

Wisconsin HIV

Integrated Epidemiology Profile 2010-2014



Wisconsin Department of Health Services
Division of Public Health
AIDS/HIV Program
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EXECUTIVE SUMMARY

The purpose of the *Wisconsin HIV Integrated Epidemiology Profile, 2010-2014* is to describe HIV among various populations in terms of socio-demographic, geographic, behavioral, and clinical characteristics. This profile can serve as a tool at the state and local levels for setting priorities among populations who need HIV prevention and care services, providing a basis for determining or projecting future needs, discussing HIV with affected communities, framing research and evaluation questions, applying for funding, and responding to public information requests.

Wisconsin Demographics

Population

Wisconsin's population in 2014 was estimated to be 5.7 million. Wisconsin's county populations range from 4,300 to 950,000, with the most populous counties in the southeastern region of the state.

Race and Ethnicity

Eighty-three percent of Wisconsin's population is non-Hispanic White, followed by 6.8% non-Hispanic-Black, 6.5% Hispanic, 2.8% Asian, and 1% American Indian.

Age

The median age of people living in Wisconsin is 39.2 years, with almost one quarter (23%) of the population under age 18 and 15% ages 65 and older. However, age varies by racial and ethnic group. The median age of non-Hispanic Whites is 42.8 whereas other racial/ethnic groups have a median age of 31 or younger. Wisconsin's northern and central counties generally have a median age at 43 or above, whereas the southern part of the state has a median age under age 43. This likely reflects the distribution of non-Hispanic Whites and other racial/ethnic groups across the state.

Socioeconomic Status

Thirteen percent of Wisconsin residents are living in poverty, compared to 15.4% nationally. However, 21.6% of Milwaukee County residents, Wisconsin's most populated county, live in poverty. Menominee County had the highest proportion of residents living in poverty, at 31.4%.

Sexual Orientation

An estimated 8% of students in Wisconsin public high schools, and 18% of Milwaukee Public School students, identify as lesbian, gay, or bisexual (LGB). Among Wisconsin adults, 2% identify as LGB, and an estimated 5% of adult males in Wisconsin are men who have sex with men (MSM).

HIV Infection

New Diagnoses

Over the five year period, 2010-2014, the annual number of new infections (~240) and annual HIV diagnosis rate (4 per 100,000) were stable. Based on the most recently available national data (2013), Wisconsin's HIV diagnosis rate was lower than the national average, ranking 14th from the bottom of U.S. states. One in two new diagnoses is from Milwaukee County. Consistent with national trends, Wisconsin's HIV epidemic has disproportionately impacted minorities (63% of diagnoses), despite minority groups making up just 17% of Wisconsin's population.

During the recent five-year period, 74% of new diagnoses were attributed to MSM, with the remainder of new diagnoses attributed to high-risk heterosexual contact (18%) and injection drug use (7%). Diagnoses among MSM were evenly divided among men ages 15-24 (30%), 25-34 (29%), and 35-49 (28%). However, younger MSM were more likely to be Black (65%) or members of other



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minority racial/ethnic groups (18%), whereas MSM ages 50 and older were more likely to be non-Hispanic White (71%). Over the last decade (2005-2014), diagnoses were stable among MSM, while declining among those with high-risk heterosexual contact and those with a history of injection drug use. However, diagnoses *declined* from 2005-2014 among MSM ages 35-49, and *doubled* among young MSM from 2005-2010, primarily due to increases among young Black MSM.

Prevalent Cases

As of the end of 2014, an estimated 8,150 people were living with HIV in Wisconsin, including 6,900 who are aware of their infection and 1,250 individuals who are unaware of their infection. The Centers for Disease Control and Prevention (CDC) estimates that 15.3% of HIV-infected people in Wisconsin are unaware of their status, which is higher than the national average of 12.8%. An estimated one in three (34%) Black MSM are infected with HIV in Wisconsin, compared to 9% of Hispanic MSM and 3% of non-Hispanic White MSM. Fewer than 1 in 1,000 females and non-MSM males in Wisconsin is living with HIV.

Co-Morbid Conditions

Sexually Transmitted Infections

The rates of new syphilis, gonorrhea, or chlamydia infection among people living with HIV (PLWH) each exceed the rate among the general population in Wisconsin. In 2014, compared to the rate among the general population, syphilis diagnoses among PLWH were 300 times higher, gonorrhea diagnoses were 20 times higher, and chlamydia diagnoses were four times higher. There has been a notable increase in syphilis diagnoses among MSM in the U.S., as well as in Wisconsin. During 2010-2014 there were 238 syphilis-HIV co-infections in Wisconsin residents. The majority (89%) of co-infected individuals reported male-male sexual contact at the time of HIV diagnosis. Fourteen percent of co-infected individuals were diagnosed with syphilis and HIV concurrently, but the majority (86%) were diagnosed with syphilis more than one month after HIV diagnosis.

Hepatitis C Infections

As of the end of 2014 there were 632 people co-infected with HIV and hepatitis C (HCV), or approximately 9% of PLWH in Wisconsin. Sixty-seven percent of co-infected individuals were ages 50 or older, and 55% reported injection drug use at the time of HIV diagnosis. The majority (71%) of people with HCV-HIV co-infection were diagnosed with HIV at least one year before their HCV diagnosis, likely reflecting better screening for HCV following an HIV diagnosis.

Mental Health and Substance Abuse

Mental health disorders are at least twice as likely among PLWH than among the general population. Mental health disorders may develop as a result of the isolation, fear, stigma, and discrimination that some HIV-infected individuals experience. Alternatively, mental health disorders may put some populations at higher risk for HIV infection as a result of negative coping mechanisms like injection drug use or riskier sexual behavior. Likewise, substance abuse, including alcohol, tobacco, and injection drug use, is more common among PLWH than the general population. Substance use may be used to cope with an HIV diagnosis, but is also a risk factor for infection. For example, MSM have been shown to have higher rates of substance abuse than the general population, and may be using substances to cope with homophobia, discrimination or violence. In addition to direct HIV transmission, individuals who abuse drugs report more sexual partners, infrequent condom use, and are less responsive to HIV prevention programs.

Program Outcomes

HIV Testing

Information on HIV testing in Wisconsin is available from publicly funded test sites, which account for the identification of 31% of new HIV diagnoses in Wisconsin. During 2013-2014, publicly funded test sites conducted nearly 29,000 tests, with a 0.5% positivity rate. Publicly funded test sites are testing those most at risk of HIV infection, with 43% of tests among Blacks, 11% among Hispanics,



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35% among MSM including MSM who also inject drugs, and 10% among non-MSM who inject drugs.

Partner Services

During 2013-2014, 71% of the 885 PLWH assigned to Partner Services (PS) were located and interviewed. Ninety-eight percent of interviewed individuals were linked to medical care before or within six months of the interview. Eighty-three percent of PLWH who were *not* interviewed were also in care within six months of initial PS assignment. Index cases named, on average, two partners. 476 (69%) partners were able to be located and notified. Of those notified, 25% were not tested for various reasons, 36% were previously positive, 36% tested HIV negative, and 3% tested HIV positive.

Care Services

Among people diagnosed and living with HIV in Wisconsin during 2014, 66% had one or more medical visits during the year, 51% were retained in care based on at least two medical visits 90 days apart, and 53% of PLWH were virally suppressed.

PLWH who receive their HIV care at clinics that receive federal Ryan White funding tend to have better health outcomes than those receiving care elsewhere, both nationally and in Wisconsin. Of the 4,300 PLWH who received care at a Ryan White-funded clinic during 2014, representing 63% of Wisconsin's prevalent HIV cases, 84% were retained in care and 87% were virally suppressed. The most commonly used services at Ryan White-funded agencies were medical and non-medical case management, medical care, treatment adherence counseling, referral for services, and oral health care. In addition, about 2,000 people used the Wisconsin AIDS Drug Assistance Program (ADAP), also funded by Ryan White. Forty-two percent of ADAP users were at or below the federal poverty level.

During 2010-2014 an average of 2,200 patients with HIV received annual medical services or prescription drugs covered by Wisconsin Medicaid/Badger Care, representing 32% of PLWH in Wisconsin. Also available from the Wisconsin Medicaid program is information on the number and demographics of individuals taking pre-exposure prophylaxis (PrEP) to prevent HIV infection. As of September 2015, 41 Wisconsin Medicaid patients had filled at least one prescription for PrEP.



INTRODUCTION

The first case of HIV infection in Wisconsin was confirmed in 1982. The number of new cases steadily increased every year, reaching a peak of 593 in 1990. Since that time Wisconsin has experienced a significant reduction in the number of new diagnoses and deaths, but has also observed increased infections in some subpopulations and a growing population of individuals requiring access to high-quality HIV medical care and supporting services. The Wisconsin HIV Integrated Epidemiology Profile, 2010-2014, is the first comprehensive summary of the HIV-related data and outcomes from programs administered within the Wisconsin Department of Health Services (DHS), Division of Public Health (DPH), AIDS/HIV Program.

Annual HIV Surveillance Reports

In the spring of each year, a comprehensive **Wisconsin HIV/AIDS Surveillance Annual Review** is released, which describes the previous calendar year's new diagnoses and prevalent cases, and analyzes trends over time among various subpopulations. This report is limited in scope to a summary of surveillance data among people reported with HIV in Wisconsin. Similarly, the **Wisconsin HIV/AIDS Surveillance Annual Review: Milwaukee Addendum** describes city of Milwaukee data. The annual HIV/AIDS Surveillance Annual Review and Milwaukee Addendum can be found at: <https://www.dhs.wisconsin.gov/aids-hiv/data.htm>.

