OKLAHOMA State Department of Health

SEXUAL HEALTH & HARM REDUCTION SERVICE

OKLAHOMA

Integrated HIV Epidemiologic Profile

2023

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Executive Summary

This Integrated HIV Epidemiologic Profile has been developed by the Oklahoma State Department of Health (OSDH), Sexual Health and Harm Reduction Services (SHHRS) to provide information on newly diagnosed HIV, people living with HIV (PLWH), mortality among people diagnosed with HIV, the HIV care continuum, HIV, Syphilis co-infections, and sexually transmitted infections (STIs) prior to new HIV diagnosis. The analyses provided are based on data from the OSDH HIV Surveillance database (eHARS), reported through 2022, and on Oklahoma death certificates.

HIV remains a major global public health issue, having claimed an estimated 630,000 HIV-related lives in 2022.[1] OSDH aims to serve the needs of people affected by, at risk of, and living with HIV. The HIV Integrated Epidemiologic Profile provides essential information on how to focus efforts to ensure people can access affordable health care, adhere to treatment plans and lead a full and healthy life. As of December 31, 2022, there were 7,684 people living in Oklahoma with HIV, mostly male (81.7%) and half in a racial/ethnic minority group (50.3%). In Oklahoma, the prevalence of AIDS among people living with HIV is higher among adults aged 55 and older, accounting for 45.3% of people with a diagnosis of AIDS. This is not unique to Oklahoma, as people age, they're more likely to develop age-related health challenges such as chronic diseases, cognitive decline, mental health issues, and barriers to health care, increasing the risk of AIDS. [2]

HIV affects people of different ages, sexes, races, and ethnicities. Disparities exist in who is impacted the most despite the significant advancements made in HIV prevention efforts since it was first reported in the 1980s. The predominant transmission mode remains men who have sex with men (MSM), with the disproportionate impact seen in individuals aged 25 to 44 years, and the minority population, Blacks/African Americans and Hispanics. HIV diagnosis rates were highest among Black/African American males (59.8 per 100,000 Black/African American male population), which is 6.3 times the rate among White males (9.5 per White male 100,000 population), and females (16.3 per 100,000 Black/African American female population), which is 7.3 times the rate among White females (2.3 per 100,000 White female population). The overall rate of newly diagnosed HIV disease in Blacks/African Americans (38.6 per Black/African American 100,000 population) was approximately four times the Oklahoma state rate (9.8 per 100,000 state population), and HIV diagnosis among Hispanics (13.4 per 100,000 Hispanic population) was two times the state rate. Also, individuals aged 25 to 34 years and MSM are at a higher risk of acquiring HIV. MSM comprised about half (49.1%), and individuals aged 25 to 34 years accounted for 39.5% of all newly diagnosed HIV persons in 2022.

This assessment of the epidemiology of HIV disease in Oklahoma is integral to HIV prevention and care programs serving Oklahoma residents, providing information to guide the development of effective prevention strategies and care activities. While health disparities have been highlighted, greater attention needs to be placed on addressing these disparities and social drivers of health that adversely affect populations who face obstacles to health based on their social, economic and environmental disadvantages. Understanding these obstacles to health care and prevention can influence the implementation of effective interventions and prevention strategies. Therefore, joint efforts by all stakeholders are necessary to end the epidemic in Oklahoma. We hope that it will assist numerous organizations in planning HIV-related programs, allocating resources for prevention and care activities, and educating PLWH, their caregivers, lawmakers, and the public.

[1] World Health Organization. 2023 *HIV Statistics, Globally and by WHO Region* [fact sheet] https://cdn.who.int/media/docs/default-source/hq-hiv-hepatitis-and-stis-library/j0294-who-hiv-epi-factsheet-v7.pdf
[2] Administration for Community Living. (2022). 2021 Profile of Older Americans. Retrieved from: https://acl.gov/sites/default/files/Profile%20of%20OA/2021%20Profile%20of%20OA/2021ProfileOlderAmericans_508.pdfThis link is external to odphp.health.gov. [PDF - 1.7 MB]

Epidemiologic Terms and Methodology

Age-Adjusted Rates: A disease rate per 100,000 population is a useful way to compare health outcomes across different populations by accounting for population size and age distribution. The U.S. 2010 standard population was used to calculate the age-adjusted rates reported in this epidemiologic profile.

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

CD4: CD4 cells, also known as T-helper cells, are a type of white blood cell that fights infection throughout your body, helping to identify and destroy germs such as bacteria and viruses.

Cell suppression: Values less than five are suppressed for denominator populations less than 50,000 or of unknown size. Additional values may be suppressed to prevent back calculation. Values less than five are not suppressed for compound categories (categories containing two or more subcategories, such as other/undetermined or other exposure modes, which includes pediatric, blood, and blood products exposure modes), because the exact population value of each subcategory cannot be determined.

Cumulative Cases: The total number of cases of a disease reported or diagnosed during a specified time. Cumulative cases can include persons who have died.

Denominator: Divisor; the term of a fraction, usually written under or after the line, that indicates the number of equal parts into which the unit is divided, used to calculate a rate or ratio. For example, in the fraction ¾, four is the denominator.

Epidemiology: The study of the distribution and drivers of health-related states or events in specified populations, and the application of this study to control health problems.

Exposure: Contact with a source of a disease agent in such a manner that effective transmission of the agent may occur.

Geocoding: Process of converting a description of a location, such as an address, into a subset of geographic information such as coordinates (latitude and longitude), census tracts, census blocks, etc.

HIV: Human Immunodeficiency Virus is the virus that causes AIDS. HIV is a virus that kills the body's CD4 cells. CD4 cells help the body fight infections and diseases.

HIV and Syphilis co-infections: Crucial to address both conditions promptly. The co-infection can complicate the treatment process and increase the risk of complications.

Income Inequality (Gini index): The Gini index measures income inequality, with a value ranging from 0 (perfect equality) to 1 (perfect inequality). It is calculated using the Lorenz curve, which plots the cumulative percentage of income against the cumulative number of recipients. A higher Gini index indicates greater income inequality, meaning that a smaller percentage of the population holds a larger share of the total income.

Incidence: The number of new cases in a defined population during a specific period, typically a year, used to measure disease frequency.

Incidence Rate: The number of instances (new cases) of illness commencing, or persons falling ill, during a given period in a specified population. Incidence rate is calculated by dividing incidence during a specified period by

the population in which cases occurred. A multiplier is used to convert the resulting fraction to a number over a common denominator (e.g., 100 per 100,000 population).

Metropolitan Statistical Area (MSA): A geographical region with a densely populated urban core of at least 50,000 people and surrounding counties have economic ties to the core area.

Mode of Transmission: The exposure mode indicates which exposure has the highest probability of being the route of infection. For surveillance purposes, HIV infection cases and AIDS cases are counted only once in a hierarchy of exposure modes. The hierarchy was developed by the CDC to predict the most likely cause of infection when a person has engaged in multiple risky behaviors. Note that the hierarchy is based on the likelihood of transmission given a single instance of the risky behavior, and any occurrence of the behavior since 1978 counts.

Persons with more than one reported mode of exposure to HIV are classified in the exposure category listed first in the hierarchy, except for men with both a history of sexual contact with other men and injection drug use. They make up a separate exposure category.
The following is a description of the transmission categories in the hierarchical order:

1. **Men Who Have Sex with Men (MSM):** Also known as Male-to-Male Sex. Includes men who report sexual contact with other men, and men who report sexual contact with both men and women.
2. **Injection Drug Use (IDU):** Cases in persons who report injection drug use who may also report heterosexual contact.
3. **MSM & IDU:** Cases in men who report both injection drug use and sexual contact with other men.
4. **Heterosexual Sex:** Cases in persons who only report heterosexual sex. This includes heterosexual sex with persons infected with or at increased risk for HIV infection (e.g. an injection drug user).
5. **Blood/Blood Products:** Cases in persons who report exposure through blood transfusion or other blood product, organ receipt, or accidental needle stick. No other risk can be reported or identified.
6. **Pediatric:** Infection before the age of 13 where the child was exposed through perinatal transmission during pregnancy, childbirth, or breastfeeding (see perinatal transmission), or through blood transfusions.
7. **No Identified Risk (NIR) or No Reported Risk (NRR):** Cases in which epidemiologic follow-up has been conducted and sources of data have been reviewed, and no mode of exposure has been identified or reported. Any case that has no reported risk for 12 or more months after the report date is considered NRR.

Mortality: The total number of persons who have died of the disease of interest, usually expressed as a rate. Mortality (the total number of deaths over the total population) measures the effect of the disease on the population.

Mortality (Death) Rate: An estimate of the portion of a population that dies during a specified period.

Numerator: Dividend; the term of a fraction, usually written above or before the line that indicates the number of parts that are to be divided, used to calculate a rate or ratio. For example, in the fraction ¾, three is the numerator.

Opportunistic Infection: An infection or condition that normally does not cause disease but becomes pathogenic (disease-causing) when the body's immune system is impaired and unable to fight off infection

(such as with AIDS).

People Living with HIV/AIDS: Includes all persons not known to be dead and who have been diagnosed with HIV infection and/or AIDS, regardless of their current clinical status. Only persons who have been reported to the Oklahoma State Department of Health HIV/AIDS Surveillance system are included in counts.

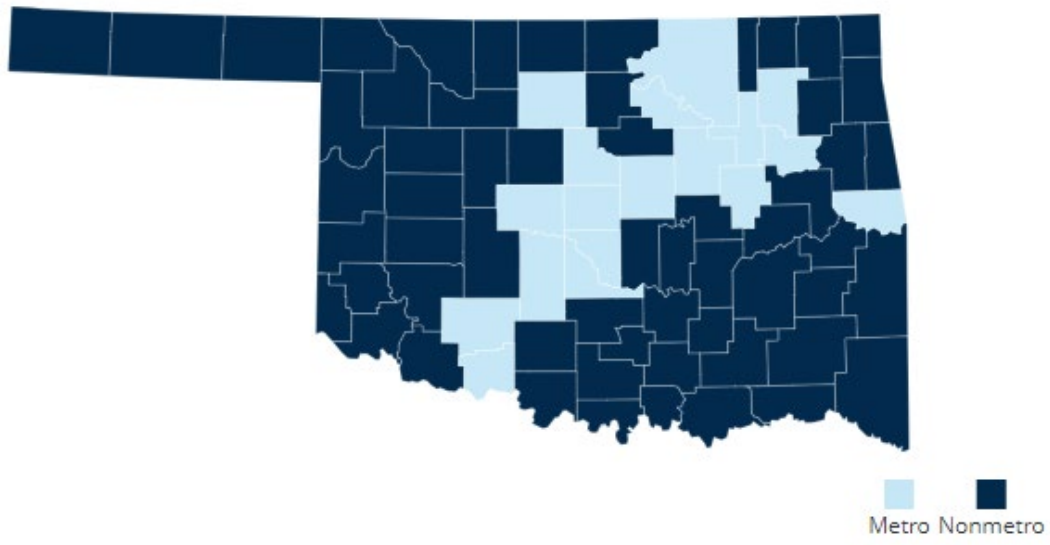
Percent Increase or Decrease: The rate of change between the initial value (before) and the final value (after). Percent increase and percent decrease measure the percent change by which a variable gains or loses value.

Oklahoma Demographics

Overview

Oklahoma is a state in the South-Central region of the United States and borders six other states: Colorado, Kansas, Missouri, Arkansas, Texas, and New Mexico. Two-thirds of Oklahoma is considered non-metropolitan (Map 1), and 67 Native American tribes are represented, including 38 federally recognized tribes.

Map 1. Metropolitan and Non-Metropolitan counties, Oklahoma



As of 2022, Oklahoma had a total estimated population of approximately four million. Among Oklahoma residents, 38% reside outside metropolitan city limits as defined by the U.S. Census; 49.9% are female and 50.1% are male. Since 2012, Oklahoma's population has increased by 4.3%[3].

Although Oklahoma has 77 counties, half of the population (51.5%) lives in five counties: Oklahoma (802,559), Tulsa (677,358), Cleveland (299,587), Canadian (169,149), and Comanche (123,046). Oklahoma and Tulsa counties account for 36.8% of the total population. Oklahoma City (694,768) and Tulsa (413,142) are the state's two most populous cities, followed by Norman (129,624) and Broken Arrow (120,448).

By Race/Ethnicity

- Most Oklahomans reported their race as White (65.2%), followed by American Indian and Alaska Native (7.5%), Black (6.8%), Asian (2.3%) and Other (3.6%).
- Fourteen percent (14.4%) of Oklahomans reported two or more races.
- Hispanic Oklahomans of any race constituted 12.1% of the population.

By Age

- Three-fourths (76.3%) of Oklahomans were aged 18 years and older.
- About half (49.7%) of Oklahomans were between the ages of 25 and 64.
- Sixteen percent (16.5%) of Oklahomans were aged 65 years and older.
- The median age for males was 36.0 years and the median age for females was 38.4 years.

[3] U.S. Census Bureau. (2023). 2022 American Community Survey 1-year Supplemental Estimates https://data.census.gov/table/ACSST5Y2022.S0101?q=United+States&g=010XX00US_040XX00US40,40$0500000&y=2022

Table 1. Selected Demographics, Oklahoma 2022

	Population	Percent (%)
Total Oklahoma Population	4,019,800	--
Sex	**Population**	**Percent (%)**
Male	2,004,482	49.9%
Female	2,015,318	50.1%
Race & Ethnicity	**Population**	**Percent (%)**
Non-Hispanic White	2,619,684	65.2%
Non-Hispanic American Indian/Alaska Native	300,613	7.5%
Non-Hispanic Black/African American	274,248	6.8%
Non-Hispanic Asian	93,783	2.3%
Non-Hispanic Native Hawaiian or Other Pacific Islander	7,954	0.2%
Hispanic	486,692	12.1%
Non-Hispanic Other	145,556	3.6%
Non-Hispanic More than one race	577,962	14.4%
Age Groups	**Population**	**Percent (%)**
Under 1	47,793	1.2%
1-4 years	195,878	4.9%
5-14 years	542,233	13.5%
15-24 years	573,842	14.3%
25-34 years	541,538	13.5%
35-44 years	524,996	13.1%
45-54 years	457,226	11.4%
55-64 years	475,399	11.8%
65-74 years	388,508	9.7%
75-84 years	202,038	5.0%
85+ years	70,349	1.8%

Data source: U.S. Census Bureau. (2023). 2022 American Community Survey 1-year Supplemental Estimates

By Income

- In 2022, there were 1.6 million households in Oklahoma, an average of 2.5 persons per household.
- The mean household income was $59,673 with 15.7% of Oklahomans below the federal poverty line.
- The average Oklahoman commutes approximately 23 minutes to work each day.
- Only 61.0% of Oklahomans aged 16 years and older were in the labor force in 2022.

By Education

- Almost 90% of Oklahomans aged 25 years and older had a high school diploma or higher, and 28.5% had a bachelor's degree or higher.

Table 2. Selected Socioeconomic Characteristics, Oklahoma 2022

Household income	**Estimate**	**Percent**
<$50,000	663,882	42.2%
$50,000-<$75,000	286,319	18.2%
$75,000-<$100,000	195,074	12.4%
$100,000-<$150,000	232,831	14.8%
$150,000+	196,648	12.5%
Median household income	**Estimate**	**Percent**
Income in dollars	$59,673	--
Poverty	**Estimate**	**Percent**
Persons below poverty line	610,254	15.7%
Children (<18) below poverty line	184,904	19.7%
Seniors 65+ below poverty line	71,853	11.2%
Education level (persons 25 years and older)	**Estimate**	**Percent**
Less than high school	277,868	10.4%
High school graduate	813,545	30.6%
Some college	810,811	30.5%
Bachelors graduate	495,467	18.6%
Postgraduate	263,450	9.9%
Persons without health insurance	**455,650**	**11.7%**

Data source: U.S. Census Bureau. (2023). 2022 American Community Survey 1-year Supplemental Estimates

People Living with Diagnosed HIV

Table 3. Oklahoma HIV Summary Statistics: People Living with Diagnosed HIV in Oklahoma, 2022 (N=7,684)

Cases	HIV without AIDS[1]		HIV with AIDS[2]		Total Living with HIV		
	Number	(%)[3]	Number	(%)[4]	Total	(%)[5]	Rate[6]
Total	4,282	55.7	3,402	44.3	7,684	--	191.2
Sex at Birth	**Number**	**(%)**	**Number**	**(%)**	**Total**	**(%)**	**Rate**
Female	843	60.1	560	39.9	1,403	18.3	69.6
Male	3,439	54.8	2,842	45.2	6,281	81.7	313.3
Current Age (in years)	**Number**	**(%)**	**Number**	**(%)**	**Total**	**(%)**	**Rate**
0 – 12	*	*	*	*	11	0.1	1.6
13 – 14	*	*	*	*	13	0.2	11.5
15 – 24	213	86.6	33	13.4	246	3.2	42.9
25 – 34	1,083	77.0	323	23.0	1,406	18.3	259.6
35 – 44	1,041	64.1	584	35.9	1,625	21.1	309.5
45 – 54	875	48.7	920	51.3	1,795	23.4	392.6
55 – 64	729	39.8	1,103	60.2	1,832	23.8	385.4
65+	321	42.5	435	57.5	756	9.8	114.4
Race/Ethnicity	**Number**	**(%)**	**Number**	**(%)**	**Total**	**(%)**	**Rate**
Non-Hispanic American Indian/Alaska Native	221	56.1	173	43.9	394	5.1	118.3
Non-Hispanic Asian/Pacific Islander	86	62.8	51	37.2	137	1.8	126.2
Non-Hispanic Black	1,087	57.6	800	42.4	1,887	24.6	627.2
Hispanic (All Races)	560	58.0	405	42.0	965	12.6	198.3
Non-Hispanic White	2,026	53.1	1,792	46.9	3,818	49.7	149.8
Non-Hispanic Multiple Races	302	62.5	181	37.5	483	6.3	200.1
Transmission Category[7]	**Number**	**(%)**	**Number**	**(%)**	**Total**	**(%)**	**Rate**
Male-to-Male Sexual Contact (MSM)[8]	2,366	54.9	1,944	45.1	4,310	56.1	--
Injection Drug Use (IDU)[8]	332	54.2	281	45.8	613	8.0	--
Heterosexual Contact, Known Risk[9]	474	52.4	431	47.6	905	11.8	--
MSM/IDU[10]	307	50.3	303	49.7	610	7.9	--
Perinatal[11]	48	68.6	22	31.4	70	0.9	--
Blood Recipient	5	27.8	13	72.2	18	0.2	--
Unknown	750	64.8	408	35.2	1,158	15.1	--
Metropolitan Statistical Area (MSA)	**Number**	**(%)**	**Number**	**(%)**	**Total**	**(%)**	**Rate**
Fort Smith MSA	31	51.7	29	48.3	60	0.8	67.7
Lawton MSA	128	69.2	57	30.8	185	2.4	143.9
OKC MSA	1,651	58.9	1,152	41.1	2,803	36.5	192.1
Tulsa MSA	995	60.1	661	39.9	1,656	21.6	160.1
Non-MSA	1,379	49.6	1,401	50.4	2,780	36.2	212.3

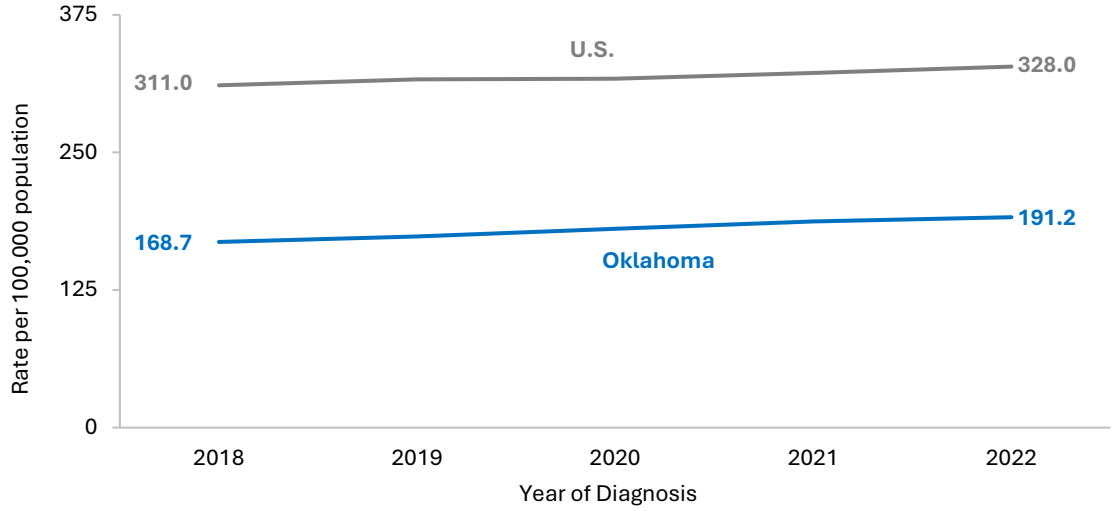
Note: *Cell counts and calculations may have been suppressed due to small cell size (less than 5). percentages may not add up to 100% due to rounding; [1]people living with diagnosed HIV who were not diagnosed with AIDS; [2]people living with diagnosed HIV who were also diagnosed with AIDS; [3]percentage of HIV without AIDS diagnoses; [4]percentage of HIV with AIDS diagnoses; [5]percentage of all HIV

diagnoses; [6]rate per 100,000 population, rates not available for transmission category; [7]each person is assigned one mode of exposure based on the CDC's hierarchy of risk, with the exception of those reporting both MSM and IDU;8does not include men who reported both MSM and IDU; [9]heterosexual contact with a person known to have or to be at high risk for HIV; [10]infections attributed to MSM and IDU (i.e., men who reported both risk factors); [11]Perinatal transmission of HIV (also called mother-to-child transmission of HIV) is when HIV is passed from a person with HIV to their child during pregnancy, childbirth (also called labor and delivery), or breastfeeding (through breast milk)

Overview

The rate of people living with diagnosed HIV among Oklahoma residents, was 191.2 per 100,000. This includes all people with diagnosed HIV that were alive at the end of 2022, regardless of AIDS status. The rate of people living with HIV at the end of 2022 is lower in Oklahoma compared to the U.S. which was 328.0 per 100,000. Oklahoma has experienced a 13.3% increase in people living with HIV from 2018 to 2022 (Figure 1).

