.       | Rate       |
| <b>Total</b>                | <b>20</b> | <b>3.4</b> | <b>11</b> | <b>1.9</b> | <b>12</b> | <b>1.9</b> | <b>14</b> | <b>2.4</b> | <b>14</b> | <b>2.4</b> |
| <b>Gender</b>               |           |            |           |            |           |            |           |            |           |            |
| Male                        | 18        | 6.0        | 10        | 3.4        | 11        | 3.4        | 12        | 4.2        | 12        | 4.2        |
| Female                      | 2         | 0.7        | 1         | 0.4        | 1         | 0.4        | 2         | 0.7        | 2         | 0.7        |
| <b>Age at HIV Diagnosis</b> |           |            |           |            |           |            |           |            |           |            |
| <15                         | 0         | 0.0        | 0         | 0.0        | 0         | 0.0        | 0         | 0.0        | 0         | 0.0        |
| 15-24                       | 2         | 2.6        | 0         | 0.0        | 0         | 0.0        | 1         | 1.4        | 0         | 0.0        |
| 25-34                       | 12        | 14.7       | 3         | 3.7        | 9         | 11.1       | 5         | 6.3        | 5         | 6.3        |
| 35-44                       | 1         | 1.4        | 4         | 5.6        | 2         | 2.8        | 5         | 6.9        | 5         | 7.0        |
| 45-54                       | 2         | 2.8        | 4         | 5.6        | 1         | 1.4        | 2         | 3.0        | 3         | 4.4        |
| 55+                         | 3         | 1.8        | 0         | 0.0        | 0         | 0.0        | 1         | 0.6        | 1         | 0.6        |
| <b>Race/Ethnicity</b>       |           |            |           |            |           |            |           |            |           |            |
| White                       | 15        | 3.1        | 10        | 2.0        | 10        | 2.0        | 9         | 1.9        | 11        | 2.0        |
| Black                       | 0         | 0.0        | 0         | 0.0        | 0         | 0.0        | 0         | 0.0        | 2         | 0.0        |
| Hispanic (all races)        | 3         | 5.3        | 1         | 1.8        | 0         | 1.8        | 5         | 8.6        | 2         | 3.5        |
| Asian                       | 0         | 0.0        | 0         | 0.0        | 1         | 20.3       | 0         | 0.0        | 0         | 0.0        |
| Native                      | 0         | 0.0        | 0         | 0.0        | 0         | 0.0        | 0         | 0.0        | 0         | 0.0        |

|                               |   |     |   |     |   |     |   |     |   |     |
|-------------------------------|---|-----|---|-----|---|-----|---|-----|---|-----|
| Hawaiian/Pacific Islander     |   |     |   |     |   |     |   |     |   |     |
| American Indian/Alaska Native | 1 | 8.4 | 0 | 0.0 | 1 | 8.4 | 0 | 0.0 | 1 | 8.4 |
| Multiple Race                 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |

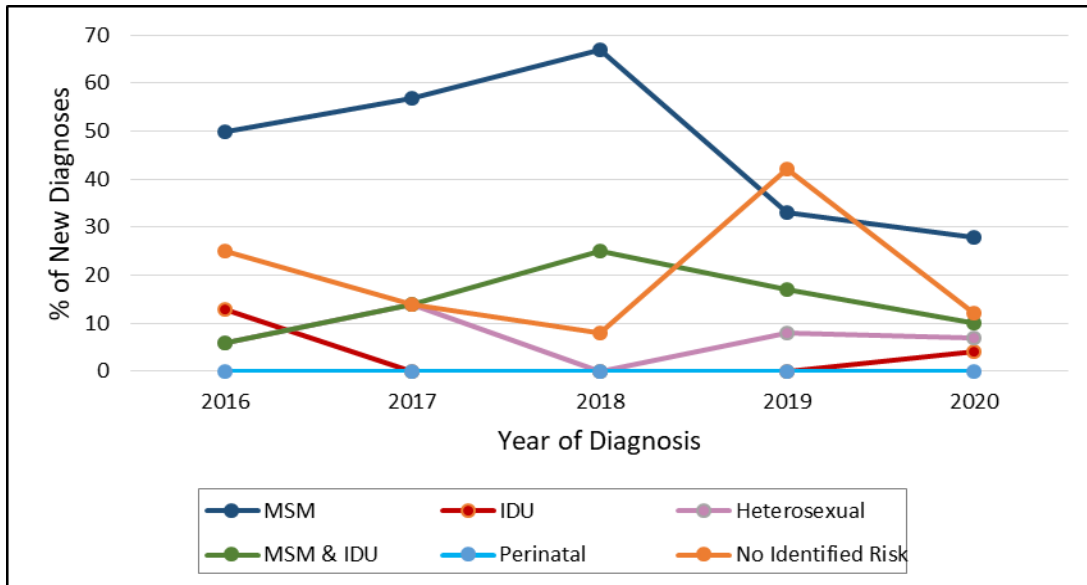
Men who have sex with men accounted for the highest percentage of cases among males from 2016-2020 (49%), whereas heterosexual contact was the highest reported risk among females (50%) (Table 2). Injection drug use accounted for the second highest transmission exposure among both genders.

