2018

Epidemiologic Profile of HIV Infection in Oregon

Descriptive of HIV diagnoses through December 31, 2017

Oregon Health Authority

PUBLIC HEALTH DIVISION

Acknowledgments

This publication was prepared by the Oregon Health Authority Public Health Division HIV/STD/TB Section, including:

Jeff Capizzi, HIV Epidemiologist

Lea Bush, Program Analyst

Denise Skrypkar, Program Analyst

Sean Schafer, MD, MPH, Medical Epidemiologist

Annick Benson, HIV/STD/TB Section Manager

For more information: Contact Jeff Capizzi, 971-673-0182 or Jeff.Capizzi@state.or.us.

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Executive summary

HIV/AIDS remains an important public health problem in Oregon. The number of people newly diagnosed with HIV/AIDS is declining; however, the total number of people living with HIV continues to grow. The number of persons living with HIV in Oregon increases by more than 110 persons each year because of low mortality due to successful HIV treatment, and because more people with HIV move to Oregon than leave the state.

From 2013 to 2017 the number of people newly diagnosed with HIV in Oregon declined from 232 to 200 diagnoses. By the end of 2017, 7,557 Oregon residents were living with an HIV diagnosis, and another estimated 1,230 residents were unware they were infected. This presents challenges for prevention and clinical services. In December 2016, the Oregon Health Authority and its community partners launched End HIV Oregon, a five-year initiative aiming to end new HIV transmissions in Oregon through increased HIV testing, promotion of HIV prevention interventions, and access to effective HIV treatment, with a focus on health equity and prevention of HIV-related stigma.

New HIV/AIDS diagnoses

Oregon's annual number of new HIV diagnoses is declining due to an increase in HIV-infected people taking antiretroviral therapy, which reduces HIV's spread to others.

Between 2008 and 2017, Oregon men were more likely than women to be newly infected. During this time, average diagnosis rates in Oregon were seven times higher among men than among women (11.0 vs 1.5 diagnoses per 100,000 residents). Men who have sex with men (MSM) accounted for 69% of all new male infections. Sexual activity with a man infected roughly three-quarters of female HIV cases. Injection drug use (IDU) accounted for 21% of female cases.

Blacks/African Americans and Hispanics were more likely than Whites to become infected. During 2008–2017, diagnosis rates in Oregon were 26.6 per 100,000 among Blacks/African Americans, 9.1 among Hispanics and 5.4 among Whites.

The annual rate of new HIV diagnoses in Oregon did not increase in any age group during 2008–2017. The average age at diagnosis was 38 years for both males and females.

Co-infections with HIV

- From 2013 to 2017, the average annual reported rate of early syphilis among male residents with HIV/AIDS was 3,067 cases per 100,000, compared to 13 cases per 100,000 male residents without HIV.
- The average annual reported rate of gonorrhea among male residents with HIV/AIDS from 2013 to 2017 was 4,007 cases per 100,000, compared to 93 cases per 100,000 male residents without HIV.
- The average annual reported rate of chlamydia among male residents with HIV/AIDS from 2013 to 2017 was 3,809 cases per 100,000, compared to 255 cases per 100,000 male residents without HIV.
- From 2013 to 2017, 43% of 2,329 male early syphilis cases, 12% of 10,725 male gonorrhea cases and 5% of 26,734 male chlamydia cases occurred among males already infected with HIV.
- Among the 608 Oregon Medical Monitoring Project 2015–2017 respondents, 15% of people living with HIV reported ever having hepatitis B and 16% reported ever having hepatitis C.
- Oregon has never observed a substantial number of tuberculosis (TB) cases among those with HIV/AIDS. Of 365 TB cases in Oregon from 2013 to 2017, only 13 also had HIV.

Delayed diagnosis still common

Many Oregonians continue to be diagnosed with HIV infection at a late stage of the disease. Approximately 35% of the 1,193 cases diagnosed during 2012–2016 had AIDS (i.e., advanced disease) at the time of their HIV infection diagnosis, or their infection progressed to AIDS within 12 months.

Advanced disease at diagnosis was more common among:

- Older patients compared to younger patients
- Hispanics compared to Whites
- Male IDU and those with unknown risk compared to MSM
- Rural counties compared to Multnomah County.

Oregonians living with HIV/AIDS

- From 1981 through 2017, the Oregon Public Health Division received reports of 10,373 HIV infections among Oregon residents. Forty-two percent or 4,329 residents had died by the end of 2017.
- In 2017, Multnomah County was home to 19% of the state's population. However, 41% of people newly diagnosed with HIV in 2017 resided in Multnomah County. Because of migration within Oregon and from other states, by the end of 2017, 47% of people living with HIV in Oregon lived in Multnomah County.
- In 2017, roughly 65% of persons living with HIV in Oregon survived more than 10 years, 25% of whom were diagnosed before 1997, when effective antiretroviral medications became available. Sixty-two cases living in Oregon were pediatric cases, 18 of whom were still < 13 years of age in 2017. The average age of people living with HIV in Oregon as of Dec. 31, 2017 was 49 years among males and 48 years among females.

Clinical care in Oregon

Estimating the number of people living in Oregon with HIV/AIDS who know they are infected and are receiving continuous medical care is key to HIV treatment and prevention planning. Ideally, those with HIV/AIDS would know they are infected and would receive medical care for it. People who receive regular high-quality medical care for HIV/AIDS typically visit their medical provider three or more times a year. They submit blood specimens for testing the quantity of HIV virus circulating in the blood ("viral load") and immune function (such as "CD4 count") and take medicines that reduce the viral load and prevent HIV transmission to others. Knowing the gap between the total number of people living with HIV/AIDS and those who know of their infection and take medicine helps planners know how many additional people need diagnosis and treatment.

The proportion of persons with new HIV diagnoses in Oregon linked to care (i.e., had a CD4 or viral load test in the 30 days following diagnosis) increased from 64% in 2014 to 73% in 2017. The proportion of persons with new HIV diagnoses in Oregon who achieved viral suppression within six months increased from 57% in 2014 to 64% in 2017.

Among Oregon residents with known HIV infection as of the end of 2017 (n=7,557), up to 9% of HIV cases did not have a viral load reported in 2017. More than 86% of cases living in Oregon had a CD4 or viral load test during 2017, suggesting ongoing HIV-specific medical care. More than 75% had a suppressed viral load at the time of their most recent test in 2017, which is higher than the same estimate for 2014 (68%) reported at the time of the announcement of the End HIV Oregon initiative in December 2016.

Survival

The life expectancy for those infected with HIV has increased. Thirty-eight percent of Oregon's HIV deaths in 2017 directly resulted from HIV disease. The total annual number of deaths among people with HIV, regardless of the underlying cause of death, declined from 366 during 1995 to 105 in 2017.

The risk of mortality was higher among people who:

- Reported acquiring HIV via injection drug use compared to MSM
- Did not report a transmission risk compared to MSM
- Were reported to have chronic hepatitis C compared to people without hepatitis C
- Had a first CD4 count of under 50 cell/μL or had a first CD4 count less than 200 cell/μL compared to a CD4 count of ≥ 200 cell/μL
- Were diagnosed with AIDS within 12 months of their HIV diagnosis
- Were residents outside urban areas of Oregon
- Were older (mortality increasing with each 10-year age group at diagnosis).

HIV infection in Oregon

Introduction

HIV/AIDS remains an important public health problem in Oregon. From 1981 through 2017, 10,373 HIV infections were diagnosed in Oregon residents; approximately 42% (4,329/10,373) of them died (Figure 1). From 2013 to 2017, approximately 224 new diagnoses were reported annually in Oregon.

Oregonians living with HIV/AIDS

- The Oregon Health Authority estimates that 7,557 people with diagnosed HIV infection were living in Oregon at the end of 2017.
- This total includes approximately 2,723 people who lived outside Oregon at the time of their diagnosis and later moved to Oregon.
- Of the 7,557 living residents, 47% (3,535/7,557) lived in Multnomah County at the end of 2017.
- Eighty-eight percent (6,651/7,557) of Oregon residents living with HIV were male, 74% (5,613/7,557) were White, and the average age was 49 years.
- Men who have sex with men (MSM) and MSM who injected drugs accounted for 84% (5,594/6,651) of male residents living with HIV.

Recent trends (2008–2017)

- Forty-seven percent (1,137/2,425) of cases diagnosed with HIV in Oregon during 2008–2017 were Multnomah County residents (Figure 2).

Oregon HIV facts at a glance as of Dec. 31, 2017

- An estimated 7,557 people live with HIV in Oregon. This includes people who moved to Oregon after their HIV diagnosis. Forty-seven percent (3,535/7,557) of those living with HIV/AIDS in Oregon lived in Multnomah County at the end of 2017.
- Another 1,230 persons are estimated to be infected with HIV in Oregon but remain undiagnosed.
- From 2013 to 2017, the number of people newly diagnosed with HIV in Oregon declined from 232 to 200 per year.
- From 1981 to 2017, 10,373 Oregon residents were diagnosed with HIV infection. Forty-two percent (4,329/10,373) died.
- During the past decade, an average of 96 persons with HIV died in Oregon each year. Some died from primary causes other than HIV.

Figure 1 HIV cases diagnosed in Oregon and HIV cases who have died in Oregon, 1981–2017

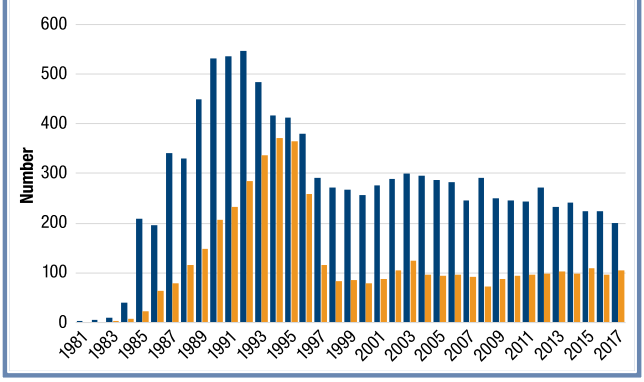
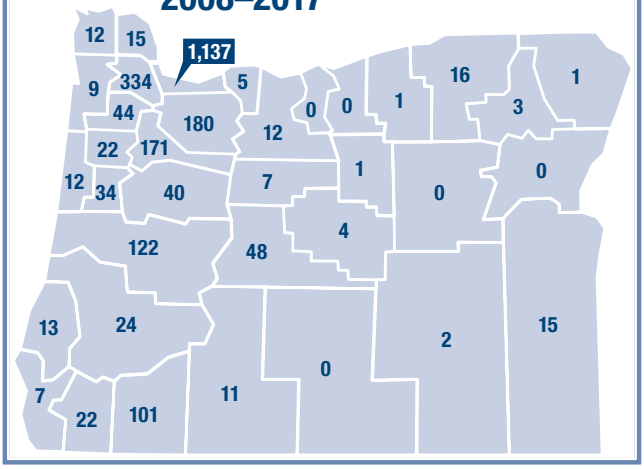


Figure 2 HIV cases diagnosed in Oregon, 2008–2017



Statewide, rates of diagnosis decreased among men from 13.3 per 100,000 in 2008 to 8.0 per 100,000 in 2017, while rates among women varied little during this period (1.7 diagnoses per 100,000 in 2017). The average age at diagnosis over the last 10 years was 37.5 for men (Figure 3) and 38.2 for women.

- Average diagnosis rates during this period were nearly five times higher among Blacks and African Americans than Whites (26.6 vs. 5.4 per 100,000). The rate of new diagnoses for Hispanics was 1.7 times higher than for White non-Hispanics (9.1 vs. 5.4 per 100,000). Other races and ethnicities accounted for roughly 5% of all diagnoses (Figure 4).
- Among males, MSM accounted for 69% of cases diagnosed during 2008–2017 (1,472/2,125). Other transmission categories included men who use injection drugs (5%), MSM who also use injection drugs (10%) and men who likely or possibly* acquired their infection from heterosexual transmission (3%). Approximately 12% of recent male diagnoses lacked sufficient information to assign a transmission category. Among female cases, injection drug users accounted for 21% of cases and women who likely or possibly† acquired their infection by heterosexual transmission accounted for 77% of cases. The remainder included cases that lacked sufficient information for classification.

* Includes men who affirmed having sex with women and denied injection drug use, transfusions or transplants during the time the blood supply was not being adequately screened for HIV.

† Includes women who affirmed sex with men and denied injection drug use or transfusions or transplants during the time the blood supply was not being adequately screened for HIV.

Figure 3 **HIV infection among males by age at diagnosis, Oregon, 2008–2017**

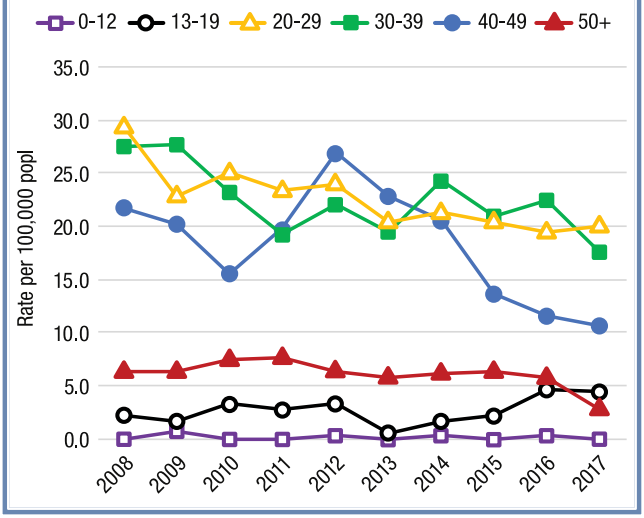
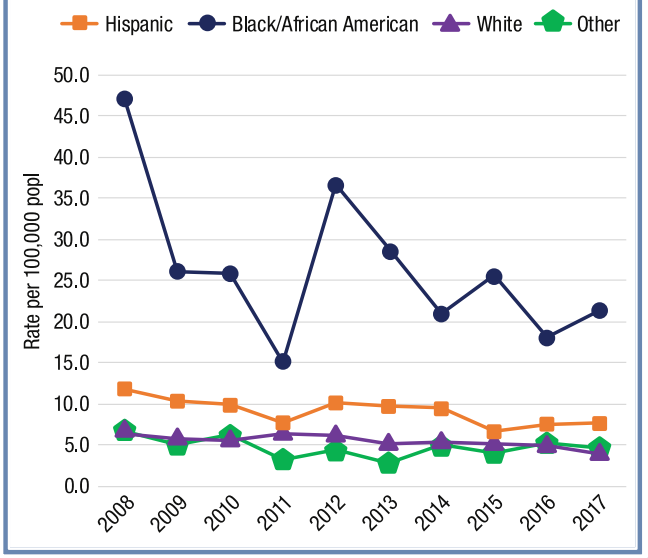


Figure 4 **HIV infection by race/ethnicity, Oregon, 2008–2017**



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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OHA 9985 (Rev. 11/18)

Age and HIV in Oregon

Introduction

The number of newly diagnosed HIV cases in Oregon has declined in recent years. Apart from a peak in new diagnoses among 40–49-year-olds from 2011 through 2013, rates of new diagnoses by age group have decreased or remain unchanged from 2008 through 2017 (Figure 1).

Age and HIV in Oregon

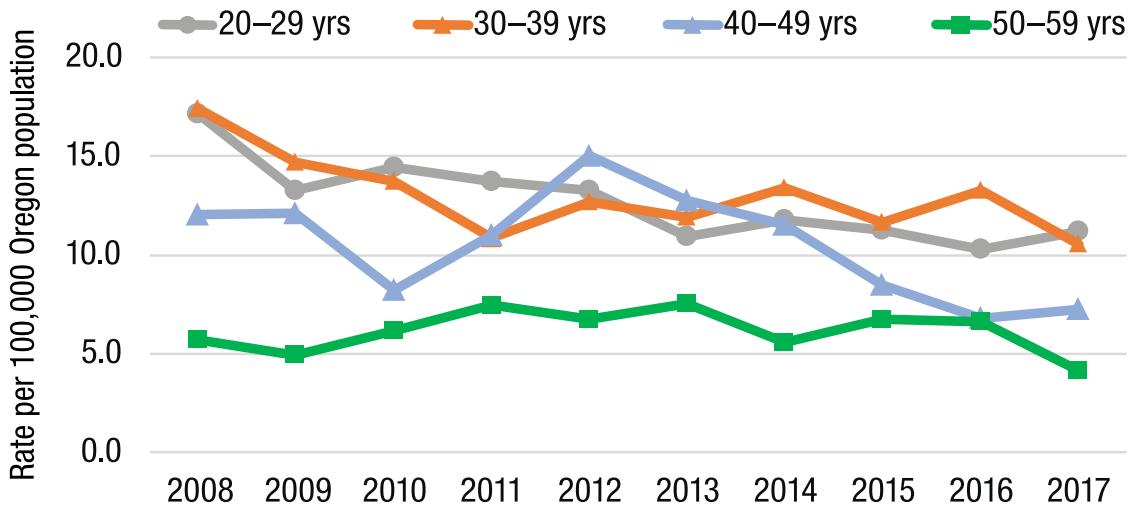
Although the total number of new infections in Oregon each year has not been increasing, people already living with HIV are living longer. Because of this positive development, the number of Oregonians aged ≥50 years and living with HIV continues to increase. The average age of people estimated to be living with HIV in Oregon at the end of 2017 was 49 years. However, this does not mean that more people are becoming newly HIV-infected after age 50. Most Oregonians aged ≥ 50 years and living with HIV were infected when they were much younger.