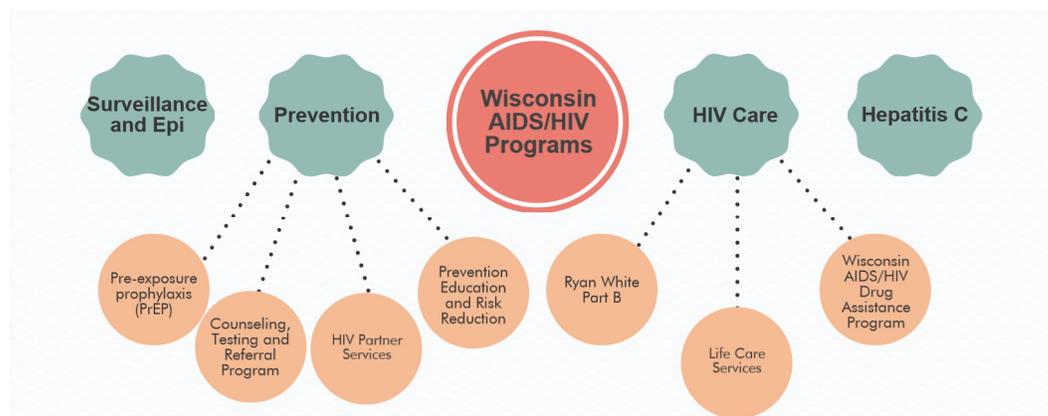
Wisconsin HIV Epidemiology Profile

This epidemiology profile is the first of its kind in Wisconsin and will be updated in its entirety every five years. The purpose of this epidemiology profile is to describe HIV among various populations in terms of socio-demographic, geographic, behavioral, and clinical characteristics.

Therefore, this profile offers a more comprehensive description of HIV in Wisconsin than the annual surveillance report, and includes an overview of Wisconsin's population as a whole and factors associated with HIV infection; a summary of HIV infection in Wisconsin from 2010-2014 and population-specific summaries that can be used as stand-alone fact sheets; a summary of commonly occurring HIV co-infections such as syphilis, tuberculosis, and hepatitis C; and service utilization and outcomes from programs administered by the AIDS/HIV Program.

This profile can serve as a tool at the state and local levels for setting priorities among populations who need prevention and care services, providing a basis for determining or projecting future needs, discussing HIV with affected communities, framing research and evaluation questions, applying for funding, and responding to requests from the public (e.g., educators, funding agencies, the media, or policy makers).

Programs Administered by the AIDS/HIV Program



INTRODUCTION

Surveillance and Epi

The **Surveillance and Epidemiologic Investigation Program** monitors reported cases of HIV infection and AIDS. It compiles epidemiologic information and actively solicits case reports through formal contacts with laboratories, clinicians, and health care facilities.

Prevention

The **Prevention Program** encompasses a number of different programs and activities, including Prevention Education and Risk Reduction; Counseling, Testing, and Referral (CTR); and HIV Partner Services (PS). Each program is described below.

Counseling, Testing and Referral Program

The **Counseling, Testing, and Referral Program** is a statewide network of HIV counseling, testing, and referral services staffed by trained counselors in local agencies. Clients receive risk assessment, personalized risk reduction education, free or low-cost testing, and referral for medical and supportive services.

HIV Partner Services

HIV Partner Services offers persons reported with HIV infection assistance in notifying sexual and needle-sharing partners that they may be at risk for HIV infection. PS staff notify partners of possible risk exposures without disclosing the identity of the infected partner. PS provides clients with HIV access to free, voluntary, and confidential counseling, testing, and referral for medical and support services.

Prevention Education and Risk Reduction

Prevention Education and Risk Reduction activities target individuals and communities at risk for acquiring or transmitting HIV. Examples of targeted groups include men who have sex with men, people who inject drugs (PWID) and other drug users, communities of color, at-risk women, PLWH, and incarcerated individuals. Prevention education focuses on maintaining and sustaining positive health behaviors.

Pre-exposure prophylaxis (PrEP)

Pre-exposure prophylaxis (PrEP) is a biomedical intervention that prevents HIV infection in individuals by taking one pill once a day. People who are at substantial risk for acquiring HIV and take PrEP can reduce their risk of infection by over 90%. Program staff work with medical providers, grantees, and other partners to promote PrEP and assure its access.

HIV Care

The **HIV Care Program** also encompasses a number of programs and activities, including administering the Ryan White Part B and Life Care Services contracts and the AIDS Drug Assistance Program (ADAP).

Ryan White Part B

Ryan White Part B is a federal grant, administered by the Health Resources and Services Administration (HRSA), that is awarded to states and territories for use in providing HIV medical and supportive services to individuals who do not have sufficient health care coverage or financial resources to cope with their HIV disease.

Life Care Services

Life Care Services is a Wisconsin general purpose revenue grant awarded to AIDS Service Organizations for the same populations and services as the Ryan White Part B program.

Wisconsin AIDS/HIV Drug Assistance Program

The **Wisconsin AIDS/HIV Drug Assistance Program**, funded via Ryan White Part B, subsidizes the cost of HIV-related treatment medications and/or health insurance premiums for HIV-infected persons with limited financial resources.

Hepatitis C

The **Hepatitis C Program**, due to the shared mode of transmission of HCV with HIV, is housed within the AIDS/HIV Program. This program is responsible for the coordination of the state's public health activities related to the prevention, detection, and treatment of hepatitis C infection.



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More information on the Wisconsin AIDS/HIV Program can be found at <https://www.dhs.wisconsin.gov/aids-hiv/index.htm>.

Other Department of Health Services Programs

In addition to data from within the AIDS/HIV Program, this epidemiology profile also includes data from other Wisconsin DHS programs. The DPH, Bureau of Communicable Diseases houses the AIDS/HIV Program, Sexually Transmitted Infections Program, and the Tuberculosis Program. The Department of Health Services also administers the Wisconsin Medicaid Program.

Wisconsin Reporting Requirements

Wisconsin Stat. § 252.15 requires that providers and laboratories report suspect or confirmed cases of specified communicable diseases to the local health department (LHD) or, in the case of HIV infection, directly to the state. The following disease-specific reporting requirements also apply:

HIV: In addition to suspect and confirmed cases of HIV infection, all CD4 counts, all viral load test results, and AIDS-defining conditions are also reportable directly to the state epidemiologist.

HCV: Evidence of hepatitis C virus infection is reportable to the local health department. HCV has been a reportable communicable disease in Wisconsin since 2000.

Syphilis: In addition to suspect and confirmed cases of syphilis infection, the stage of syphilis infection (congenital, primary, secondary, early latent, late latent) and medication treatment information are also reportable to the Local Health Department Officer.

Tuberculosis: In addition to smear, Nucleic Acid Testing (NAT), and culture test results, chest X-ray results and medication treatment information are also reportable to the local health department.

Definitions

Newly Diagnosed HIV Cases

Individuals included in analyses of new diagnoses are those whose first verifiable HIV diagnosis was made at the time they were living in Wisconsin. Also included are individuals who report being first diagnosed with HIV in another country but for whom Wisconsin is unable to verify the non-U.S. diagnosis. These practices conform to CDC's guidelines for case residency assignment. New diagnoses are counted by the year of diagnosis, regardless of when the case was reported to the Surveillance Program. In this report, new diagnoses are reported over a five-year period (2010-2014) to allow for more robust estimates, especially among population groups with small numbers of cases. Trends in new diagnoses are analyzed across a 10-year period (2005-2014) to reduce the impact of normal, annual fluctuations.

Prevalent HIV Cases

Individuals are included in the prevalence count for a given year if they were presumed to be alive at the end of the calendar year (i.e., no documentation of death has been received and the individuals did not match any records in local or national death data); and their last known address is in Wisconsin. Because of delays in reporting of deaths, the number of cases presumed alive should be considered provisional.

HIV Disease Status

In this document, the terms HIV, or HIV infection, refer to all persons with confirmed HIV infection, regardless of whether their



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disease has progressed to AIDS (AIDS is defined as a CD4 count of less than 200, or a diagnosis of an AIDS-defining opportunistic infection).

HIV Risk Exposure

Risk exposure is self-reported by the infected individual. For surveillance purposes, cases are counted only once in a hierarchy of exposure categories. Persons with more than one reported mode of exposure to HIV are classified in the first category in the hierarchy as defined by CDC. The risk exposure categories, in order of their hierarchy are:

MSM: men who report having sex with men with no history of injection drug use. This includes men who report sex with both men and women.

MSM/PWID: men who report having sex with men who also have a history of injection drug use.

PWID: females and non-MSM males who report a history of injection drug use.

High-risk heterosexual contact: males and females who report a history of heterosexual contact with a high-risk partner, such as an injection drug user, a bisexual male, a person with hemophilia, or a person with HIV infection.

Other: persons with hemophilia, persons who have been exposed to HIV through a blood transfusion or tissue/organ transplant, and children who were born to mothers with HIV infection.

Unknown: cases currently under investigation; cases with incomplete exposure history because the patients refused interview, died before they could be interviewed, or were lost to follow-up; cases for whom follow-up exposure history is available but no exposure mode was identified; and cases with exposure categories not listed in the hierarchy.

Unless otherwise noted, the risk exposure data in the Wisconsin HIV Epidemiology Profile have been statistically adjusted to account for individuals with unknown risk using a CDC-supplied multiple imputation program.