**Table 2. Newly diagnosed HIV disease cases by gender and exposure category, Wyoming, 2016-2020**

| Gender and Exposure Category    | No. (%)          |
|---------------------------------|------------------|
| <b>Male</b>                     | <b>71 (100%)</b> |
| Men who have sex with men (MSM) | 35 (49%)         |
| Injection Drug Use (IDU)        | 4 (6%)           |
| MSM and IDU                     | 12 (17%)         |
| Heterosexual Contact            | 5 (7%)           |
| No Identified Risk (NIR)        | 15 (21%)         |
| <b>Female</b>                   | <b>8 (100%)</b>  |
| IDU                             | 3 (38%)          |
| Heterosexual Contact            | 4 (50%)          |
| No Identified Risk (NIR)        | 1 (13%)          |

The percentage of male cases attributed to sex with men remained steady as the highest risk percentage from 2016-2018, then sharply declined from 2018 to 2019. This is in response to a sharp increase in the percentage of cases that declined to provide risk information at that time (43%). The rate then remained steady from 2019-2020. Men who have sex with men and inject drugs accounted for the second highest risk factor percentage of diagnoses in 2020 among men who provided risk factor information. Cases attributed to injection drug use alone decreased from 2016 to 2020.

**Figure 2. Percent of newly diagnosed HIV cases by exposure category, Males, Wyoming, 2016-2020**



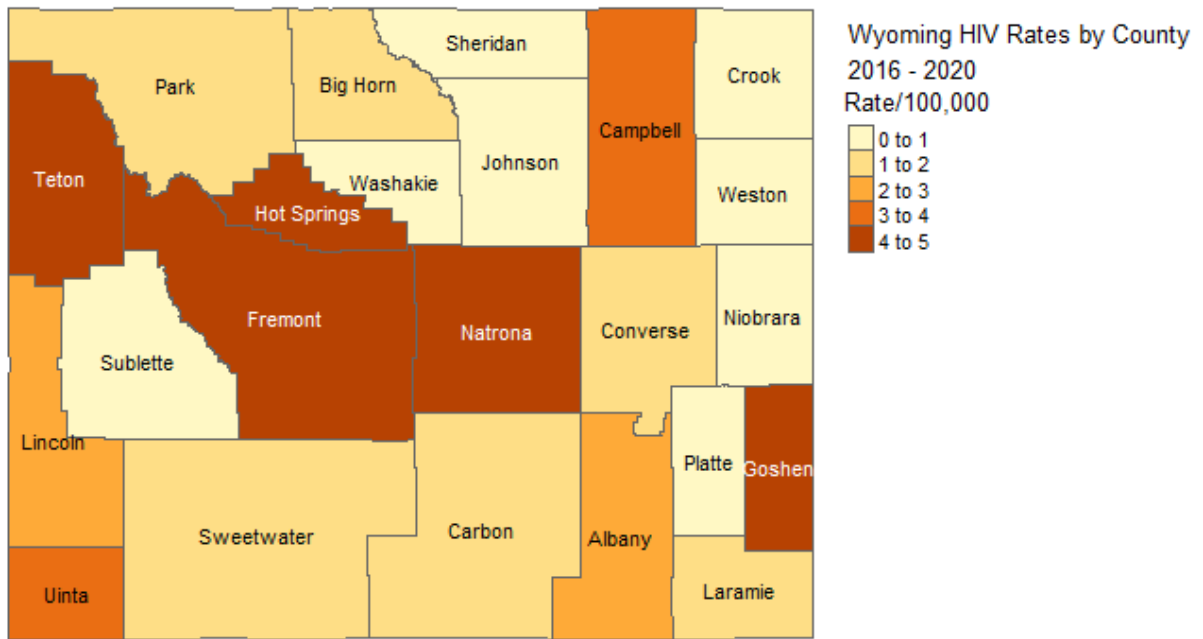
Natrona County accounted for the highest number of newly diagnosed infections from 2016 to 2020 (25%), followed by Fremont and Laramie Counties (11%) and Campbell County (10%). Seven counties did not report any newly diagnosed cases of HIV during this time period. (Table 3).