Long-term survivors in Oregon are typically defined by the number of years since diagnosis, which is a way to measure time exposed to the negative effects

Age and HIV facts at a glance

- The annual number of new HIV diagnoses among Oregon residents declined steadily during 2008–2017.
- Declines have been greatest among people aged 40–49 years.
- The rate of new HIV diagnoses in Oregon did not increase among any age group during 2008–2017.
- The average age at diagnosis was 38 years for both males and females during 2008–2017.
- The average age of people estimated to be living with HIV in Oregon at the end of 2017 was 49 years.

Figure 1 HIV infection among males by age at diagnosis, Oregon, 2008–2017



of the virus, exposure to HIV medications, and the physical and psychological burden of HIV.

- Sixty-five percent of living cases in Oregon might be considered long-term survivors.
  - » Twenty-five percent (1,875/7,577) were diagnosed in 1996 or earlier.
  - » Forty percent (3,020/7,557) were diagnosed more than 10 years ago (1997–2007).
  - » Sixty-two people (1% of those living with HIV) were diagnosed with HIV when they were younger than 13 years of age and still live in Oregon.

Recent trends (2008–2017)

An average of 45 HIV infections were diagnosed among people older than 50 years of age each year during 2008–2017 in Oregon. The average age at HIV diagnosis during 2008–2017 was 37.5 years for males and 38.1 for females. We rarely know the actual date that people contract HIV. However, infection can occur 10 or more years before diagnosis.

Some evidence suggests:

- Oregonians diagnosed between 40 and 54 years of age have been infected longer before diagnosis than younger people.
- Being diagnosed with AIDS within 12 months of HIV diagnosis was associated with increasing age (2008–2017).
- However, increasing age was associated with more rapid linkage to HIV-related health care within 30 days.
- When we look at the average first CD4 count* by age group over this period, we see that while younger age groups saw an increase in average first CD4 count (2008–2017), we either saw no increase or even a decrease in the average first CD4 count among persons in age groups between 40 and 54 years of age. Efforts to intensify lifetime screening for HIV among people who had not been screened before or did not think of themselves at risk of HIV infection may explain these within-age-group decreases in average first CD4 count.
- HIV transmission continues to occur mostly by sexual contact regardless of age. Fifty-one percent of HIV infections diagnosed during 2008–2017 in people 50 years or older occurred in men who reported having had sex with men (MSM) (229/453). Another 6% (28/453) occurred among MSM who injected drugs.
- People aged 50 years or older do have some unique challenges that might increase their risk for infection if they are exposed. These include:
  - » Lower rates of condom use than younger people
  - » Less frequent testing for HIV and other sexually transmitted diseases than younger people
  - » Inaccurate perception of infection risk by individuals and their medical providers
  - » Similarity of some HIV symptoms to those of aging
  - » Reduced willingness to seek testing or advice about safe sex.

* CD4 cells (or CD4+T cells) are white blood cells that fight infections. HIV kills CD4 cells, leaving a person vulnerable to common infections. When the CD4 count drops below 200, a person is diagnosed with AIDS (a normal range for CD4 cells is approximately 500–1,500 cells/uL). The CD4 cell count usually increases with effective HIV treatment.

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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OHA 9986 (12/18)

Injection drug use and HIV in Oregon

Background

Injection drug use (IDU) is a risk factor for HIV and can be associated with high-risk sexual behaviors. People who inject drugs (PWID) accounted for 18.5% of all people living with HIV in the United States in 2015, and 17.2% (1,299/7,557) in Oregon in 2017. Nationally, Blacks and Hispanics reported disproportionately high rates of HIV infection due to injection drug use relative to Whites (Blacks 19%, Hispanics 20% of living cases vs. 16% among Whites in 2015). However, in Oregon, only 15% of Blacks, 12% of Hispanics and 18% of Whites reported injection drug use as an HIV risk as of 2017. It can be difficult for HIV-positive people who inject drugs to find consistent and quality medical care, including antiretroviral treatment.* This can contribute to increased morbidity and mortality from AIDS-related illnesses and other causes, including liver disease and drug overdose.

Recent 10-year trends (2008–2017)

During 2008–2017, 16% (389/2,425) of cases diagnosed with HIV in Oregon acknowledged past injection drug use. This includes men who had sex with men and used injection drugs (9%; 217/2,425), men who did not have sex with men but used injection drugs (5%; 109/2,425), and women who

HIV infection and injection drug use (IDU) facts at a glance

- From 1981 to 2017, 19% (1,937/10,373) of Oregon residents diagnosed with HIV used injection drugs prior to becoming infected. An additional 2% (n=251) never used injection drugs before becoming infected but had a sex partner who did.
- The number of people with newly diagnosed HIV who reported past injection drug use remained stable during 2008–2017 with an average of 39 diagnoses a year.
- Males with HIV who used injection drugs were more likely than others to have advanced disease at the time of diagnosis.

* HIV cases that have used injection drugs were less likely to be virally suppressed. Viral suppression corresponds to low levels of virus detected in the blood, which causes HIV to be less easily transmitted. Among Oregon residents living with HIV at the end of 2017, 7% of men who have sex with men (MSM) were not suppressed compared to 16% of IDU-only and 15% of MSM/IDU. Twenty-three percent of female IDU were not suppressed compared to 9% of females whose risk of infection was heterosexual sex with a partner of unknown risk.

Figure 1 **Probable route of infection among males diagnosed with HIV in Oregon, 2008–2017**

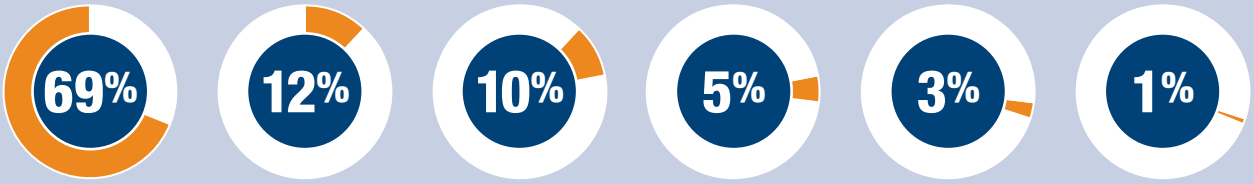
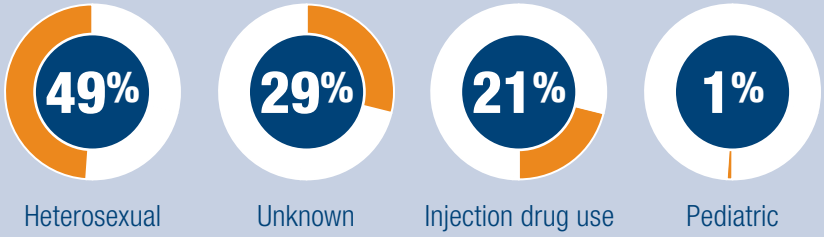


Figure 2 **Probable route of infection among females diagnosed with HIV in Oregon, 2008–2017**



used injection drugs (3%; 63/2,425) (Figure 1 and Figure 2). An additional 2% (52/2,425; 23 men and 29 women) reported their risk of infection was heterosexual contact with someone who used injection drugs.

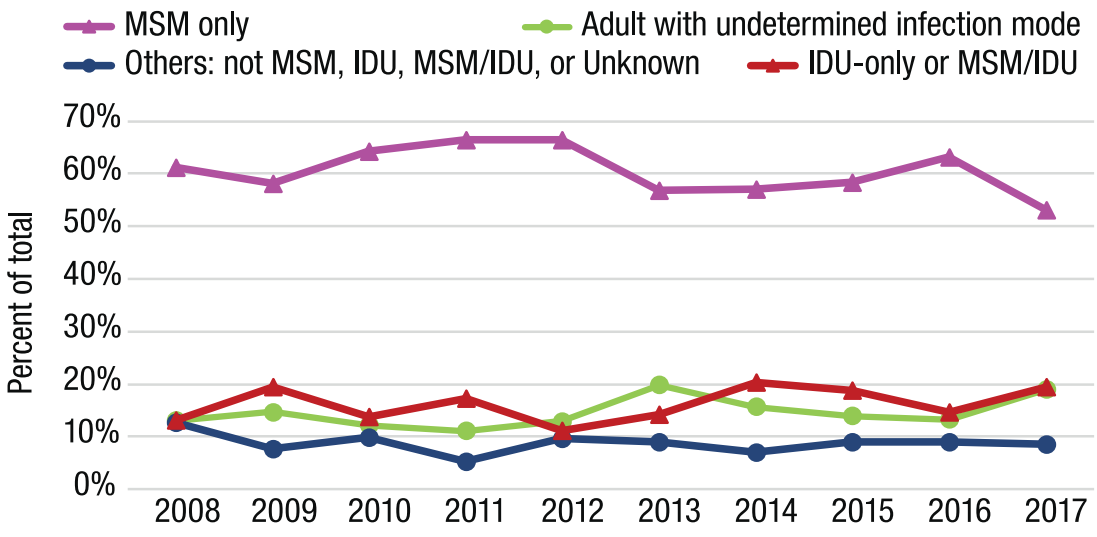
Injection drug use (MSM/IDU or IDU-only) was reported by 40% of American Indian/Alaska Natives (8/20), 19% of Whites (309/1,655), 12% of Blacks (22/184), 8% of Hispanics (33/431), 6% of Asians (5/82), and 0/13 of Pacific Islanders.

Among those newly diagnosed during this period who reported injection drug use, 79% were White (309/389), 8% were Hispanic (33/389) and 6% were Black (22/389). The average age at diagnosis among cases reporting injection drug use was 37.1 years.

The number of HIV diagnoses in Oregon declined over the last 10 years (from 291 to 200 cases). The overall decline relates to the decline in diagnoses among MSM-only (from 178 to 106 cases). Persons newly diagnosed with HIV who reported injection drug use (IDU or MSM/IDU) averaged 38.9 diagnoses per year without showing any real increase or decrease between 2008 and 2017 (Figure 3).

Survival after HIV/AIDS diagnosis is lower among people who report IDU. Oregon residents diagnosed with HIV/AIDS during 2008–2017 who likely acquired HIV through IDU were less likely to survive 10 years after diagnosis than MSM with HIV who had no history of drug use (83% vs. 90% probabilities of 10-year survival).

Figure 3 **Oregon HIV diagnoses, 2008–2017**



Role of IDU in HIV transmission in Oregon, 2017

From 1981 through 2017, 19% (1,937/10,373) of Oregon residents newly diagnosed with HIV infection reported a history of injection drug use. An additional 2% (251/10,373) of HIV/AIDS cases reported heterosexual contact with a person who injected drugs. Among HIV cases reported in Oregon, 22% (950/4,329) of deaths were cases who reported injection drug use and another 2% (103/4,329) reported heterosexual contact with an IDU.

Effect of delayed diagnosis

Many people who use or have used injection drugs and are diagnosed with HIV infection experience delayed diagnosis.* Males reporting as IDU-only were 1.8 times more likely than MSM-only males to be diagnosed with AIDS within 12 months (54% vs. 30%). Among MSM who also used injection drugs, 28% experienced delayed diagnosis, which was more consistent with MSM who did not report injection drug use. Among women, injection drug use was not associated with a greater likelihood of delayed diagnosis than women infected by other means. Delayed diagnosis and treatment contribute to further spread of HIV.

HIV, IDU and hepatitis C

Among cases diagnosed with HIV/AIDS in Oregon during 2008–2017 with a history of reported IDU, 37% (119/326) of men and 56% (35/63) of women also had chronic hepatitis C by the end of 2017. HIV-hepatitis C co-infection may limit treatment options for HIV and result in poorer outcomes.

* Delayed diagnosis is determined from an AIDS-defining event at the time of their HIV infection diagnosis or within 12 months.

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.

OHA 9988 (12/18)

HIV infection among Blacks and African Americans in Oregon

Background

From 1981 through 2017, 6% (646/10,373) of cases of all HIV diagnoses in Oregon were among Blacks or African Americans; approximately 32% (209/646) have died. Among Blacks and African Americans estimated to be living with HIV/AIDS in Oregon at the end of 2017, 31% (171/562) were born outside the United States in several different African countries.

Recent trends (2008–2017)

During 2008–2017, 8% (184/2,425) of all newly diagnosed HIV/AIDS cases were Blacks or African Americans. The mean annual rate of new HIV diagnoses among Blacks and African Americans was almost five times the rate for Whites (26.6 vs. 5.4 per 100,000 Oregon residents) (Figure 1). Among the 184 Blacks or African Americans diagnosed with HIV/AIDS in Oregon during 2008–2017, 39% (73/184) were born in another country. Of these, 51% (37/73) were male and 49% (36/73) were female. The proportion of foreign-born cases has fluctuated between 1984 and 2017, as shown in Figure 2. The location where people acquire HIV is rarely known with certainty.

Blacks and African Americans facts at a glance

- Approximately 7% (562/7,557) of people estimated to be living with HIV/AIDS in Oregon at the end of 2017 were Black or African American.
- Thirty percent of Blacks living with HIV in Oregon were born outside the United States.

Diagnosed with HIV infection in Oregon, 2008–2017

- Blacks and African Americans were almost five times more likely than Whites to be diagnosed with HIV infection.
- Among Blacks and African Americans recently diagnosed, 72% (133/184) were male.
- Black and African American men were less likely than White men to report having had sex with other men (64% vs. 82%).

Among the 133 Black or African American men recently diagnosed with HIV infection, 64% (85/133) acknowledged having had sex with other men, which is proportionally fewer than White men who reported sex with other men (82%, 1,201/1,477). Eight percent (11/133) of recently diagnosed Black or African American men reported heterosexual contact compared to 2% (34/1,477) of White men (Table 1).

Fifty-one Black or African American women were diagnosed with HIV in Oregon during 2008–2017. Sixty-three percent (32/51) of Black or African American women reported a heterosexual exposure (27%; 14/51). Only three Black or African American women (6%, 3/51) acknowledged injection drug use compared to 28% (50/178) of White women and 10% (4/40) of Hispanic women. A similar proportion of Black or African American women (27%, 14/51) reported not knowing their risk of infection compared to Whites (30%, 54/178) and Hispanics (30%, 12/40).

