

HIV in Wisconsin

Wisconsin HIV Surveillance Annual Report, 2023

Diagnosis trends, new diagnoses, and prevalence through December 31, 2023



Table of Contents

Summary	1
HIV Diagnosis Trends	
Number and Rate of New Diagnoses	2
Demographics	3
Native American and Asian People	5
People of Trans Experience	6
Transmission Category	7
Late Diagnosis	9
New Diagnoses, 2023	
Number of New HIV Diagnoses	10
Demographics	11
Transmission Category	12
Facility at Diagnosis	14
Linkage to Care	15
Prevalence	
Number of People Living with HIV	16
Deaths	18
Migration	19
Demographics	20
Retention in Care	21
Technical Notes	22
Appendix	28

Summary

This report describes HIV diagnosis trends, people newly diagnosed with HIV during 2023, and the population living with HIV in Wisconsin as of December 31, 2023. The HIV surveillance case definition for a new diagnosis in Wisconsin was updated in 2023 (see Technical Notes). This case definition change is applied to HIV cases reported in Wisconsin from January 1, 2023, and onward.

HIV surveillance data provide important information for planning HIV prevention and care services. Prevention services focus primarily on new diagnosis trends and the geographic and demographic distribution of new cases. Care and treatment services consider the total population of people living with HIV in the state (prevalent cases), regardless of when or where they were first diagnosed.

HIV Diagnosis Trends

Over the past 10 years, the number and rate of new HIV diagnoses has varied. Wisconsin has a relatively low diagnosis rate compared to neighboring states. During 2014–2023:

- Young cisgender men and people of color were disproportionately affected by HIV.
- Male–male sexual contact was the most commonly reported factor for HIV exposure.

New Diagnoses, 2023

During 2023 in Wisconsin, 256 people were newly diagnosed with HIV.

- Over half of new cases were diagnosed in Milwaukee or Dane counties.
- A disproportionate number of new HIV diagnoses were young cisgender men of color.
- Male–male sexual contact was the most commonly reported transmission mode for HIV.
- Approximately 94% of cases were linked to care services within three months of diagnosis.

Prevalence

A total of 7,346 people known to be living with HIV resided in Wisconsin at the end of 2023. An estimated 1,094 additional people may be living with HIV in Wisconsin but are not currently aware of their diagnosis. The estimated HIV prevalence was 8,424 people when those who were not aware of their diagnosis were included.

- More people living with HIV moved out of Wisconsin (448) compared to people moving into the state (281).
- Over half of people living with HIV in Wisconsin reside in Milwaukee or Dane counties.
- Prevalent cases tend to be older than new diagnoses.
- During 2023, 81% of people living with HIV were virally suppressed (having less than 200 copies of HIV per milliliter of blood).
- During 2022, 131 people living with HIV died, primarily from causes other than HIV.

HIV Diagnosis Trends

Number and Rate of New Diagnoses

Number of New Diagnoses

Since 1979, 11,472 Wisconsin residents were diagnosed with HIV. HIV diagnoses rose rapidly during the 1980s, peaking during 1990 at 587 new diagnoses, and then declining steeply until the early 2000s (Figure 1).

During 2014–2023, the number of diagnoses ranged from a low of 211 (2018) to a high of 291 (2022), with an average of 238 new HIV diagnoses per year.

FIGURE 1

Over the past 10 years, the number of new HIV diagnoses reported each year in Wisconsin has remained stable.

Number of new HIV diagnoses, Wisconsin 1979–2023

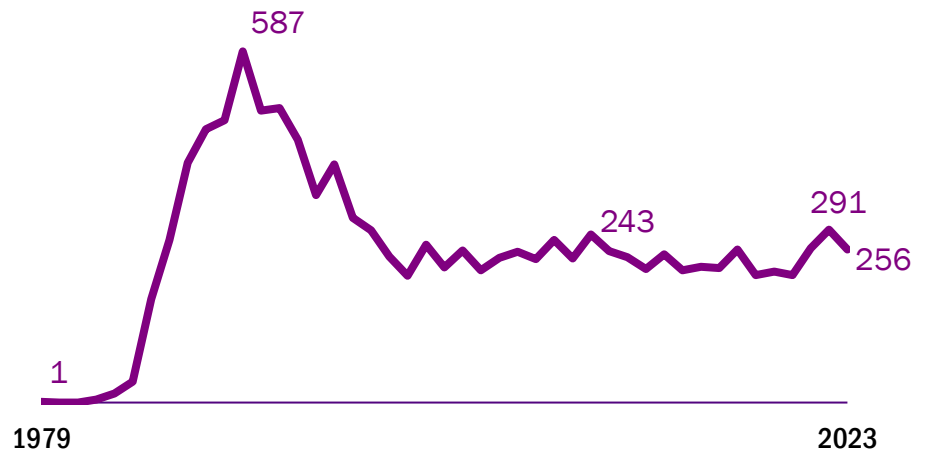
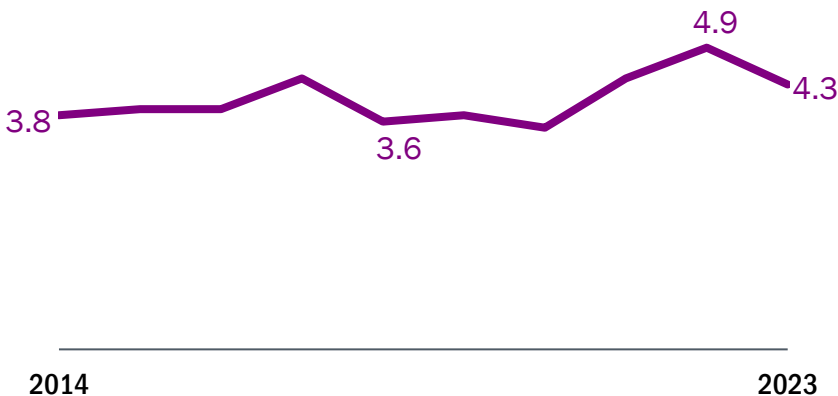


FIGURE 2

The HIV diagnosis rate in Wisconsin has varied over the past 10 years.

Rate of new HIV diagnoses per 100,000 people, Wisconsin 2014–2023



New Diagnosis Rate

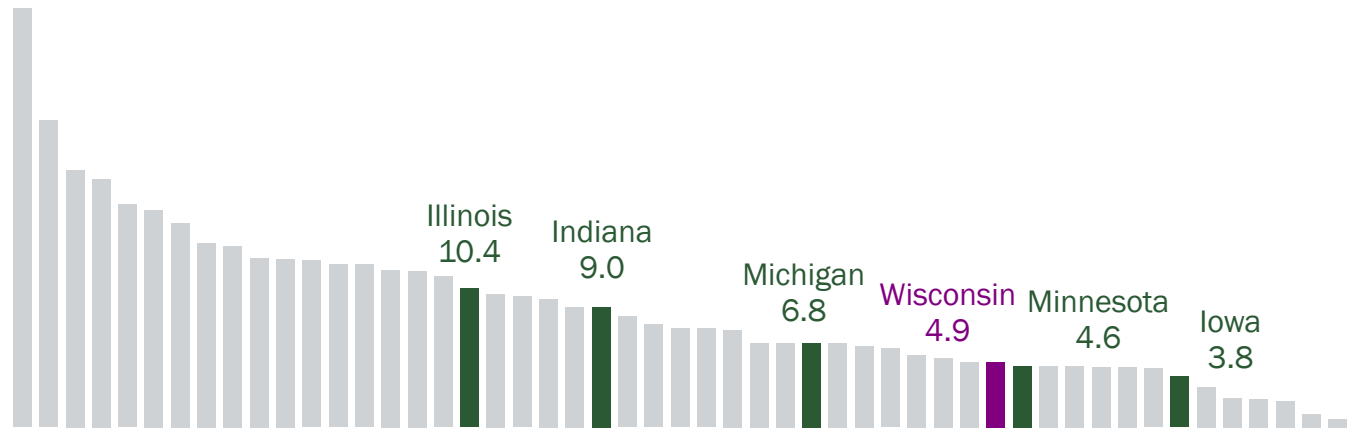
During 2014, 3.8 new HIV cases were diagnosed per 100,000 Wisconsin residents (Figure 2). The new diagnosis rate slightly increased to 4.3 per 100,000 people by 2023.

During 2014–2023, the annual diagnosis rate ranged from a low of 3.6 per 100,000 people (2018, 2020) to a high of 4.9 per 100,000 people (2022), with an average of 4.1 new HIV diagnoses per 100,000 people.

Wisconsin’s HIV diagnosis rate is low by national standards (Figure 3).

FIGURE 3

Wisconsin has a lower HIV diagnosis rate compared to most neighboring states.



*Centers for Disease Control and Prevention. *HIV Surveillance Report*, 2022; vol. 35. <https://stacks.cdc.gov/view/cdc/156509>. Published May 2024. Accessed [August 2024].

Demographics

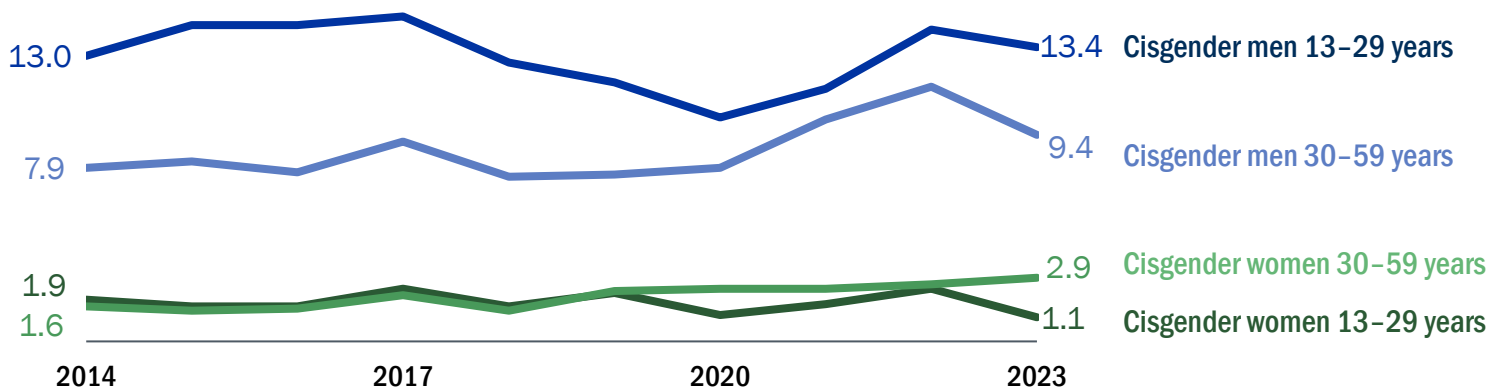
Age and Gender at Diagnosis

During 2014–2023, the HIV diagnosis rate was the highest among younger cisgender men while varying from 13.0 to 13.4 per 100,000 people. The rates for both cisgender men and women fluctuated over the past 10 years (Figure 4).

FIGURE 4

Young cisgender men have the highest HIV diagnosis rate in Wisconsin.

Number of HIV diagnoses per 100,000 people by gender* and age** at diagnosis, Wisconsin, 2014–2023



*People of trans experience are excluded from these rates as population estimates are not available to calculate rates.
 **Diagnosis rates among cisgender men and cisgender women ages 60 and older are unreliable due to small numbers.

Race and Ethnicity

HIV **disproportionately** affects people of color in Wisconsin. People of color includes people who identify as Black, Hispanic, Asian, Native American, Native Hawaiian or Pacific Islander, or Multiracial. The percentage of new HIV diagnoses affecting people of color rose from 20% in 1982 to 67% in 2023 (Figure 5). During 2023, racial and ethnic minorities made up just 18% of Wisconsin's population but accounted for 67% of new HIV diagnoses.