Co-Infection

People living with HIV (PLWH) in Wisconsin as of December 31, 2014, were identified as prevalent HIV cases in the Enhanced HIV/AIDS Reporting System (eHARS) and matched by last name, first name, and date of birth against people diagnosed with syphilis (primary, secondary, and early latent), gonorrhea or chlamydia infection during 2010-2014, or hepatitis C virus infection (acute or chronic disease, probable, and confirmed status) during 2000-2014. Coinfection was defined as an STI or HCV report within 30 days of or any time after the date of HIV diagnosis.

Age

For new diagnoses, age refers to the age at time of HIV diagnosis. For prevalent HIV cases, age refers to the age on December 31 of the year of analysis.

Race

This report uses the term “Black,” rather than “African-American,” because it is more inclusive.

Rates

In this report, rates are presented as the estimated number of infections per 100,000 or 1,000 population. A one-year rate is based on the population denominator for the year of analysis. Five-year rates, covering 2010-2014, are based on the total number of cases during the period and the mid-point population estimate, in this case 2012. The resulting rate is annualized by dividing by five.

Data Sources

Socio-demographic Data

The socio-demographic section of this profile pulls from a variety of datasets, including the Wisconsin Interactive Statistics on



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Health website for population, birth, and death information; the American Community Survey for income, poverty, housing, education, and country of birth; and the Wisconsin Youth Risk Behavior Survey (YRBS). Specific data sources and years are listed within each section.

HIV Infection

Analyses of HIV infections are based on HIV case surveillance and laboratory data collected by the AIDS/HIV Program. These data are stored in the Enhanced HIV/AIDS Reporting System (eHARS), the CDC-mandated HIV surveillance database used by all states and territories. Data reported here are based on the information available in eHARS on the date the surveillance and laboratory data were frozen for analysis. Therefore, all data are provisional and subject to change as additional case information becomes available. The analyses of HIV infection do not include individuals who are unaware of their HIV status.

Co-morbid Infections

Data on sexually transmitted infections, tuberculosis, and hepatitis C virus are housed in the Wisconsin Electronic Disease Surveillance System (WEDSS). Similar to HIV infection, data reported here are based on the information in WEDSS on the date the data were frozen for analysis.

HIV Testing

HIV testing data included in this epidemiology profile are restricted to tests performed at state-funded CTR sites. Unless otherwise noted, the number of tests may include multiple tests for the same person. All CTR tests are reported and managed within EvaluationWeb, a web-based data system designed and hosted by Luther Consulting, LLC.

Care Utilization

Care utilization data come from a number of sources, consisting of HIV surveillance data, the federally required Ryan White Services Report (RSR), the Wisconsin AIDS Drug Assistance Program (ADAP), and the Wisconsin Medicaid program. The HIV care continuum is based on HIV surveillance data. A detailed description of the methodology and definitions can be found at <https://www.dhs.wisconsin.gov/aids-hiv/notes.htm>.

Ryan White service utilization data are from the RSR, which the HIV Program submits to Health Resources and Services Administration (HRSA) annually in March. The de-identified, client-level data file is submitted simultaneously to the AIDS/HIV Program, and contains client demographics, Ryan White-funded service utilization, laboratory and medical visit dates, and whether various recommended screenings were conducted. The RSR data in this profile are from clients served during 2014. Data on the Wisconsin ADAP include individuals who received services from the program in the form of payment towards medications or insurance premiums. Individuals who enrolled in but never used the program are excluded from the analyses.

Wisconsin Medicaid Data

The DPH AIDS/HIV Program contracts with HP Enterprise Services and the DPH Office of Health Informatics to conduct analysis of data regarding Wisconsin residents with HIV infection receiving services and medications billed to Medicaid. Data are also provided for HIV-negative residents who have filled prescriptions for pre-exposure prophylaxis (PrEP).

HIV Partner Services

HIV PS are coordinated centrally within the AIDS/HIV Program. All PS case assignments and PS provider notes are managed within PSWeb, a web-based data system designed and hosted by Luther Consulting, LLC. PS outcomes in this document are based on cases assigned and partners named during 2013 and 2014.



ABBREVIATIONS

ACS	American Community Survey
ADAP	AIDS Drug Assistance Program
AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
API	Asian or Pacific Islander
AI	American Indian or Alaska Native
BRFSS	Behavioral Risk Factor Surveillance System
CD4	Cluster of Differentiation 4
CDC	Centers for Disease Control and Prevention
CTR	Counseling, Testing, and Referral
DHS	Department of Health Services
DPH	Division of Public Health
eHARS	Enhanced HIV and AIDS Reporting System
FPL	Federal Poverty Level
FTM	Female-to-Male
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
HRH	High-risk Heterosexual Contact
HRSA	Health Resources and Services Administration
LHD	Local Health Department
LTBI	Latent Tuberculosis Infection
MSM	Men who have Sex with Men
MSM/PWID	Men who have Sex with Men who also Inject Drugs
MTF	Male-to-Female
PLWH	Persons living with HIV
PrEP	Pre-exposure prophylaxis
PS	Partner Services
PWID	People who Inject Drugs
RSR	Ryan White Services Report
RW	Ryan White HIV/AIDS Program
STI	Sexually Transmitted Infection
TB	Tuberculosis
YRBS	Youth Risk Behavior Survey
WEDSS	Wisconsin Electronic Disease Surveillance System



1: WISCONSIN DEMOGRAPHICS

HIGHLIGHTS

- Wisconsin has 5.7 million residents living in 72 counties.
- Milwaukee County's population is nearly 1 million, while several other counties have fewer than 5,000 residents each.
- 4 in 5 Wisconsin residents are non-Hispanic White. Blacks and Hispanics each comprise 6%-7% of the population, Asians 3% and American Indians 1%.
- The median age among Whites is 42.8; all other racial and ethnic groups have a median age between 24 and 31.
- Recent population growth is greatest in Hispanics, Asians, and people ages 55 and older.
- 1 in 20 residents is foreign-born.
- 8% of high school students and 2% of adults identify as lesbian, gay, or bisexual.
- 13% of Wisconsin residents live in poverty.

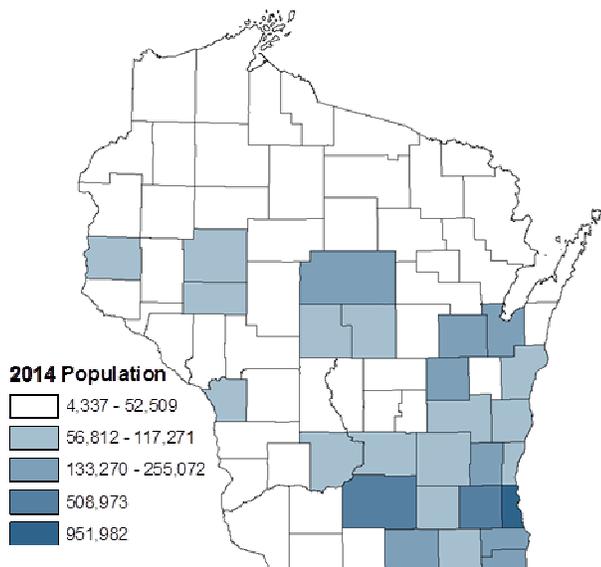
5.7 million

72 counties

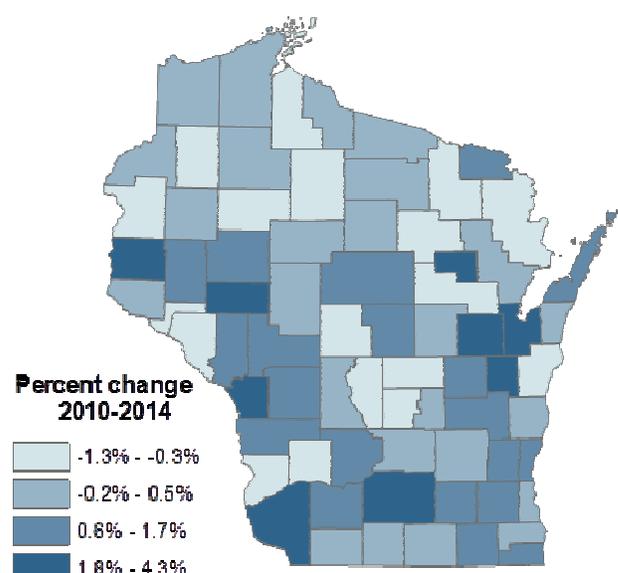
Population¹

Wisconsin's population in 2014 was estimated to be 5.7 million, 1.8% of the nation's estimated 318.9 million residents. The state's 72 counties range in population from fewer than 5,000 in several rural counties to nearly 1 million in Milwaukee County. The population change from 2010-2014 ranges from a decline of 1.3% in Langlade County to an increase of 4.3% in Dane County.

Wisconsin population by county, 2014



Change in population by county, 2010-2014, Wisconsin



1: WISCONSIN DEMOGRAPHICS

Race/Ethnicity, Sex, Age and Region

2014 population data for Wisconsin are shown in the table below.

