

HIV infection in Oregon

Oregon HIV facts at a glance as of Dec. 31, 2018

- From 1981 to 2018, 10,566 Oregon residents were diagnosed with HIV infection and 4,613 Oregon residents with HIV died.
- 7,622 people were living with HIV in Oregon in 2018, and another 1,241 persons were estimated to be infected with HIV but undiagnosed.
- On average, 225 new cases were diagnosed each year, 2014–2018
- Since 2013 there has been an increase in HIV diagnoses among people who report injection drug use.
- More likely to be diagnosed late with HIV: Hispanics, males who report injection drug use and only male-to-female sex, residents of rural Oregon, and females unaware of their partners risk.
- More likely to not be virally suppressed: younger age-groups, people who report injection drug use, residents of rural Oregon, and, compared to Whites, American Indian/Alaska Natives, Black/African Americans, and Hispanics.
- Lower probability of surviving HIV 10 years: males who report injection drug use, residents of rural counties, people co-infected with hepatitis C, and people co-infected with hepatitis B

Introduction

HIV/AIDS remains an important public health problem in Oregon. From 1981 through 2018, 10,566 HIV infections were diagnosed in Oregon residents, and 44% (4,613/10,566) of Oregon residents with HIV died (Figure 1). From 2014 to 2018, approximately 225 new diagnoses were reported each year in Oregon.

People living with HIV in Oregon

(Prevalence 12/31/2018)

The Oregon Health Authority estimates that 7,622 people with diagnosed HIV infection were living in Oregon at the end of 2018. This total includes approximately 2,792 people who lived outside Oregon at the time of their diagnosis and later moved to Oregon.

- **Sex/gender:** Eighty-eight percent (6,712/7,622) of Oregon residents living with HIV were male and 12% female.
- **Age:** The average age among males living with HIV was 50 years and 48 years among females. Overall, 53% of people living with HIV in Oregon were 50 years of age or older. An increasing proportion of people living with HIV infection were long term survivors. Sixty-six percent (5,049/7,622) had been diagnosed with HIV infection for more than ten years. Sixty-eight people living with HIV were pediatric cases diagnosed at or after birth, 36 of whom were diagnosed in Oregon.
- **Race/ethnicity:** Although 73% (5,570/7,622) of people living with HIV in Oregon were White, prevalence of those living with diagnosed

Among living cases in Oregon, 39 people living with HIV reported being transgender female and 5 transgender male. People have only recently started to be asked about their gender so these numbers are an underestimate.

HIV infection was four times higher among Black/African Americans (702.7 Black/African Americans compared to 176.5 White cases/100,000 Oregon residents). The rate among Hispanics was 193.4, American Indian/Alaska Natives 160.6, Asians 86.0, and Native Hawaiian/Pacific Islanders 142.4 cases/100,000 Oregon residents.

• **Transmission risk:**

Males make up 88% of persons living with HIV in Oregon (6,712/7,622)

- » 73% reported sex with males (4,932/6,712)
- » 10% reported sex with males and injection drug use (701/6,712)
- » 6% reported injection drug use only (401/6,712)
- » 6% had an unknown risk (442/6,712)
- » <1% reported an other risk (250/6,712)

Females make up 12% of persons living with HIV in Oregon (541/7,622)

- » 60% reported sex with men (541/910)
- » 23% reported injection drug use (207/910)
- » 15% had and unknown risk (134/910)
- » 3% reported an other risk (28/910)

- **Geographic region:** Of the 7,622 living residents, 47% (3,546/7,622) lived in Multnomah County at the end of 2018. Another 39% (3,013/7,622) of cases lived in other mixed urban/rural counties of Oregon, while 14% (1,063/7,622) lived in rural counties. Thirty-seven percent (2,792/7,622) of living HIV cases in Oregon moved here already having been diagnosed in another state or country.

New HIV diagnoses among people living in Oregon (Incidence 2009–2018)

People can be infected with HIV for years before being diagnosed and without a known date of infection, incidence is measured based on the diagnosis date. A diagnosis is considered new if the person was a resident in Oregon at the time they were first diagnosed with HIV.