**Table 3. Newly diagnosed HIV cases by county, Wyoming, 2016-2020**

| County       | No. (%)          |
|--------------|------------------|
| Albany       | 5 (7%)           |
| Big Horn     | 1 (1%)           |
| Campbell     | 7 (10%)          |
| Carbon       | 1 (1%)           |
| Converse     | 1 (1%)           |
| Crook        | 0 (0%)           |
| Fremont      | 8 (11%)          |
| Goshen       | 3 (4%)           |
| Hot Springs  | 1 (1%)           |
| Johnson      | 0 (0%)           |
| Laramie      | 8 (11%)          |
| Lincoln      | 2 (3%)           |
| Natrona      | 18 (25%)         |
| Niobrara     | 0 (0%)           |
| Park         | 2 (3%)           |
| Platte       | 0 (0%)           |
| Sheridan     | 1 (1%)           |
| Sublette     | 0 (0%)           |
| Sweetwater   | 4 (6%)           |
| Teton        | 6 (9%)           |
| Uinta        | 3 (4%)           |
| Washakie     | 0 (0%)           |
| Weston       | 0 (0%)           |
| <b>Total</b> | <b>71 (100%)</b> |

Teton County had the highest rate of infection from 2016-2020 (5.1). Goshen County, Hot Springs County, and Natrona County had the second highest rate of infection during this time period (4.5). The increased rate in Goshen County reflects the fact that Goshen County houses the Wyoming Department of Corrections intake facility which conducts testing on all new inmates.

**Figure 3. Average newly diagnosed HIV case rate by county, Wyoming, 2016-2020**



**Prevalence**

As of December 31, 2020, 349 people with HIV disease lived in Wyoming. Of those, males accounted for the majority of cases (81%). Over half of people living with HIV in Wyoming were classified as HIV Stage 3 (52%) (Table 4).



**Table 4. HIV prevalence, Wyoming, by status and demographic factors as of December 31, 2020**

| Status                           | HIV No. (%)       | HIV Stage 3 (AIDS) No. (%) |
|----------------------------------|-------------------|----------------------------|
| <b>Total</b>                     | <b>168 (100%)</b> | <b>181 (100%)</b>          |
| <b>Gender</b>                    |                   |                            |
| Male                             | 137 (82%)         | 144 (80%)                  |
| Female                           | 31 (18%)          | 37 (20%)                   |
| <b>Current Age</b>               |                   |                            |
| <15                              | 2 (1%)            | 0 (0%)                     |
| 15-24                            | 9 (5%)            | 2 (1%)                     |
| 25-34                            | 36 (22%)          | 10 (6%)                    |
| 35-44                            | 44 (26%)          | 32 (18%)                   |
| 45-54                            | 35 (21%)          | 53 (29%)                   |
| 55+                              | 42 (25%)          | 84 (46%)                   |
| <b>Race/Ethnicity</b>            |                   |                            |
| White                            | 112 (66%)         | 119 (69%)                  |
| Black                            | 16 (9%)           | 10 (6%)                    |
| Hispanic (all races)             | 26 (15%)          | 33 (19%)                   |
| Asian                            | 3 (2%)            | 0 (0%)                     |
| Native Hawaiian/Pacific Islander | 1 (1%)            | 0 (0%)                     |
| American Indian/Alaska Native    | 6 (4%)            | 8 (5%)                     |
| Multiple Race                    | 5 (3%)            | 4 (2%)                     |

Men who have sex with men (62%) followed by those who were MSM and injected drugs (15%) accounted for the most cases among males in Wyoming. Heterosexual sex was the most common risk reported among females (47%) followed by injection drug use (25%) (Table 5).