Figure 1 **Rates of HIV diagnosis by race/ethnicity per 100,000 population, Oregon 2008–2017**

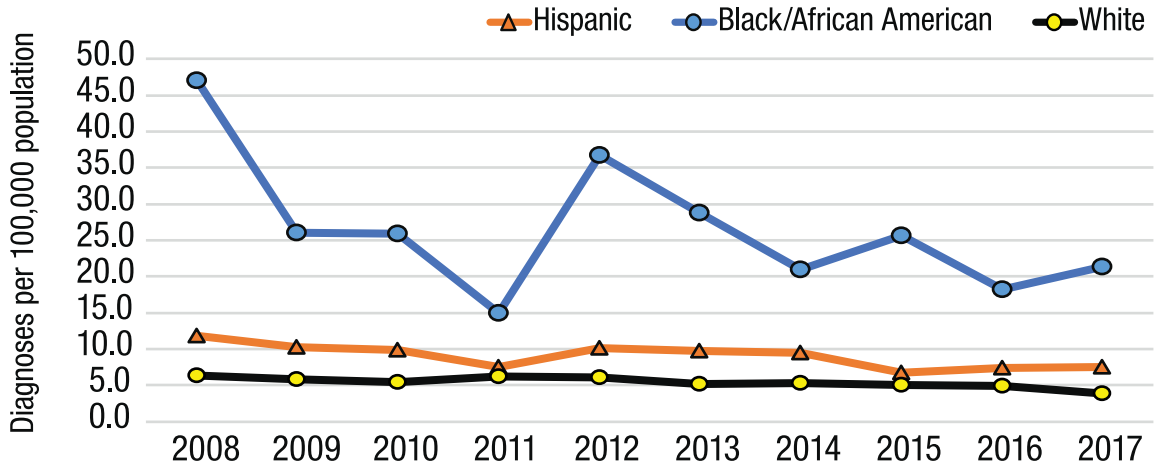


Figure 2 **Black/African Americans diagnosed in Oregon, 1981–2017**

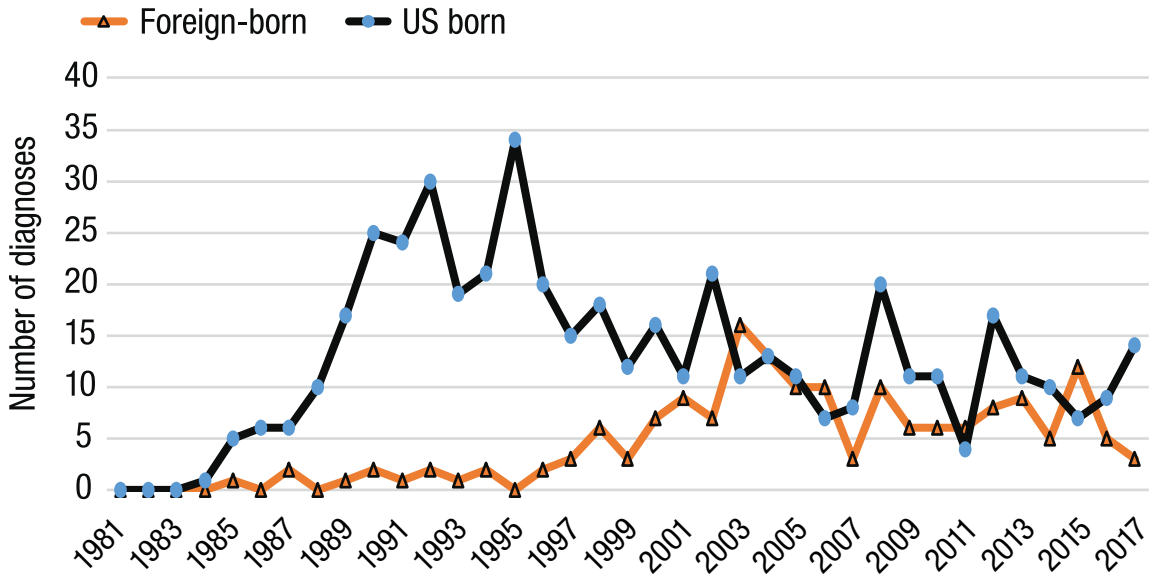


Table 1 **HIV transmission* by sex and race/ethnicity, Oregon 2008–2017**

	Black		Hispanic		White	
Male transmission	**Count**	**Percent**	**Count**	**Percent**	**Count**	**Percent**
Men who have sex with men (MSM)	71	53%	285	73%	1,028	70%
Injection drug use (IDU)	5	4%	9	2%	86	6%
MSM/IDU	14	11%	20	5%	173	12%
Heterosexual	11	8%	10	3%	34	2%
Unknown	27	20%	66	17%	156	11%
Pediatric	5	4%	1	0%	0	0%
Total	**133**	**100%**	**391**	**100%**	**1,477**	**100%**
Female transmission	**Count**	**Percent**	**Count**	**Percent**	**Count**	**Percent**
IDU	3	6%	4	10%	50	28%
Heterosexual	32	63%	23	58%	74	42%
Unknown	14	27%	12	30%	54	30%
Pediatric	2	4%	1	3%	0	0%
Total	**51**	**100%**	**40**	**100%**	**178**	**100%**

* Transmission category (sometimes known as "risk category") has been assigned based on a Centers for Disease Control and Prevention schema.

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.

OHA 9990 (12/18)

HIV infection among Hispanics in Oregon

Background

Among 989 Hispanic HIV cases estimated to be living in Oregon at the end of 2017, 62% (610/989) were born in another country with 37% (367/989) born in Mexico. Hispanic cases born outside the United States were more likely to be male (88%) than female (12%). Since 1994, the number of Hispanic cases born outside the United States generally exceeded the number of U.S.-born Hispanic cases (Figure 1).

Recent trends (2008–2017)

Among Hispanic Oregon residents during 2008–2017, the mean rate of new HIV diagnoses was nearly twice the rate of new diagnoses among Whites (431 new Hispanic cases; 9.1 vs. 5.4 per 100,000 residents; Figure 2). Hispanic cases diagnosed during 2012–2016 were more likely than Whites to progress to meeting criteria for AIDS within 12 months of testing positive (42% vs. 34%); this indicates that, on average, Hispanics have been infected for a longer time prior to diagnosis. Sixty-eight percent of recently diagnosed Hispanic cases were born in another country (295/295), with 41% of recently diagnosed cases born in Mexico.

Recently diagnosed Hispanic cases were mostly males (91%). Seventy-eight percent (305/391) of all male cases occurred in men who reported sex with other men (MSM), with or without a history of injection drug use (IDU). No likely transmission category was reported for 17% (66/391) of recently diagnosed Hispanic men.

Hispanics* living with HIV in Oregon, 2017 facts at a glance

- Thirteen percent (989/7,557) of people estimated to be living with HIV/AIDS in Oregon at the end of 2017 were Hispanic.
- Thirty-eight percent (379/989) of Oregon Hispanics living with HIV/AIDS were born in the United States with another 1 percent (13 cases) born in Puerto Rico.
- Thirty-seven percent of Oregon Hispanics living with HIV/AIDS were born in Mexico.
- Forty-three percent (372/874) of all foreign-born people living with HIV in Oregon were born in Mexico.

Diagnosed with HIV infection in Oregon, 2008–2017

- Eighteen percent (431/2,425) were Hispanic.
- Sixty-eight percent (295/431) of Hispanics diagnosed with HIV in Oregon were born outside the United States (41% in Mexico).
- No clear transmission mode was identified for 18% (78/431) of recently diagnosed Hispanic cases.

* Schema prioritizes Hispanic identity over White or Black/African American race; e.g., a person who identifies as Black or African American and Hispanic would be classified here as Hispanic.

Among the 40 Hispanic females diagnosed with HIV infection during 2008–2017, 58% (23/40) reported a known heterosexual risk. Another 30% (12/40) did not report any known risk such as injection drug use or heterosexual contact with someone with HIV or a man who was known to be bisexual. Injection drug use among Hispanic females diagnosed with HIV infection was 10% (4/40) compared to 28% (50/178) reported among White females (Table 1).

Figure 1 **Hispanics diagnosed in Oregon, 1981–2017**

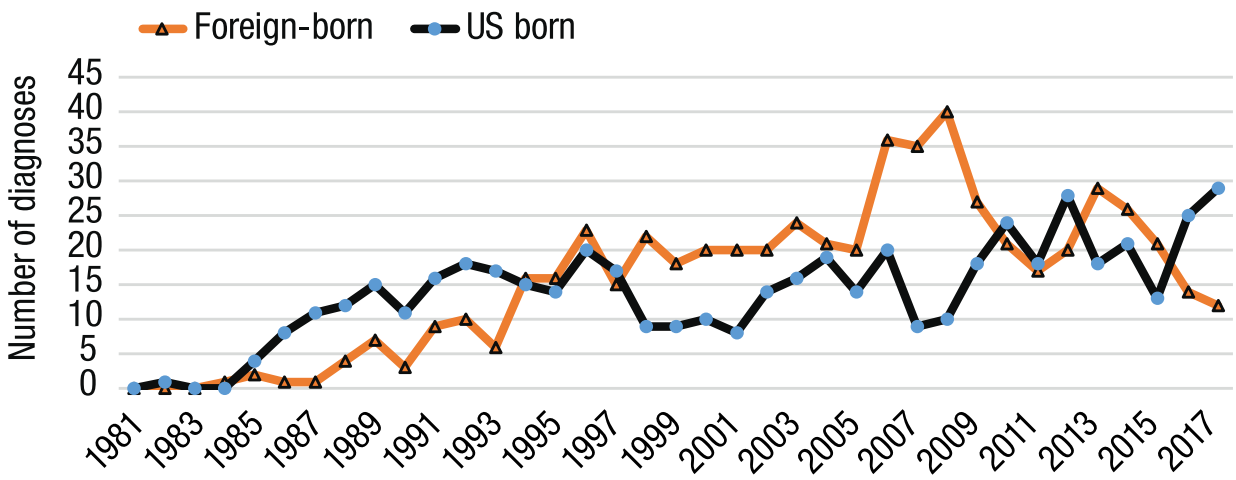


Figure 2 **Rates of HIV diagnosis by race/ethnicity per 100,000 population, Oregon, 2008–2017**

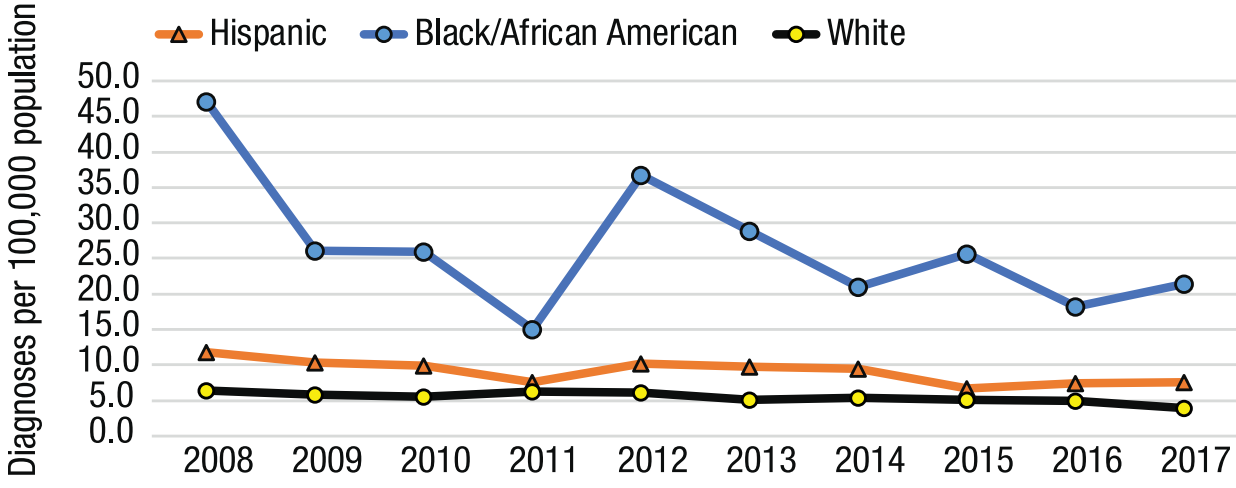


Table 1 HIV transmission* by sex and race/ethnicity, Oregon 2008–2017

	Hispanic		Black and African American		White	
Male transmission	**Count**	**Percent**	**Count**	**Percent**	**Count**	**Percent**
Men having sex with men only	285	73%	71	53%	1,028	70%
IDU only	9	2%	5	4%	86	6%
Men having sex with men/injection drug use	20	5%	14	11%	173	12%
Heterosexual	10	3%	11	8%	34	2%
Unknown	66	17%	27	20%	156	11%
Pediatric	1	0%	5	4%	0	0%
Total	**391**	**100%**	**133**	**100%**	**1,477**	**100%**
Female transmission	**Count**	**Percent**	**Count**	**Percent**	**Count**	**Percent**
Injection drug use only	4	10%	3	6%	50	28%
Heterosexual	23	58%	32	63%	74	42%
Unknown	12	30%	14	27%	54	30%
Pediatric	1	3%	2	4%	0	0%
Total	**40**	**100%**	**51**	**100%**	**178**	**100%**

* For Table 1, transmission category (sometimes known as "risk category") has been assigned based on a schema used by the Centers for Disease Control and Prevention.

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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OHA 9991 (12/18)

HIV and mortality in Oregon

HIV mortality in Oregon, 1981–2017

Of 10,373 cumulative cases of HIV infection diagnosed in Oregon from 1981 to 2017, 4,329 (42 percent) had died by Dec. 31, 2017. The advent of antiretroviral medications in the mid-1990s dramatically improved treatment outcomes. The probability of surviving 10 years after diagnosis was 87% for people diagnosed with HIV in Oregon from 2008 to 2017. Over the last decade, an average of 243 people were diagnosed with HIV infection in Oregon each year, and an average of 96 people with HIV died each year in Oregon (Figure 1).

Ten-year survival among HIV cases in Oregon

The Oregon Public Health Division examined mortality among people diagnosed with HIV in Oregon using survival analysis techniques. These tools estimate probability of survival for a selected time after diagnosis. We found that the probability of surviving 10 years after diagnosis among people with HIV in Oregon during 2008–2017 was 87 percent. We then examined survival by sex, race, foreign-born status, age group at diagnosis, severity of disease at diagnosis, chronic hepatitis B infection, chronic hepatitis C infection and likely mode of HIV infection acquisition.

Ten-year probability of survival was similar among Asians (91%), Hispanics (88%), Whites (86%), American Indian/Alaska Natives (82%), Native Hawaiian/Pacific Islanders (100%) and multiracial cases (90%). As expected, we found that the higher the age group at the time of HIV diagnosis, the lower the probability of surviving 10 years (Figure 2).

HIV and mortality facts at a glance

- The number of deaths per year among people with HIV declined from 354 deaths during 1995 to 72 cases during 2017.
- Oregonians diagnosed with HIV infection during 2008–2017 had an 87% probability of surviving 10 years after diagnosis.
- The following groups had a lower probability of surviving 10 years after diagnosis than their comparison group:
  - » Blacks relative to White non-Hispanics
  - » People aged > 60 years vs. 50–59 year-olds, aged 50–59 vs. 40–49 year-olds, aged 40–49 vs. 39 year-olds, aged 30–39 vs. 18–29 year-olds
  - » People with CD4 counts <200 cells/mm3 at diagnosis relative to people with higher CD4 counts at diagnosis
  - » People without a reported risk of transmission and people who acquired HIV via injection drug use (IDU) relative to people with other modes of transmission
  - » People with reported chronic hepatitis C infection relative to people without hepatitis.
- During 2008–2017, HIV disease remained the leading underlying cause of death (44 percent) among people with HIV. Cancer (16 percent of deaths) was the second most common underlying cause.

By location of residence, 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%).

Severity of disease at diagnosis, as indicated by CD4 count, was strongly related to probability of survival (Figure 3). 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%). In turn, 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%).

We then examined probability of surviving 10 years by likely mode of transmission of HIV infection (Figure 4). We found that those who likely acquired HIV infection through injection drug use (IDU) had a much lower probability of surviving 10 years (83%) than men who acquired infection via sex with other men (90%), or men and women who presumably acquired infection by heterosexual contact (92%). Those 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%).

Table 1. Underlying cause of death among people reported with HIV infection who died in Oregon, 2008–2017 *, †

Underlying cause of death	Total	Percent
HIV disease	416	44%
Cancer	153	16%
All other causes	92	10%
Heart disease	59	6%
Unintentional injury	58	6%
Suicide	35	4%
Chronic lung disease	28	3%
Chronic liver disease	28	3%
Diabetes mellitus	18	2%
Pneumonia or influenza	13	1%
Cerebrovascular disease	12	1%
Viral hepatitis	9	1%
Hypertension	6	1%
Benign neoplasm	5	1%
Aspiration pneumonitis	4	0%
Septicemia	3	0%
Nephritis or nephrosis	3	0%

Underlying cause of death	Total	Percent
Parkinson disease	2	0%
Tuberculosis	1	0%
Nutritional deficiencies	1	0%
Anemias	0	0%
Meningitis	0	0%
Alzheimer disease	0	0%
Atherosclerosis	0	0%
Peptic ulcer	0	0%
Congenital anomalies	0	0%
Pregnancy complications	0	0%
Perinatal complications	0	0%
Homicide	0	0%
Total	946	100%

* Only included deaths with HIV listed as the underlying cause or HIV listed among the other conditions reported at death.

† These deaths include people with HIV/AIDS who died in Oregon and may have been diagnosed with HIV/AIDS outside of Oregon.

Underlying cause of death among people with HIV/AIDS infection in Oregon, 2008–2017

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 (Table 1). 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).