Category	Sub-group	Percent of Population	Percent change, 2005-2014
Ethnicity Race (non-Hispanic)	Hispanic	6.5%	10.5%
	White	83.0%	-0.2%
	Black	6.8%	3.6%
	Asian	2.8%	15.3%
	American Indian	1.0%	3.3%
Sex	Female	49.7%	1.0%
	Male	50.3%	1.1%
Age Group (Years)	0-17	22.6%	-2.9%
	18-24	9.7%	1.9%
	25-34	12.7%	1.0%
	35-44	12.0%	-5.0%
	45-54	14.2%	-6.7%
	55-64	13.6%	11.3%
	65-74	8.4%	20.7%
	75+	6.8%	3.8%
Region ²	Northeastern	21.5%	1.2%
	Northern	8.5%	0.3%
	Southeastern	36.8%	0.6%
	Southern	19.5%	2.1%
	Western	13.6%	1.1%
Total		100%	1.1%

Four in 5 Wisconsin residents are non-Hispanic Whites. About 23% of the state's population is under age 18, while 15% are ages 65 and older.

Trends in Population Growth

Between 2010 and 2013, Wisconsin's total estimated population increased by 1.1% but the change was variable by sub-group, as shown in the table. Population growth was greatest in Asians (15%), Hispanics (11%) and those ages 65 and older (21%).

Births, Deaths, and Migration

Births

Between 2004 and 2013, Wisconsin's birth rate declined by 8%, while the U.S birth rate declined by 11%. Wisconsin's 2010 birth rate was 6.3% lower than that of the nation.³

Deaths

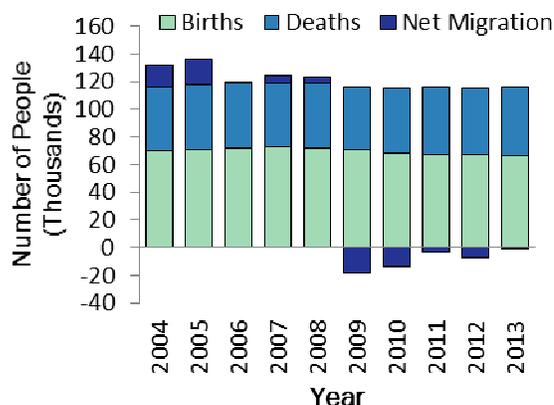
Between 2004 and 2014, the Wisconsin age-adjusted death rate declined by 14.6% in males and by 11.3% in females.

Wisconsin's age-adjusted 2013 death rate was 1.6% lower than the national rate.⁴

Net Migration

Net migration reflects the number of people entering and leaving the state. Between 2004 and 2008, more people moved into the state than moved out of the state. During 2009-2013, net migration was negative; more people moved out of Wisconsin than into the state.

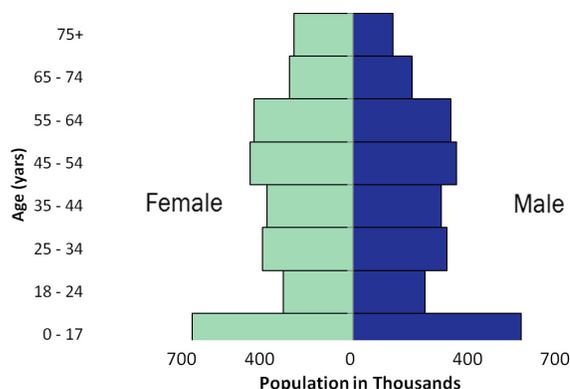
Births, deaths, and net migration, Wisconsin, 2004-2013



Age and Sex Distribution

In 2014, Wisconsin's age and sex distribution closely resembled that of the nation. In most age groups, males and females each accounted for half the population. However among those ages 65 and older, females made up 55% of residents.

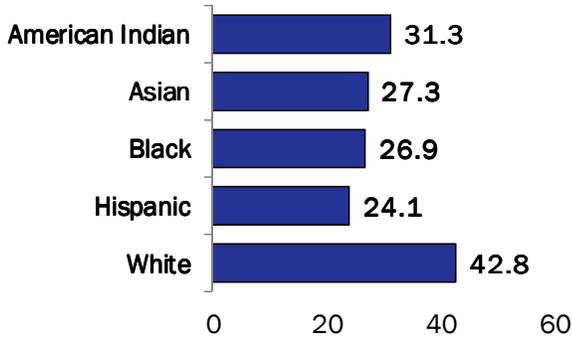
Age and sex of the Wisconsin population, 2013



1: WISCONSIN DEMOGRAPHICS

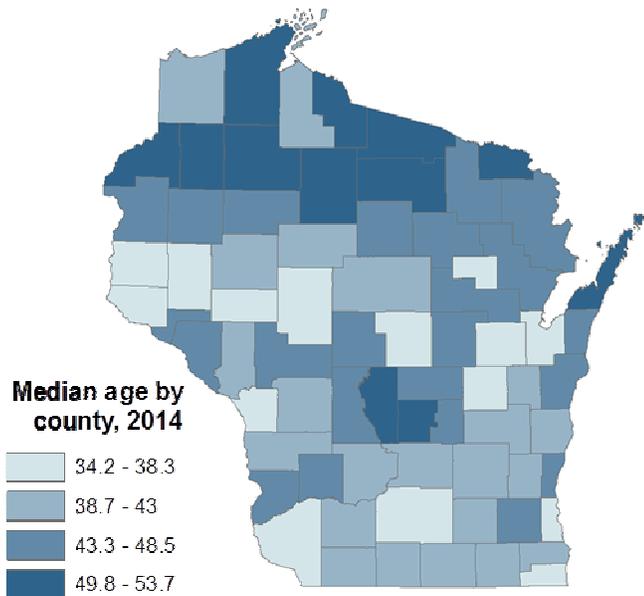
The median age in Wisconsin (39.2) is older than that of the nation as a whole (37.4) and increased in the state since 2002, indicating an aging population.

Median age by race/ethnicity, Wisconsin, 2014



Median age varies both by race/ethnicity and geographic area.

Median age by county, Wisconsin, 2014



Counties with lowest and highest median age, Wisconsin, 2014



American Indians⁵

Wisconsin has 11 American Indian Tribal Areas, including six bands of Lake Superior Chippewa (also referred to as Ojibwe).

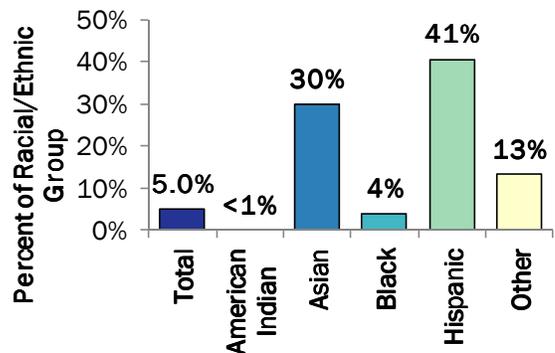
American Indian tribes in Wisconsin



Foreign-born Populations⁶

In 2013, foreign-born people constituted 5% of all Wisconsin residents overall, but about 3 in 10 Asians and 4 in 10 Hispanics/Latinos.

Percentage of the population that is foreign-born, by race/ethnicity, Wisconsin, 2013



In 2013, 42% of foreign-born residents in Wisconsin had come from Latin America; 33% had emigrated from Asia; and 19% had been born in Europe. Eighty-three percent of Hispanic/Latino



1: WISCONSIN DEMOGRAPHICS

foreign-born Wisconsin residents reported Mexico as their country of origin; 7% were born in South America, 7% in Central America, and 4% in the Caribbean. People born in Puerto Rico are U.S. citizens. Of foreign-born Asians in Wisconsin, 44% are from Southeast Asia (Laos, Thailand, the Philippines and other countries); 24% are from India, Pakistan, and other South Asian nations; and 26% are from China, Korea, and other East Asian countries. One in 12 Wisconsin residents speaks a language other than English at home compared to 1 in 5 nationally.

Lesbian, Gay, Bisexual and Transgender (LGBT) Populations

Youth

According to survey data, eight percent of students in Wisconsin public high schools and 18% of Milwaukee Public School students identify as lesbian, gay, bisexual (LGB).⁷ Demographic and health data on transgender youth and adults are very limited.

Adults

Two percent of Wisconsin adults identify as LGB.⁸ Five percent of Wisconsin adult males, age 18 and older, are men who have sex with men.⁹ One in 200 Wisconsin households contains a same-sex couple.¹⁰

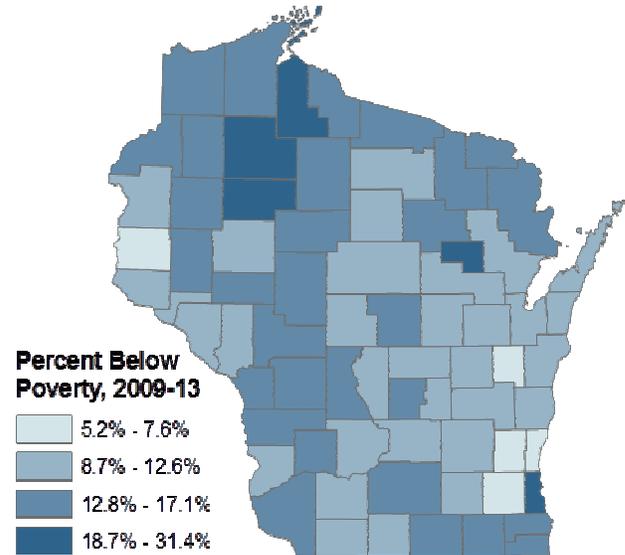
Socioeconomic Status

Income and Poverty

Wisconsin's median household income in 2013 was estimated at \$52,413, closely behind the median income of the rest of the nation (\$53,046).¹¹ Median household income by county in 2013 varied from about \$34,000 in some counties to more than twice that in the wealthiest counties. During 2009-2013, 13.0% of Wisconsin residents were living in poverty compared to 15.4% nationally.