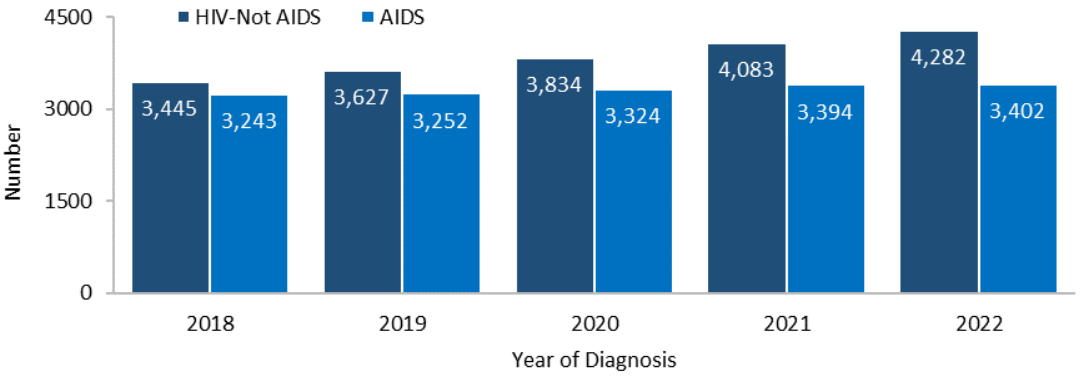
Figure 1. Rate of People Living with HIV, United States and Oklahoma, 2018-2022



Notes: 2020 data should be interpreted with caution due to the impacts of the COVID-19 pandemic.

Oklahoma had a total of 7,684 people living with HIV in Oklahoma at the end of 2022. Among these, 4,282 (54.6%) were HIV-not AIDS and 3,402 (45.5%) were AIDS diagnoses (Figure 2).

Figure 2. Number of People Living with HIV, by Year and AIDS Status, Oklahoma, 2018-2022



Notes: 2020 data should be interpreted with caution due to the impacts of the COVID-19 pandemic.

By Sex at Birth

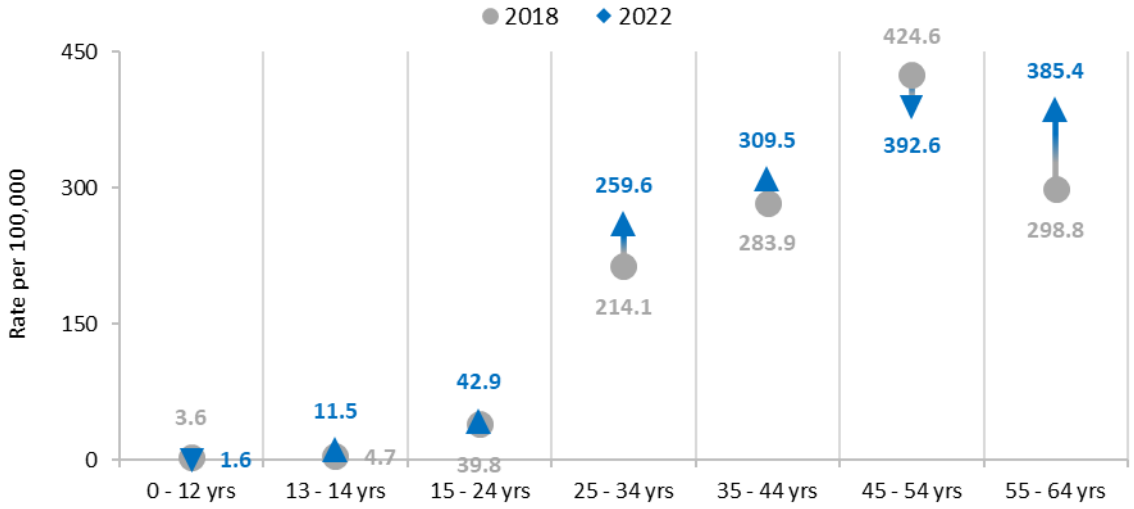
Of all people living with HIV in Oklahoma at the end of 2022, 6,281 (81.7%) were assigned male sex at birth. While there was an increase in the number of diagnoses compared to 2018, the distribution is similar (n=5,479, 81.9%).

Non-Hispanic (NH) White males had the highest number of people living with HIV at the end of 2022 (n=3,269, 42.5%), followed by NH Black males (n=1,409, 18.3%), Hispanic males (n=827, 10.8%), NH White females (n=549, 7.1%), and NH Black females (n=478, 6.2%).

By Current Age

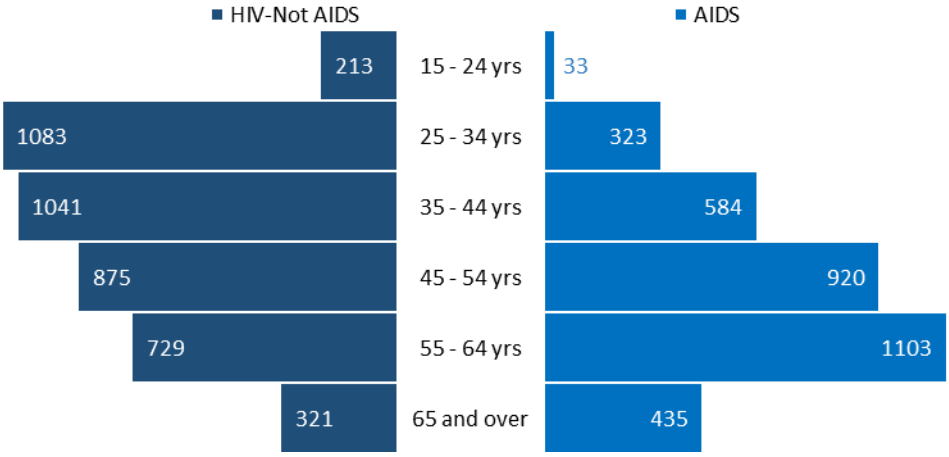
Persons aged 55-64 had the highest number of people living with HIV at the end of 2022, with 1,832 diagnoses. The rate of people living with HIV increased with age, peaking in persons aged 55-64 before decreasing. The highest rate, 392.6 per 100,000 population, was observed among persons aged 45-54. Compared to 2018, the rate of people living with HIV has increased for all except persons aged 0-12 and 45-54 (Figure 3).

Figure 3. Rate of People Living with HIV, by Current Age Group, Oklahoma, 2018-2022



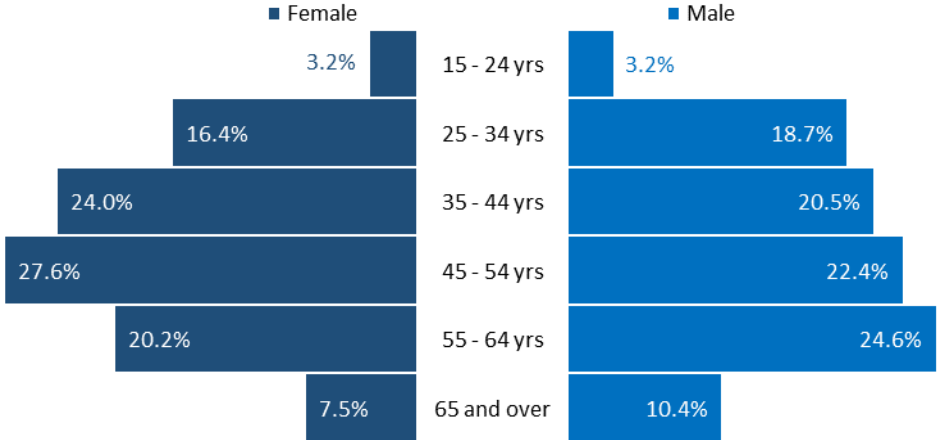
When stratified by AIDS status, we found an increasing trend across age groups in AIDS diagnoses among people living with HIV, showing a maximum in persons aged 55-64 (Figure 4). Persons aged 55-64 had the highest number of people living with AIDS at the end of 2022, with 1,103 (32.4%). The opposite effect is observed among people living with HIV-not AIDS. The group with the highest number of HIV-not AIDS diagnoses was persons aged 25-34 with 1,083 (25.4%).

Figure 4. Number of People Living with HIV, by Current Age Group and AIDS Status, Oklahoma, 2018-2022



At the end of 2022, persons aged 55-64 had the highest distribution of people living with HIV among males (n=1,548, 24.6%), however persons aged 45-54 had the highest distribution among females (n=387, 27.6%) (Figure 5).

Figure 5. Distribution of People Living with HIV, by Current Age Group and Sex at Birth, Oklahoma, 2022



By Race/Ethnicity

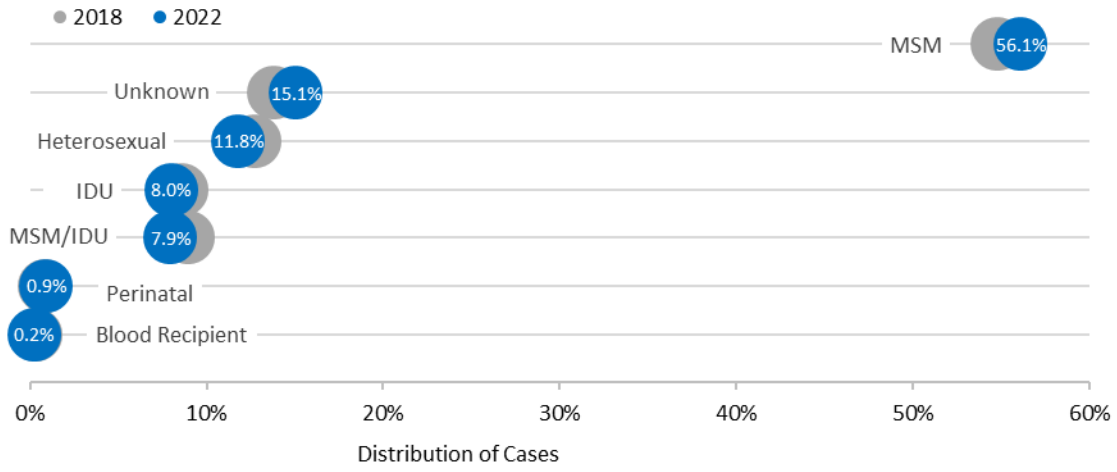
Among the 7,684 people living with HIV at the end of 2022, 3,801 (49.7%) were NH White, 1,887 (24.6%) were NH Black, 965 (12.6%) were Hispanic, 137 (1.8%) were NH Asian/Pacific Islander, 394 (5.1%) were NH American Indian/Alaska Native (AI/AN), and 483 (6.3%) were NH Multiple races.

Non-Hispanic Black persons had the highest rate of people living with HIV (627.2/100,000) among the racial/ethnic groups in Oklahoma. The rate for NH Black people living with HIV was 3.3 times the rate for the entire state (191.2/100,000) and 4.2 times the rate of NH White people living with HIV in Oklahoma (149.8/100,000). Persons of NH Multiple races had the second highest rate of people living with HIV (200.1/100,000). The rate among NH Asian/Pacific Islander persons was 126.2/100,000. NH AI/AN persons had the lowest rate of 118.3/100,000.

By Mode of Transmission

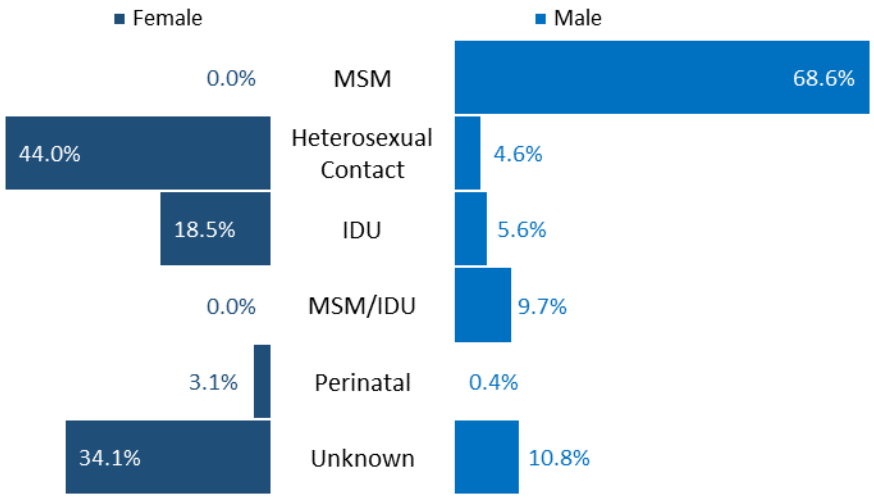
At the end of 2022, over half (n=4,310, 56.1%) of people living with HIV had an attributed risk factor of MSM. Unknown (which includes heterosexual contact with someone of either unknown HIV status or HIV negative, and unknown risk for HIV) accounted for 1,158 (15.1%), while Heterosexual contact with a person known to have HIV or known to be a high risk for HIV represented 905 (11.8%). Injection drug use (IDU) and MSM/IDU had a similar distribution of 613 (8.0%) and 610 persons (7.9%) respectively. Compared to 2018, the distribution of MSM and Unknown modes of transmission has increased while the distribution of Heterosexual contact, IDU, and MSM/IDU has decreased (Figure 6).

Figure 6. Distribution of Mode of Transmission among People Living with HIV, Oklahoma, 2018-2022



Among males, MSM transmission accounted for over half (n=4,310, 68.6%) of people living with HIV at the end of 2022. Heterosexual contact with a person known to have HIV or known to be at high risk for HIV, IDU, and Unknown were more predominant among females (44.0%, 18.5%, 34.1%) compared to males (4.6%, 5.6%, 10.8%) (Figure 7).

Figure 7. Distribution of Mode of Transmission among People Living with HIV, by Sex at Birth, Oklahoma, 2022

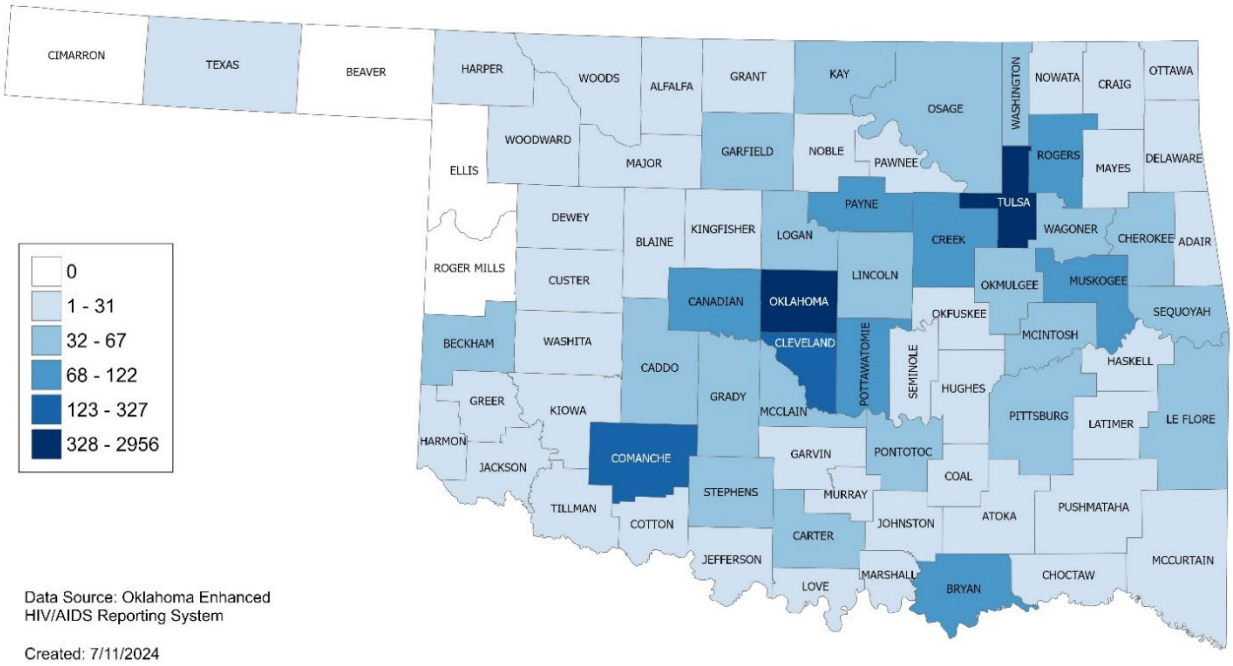


Among the 4,310 persons classified as MSM, the majority were NH White (n=2,285, 53.0%), followed by NH Black (n=927, 26.8%) and Hispanic (n=569, 13.2%).

By Geography

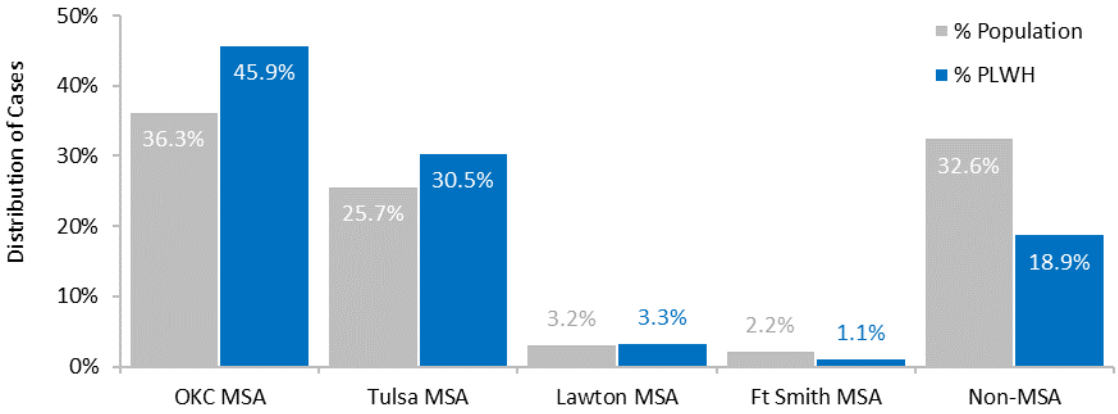
Most people living with HIV at the end of 2022 (n=5,538, 72.2%) resided in four counties: 2,956 in Oklahoma (38.5%), 2,003 in Tulsa (26.1%), 327 in Cleveland (4.3%), and 252 in Comanche (3.3%) (Map 2).