Figure 1 **HIV cases diagnosed in Oregon and HIV cases who have died in Oregon, 1981–2017**

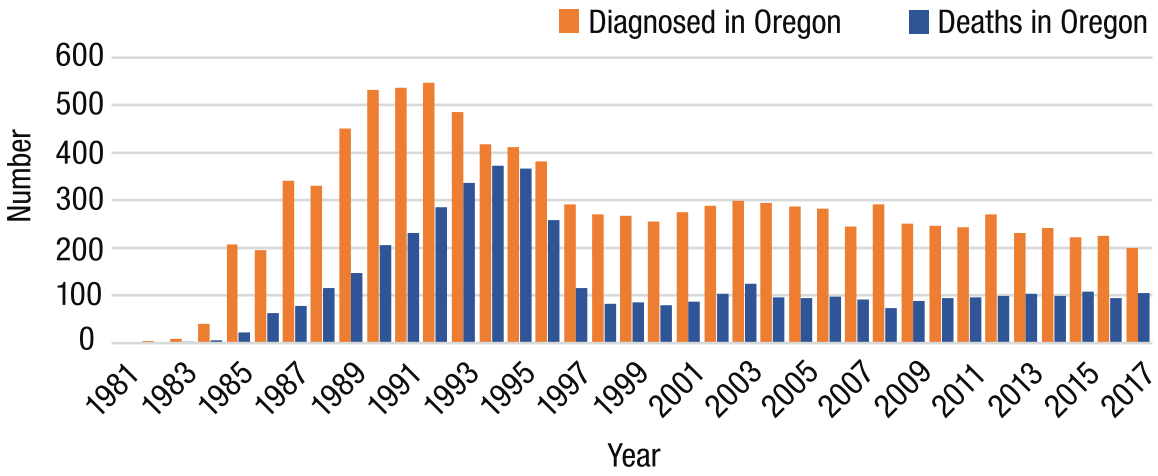
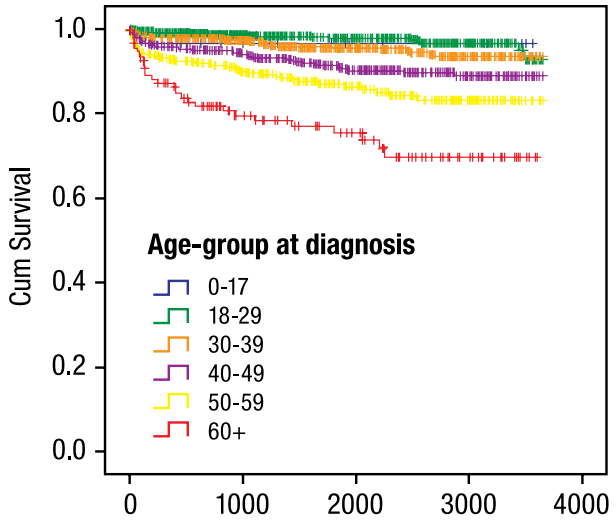
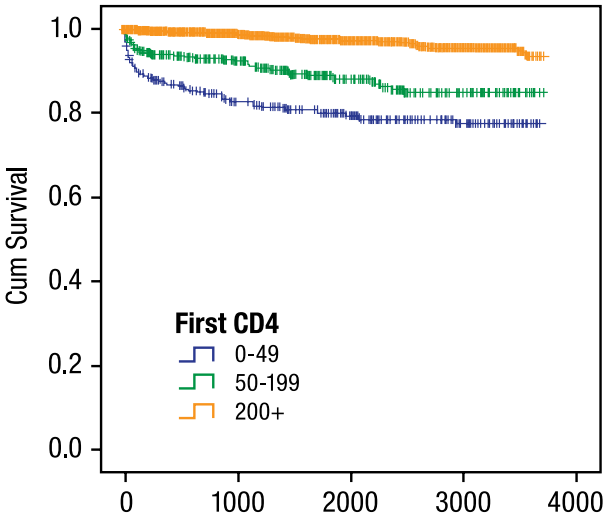


Figure 2 **Ten-year survival probability by age group**



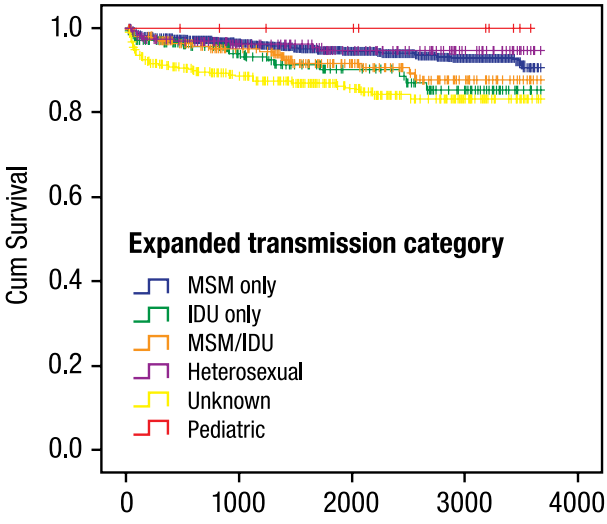
Days diagnosis to death excluding 2018 deaths including days living to Dec. 31, 2017

Figure 3 **Ten-year survival probability by first CD4+ count following diagnosis***



Days diagnosis to death excluding 2018 deaths including days living to Dec. 31, 2017

Figure 4 **Ten-year survival probability by likely mode of acquisition of HIV infection**



Days diagnosis to death excluding 2018 deaths including days living to Dec. 31, 2017

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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OHA 9992 (12/18)

The intersection between HIV and other sexually transmitted diseases in Oregon

Other sexually transmitted diseases among people infected with HIV

Sexually transmitted diseases (STDs) other than HIV are indicators of ongoing high-risk sexual behavior, such as multiple concurrent partners and inconsistent condom use. Having another concurrent STD can increase the likelihood that someone with uncontrolled HIV infection might transmit HIV to uninfected partners.

Rates of other STDs among Oregon men with previously reported HIV infection are much higher than they are in the general population. During 2013–2017, the average annual rates reported among HIV-infected males were 3,809.1 (chlamydia), 4,006.7 (gonorrhea) and 3,067.2 (syphilis) cases per 100,000 population (Figure 1). Among women living with HIV, six cases of syphilis co-infection, 14 gonorrhea co-infections and 25 chlamydia co-infections occurred during 2013–2017. During 2013–2017, the average annual rates of reported STDs in the Oregon population without HIV (males and females) were 401.3 (chlamydia), 75.8 (gonorrhea) and 7.7 (syphilis) cases per 100,000.

Oregon HIV STD facts at a glance

- During 2013–2017, the average annual incidence of early syphilis (primary, secondary or early latent) was 353 times higher among people with HIV than among the general population without HIV (2,719.8 vs. 7.7 syphilis reports per 100,000 population).
- During 2013–2017, the average annual incidence of gonorrhea was 47 times higher among people with HIV than among the general population without HIV (3,569.5 vs. 75.8 gonorrhea reports per 100,000 population).
- Syphilis and HIV often occur together: During 2013–2017, 40% (1,021/2,573) of all Oregon syphilis cases also had HIV.

Among Oregon HIV/AIDS cases living as of Dec. 31, 2017, some groups experience higher rates of other

Figure 1 Male rates of STDs per 100,000 among persons co-diagnosed or later diagnosed with HIV, Oregon, 2008–2017

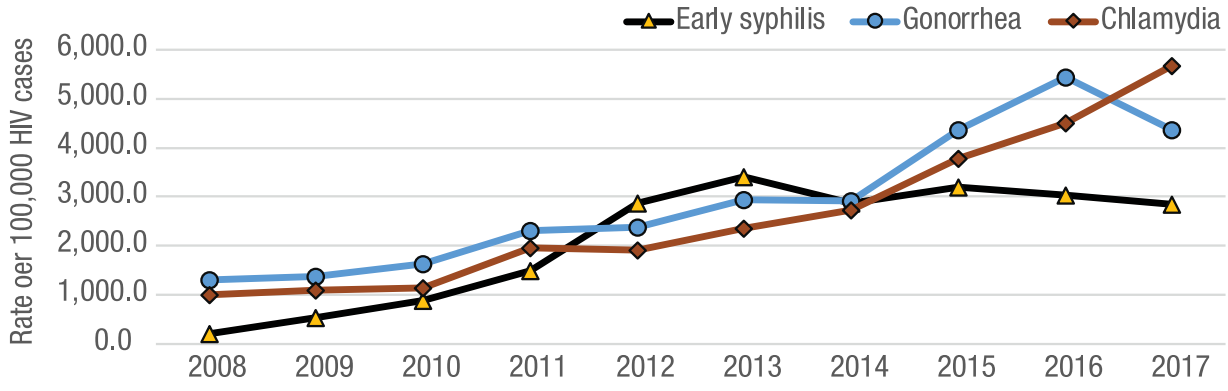
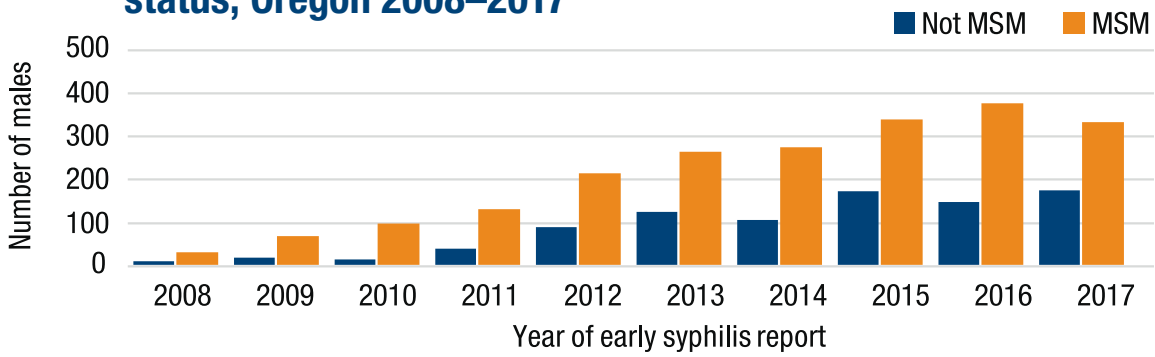


Figure 2 **Early syphilis cases among males having sex with males (MSM) status, Oregon 2008–2017**



STDs than others. After their HIV diagnosis, the risk of acquiring an STD during 2013–2017 was higher among:

- Men than women (29% vs. 5%, respectively)
- Males aged 30–39 years as of Dec. 31, 2017 (46%) than males aged 20–24 years (29%), 40–49 years (35%), 50–59 years (24%), and 60 years and over (14%). Males aged 25–29 (42%) were not different from 30–39 year-olds.
- Females aged 30–39 years as of Dec. 31, 2017 (6%) and 25–29 years of age were higher than females aged 40–49 years (4%), 50–59 (3%), and 60 years of age and older (1%).
- Multiracial males (42%) and Hispanic males (35%) compared to White males (28%). There were no differences among females by race/ethnicity.
- MSM (33%) had a higher risk compared to males whose risk was only injection drug use (IDU) (9%), unknown risk (12%), and heterosexual contact (9%). There were no differences among females by risk.
- HIV positive males residing in Multnomah County had a higher risk of an STD (37%) compared to mixed urban/rural (24%) or rural counties of Oregon (15%). There were no urban/rural differences among females with HIV.

Overlapping risk

Other STDs can increase susceptibility to HIV infection and can be markers for risky sexual practices that can lead to HIV infection. People with another STD, such as syphilis, are more likely than others to be subsequently diagnosed with HIV. In Oregon during 2013–2017, 91% (2,329/2,573) of reported syphilis cases occurred in men.

Among men with syphilis during 2013–2017 who answered questions about sex partners, 69% (1,604/2,329) reported having sex with men (Figure 2). Forty-three percent (1,015/2,329) of syphilis cases reported during 2013–2017 occurred among men with already reported HIV.

The HIV-gonorrhea overlap was lower with 12.4% (1,335/10,725) of male gonorrhea cases reported from 2013 to 2017 occurring in co-diagnosed or previously reported HIV infection cases. The reason for the apparently lower co-infection rate was that screening rates for gonorrhea were lower than for syphilis among people with HIV infection who were in care (31% vs 70%, Medical Monitoring Project).

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.

OHA 9993 (12/18)

HIV infection in Oregon among men who have sex with men*

Men who have sex with men living with HIV in Oregon

Men who have sex with men (MSM) represented 65% (4,892/7,557) of people estimated to be living with HIV/AIDS (regardless of year of diagnosis or state or country of residence at diagnosis) in Oregon at the end of 2017; an additional 9% (702/7,557) were MSM who also reported using injection drugs (MSM/IDU). Among living MSM HIV cases, 7% were under 30 years of age and 52% were 50 years of age or older at the end of 2017 (2,542/4,892). The average age of living MSM HIV cases at the end of 2017 was 49.2 years.

By the end of 2017, 52% of all MSM known to be living with HIV in Oregon resided in Multnomah County. Nine percent of all living MSM cases in Oregon were foreign-born. Seventy-eight percent (3,801/4,892) of living MSM were non-Hispanic White; 13% (632/4,892) were Hispanic; and 5% (249/4,892) were non-Hispanic Black or African American. Among all living MSM cases, 30% had AIDS upon or within 12 months of diagnosis, which is an indicator of delayed diagnosis.

HIV infection and MSM at a glance

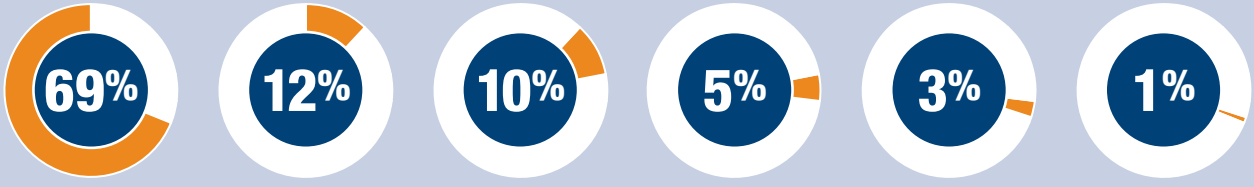
- Men who have sex with men represented 65% (4,892/7,557) of people estimated to be living with HIV in Oregon at the end of 2017.
- Only 7% of HIV-infected MSM living in Oregon at the end of 2017 were under the age of 30.
- Thirty-five percent of HIV-infected MSM diagnosed from 2008 to 2017 in Oregon were under the age of 30.
- Thirty-one percent of MSM diagnosed from 2008 to 2017 developed AIDS within 12 months of their initial diagnosis.

Recent trends (2008–2017)

MSM accounted for 61% (1,472/2,425) of all HIV cases (regardless of sex) diagnosed during 2008–2017 in Oregon, and MSM represented 69% (1,472/2,125) of recently diagnosed cases among men (Figure 1). Nationally, 82% of diagnosed HIV infections in men were attributed to male-to-male sexual contact (2015). In Oregon, the number of new HIV diagnoses among MSM did not change much from 1997 to 2011; it averaged approximately 165 new diagnoses per year between 1997 and 2011. New diagnoses among MSM in Oregon decreased markedly from 180 in 2012 to 106 cases in 2017.

* For the purposes of this report, men who have sex with men (MSM) are defined as males who reported ever having had anal and/or oral sex with another male. The category "MSM" refers to an act or behavior, not a sexual orientation.

Figure 1 **Male transmission categories among Oregon cases of HIV infection, 2008–2017**



An additional 10% (216/2,125) of recently diagnosed male cases reported having sex with other men in addition to having used injection drugs (MSM/IDU). Twenty-two percent (323/1,472) of MSM cases diagnosed during 2008–2017 also reported having had one or more female sex partners. Heterosexual transmission among men is relatively rare in Oregon. During 2008–2017, 3% (59/2,125) of newly diagnosed men were assumed to have acquired the infection from a female partner infected with HIV or who used injection drugs. Twelve percent of cases among men (262/2,125) had missing information about transmission risk. MSM and IDU HIV transmission may be underestimated due to cases in which men did not disclose sex with other men or injection drug use.

During 2008–2017, 41.7 was the average age at diagnosis among MSM HIV cases. Approximately one-third (35%) were under 30 years of age at diagnosis; 16% were 50 years of age or older at diagnosis. During 2008–2017, newly diagnosed MSM HIV cases were predominately non-Hispanic White (70%). Nineteen percent of diagnosed MSM HIV cases were Hispanic and 5% were non-Hispanic Black or African American. Fifteen percent (213/1,472) of MSM cases were foreign-born.

Among recently diagnosed MSM cases (2008–2017), 31% had AIDS at or within 12 months after HIV diagnosis. MSM cases were more likely to achieve viral suppression for HIV/AIDS in 2017 than male IDU cases, MSM/IDU cases, those reporting a heterosexual risk (regardless of sex) and those not reporting any known risk (regardless of sex).

Sexually transmitted diseases were common among MSM living with HIV at the end of 2017. HIV-infected MSM and MSM/IDU accounted for 38% (1,259/3,294) of early syphilis cases reported in Oregon from 2008 to 2017.

Summary

- The risk of transmission of HIV per sex act when a condom is not used is higher for anal intercourse than for other forms of sex.
- Other sexually transmitted diseases, such as syphilis and gonorrhea, increase risk of transmitting or acquiring HIV during sex. These diseases are more prevalent among MSM.
- A minority of MSM with unrecognized HIV infection might be responsible for disproportionate rates of transmission because of high-risk sex with multiple partners.
- Some men who have sex with men may not feel comfortable disclosing that fact, leading to unrecognized and undiagnosed infections that may be transmitted to others.