**Table 5. HIV prevalence, Wyoming by status and reported exposure category as of December 31, 2020**

| Status                   | HIV No. (%)       | HIV Stage 3 (AIDS) No. (%) |
|--------------------------|-------------------|----------------------------|
| <b>Male</b>              | <b>137 (100%)</b> | <b>144 (100%)</b>          |
| MSM                      | 81 (59%)          | 92 (64%)                   |
| Injection Drug Use (IDU) | 9 (7%)            | 9 (6%)                     |
| MSM and IDU              | 22 (16%)          | 21 (15%)                   |
| Heterosexual Contact     | 4 (3%)            | 6 (4%)                     |
| No Identified Risk       | 17 (12%)          | 15 (10%)                   |
| Perinatal Exposure       | 4 (3%)            | 1 (1%)                     |
| <b>Female</b>            | <b>31 (100%)</b>  | <b>37 (100%)</b>           |
| IDU                      | 5 (16%)           | 12 (32%)                   |
| Heterosexual Contact     | 17 (55%)          | 15 (41%)                   |
| No Identified Risk       | 6 (19%)           | 8 (22%)                    |
| Perinatal Exposure       | 3 (10%)           | 2 (5%)                     |

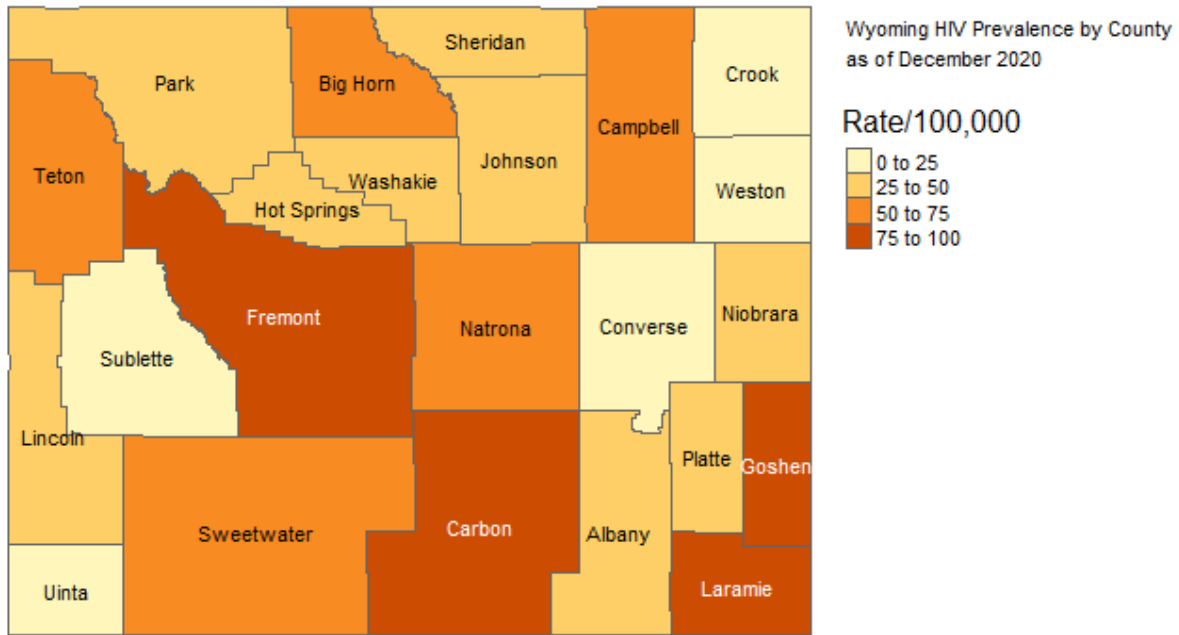
The majority of cases resided in Laramie County (29%), Natrona County (16%), and Fremont County (9%) in 2019 (Table 6).