Map 2. Number of People Living with HIV, by Current County of Residence, Oklahoma, 2022



At the end of 2022, the highest distribution of people living with an HIV diagnosis resided in the Oklahoma City metropolitan statistical area (MSA) (n=3,529, 45.9%), followed by the Tulsa MSA (n=2,341, 30.5%) (Figure 8). At the end of 2022, 1,451 (18.9%) people living with HIV resided in counties that were not part of an MSA(Figure 8).

Figure 8. Number of State Population and People Living with HIV, by Metropolitan Statistical Area, Oklahoma, 2022



Newly Diagnosed HIV Cases

Table 4. Oklahoma HIV Summary Statistics: Newly Diagnosed HIV in Oklahoma, 2022 (N=395)

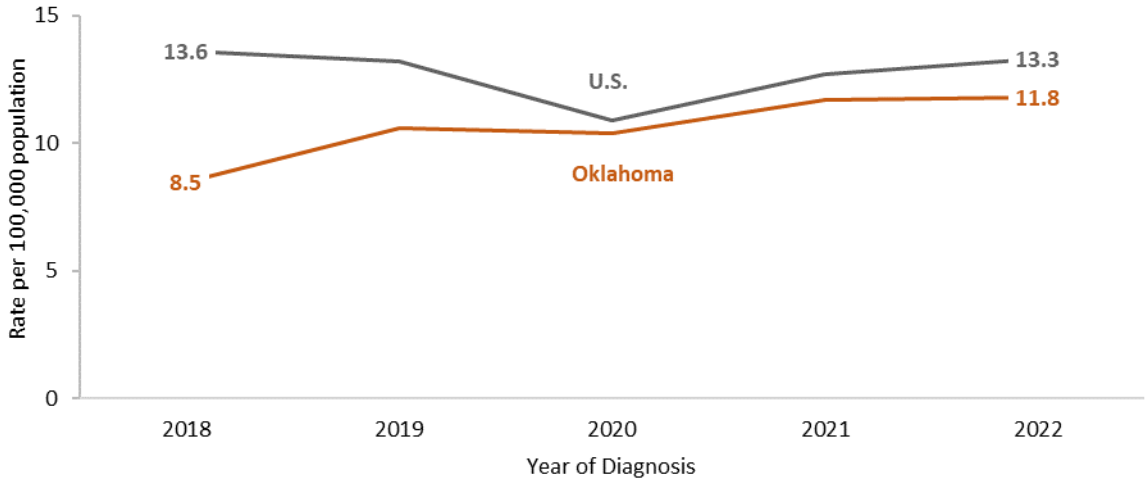
Cases	HIV without AIDS[1]		HIV with AIDS[2]		Total Newly Diagnosed		
	Number	(%)[3]	Number	(%)[4]	Total	(%)[5]	Rate[6]
Total	311	78.7	84	21.3	395	--	9.8
Sex at Birth	**Number**	**(%)**	**Number**	**(%)**	**Total**	**(%)**	**Rate**
Female	71	83.5	14	16.4	85	21.5	4.2
Male	240	77.4	70	22.6	310	78.5	15.5
Age (in years)	**Number**	**(%)**	**Number**	**(%)**	**Total**	**(%)**	**Rate**
15 – 24	60	86.9	9	13.0	69	17.5	12.0
25 – 34	131	83.9	25	16.0	156	39.5	28.8
35 – 44	72	80.0	18	20.0	90	22.8	17.1
45 – 54	33	61.1	21	38.9	54	13.7	11.8
55 – 64	*	*	*	*	*	*	*
65+	*	*	*	*	*	*	*
Race/Ethnicity	**Number**	**(%)**	**Number**	**(%)**	**Total**	**(%)**	**Rate**
Non-Hispanic American Indian/Alaska Native	*	*	*	*	*	*	*
Non-Hispanic Asian/Pacific Islander	*	*	*	*	*	*	*
Non-Hispanic Black	89	76.7	27	23.3	116	29.4	38.6
Hispanic (All Races)	53	81.5	12	18.5	65	16.5	13.4
Non-Hispanic White	113	75.3	37	24.7	150	38.0	5.9
Non-Hispanic Multiple Races	*	*	*	*	42	10.6	17.4
Transmission Category[7]	**Number**	**(%)**	**Number**	**(%)**	**Total**	**(%)**	**Rate**
Male-to-Male Sexual Contact (MSM)[8]	151	77.8	43	22.2	194	49.1	--
Injection Drug Use (IDU)[8]	31	77.5	9	22.5	40	10.1	--
Heterosexual Contact, Known Risk[9]	24	82.8	5	17.2	29	7.3	--
MSM/IDU[10]	22	81.5	5	18.5	27	6.8	--
Unknown	83	79.1	22	20.9	105	26.6	--
Metropolitan Statistical Area (MSA)	**Number**	**(%)**	**Number**	**(%)**	**Total**	**(%)**	**Rate**
Fort Smith MSA	*	*	*	*	*	*	*
Lawton MSA	*	*	*	*	*	*	*
OKC MSA	45	22.2	158	77.8	203	51.4	13.9
Tulsa MSA	18	17.1	87	82.9	105	26.6	10.2
Non-MSA	15	22.7	51	77.3	66	16.7	5.0

Note: *Cell counts and calculations may have been suppressed due to small cell size (less than 5). percentages may not add up to 100% due to rounding; [1]people with HIV first diagnosed in 2022, who were not diagnosed with AIDS in 2022; [2]people with HIV first diagnosed in 2022, who were also diagnosed with AIDS in 2022; [3]percentage of HIV without AIDS diagnoses; [4]percentage of HIV with AIDS diagnoses; [5]percentage of all HIV diagnoses; [6]rate per 100,000 population, rates not available for transmission category; [7]each person is assigned one mode of exposure based on the CDC's hierarchy of risk, with the exception of those reporting both MSM and IDU;[8]does not include men who reported both MSM and IDU; 9heterosexual contact with a person known to have or to be at high risk for HIV; 10infections attributed to MSM and IDU (i.e., men who reported both risk factors)

Overview

In 2022, the rate of new HIV diagnoses, among Oklahoma residents aged 13 years and older, was 11.8 per 100,000. This includes all HIV infections confirmed in the calendar year regardless of AIDS status. Overall, the rate of new HIV diagnoses is lower in Oklahoma compared to the U.S. which was 13.3 per 100,000 in 2022 (Figure 9). However, Oklahoma experienced a 46.0% increase in new HIV diagnoses from 2018 to 2022.

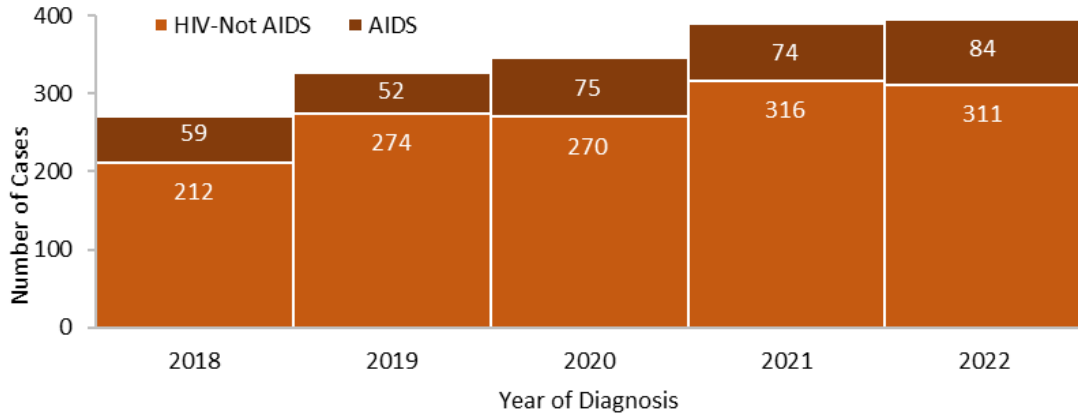
Figure 9. Rates of New HIV Diagnoses among People ≥ 13, U.S. and Oklahoma, 2018-2022



Notes: 2020 data should be interpreted with caution due to the impacts of the COVID-19 pandemic.

A total of 395 HIV persons were newly diagnosed in Oklahoma in 2022, 311 (78.7%) were HIV-not AIDS and 84 (21.3%) were AIDS (Figure 10).

Figure 10. Number of People with Newly Diagnosed HIV by Year of Diagnosis and AIDS Status, Oklahoma, 2018-2022



Notes: 2020 data should be interpreted with caution due to the impacts of the COVID-19 pandemic.

By Sex at Birth

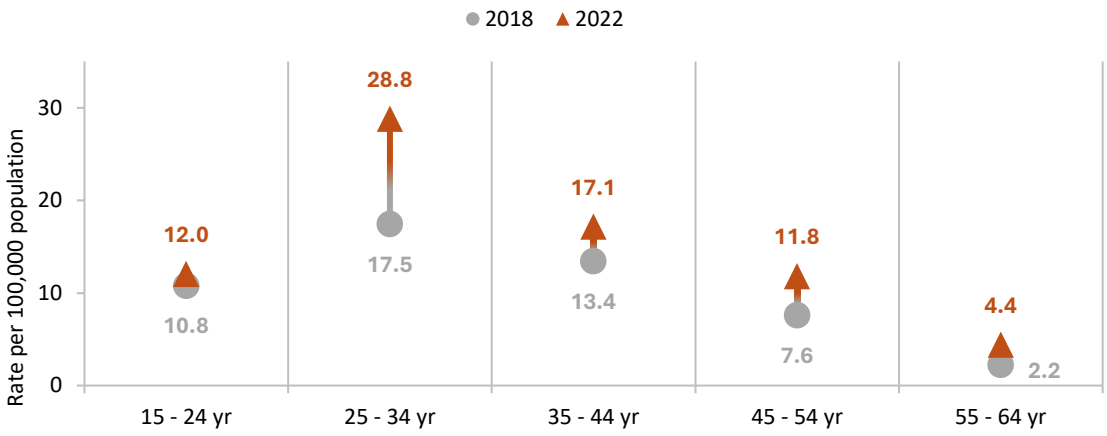
Of the new HIV diagnoses in Oklahoma, 310 (78.5%) were assigned male sex at birth. This is a 4.6% decrease compared to 2018 (n=223, 82.3%).

Non-Hispanic White males had the highest number of new HIV diagnoses with 120 (30.4%), followed by 91 (23.0%) NH Black males, 60 (15.2%) Hispanic males, 30 (7.6%) NH White females, and 25 (6.3%) NH Black females.

By Age at HIV Diagnosis

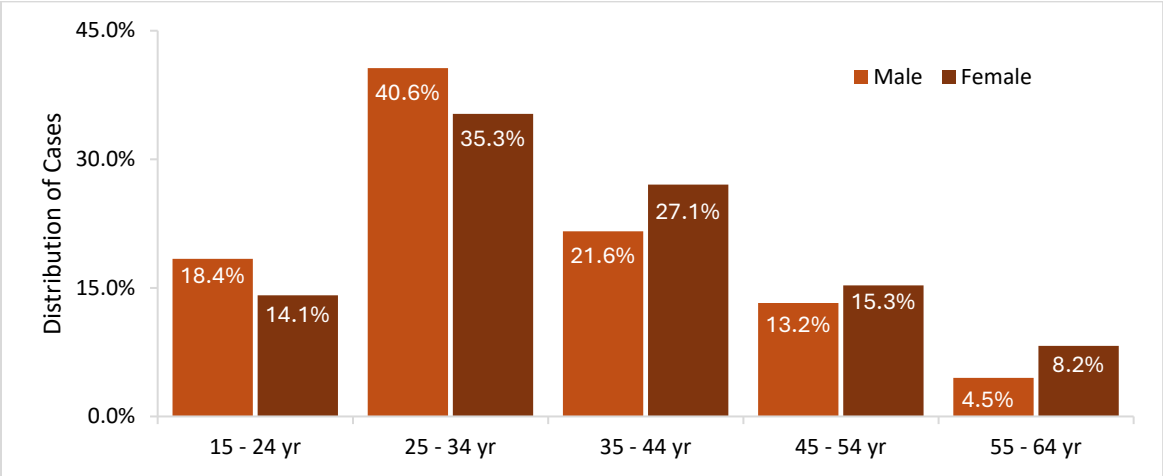
Persons aged 25-34 had the highest number of newly diagnosed HIV in 2022 (n=156, 39.5%) which reflects a 13% increase when compared to 2018 (n=95, 35.1%). Compared to 2018, the rate of new HIV diagnoses increased for all age groups, however persons aged 25-43 had the highest rate increase from 17.5 to 28.8 per 100,000 population (Figure 11).

Figure 11. Rate of People with Newly Diagnosed HIV Ages 15-64, by Age at Diagnosis, Oklahoma, 2018-2022



In 2022, persons aged 25-34 had the highest distribution of new HIV diagnoses among males (n=126, 40.6%) and females (n=30, 35.3%). A greater proportion of older age groups exists among the females compared to males (Figure 12).

Figure 12. Distribution of People with Newly Diagnosed HIV, by Age at Diagnosis and Sex at Birth, Oklahoma, 2022



By Race/Ethnicity

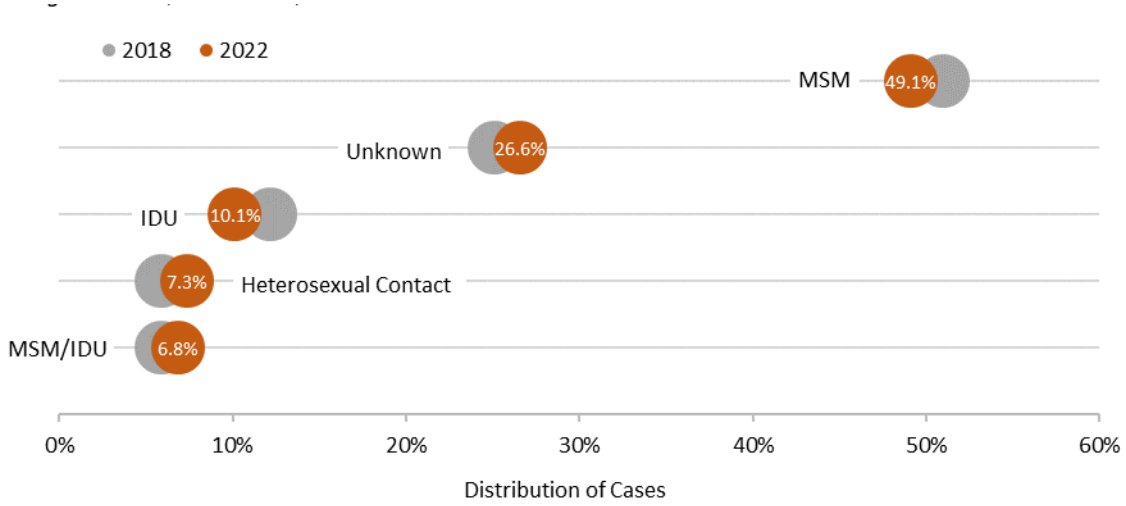
Of the 395 new HIV diagnoses in 2022, 150 (38.0%) were NH White, 116 (29.4%) were NH Black, 65 (16.5%) were Hispanic, 18 (4.6%) were NH AI/AN, and 42 (10.6%) were NH Multiple races.

Non-Hispanic Black persons had the highest rate of newly diagnosed HIV (38.6/100,000) among all other racial and ethnic groups in Oklahoma. This rate was almost seven times higher than the rate for NH White persons (5.9/100,000) and four times the rate for the entire state. Persons of NH Multiple races (17.4/100,000) and Hispanic persons (13.4/100,000) had the second and third highest rates.

By Mode of Transmission

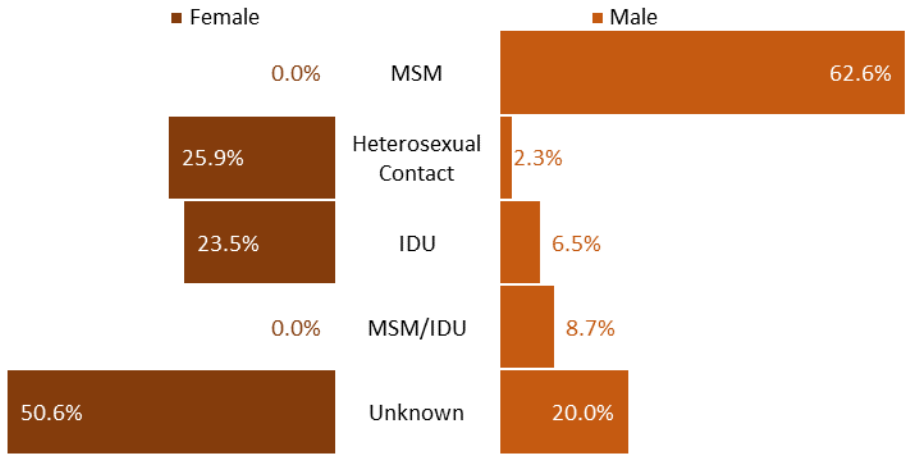
In 2022, 194 (49.1%) persons had newly diagnosed HIV attributed to MSM, 105 (26.6%) to Unknown (which includes heterosexual contact with someone of either unknown HIV status or HIV negative, and unknown risk for HIV), and 40 (10.1%) to Injection Drug Use (IDU). Heterosexual contact with a person known to have HIV or known to be a high risk for HIV and MSM/IUD had a similar distribution, 29 (7.3%) and 27 (6.8%), respectively. Compared to 2018, the distribution of Heterosexual contact, MSM/IDU, and Unknown modes of transmission has increased (Figure 13).

Figure 13. Distribution of Mode of Transmission among People ≥13 years with Newly Diagnosed HIV, Oklahoma, 2018-2022



The Unknown transmission category accounted for half (n=43, 50.6%) of all new HIV diagnoses among females. Among males, MSM account for over half (n=194, 62.6%) of all new HIV diagnoses. Heterosexual contact with a person known to have HIV or known to be at high risk for HIV and IDU was more predominant among females (n=22, 25.9%; n=20, 23.5%) compared to males (n=7, 2.3%; n=20, 6.5%) (Figure 14).

Figure 14. Distribution of Mode of Transmission among People ≥13 years with Newly Diagnosed HIV, by Sex at Birth, Oklahoma, 2022

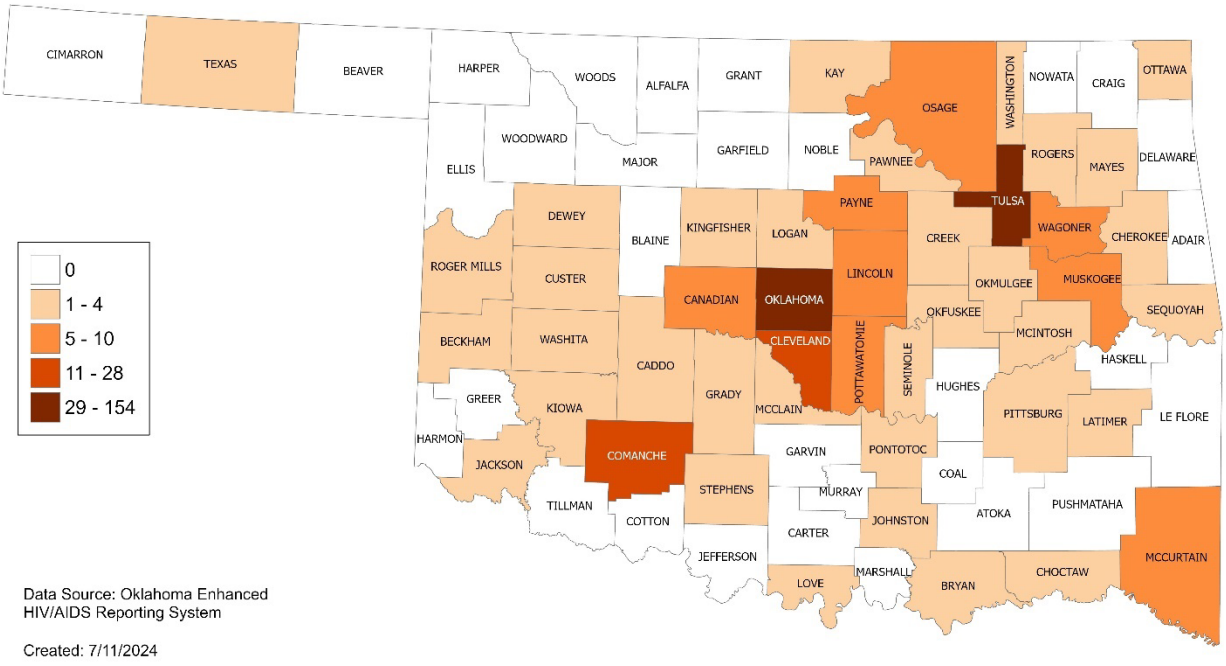


Of the 194 persons classified as MSM, 63 (32.5%) were NH White, 52 (26.8%) were NH Black, and 51 (26.3%) were Hispanic.