- **Sex/gender:** Statewide, rates of diagnosis decreased among males from 12.0 per 100,000 in 2009 to 9.5 per 100,000 in 2018, while rates among females varied little during this period (1.6 diagnoses per 100,000 in 2018). Prior to 2018, ‘gender’ was collected on less than 50% of new diagnosis. In 2018, gender was reported by 89% of cases with 1/229 diagnoses reporting being transgender female.
- **Age:** The average age at diagnosis over the last 10 years was 37.4 for males and 38.5 for females. The overall decline in the rate of new HIV diagnoses was most pronounced among

Figure 1 HIV cases diagnosed in Oregon and HIV cases who have died in Oregon, 1981–2018

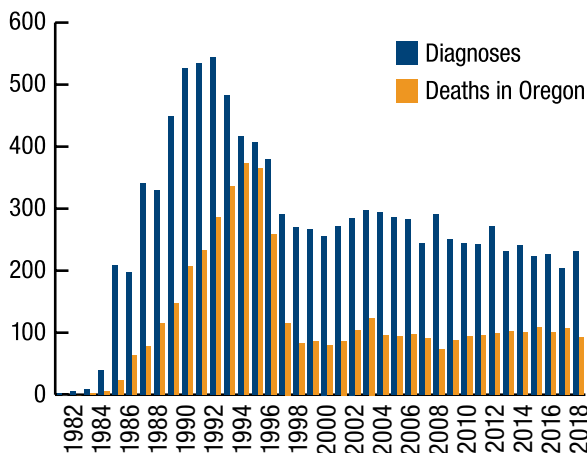
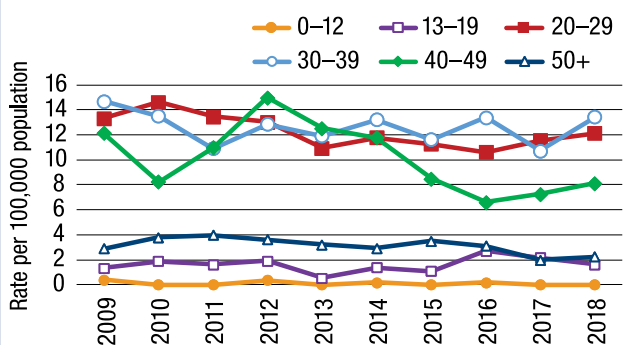


Figure 2 HIV infection by age at diagnosis, Oregon 2009–2018



cases who were 40-49 at the time of their diagnosis, a decrease from 15.0 in 2012 to 8.1 diagnoses per 100,000 in 2018 (Figure 2).

- Race/ethnicity:** Average diagnosis rates during this period were nearly five times higher among Blacks and African Americans than among Whites (23.4 vs. 5.2 per 100,000 residents). The rate of new diagnoses among Hispanics was 1.8 times higher than for White non-Hispanics (9.1 vs. 5.2 per 100,000) (Figure 3). The rate among Hispanics in 2018 was 11.9 HIV diagnoses per 100,000 residents, and was the highest rate over the last ten years. The high rate of HIV diagnosis among Hispanics in 2018 warrants attention to see if there is a sustained increase in rate over time. Other races and ethnicities accounted for roughly 6% of all diagnoses. Average diagnosis rates during the period were not stable for other race/ethnicities because there were fewer than ten diagnoses in each category per year, but average diagnosis rates among American Indian/Alaska Natives was 4.5 diagnoses per 100,000 residents, 4.6 among Asians, 9.4 among Native Hawaiian/Pacific Islanders, and 3.7 among persons with two or more races.

On average, 17 Black/African Americans were diagnosed each year during 2009–2018 with 25% of new diagnoses being female, which is high relative to Whites (11%) and Hispanics (9%). Foreign-born persons made up diagnoses in 69% of Asian, 47% of Hispanic, 37% of Black/African Americans, 36% of Native Hawaiian/Pacific Islanders, and 2% of White cases.