With the exception of Milwaukee, Menominee and Grant Counties, the counties with the largest percent (>15%) of residents living in poverty are found in the Western and Northern regions of the state.¹⁰

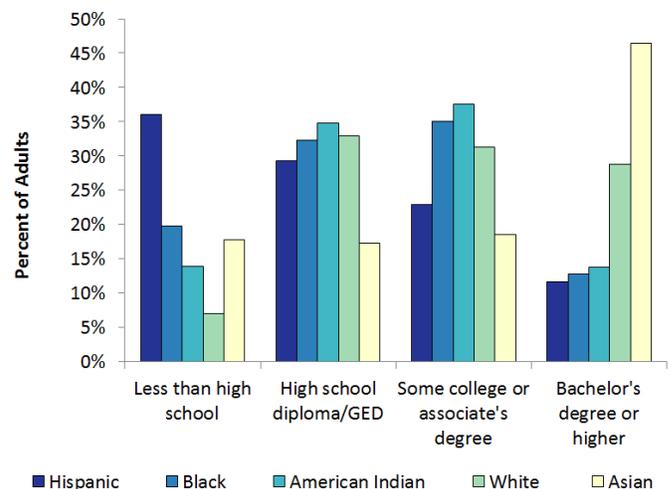
Percent living in poverty, by county, Wisconsin, 2009-2013



Education¹⁰

Of Wisconsin residents ages 25 and older during 2010-2014, 90% had completed high school and 27% had a bachelor's degree or higher, compared to 86% and 29% respectively in the nation. Educational attainment is variable by race/ethnicity. Asians and Whites have the highest levels of educational attainment.

Educational attainment of adults ages 25 and older, by race/ethnicity, Wisconsin, 2010-2014



1: WISCONSIN DEMOGRAPHICS

Homelessness¹¹

During 2007-2014, about 6,000 people were homeless each night, or about 1 in 1,000 Wisconsin residents. Of every 10 homeless people:

- 9 are sheltered and 1 is unsheltered;
- 5 are people in families and 5 are individuals;
- 1 is a veteran; and
- 1 is chronically homeless.

Insurance Coverage

In 2014, an estimated 93% of the Wisconsin population was insured by either private or public institutions compared to 88% of the U.S. population.¹²

References

1. Wisconsin Interactive Statistics on Health (WISH), U.S. Census, 2014.
2. Wisconsin Department of Health Services Regions by County, <https://www.dhs.wisconsin.gov/aboutdhs/regions.htm>
3. Wisconsin Interactive Statistics on Health (WISH). National Center for Health Statistics Data Brief. http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_01.pdf
4. Annual Wisconsin Death Report 2014, National Vital Statistics Reports
5. Great Lakes Intertribal Council. Accessed December 15, 2015 at <http://www.glitc.org/tribes/>.
6. American Community Survey, 2009-2013.
7. Youth Risk Behavior Survey (YRBS), 2013, Wisconsin, Department of Public Instruction and Milwaukee, Milwaukee Public Schools.
8. Wisconsin Behavior Risk Factor Surveillance System, combined cell and landline sample, 2009-2011.
9. Lieb, S. et al, Public Health Reports, 2011, V126.
10. American Community Survey, 2010.
11. Housing and Urban Development Point in Time Estimates, 2007-2014.
12. Health Insurance Coverage in the United States, 2014, U.S. Census Bureau.



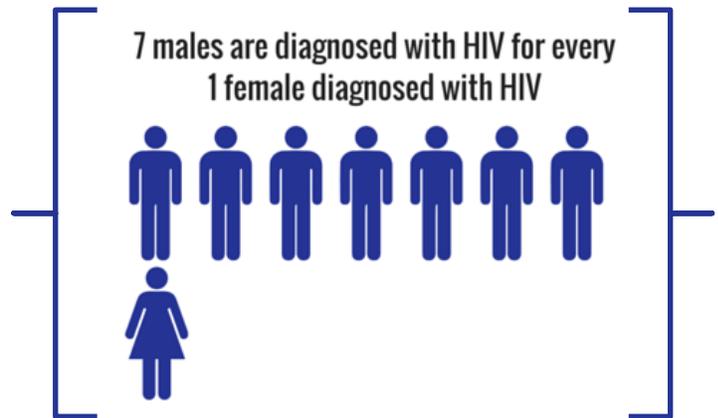
OVERVIEW OF HIV IN WISCONSIN

2: PEOPLE LIVING WITH HIV

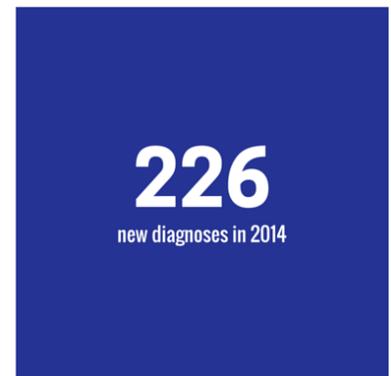
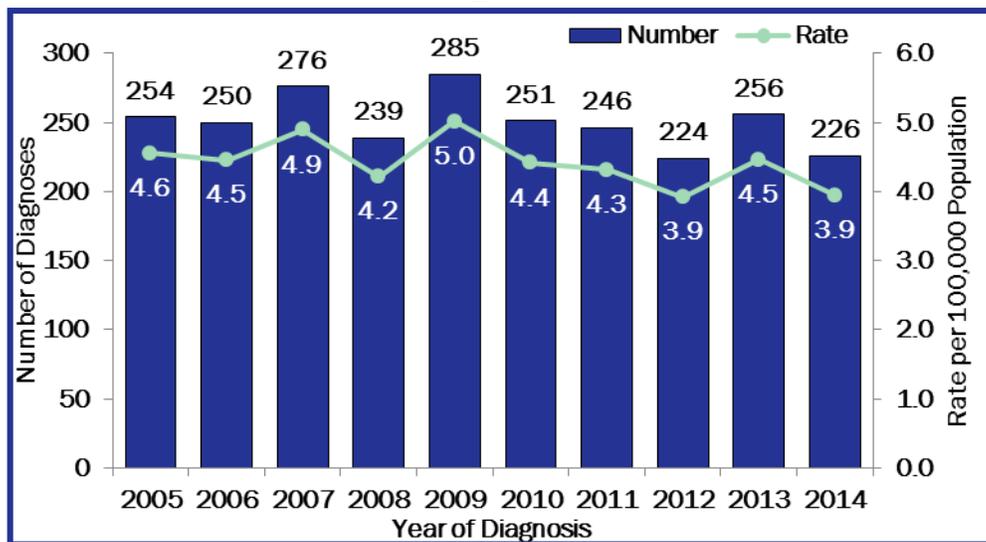
This chapter provides a summary of new diagnoses of HIV infection and prevalent cases in Wisconsin. New diagnoses were analyzed during 2010-2014 and trends were assessed from 2005 to 2014. The section on prevalent cases covers individuals presumed to be alive and living with HIV in Wisconsin as of December 31, 2014.

New Diagnoses* Number and Rate

There were 1,203 new HIV diagnoses in Wisconsin during 2010-2014, with an average of 240 new HIV diagnoses per year. The annual average HIV diagnosis rate was 4 new cases per 100,000 population. The number and rate of new HIV diagnoses were stable over the past 10 years.



Number and rate of HIV diagnoses, Wisconsin, 2005-2014



National Ranking

Based on the most recently available national data (2013), Wisconsin's HIV diagnosis rate (4.6 per 100,000) ranked 14th from the bottom. The overall diagnosis rate for the nation was 15 per 100,000, with a high in Maryland (37 per 100,000) to a low in Idaho (2 per 100,000). However, there are sub-populations in Wisconsin with much higher diagnosis rates.

Sex

Men accounted for 82% of the new diagnoses during 2010-2014. The average HIV diagnosis rate was 7 per 100,000 among men and just over 1 per 100,000 among women.

Age at Diagnosis

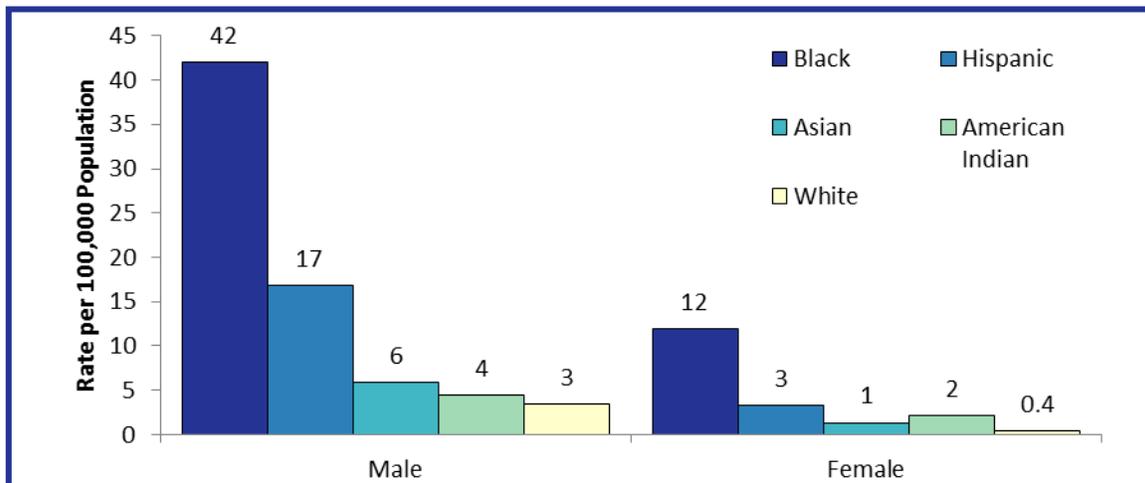
Overall, new diagnoses were split relatively equally among individuals 13-24, 25-34, and 35-49 years of age at diagnosis. The median age at diagnosis overall was 33 years, but the median age among men who have sex with men (MSM), excluding MSM who also injected drugs, was 29 years. Over the last decade, the number of new diagnoses among youth ages 13-24 years doubled, primarily due to increases in diagnoses among young MSM. Diagnoses declined among individuals ages 35-49 years, with no significant trends among the other age groups.