By Geography

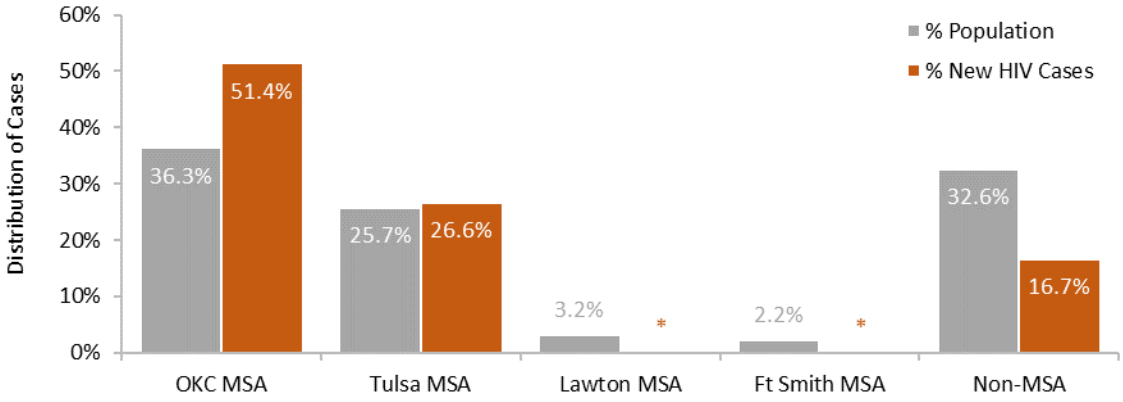
Four counties in Oklahoma accounted for the majority (n=285, 72.2%) of the 2022 new HIV diagnoses: 154 (39.0%) in Oklahoma, 86 (21.8%) in Tulsa, 28 (7.1%) in Cleveland, and 17 (4.3%) in Comanche (Map 3).

Map 3. Number of People with Newly Diagnosed HIV, by County of Residence, Oklahoma, 2022



The Oklahoma City metropolitan statistical area (MSA) accounted for over half (51.4%) of the new HIV diagnoses in Oklahoma, while this area only contains 36.3% of the entire state's population. In 2022, 66 (16.7%) of the new HIV diagnoses were in counties that were not part of a metropolitan statistical area (Figure 15).

Figure 15. Distribution of the State Population and Newly Diagnosed HIV, by Metropolitan Statistical Area, Oklahoma, 2022



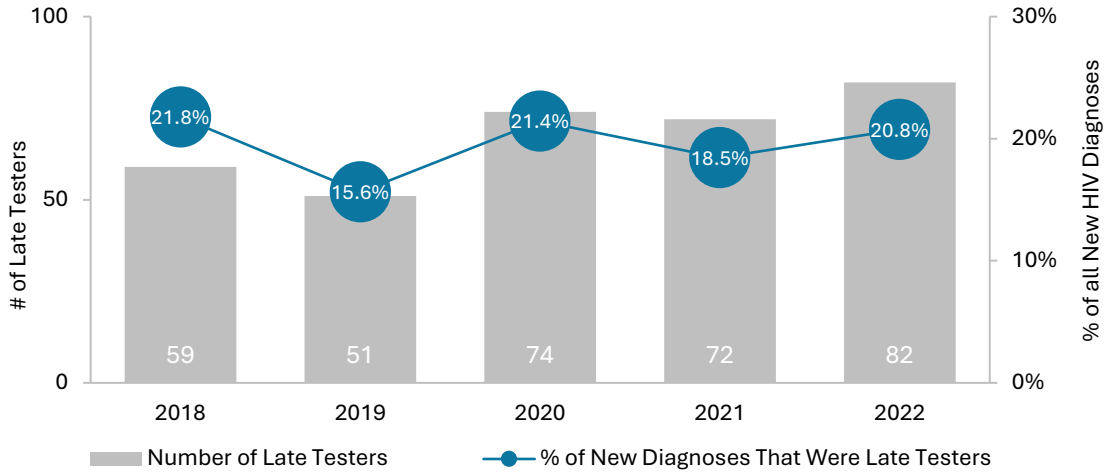
**Suppressed, <5 count*

AIDS Diagnoses

Late Testing

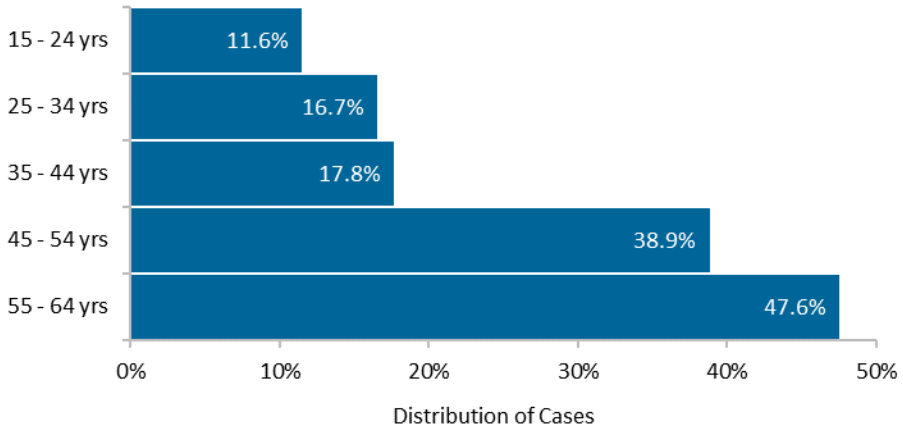
A late tester is defined as one who receives an AIDS diagnosis within three months of initial HIV diagnosis. In 2022, 82 (20.8%) new HIV diagnoses were classified as late testers. While the number of late testers has increased in 2022 compared to 2018, the percentage of all new HIV diagnoses that were late testers is similar (Figure 16). Among total late testers, 67 (81.7%) were male, and 38 (46.3%) were NH White.

Figure 16. Number of People of Late Testers and Percentage of Late Testers among Newly Diagnosed HIV, Oklahoma, 2022



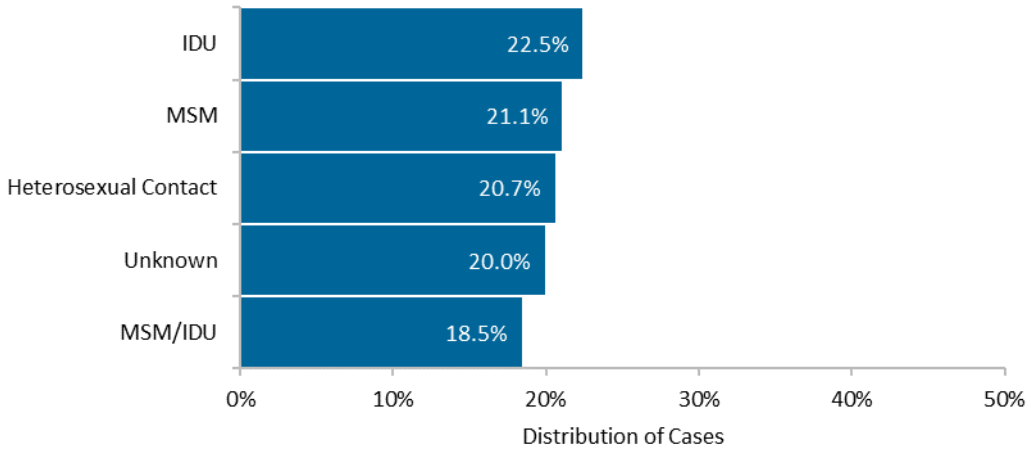
The distribution of late testers increased with age: 26 (16.7%) persons aged 25-34 were classified as late testers, compared with 10 (47.6%) persons aged 55-64 (Figure 17).

Figure 17. Distribution of Late Testers among Newly Diagnosed HIV, by Age of Diagnosis, Ages 15-24, Oklahoma, 2022



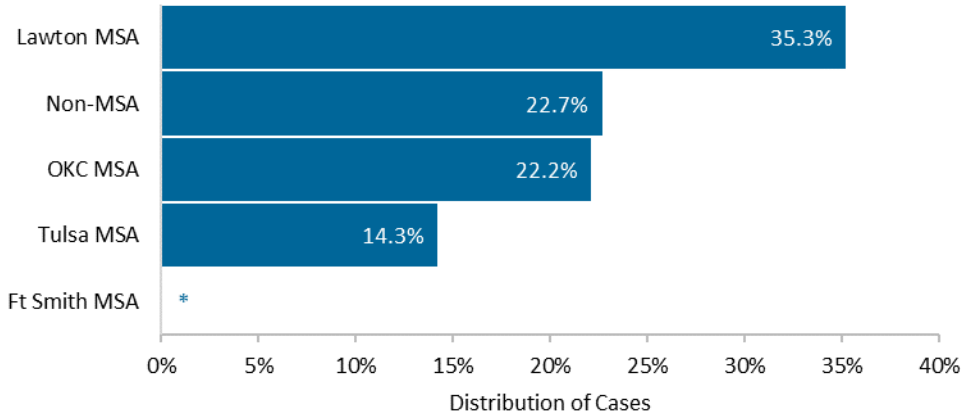
The distribution of late testers was relatively similar among different modes of transmission, with the highest observed among IDU (n=9, 22.5%) and the lowest among MSM/IDU (n=5, 18.5%) (Figure 18).

Figure 18. Distribution of Late Testers among Newly Diagnosed HIV, by Mode of Transmission, Ages 15-24, Oklahoma, 2022



The Lawton MSA (n=6, 35.3%) had the highest number of late testers in 2022, while the Tulsa MSA had the lowest with 15 (14.3%) (Figure 19).

Figure 19. Distribution of Late Testers among Newly Diagnosed HIV, by Metropolitan Statistical Area, Oklahoma, 2022

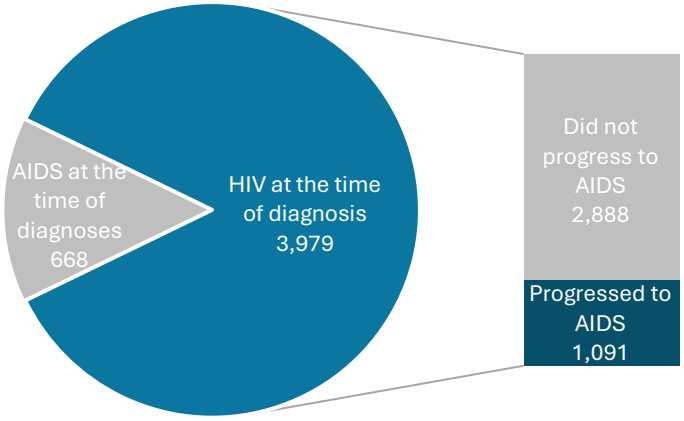


**Suppressed, <5 count*

HIV Progression to AIDS

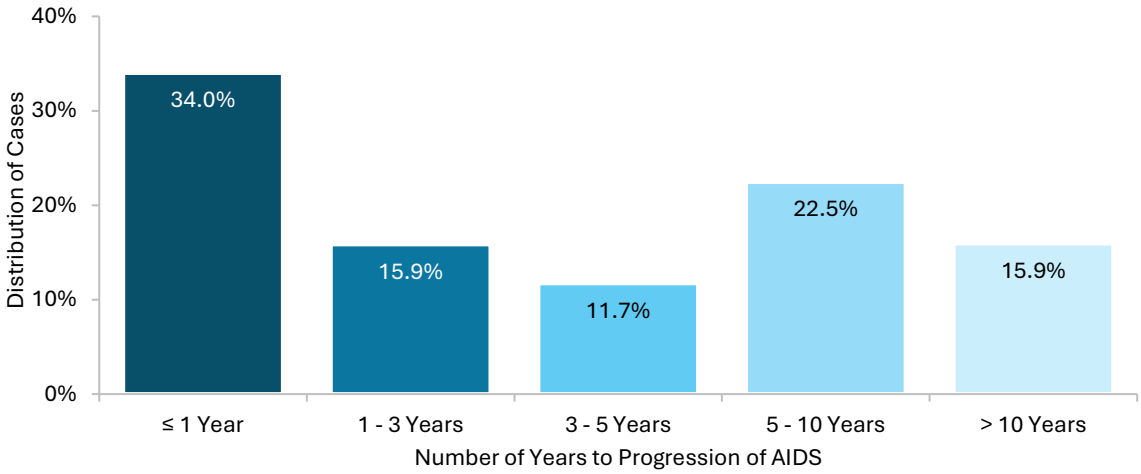
Of the 7,684 persons living with HIV/AIDS at the end of 2022, 4,647 (60.5%) were diagnosed in Oklahoma. Among those diagnosed in Oklahoma, 85.6% were diagnosed with HIV-not AIDS initially. By the end of 2022, 1,091 (27.4%) had progressed to AIDS (Figure 20).

Figure 20. Number of People Diagnosed with HIV that progressed to AIDS by the End of 2022, Oklahoma



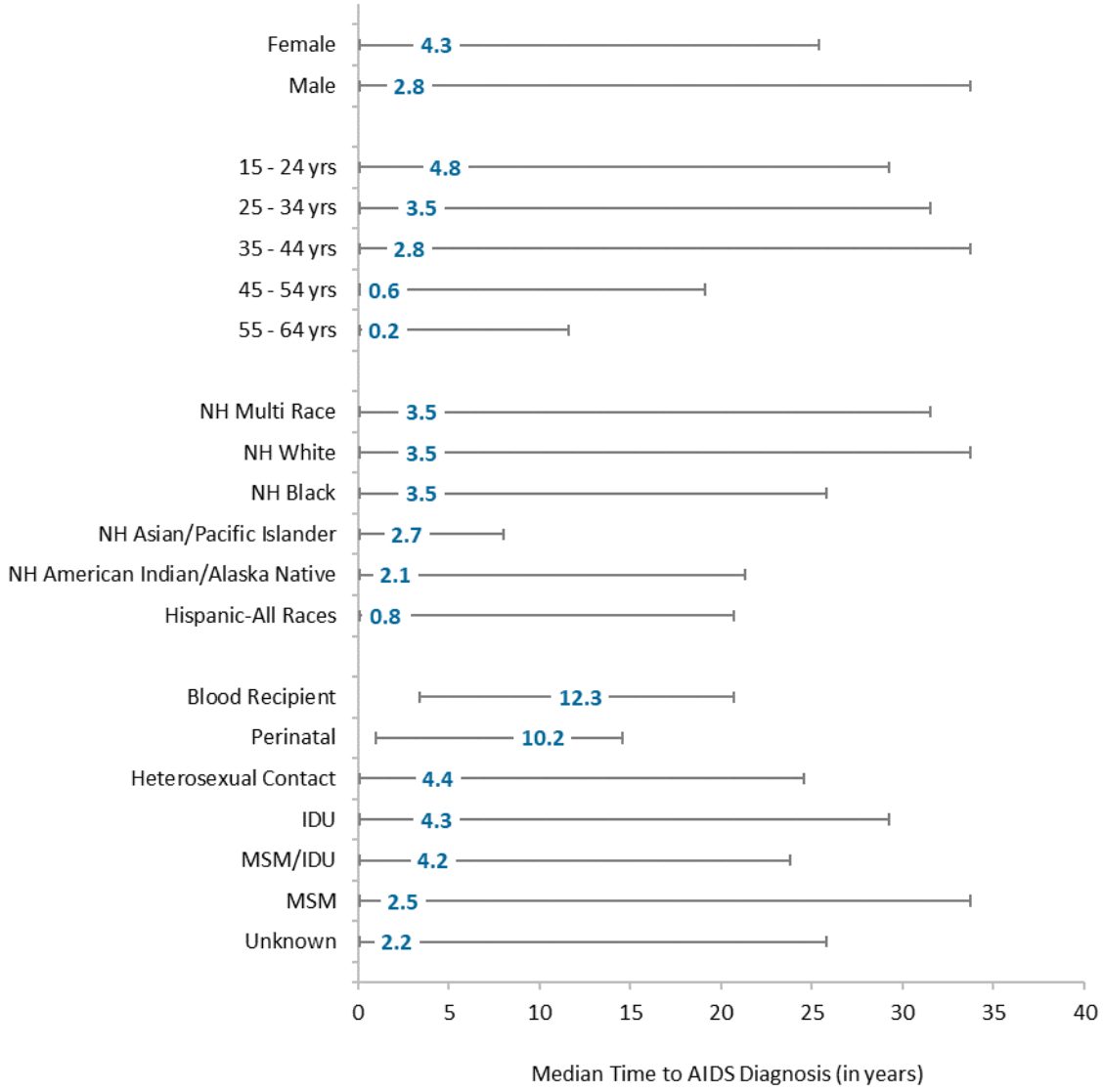
Over a quarter (n=371, 34%) of those who progressed to AIDS progressed within one year of their HIV diagnosis, while 245 (22.5%) progressed within 5 to 10 years, and 174 (15.9%) progressed 10 or more years after diagnosis (Figure 21).

Figure 21. Distribution of People Diagnosed with HIV that Progressed to AIDS, by Number of Years after Initial HIV diagnosis, Oklahoma, 2022



To observe the number of years between HIV and AIDS diagnosis, the mean and median number of years were calculated by sex at birth, age at diagnosis, race/ethnicity, and mode of transmission.

Figure 22. Median, Minimum, and Maximum Number of Years to AIDS Diagnosis, by Selected Demographics and Mode of Transmission, Oklahoma, 2022



Persons with male sex at birth (n=882, mean=4.7, median=2.8) had a slightly lower mean and median number of years to AIDS diagnosis compared to female sex at birth (n=209, mean=5.6, median=4.3) (Figure 22).

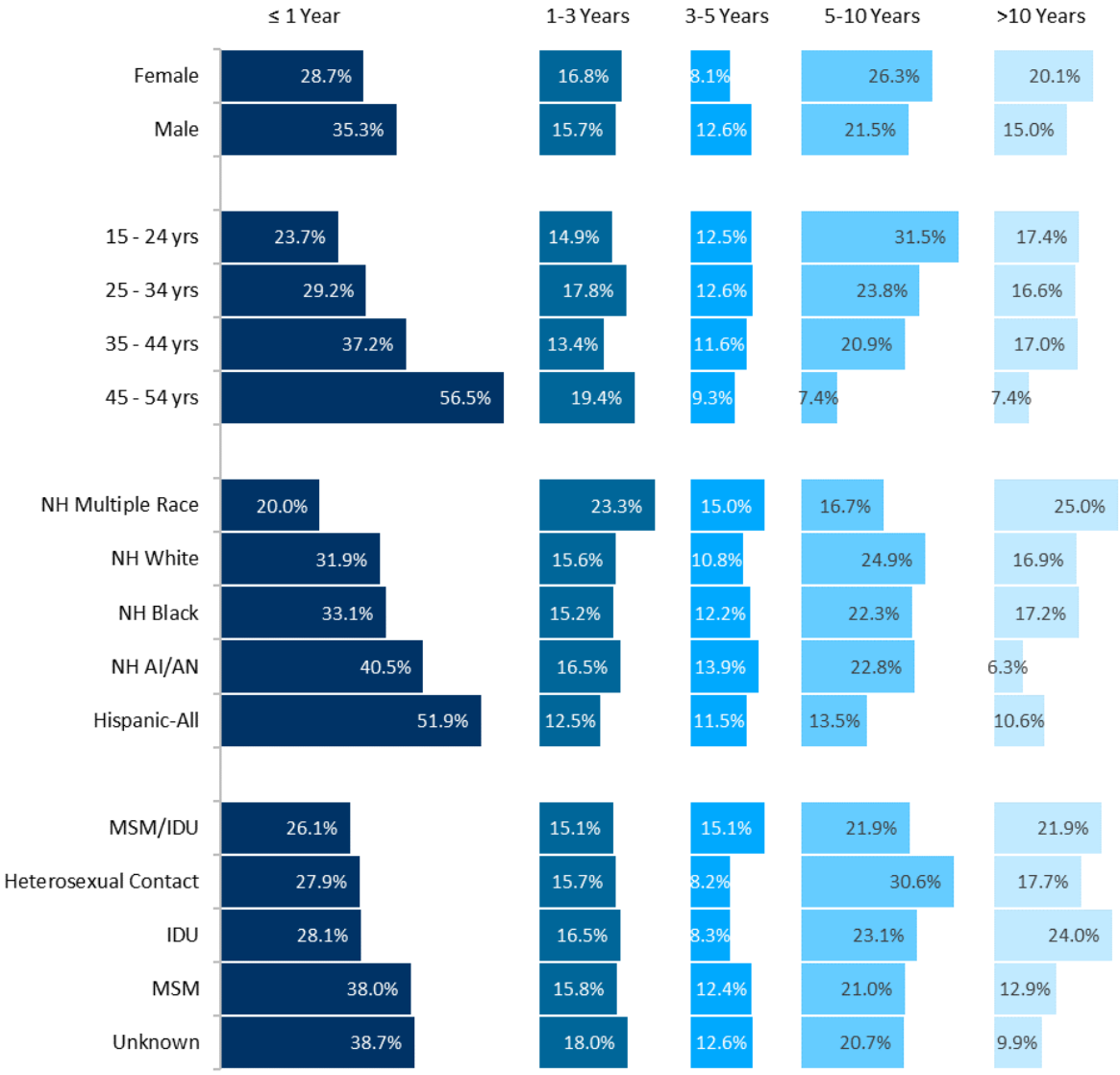
The mean and median number of years to AIDS diagnosis decreased with age, with a large decrease in persons aged 45-54 (n=108, mean=2.4, median=0.6) compared to persons aged 35-44 (n=277, mean=4.9, median=2.8).