**Table 6. HIV prevalence, Wyoming, by status and county as of December 31, 2019**

| County       | HIV<br>No. (%)    | HIV Stage 3<br>(AIDS)<br>No. (%) | Total<br>No. (%)  |
|--------------|-------------------|----------------------------------|-------------------|
| Albany       | 8 (5%)            | 6 (3%)                           | 14 (4%)           |
| Big Horn     | 2 (1%)            | 4 (2%)                           | 6 (2%)            |
| Campbell     | 14 (8%)           | 13 (7%)                          | 27 (8%)           |
| Carbon       | 9 (5%)            | 3 (2%)                           | 12 (3%)           |
| Converse     | 1 (1%)            | 2 (1%)                           | 3 (1%)            |
| Crook        | 1 (1%)            | 0 (0%)                           | 1 (1%)            |
| Fremont      | 14 (8%)           | 18 (10%)                         | 32 (9%)           |
| Goshen       | 5 (3%)            | 6 (3%)                           | 11 (3%)           |
| Hot Springs  | 0 (0%)            | 2 (1%)                           | 2 (1%)            |
| Johnson      | 1 (1%)            | 2 (1%)                           | 3 (1%)            |
| Laramie      | 50 (30%)          | 50 (28%)                         | 100 (29%)         |
| Lincoln      | 5 (3%)            | 4 (2%)                           | 9 (3%)            |
| Natrona      | 25 (15%)          | 30 (17%)                         | 55 (16%)          |
| Niobrara     | 0 (0%)            | 1 (1%)                           | 1 (1%)            |
| Park         | 4 (2%)            | 5 (3%)                           | 9 (2%)            |
| Platte       | 2 (1%)            | 1 (1%)                           | 3 (1%)            |
| Sheridan     | 6 (4%)            | 9 (5%)                           | 15 (4%)           |
| Sublette     | 0 (0%)            | 0 (0%)                           | 0 (0%)            |
| Sweetwater   | 9 (5%)            | 15 (8%)                          | 24 (7%)           |
| Teton        | 8 (5%)            | 6 (3%)                           | 14 (4%)           |
| Uinta        | 3 (2%)            | 1 (1%)                           | 4 (1%)            |
| Washakie     | 1 (1%)            | 0 (0%)                           | 1 (1%)            |
| Weston       | 0 (0%)            | 3 (2%)                           | 3 (1%)            |
| <b>Total</b> | <b>168 (100%)</b> | <b>181 (100%)</b>                | <b>349 (100%)</b> |

Prevalence rates were highest in Laramie (100.5), Goshen (83.3), Fremont (81.5), and Carbon (81.1) counties. No cases of HIV lived in Sublette County in 2020 (Figure 4).

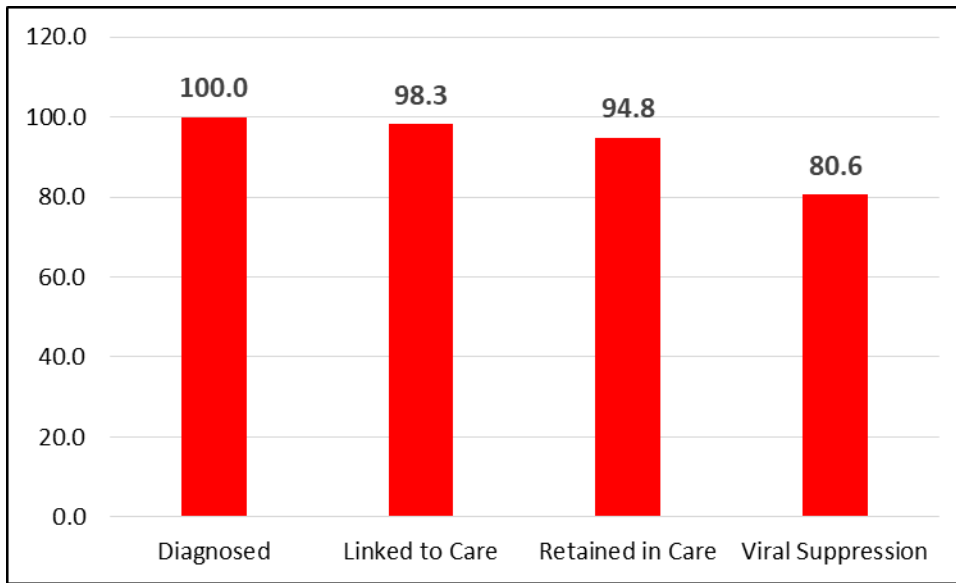
**Figure 4. HIV prevalence rate by county, Wyoming, 2020**



### 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 2020, 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 2020 out of care investigations were completed. Wyoming has a high percentage of cases linked and retained in care. Most of those retained in care (80.6%) had a suppressed viral load in 2020. This decline in viral suppression may be due in part to lack of health care access during the COVID-19 pandemic. This estimate is still above the 2018 national estimate of approximately 57% of people with HIV having a suppressed viral load nationwide.<sup>1</sup>

**Figure 5. HIV Care Continuum, Wyoming, 2020**



Since the beginning of the epidemic, 192 persons with HIV residing in Wyoming have died corresponding to a case fatality rate of 38%.

**Table 7. Number of cases, deaths, and case fatality rates by time of diagnosis, Wyoming, 1989-2020.**

| Year      | Number of Cases | Deaths | Case Fatality Rate % |
|-----------|-----------------|--------|----------------------|
| 1989-2020 | 503             | 192    | 38                   |

**References**

1. Monitoring Selected National HIV Prevention and Care Objectives by Using HIV Surveillance Data, United States and 6 Dependent Areas, 2018. <https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-25-2.pdf>.