- Transmission risk:** Males who reported sex with males accounted for 69% of male cases diagnosed during 2009–2018 (1,437/2,083). Approximately 12% of recent male diagnoses lacked enough information to assign a transmission category. Other transmission categories for males included males who reported sex with males and who reported injection drug use (11%), males who reported injection drug use but not sex with other males (6%), and males who acquired their infection from male-to-female sex (1.9%). While the number of people with newly diagnosed HIV who reported past injection drug use declined from 2003 through 2012, the number of new cases increased from 2013 through 2018 (Figure 4). Among female cases, those reporting injection drug use

Figure 3 HIV diagnoses by race/ethnicity Oregon 2009–2018

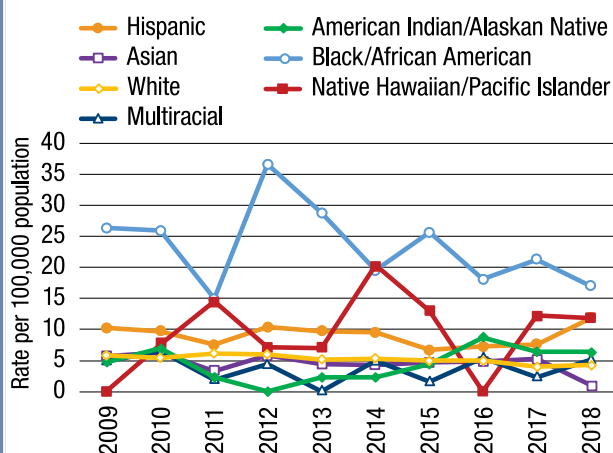
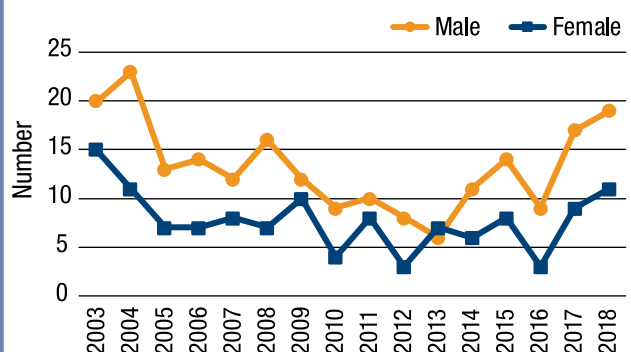


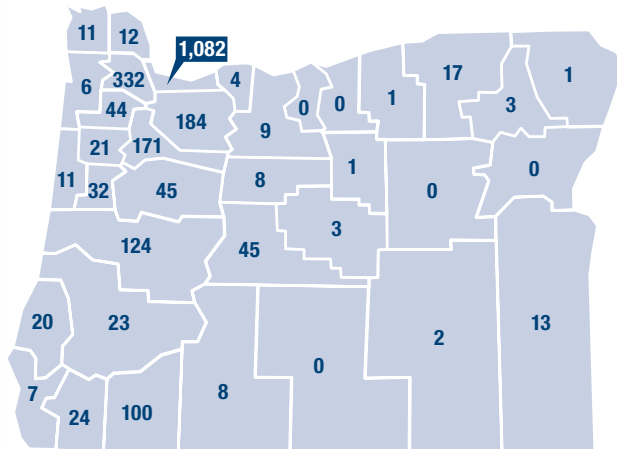
Figure 4 HIV diagnoses among people reporting injection drug use only, Oregon 2003–2018



accounted for 25% (69/281) of cases, sex with male transmission accounted for 46% of cases, and unknown risk 29%.

- Geographic region:** Forty-six percent (1,082/2,364) of cases diagnosed with HIV in Oregon during 2009–2018 were Multnomah County residents (Figure 5). The proportion of all new HIV diagnoses in Oregon made up of Multnomah County residents decreased from roughly 50% (2009–2014) to 40% (2015–2018). Other Oregon counties did not see the same kind of decrease in the number of HIV diagnoses. Most other counties showed no change in trend, while others had more HIV diagnoses than they have had in the past, notably in counties along the coast, in Southern Oregon, and in Central Oregon.