Hispanic (all races) (n=104, mean=3.3, median=0.8), NH AI/AN, (n=79, mean=3.6, median=2.1), and NH Asian/Pacific Islander (n=6, mean=3.3, median=2.7) had the lowest mean and median number of years to AIDS diagnosis.

Persons with a mode of transmission classified as blood recipient (n=6, mean=12.2, median=12.3) and perinatal (n=5, mean=9.7, median=10.2) had the highest mean and median number of years to AIDS diagnosis, however the sample size is significantly lower compared to the other modes of transmission. Unknown (n=111, mean=4.2,

median=2.2) and MSM (n=582, mean=4.3, median=2.5) modes of transmission had the lowest number of years to AIDS diagnosis.

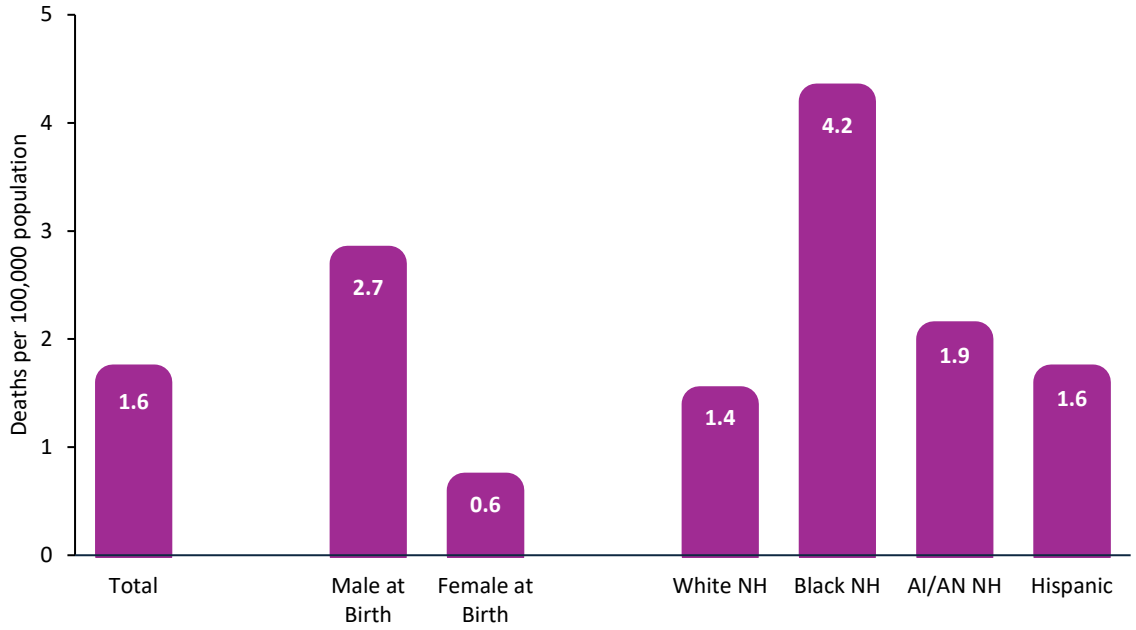
Figure 23. Distribution of People Diagnosed with HIV who Progressed to AIDS, by Years of Progression and Selected Demographics, Oklahoma, 2022



HIV Mortality among Oklahoma Residents

In 2022, 63 deaths among Oklahoma residents were attributed to HIV-related causes. Sixty percent (8 persons) of HIV-related deaths were among NH White persons, 12 (20.6%) were among NH Black persons, and 6 (9.5%) were among NH AI/AN persons (Figure 24).

Figure 24. Average Annual Age-Adjusted Mortality (HIV-related causes) Rates among Oklahoma Residents per 100,000 Population, by Sex at Birth and Race/Ethnicity, Oklahoma 2018–2022 (N=293)



Data Source: Oklahoma State Department of Health (OSDH), Center for Health Statistics, Health Care Information, Vital Statistics 2018-2022

Age-Adjusted Rates

Between 2018-2022, the average annual age-adjusted mortality (HIV-related causes) rate per 100,000 population for persons assigned male at birth reported with HIV was four times that for persons assigned female at birth. There was also a large disparity in mortality rates by race/ethnicity; the rate among NH Black persons was three times that of NH White persons.

By Age at Death

Among reported HIV/AIDS diagnosed persons who died from HIV-related causes between 2018-2022 (54 persons), the average age of death is younger among Hispanic (45.5), NH Black (48.8) and NH AI/AN (50.7) persons than among NH White (52.5) persons.

Mortality among People Diagnosed with HIV

Table 5. Summary Statistics: Mortality (all causes) among HIV Diagnosed Persons, Oklahoma 2018-2022 (N=677)

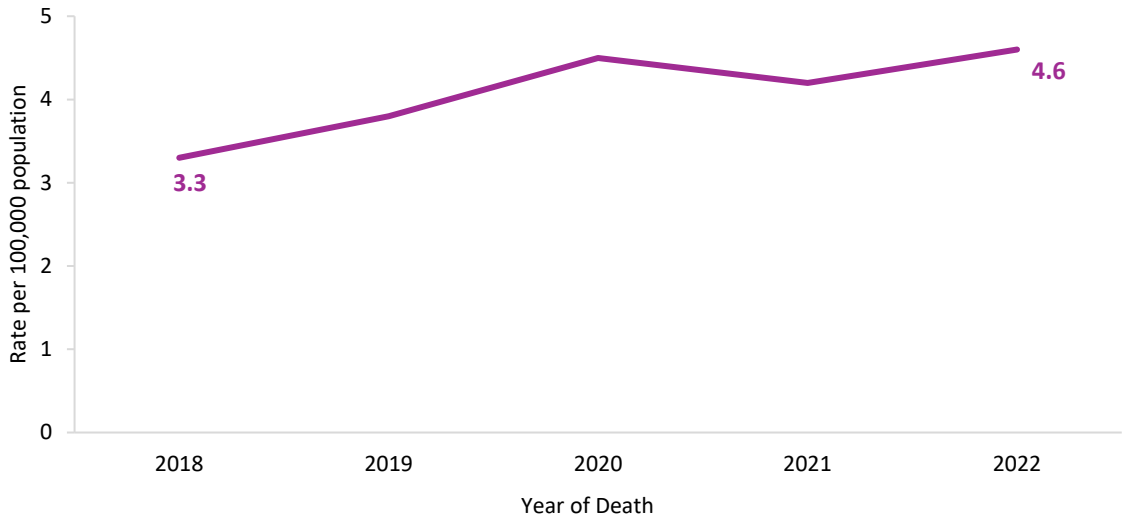
Cases	HIV without AIDS[1]		HIV with AIDS[2]		Total Deaths		
	Number	(%)[1]	Number	(%)[2]	Total	(%)[3]	Rate[4]
Total	160	23.6	517	76.4	677	--	16.8
Sex at Birth	**Number**	**(%)**	**Number**	**(%)**	**Total**	**(%)**	**Rate**
Female	23	21.3	85	78.7	108	16.0	4.2
Male	137	24.1	432	75.9	569	84.0	15.5
Age (in years)	**Number**	**(%)**	**Number**	**(%)**	**Total**	**(%)**	**Rate**
<15	*	*	*	*	*	*	*
15 – 24	*	*	*	*	*	*	*
25 – 34	13	25.0	39	75.0	52	7.7	9.6
35 – 44	22	24.4	68	75.6	90	13.3	17.1
45 – 54	40	26.1	113	73.9	153	22.6	33.5
55 – 64	41	17.2	198	82.9	239	35.3	50.3
65+	41	30.2	95	69.9	136	20.1	20.6
Race/Ethnicity	**Number**	**(%)**	**Number**	**(%)**	**Total**	**(%)**	**Rate**
Non-Hispanic American Indian/Alaska Native	12	20.3	47	79.7	59	8.7	17.6
Non-Hispanic Asian/Pacific Islander	*	*	*	*	*	*	*
Non-Hispanic Black	23	18.1	104	81.9	127	18.8	43.7
Hispanic (All Races)	7	16.7	35	83.3	42	6.2	9.5
Non-Hispanic White	110	26.9	299	73.1	409	60.4	15.9
Non-Hispanic Multiple Races	*	*	*	*	*	*	*
Transmission Category[5]	**Number**	**(%)**	**Number**	**(%)**	**Total**	**(%)**	**Rate**
Male-to-Male Sexual Contact (MSM)[6]	68	22.1	240	77.9	308	45.5	--
Injection Drug Use (IDU)	26	30.2	60	69.8	86	12.7	--
Heterosexual Contact, Known Risk[7]	11	18.0	50	82.0	61	9.0	--
MSM/IDU[8]	19	18.8	82	81.2	101	14.9	--
Blood Recipient	*	*	*	*	*	*	--
Perinatal	*	*	*	*	*	*	--
Unknown	34	29.6	81	70.4	115	17.0	--
Metropolitan Statistical Area (MSA)	**Number**	**(%)**	**Number**	**(%)**	**Total**	**(%)**	**Rate**
Fort Smith MSA	*	*	*	*	*	*	*
Lawton MSA	*	*	*	*	*	*	*
OKC MSA	57	18.3	254	81.7	311	45.9	4.4
Tulsa MSA	47	26.4	131	73.6	178	26.3	3.5
Non-MSA	48	31.0	107	69.0	155	22.9	2.3

Note: *Cell counts and calculations may have been suppressed due to small cell size (less than 5). percentages may not add up to 100% due to rounding; [1]percentage of HIV without AIDS diagnoses; [2]percentage of HIV with AIDS diagnoses; [3]percentage of all HIV diagnoses; [4]rate per 100,000 population, rates not available for transmission category; [5]each person is assigned one mode of exposure based on the CDC's hierarchy of risk, with the exception of those reporting both MSM and IDU;[6]does not include men who reported both MSM and IDU; [7]heterosexual contact with a person known to have or to be at high risk for HIV; [8]infections attributed to MSM and IDU (i.e., men who reported both risk factors)
Data Source: Centers for Disease Control and Prevention. NCHHSTP AtlasPlus. https://www.cdc.gov/nchhstp/about/atlasplus.html. Accessed 9/16/2024

Overview

In 2022, the mortality rate (all causes) among HIV diagnosed persons aged 13 years and older residing in Oklahoma was 4.6 per 100,000 (53 persons) (Figure 25). While the Oklahoma mortality rate among HIV diagnosed individuals is lower than the U.S. mortality rate (6.8/100,0000), it is an increase from the 2018 Oklahoma mortality rate, which was 3.3 per 100,000. The number of deaths among persons diagnosed with HIV residing in Oklahoma increased 40.4% from 2018 to 2022.

Figure 25. Mortality Rates among Persons Diagnosed with HIV ages ≥13 years, Oklahoma, 2018-2022



Notes: 2020 data should be interpreted with caution due to the impacts of the COVID-19 pandemic
Data Source**:** Centers for Disease Control and Prevention. NCHHSTP AtlasPlus. https://www.cdc.gov/nchhstp/about/atlasplus.html. Accessed 9/16/2024

By Sex at Birth

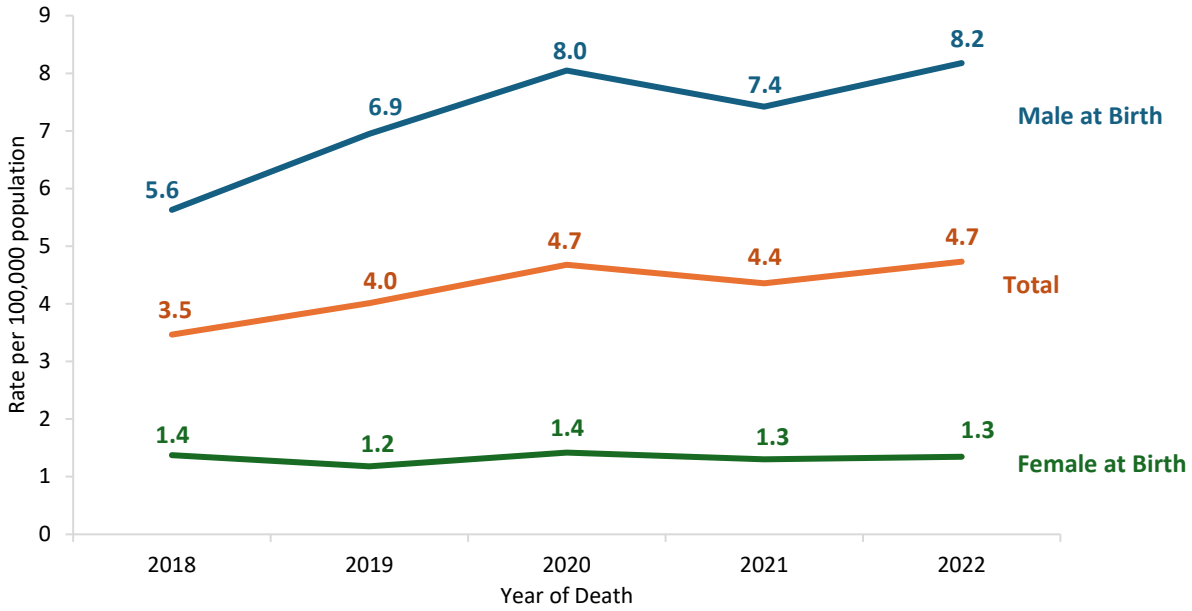
With 153 deaths among HIV diagnosed persons in 2022, 131 (85.6%) were male at birth. This is a 50.5% increase compared to 2018 deaths among males at birth (87 persons, 79.8%).

Non-Hispanic White males had the highest reported number of deaths with 79 (60.3%), followed by 27 (20.6%) NH Black males, and 13 (10.0%) Hispanic males. Among 22 deaths among females, NH White had the highest number with 16 (72.7%) reported deaths.

Among persons aged 15 years and older, the mortality rate for males at birth (8.2/100,000) is much higher than that for females at birth (1.3/100,000) and the overall rate (4.7/100,000) (Figure 26). The male at birth mortality

rate has been steadily increasing since 2018 and has been the main factor contributing to the rise in the total mortality rate (Figure 26).

Figure 26. Mortality rates among Persons Diagnosed with HIV ages ≥15 years, by sex at birth, Oklahoma, 2018–2022



Notes: 2020 data should be interpreted with caution due to the impacts of the COVID-19 pandemic

By Age at Death

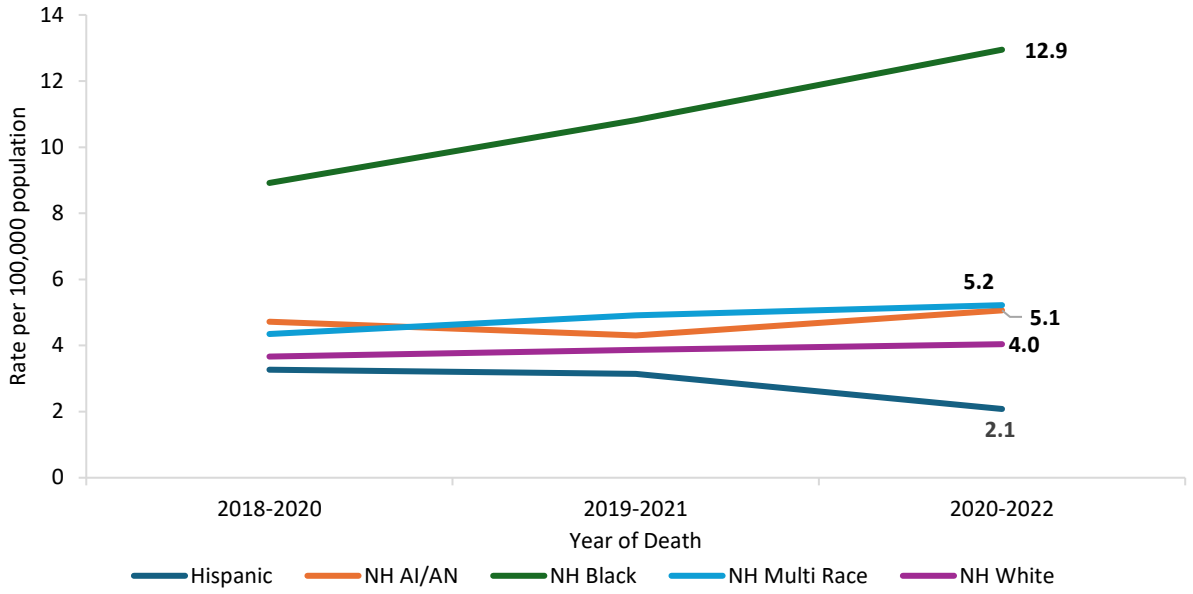
In 2022, the average age at death among persons with reported HIV was 54.6 (one year increase from 2018), with the minimum age 21 years and maximum age 90 years. For comparison, the average age at death for the general Oklahoma population in 2022 was 76.4. Persons aged 55-64 had the highest number of reported deaths in 2022, with 47 deaths, followed by persons aged 65 years and older with 38 deaths, then persons aged 45-54 with 33 deaths.

By Race/Ethnicity

With 153 deaths among HIV diagnosed persons in 2022, 95 (62.1%) were NH White, 30 (19.6%) were NH Black, 141 (9.2%) were NH AI/AN, and 8 (5.2%) were NH Multiple races.

In 2022, among HIV infected persons in Oklahoma aged 15 years and older, NH Black persons had the highest mortality rate (12.6/100,000) among all other racial and ethnic groups. This rate was almost three times higher than the entire state and the other racial groups: NH AI/AN (5.4/100,000) and NH White (4.4/100,000). Rates were not calculated for NH Asian/Pacific Islander, Hispanic and NH Multi-race due to small counts (<12). However, in reviewing three-year rolling averages (Figure 27), mortality rates can be seen for NH Multi race at 5.2 per 100,000 for deaths occurring between 2020 and 2022, which is higher than NH White (4.0/100,000) and the Hispanic mortality rate is declining (2.1/100,000).