Presently available approaches to reducing the rate of new infections among MSM include:

- Frequent HIV testing to reduce the number of unrecognized infections
- Increasing condom use
- Reducing the total number of partners
- Minimizing multiple concurrent partners
- Antiretroviral treatment to reduce the amount of virus in semen and the bloodstream and risk of transmission per sex act and
- Post- and pre-exposure prophylaxis that may be useful strategies for some number of MSM.

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. http://www.cdc.gov/hiv/pdf/library/slidesets/cdc-hiv-surveillance-slides-msm.pdf

OHA 9994 (12/18)

HIV infection among women in Oregon

Women living with HIV in Oregon, 2017

Women made up 12% (906/7,557) of Oregon residents living with HIV (regardless of the year of diagnosis or the state or country of residence at diagnosis) at the end of 2017. The average age among women living with HIV in Oregon was 48 years (for men, 49 years). The average age of diagnosis for women was 38.2 years old compared to 37.5 years of age among men. Oregon residents living with HIV had been diagnosed for an average of 14 years regardless of sex. Successful HIV treatment reduces the number of HIV virus copies in the blood. People have "viral suppression" if the measured number of copies is <200 copies/mL. Among women receiving HIV medical care in Oregon during 2017, 88% were virally suppressed at their last blood test (for men, 92%). Suppressed viral load corresponds to low levels of virus detected in the blood; this causes HIV to be less easily transmitted.

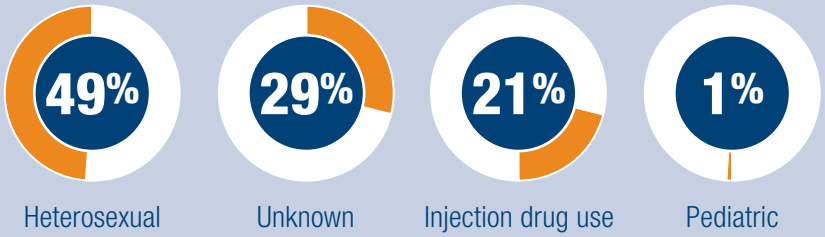
HIV and women facts at a glance

- From 2008 to 2017, the average annual rate of HIV diagnosis among non-Hispanic Black or African American women in Oregon was 14 times the rate among non-Hispanic White women (16.2 vs. 1.2 per 100,000).
- From 2008 to 2017, 21% (63/300) of female cases diagnosed among Oregon residents reported past injection drug use.
- Women represented 12% (906/7,557) of the estimated total of people living with HIV/AIDS in Oregon (regardless or year of diagnosis or state or country of residence at diagnosis) at the end of 2017.
- The last child born with HIV to an Oregon resident was in 2017.

Among female cases living in Oregon at the end of 2017, injection drug use (IDU) was determined to be the most likely route of infection for 23% (206/906) and heterosexual contact for 59% (537/906). "Heterosexual contact" as a category requires the person deny injection drug use. As of 2017, 5% of females reported sex with bisexual men (5%; 49/906), sex with a man who used injection drugs (13%; 118/906), and sex with someone who received a transfusion/transplant (1%; 6/906). The remaining 40% (364/906) of females reporting heterosexual contact did not know their partner's risk of HIV infection. Many women find out after exposure or diagnosis that their partner was HIV-positive and what their partner's likely transmission mode might have been.

Another 15% (136/906) of women living with HIV fell into an "undetermined transmission" category. This category means they were unsure either who exposed them to HIV or the risk category was not documented. Vertical transmission from mother to child accounted for 3% (25/906) of diagnoses among females and another two cases reported being infected via transfusion or other blood product. Approximately one-quarter of Oregon female cases were infected by injecting drugs. Male partners whose risk the women did not know infected almost all other women.

Figure 1 **Presumed mode of transmission among Oregon women diagnosed with HIV, 2008–2017 (n=300)**



Recent trends (2008–2017)

From 2008 to 2017, an average of 30 Oregon resident women (1.5 cases per 100,000 female population) were newly diagnosed with HIV each year. During the same period, the rate of diagnosis was highest among non-Hispanic Black or African American women at 16.2 cases per 100,000, a rate 14 times higher than the rate among non-Hispanic White women (1.2 per 100,000). The average rate of diagnosis among American Indian or Alaska Native women during 2008–2017 was 3.6 cases per 100,000. The rate of diagnosis was 1.8 cases per 100,000 among Hispanic women. Fifty-three percent (21/40) of Hispanic women diagnosed from 2008 to 2017 were foreign-born, compared to 69% (35/51) of Black/African American women and 2% (3/178) of White women.

The presumed modes of transmission for women between 2008 and 2017 were:

- Injection drug use (IDU) for 21% (63/300) of women
- Heterosexual contact for 49% (145/300)
- Unknown for 29% (88/300), and
- Pediatric for 1% (4/300) (Figure 1).

Seventy-nine percent (50/63) of female IDU cases were White.

Reproductive health

Fortunately, mother-to-child transmission of HIV during pregnancy or at birth is rare in Oregon. As a result, Oregon does not mandate reporting to the Oregon Health Authority of births of HIV-infected women. At the end of 2017, 18 children aged <13 years with known HIV infection lived in Oregon. All but two were born outside the United States and one — the last known infant born with HIV to an Oregon mother — was born in 2017. During 2017, 96% of birth certificates for Oregon births showed the mother had been tested for HIV while she was pregnant.

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.

OHA 9995 (12/18)

HIV and viral hepatitis co-infection in Oregon

Hepatitis C (HCV) and hepatitis B (HBV) are common infections among people also infected with HIV. HIV infection accelerates the progression of hepatitis-related liver disease. Liver disease can include severe fatigue, abdominal swelling, cirrhosis and liver cancer. People who are co-infected with viral hepatitis and HIV can also have fewer HIV treatment options.

Monitoring viral hepatitis and HIV in Oregon

Oregon health care providers and laboratories must report all cases† of HIV, HBV and HCV infection to the Oregon Health Authority. Chronic HCV infection was the most recent addition to this list of reportable diagnoses in late 2005. Previously, only acute HCV infection was reportable. The Oregon Health Authority uses information about reported cases of HIV and viral hepatitis to monitor disease occurrence and inform disease control strategies.

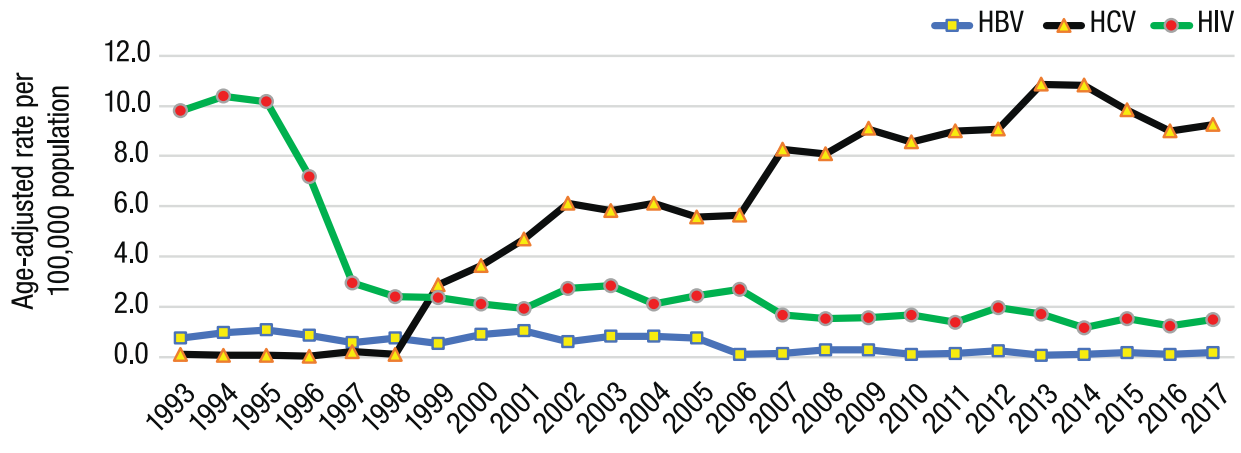
Oregon HIV and viral hepatitis facts at a glance

- Eighteen percent of Oregonians with HIV also have a reported case of hepatitis C virus (HCV) infection. Seventeen percent of Oregonians with HIV also have a reported case of hepatitis B virus infection (HBV).*
- Viral hepatitis prevalence among Oregonians with HIV may be higher because of underreporting of hepatitis.
- Chronic HCV is a more severe infection in people with HIV than in people who are not HIV-infected.

* During 2015–2017, the Medical Monitoring Project (MMP) interviewed 433 patients receiving HIV medical care in Oregon. MMP examines clinical outcomes and behaviors of adults receiving HIV care in the United States.

† For this report, a "case" is defined as an Oregon resident with laboratory-confirmed HIV infection reported to the Oregon Health Authority Public Health Division. Co-infection refers to persons with laboratory-confirmed cases of viral hepatitis and HIV reported to the Oregon Health Division.

Figure 1 Death rate for hepatitis B, hepatitis C and HIV, Oregon 1993–2017



Liver-related mortality in people with HIV

Co-infection with HIV and HBV or HCV increases the risk of death compared with people who have either HIV or viral hepatitis but not both. In survival analyses of Oregonians diagnosed with HIV infection from 2008 to 2017, 10-year probability of survival was 88% among people with HIV infection but not viral hepatitis. This compared to 74% among people with HIV and chronic HBV infection and 79% among people with HIV and chronic HCV infection. We expect the proportion of deaths among HIV-infected people attributable to viral hepatitis to increase as people live longer with HIV infection, and if detection and public health monitoring of both diseases improve. (Figure 1)

HCV in people with HIV

HCV, a blood-borne infection, is common among people who use injection drugs (PWID) because HCV transmission is 10 times more likely than HIV after a single exposure to blood from an infected person. Because of this, a person who uses injection drugs and gets a new HIV infection often already has HCV infection.

Sexual transmission of HCV can occur. Someone who has HIV infection is more likely to acquire HCV infection through anal intercourse than someone who does not have HIV infection. HIV-related changes in the lining of the rectum might make it more susceptible to hepatitis C infection.

Nationally, approximately 25% of everyone with HIV is co-infected with HCV.

In Oregon, based on disease reporting, the following were co-infected with HCV:

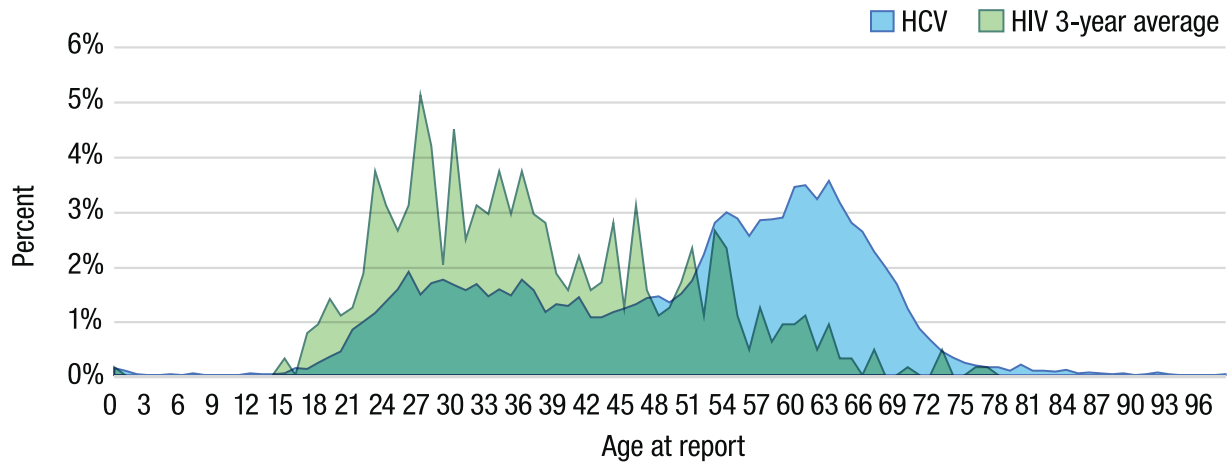
- Approximately 12% (874/7,557) of people living with HIV as of the end of 2017
- 37% (482/1,299) of those with HIV who reported injecting drugs
- 46% among male and 50% among female PWID with HIV
- 28% among men who have sex with men who also reported injecting drugs (MSM/IDU).

HCV was more common in the following groups with a greater proportion of PWID.

- Females (16%)
- American Indian/Alaska Natives (33%) compared to Whites (12%)
- PLWH with hemophilia (74%)
- Non-foreign-born persons, and
- PLWH in age groups 25–29 (5%) and younger compared to 30–34 year-olds (10%) and older age groups.

A person with both HIV and HCV might have had different routes of exposure for HIV and HCV. Prior to the early 1990s HCV in North America, specifically genotype 1a, spread mostly through contaminated blood products and medical/dental equipment (hemodialysis, injections, surgery). (1,2) Since the mid-1960s, the spread of HCV has been through untested blood products, shared injection equipment, unsafe tattooing, high-risk sex, blood exposures during incarceration (e.g., fighting or sharing razors), and from HCV-positive mothers to their children during pregnancy or at delivery. (3,4,5) It was not until July 1992 that HCV testing of blood for transfusion and of tissue/

Figure 2 **2017 age distribution of newly reported Oregon chronic HCV cases and HIV cases, 3-year average (2015–2017), (HCV, n=5,990)**



organ transplants became available; many people exposed to HCV before 1992 may not know how they were infected. The age distribution of people reported with HCV in Oregon has two peaks: one among people in their mid-20s and the second among people in their 50s and 60s. The latter peak is higher. Because the United States began to test blood products for HCV in the early 1990s, people with HCV who are in their 20s likely acquired their infection from shared injection equipment, unsafe tattooing, high-risk sex or blood exposures during incarceration (e.g., fighting or sharing razors). People in their 50s and 60s with HCV probably reflect a mixture of health care-related exposures (blood products and medical procedures) in addition to behavioral or lifestyle exposures prevalent among the younger group. (Figure 2)

HCV outcomes are generally worse in people who also have HIV. Individuals with HIV infection who are newly infected with HCV are more likely to develop chronic HCV infection, more likely to experience faster progression of liver disease, and less likely to be cured with treatment than people who have acute HCV infection without HIV infection. Unlike HIV, HCV can be cured. New, highly effective HCV treatments cure more than 90% of people.

HBV in people with HIV

Like HIV, HBV can be transmitted sexually or through injection drug use. It can also be transmitted from an infected mother to a newborn. Because of the availability of a preventive vaccine and efficient screening of the U.S. blood supply, neither HIV nor HBV is commonly transmitted anymore through transplants or transfusions. In the United States, 10% of people with HIV also have HBV infection. Among 2014–15 Oregon MMP participants, 17% reported ever having HBV. Like HCV, HBV is more efficiently transmitted via bloodborne exposure than HIV.

Unlike HCV, HBV can be prevented by vaccination. However, many adults at risk for HBV infection have not been vaccinated. Vaccination is recommended for men who have sex with men, adults with multiple sex partners and persons who inject drugs. All people with HIV who do not have evidence of HBV immunity should be vaccinated. As the number of U.S. adults vaccinated for HBV increases, public health officials hope to see the proportions of HIV/HBV co-infections decline.

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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.

OHA 9996 (12/18)

HIV infection among American Indians and Alaska Natives in Oregon

Diagnosed with HIV infection in Oregon, 2008–2017

- The average rate of new HIV diagnoses among people who identified as non-Hispanic American Indian or Alaska Native was similar to that of Whites (4.5 vs. 5.4 per 100,000 Oregon residents).
- Of people who only identified as non-Hispanic, AI/AN represented less than 1% (23/2,425) of diagnoses during 2008–2017. Another 22 cases identified as AI/AN and another race/ethnicity.
- Females accounted for 40% of recent diagnoses among AI/AN compared to 11% among Whites.

Of all Oregon residents known to be living with HIV (regardless of year or residence diagnosis) at the end of 2017:

- Two percent (157/7,557) identified as AI/AN of the 157%:
  - » Seventy-two (46%) identified as AI/AN alone and 85 (54%) identified as AI/AN combined with another race or with Hispanic ethnicity.
  - » Seventy-nine percent (124/157) were male and 21% (33/157) were female.
  - » Thirty-eight percent (59/157) reported injection drug use at time of diagnosis compared to 18% of non-Hispanic Whites.

HIV and American Indians/Alaska Natives facts at a glance

- Roughly 2% (157/7,557) of people estimated to be living with HIV/AIDS in Oregon at the end of 2017 identified as American Indian or Alaska Native (AI/AN) alone or in combination with another race or ethnicity. Of these, 46% (72/157) identified as AI/AN alone and 54% (85/157) identified with at least one other race or with Hispanic ethnicity.*
- Thirty-eight percent (59/157) of people estimated to be living in Oregon with HIV/AIDS who identified as AI/AN reported injection drug use at time of diagnosis.

* Throughout this fact sheet AI/AN identify will include people identified in our records as AI/AN alone or in combination with one or more other races or ethnicities.