OVERVIEW OF HIV IN WISCONSIN

2: PEOPLE LIVING WITH HIV

HIV diagnosis rate by race/ethnicity and sex, Wisconsin, 2010-2014



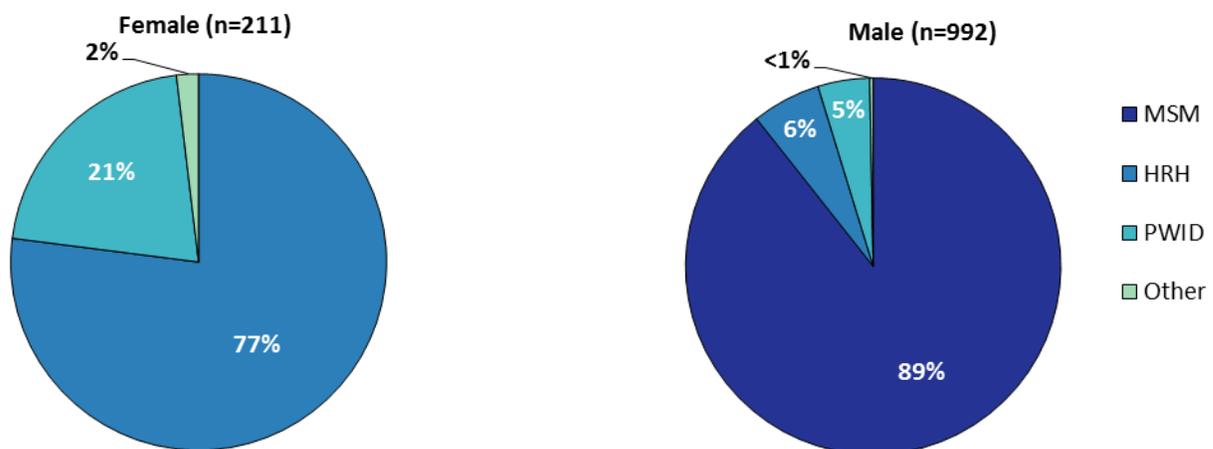
Race/Ethnicity

During 2010-2014, the majority of individuals (63%) newly diagnosed with HIV infection were members of minority racial or ethnic groups, yet racial/ethnic minorities made up just 17% of the state's population. During this five-year period, Black men and women were 12 and 28 times more likely to be diagnosed with HIV than White men and women, respectively. Hispanics were five times more likely to be diagnosed with HIV than their White counterparts.

Risk Exposure

Seventy-four percent of all new HIV diagnoses during 2010-2014 were among MSM, including those who also inject drugs, followed by 18% due to high-risk heterosexual contact, and 7% due to injection drug use. Among men, most new infections were due to male-to-male sexual contact, while among women, most new infections were due to high-risk heterosexual contact. HIV diagnoses among MSM were stable from 2005-2014, while diagnoses attributed to high-risk heterosexual contact and injection drug use have declined.

HIV diagnosis rate by transmission category†, Wisconsin, 2010-2014



†MSM=men who have sex with men; HRH=high-risk heterosexual contact; PWID=people who inject drugs

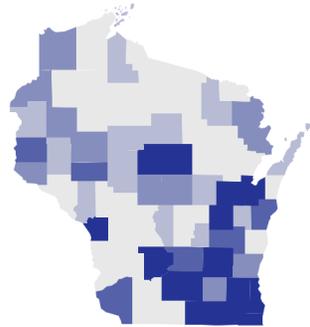


OVERVIEW OF HIV IN WISCONSIN

2: PEOPLE LIVING WITH HIV

Geography

During 2010-2014, half (54%) of all new HIV diagnoses were among residents of Milwaukee County. The Milwaukee County HIV diagnosis rate was 14 per 100,000, which is more than twice that of Dane County, seven times that of other small metropolitan counties, and 14 times higher than non-metropolitan counties.

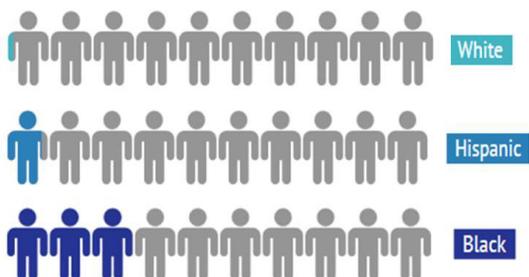


Prevalence*

As of the end of 2014, 6,899 individuals reported with HIV or AIDS were presumed to be alive and living in Wisconsin. Three-quarters (75%) of these were first diagnosed in Wisconsin, the others were initially diagnosed elsewhere. Nearly half (49%) of all people living with HIV (PLWH) reside in Milwaukee County, and almost half (44%) of all PLWH statewide are adults ages 50 and older.

The Centers for Disease Control and Prevention (CDC) estimates that 15.3% of PLWH in Wisconsin are unaware of their HIV status.¹ Thus, an estimated 1,248 in the state are unaware of their HIV infection, so the total number of PLWH in Wisconsin is estimated to be just over 8,100. HIV prevalence varies by demographic group. Nearly one in three (34%) Black MSM is estimated to be living with HIV, compared to 9% of Hispanic and 3% of White MSM.

Estimates of percentages of MSM living with HIV in Wisconsin, by racial group



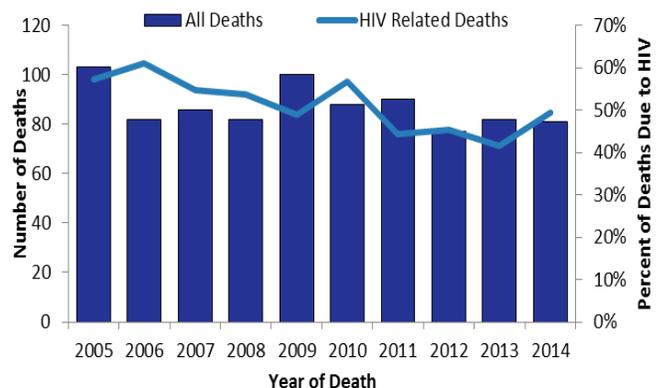
Less than 1 in 1,000 females and non-MSM males in Wisconsin is HIV-positive. Within the non-MSM groups, the rate is highest among Blacks—about 10 in 1,000.

Deaths

During 2010-2014 there were 422 PLWH who died in Wisconsin. Of the 418 deaths with cause of death information, 47% had HIV infection listed as the underlying cause, while the other 52% did not have HIV listed as the underlying cause. The median age at death was similar regardless of whether the death was attributed to HIV (50 years) or other causes (53 years).

There was no significant change in the number of deaths during 2005-2014 among PLWH in Wisconsin, although there appears to be a decline since 2009. Of deaths among PLWH, the proportion attributed to non-HIV related causes has increased while the proportion attributed to HIV has decreased.

Number of deaths occurring in Wisconsin among persons living with HIV, by year of death and primary cause of death, 2005-2014 (n=883 deaths)



†Cause of death was missing for 12 deaths during this 10-year period.

References and Notes

*Data have been statistically adjusted using CDC's multiple imputation procedure to account for individuals with unknown risk, unless otherwise noted.

1. Hall IH, An Q, Tang T., *et al.* (2015). Prevalence of diagnosed and undiagnosed HIV infection—United States, 2008-2012. *MMWR*:64 (24):657-662. Retrieved from: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6424a2.htm>.

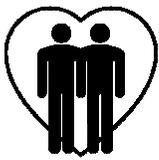


MEN WHO HAVE SEX WITH MEN

2: PEOPLE LIVING WITH HIV

HIGHLIGHTS

- Male-to-male sexual contact accounts for 3 of 4 recent diagnoses.
- Between 2005 and 2010, HIV diagnoses doubled among MSM ages 13-24.
- 1 in 3 Black MSM is estimated to be living with HIV.



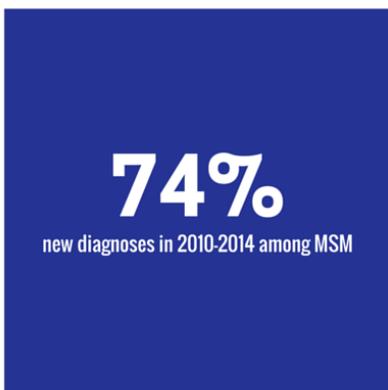
This chapter addresses HIV in individuals who were born male, who were ages 13 or older at the time of diagnosis, and whose infection is attributed to having sex with men (including those who also inject drugs).