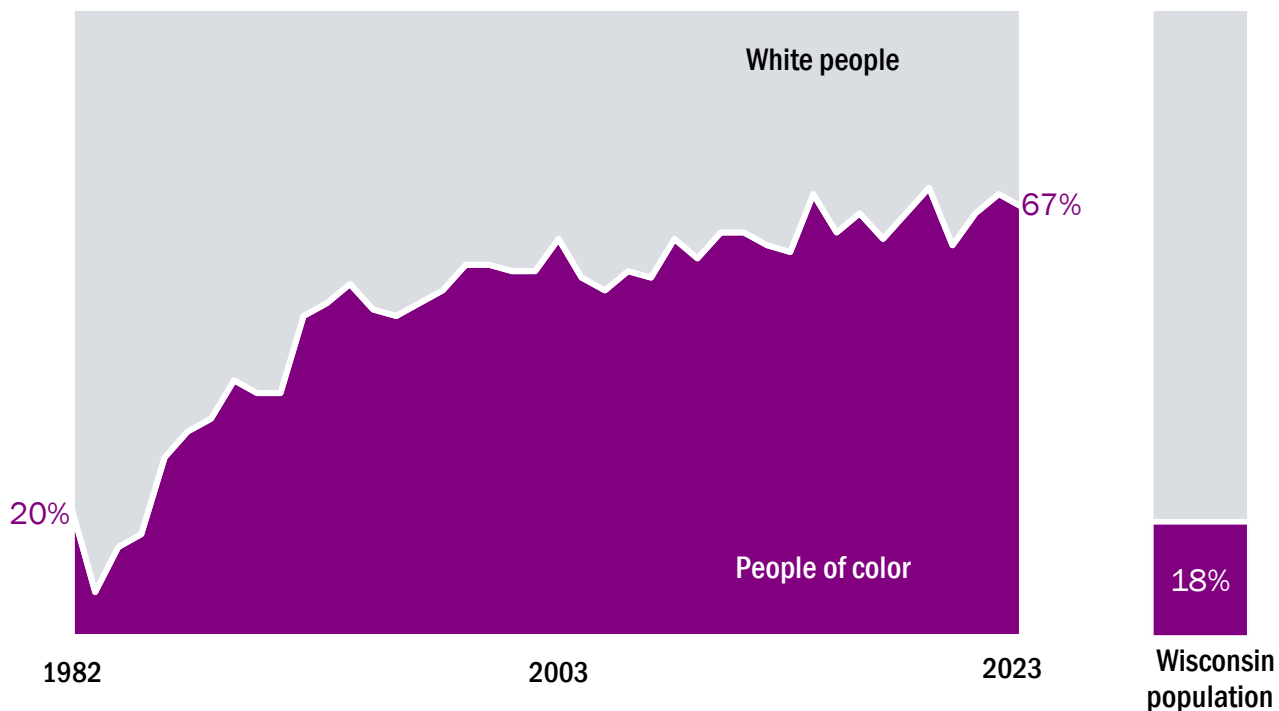
Addressing health disparities and inequities is a priority for public health. Race or ethnicity alone does not make someone more or less likely to acquire HIV. People of color have a greater likelihood of acquiring HIV due to many social and economic factors that affect people of color more than white people, such as:

- Racism
- Poverty
- Limited access to health care
- Lack of education
- Stigma
- Homelessness
- Oppression

FIGURE 5

The percentage of new HIV diagnoses among people of color is disproportionate to Wisconsin's racial and ethnic composition.

Percentage of new HIV diagnoses among white people and people of color, Wisconsin, 1982–2023



This disparity is more pronounced among cisgender men (Figure 6, Appendix-Table A1). During 2014–2023, cisgender women of all racial and ethnic groups have had lower annual HIV diagnosis rates compared to cisgender men.

While highest in comparison to other racial and ethnic groups, HIV diagnosis rates for both Black cisgender men and women fluctuated over the past 10 years.

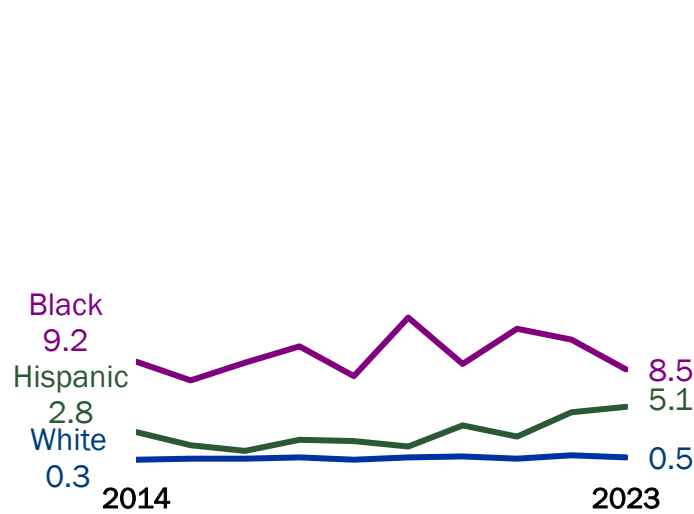
FIGURE 6

HIV Diagnosis Rates

The number of new HIV diagnoses per 100,000 people by gender and race or ethnicity, Wisconsin, 2014–2023

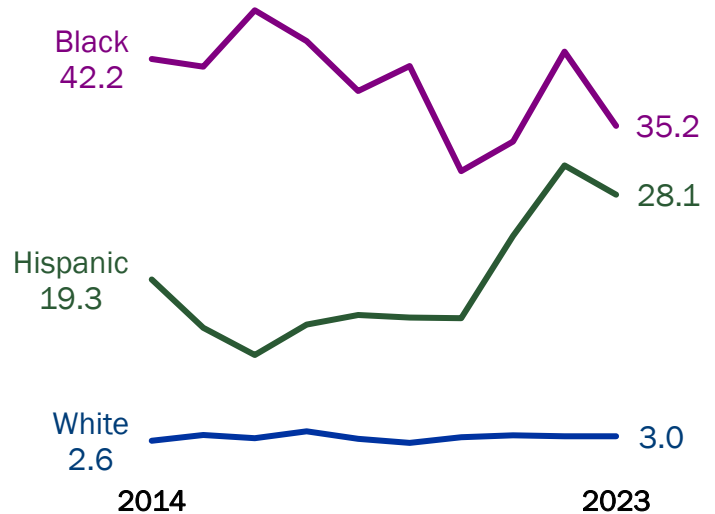
Cisgender women

The number of new HIV diagnoses per 100,000 people has remained stable for **white** women, increased for **Hispanic** women and varied for **Black** women.



Cisgender men

The number of new HIV diagnoses per 100,000 people has remained stable for **white** men, increased for **Hispanic** men and varied for **Black** men.



Native American and Asian People

Due to the small number of Native American and Asian people diagnosed in Wisconsin each year, these populations are not included in many sections of this report. A brief summary is provided below.

Native American People

During 2014–2023, 14 Native American people were diagnosed with HIV in Wisconsin (Figure 7).

- Sixty-seven percent of these diagnoses were cisgender men.
- Forty-two percent were under age 30 at the time of diagnosis.
- All but four were diagnosed in either the southeastern (29%) or northeastern (43%) regions.
- Ten diagnoses were attributed to male–male sexual contact (71%), one was attributed to male–male sexual contact and injection drug use (7%), one was attributed to injection drug use (7%), and two had an unknown transmission category (23%).

The way that race and ethnicity is classified for the purposes of this report, which mirrors the way CDC classifies race and ethnicity (see Technical Notes), may lead to underreporting of certain racial and ethnic groups. When classified in a more inclusive way, the number of new HIV diagnoses among Native American people during 2014–2023 increases from 14 to 63 (Appendix-Table A5).

Asian People

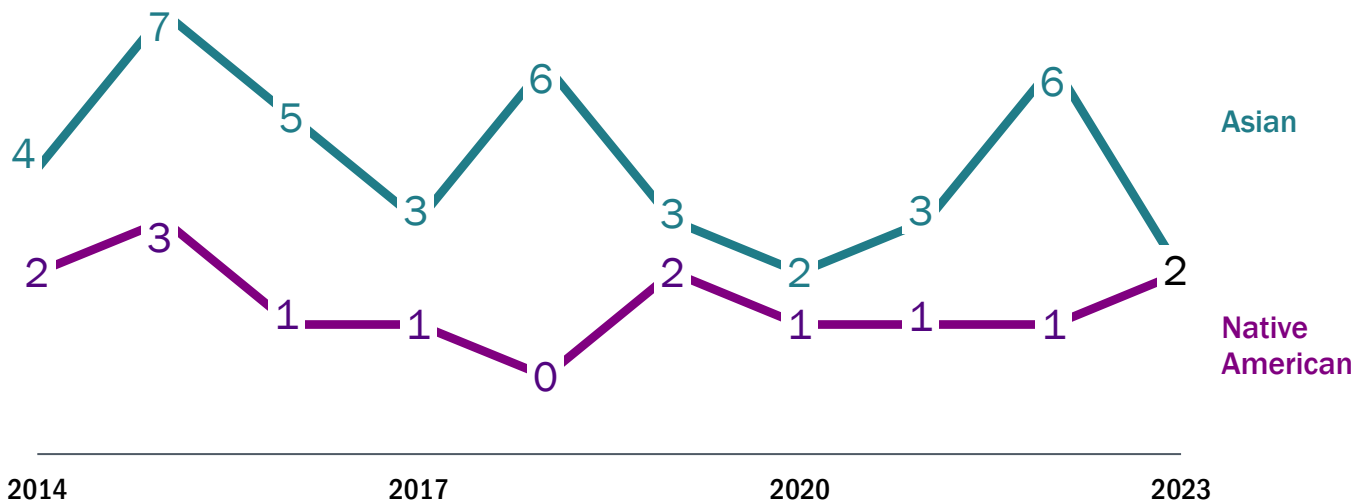
During 2014–2023, 41 Asian people were diagnosed with HIV in Wisconsin (Figure 7).

- Seventy-eight percent of these diagnoses were cisgender men.
- Forty-nine percent were under age 30 at the time of diagnosis.
- The majority were diagnosed in the southeastern (46%), southern (24%), or northeastern (17%) regions.
- Twenty-nine of these diagnoses were attributed to male–male sexual contact (71%), two were attributed to male–female sexual contact (5%), one was attributed to male-male sexual contact and injection drug use (2%), one was attributed to perinatal exposure (2%), and eight had an unknown transmission category (27%).

FIGURE 7

The number of new HIV diagnoses among Native American and Asian people has fluctuated but remained low over the past 10 years.

Number of HIV diagnoses among Native Americans and Asians, Wisconsin 2014–2023



People of Trans Experience

Cisgender people have a gender identity that corresponds with their sex assigned at birth. Conversely, people of trans experience have a gender identity that does not conform to their sex assigned at birth. This includes people who self-identify as transgender women, transgender men, and other gender nonconforming identities.

Gender identity and sexual orientation are separate, distinct concepts, with gender identity referring to a person’s sense of themselves and sexual orientation referring to a person’s attractions and partnering.

People of trans experience face an increased risk for HIV due to stigma, discrimination, social rejection and exclusion, violence, and barriers in health care settings, such as lack of provider training on people of trans experience’s unique needs.¹

Since 1985, 148 people of trans experience have been diagnosed with HIV in Wisconsin (four transgender men and 144 transgender women). While collection of self-reported gender identity has improved over time, the number of diagnoses among people of trans experience in Wisconsin may be underreported.

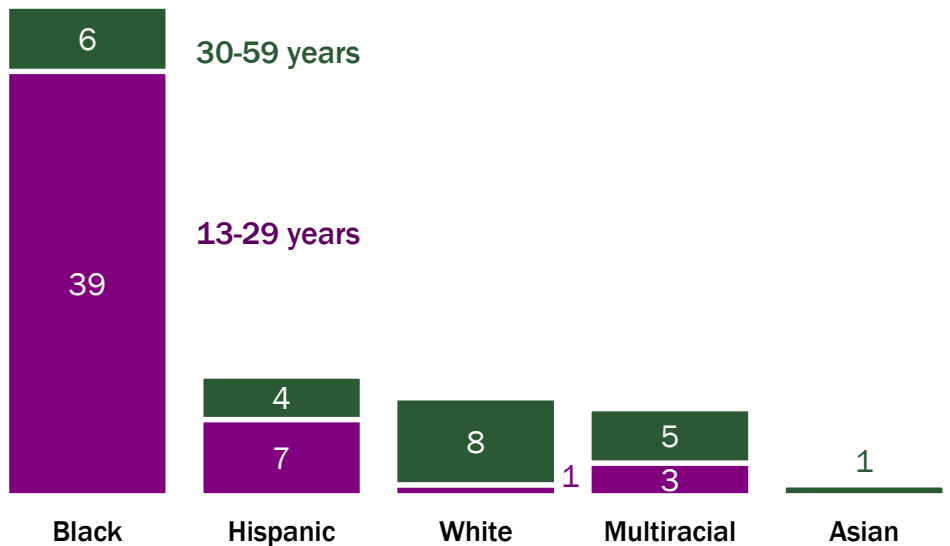
Of the 148 HIV diagnoses among people of trans experience, 74 occurred between 2014 and 2023 (Figure 8).

- The majority were from a racial or ethnic minority group (88%).
- Seven out of 10 people were under age 30 (68%).
- Ninety-two percent of the diagnoses were attributed to sexual contact (68 of 74).

FIGURE 8

Over half of people of trans experience diagnosed with HIV in the last 10 years were young people of color.