Recent trends (2008–2017)

During 2008–2017, 2% (53/2,425) of HIV cases diagnosed in Oregon occurred among people identified as AI/AN. Twenty-three (43%) were identified as AI/AN alone, 22 (42%) identified as AI/AN and another race, and eight (15%) also identified as Hispanic (Figure 1).

Figure 1 **New HIV diagnoses with American Indian/Alaska Native listed alone or in combination with other race/ethnicities, Oregon, 2008–2017 (n= 53)**

If we compare rates of diagnoses among AI/AN and Whites using US Census estimates, we may be underestimating HIV among persons who consider themselves AI/AN but are counted as two or more races or as Hispanic, where Hispanic ethnicity trumps any racial category. Using US Census estimates, the average rate of new HIV diagnoses among people who identified AI/AN was similar to that of Whites (4.5 vs. 5.4 per 100,000 Oregon residents).

The average age at diagnosis of people identified as AI/AN was 35 years compared to 39 years among non-Hispanic Whites. Delayed diagnosis (as measured by diagnosis of AIDS within a year of HIV diagnosis) was comparable between AI/AN and non-Hispanic Whites (36% vs. 37% had an AIDS diagnosis within 12 months of HIV diagnosis). Proportionally, more AI/AN reported injection drug use (32%) than any other racial groups (non-Hispanic White, 19%; Hispanic, 8%; non-Hispanic Black/African American, 12%; non-Hispanic Asian, 6%).

Among recently diagnosed cases of HIV infection, 74% (29/39) of cases diagnosed among AI/AN identified men reported ever having had sex with another man (Figure 2). Female cases accounted for 26% (14/53) of the recent diagnoses among AI/AN identified people compared to 11% (172/1,609) among non-Hispanic Whites. Fifty percent (7/14) of recently diagnosed AI/AN identified women reported injection drug use compared to 28% (49/172) of non-Hispanic White females (Figure 3).

Figure 2 **Reported male transmission risk among American Indians/ Alaska Natives in Oregon diagnosed, 2008–2017 (n= 39)**

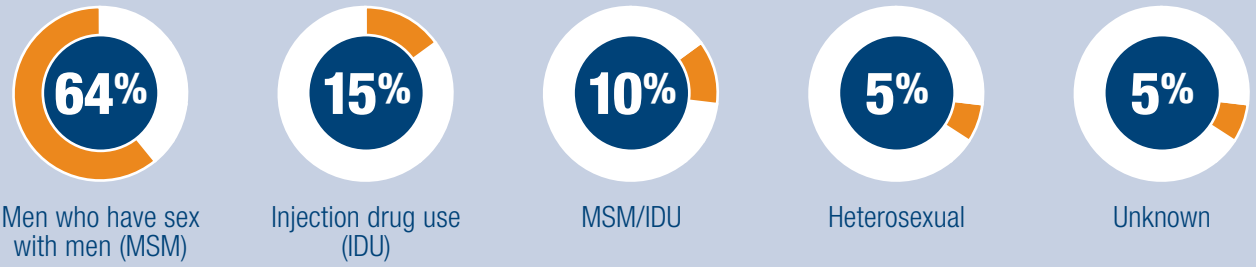
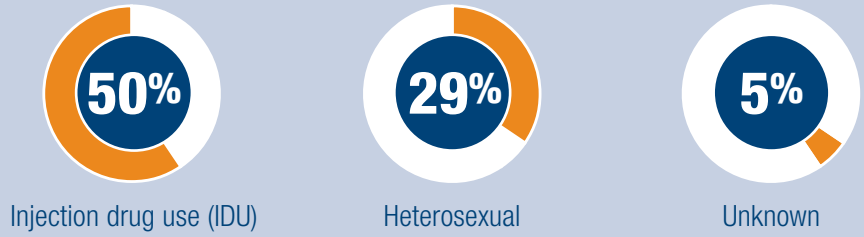


Figure 3 **Reported female transmission risk among American Indians/ Alaska Natives in Oregon diagnosed 2008–2017 (n= 39)**



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.

OHA 9997 (12/18)

HIV care continuum in Oregon

What is the HIV care continuum?

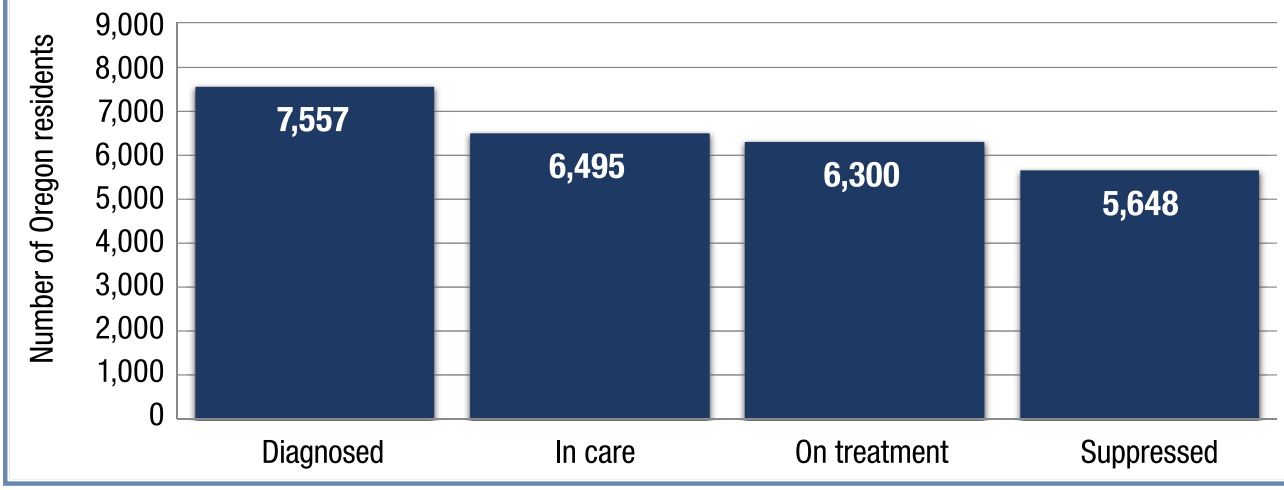
Reducing the amount of HIV in the body helps people infected with HIV stay healthier and reduces the chances of infecting others. People who do not know they have HIV could spread the virus, so it is important that people at risk for HIV get tested regularly and into care as soon as possible. Preventing 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 200 copies/mL or less. This level of HIV in the blood minimizes the risk of transmission. The HIV care continuum describes a region's success in achieving key prevention milestones from infection to viral suppression. The Centers for Disease Control and Prevention (CDC) and the National HIV/AIDS Strategy extensively use the HIV care continuum to assess treatment outcomes.(1, 2) The Oregon HIV Program uses information collected about people with HIV infection to create an HIV care continuum specifically for Oregon.

HIV care continuum definitions

- Infected*: people with HIV infection including people with diagnosed infection and people with unrecognized or undiagnosed HIV infection (estimated).
- Diagnosed*: people diagnosed with HIV whose case has been reported to the Oregon HIV Program.
- Linked to care: an HIV-specific laboratory test (CD4 or viral load) collected within 30 days of first diagnosis. (Indicates that a person has received medical attention for HIV.)
- In care: people with an HIV-related laboratory test in 2017.
- On treatment: people who have been prescribed an antiretroviral medicine (HIV treatment).
- Suppressed: people whose last reported HIV viral load (measure of amount of HIV circulating in bloodstream) during 2017 was < 200 copies/mL.

* The difference between "infected" and "diagnosed" is an estimate from the CDC (14% of people infected are not diagnosed). The "on treatment" estimate is based on Medical Monitoring Project data from Oregon, which observed 97% of people "in care" were prescribed ART.(4)

Figure 1 Oregon HIV care continuum, 2017



The Oregon HIV care continuum gives us a picture of the HIV epidemic in Oregon at the end of 2017 (Figure 1).

- An estimated 7,557 residents of Oregon had diagnosed HIV infection.
- Approximately 1,230 Oregonians were infected with HIV but remained undiagnosed.(3)
- Sixty-six percent (748/1,122) of people with newly diagnosed HIV infection in Oregon (2013–2017) were linked to care in 30 days, and 85% were linked in 90 days (952/1,122) (not shown in Figure 1).
- Approximately 14% or 1,062 Oregon residents with diagnosed HIV were not in medical care in 2017.
- Ninety-seven percent (6,300/6,495) of those in medical care with HIV were on ART.(4)
- Viral load suppression was achieved among more than 75% (5,648/7,557) of those living with diagnosed HIV, and was 91% (5,648/6,180) among those with a viral load reported in 2017.

Viral suppression

In 2013, the CDC estimated that 30% of all people infected with HIV in the United States were virally suppressed.(1) This estimate included people with undiagnosed HIV. If Oregon calculated suppression the same way, the estimate of suppression would be 64% (5,648/8,787). The difference between the national and Oregon estimates may be due to Oregon having more complete viral load reporting, more up-to-date residence information, better access to care, or better quality of care than the U.S. norm.

Some Oregon groups were less likely to be virally suppressed:

- Females were less likely to be virally suppressed than men (88% vs. 92% suppressed).
- American Indians/Alaska Natives and Blacks/African Americans were less likely to be virally suppressed than Whites (74% and 85% vs. 92% suppressed).
- Males who have had sex with men who have injected drugs (MSM/IDU) and IDU-only were less likely to be virally suppressed than MSM-only (85% and 84% vs. 93% not suppressed).
- Females who reported injection drug use were less likely to be virally suppressed than females whose transmission category was heterosexual with partner's risk unknown (77% vs. 89% suppressed).
- Younger persons were generally less likely to be virally suppressed than people in older age groups: Viral suppression was lowest among persons 13–24 years old (83%) and generally increased to 97% suppression among those 60 years of age and older.
- People living in rural Oregon counties were less likely to be suppressed than those living in mixed urban/rural areas (89% vs. 92%).

Summary

The continuum is one tool for assessing the state of HIV care and treatment. Oregon's continuum suggests that most people with diagnosed HIV in Oregon achieve viral suppression and appear to stay there. This coincides with gradual declines in new HIV infections from 291 cases in 2008 to 200 cases in 2017 and with an estimated increase in the percentage of people with HIV on treatment from 93% in 2009 to 97% in 2013.(4)

Oregon's viral suppression estimates substantially exceed comparable CDC estimates. This suggests a robust and largely successful network of HIV treatment in Oregon. It also suggests efforts to increase access to and use of medical care for HIV in Oregon might yield relatively smaller increases in the number of people virally suppressed than these efforts elsewhere in the United States where access and use of care might be lower. Conversely, more than 1,000 Oregonians already infected with HIV do not yet know it. Because they have not been diagnosed, this population cannot possibly be moved to the viral suppression category by treatment. This suggests further reductions in the number of new cases might rest on expanded screening.

References:

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4. Medical Monitoring Project, 2017 unpublished chart abstraction data.

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.

OHA 8469 (12/18)

Appendix

Deaths among all HIV cases reported in Oregon, 1981–2017

Year of death	Deaths in Oregon	Deaths not in Oregon	Total deaths	Year of death	Deaths in Oregon	Deaths not in Oregon	Total deaths
1981	0	0	0	2000	79	28	107
1982	0	0	0	2001	87	26	113
1983	3	0	3	2002	104	29	133
1984	6	3	9	2003	124	22	146
1985	23	3	26	2004	96	43	139
1986	63	20	83	2005	94	40	134
1987	78	11	89	2006	97	35	132
1988	115	26	141	2007	92	25	117
1989	147	26	173	2008	73	43	116
1990	206	48	254	2009	88	32	120
1991	232	55	287	2010	94	25	119
1992	285	41	326	2011	96	23	119
1993	337	49	386	2012	99	35	134
1994	372	74	446	2013	103	43	146
1995	366	68	434	2014	99	31	130
1996	259	55	314	2015	108	40	148
1997	116	35	151	2016	95	11	106
1998	83	32	115	2017	105	6	111
1999	86	19	105				

* Deaths were for any underlying cause.

Reported HIV cases in Oregon by year of report

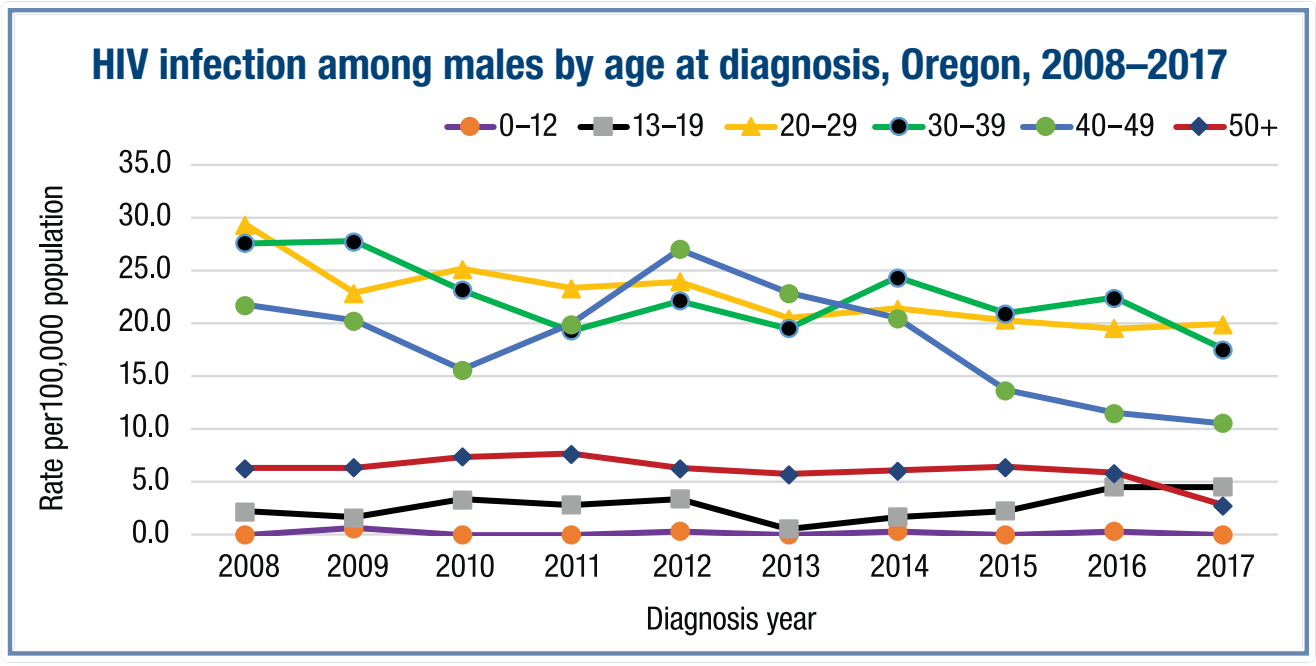
Year of report	Diagnosed first in Oregon	Moved to Oregon diagnosed with HIV	Total reported cases
2008	323	373	696
2009	260	280	540
2010	288	257	545
2011	293	254	547
2012	269	273	542
2013	309	230	539
2014	306	257	563
2015	364	241	605
2016	349	240	589
2017	337	207	544

HIV diagnoses by sex and age, Oregon, 2008–2017

Male, age group at first diagnosis

Year	0–12	13–19	20–29	30–39	40–49	50+
2008	0	4	76	71	56	34
2009	2	3	60	72	52	35
2010	0	6	66	60	40	46
2011	0	5	62	50	51	49
2012	1	6	64	58	69	41
2013	0	1	55	52	58	38
2014	1	3	58	66	52	41
2015	0	4	56	58	35	44
2016	1	8	55	64	30	41
2017	0	8	57	51	28	20

Year	0–12	13–19	20–29	30–39	40–49	50+
2008	0.0	2.2	29.4	27.6	21.8	6.3
2009	0.6	1.7	22.9	27.8	20.3	6.3
2010	0.0	3.3	25.1	23.2	15.6	7.4
2011	0.0	2.8	23.4	19.3	19.9	7.7
2012	0.3	3.4	23.9	22.1	27.0	6.3
2013	0.0	0.6	20.5	19.5	22.9	5.7
2014	0.3	1.7	21.4	24.4	20.5	6.1
2015	0.0	2.3	20.3	20.9	13.7	6.4
2016	0.3	4.5	19.5	22.4	11.5	5.8
2017	0.0	4.5	19.9	17.5	10.6	2.8