New Diagnoses*

Consistent with national trends, men who have sex with men (MSM) continue to be the risk group mostly heavily impacted by HIV in Wisconsin. Approximately 886 (74%) of the 1,203 HIV



infections diagnosed in Wisconsin during 2010-2014 were among MSM, including 29 people who also injected drugs.

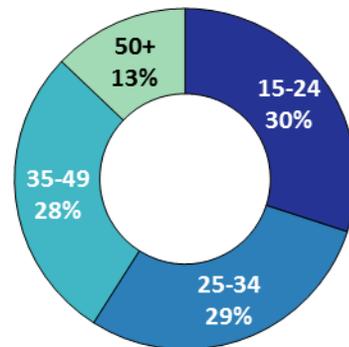


The annual number of new HIV diagnoses among MSM was stable from 2005 to 2014. However, the trends varied by population.

Age at Diagnosis

One-third of MSM diagnosed with HIV in Wisconsin during 2010-2014 were under age 25 at the time of diagnosis, with another third between the ages of 25 and 34.

Age at HIV diagnosis among MSM, Wisconsin, 2010-2014



MSM ages 15-24 accounted for almost 1 in 4 (22%) new HIV diagnoses in Wisconsin during 2010-2014. The median age at HIV diagnosis for MSM diagnosed during 2010-2014 was 29 years. White MSM were generally older at the time of HIV diagnosis compared to MSM of other racial and ethnic groups.

Median age at HIV diagnosis among MSM†, Wisconsin, 2010-2014

Race/Ethnicity	Number	Median Age (Years)
All MSM	727	29
American Indian‡	5	25
Asian	16	28
Black	286	24
Hispanic	95	28
Multi-Racial	12	28
White	313	38

*Based on reported risk exposure.

‡Estimate is statistically unreliable due to case count <12.

Between 2005 and 2010, the annual number of new HIV diagnoses doubled among MSM ages 13-24, declined among MSM ages 35-49, and was stable among MSM of other ages.



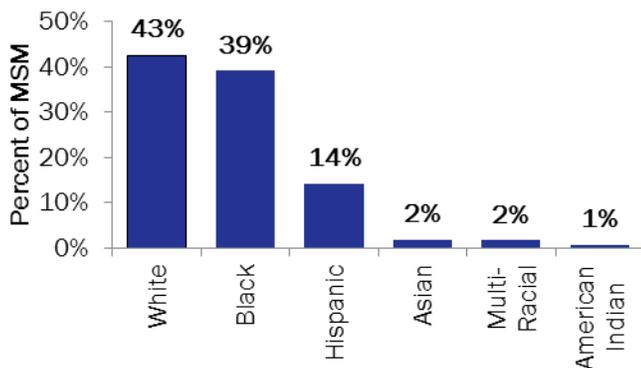
MEN WHO HAVE SEX WITH MEN

2: PEOPLE LIVING WITH HIV

Race/Ethnicity

Among MSM newly diagnosed with HIV in Wisconsin during 2010-2014, 43% were White and 57% were from a minority racial or ethnic group.

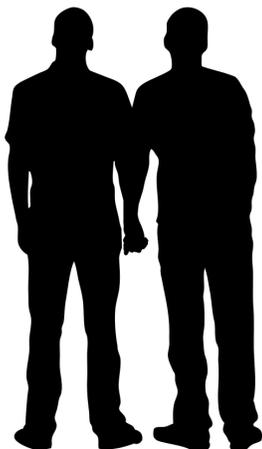
Proportion of HIV diagnoses among MSM by race/ethnicity, Wisconsin, 2010-2014



The increase in MSM ages 15-24 is due primarily to the doubling of diagnoses among young Black MSM. Diagnoses among White and Hispanic MSM were stable during 2005-2014. The number of cases in other racial/ethnic groups was too small to evaluate trends.

Geography

Half (54%) of all diagnoses among MSM were from Milwaukee County. Milwaukee County accounted for one in four diagnoses among White MSM, more than three in four diagnoses among Black MSM, and one in two diagnoses among Hispanic MSM during 2010-2014. Dane County residents made up 12% of new



diagnoses among MSM; all other counties accounted for less than 3% of new diagnoses.

Prevalence*

As of December 31, 2014, approximately 67% (n~4,597) of all people living with HIV in Wisconsin were infected due to male-to-male sexual contact.

An additional 769 MSM are estimated to be living with HIV in Wisconsin but are unaware of their infection. According to the Centers for Disease Control and Prevention, an estimated 14.8% of MSM living with HIV are undiagnosed, meaning an additional 800 MSM may be living with HIV in Wisconsin but are unaware of their infection.¹

References and Notes

*Data have been statistically adjusted using CDC's multiple imputation procedure to account for individuals with unknown risk, unless otherwise noted.

*Icon illustration on preceding page by Hayashi Fumihiro, the Noun Project

1. Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas—2012. *HIV Surveillance Supplemental Report* 2014;19(No. 3). <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published November 2014. Accessed December 15, 2015.



HIGH - RISK HETEROSEXUAL

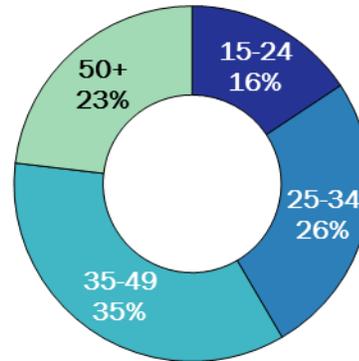
2: PEOPLE LIVING WITH HIV

HIGHLIGHTS

- High-risk heterosexual contact accounted for 1 in 5 recent HIV diagnoses in Wisconsin.
- Black females accounted for almost one-half of all new diagnoses due to high-risk heterosexual contact between 2010 and 2014.
- The annual number of new HIV diagnoses due to high-risk heterosexual contact declined from 2005 to 2014.

associated HIV infection during 2010-2014 were ages 35 and older at the time of diagnosis.

Age at HIV diagnosis among those with high-risk heterosexual contact, Wisconsin, 2010-2014



The median age at HIV diagnosis for individuals diagnosed with HRH-associated HIV infection during 2010-2014 was 39 years. This median age was similar for Blacks and Hispanics but was slightly older for Whites (age 43).

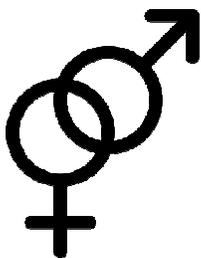
Median age at HIV diagnosis among those with HRH contact, Wisconsin, 2010-2014

[†]Based on reported risk exposure.
[‡]Median age calculated for counts ≥5.
[§]Estimate is statistically unreliable due to case count <12.

Race/Ethnicity	Number	Median Age (Years) [†]
Total	110	39
Asian	4	-
Black	58	37.5
Hispanic	20	38.5
Multi-Racial [§]	5	34
White	23	43

Race/Ethnicity

Among individuals diagnosed with HRH-associated HIV infection during 2010-2014, 56% were Black, 21% were White, and 15% were Hispanic. Black females accounted for almost half of all new diagnoses due to HRH contact between 2010 and 2014.

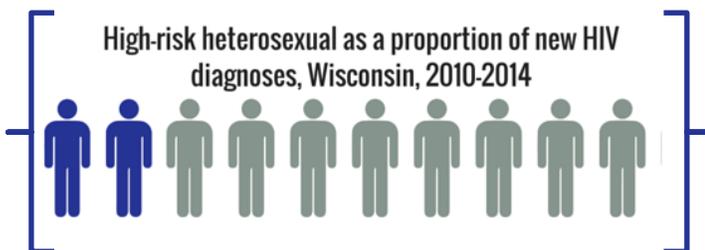


This chapter addresses HIV in individuals whose HIV infection is attributed to high-risk heterosexual (HRH) contact, defined as males and females who report a history of heterosexual contact with a high-risk partner, such as a person who injects drugs (PWID), a bisexual male, or a person living with HIV.

New Diagnoses*

Approximately 221 (18%) of the 1,203 HIV infections diagnosed in Wisconsin during 2010-2014 were among individuals identifying as heterosexual. The annual number of new HIV diagnoses due to high-risk heterosexual contact declined from 2005 to 2014.

Sex



Three-fourths of diagnoses due to HRH contact during 2010-2014 were female and one-fourth was male.

Age at Diagnosis

Fifty-eight percent of individuals diagnosed with HRH-



HIGH - RISK HETEROSEXUAL 2: PEOPLE LIVING WITH HIV

Proportion of diagnoses among those with HRH contact by race/ethnicity and sex, Wisconsin, 2010-2014

Race/Ethnicity	Total	Male	Female
American Indian	1%	1%	1%
Asian	4%	8%	3%
Black	56%	53%	57%
Hispanic	15%	23%	13%
Multi-Racial	3%	3%	3%
White	21%	13%	24%
TOTAL	100%	100%	100%

The annual number of new diagnoses attributed to HRH contact declined among all racial and ethnic groups from 2005 to 2014.

Prevalence*

As of December 31, 2014, approximately 20% (n~1358) of all people living with HIV in Wisconsin were infected due to high-risk heterosexual contact.

According to the CDC, an estimated 16.4% of people with heterosexual-associated HIV infection are undiagnosed, meaning an additional 266 individuals infected with HIV due to HRH contact may be living with HIV in Wisconsin but are unaware of their infection.¹

References and Notes

*Data have been statistically adjusted using CDC's multiple imputation procedure to account for individuals with unknown risk, unless otherwise noted.