Number of HIV diagnoses among people of trans experience by age at diagnosis and race and ethnicity, 2014–2023



Transmission Category

Adult Transmission Categories

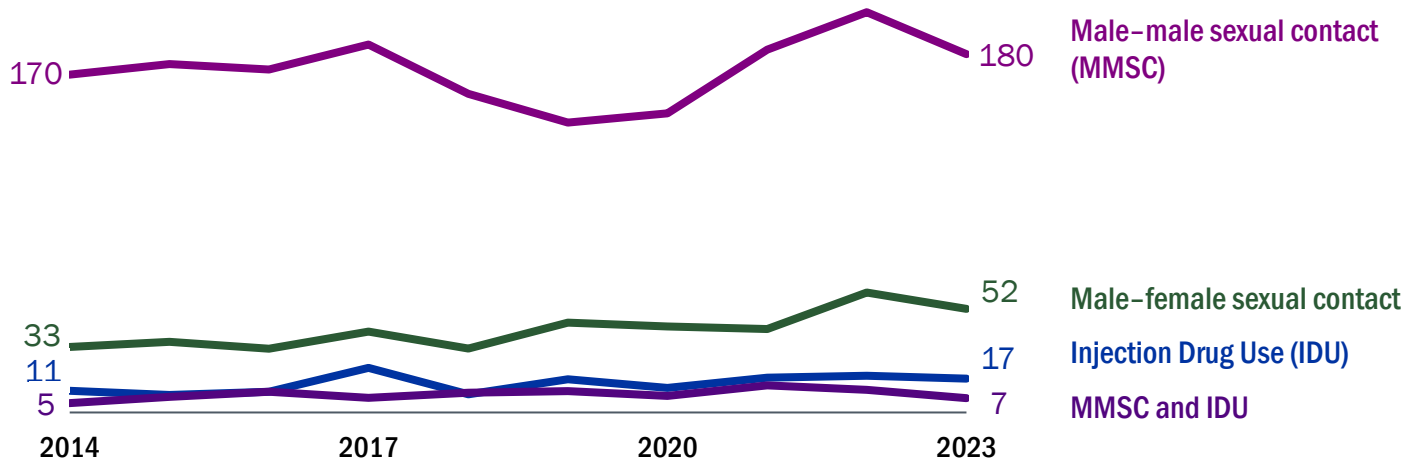
Some people newly diagnosed with HIV do not know for certain how they were exposed or do not choose to share their exposure factors for HIV with their provider. A statistical method called imputation is used to estimate the probable transmission category for people with an unknown transmission category (see Technical Notes).

¹ Centers for Disease Control and Prevention. HIV Among Transgender People. <https://www.cdc.gov/hiv/group/gender/transgender/>. Published April 2017.

FIGURE 9

Male-male sexual contact is the most common HIV transmission mode.

New HIV diagnoses by estimated transmission category*, Wisconsin, 2014–2023



*Data have been statistically adjusted to account for those with an unknown transmission category.

During 2014–2023, the estimated number of new diagnoses attributed to male-female sexual contact increased, while male-male sexual contact, injection drug use alone, and male-male sexual contact and injection drug use combined fluctuated (Figure 9).

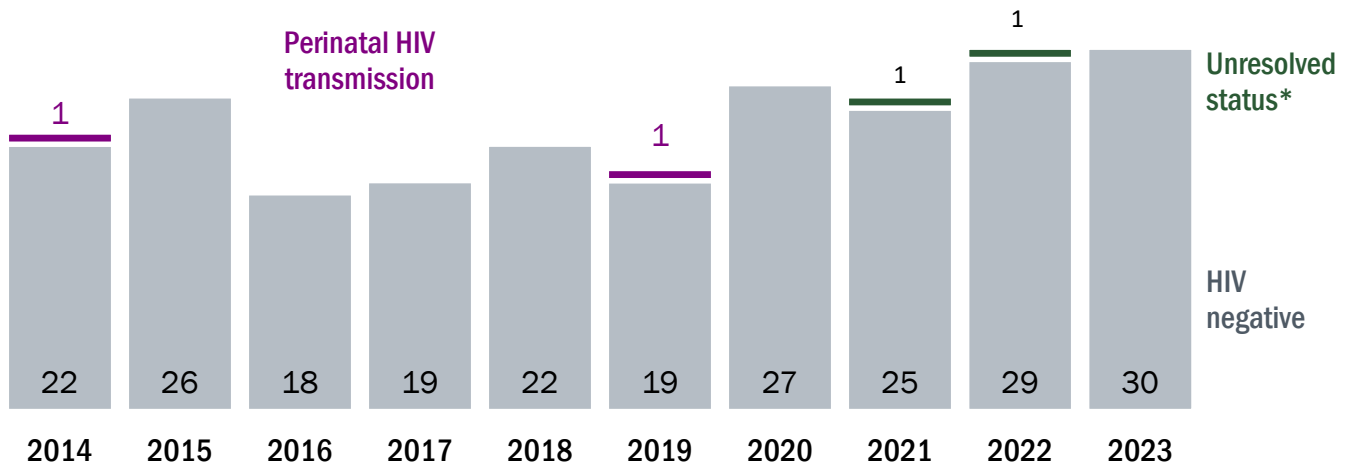
Perinatal Transmission

During 2014–2023, 239 infants were born to cisgender women living with HIV in Wisconsin, and none were born to people of trans experience. Of these infants, 235 (98%) are HIV negative, two are living with HIV (1%), and two have an unresolved diagnosis status (1%; Figure 10).

FIGURE 10

Perinatal transmission of HIV to babies is rare in Wisconsin due to strong partnerships for providing care to pregnant women living with HIV.

Diagnosis status of children born to people of childbearing potential living with HIV, Wisconsin, 2014–2023



*These babies have an unresolved diagnosis status due to incomplete HIV testing and/or loss to follow-up.

Late Diagnosis

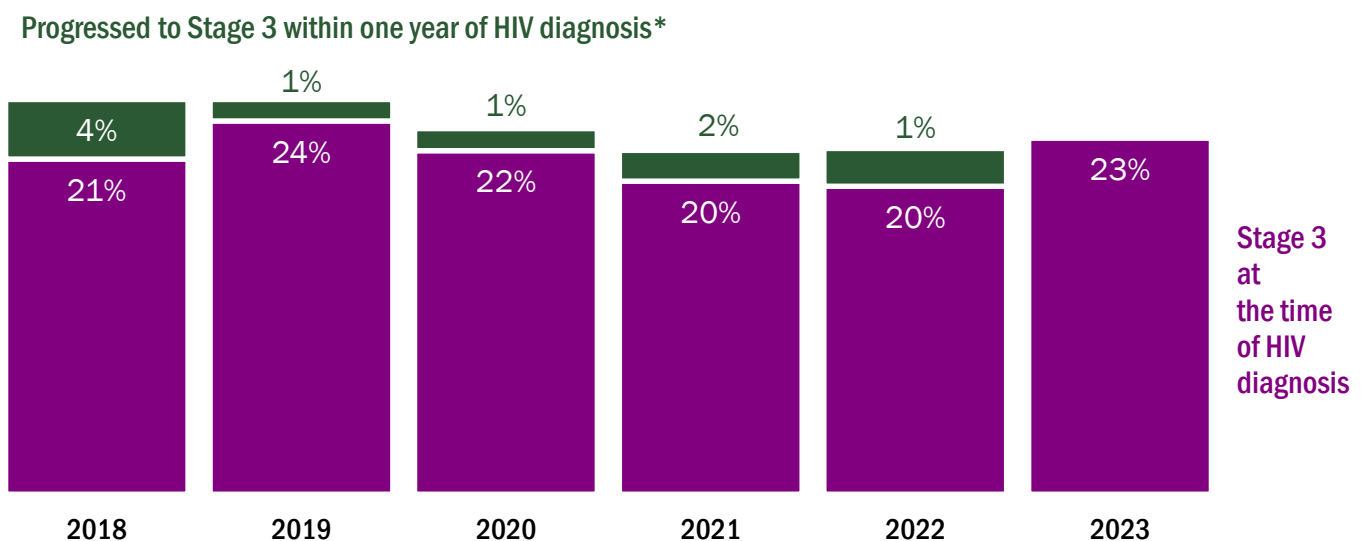
A late diagnosis occurs when a person living with HIV progresses to Stage 3 (AIDS) at the time of receiving their initial HIV diagnosis or within one year of their initial diagnosis. Without treatment, progression to Stage 3 typically occurs eight to 10 years after HIV was acquired. Stage 3 status is clinically defined by having a very low CD4 white blood cell count or a Stage 3-defining opportunistic infection. Early diagnosis and access to HIV care can prevent progression to Stage 3 so that people living with HIV have longer and healthier lives.

The percentage of new HIV diagnoses that had progressed to Stage 3 by the time they were first identified varied from 2018 to 2023, with a low of 20% in 2021 and 2022 and a high of 24% in 2019 (Figure 11).

FIGURE 11

The percentage of people who progressed to Stage 3 at the time of diagnosis varied from 2018 to 2023.

Percentage of people who progressed to Stage 3 of HIV within one year of diagnosis, Wisconsin, 2018–2023



*Those diagnosed with HIV during 2022 have not had one full year to evaluate progression to Stage 3 and have been excluded.

Of people who received a late HIV diagnosis during 2018–2022:

- Three out of four (75%) were cisgender men.
- The majority (78%) were 30 or older at the time of diagnosis.
- Thirty-seven percent were white, 36% were Black, and 24% were Hispanic.
- About half (49%) reported a transmission category of male-male sexual contact, 6% reported male-female sexual contact, and 3% reported injection drug use.

New Diagnoses, 2023

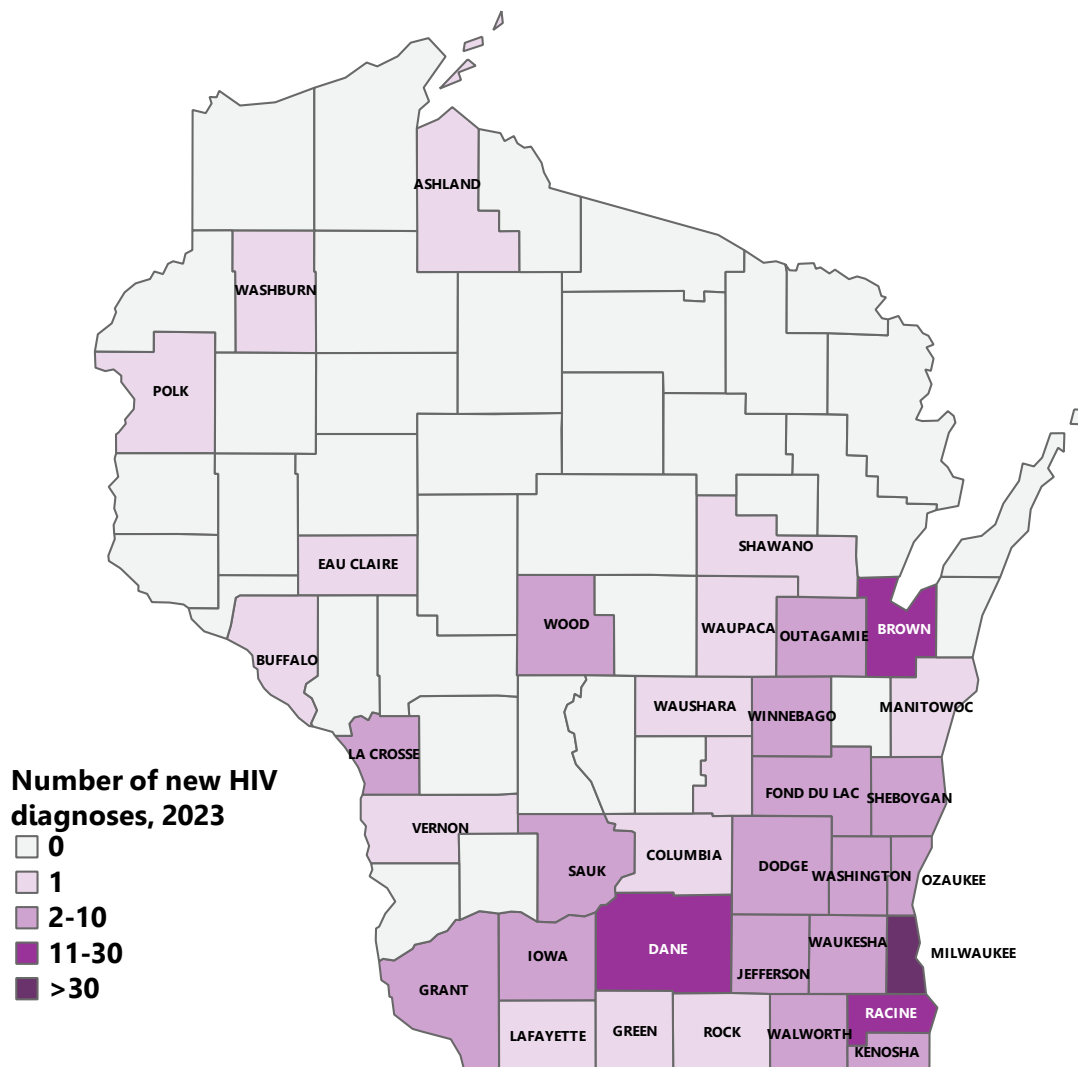
Number of New HIV Diagnoses

New HIV diagnoses are Wisconsin residents who received their first HIV diagnosis during the current reporting period. During 2023, 256 Wisconsin residents were newly diagnosed with HIV, or 4.3 new diagnoses per 100,000 Wisconsin residents. The majority of new HIV cases were diagnosed in Milwaukee County (105, 41%), Dane County (28, 11%), Racine County (23, 9%), and Brown County (15, 6%; Figure 12, Appendix-Table A2). The counties with the highest number of new diagnoses are not always the same counties with the highest diagnosis rate. Racine County had the highest diagnosis rate, followed by Milwaukee County, in 2023 (Appendix-Table A2).