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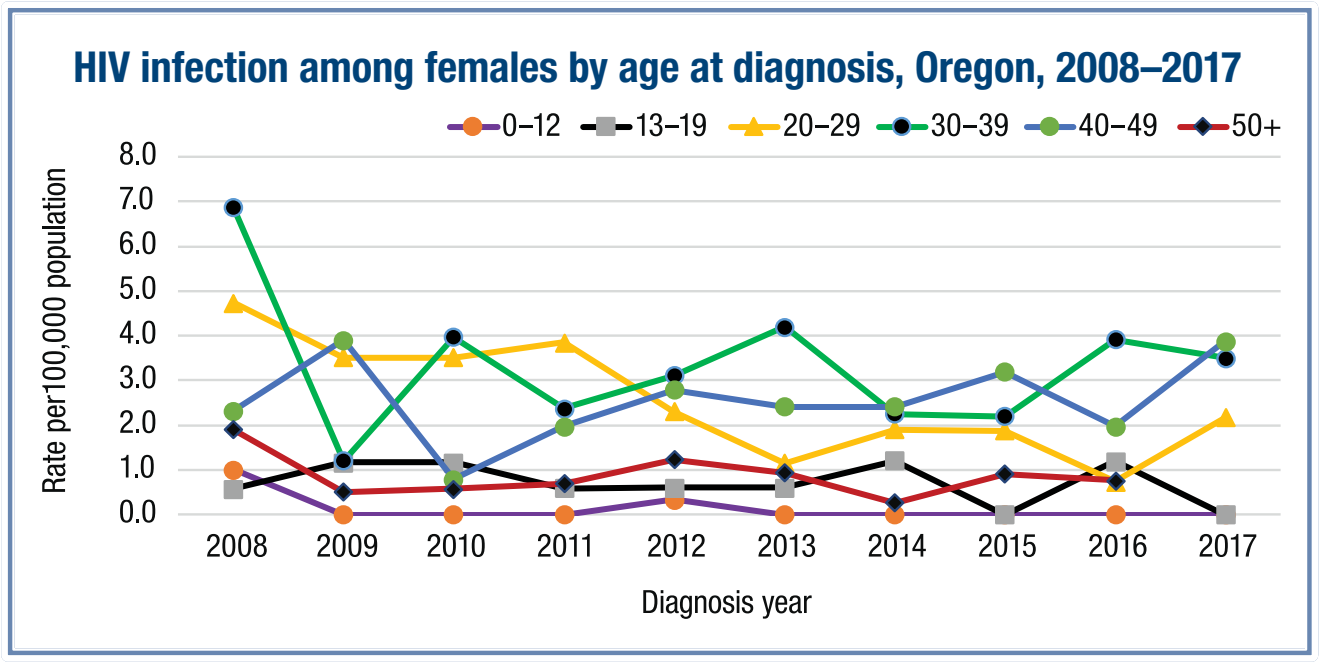
Female, age group at first diagnosis

Year	0–12	13–19	20–29	30–39	40–49	50+
2008	3	1	12	17	6	11
2009	0	2	9	3	10	3
2010	0	2	9	10	2	4
2011	0	1	10	6	5	5
2012	1	1	6	8	7	9
2013	0	1	3	11	6	7
2014	0	2	5	6	6	2
2015	0	0	5	6	8	7
2016	0	2	2	11	5	6
2017	0	0	6	10	10	10

Year	0–12	13–19	20–29	30–39	40–49	50+
2008	1.0	0.6	4.7	6.9	2.3	1.9
2009	0.0	1.2	3.5	1.2	3.9	0.5
2010	0.0	1.2	3.5	4.0	0.8	0.6
2011	0.0	0.6	3.9	2.4	2.0	0.7
2012	0.3	0.6	2.3	3.1	2.8	1.2
2013	0.0	0.6	1.2	4.2	2.4	0.9
2014	0.0	1.2	1.9	2.3	2.4	0.3
2015	0.0	0.0	1.9	2.2	3.2	0.9
2016	0.0	1.2	0.7	3.9	2.0	0.8
2017	0.0	0.0	2.2	3.5	3.9	1.3



HIV diagnoses by sex and race/ethnicity, Oregon, 2008–2017

HIV cases diagnosed in Oregon

Male	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Hispanic	45	40	42	32	43	40	43	32	37	37
American Indian/Alaska Native	2	2	1	1	0	1	1	1	2	1
Asian	6	6	8	5	6	6	7	6	7	8
Black/African American	18	13	12	5	19	17	11	14	13	11
Native Hawaiian/Pacific Islander	1	0	1	2	1	0	3	2	0	1
White	166	159	148	171	167	140	150	140	133	103
Multiracial	3	4	7	1	3	0	6	2	7	3

Female	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Hispanic	5	5	3	3	5	7	4	2	2	4
American Indian/Alaska Native	1	0	2	0	0	0	0	1	2	2
Asian	5	2	0	0	3	1	0	2	2	2
Black/African American	12	4	5	5	6	3	4	5	1	6
Native Hawaiian/Pacific Islander	0	0	0	0	0	1	0	0	0	1
White	26	15	17	18	17	16	13	16	19	21
Multiracial	1	1	0	1	1	0	0	0	0	0

Rates of diagnoses per 100,000 Oregon residents

Male	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Hispanic	20.2	17.4	17.7	13.3	17.5	16.0	16.8	12.2	13.6	13.2
American Indian/Alaska Native	9.5	9.4	4.7	4.6	0.0	4.6	4.5	4.5	8.8	4.3
Asian	9.7	9.5	12.3	7.4	8.6	8.3	9.3	7.6	8.5	9.3
Black/African American	52.4	37.0	33.9	13.9	51.8	45.4	28.5	35.1	31.3	25.7
Native Hawaiian/Pacific Islander	16.4	0.0	15.0	29.2	14.2	0.0	40.5	25.8	0.0	12.0
White	11.3	10.8	10.0	11.5	11.2	9.4	10.0	9.2	8.7	6.7
Multiracial	6.2	7.9	13.3	1.9	5.4	0.0	10.3	3.3	11.1	4.6
Total	12.9	11.9	11.5	11.3	12.4	10.5	11.3	9.9	9.8	8.0

Female	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Hispanic	2.5	2.4	1.4	1.4	2.2	3.0	1.7	0.8	0.8	1.5
American Indian/Alaska Native	4.7	0.0	9.3	0.0	0.0	0.0	0.0	4.4	8.7	8.6
Asian	6.9	2.7	0.0	0.0	3.7	1.2	0.0	2.2	2.1	2.0
Black/African American	40.9	13.3	16.6	16.3	19.2	9.4	12.1	14.6	2.8	16.3
Native Hawaiian/Pacific Islander	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0	12.6
White	1.7	1.0	1.1	1.2	1.1	1.0	0.8	1.0	1.2	1.3
Multiracial	2.0	1.9	0.0	1.8	1.7	0.0	0.0	0.0	0.0	0.0
Total	2.6	1.4	1.4	1.4	1.6	1.4	1.1	1.3	1.3	1.7

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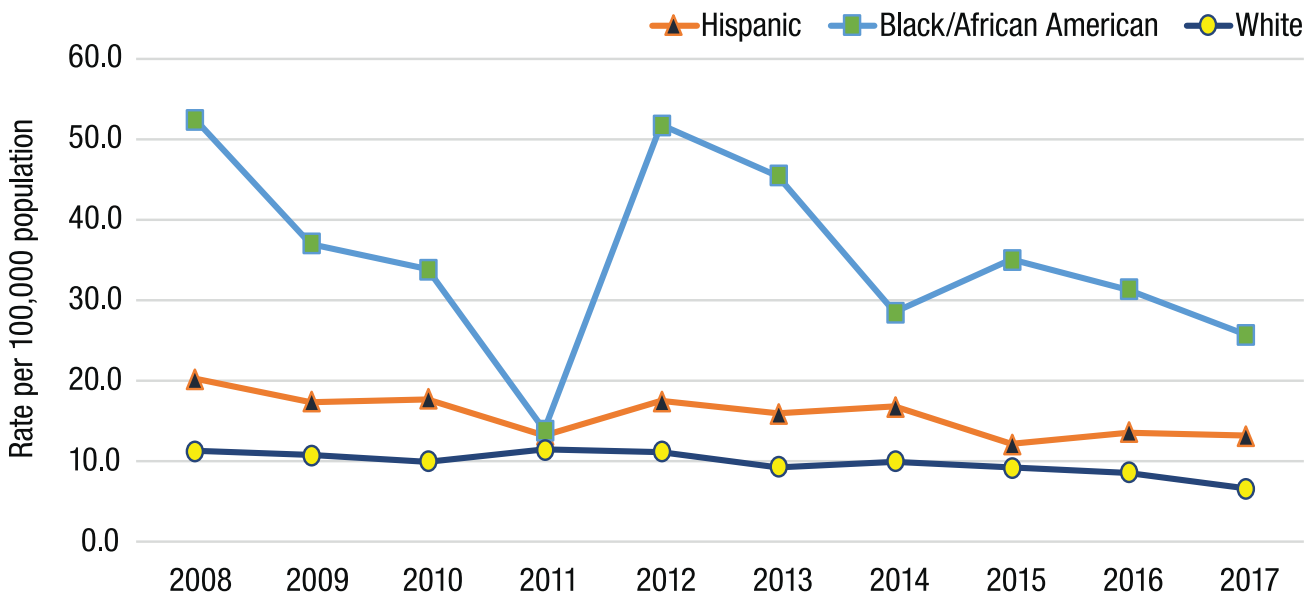
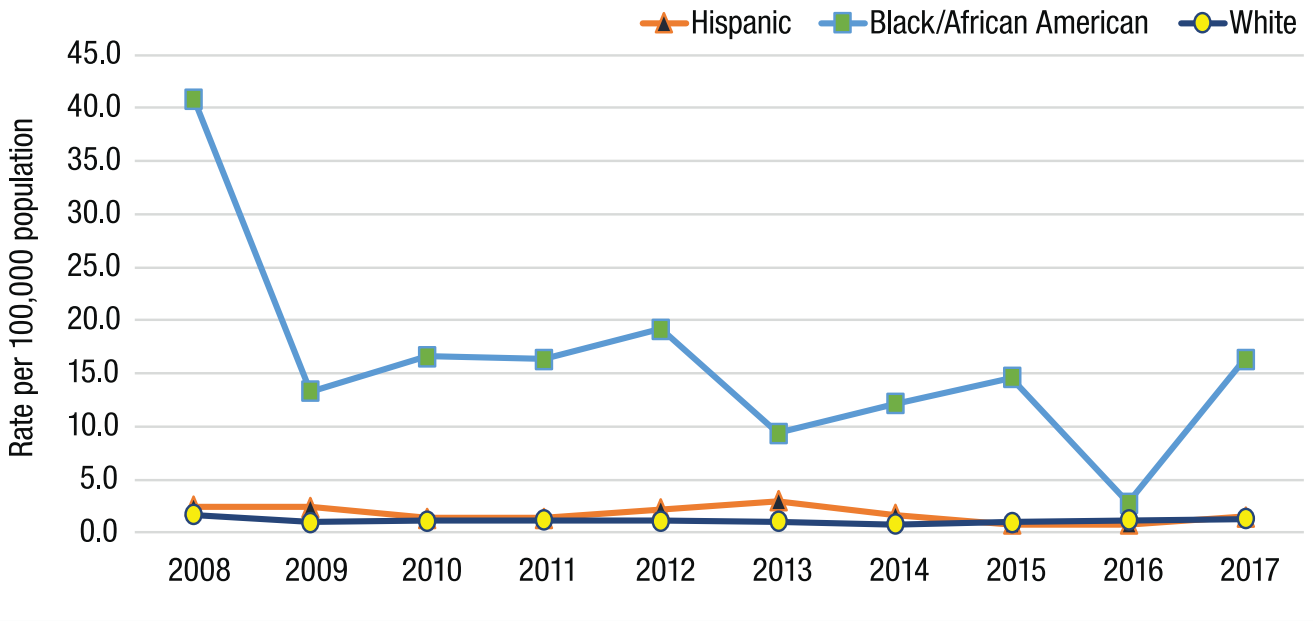
Male HIV diagnosis rates by race/ethnicity, Oregon, 2008–2017



Female HIV diagnosis rates by race/ethnicity, Oregon, 2008–2017



HIV diagnoses by sex and transmission category in Oregon, 2008–2017

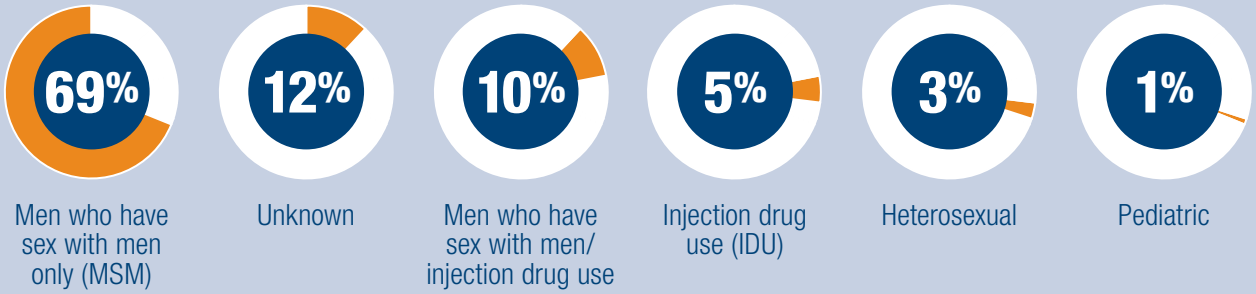
Male

Male transmission	Count	Percent
Men who have sex with men (MSM)	1,472	69%
Injection drug use (IDU)	109	5%
MSM/IDU	217	10%
Heterosexual	59	3%
Unknown	262	12%
Pediatric	6	0.3%
Total	**2,125**	**100%**

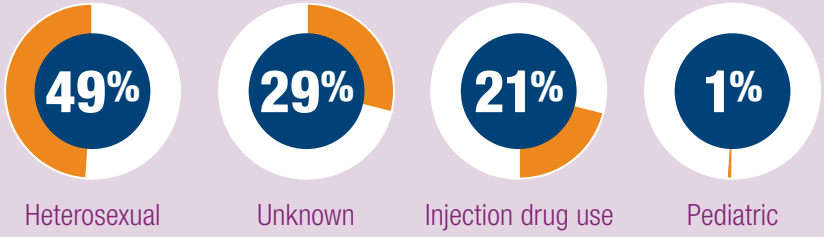
Female

Female transmission	Count	Percent
Injection drug use (IDU)	63	21.0%
Heterosexual	145	48.3%
Unknown	88	29.3%
Pediatric	4	1.3%
Total	**300**	**100%**

Probable route of infection among males diagnosed with HIV, 2008–2017



Probable route of infection among females diagnosed with HIV, 2008–2017



HIV cases living in Oregon as of Dec. 31, 2017

	Year of diagnosis											
County	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	1981-2017	10-year average rate per 100,000 population
Baker	0	0	0	0	0	0	0	0	0	0	6	0.0
Benton	3	5	5	3	3	3	1	2	6	3	88	3.9
Clackamas	13	25	25	18	21	20	8	18	18	14	587	4.7
Clatsop	2	0	1	0	2	0	0	3	3	1	48	3.2
Columbia	4	1	1	0	1	1	1	2	0	4	55	3.0
Coos	0	0	1	1	2	1	0	2	2	4	84	2.1
Crook	0	0	0	1	0	0	0	0	0	3	15	1.8
Curry	0	0	4	0	0	1	0	0	2	0	23	3.1
Deschutes	5	6	4	5	6	6	4	2	4	6	147	2.9
Douglas	4	1	0	2	1	3	5	4	3	1	145	2.2
Gilliam	0	0	0	0	0	0	0	0	0	0	1	0.0
Grant	0	0	0	0	0	0	0	0	0	0	7	0.0
Harney	0	0	0	0	0	1	0	0	0	1	4	2.8
Hood River	1	1	1	0	0	1	0	0	1	0	25	2.2
Jackson	8	8	7	6	11	7	16	12	12	14	338	4.8
Jefferson	0	2	0	2	0	1	0	0	1	1	27	3.2
Josephine	1	2	2	2	2	1	4	3	4	1	119	2.6
Klamath	3	1	2	3	1	1	0	0	0	0	51	1.7
Lake	0	0	0	0	0	0	0	0	0	0	2	0.0
Lane	11	13	8	21	8	9	9	14	19	10	589	3.4
Lincoln	2	0	1	3	2	1	0	1	2	0	73	2.6
Linn	0	8	1	4	3	5	6	1	7	5	137	3.3
Malheur	4	1	2	1	0	2	2	2	0	1	36	4.9
Marion	23	21	20	13	18	13	19	21	10	13	649	5.3
Morrow	0	0	0	1	0	0	0	0	0	0	8	0.9
Multnomah	152	118	116	122	147	107	121	86	86	82	5,833	15.0
Polk	2	2	2	1	1	8	1	3	1	1	72	2.9
Sherman	0	0	0	0	0	0	0	0	0	0	0	0.0
Tillamook	3	0	0	2	1	0	2	0	1	0	32	3.5
Umatilla	3	0	2	1	3	0	2	1	0	4	69	2.1
Union	0	0	0	1	0	0	0	2	0	0	15	1.2
Wallowa	0	0	1	0	0	0	0	0	0	0	5	1.4
Wasco	2	0	3	1	0	1	0	2	3	0	37	4.7
Washington	41	34	34	28	32	35	35	36	31	28	925	6.1
Wheeler	0	0	0	1	0	0	0	0	0	0	1	7.1
Yamhill	4	2	3	1	6	4	6	6	9	3	120	4.4
Oregon	291	251	246	244	271	232	242	223	225	200	10,373	