Figure 5 Oregon HIV case count diagnosed by county of residence when reported, 2009–2018



Late diagnosis among people infected with HIV

Delayed diagnosis and treatment contribute to further spread of HIV. Late diagnoses are defined as new HIV diagnoses who received an AIDS diagnosis within 12 months.

- Sex/gender:** There was no difference by birth sex in who was diagnosed late.
- Age:** With increasing age comes a higher proportion of cases who were diagnosed with AIDS within 12 months (14% among 13–24 year-olds, 21% among 25–29 year-olds, 34% among 30–39 year-olds, 48% among 40–49 year-olds, and over 50% among those over 50 years of age at diagnosis).
- Race/ethnicity:** There were differences in late diagnosis by race/ethnicity. Of persons diagnosed 2013–2017, 42% of Hispanics were diagnosed late compared to 36% among Whites and 26% among Black/African Americans.
- Transmission risk:** People with injection drug use histories are at risk of being diagnosed late. Males reporting injection drug use were 1.6 times more likely than males who only reported having sex with males to be diagnosed with AIDS within 12 months (50% vs. 31%). There was no statistical difference between males reporting sex with males and injection drug use (32%) and males who reported having sex with males. There was no difference between transmission categories among females who reported a known risk of infection, but there was a difference between females with a known risk (23%) and females reporting they had an unknown risk (43%), that is, they did not know the risk or HIV status of partners.
- Geographic region:** Residents living in rural zip codes were more likely than those in urban areas to have a delayed diagnosis (45% vs. 34%).

Context of increased HIV infection among persons who inject drugs

Oregon has been severely affected by the opioid and methamphetamine crisis, leading to increases in substance use disorder (SUD), overdose, and injection drug use related infections, including HIV and hepatitis C (HCV) in every part of the state. When two or more linked epidemics occur at the same time and interact to intensify disease in a population, it is called a syndemic. The current prescription and illicit SUD syndemic links substance use, misuse and disordered use with overdose, suicide, unintentional injuries, neonatal abstinence syndrome as well as infectious complications such as HCV, HIV, syphilis and bacterial infections. The roots of the substance use and infectious disease syndemic are complex involving poverty, homelessness, trauma and toxic stress. The consequences are reflected in increases in HIV, early syphilis, and hepatitis C among persons less than age 30. Adult females and newborns are increasingly affected by HCV and syphilis in Oregon.

Viral suppression

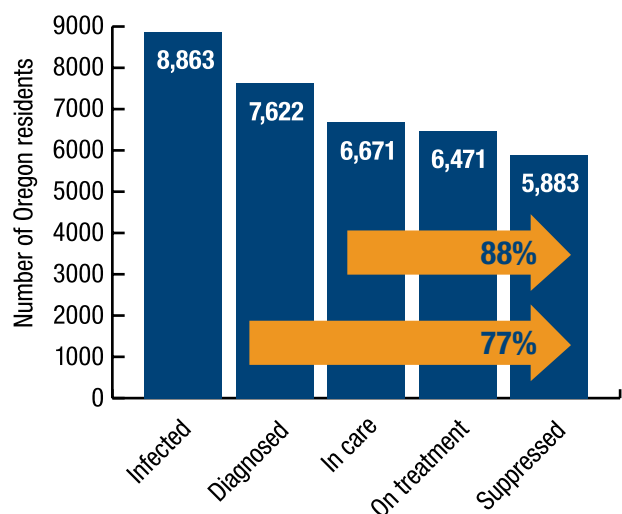
Preventing HIV requires early diagnosis, getting linked with and staying in medical care, and taking antiretroviral therapy (ART) continuously to suppress viral load. One achieves viral suppression when the HIV viral load test result is under 200 copies/mL. People on ART can reduce their viral load below the level that a test can detect it, this is called an ‘undetectable’ viral load. A person with HIV who takes ART as prescribed and gets and stays virally suppressed or undetectable can stay healthy and cannot transmit HIV sexually to HIV-negative partners. Being undetectable does not mean a person is cured of HIV infection.