FIGURE 12

The majority of new HIV diagnoses were identified in Milwaukee, Dane, Racine, and Brown counties.

Geographic distribution of new HIV diagnoses, Wisconsin, 2023



Recent and Acute Infections

Recent HIV infections are those diagnosed during the six months after HIV was acquired as evidenced by a documented or self-reported negative HIV test during this period (see Technical Notes). Acute HIV infections are those diagnosed during the two to four weeks after HIV exposure.

People in the acute stage of HIV have a high viral load (that is, a large number of viruses in the blood) and are more able to transmit HIV to others due to high levels of virus in the body. Rapid linkage of people with acute HIV diagnoses to partner services ensures that exposed partners receive timely HIV testing.

During 2023, 25 people received a recent or acute HIV diagnosis. All 25 people were considered acute HIV diagnoses based on laboratory testing algorithms or presence of acute symptoms.

Demographics

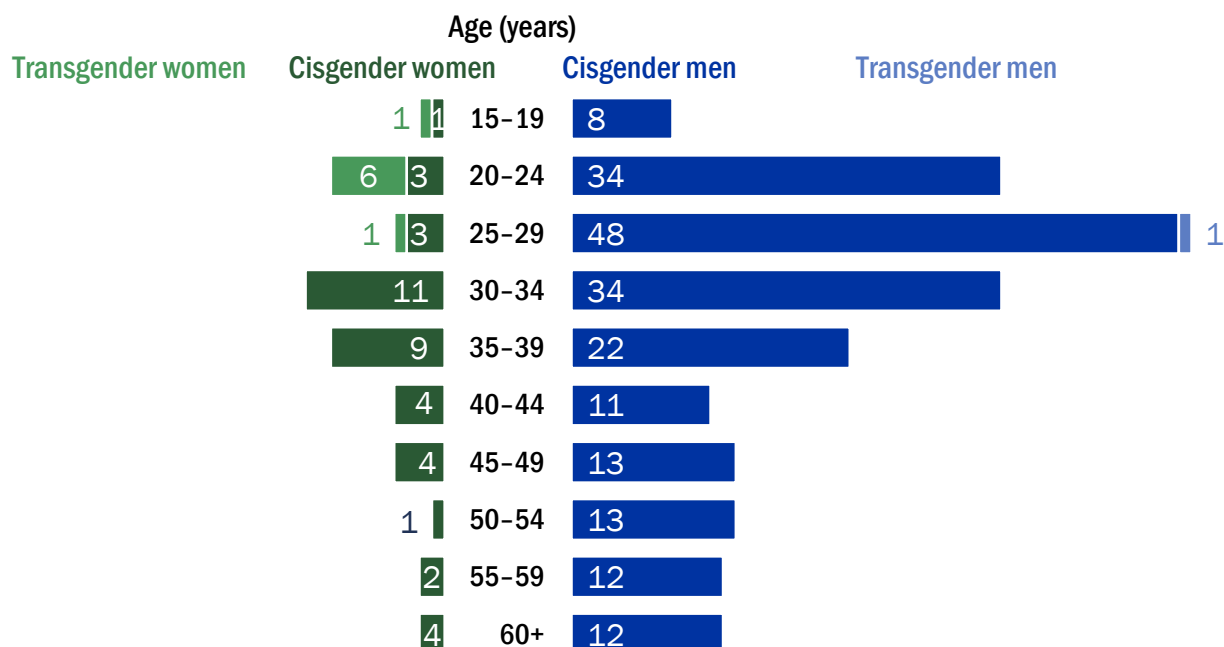
During 2023, 217 cisgender men, 40 cisgender women, and nine people of trans experience were diagnosed with HIV in Wisconsin (Figure 13, Appendix-Table A3).

The median age at diagnosis was 32 years, with a range of 16–79. During 2023, newly diagnosed cisgender men had a lower median age at diagnosis than cisgender women (men, 32; women, 36). The median age at diagnosis for transgender women in 2023 was 22.5.

FIGURE 13

Approximately 1 out of 3 new HIV diagnoses during 2023 were among cisgender men under age 30.

Number of HIV diagnoses by age and gender, Wisconsin, 2023

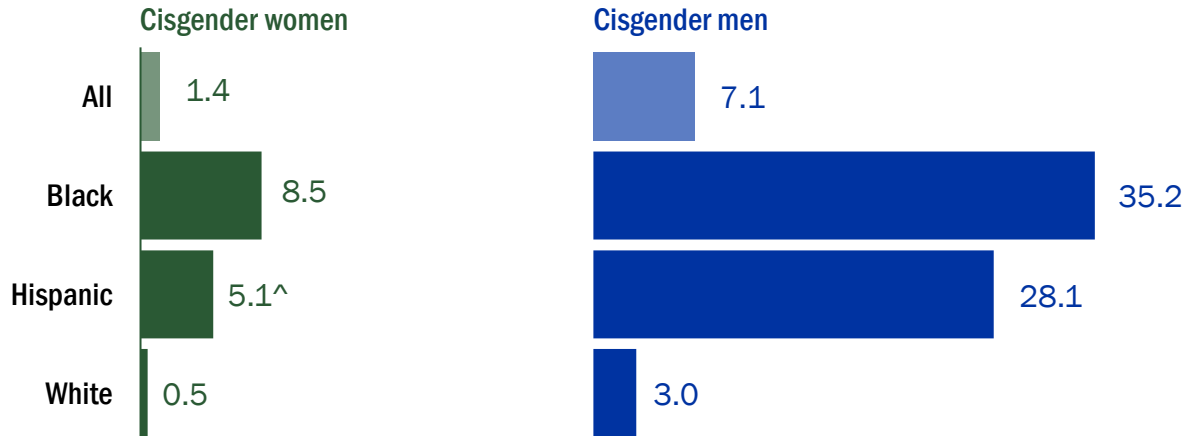


During 2023, the new HIV diagnosis rate was higher for cisgender men and was higher among Black and Hispanic cisgender people compared to other race or ethnicity groups (Figure 14).

FIGURE 14

Black cisgender men were diagnosed with HIV at a higher rate than other groups.

Number of new HIV diagnoses per 100,000 people by gender* and race or ethnicity, Wisconsin, 2023



*People of trans experience diagnosed during 2023 are excluded from these rates as population denominators are not available to calculate rates.
 ** Rates based on counts less than five have been suppressed.
[^] Rate is unreliable due to a count <12.

Transmission Category

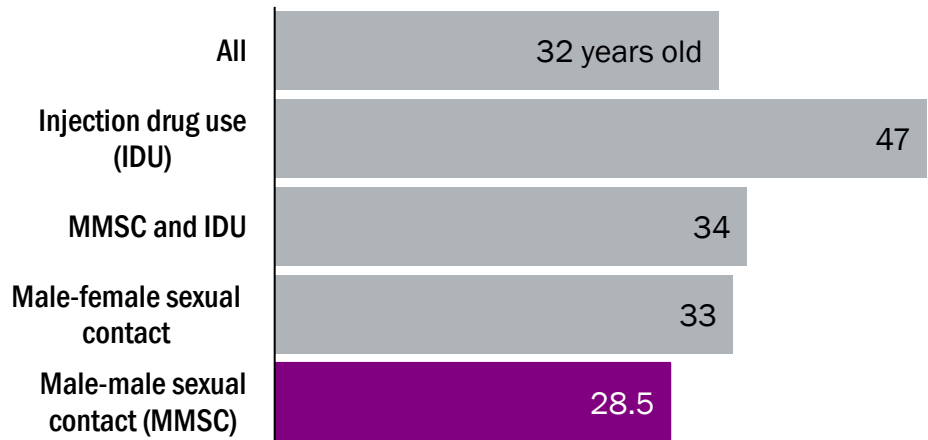
Age

Transmission categories are determined by what people tell their provider about behaviors that might lead to HIV exposure. People who reported male–male sexual contact as a possible route of exposure tended to be younger on average (Figure 15).

FIGURE 15

People who reported male-male sexual contact tended to be younger at HIV diagnosis than those who reported male-female sexual contact or injection drug use.

Median age at HIV diagnosis by transmission category, Wisconsin, 2023



Of cisgender men who reported male-male sexual contact, Black and Hispanic men tended to be younger at diagnosis compared to white people (Figure 16).

Gender

All new diagnoses among transgender women and men were attributed to an estimated transmission category of sexual contact (100%; Figure 17). For cisgender women, the majority was attributed to male-female sexual contact (MFSC; 87%) followed by injection drug use (IDU; 12%). The HIV diagnoses of cisgender men were mostly attributed to male-male sexual contact (83%), followed by MFSC (8%), IDU (6%), and MMSC and IDU (3%).

FIGURE 16

Of cisgender men who reported male-male sexual contact (MMSC), Black and Hispanic men were younger at HIV diagnosis than white men.

Median age at HIV diagnosis by race and ethnicity for cisgender men reporting male-male sexual contact, Wisconsin, 2023

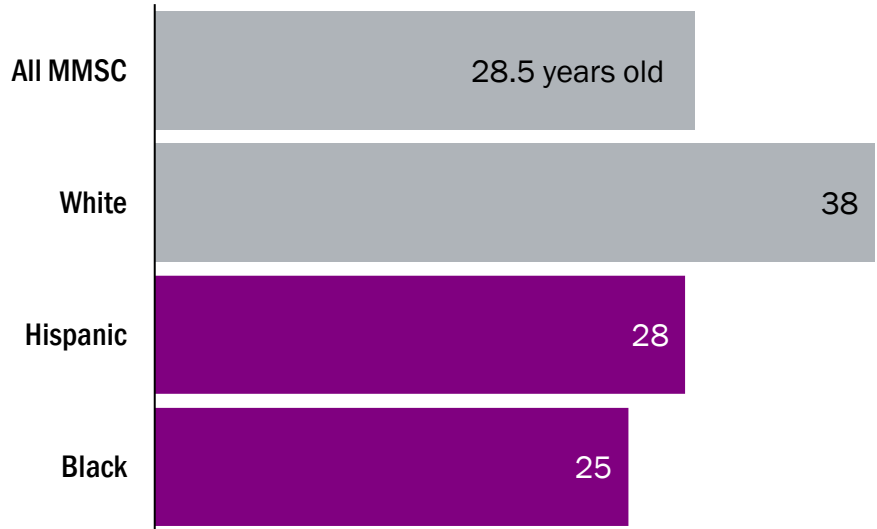
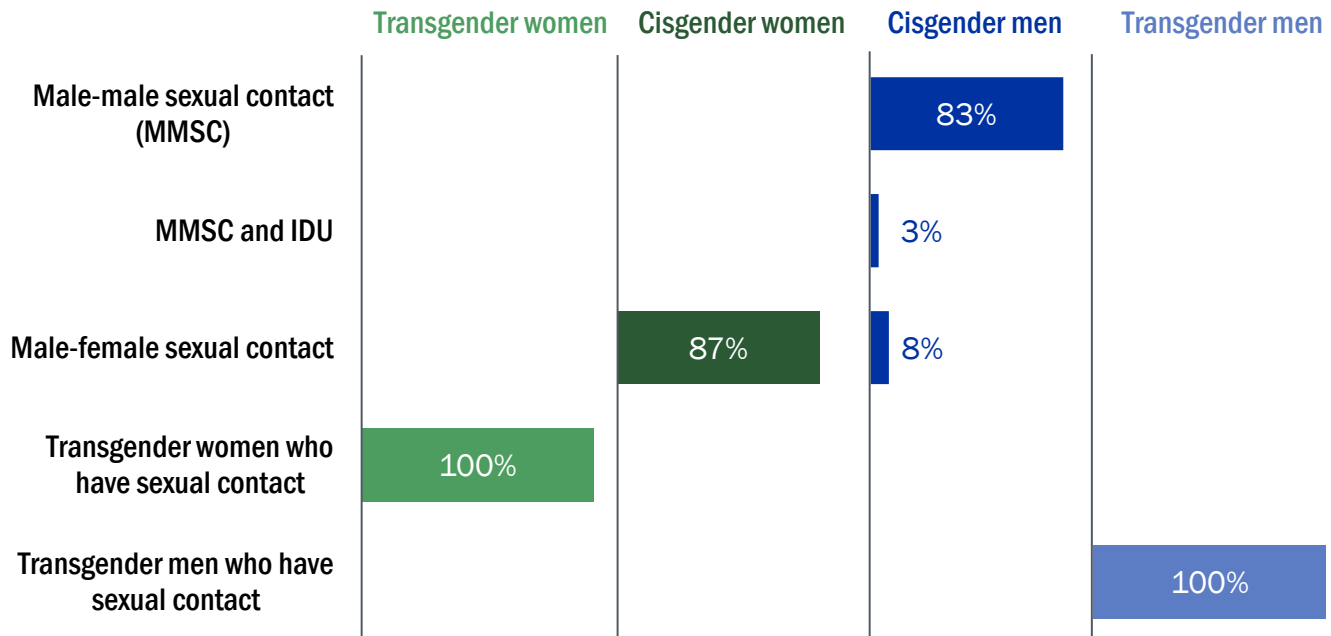


FIGURE 17

Sexual contact was the most common HIV transmission mode.