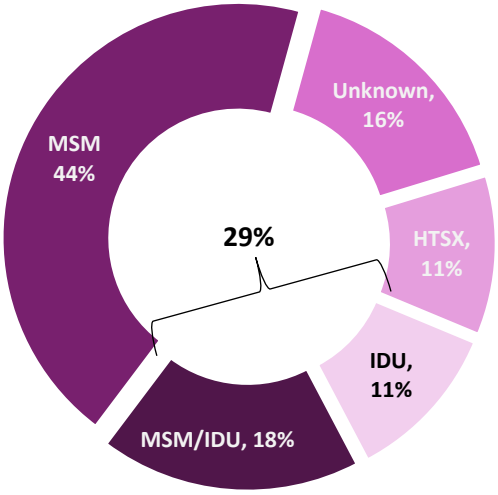
Figure 27. Mortality rates among Persons Diagnosed with HIV ages ≥15 years, 3-year rolling average, Oklahoma, 2018–2022



By Mode of Transmission

Persons with MSM contact accounted for the largest proportion of reported deaths among Oklahoma residents at 62% (Figure 28). In 2022, 11% of deaths among HIV diagnosed persons reported IDU and an additional 18.0% reported with transmission mode of MSM/IDU, compared to 10% and 7%, respectively, of 2022 newly HIV diagnoses. Compared to 2018, IDU as mode of transmission has decreased slightly from 16%, while MSM/IDU remained relatively the same at 17%. In 2022, heterosexual contact (HTSX) with a person known to have HIV or known to be a high risk for HIV accounted for 11%, and Unknown (which includes heterosexual contact with someone of either unknown HIV status or HIV negative, and unknown risk for HIV) accounted for 16%.

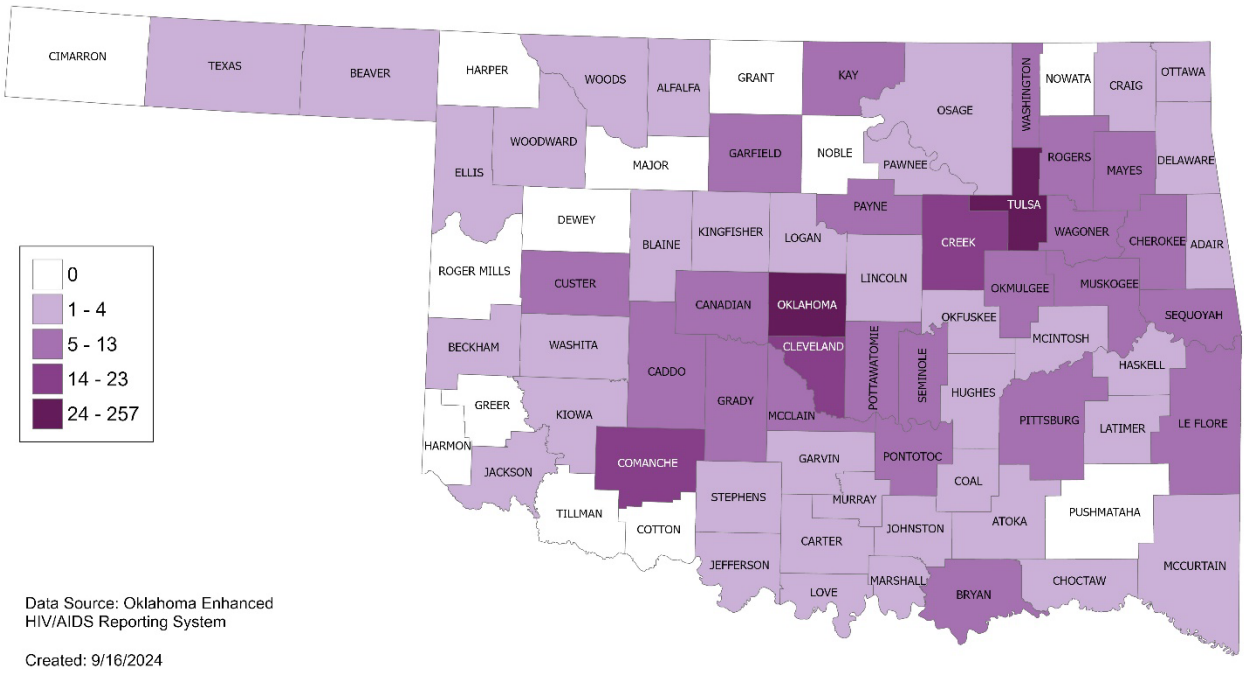
Figure 28. Mortality among Persons Diagnosed with HIV by Mode of Transmission, Oklahoma 2022 (N=153)



By Geography

Five counties in Oklahoma accounted for the majority (66.5%) of 2018-2022 deaths among persons diagnosed with HIV: 257 (38.0%) in Oklahoma, 135 (19.9%) in Tulsa, 23 (3.4%) in Comanche, 18 (2.7%) in Cleveland, and 17 (2.5%) in Creek. Between 2018-2022, 155 (22.9%) deaths among persons with HIV resided in counties that were not part of a MSA areas (Map 4).

Map 4. Number of Deaths (all-causes) among People with Diagnosed HIV, by County of Residence at Time of Death, Oklahoma 2022 (N=153)



HIV Care Continuum

Overview

A diagnosed-based HIV Care Continuum was created for Oklahoma using 2022 surveillance data. A diagnosed-based approach shows each step of the continuum as a percentage of the number of persons who have been diagnosed. The Oklahoma HIV Care Continuum includes the four recommended steps for a diagnosis-based approach:

1) Linked to Care - those who received an HIV diagnosis in the calendar year of measure who have also had one or more documented CD4 or viral load tests within 30 days of diagnosis. (This step has a different denominator than the other three steps of the continuum, and therefore, cannot be directly compared to the other three steps in the care continuum.)

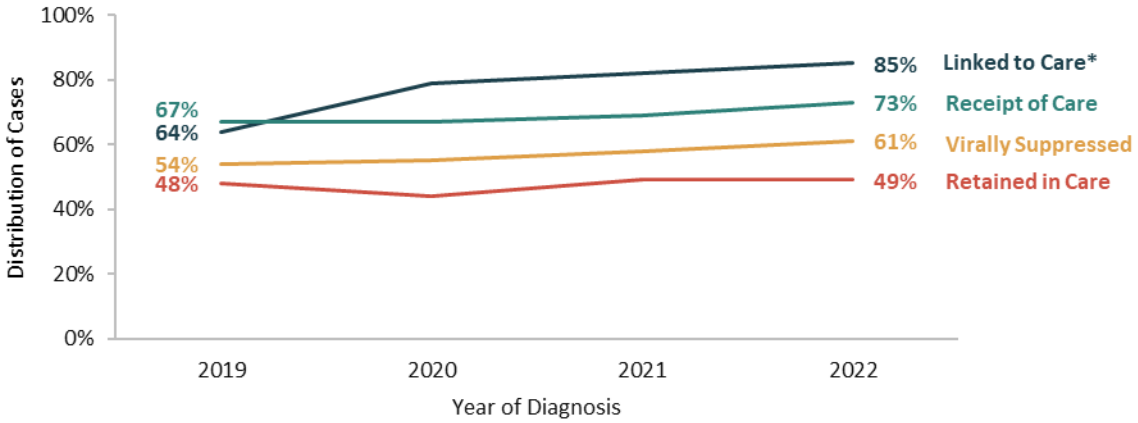
2) Receipt of Care - the percentage of persons diagnosed with HIV who had at least one CD4 or Viral Load test within the calendar year of measure.

3) Retained in Care - the percentage of persons with HIV diagnosed with two or more CD4 or viral load tests performed at least three months apart.

4) Virally Suppressed - the percentage of persons with diagnosed HIV who had a viral load test result of less than 200 copies/mL at the most recent viral load test during the measurement year.

Of the 395 HIV persons newly diagnosed in Oklahoma in 2022, 334 (85%) (334) were linked to care within 30 days of diagnosis. Of the 7,684 persons living with HIV in Oklahoma at the end of 2022, 5,601 (73%) received care, 3,723 (49%) were retained in care, and 4,685 (61%) were virally suppressed (Figure 29). The distribution of cases linked to care, receiving care, retained in care, and virally suppressed increased in 2022 compared to 2019. The greatest increase was observed among those linked to care, with a 33% increase (Figure 29).

Figure 29. Diagnosed-Based HIV Care Continuum, Oklahoma 2019-2022

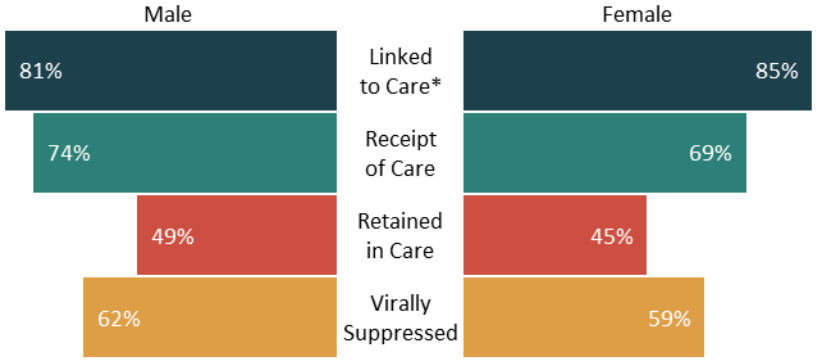


*Linked to care measures the percentage of people newly diagnosed with HIV; therefore, it is calculated differently and cannot be directly compared to other steps within the care continuum.

By Sex at Birth

While 69% of males living with HIV in Oklahoma at the end of 2022 received care, 69% of females living with HIV received care (Figure 30). Overall, males had slightly higher distributions than females for receipt of care, retention in care, and virally suppressed (Figure 30).

Figure 30. Diagnosed-Based HIV Crae Continuum, by Sex at Birth, Oklahoma 2022



*Linked to care measures the percentage of people newly diagnosed with HIV; therefore, it is calculated differently and cannot be directly compared to other steps within the care continuum.

By Race/Ethnicity

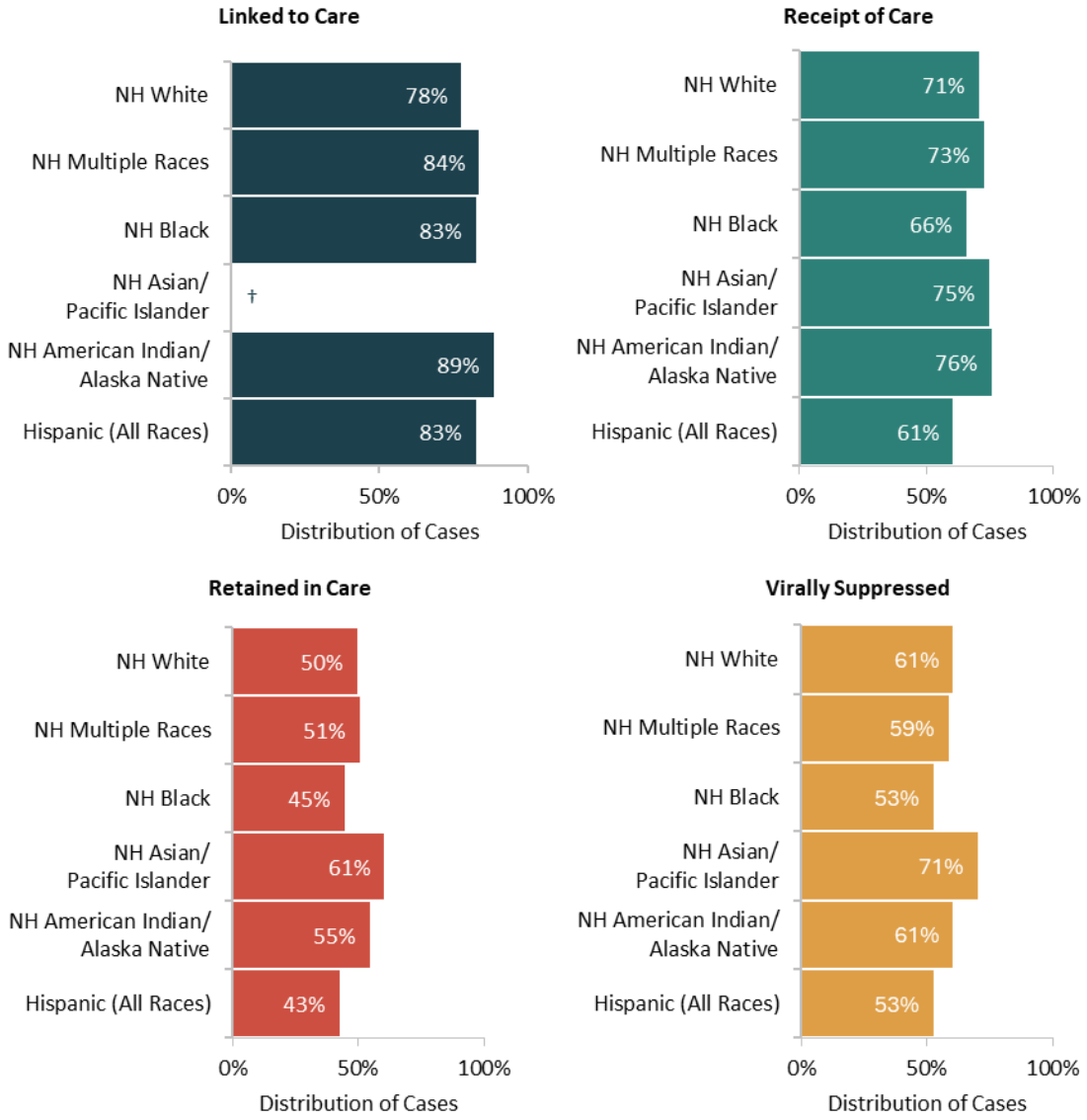
Non-Hispanic White persons had the next lowest distribution among those linked to care. Non-Hispanic Black (83%) and Hispanic (83%) persons had the next lowest distribution linked to care, followed by NH Multiple races at 84% (Figure 31).

Disparities in the distribution of persons living with HIV who received care were observed among racial/ethnic groups. Non-Hispanic AI/AN persons had the highest distribution of cases receiving care (76%), while NH Black (66%) and Hispanic (61%) persons had the lowest distribution of those receiving care (Figure 31).

Non-Hispanic Asian/Pacific Islander (A/PI) persons had the highest distribution of those retained in care (61%), followed by NH AI/AN (55%). A similar distribution was observed among NH Multiple races (51%), and NH White (50%) persons. Non-Hispanic Black (45%) and Hispanic (43%) persons had the lowest distribution of those retained in care (Figure 31).

The highest distribution of viral suppression was observed among NH A/PI persons (71%). Hispanic and NH Black persons had the lowest distribution of those virally suppressed, at 53% (Figure 31).

Figure 31. Diagnosed-Based HIV Care Continuum, by Race/Ethnicity, Oklahoma 2022



*Linked to care measures the percentage of people newly diagnosed with HIV; therefore, it is calculated differently and cannot be directly compared to other steps within the care continuum.
†Suppressed, <5 count

By Mode of Transmission

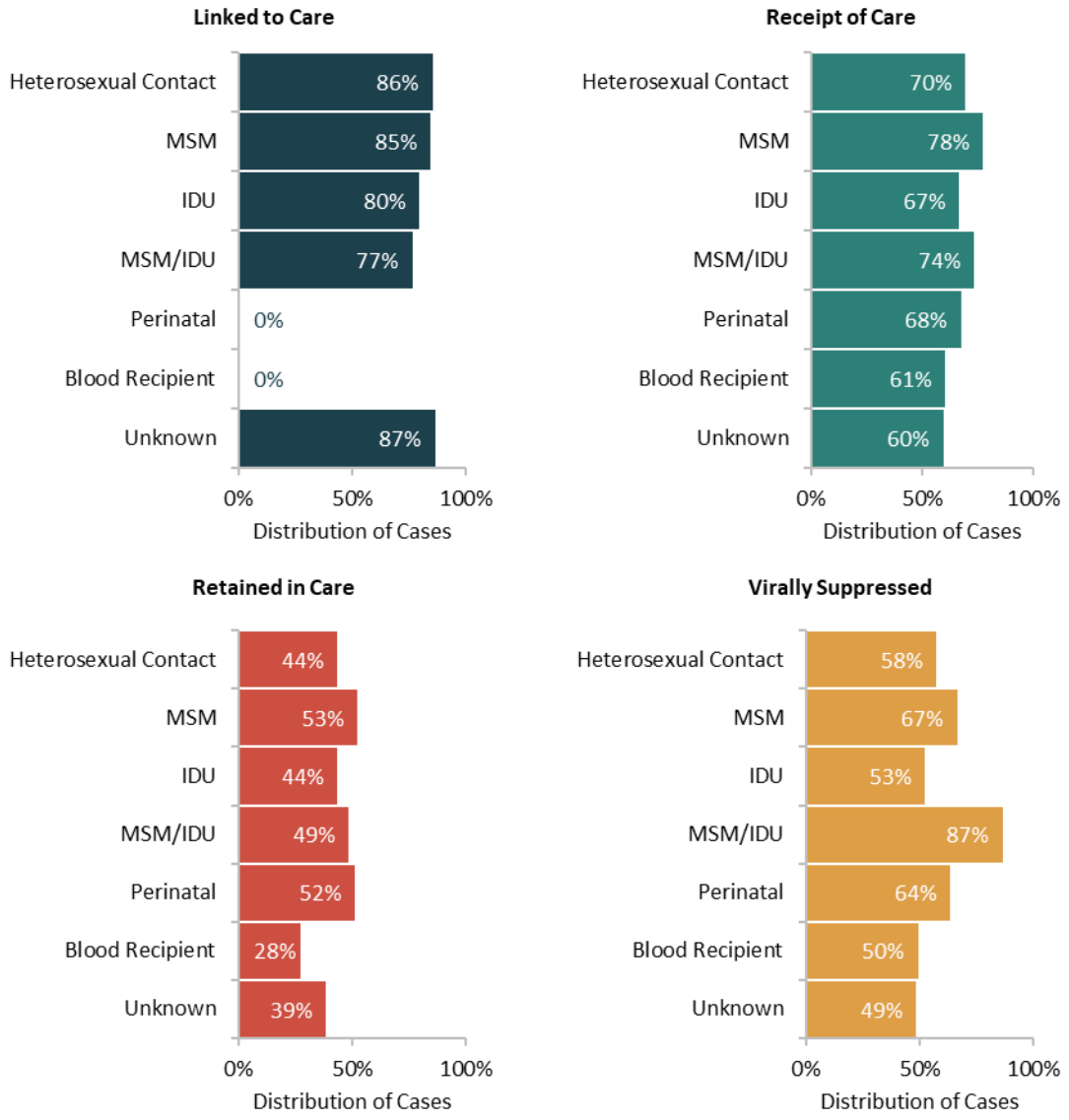
Unknown (which includes heterosexual contact with someone of either unknown HIV status or HIV negative, and unknown risk for HIV) had the highest distribution of newly diagnosed persons linked to care with 87%, while MSM/IDU had the lowest (77%) (Figure 32).

Male-to-Male Sexual Contact had the highest distribution of cases who received care (78%), followed by MSM/IDU (74%) and Heterosexual contact (70%). Injection drug use (IDU) and Perinatal transmission had similar distributions of those receiving care, 67% and 68%. respectively. Blood recipients (62%) and those with Unknown (60%) risk had the lowest distributions of those receiving care (Figure 32).

Those with the highest retention in care had reported risk factors of MSM (53%), Perinatal (52%), and MSM/IDU (49%) (Figure 32).

Male-to-Male Sexual Contact (67%) had the highest distribution of those virally suppressed, followed by Perinatal (64%). Blood recipients (50%) and Unknown (49%) transmission contained the lowest distribution of those virally suppressed (Figure 32).

Figure 32. Diagnosis-Based HIV Care Continuum by Mode of Transmission, Oklahoma, 2022



*Linked to care measures the percentage of people newly diagnosed with HIV; therefore, it is calculated

Social Drivers of Health

Overview

The Oklahoma HIV surveillance data were analyzed to highlight differences in HIV burden and the trends of that burden for sex assigned at birth, race/ethnicity, and transmission category. However, Social Drivers of Health (SDOH) contributes to these disparities, and it's important to understand how SDOH affect the health of the Oklahoma population.

In Oklahoma, HIV infection was diagnosed for 347 adults (aged 18 years and older) whose residential address information was sufficient for geocoding to the census tract (or tract) level (Table 6). These diagnoses represent approximately 87.8% of all diagnoses of HIV infection in 2022 among adults in these areas. The overall rate of diagnoses of HIV infection was 11.5.