The HIV care continuum describes a region’s success in achieving key prevention and care milestones from infection to viral suppression

(Figure 6). The figure shows that more than 77% of cases living in Oregon were virally suppressed in 2018, and 88% of those receiving medical care were virally suppressed.

- **Sex/gender:** There was no difference in viral suppression by birth sex.
- **Age:** Age-groups over 40 years of age were more likely virally suppressed than younger age-groups.
- **Race/ethnicity:** Whites were more likely to be virally suppressed than American Indian/Alaska Natives, Black/African Americans and Hispanics.
- **Transmission risk:** Males who reported sex with males were more likely to be suppressed than males reporting injection drug use, males reporting both sex with males and injection drug use, and those with unknown risk. Females who reported sex with males, were more likely to be suppressed than females who reported injection drug use.
- **Geographic region:** Oregon cases living in urban or mixed urban/rural areas were more likely to be suppressed than cases in rural areas of Oregon. There was no difference in viral suppression among those born outside the United States. HIV cases living in the

Figure 6 Oregon HIV care continuum, 2018 (includes cases without a CD4 or viral load result 2014–2018)



Portland Metro region were more likely to be suppressed than in the balance of state.

Mortality

The advent of antiretroviral medications in the mid-1990s dramatically improved treatment outcomes. Over the last decade, an average of 236 people were diagnosed with HIV infection in Oregon each year, and an average of 99 people with HIV died each year. The probability of surviving 10 years after diagnosis was 87% for people diagnosed with HIV in Oregon from 2008 to 2017.

- **Sex/gender:** There were no differences in 10-year probability of survival by birth sex.
- **Race/ethnicity:** Ten-year probability of survival was higher among Native Hawaiian/Pacific Islanders (100%) and Black/African Americans (94%) when compared to Whites (86%), and other race/ethnicities were similar to Whites: Asians (91%), Hispanics (88%), Whites (86%), American Indian/Alaska Natives (82%), and people of two or more races (90%).
- **Transmission risk:** Those who reported injection drug use had a much lower probability of surviving 10 years (83%) than males who reported sex with males (90%), or males and females who reported their risk of infection as male-to-female or female-to-male exposure (92%).
- **Geographic region:** By location of residence, the highest probability of 10-year survival was among persons who resided in Multnomah County (89%) compared to mixed urban/rural counties (86%) and more rural counties of Oregon (83%).

- **Health status:** Severity of disease at diagnosis, as indicated by CD4 count, was strongly related to probability of survival. HIV cases whose first CD4 count following diagnosis was less than 50 cells/mm³ had a lower probability of surviving 10 years (68%) than people with a CD4 count from 50 to 199 cells/mm³ (80%). Those with a CD4 count of at least 200 cells/mm³ had a 95% probability of surviving 10 years. Those diagnosed with AIDS when first diagnosed with HIV infection had a lower probability of surviving 10 years (76%) compared to persons diagnosed with HIV who did not progress to AIDS within 12 months (94%).

People with chronic hepatitis C co-infection had a lower probability of surviving 10 years (79%) than people without hepatitis C co-infection (88%). Similarly, people with chronic hepatitis B co-infection had a lower probability of surviving 10 years (78%) than people without chronic hepatitis B co-infection (87%).

Data from Oregon Vital Statistics on underlying causes of death among people with HIV who died in Oregon during 2008–2017 show that HIV disease was the underlying cause of death in 44% (416/946) of deaths among people with known HIV infection. After HIV disease, cancer was the next most common underlying cause of death for 16% (153/946) of HIV cases who resided in Oregon. Among the 153 people who died from cancer, 33 percent (50/153) were reported to have died of lung cancer. Other leading underlying causes of death included heart disease, 6% (59/946); overdose, 6% (57/946); suicide, 4% (35/946); chronic lung disease, 3% (28/946); and chronic liver disease, 3% (28/946).

Epidemiologic resources:

Oregon Health Authority, HIV/AIDS epidemiology: <https://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/DiseaseSurveillanceData/HIVData/Pages/index.aspx>

Centers for Disease Control and Prevention: www.cdc.gov/hiv

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