Percentage of HIV diagnoses by gender and estimated transmission category*, Wisconsin, 2023



*Data have been statistically adjusted to account for those with unknown transmission category.

Facility at Diagnosis

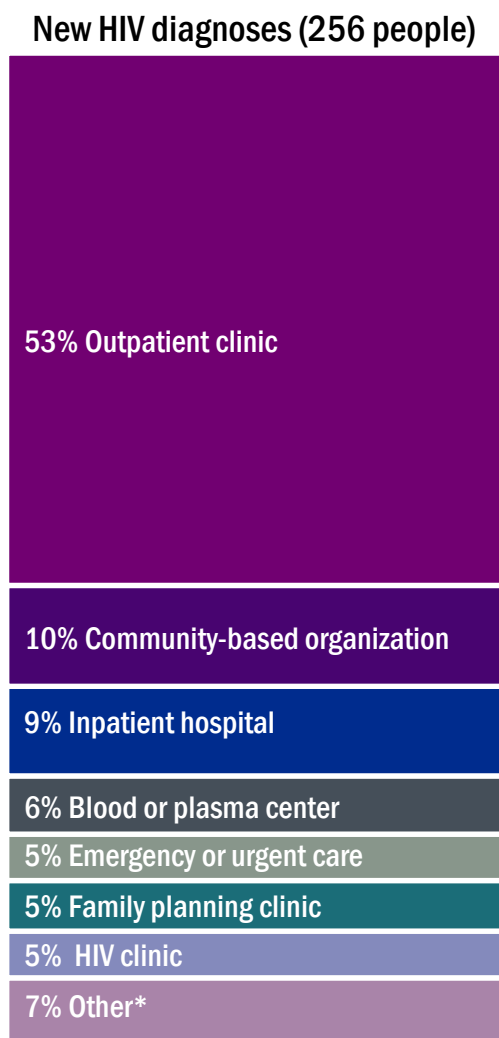
HIV testing occurs in a variety of settings, including publicly funded testing sites and private medical clinics. Counseling, testing, and referral (CTR) sites are funded by the Division of Public Health. These CTR sites include community-based organizations and some local health departments.

During 2023, the most common settings for HIV diagnoses were outpatient clinics (53%), community-based organizations (10%), and inpatient facilities (9%; Figure 18).

FIGURE 18

One out of two people were newly diagnosed with HIV at outpatient clinics during 2023.

Percent of new HIV diagnoses by facility, Wisconsin, 2023



*Other includes diagnosis at a jail or prison (2%), local health department (2%), or other facility types (3%).

Linkage to Care

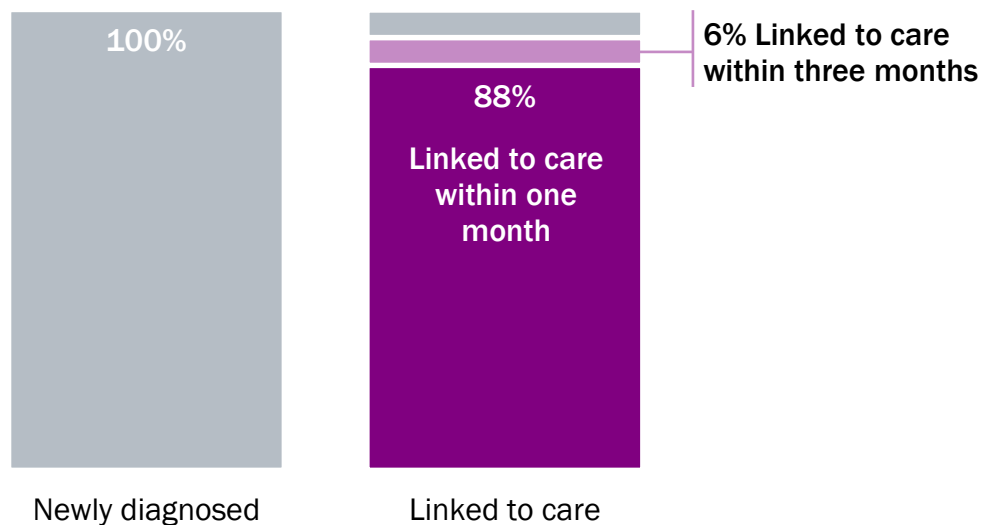
Timely linkage to care (visiting an HIV health care provider within one month [30 days] after learning they were living with HIV) can help people living with HIV have healthier lives and prevent further HIV transmission. Access to medications that reduce the amount of virus in the body can lower the risk of transmitting HIV by sexual contact.

The HIV care continuum is used at the state, regional, and local levels to measure and monitor engagement in care and health outcomes for people living with HIV (Appendix-Figure A1). A portion of the care continuum specifically measures timely linkage to care (Figure 19).

FIGURE 19

Most people newly diagnosed with HIV are linked to care services within one month of diagnosis.

HIV care continuum* - Linkage to care outcomes, Wisconsin, 2023



*Reflects laboratory data received through August 28, 2024

Prevalence

Number of People Living with HIV

Observed Prevalence

Prevalence is the total number of people living with HIV in Wisconsin at the end of the reporting period.

Prevalent HIV cases are defined as people living with HIV who:

- Lived in Wisconsin according to lab results and report forms.
- Were alive at the end of the reporting period.

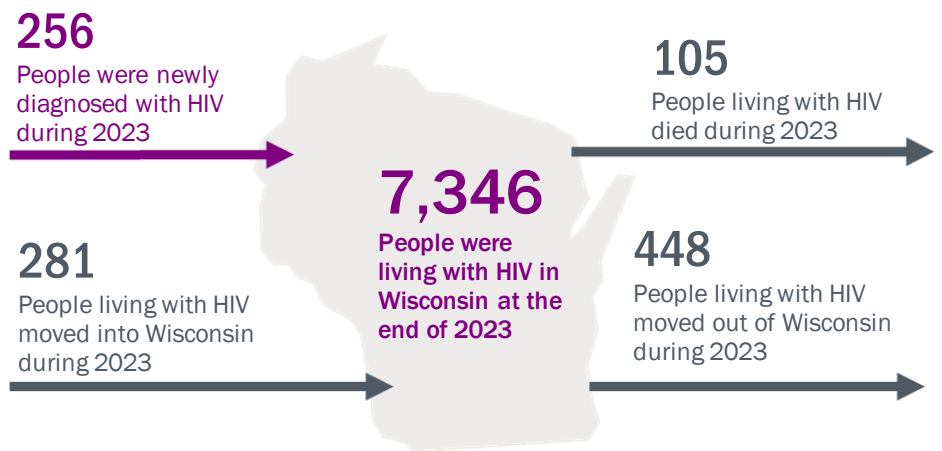
Prevalence fluctuates due to new diagnoses, migration, and deaths (Figure 20).

At the end of 2023, 7,346 people living with HIV resided in Wisconsin.

FIGURE 20

More people living with HIV left Wisconsin than entered the state during 2023.

Flow of people living with HIV into and out of Wisconsin, Wisconsin, 2023



People Who Are Unaware of HIV Status

Not everyone living with HIV is aware of their HIV status. The estimated prevalence of HIV in Wisconsin that includes those unaware of their status is approximately 8,550 people.

The most recent CDC estimate² suggests that nationally, 12.8% of people (about one out of eight) living with HIV are unaware of their status. Given the CDC's estimate, the observed prevalence likely underestimates the total population of people living with HIV in the state by approximately 1,094 people who are not aware of their HIV status.

² Centers for Disease Control and Prevention. Estimated HIV incidence and prevalence in the United States, 2017 – 2021. *HIV Surveillance Supplemental Report*, 2023; 28 (No.3). <http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>. Published May 2023. Accessed July 2023.

According to the CDC, awareness of HIV status may be substantially lower for younger people and slightly lower for some racial and ethnic minorities due to barriers to getting tested (Appendix-Table A4). This understanding can guide prioritization of services to populations with the highest need for HIV testing.

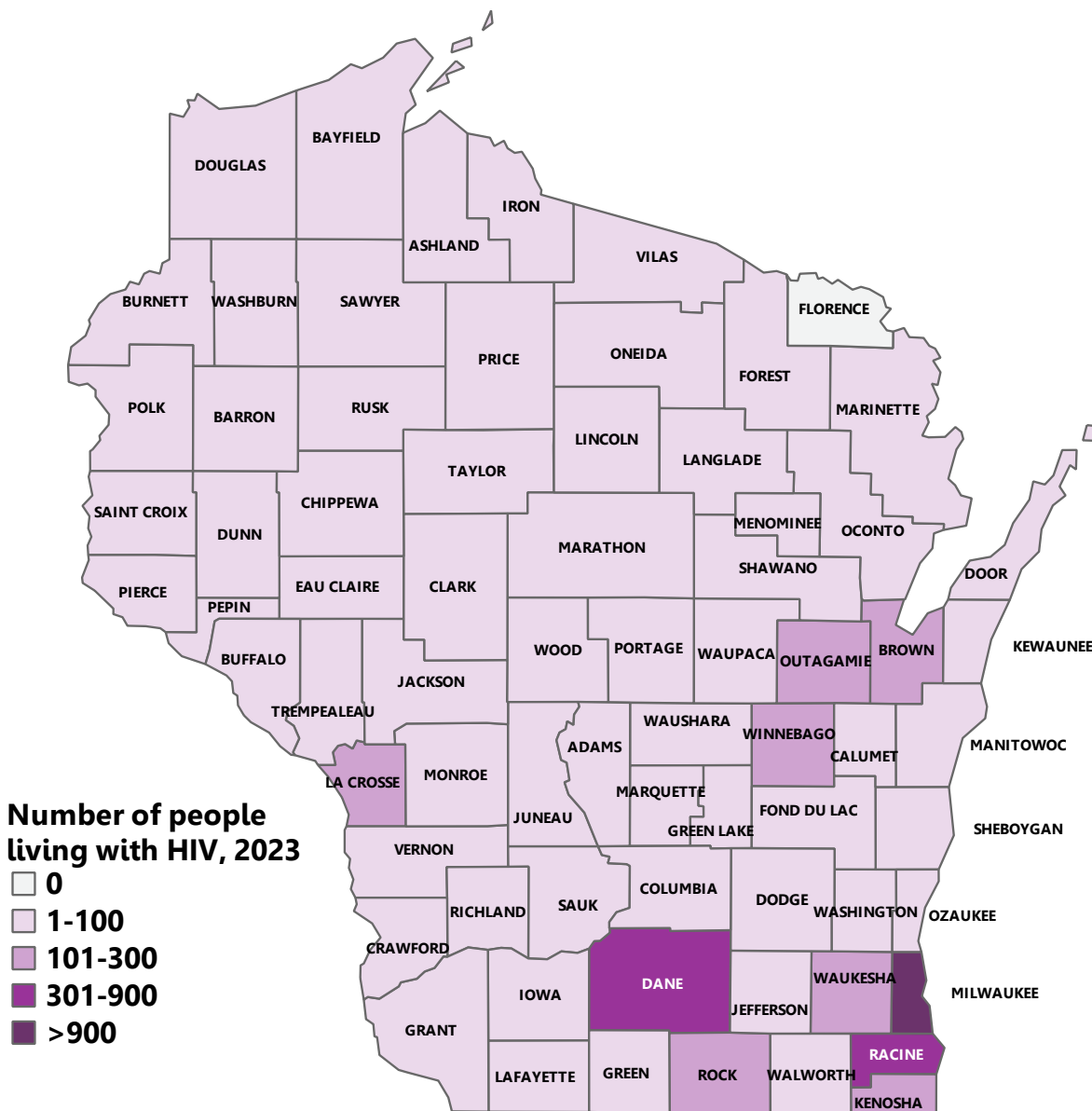
Geographic Distribution of People Living with HIV

Nearly half (45%) of all people living with HIV in Wisconsin resided in Milwaukee County, 12% live in Dane County, and 4% live in Racine County (Figure 21).

FIGURE 21

The majority of people living with HIV resided in the southern and southeastern part of the state.