Living HIV cases by region, demographics and exposure category, Oregon, 2017

	Oregon		Portland metro*		Balance of state	
	Count	Percent	Count	Percent	Count	Percent
Sex at birth						
Male	6,651	88%	4,663	90%	1,988	83%
Female	906	12%	500	10%	406	17%
Age group on Dec. 31, 2017						
0–12 years	18	0%	7	0%	11	0%
13–19 years	25	0%	17	0%	8	0%
20–24 years	110	1%	77	1%	33	1%
25–29 years	364	5%	262	5%	102	4%
30–34 years	588	8%	425	8%	163	7%
35–39 years	724	10%	506	10%	218	9%
40–44 years	735	10%	518	10%	217	9%
45–49 years	1,093	14%	760	15%	333	14%
50–54 years	1,336	18%	922	18%	414	17%
55–59 years	1,095	14%	720	14%	375	16%
60–64 years	729	10%	471	9%	258	11%
65 years +	740	10%	478	9%	262	11%
Race/ethnicity						
Hispanic	989	13%	676	13%	313	13%
American Indian/Alaska Native	73	1%	43	1%	30	1%
Asian	174	2%	147	3%	27	1%
Black/African American	562	7%	459	9%	103	4%
Native Hawaiian/Pacific Islander	25	0%	20	0%	5	0%
White	5,613	74%	3,728	72%	1,885	79%
Multiracial	120	2%	90	2%	30	1%
Unknown	1	0%	0	0%	1	0%
Male transmission						
MSM only	4,892	74%	3,618	78%	1,274	64%
IDU only	391	6%	200	4%	191	10%
MSM/IDU	702	11%	465	10%	237	12%
Hemophilia	19	0%	11	0%	8	0%
Heterosexual contact with IDU	43	1%	18	0%	25	1%
Heterosexual contact with transfusion/ transplant recipient	5	0%	4	0%	1	0%
Heterosexual contact with a person living with HIV/AIDS but no known risk	139	2%	77	2%	62	3%
Adult recipient of blood product	2	0%	2	0%	0	0%
Adult with undetermined infection mode	419	6%	242	5%	177	9%
Mother had HIV/AIDS	33	0%	20	0%	13	1%
Child with undetermined infection mode	6	0%	6	0%	0	0%

*The Portland metro region includes Clackamas, Multnomah, Washington and Yamhill counties.

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	Oregon		Portland metro*		Balance of state	
	Count	Percent	Count	Percent	Count	Percent
Female transmission						
IDU only	206	23%	92	18%	114	28%
Heterosexual contact with IDU	118	13%	61	12%	57	14%
Heterosexual contact with MSM	49	5%	29	6%	20	5%
Heterosexual contact with hemophiliac	2	0%	1	0%	1	0%
Heterosexual contact with transfusion/ transplant recipient	4	0%	2	0%	2	0%
Heterosexual contact with a person living with HIV/AIDS but no known risk	364	40%	226	45%	138	34%
Adult recipient of blood product	2	0%	2	0%	0	0%
Adult with undetermined infection mode	136	15%	75	15%	61	15%
Mother had HIV/AIDS	22	2%	11	2%	11	3%
Pediatric recipeint of blood product	1	0%	1	0%	0	0%
Child with undetermined infection mode	2	0%	0	0%	2	0%
	7,557	**100%**	**5,163**	**100%**	**2,394**	**100%**

*The Portland metro region includes Clackamas, Multnomah, Washington and Yamhill counties.

HIV diagnoses 2013–2017 by region, demographics and exposure category

	Oregon		Portland metro*		Balance of state	
	Count	Percent	Count	Percent	Count	Percent
Sex at birth						
Male	985	88%	687	90%	298	83%
Female	137	12%	74	10%	63	17%
Age group at diagnosis						
0–12	2	0%	2	0%	0	0%
13–19	29	3%	19	2%	10	3%
20–24	124	11%	88	12%	36	10%
25–29	178	16%	135	18%	43	12%
30–34	183	16%	137	18%	46	13%
35–39	152	14%	103	14%	49	14%
40–44	123	11%	74	10%	49	14%
45–49	115	10%	73	10%	42	12%
50–54	111	10%	67	9%	44	12%
55–59	53	5%	33	4%	20	6%
60–64	33	3%	20	3%	13	4%
65+	19	2%	10	1%	9	2%
Race/ethnicity						
Hispanic	208	19%	149	20%	59	16%
American Indian/Alaska Native	11	1%	4	1%	7	2%
Asian	41	4%	33	4%	8	2%
Black/African American	85	8%	68	9%	17	5%
Native Hawaiian/Pacific Islander	8	1%	6	1%	2	1%
White	751	67%	486	64%	265	73%
Multiracial	17	2%	15	2%	2	1%
Unknown	1	0%	0	0%	1	0%
Male transmission						
MSM only	648	66%	490	71%	158	53%
IDU only	55	6%	27	4%	28	9%
MSM/IDU	108	11%	77	11%	31	10%
Hemophilia	0	0%	0	0%	0	0%
Heterosexual contact with IDU	12	1%	4	1%	8	3%
Heterosexual contact with a person living with HIV/AIDS but no known risk	21	2%	13	2%	8	3%
Adult with undetermined infection mode	138	14%	73	11%	65	22%
Mother had HIV/AIDS	2	0%	2	0%	0	0%
Child with undetermined infection mode	1	0%	1	0%	0	0%

*The Portland metro region includes Clackamas, Multnomah, Washington and Yamhill counties.

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	Oregon		Portland metro*		Balance of state	
	Count	Percent	Count	Percent	Count	Percent
Female transmission						
IDU only	33	24%	17	23%	16	25%
Heterosexual contact with IDU	11	8%	6	8%	5	8%
Heterosexual contact with MSM	7	5%	3	4%	4	6%
Heterosexual contact with a person living with HIV/AIDS but no known risk	41	30%	25	34%	16	25%
Adult with undetermined infection mode	45	33%	23	31%	22	35%
Total	**1,122**	**100%**	**761**	**100%**	**361**	**100%**

*The Portland metro region includes Clackamas, Multnomah, Washington and Yamhill counties.

Tuberculosis cases reports and HIV status, 2009–2017

HIV status among Oregon tuberculosis cases

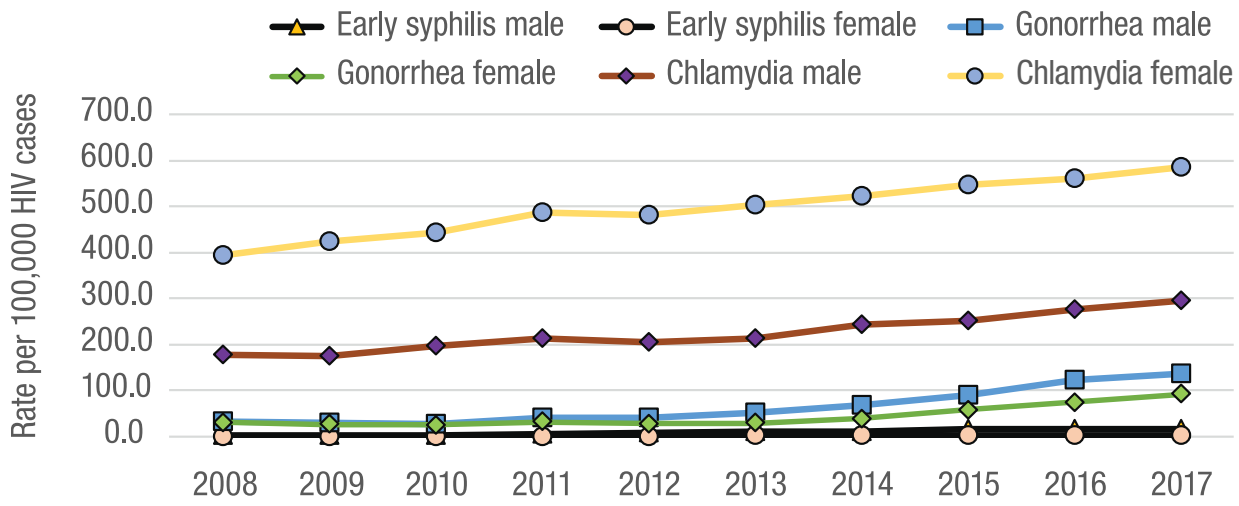
Year TB reported	Negative	Not offered	Positive	Refused	Unknown	Total	TB/HIV
2009	79	3	6	1	0	89	7%
2010	79	5	2	1	0	87	2%
2011	66	4	4	0	0	74	5%
2012	59	1	1	0	0	61	2%
2013	63	6	1	2	1	73	1%
2014	72	2	2	0	1	77	3%
2015	72	1	3	0	0	76	4%
2016	65	3	2	0	0	70	3%
2017	64	0	5	0	0	69	7%
2015	69	1	2	0	0	72	3%

Early syphilis, gonorrhea and chlamydia rates in Oregon and rates among HIV diagnosed residents in Oregon

	Number of STD cases reported among Oregon residents without HIV								
	Early syphilis			Gonorrhea			Chlamydia		
Year	Male	Female	Total	Male	Female	Total	Male	Female	Total
2008	27	6	33	618	571	1,189	3,292	7,501	10,793
2009	54	3	57	534	506	1,040	3,301	8,128	11,429
2010	56	0	56	505	477	982	3,716	8,556	12,272
2011	79	1	80	749	602	1,351	4,045	9,521	13,566
2012	126	9	135	789	531	1,320	3,925	9,448	13,373
2013	175	16	191	992	572	1,564	4,131	9,971	14,102
2014	196	33	229	1,327	775	2,102	4,724	10,441	15,165
2015	304	55	359	1,791	1,156	2,947	4,983	11,107	16,090
2016	323	63	386	2,474	1,519	3,993	5,580	11,541	17,121
2017	316	71	387	2,806	1,916	4,722	6,043	12,210	18,253

	Rates of STDs among persons without an HIV diagnosis per 100,000 residents								
	Early syphilis			Gonorrhea			Chlamydia		
Year	Male	Female	Total	Male	Female	Total	Male	Female	Total
2008	1.5	0.3	0.9	33.2	30.0	31.6	177.0	394.2	286.9
2009	2.9	0.2	1.5	28.4	26.3	27.4	175.6	422.8	300.6
2010	3.0	0.0	1.5	26.7	24.6	25.6	196.3	441.6	320.4
2011	4.1	0.1	2.1	39.3	30.8	35.0	212.2	487.6	351.5
2012	6.6	0.5	3.5	41.1	27.0	34.0	204.3	480.6	344.1
2013	9.1	0.8	4.9	51.3	28.9	40.0	213.6	503.9	360.4
2014	10.0	1.7	5.8	67.9	38.8	53.2	241.7	522.3	383.6
2015	15.3	2.7	9.0	90.3	57.0	73.5	251.3	548.1	401.3
2016	16.0	3.1	9.5	122.6	73.7	97.9	276.6	560.0	419.8
2017	15.4	3.4	9.4	137.1	91.7	114.2	295.3	584.5	441.4

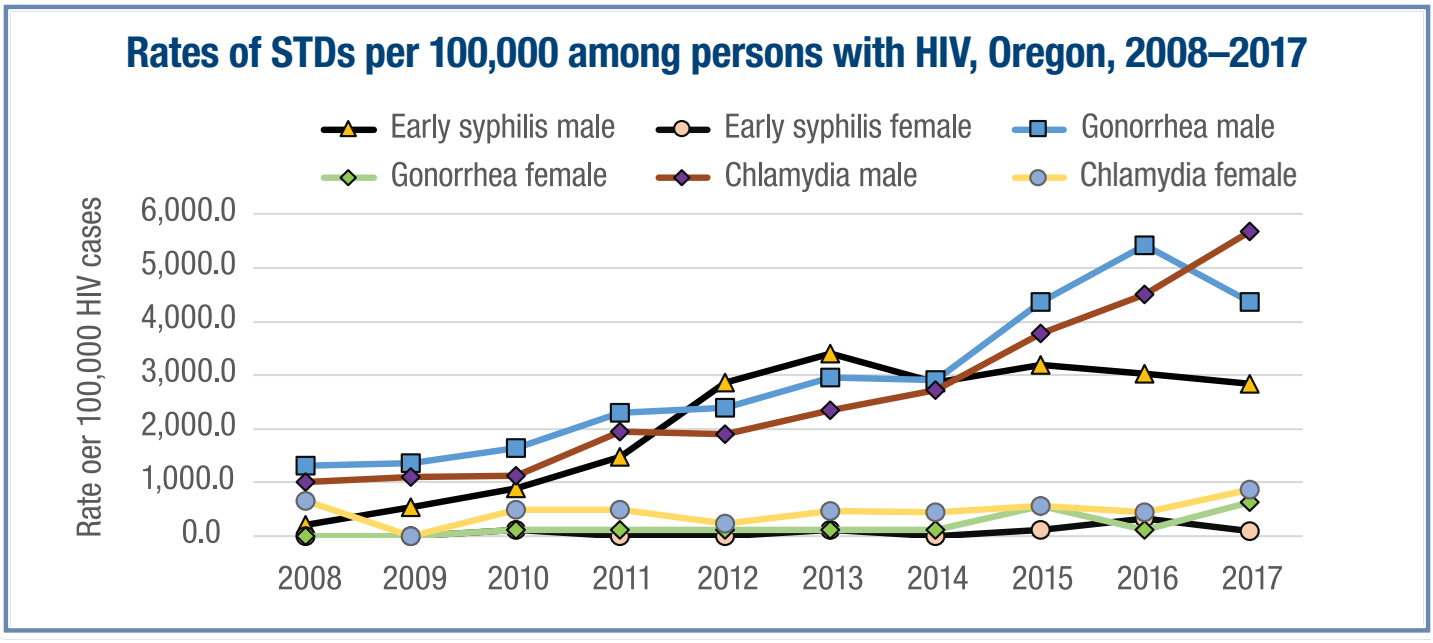
Rates of STDs per 100,000 among persons without HIV, Oregon, 2008–2017



* Early syphilis is primary, secondary or early latent; Source: HIV data Orpheus May 1 2018 and STD/syphilis data Sept 13 2018

	Number of STD cases reported among Oregon residents with HIV								
	Early syphilis			Gonorrhea			Chlamydia		
Year	Male	Female	Total	Male	Female	Total	Male	Female	Total
2008	11	0	11	71	0	71	55	5	60
2009	30	0	30	77	0	77	62	0	62
2010	52	1	53	95	1	96	66	4	70
2011	89	0	89	138	1	139	117	4	121
2012	177	0	177	148	1	149	118	2	120
2013	216	1	217	187	1	188	149	4	153
2014	187	0	187	190	1	191	177	4	181
2015	212	1	213	291	5	296	252	5	257
2016	205	3	208	368	1	369	306	4	310
2017	195	1	196	299	6	305	389	8	397

	Rates of STDs among persons with an HIV diagnosis per 100,000 HIV cases								
	Early syphilis			Gonorrhea			Chlamydia		
Year	Male	Female	Total	Male	Female	Total	Male	Female	Total
2008	202.2	0.0	177.6	1,305.4	0.0	1,146.6	1,011.2	664.0	969.0
2009	533.0	0.0	468.6	1,368.2	0.0	1,202.7	1,101.6	0.0	968.4
2010	895.9	124.4	802.1	1,636.8	124.4	1,452.8	1,137.1	497.5	1,059.3
2011	1,487.5	0.0	1,307.5	2,306.5	121.4	2,042.0	1,955.5	485.4	1,777.6
2012	2,859.5	0.0	2,515.6	2,391.0	118.2	2,117.7	1,906.3	236.4	1,705.5
2013	3,407.5	116.0	3,013.5	2,950.0	116.0	2,610.7	2,350.5	464.0	2,124.7
2014	2,872.9	0.0	2,533.9	2,919.0	114.8	2,588.1	2,719.3	459.2	2,452.6
2015	3,187.5	113.3	2,827.2	4,375.3	566.3	3,928.9	3,788.9	566.3	3,411.2
2016	3,024.5	331.9	2,707.6	5,429.3	110.6	4,803.4	4,514.6	442.5	4,035.4
2017	2,843.4	107.5	2,516.7	4,359.9	645.2	3,916.3	5,672.2	860.2	5,097.6



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PUBLIC HEALTH DIVISION

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