Table 6. Diagnoses of HIV among Adults (>18) and Selected Social Determinants of Health, Oklahoma 2022

	Number	Population	Rate per 100,000
Below Federal Poverty Level (%)			
< 6	33	560,399	5.9
6-<10	44	605,121	7.3
10-<17	103	981,589	10.5
17+	167	872,944	19.1
Less than high school diploma (%)			
<5	41	497,039	8.2
5-<9	67	755,957	8.9
9-<16	111	1,130,204	9.8
16+	128	636,853	20.1
Median household income (U.S. $)			
<49,000	167	815,554	20.5
49,000-<66,000	106	978,921	10.8
66,000-<90,000	46	727,039	6.3
90,000+	28	498,539	5.6
Without health insurance (%)			
<4	15	164,791	9.1
4-<8	23	357,657	6.4
8-<14	58	857,593	6.8
14+	251	1,640,012	15.3
Income Inequality (Gini index) (%)			
<37	77	652,145	11.8
37-<41	83	732,301	11.3
41-<46	103	950,514	10.8
46+	84	685,093	12.3
Total	347	3,020,053	11,5

Notes: 2018-2022 American Community Survey 5-year estimates. Row entries indicate categories based on census tracts; data reflect the census tract of the person's residential address at the time they received an HIV diagnosis.

In 2022, in Oklahoma, the highest HIV diagnosis rates were among those living in census tracts with the highest poverty (≥17% of residents below the federal poverty line), lowest education (≥16% of residents had less than a high school diploma), lowest income (median household income under $49,000), and lowest insurance coverage (≥14% of residents lacked health insurance).

New HIV Cases with Prior Sexually Transmitted Infections

Table 7. Oklahoma New HIV Diagnoses with a History of STIs from 2018-2022 by Demographics, 2022 (N=82)

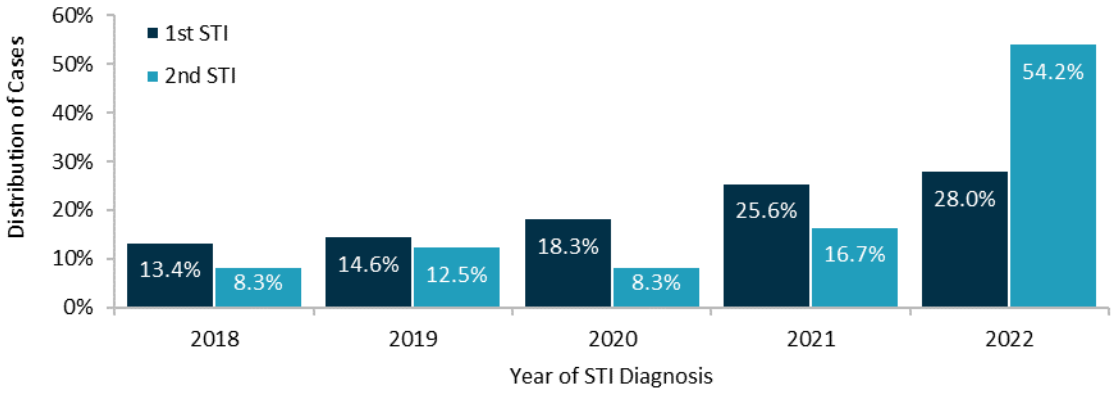
Cases	History of STIs (2018-2022)	
	Number	(%)
Total with a History of STIs	82	--
Type of Prior STI	**Number**	**(%)**
Chlamydia Only	17	20.7%
Gonorrhea Only	20	24.4%
Syphilis Only	21	25.6%
Multiple (chlamydia, gonorrhea, and/or syphilis)	24	29.3%
Sex at Birth	**Number**	**(%)**
Female	27	32.8%
Male	55	67.1%
Age (in years)	**Number**	**(%)**
15 – 24	18	22.0%
25 – 34	36	43.9%
35 – 44	18	22.0%
45 – 54	7	8.5%
55 – 64	*	*
65+	*	*
Race/Ethnicity	**Number**	**(%)**
Non-Hispanic American Indian/Alaska Native	*	*
Non-Hispanic Asian/Pacific Islander	*	*
Non-Hispanic Black	29	35.4%
Hispanic (All Races)	13	15.9%
Non-Hispanic White	29	35.4%
Non-Hispanic Multiple Races	8	9.8%
Transmission Category[1]	**Number**	**(%)**
Male-to-Male Sexual Contact (MSM)[2]	33	20.0%
Injection Drug Use (IDU)[2]	10	6.1%
Heterosexual Contact, Known Risk[3]	8	4.8%
MSM/IDU[4]	6	3.6%
Unknown	25	15.2%
Metropolitan Statistical Area (MSA)	**Number**	**(%)**
Fort Smith MSA	*	*
Lawton MSA	*	*
OKC MSA	45	27.3%
Tulsa MSA	23	13.9%
Non-MSA	9	5.5%

Note: *Cell counts and calculations may have been suppressed due to small cell size (less than 5). percentages may not add up to 100% due to rounding; [1]each person is assigned one mode of exposure based on the CDC's hierarchy of risk, with the exception of those reporting both MSM and IDU; [2]does not include men who reported both MSM and IDU; [3]heterosexual contact with a person known to have or to be at high risk for HIV; [4]infections attributed to MSM and IDU (i.e., men who reported both risk factors)

Overview

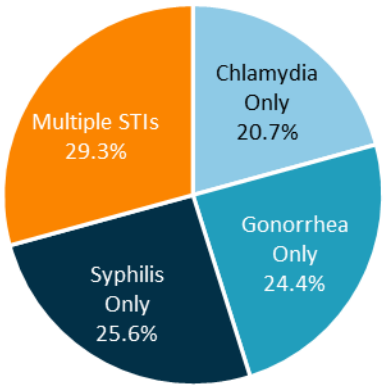
Of the 395 new HIV diagnoses in Oklahoma in 2022, 82 (20.8%) were diagnosed with STIs in the five years prior to their HIV diagnosis. These STIs included chlamydia, gonorrhea, and syphilis. Over one quarter (n=23, 28.0%) of new HIV diagnoses with a history of STIs had their first STI diagnosed in 2022, while over half (n=13, 54.2%) of new HIV diagnoses with multiple STIs had a second STI diagnosed in 2022 (Figure 33).

Figure 33. Newly Diagnosed HIV/AIDS with Prior STI History, by Year of STI Diagnosis and Order of Diagnosis, Oklahoma, 2022



Among the 82 persons with a history of STIs, 58 (70.7%) were infected with one STI and 14 (29.3%) were infected with multiple STIs. Of the 58 persons infected with only one STI, 17 (29.3%) were infected with only chlamydia, 20 (34.5%) were infected with only gonorrhea, and 21 (36.2%) were infected with only syphilis (Figure 34).

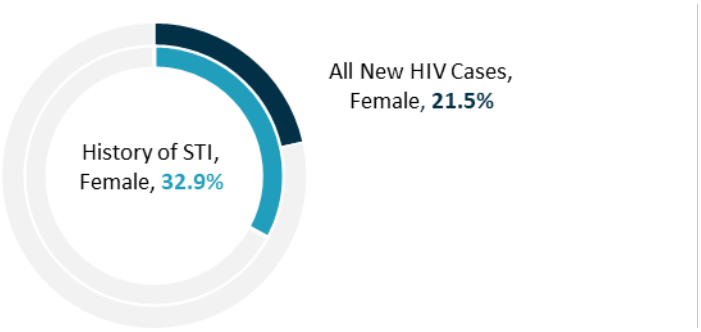
Figure 34. Newly Diagnosed HIV/AIDS with Prior STI Diagnosis, by Year of STI Diagnosis and Order of Diagnosis, Oklahoma, 2022



By Sex at Birth

Males accounted for 55 (67.1%) new HIV diagnoses with a history of an STI, and females accounted for 27 (32.9%). The distribution of females among new HIV diagnoses with a history of an STI (n=27, 32.9%) was slightly higher compared to all new HIV diagnoses (n=85, 21.5%) (Figure 35).

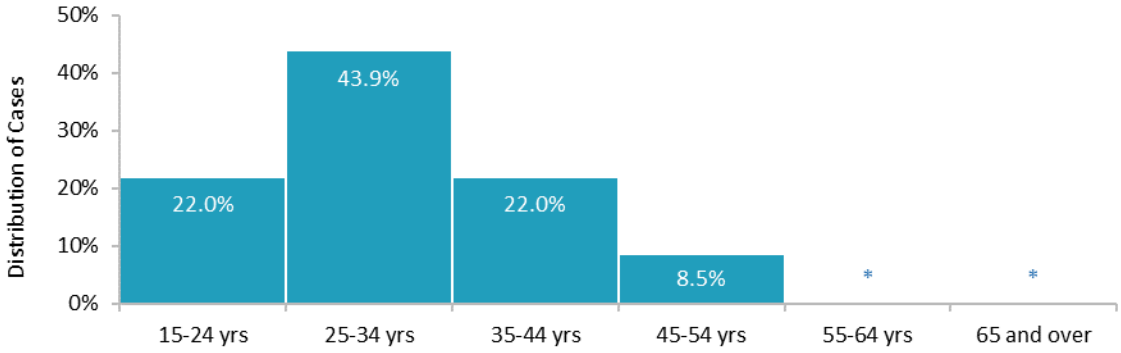
Figure 35. Newly Diagnosed HIV/AIDS among Female, by Prior STI Diagnosis, Oklahoma, 2022



By Age at Diagnosis

Most new HIV diagnoses with a history of an STI were among persons aged 25 to 34 (n=36, 43.9%). An equivalent number of persons with a history of an STI were aged 15-24 and 35-44 (n=18, 22.0%), while only 10 (12.2%) persons were aged 45 and older (Figure 36).

Figure 36. Newly Diagnosed HIV/AIDS, by Prior STI Diagnosis and Age of Diagnosis, Oklahoma, 2022

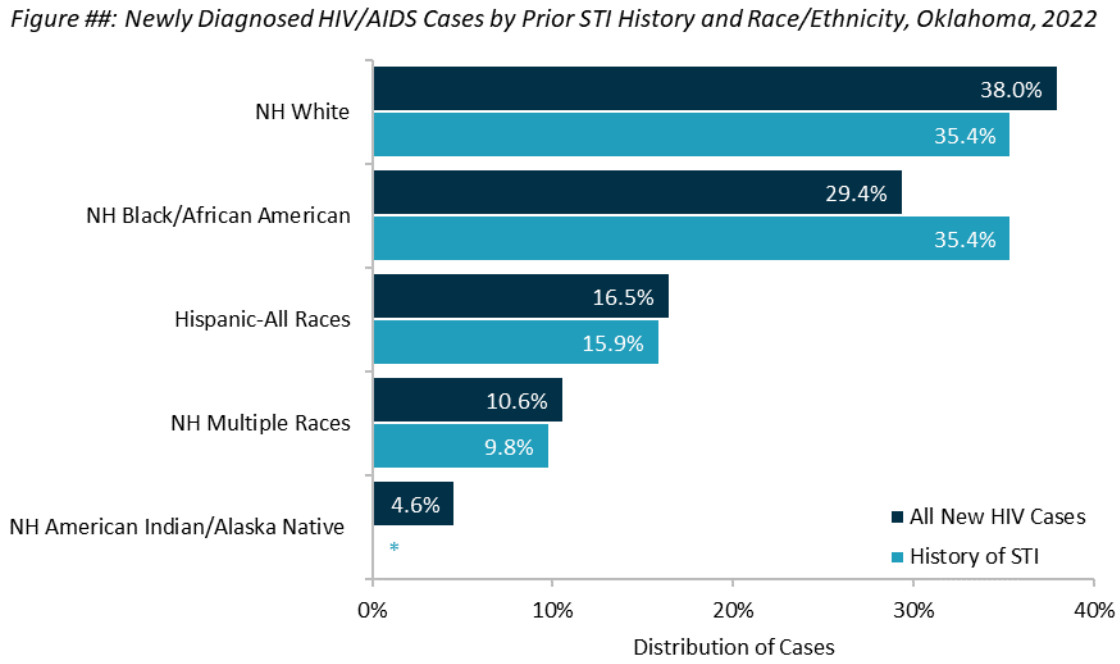


**Suppressed, <5 count*

By Race/Ethnicity

Among all new HIV diagnoses, NH White persons (n=150, 38.0%) had the highest distribution, followed by NH Black persons (n=116, 29.4%). However, the number of new HIV diagnoses with a history of STIs was equal among NH Black and NH White persons (n=29, 35.4%). Non-Hispanic Black persons had a higher distribution of new HIV diagnoses with a history of STIs compared to the overall distribution of new HIV diagnoses in this group. This trend was not observed in any other racial/ethnic population (Figure 37).

Figure 37. Newly Diagnosed HIV/AIDS, by Prior STI Diagnosis and Race/Ethnicity, Oklahoma, 2022

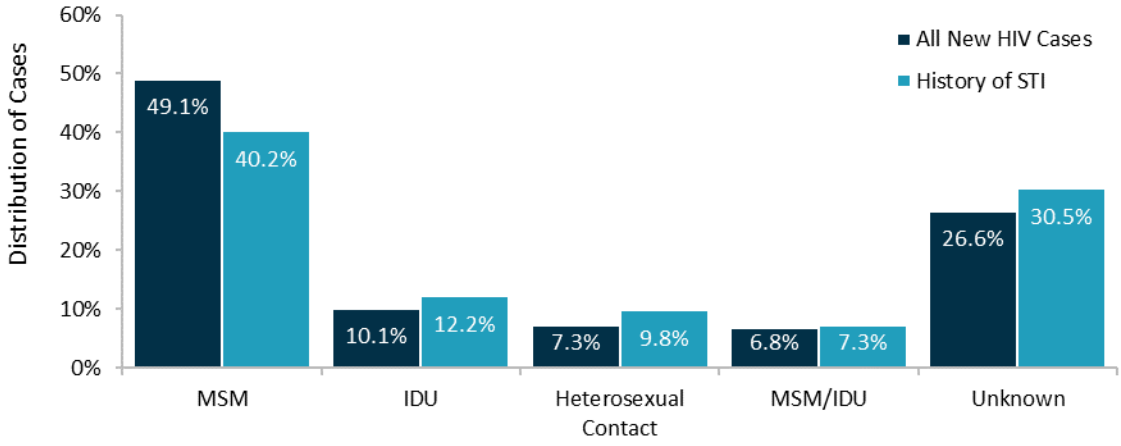


Suppressed, <5 count

By Mode of Transmission

Among the 82 new HIV diagnoses with a history of an STI, 33 (40.2%) reported a risk of MSM, while 10 (12.2%) reported IDU. Heterosexual contact only accounted for 8 (9.8%). While the proportion of persons with an MSM mode of transmission was lower among those with a history of STIs compared to all new HIV diagnoses (n=194, 49.1%), it was higher among those with a history of STIs involving IDU, heterosexual contact, or MSM/IDU contact (Figure 38).

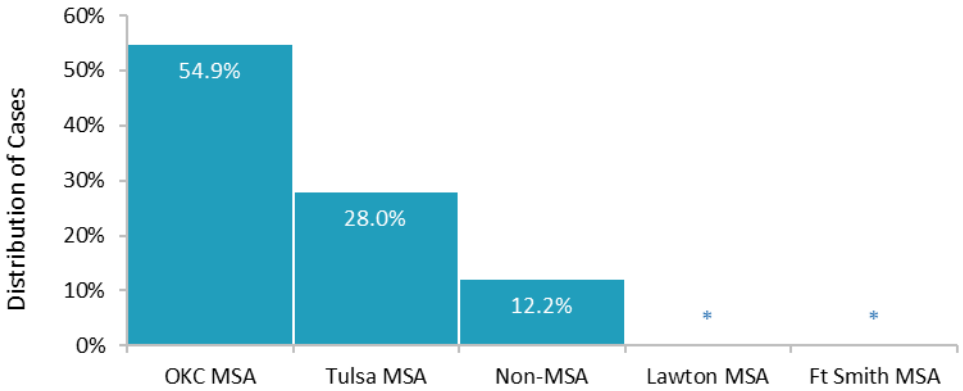
Figure 38. Newly Diagnosed HIV/AIDS, by Prior STI Diagnosis, and Mode of Transmission, Oklahoma, 2022



By Geography

The Oklahoma City metropolitan statistical area (MSA) accounted for over half (n=45, 54.9%) of the new HIV diagnoses with a history of an STI. In 2022, only nine (12.2%) persons were diagnosed in counties that were not part of an MSA(Figure 39).

Figure 39. Newly Diagnosed HIV/AIDS with Prior STI Diagnosis, by Metropolitan Statistical Area, Oklahoma, 2022



**Suppressed, <5 count*

Syphilis and HIV/AIDS Co-infections

Table 8. Oklahoma HIV/AIDS and Syphilis Co-infection Summary Statistics: Newly Diagnosed Syphilis in Oklahoma, 2022 (N=351)

Cases	All Syphilis Co-infections	
	Number	**(%)**
Total	351	--
Syphilis Stage	**Number**	**(%)**
Primary	40	11.4%
Secondary	93	26.5%
Early Non-Primary Non-Secondary (EnPnS)	83	23.6%
Unknown/Late Duration	135	38.5%
Time Between Diagnoses		
HIV/AIDS Diagnosed Prior to Syphilis Infection	274	78.1%
Simultaneous Diagnoses[1]	86	24.5%
HIV/AIDS Diagnosed After Syphilis Infection	23	6.6%
Sex at Birth	**Number**	**(%)**
Female	27	7.7%
Male	324	92.3%
Age (in years)	**Number**	**(%)**
15 – 24	33	9.4%
25 – 34	119	33.9%
35 – 44	97	27.6%
45 – 54	64	18.2%
55 – 64	37	10.5%
Race/Ethnicity	**Number**	**(%)**
Non-Hispanic American Indian/Alaska Native	*	*
Non-Hispanic Asian/Pacific Islander	*	*
Non-Hispanic Black	121	34.5%
Hispanic (All Races)	54	15.4%
Non-Hispanic White	124	35.3%
Non-Hispanic Multiple Races	34	9.7%
Transmission Category[2]	**Number**	**(%)**
Male-to-Male Sexual Contact (MSM)[3]	252	71.8%
Injection Drug Use (IDU)[3]	25	7.1%
Heterosexual Contact, Known Risk[4]	14	4.0%
MSM/IDU[5]	34	9.7%
Unknown	26	7.4%

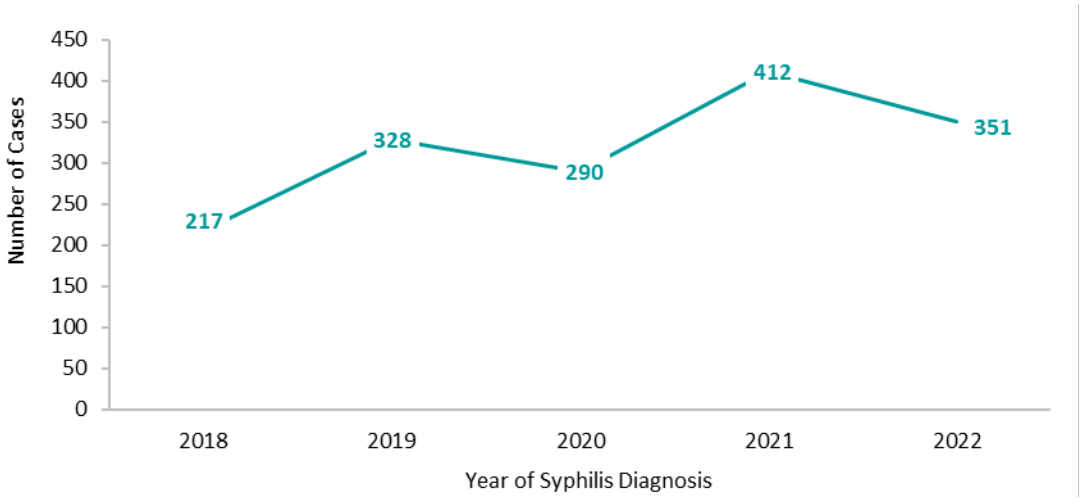
Note: *Cell counts and calculations may have been suppressed due to small cell size (less than 5). percentages may not add up to 100% due to rounding; Early Non-Primary Non-Secondary; [1]cases where both infections were diagnosed the same day as well as cases where HIV/AIDS was diagnosed < 7 months prior to syphilis infection, includes some cases classified as 'Diagnosed Prior'; [2]each person is

assigned one mode of exposure based on the CDC's hierarchy of risk, with the exception of those reporting both MSM and IDU; [3]does not include men who reported both MSM and IDU; [4]heterosexual contact with a person known to have or to be at high risk for HIV; [5]infections attributed to MSM and IDU (i.e., men who reported both risk factors)

Overview

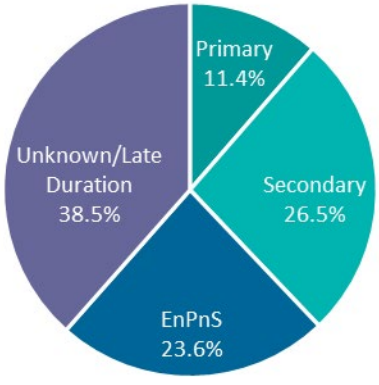
Oklahoma had 351 persons infected with syphilis in 2022 who were also infected with HIV/AIDS, a 62% increase compared to 2018 (Figure 40). Most of these co-infected persons resided in Oklahoma County (n=176, 50.0%) and Tulsa County (n=75, 21.3%)

Figure 40. HIV/AIDS and Syphilis Co-Infections, by Year of Syphilis Diagnosis, Oklahoma, 2022



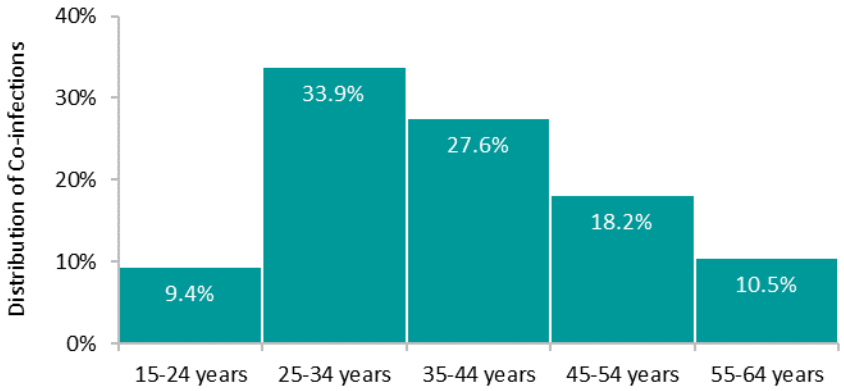
Of the 351 HIV/AIDS and syphilis co-infection diagnoses, 40 (11.4%) were primary infections, 93 (26.5%) were secondary infections, 83 (23.5%) were early non-primary non-secondary (EnPnS) infections, and the remaining 135 (38.5%) were classified as either unknown duration or late syphilis (Figure 41).