Geographic distribution of people living with HIV, Wisconsin, 2023



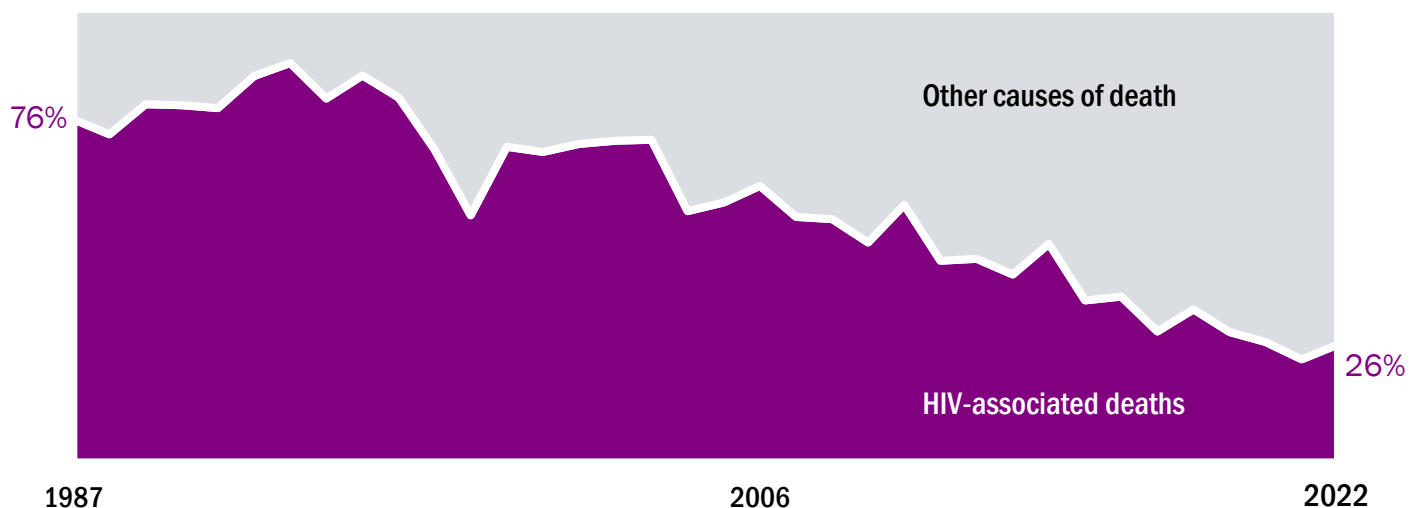
Deaths

Deaths due to any cause among people living with HIV in Wisconsin have declined since the early- to mid-1990s and the percentage of deaths specifically attributed to HIV-associated causes has also declined (Figure 22).

FIGURE 22

Deaths attributed to HIV continue to decrease due to access to medications that allow people living with HIV to have longer, healthier lives.

Percentage of deaths attributed to HIV as primary cause of death, Wisconsin, 1987–2022



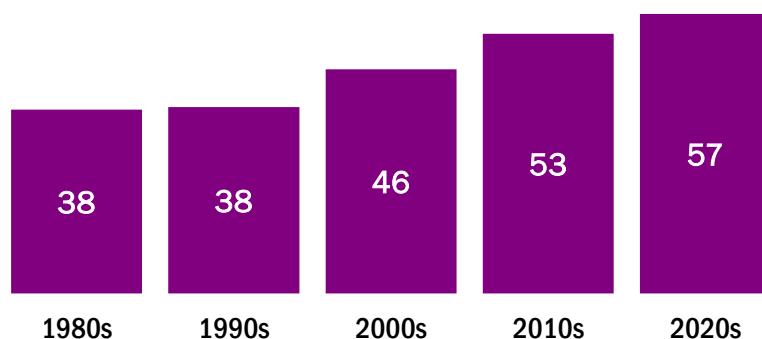
During 2022, 131 deaths occurred in Wisconsin among people living with HIV. Twenty-six percent of deaths had HIV listed as the primary cause of death. The remaining 74% were attributed to other causes in line with the national leading causes of death³.

The median age at death of people living with HIV in Wisconsin has increased substantially since 1982 (Figure 23).

FIGURE 23

People living with HIV are living longer and healthier lives.

Median age at death of people living with HIV in Wisconsin by decade, 1982–2022



³ Heron M. Deaths: Leading causes for 2019. National Vital Statistics Reports; vol 70 no 9. Hyattsville, MD: National Center for Health Statistics. 2021. DOI: <https://dx.doi.org/10.15620/cdc:107021>.

Migration

New HIV reports refer to Wisconsin residents living with HIV who were identified to public health for the first time during the reporting period. These include both new diagnoses and people who were diagnosed in another state prior to moving to Wisconsin.

Of the 537 new HIV reports received during 2023, 281 (52%) were previously diagnosed in another state prior to moving to Wisconsin. People living with HIV who moved to Wisconsin during 2023 tended to be older and a lower percentage reported a transmission mode of injection drug use compared to new HIV diagnoses in Wisconsin (Appendix-Table A3).

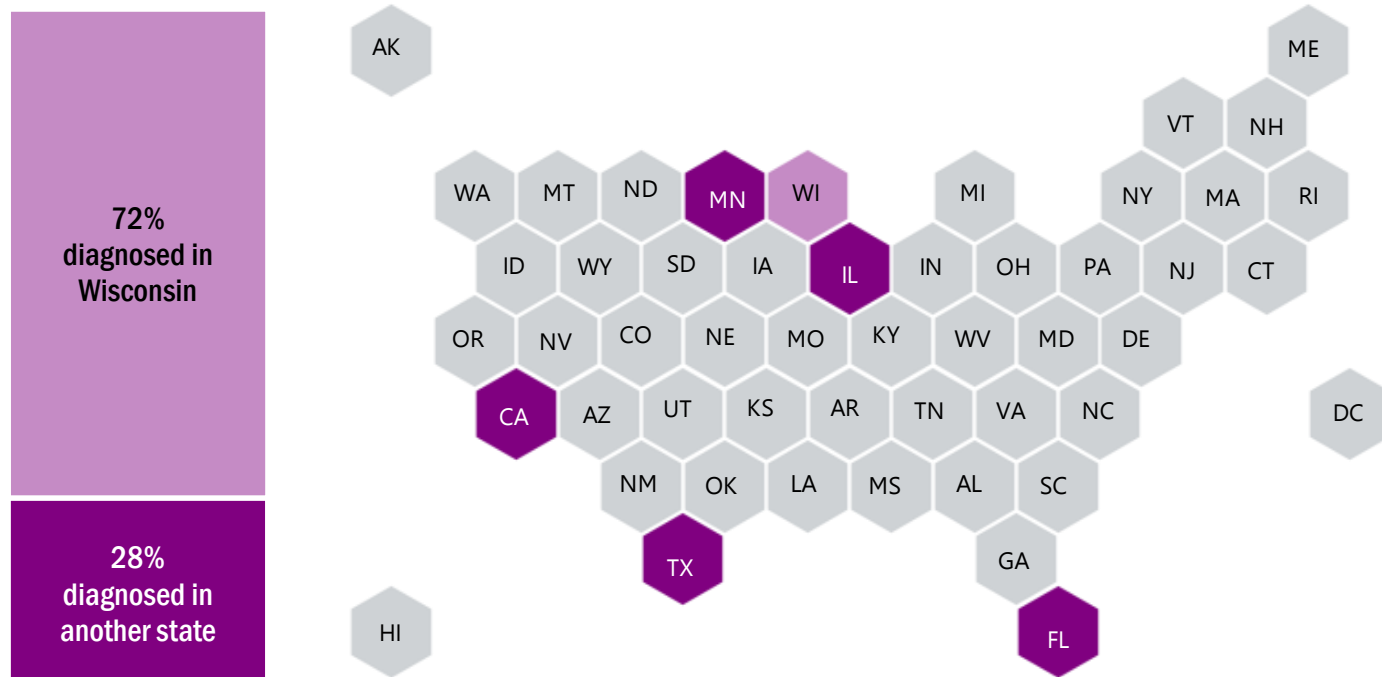
Approximately three out of four (72%) of the 7,346 people living with HIV in Wisconsin during 2023 were diagnosed in the state (Figure 24). The remaining 2,065 people (28%) were diagnosed in:

- Illinois (443)
- California (182)
- Florida (159)
- Minnesota (135)
- Texas (129)
- Another state (777)
- Other country (240)

FIGURE 24

Most people living with HIV in Wisconsin were diagnosed in Wisconsin or in Illinois, California, Florida, Minnesota, or Texas.

Diagnosis location of people living with HIV in Wisconsin during 2023



Demographics

Of people living with HIV in Wisconsin during 2023:

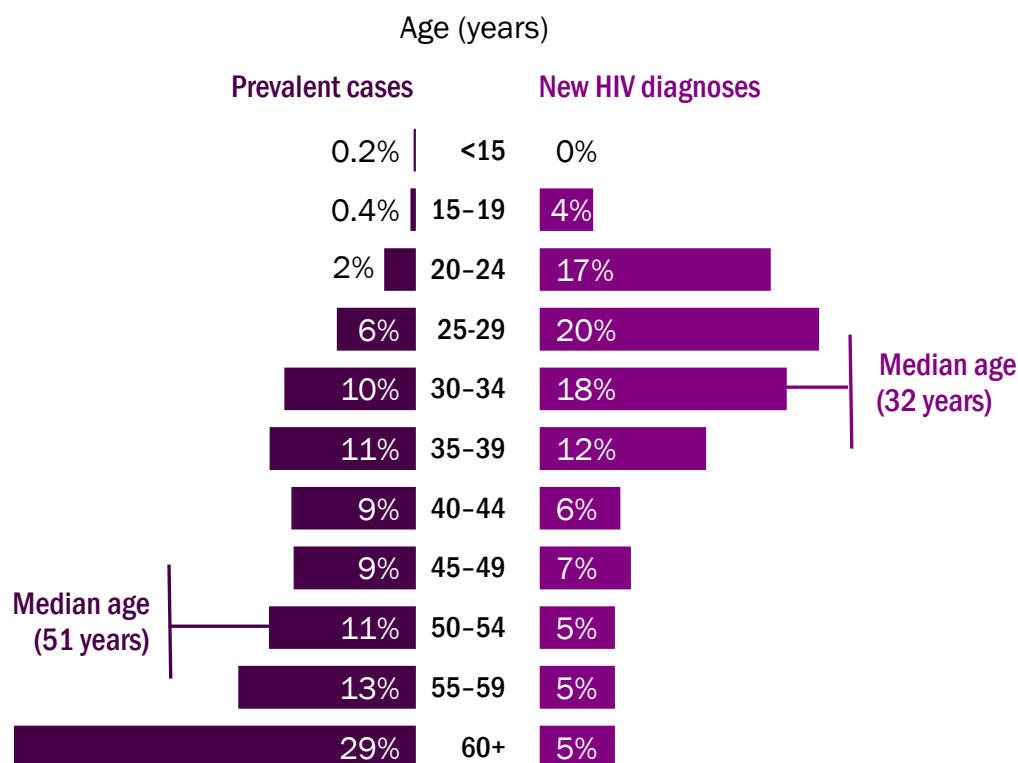
- The majority (79%) were cisgender men.
- The majority were over age 30 (92%) and half (54%) were over age 50.
- Three out of seven (41%) were white, 35% were Black, and 18% were Hispanic.
- Over half (56%) had a transmission category of male–male sexual contact, 13% had a transmission category of male–female sexual contact, and 11% had a transmission category of injection drug use or both injection drug use and male–male sexual contact.

People living with HIV are living longer and healthier lives. This has resulted in a shift in the median age of prevalent cases compared to those being newly diagnosed (Figure 25). Services for people living with HIV need to address health conditions associated with aging in addition to HIV, while prevention efforts need to prioritize younger age groups.

FIGURE 25

The population of all people living with HIV in Wisconsin tended to be older than people newly diagnosed with HIV during 2023.

Age distribution of people living with HIV in Wisconsin (prevalent cases) compared to age at diagnosis for people newly diagnosed during 2023



Retention in Care

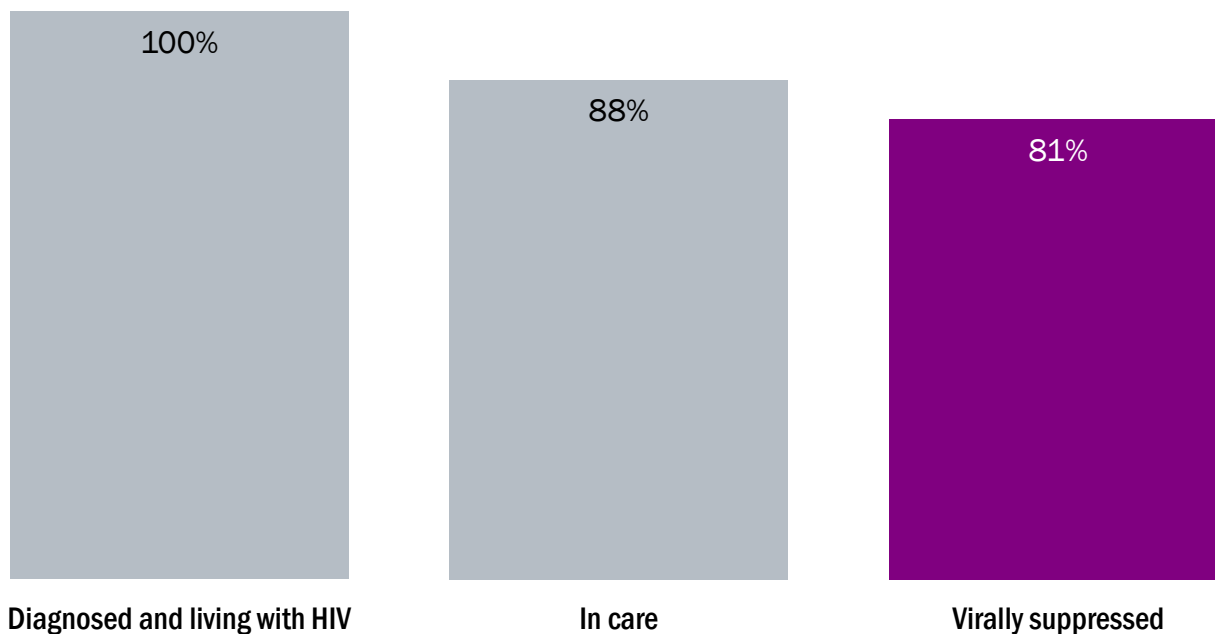
Access to HIV care and medications that reduce the amount of virus in the body benefit both the health of people living with HIV and HIV prevention efforts. People with a viral load that cannot be detected by standard laboratory diagnostic testing (that is, are virally suppressed) have a negligible risk of transmitting HIV through sexual contact.

The HIV care continuum is used at the state, regional, and local levels to measure and monitor HIV engagement in care and health outcomes (Appendix-Figure A1). A portion of the care continuum specifically measures engagement in care and successful attainment of viral suppression (Figure 26).

FIGURE 26

Eight out of ten people living with HIV in Wisconsin were virally suppressed during 2023.

HIV care continuum* - Retention and care outcomes, Wisconsin, 2023



*Reflects laboratory data received through August 28, 2024

Technical Notes

Background

This report was prepared by the Wisconsin HIV Program. Wisconsin statutes require health care providers and laboratories to report confirmed or suspected HIV cases. Data in this report are compiled from laboratory results and report forms completed by health care providers. HIV transmission information is self-reported by patients.

HIV reporting in Wisconsin is estimated to reflect 99% of diagnosed people, but completeness of reporting may vary by geographic region, transmission category, and demographic group. Data reported here are based on the information available as of April 2024. Results are provisional and subject to change as additional information becomes available.

New Diagnoses

Prior to 2023, new HIV diagnoses are included in the annual report if they meet all of the following criteria:

- The person was diagnosed with HIV during the year of analysis.
- The person was living in Wisconsin at the time of diagnosis.
- Wisconsin is the earliest state of verifiable report. People who report being first diagnosed with HIV in another country, but whose diagnosis cannot be definitively documented, are included as new diagnoses. These practices conform to CDC's guidelines for residency assignment.

Starting in 2023, new HIV diagnoses are included in the annual report if they meet all of the following criteria:

- The person was diagnosed with HIV during the year of analysis.
- The person was living in Wisconsin at the time of diagnosis.
- Wisconsin is the earliest state of verifiable report. People who report being first diagnosed with HIV in another country, but whose **year** of diagnosis cannot be definitively documented, are included as new diagnoses. These practices conform to CDC's guidelines for residency assignment.

Prevalence

Observed Prevalence

People living with HIV are included in the observed prevalence if they meet the following criteria:

- The person was confirmed to be living with HIV.
- The person was presumed to be alive at the end of the analysis year.
- The last known address available for the person is a Wisconsin address.

Because of delays in reporting deaths to local and national databases, the number of people presumed alive should be considered provisional. Due to periodic data cleaning, prevalence may decrease as people thought to be living with HIV in Wisconsin are found to be deceased or living out of state.

Estimated Prevalence

The estimated prevalence is a measure that takes into account that a proportion of people who are living with HIV are not aware of their diagnosis. The calculation consists of:

- Number of people known to be living with HIV.
- Estimated proportion of people living with HIV who are unaware.

The estimated prevalence is calculated as:

$$\frac{\textit{Number known to be living with HIV}}{\textit{Proportion unaware}}$$

Rates

In this report, rates are defined as the number of cases per 100,000 people, except if noted otherwise. Population denominators used to calculate rates are from the [US Census](#). Rates published by the CDC for Wisconsin, Milwaukee, and Madison cannot be compared to those prepared by the Wisconsin Department of Health Services—Division of Public Health and local health departments because they may use different data sources.

Demographic Variables

Age

For new diagnoses, age refers to the age at the time of HIV diagnosis. For people living with HIV, age refers to the age on December 31 of the year of analysis.

Gender

Consistent with the Council of State and Territorial Epidemiologists' position statement on transgender HIV surveillance,⁴ this report uses gender identity rather than sex assigned at birth.

Gender is determined based on information in case records. People are counted as transgender for this report if they identified as transgender on an HIV report or laboratory document, or if there was a mismatch or difference in sex assigned at birth and the sex or gender reported on any of the previously mentioned documents. Some people may be mistakenly counted as a transgender person in this report if sex or gender was incorrectly reported on any document or if data entry errors occurred.

Race and Ethnicity

Generally, CDC uses race and ethnicity terminology aligning with the 1997 Office of Management and Budget (OMB) standards⁵ on race and ethnicity. At a minimum, data on the following race categories are collected: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or other Pacific Islander, and white. For this report, Native American is used to describe people reported with a race of American Indian or Alaska Native. In addition to data on race, data on two categories of ethnicity should be collected: Hispanic or Latino and not Hispanic or Latino.

This report also presents data for people for whom multiple race categories are reported. In this report, people categorized by race were not Hispanic or Latino. Conversely, people who identify their origin as Hispanic, Latino, or Spanish may be of any race and they are referred to as "Hispanic" in this report.

Residency

People who meet the definition of newly diagnosed (see *New Diagnoses* section above) are assigned to the county of residence listed on the HIV reports when first diagnosed and reported with HIV. People who meet the prevalence definition (see *Prevalence* section above) are assigned to the county of their last known address.

Vital Status

Information about deaths is obtained from the Wisconsin Vital Records Office, the National Death Index, and the Social Security Death Master File. Deaths described in this report include only those that occurred in Wisconsin among people living with HIV. Deaths are described as being due to HIV, or caused by HIV, if HIV was listed as the underlying cause of death on the death certificate. Deaths are described as being due to other causes if HIV was not listed as the underlying cause of death. However, HIV may have been listed as one of the 19 possible contributing causes of death.

⁴ Council of State and Territorial Epidemiologists. Transgender HIV Surveillance. 17-ID-06. <https://cdn.ymaws.com/www.cste.org/resource/resmgr/2017PS/2017PSFinal/17-ID-06.pdf>. Accessed August 2021.

⁵ Office of Management and Budget. Revisions to the standards for the classification of federal data on race and ethnicity. Federal Register 1997;62:58782-58790. <https://www.govinfo.gov/content/pkg/FR-1997-10-30/pdf/97-28653.pdf>. Accessed August 2021.

Transmission Category

Observed Transmission Category

Transmission category is the term that CDC uses to summarize a person's possible HIV exposure factors; the summary category results from selecting, from a hierarchical order of probability, the single exposure factor most likely to have been responsible for transmission. For monitoring HIV burden in Wisconsin, an HIV diagnosis is counted only once in the hierarchy of transmission categories. People with more than one reported exposure factor for HIV are classified in the transmission category listed first in the hierarchy. The exception is people who have had male-male sexual contact and injected drugs; this group makes up a separate transmission category. Transmission categories are defined as follows:

- **Male–male sexual contact** includes people assigned male sex at birth, regardless of current gender identity, who have ever had sexual contact with other males and who have ever had sexual contact with both males and females (bisexual contact).
- **Injection drug use** includes people who have ever reported injecting drugs or sharing injection equipment.
- **Male–male sexual contact and injection drug use** includes people assigned male sex at birth, regardless of current gender identity, who have had sexual contact with other males and injected drugs or shared injection equipment.
- **Male–female sexual contact** includes people who have ever had male–female sexual contact with a person known to have been diagnosed as living with HIV or a potential exposure factor for HIV (for example, someone who injects drugs). This category does not include males who have ever had sexual contact with both males and females.
- **Perinatal transmission** refers to HIV transmitted from birthing parents to babies during pregnancy, childbirth, or breastfeeding/chestfeeding.
- **Other** is used to group less common transmission categories, including people with hemophilia and people who were exposed to HIV through a blood transfusion or tissue/organ transplant.
- **Unknown** includes people without an exposure factor listed in the hierarchy of transmission categories. People may have an unknown transmission category because they did not identify potential exposure modes, identified exposure factors were not part of the transmission hierarchy, died before they could be interviewed, or were lost to follow-up and could not be interviewed.

The Wisconsin HIV Program recognizes current gender identity when trying to understand HIV transmission. When this report presents the data by both transmission category and gender, additional categories are defined as follows:

- **Transgender women who have sexual contact** includes transgender women who have had sexual contact with people.
- **Transgender men who have sexual contact** includes transgender men who have had sexual contact with people.

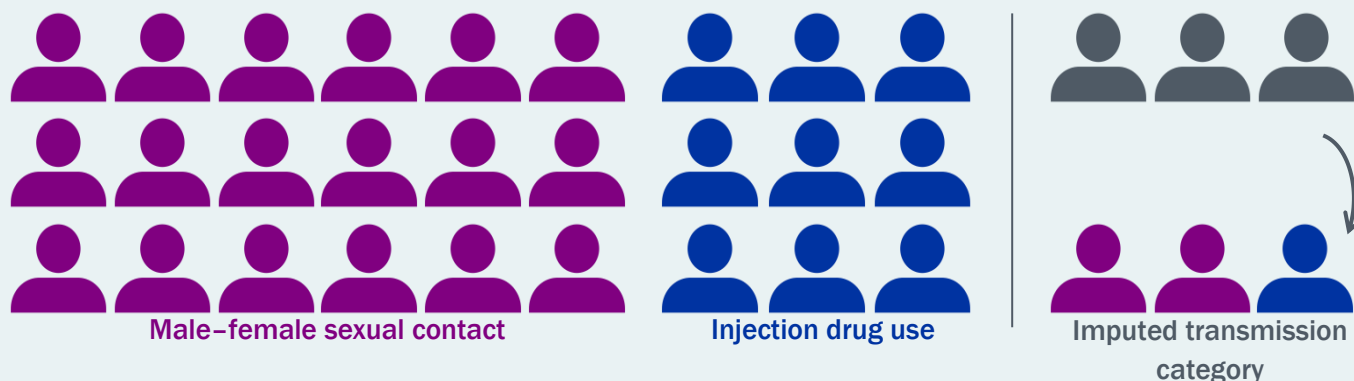
Imputed Transmission Category

Some people diagnosed with HIV are reported in Wisconsin with insufficient information to assign a transmission category. Multiple imputation is a statistical method in which the known transmission categories of people with similar demographic characteristics are used to estimate the most plausible values for those with unknown transmission categories (see Box 1).

Counts estimated by imputed transmission categories are reported rounded to the nearest whole number of people but are still considered to be estimates, not counts. Imputed transmission categories may change as new information becomes available. This method aligns to the CDC's method of addressing people with unknown transmission categories.

Box 1: Multiple Imputation Example

Assuming 30 women aged 45–64 were diagnosed with HIV, 18 of them had diagnoses attributed to male–female sexual contact; nine had diagnoses attributed to injection drug use; and three had unknown transmission categories. The 27 known transmission categories were applied to the three people with unknown transmission categories. Of the three people with unknown transmission categories, two were assigned male–female sexual contact (67%) and one was assigned injection drug use (33%). To conclude, two people with unknown transmission categories were estimated to have male–female sexual contact and one person with injection drug use.



HIV Stage at Diagnosis

Recent and Acute HIV Diagnoses

Recent HIV is defined as having been diagnosed during the six months after HIV was acquired. Recent HIV is suspected when a newly diagnosed person reports a negative test within the previous six months, or when the initial viral load test is high.

Acute HIV is defined as having been diagnosed with HIV in the two to four weeks after HIV was acquired. This time period immediately after acquiring HIV is characterized by high viral load, undetectable HIV-1 antibodies, and presence of viral nucleic acids (that is, RNA) or p24 antigen.

Late (Stage 3) HIV Diagnosis

In this report, an HIV case is any person with a laboratory-confirmed HIV diagnosis. This includes Stage 3 HIV (AIDS). People diagnosed with Stage 3 HIV include only those that meet the CDC's Stage 3 HIV surveillance definition.

According to the CDC, a late diagnosis occurs among people who progress to Stage 3 HIV within one year of receiving their initial HIV diagnosis, including those progressed to Stage 3 by the time they are first diagnosed with HIV. Stage 3 HIV typically occurs eight to 10 years after acquiring HIV in the absence of treatment and is clinically defined by a very low CD4 count or a Stage 3-defining opportunistic infection.

During 2014, the Stage 3 surveillance definition changed to exclude people with a Stage 3-defining CD4 count (<200 cells/mL) if a negative HIV test in the previous six months has been documented. Instead, the low CD4 count may reflect recently acquired HIV. People may be incorrectly classified as having progressed to Stage 3 if recent negative tests are not documented. Collection of recent negative tests has improved over time.

Statistical Significance

Statements about statistical significance are sometimes made when looking at a change over time or when comparing groups. Tests of statistical significance determine whether the observed trend or difference is due to chance or is a true pattern. Linear regression on rolling three-year averages was used to assess trends over time and chi-squared analysis was used to assess differences between groups. Statements about increasing or decreasing trends or differences between groups are only made if the pattern is statistically significant.