Figure 41. HIV/AIDS and Syphilis Co-Infections, by Syphilis Diagnosis, Oklahoma, 2022



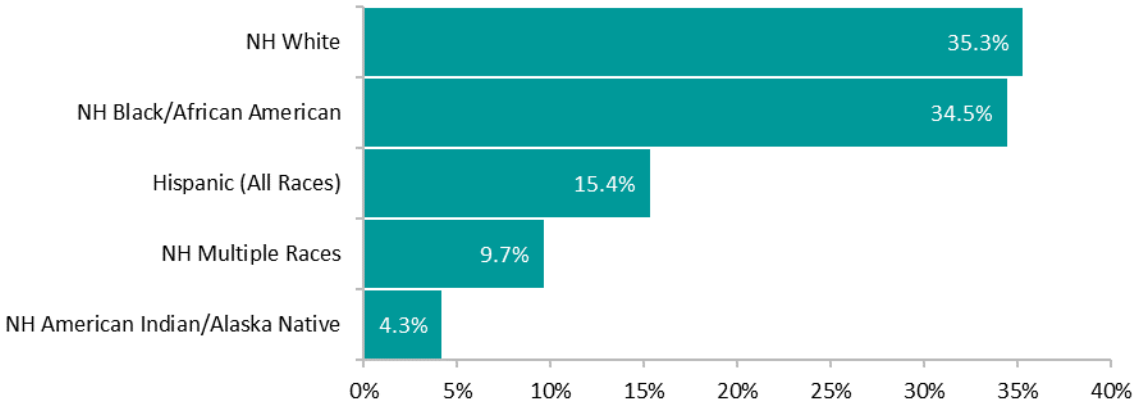
Nine in 10 (n=324, 92.3%) of the 351 co-infections were among males. Persons aged 25-34 had the highest number of co-infections with 119 (33.9%), while persons aged 15-24 had the lowest, with 33 (9.4%) (Figure 42).

Figure 42. HIV/AIDS and Syphilis Co-Infections, by Age Group, Oklahoma, 2022



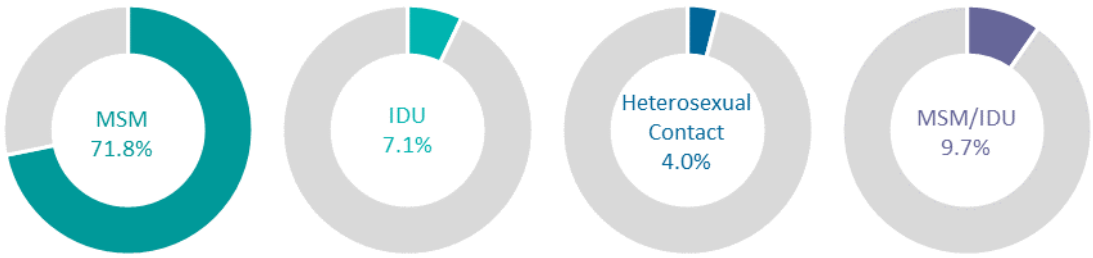
Non-Hispanic White persons accounted for most co-infections (n=124, 35.3%), followed closely by NH Black persons (n=121, 34.5%). There were 54 (15.4%) Hispanic persons, 15 (4.3%) NH AI/AN, persons, and 34 (9.7%) NH Multiple race persons with HIV/AIDS and syphilis coinfections (Figure 43).

Figure 43. HIV/AIDS and Syphilis Co-Infections, by Race/Ethnicity, Oklahoma, 2022



Nearly three-quarters (n=252, 71.8%) of persons with HIV/AIDS and syphilis coinfections reported MSM mode of transmission. Only 25 (7.1%) reported IDU, and 14 (4.0%) had heterosexual contact (Figure 44).

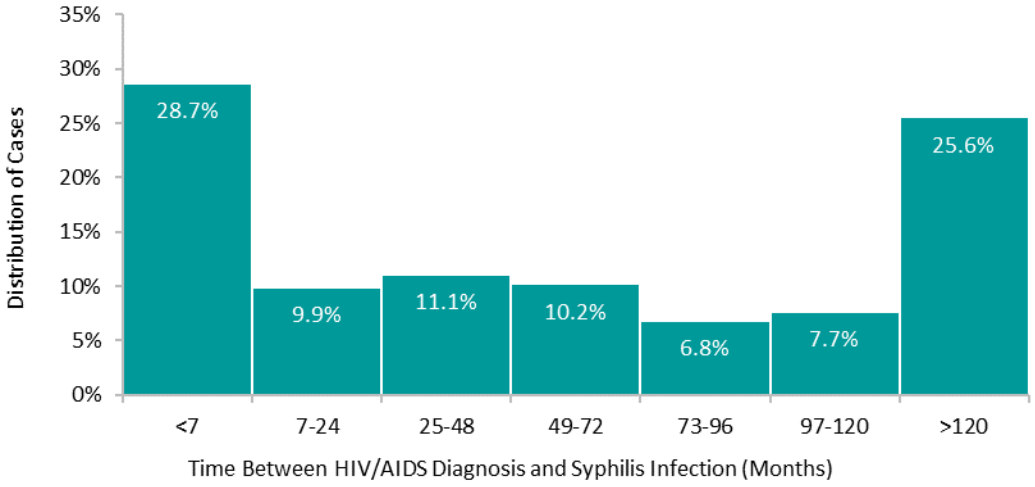
Figure 44. HIV/AIDS and Syphilis Co-Infections, by Mode of Transmission, Oklahoma, 2022



Time Between Diagnoses

Over half (54.3%) of persons with HIV/AIDS and syphilis coinfections were diagnosed in the lower (<7 months) or higher end (<120 months) of the spectrum in terms of months between diagnosis, before and after syphilis infection (Figure 45).

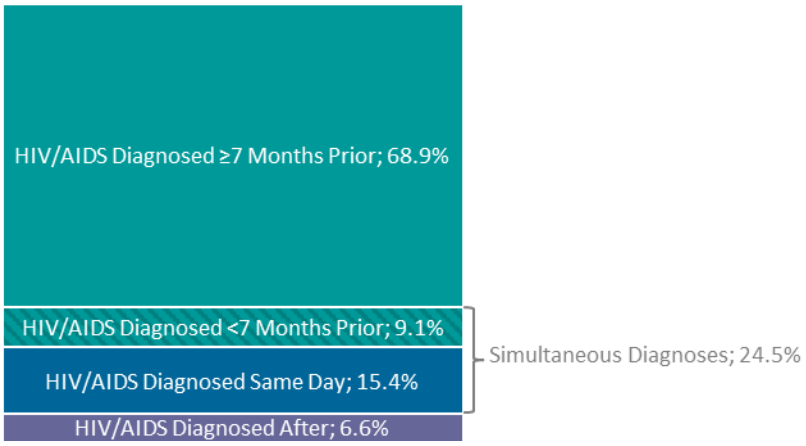
Figure 45. Time between HIV/AIDS and Syphilis Co-Infections, by Month, Oklahoma, 2022



Among co-infected persons, 274 (78.1%) were diagnosed with HIV/AIDS prior to their syphilis infection, 242 (88.3%) were at or greater than seven months prior, while 32 (11.7%) persons were less than seven months prior to their syphilis infection. Only 23 (6.6%) were diagnosed after their syphilis infection, and 54 (15.4%) were diagnosed with HIV/AIDS and syphilis on the same day.

Simultaneous diagnoses include all persons where both infections were diagnosed the same day, as well as persons where HIV/AIDS was diagnosed less than seven months prior to syphilis infection. Of all co-infections, 86 (24.5%) had a simultaneous diagnosis of HIV/AIDS and syphilis (Figure 46).

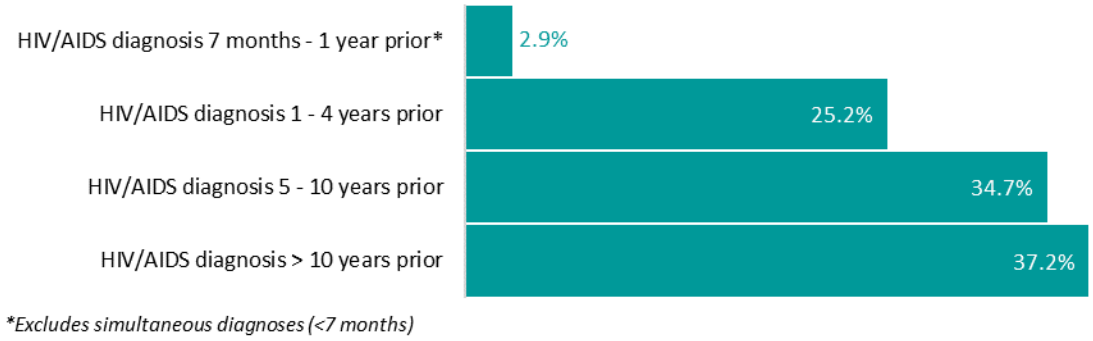
Figure 46. Time between HIV/AIDS and Syphilis Co-Infections, by HIV Diagnosis, Oklahoma, 2022



Among all persons diagnosed with HIV/AIDS prior to their syphilis infection, a majority had a gap of one to 10 years between the two diagnoses. Specifically, 84 (34.7%) had an HIV/AIDS diagnosis five to 10 years prior to

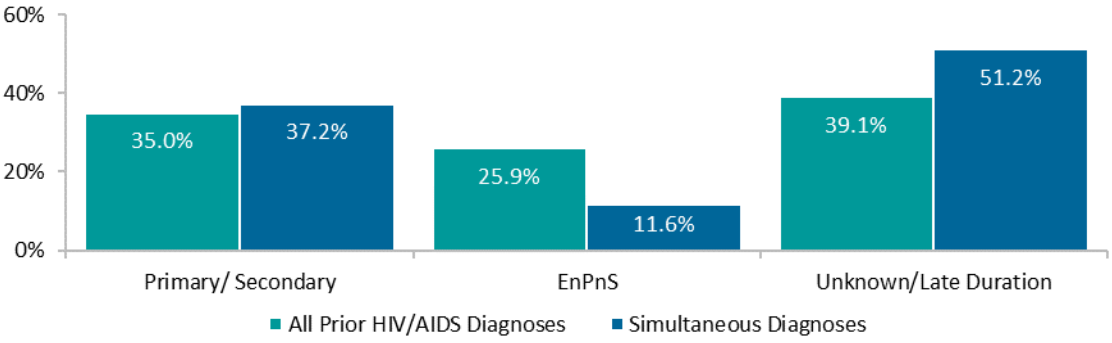
syphilis infection, and 61 (25.2%) had an HIV/AIDS diagnosis within one to four years before syphilis infection (Figure 47).

Figure 47. HIV/AIDS Diagnosis Prior to 2022 Syphilis Infections, by HIV Diagnosis, Oklahoma



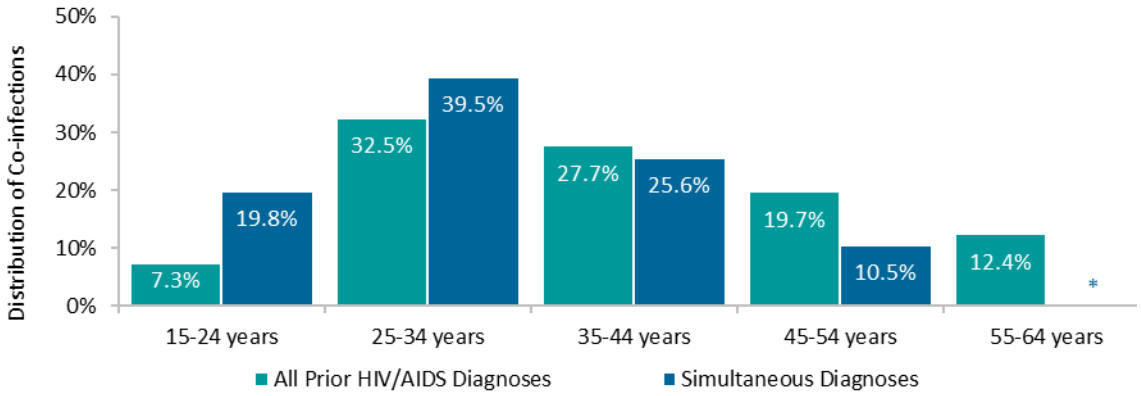
Approximately one quarter (n=71, 25.9%) of all prior HIV/AIDS diagnoses were classified as early non-primary non-secondary (EnPnS) infections. However, only 10 (11.6%) persons were classified as simultaneous diagnoses. A similar distribution of Primary/Secondary syphilis infections was observed for all persons of prior HIV/AIDs diagnoses (n=96, 35.0%) and simultaneous diagnoses (n=32, 37.2%) (Figure 48).

Figure 48. HIV/AIDS and Syphilis Co-Infections, by Time between Diagnosis and Syphilis Stage, Oklahoma, 2022



For all HIV/AIDS diagnoses with a simultaneous syphilis infection, a higher distribution was observed in persons aged 15-24 (n=17, 19.8%) compared to prior to syphilis infection (n=20, 7.3%). Among both simultaneous and HIV/AIDS prior to syphilis infection, persons aged 25-34 had the highest distribution (Figure 49).

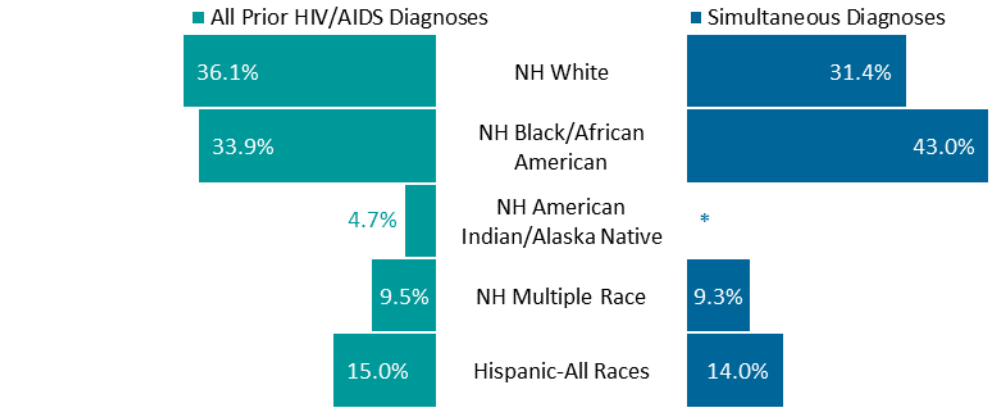
Figure 49. HIV/AIDS and Syphilis Co-Infections, by Time between Diagnoses and Age Group, Oklahoma, 2022



**Suppressed, <5 count*

Non-Hispanic White (n=99, 36.1%) and NH Black persons (n=93, 33.9%) accounted for most diagnoses with HIV/AIDS prior to syphilis. A greater distribution of NH Black persons was observed among simultaneous diagnoses (n=37, 43.0%) compared to all prior HIV/AIDS diagnoses (Figure 50).

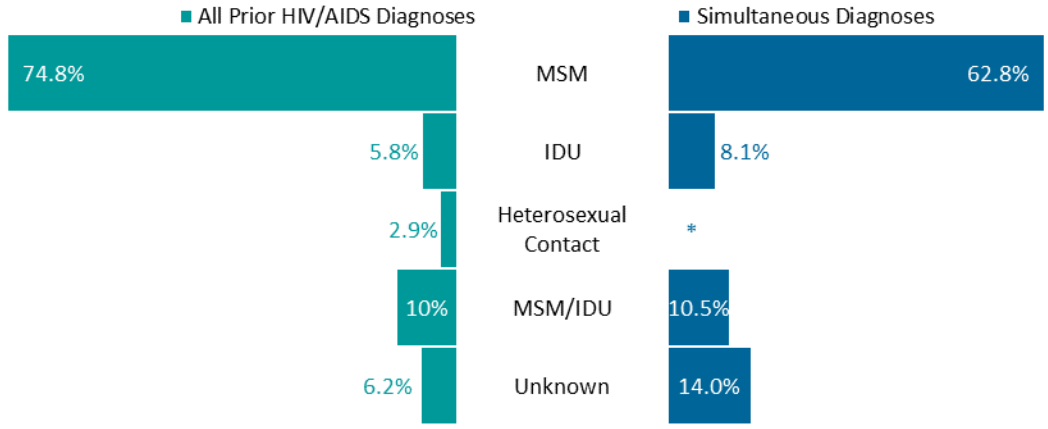
Figure 50. HIV/AIDS and Syphilis Co-Infections, by Time between Diagnoses and Race/Ethnicity, Oklahoma, 2022



**Suppressed, <5 count*

Nearly three-quarters (n=205, 74.8%) of persons with a diagnosis prior to syphilis infection reported MSM as the mode of transmission, while 54 (62.8%) persons with a simultaneous HIV/AIDS and syphilis infection reported the same mode of transmission (Figure 51).

Figure 51. HIV/AIDS and Syphilis Co-Infections, by Time between Diagnoses and Mode of Transmission, Oklahoma, 2022



**Suppressed, <5 count*

A small proportion (n=23, 6.6%) of persons were diagnosed with HIV/AIDS after syphilis infection. These instances meet the CDC guidelines for PrEP recommendation due to the presence of sexual activity that increases the risk of HIV exposure.[4] A majority (n=14, 60.9%) of persons were HIV/AIDS diagnosed less than seven months after syphilis infection, over half (n=13, 56.5%) classified as Primary/Secondary syphilis, 9 (39.1%) were NH White.

[4]US Public Health Service. Centers for Disease Control and Prevention: US Public Health Service: Preexposure prophylaxis for the prevention of HIV infection in the United States—2017 Update: a clinical practice guideline. 2018.

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