Appendix

TABLE A1

Number of new HIV diagnoses per 100,000 people by year of diagnosis, gender[^], and race or ethnicity, Wisconsin, 2014–2023

Year	Cisgender Men			Cisgender Women		
	Black	White	Hispanic	Black	White	Hispanic
2014	42.2	2.6	19.3	9.2	0.3**	2.8**
2015	41.3	3.2	14.3	7.5	0.4**	*
2016	47.2	2.8	11.5	9.1	0.4**	*
2017	44.0	3.6	14.6	10.6	0.5	*
2018	38.8	2.8	15.6	7.9	0.3	*
2019	41.4	2.4	15.3	13.2	0.5**	*
2020	30.5	2.9	15.3	9.0	0.6	3.4**
2021	33.6	3.1	23.8	12.2	0.4**	2.4**
2022	42.9	3.0	31.1	11.2	0.7	4.6**
2023	35.2	3.0	28.1	8.5	0.5	5.1**

[^] Transgender persons are excluded from these rates as population estimates are not available to calculate rates.

* Rates based on counts less than five have been suppressed.

** Rates are statistically unreliable due to counts less than 12.

TABLE A2

Geographic distribution of new HIV diagnoses by county of diagnosis, Wisconsin, 2023

County of Residence	Number	Percent of Cases	Rate/100,000 People *
Ashland	1	0.4%	*
Brown	15	5.8%	5.6**
Buffalo	1	0.4%	*
Columbia	1	0.4%	*
Dane	27	10.5%	4.8
Dodge	3	1.2%	*
Eau Claire	1	0.4%	*
Fond du Lac	4	1.6%	*
Grant	3	1.2%	*
Green	1	0.4%	*
Green Lake	1	0.4%	*
Iowa	3	1.2%	*
Jefferson	2	0.8%	*
Kenosha	7	2.7%	4.2**
La Crosse	2	0.8%	*
Lafayette	1	0.4%	*
Manitowoc	1	0.4%	*
Milwaukee	104	40.3%	11.3
Outagamie	7	2.7%	3.6**
Ozaukee	2	0.8%	*
Polk	1	0.4%	*
Racine	23	8.9%	11.7
Rock	1	0.4%	*
Sauk	6	2.3%	9.1**
Shawano	1	0.4%	*
Sheboygan	3	1.2%	*
Vernon	1	0.4%	*
Walworth	2	0.8%	*
Washburn	1	0.4%	*
Washington	3	1.2%	*
Waukesha	11	4.3%	2.7**
Waupaca	1	0.4%	*
Waushara	1	0.4%	*
Winnebago	6	2.3%	3.5**
Wood	4	1.6%	*
Department of Corrections	4	1.6%	*
TOTAL	256	100%	4.3

* Rates based on counts less than five have been suppressed.

** Rates are statistically unreliable due to counts less than 12.

TABLE A3

Comparison of new HIV reports by location of diagnosis, Wisconsin, 2023

	Diagnosis Location	
	Wisconsin	Outside of Wisconsin
	Number (%)	Number (%)
Total	256 (100%)	281 (100%)
Gender		
Cisgender men	207 (81%)	237 (84%)
Cisgender women	40 (16%)	35 (12%)
Transgender women	8 (2.5%)	7 (2.5%)
Transgender men	1 (0.5%)	1 (0.5%)
Median Age (Range)	32 (16–79)	39 (1–81)
Race and Ethnicity		
Native American	2 (0.5%)	1 (0.5%)
Asian	2 (0.5%)	14 (5%)
Black	87 (34%)	74 (26%)
Hispanic	76 (30%)	87 (31%)
Native Hawaiian/Pacific Islander	0 (0%)	0 (0%)
White	84 (33%)	93 (33%)
Multiracial	5 (2%)	12 (4.5%)
Transmission Category		
Male–Male Sexual Contact (MMSC)	137 (53%)	187 (65%)
Injection Drug Use (IDU)	9 (4%)	9 (3%)
MMSC and IDU	5 (2%)	19 (7%)
Male–Female Sexual Contact	33 (13%)	28 (10%)
Unknown	72 (28%)	42 (15%)

TABLE A4

Observed and estimated prevalence of people living with HIV in Wisconsin, 2023

	United States Estimated % Unaware*	Wisconsin		
		Observed Prevalence	Estimated # Unaware**	Estimated Prevalence
Total	12.8%	7,346	1,078	8,424
Age (years)				
13–24	43.7%	202	157	359
25–34	28.4%	1,125	446	1,571
35–44	15.7%	1,445	269	1,714
45–54	8.0%	1,438	125	1,563
55–64 years	4.4%	2,102	97	2,199
Greater Than 55	2.3%	995	23	1,018
Race and Ethnicity				
White	10.8%	3,022	366	3,388
Black	12.4%	2,608	369	2,977
Hispanic or Latino	16.0%	1,307	249	1,556
Multiracial	11.3%	262	33	295
Asian	7.2%	108	8	116
Native American	22.7%	31	9	40
Transmission Category				
Male–Male Sexual Contact (MMSC)	14.3%	4,766	795	5,561
Male–Female Sexual Contact	12.0%	1,474	201	1,675
Injection Drug Use (IDU)	8.5%	593	55	648
MMSC and IDU	8.3%	397	36	433

* Centers for Disease Control and Prevention. Estimated HIV incidence and prevalence in the United States, 2018–2022. *HIV Surveillance Supplemental Report*, 2024; 29 (No.3). <https://stacks.cdc.gov/view/cdc/156513>. Published May 2024. Accessed October 2024.

** Details about calculation of estimated unaware and estimated prevalence can be found in the Technical Notes.

TABLE A5 Comparison of HIV new diagnoses among Native American people by race/ethnicity classification method and selected demographics, Wisconsin, 2014–2023

		Native American Standard Classification*	Native American Revised Classification**
	Total	14 (100%)	63 (100%)
Year of Diagnosis			
	2014	2 (14%)	8 (13%)
	2015	3 (21%)	9 (14%)
	2016	1 (7.1%)	7 (11%)
	2017	1 (7.1%)	7 (11%)
	2018	0 (0.0%)	1 (1.6%)
	2019	2 (14%)	6 (9.5%)
	2020	1 (7.1%)	6 (9.5%)
	2021	1 (7.1%)	6 (9.5%)
	2022	1 (7.1%)	6 (9.5%)
	2023	2 (14%)	7 (11%)
Gender			
	Cisgender Men	11 (79%)	54 (86%)
	Cisgender Women	3 (21%)	9 (14%)
	Transgender Men	0 (0%)	0 (0%)
	Transgender Women	0 (0%)	0 (0%)
Age at Diagnosis (years)			
	0–19	1 (7.1%)	2 (3.2%)
	20–24	0 (0%)	14 (22%)
	25–29	4 (29%)	12 (19%)
	30–39	6 (43%)	20 (32%)
	40–49	1 (7.1%)	11 (17%)
	50+	2 (14%)	4 (6.3%)
Transmission Category			
	Male–Male Sexual Contact (MMSC)	10 (71%)	44 (70%)
	Injection Drug Use (IDU)	1 (7.1%)	4 (6.3%)
	MMSC & IDU	1 (7.1%)	3 (4.8%)
	Male–Female Sexual Contact	0 (0%)	0 (0%)
	Unknown	2 (14%)	12 (19%)
Region			
	Northeastern	6 (43%)	14 (22%)
	Southeastern	4 (29%)	25 (40%)
	North	2 (14%)	6 (9.5%)
	South	1 (7.1%)	14 (22%)
	West	1 (7.1%)	4 (6.3%)

*Reported as Native American, and never reported as any other race or ethnicity group.

**Ever reported as Native American, alone or in combination with other racial or ethnic identities.

The most commonly used method of collecting and reporting race and ethnicity data in the U.S., as used in this report (see Technical Notes), has important limitations. The race and ethnicity categories used throughout this report include Hispanic (regardless of race), non-Hispanic white, non-Hispanic Black, non-Hispanic Native American, non-Hispanic Asian, and non-Hispanic multiracial. Since racial and ethnic identities can be complex, this method of classification may not be sufficient. For people whose racial identity does not fit neatly into these categories or who identify as more than one of these groups, this method of classification may lead to underreporting of the actual burden of HIV within certain populations. This issue may affect Native American people more than other racial groups.⁷

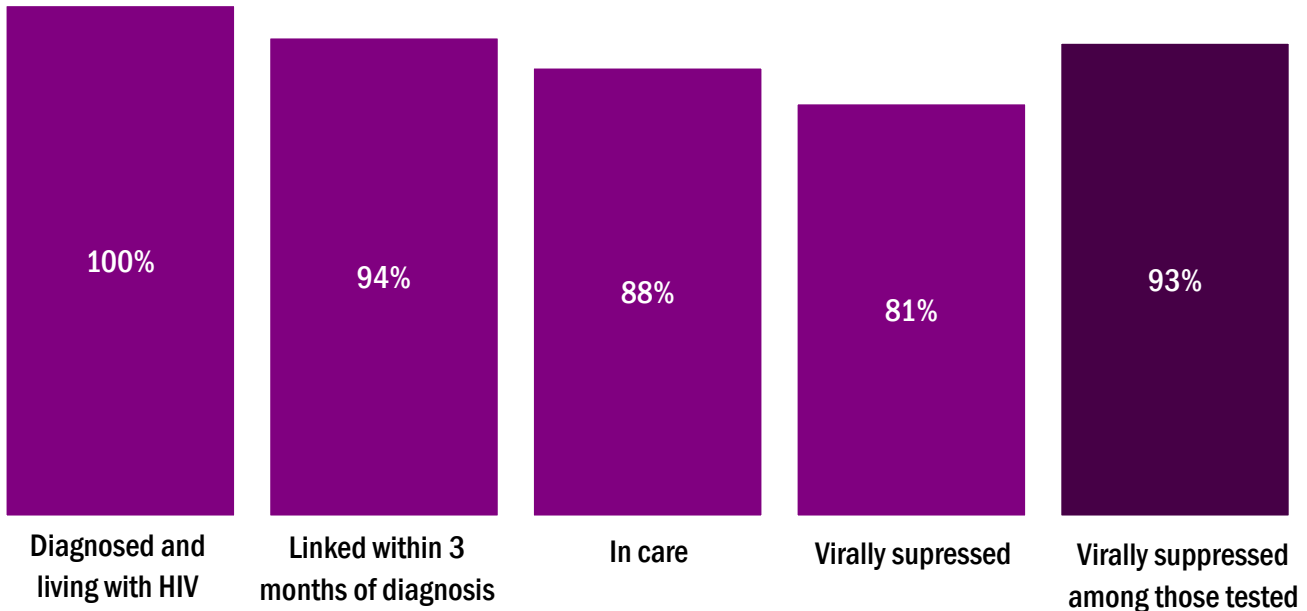
As seen in table A5 above, the case count for new HIV diagnosis among Native American people in Wisconsin for 2014–2023 is 250% greater (14 to 63) when looking at people who have ever been reported as Native American compared to the standard single-race Native American data classification. Likewise, the total number of Native American people living with HIV by the end of 2023 is 442% greater (31 to 168) when using the same reclassification method.

⁷Great Lakes Inter-Tribal Epidemiology Center (GLITEC). Race and Ethnicity Distribution Factsheet. https://www.glitc.org/2020/wp-content/uploads/2020/07/Race-and-Ethnicity-Distribution-Factsheet_GLITECOct2019.pdf Published October 2019. Accessed August 2021.

FIGURE A1

The majority of people living with HIV who were engaged in care were virally suppressed.

HIV care continuum*, Wisconsin, 2023



*Reflects laboratory data received through August 28, 2024

Values Based on Surveillance Data

Diagnosed and living with HIV: All people reported living with HIV in Wisconsin by the end of 2022 who were still alive and living in Wisconsin by the end of 2023 and had HIV care in Wisconsin in the last 10 years (6,273 people).

Linked within three months of diagnosis: Of 256 people diagnosed with HIV in Wisconsin during 2023, 94% (240 people) were linked to care within three months of diagnosis. Seven out of eight (225/256 people or 88%) newly diagnosed people were linked to care within one month of diagnosis. Linkage is defined as one or more CD4 or quantitative viral load or genotype test on or after the date of diagnosis.

In care: Of 6,273 people diagnosed and living with HIV in Wisconsin during 2023 who had HIV care in Wisconsin in the last 10 years, 88% had at least one medical visit that included one or more laboratory tests that were available in the HIV surveillance system as evidence of receiving care.

Virally suppressed: Of 6,273 people living with HIV in Wisconsin during 2023 who had HIV care in Wisconsin in the last 10 years, 81% had viral loads (a test that documents the number of virus copies in the blood) that were less than 200 copies/mL, indicating attainment of viral suppression. People whose last viral load test was prior to 2023 or who did not have a viral load test recorded were considered to have unsuppressed viral loads.

Virally suppressed among those tested: Of 5,083 people who had a viral load test during 2023, 93% were virally suppressed at their last measurement. This suggests that most people receiving some medical care are achieving viral suppression. Viral suppression improves the health of the people living with HIV and prevents them from transmitting HIV sexually to partners.

For more information, contact:

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