*Icon illustration on preceding page by Sergey Demushkin, the Noun Project

1. Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas—2012. *HIV Surveillance Supplemental Report* 2014;19(No. 3). <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published November 2014. Accessed December



PEOPLE WHO INJECT DRUGS

2: PEOPLE LIVING WITH HIV

HIGHLIGHTS

- Injection drug use accounted for 7% of recent HIV diagnoses in Wisconsin.
- Black females accounted for 1 in 4 new diagnoses due to injection drug use.
- The annual number of new HIV diagnoses due to injection drug use declined from 2005 to 2014.

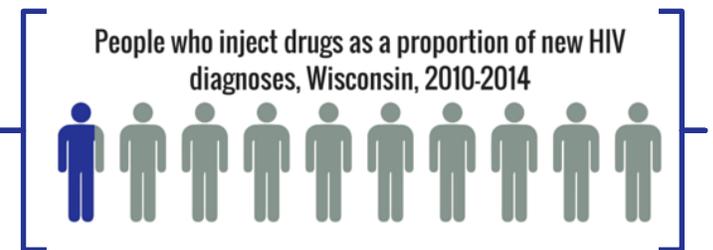
This chapter addresses HIV in individuals whose HIV infection is attributed to injection drug use, denoted in this report as people who inject drugs (PWID). People who inject drugs who are also men who have sex with men (MSM) are excluded from this chapter and are instead covered in the MSM chapter.



Therefore, while efforts to reach MSM would benefit from being focused in large metro areas, efforts to reach PWID should be delivered more broadly.¹

New Diagnoses*

Approximately 89 (7%) of the 1,203 HIV infections diagnosed in Wisconsin during 2010-2014 were among PWID. The annual number of new HIV diagnoses attributed to injection drug use declined from 2005 to 2014.



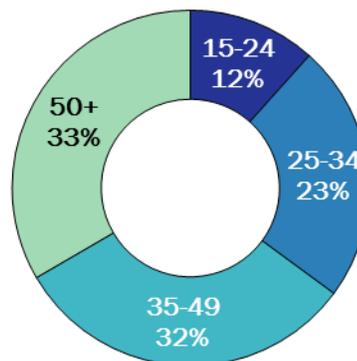
Sex

Males and females were equally represented among PWID diagnoses during 2010-2014.

Age at Diagnosis

Two-thirds of PWID diagnosed with HIV in Wisconsin during 2010-2014 were ages 35 and older.

Age at HIV diagnosis among PWID, Wisconsin, 2010-2014



The median age at HIV diagnosis for PWID diagnosed during 2010-2014 was 46 years. White PWID were generally younger at the time of HIV diagnosis (age 33) compared to Black and Hispanic PWID. The median age at diagnosis for other racial/ethnic groups is not shown due to small numbers.

Estimates of the Number of PWID in Wisconsin

Recently published national estimates from 1999-2010 survey data of the number of people who have injected drugs in the past 12 months indicate that injection drug use is more prevalent in nonmetropolitan areas than in small, medium, or large metropolitan areas.¹ The table provides estimates of the number of active injectors based on survey data. It is important to note that increases in drug overdoses across age groups and hepatitis C diagnoses in young people suggest that the number of people currently injecting drugs has increased since 1999-2010.²

Estimated range with injection drug use in previous 12 months, by metro grouping†, Wisconsin

	Percent of Total Population (range)	Number (range)
Statewide	0.3% (0.2%-0.4%)	7,000-34,000
Milwaukee	0.3% (0.1%-0.5%)	1,000-5,000
Small/medium metro	0.3% (0.1%-0.4%)	3,000-13,000
Non-metro	0.5% (0.2%-1.0%)	3,000-16,000

†Metro groupings are described in the HIV section, Geography chapter.



PEOPLE WHO INJECT DRUGS

2: PEOPLE LIVING WITH HIV

Median age at HIV diagnosis among PWID†, Wisconsin, 2010-2014

Race/Ethnicity	Number	Median Age (Years)*
Total	47	46
American Indian	1	-
Black	15	51
Hispanic§	10	45
Multi-Racial	1	-
White	20	32.5

†Based on reported risk exposure.

*Median age calculated for counts ≥5.

§Estimate is statistically unreliable due to case count <12.

Race/Ethnicity

Among PWID newly diagnosed with HIV in Wisconsin during 2010-2014, 42% were Black, 31% were White, and 23% were Hispanic. Black females accounted for one in four new diagnoses among PWID between 2010 and 2014.

Proportion of diagnoses among PWID by race/ethnicity and sex, Wisconsin, 2010-2014

Race/Ethnicity	Total	Males	Females
American Indian	2%	0%	3%
Asian	1%	1%	1%
Black	42%	36%	47%
Hispanic	23%	32%	14%
Multi-Racial	2%	0%	3%
White	31%	31%	31%
TOTAL	100%	100%	100%

The annual number of new diagnoses from 2005 to 2014 declined among Black and Hispanic PWID, and fluctuated among White PWID.

Geography

Half (58%) of all diagnoses among PWID were from Milwaukee County. The remainder of diagnoses among PWID were from small metropolitan counties (25%), non-metropolitan counties (11%), and Dane County (7%).

Prevalence*

As of December 31, 2014, approximately 12% (n~821) of all people living with HIV in Wisconsin were infected due to

injection drug use.

According to the CDC, an estimated 5% of people with injection drug use-associated HIV infection are undiagnosed, meaning an additional 43 individuals infected with HIV due to injecting drugs may be living with HIV in Wisconsin but are unaware of their HIV status.³

References and Notes

*Data have been statistically adjusted using CDC's multiple imputation procedure to account for individuals with unknown risk, unless otherwise noted.

- Oster, et al., Population Size Estimates for Men who Have Sex with Men and Persons who Inject Drugs, *Journal of Urban Health*, 2015.
- Epidemiologic Profile of Hepatitis C Virus in Wisconsin, 2014.
- Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas—2012. *HIV Surveillance Supplemental Report* 2014;19(No. 3). <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published November 2014. Accessed December 15, 2015.



PERINATAL HIV EXPOSURE

2: PEOPLE LIVING WITH HIV

HIGHLIGHTS

- During 2010-2014, 104 infants were born to HIV-infected mothers **without** becoming infected with HIV; 3 infants were born with HIV.
- The majority of exposed infants (84%) were racial/ethnic minorities, mirroring the characteristics of women living with HIV in Wisconsin.



This chapter presents data on the outcomes of infants who were born to women living with HIV in Wisconsin. The data only include information on pregnancies that were reported to the HIV program. There are several contributing factors that could lead to an underestimate of the number of

pregnant women living with HIV in Wisconsin: (1) Wisconsin does not mandate HIV testing for all pregnant women, so some women might not be tested during pregnancy; (2) there is demonstrated uneven testing rates throughout Wisconsin: women in non-urban counties are less likely to be tested;¹ and (3) reporting of pregnancies among women living with HIV is not required in Wisconsin, so even if local providers know of a pregnancy in a woman with HIV, it may not be reported.

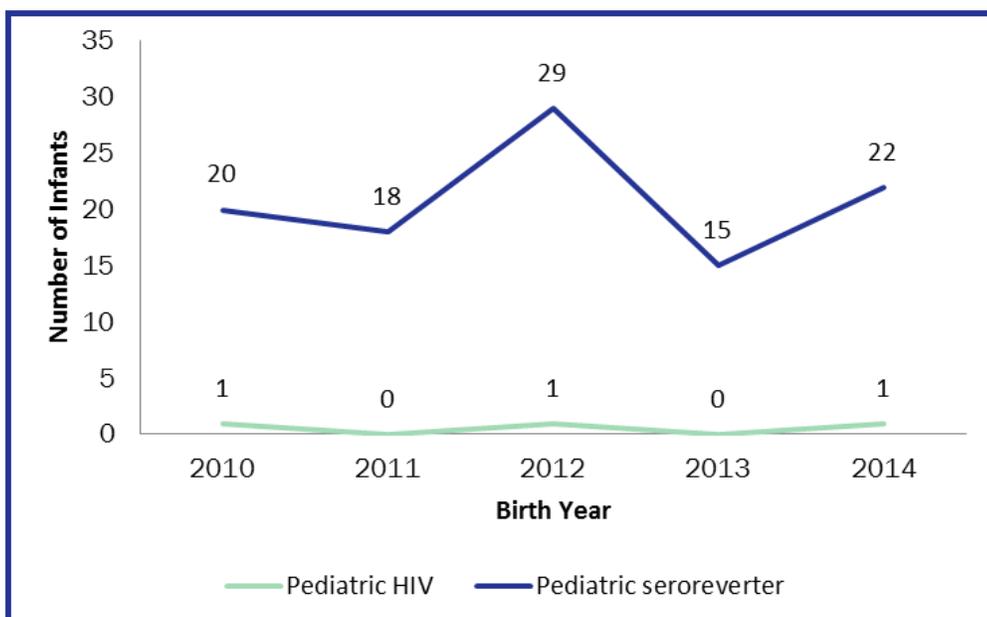
HIV transmission from mother to child can occur during pregnancy, labor and delivery, or breastfeeding.² With antiretroviral treatment during pregnancy, perinatal transmission is rare.

Infants born to women living with HIV are eventually classified into two outcome categories: **perinatal seroreverter** means the exposed infant has been confirmed to be *not* infected with HIV, and **pediatric HIV** means that the infant has a confirmed HIV infection.³ Infant testing is different

from adults as infants generally have maternal antibodies for HIV infection. As a result, HIV antigen/antibody tests cannot be used to accurately diagnose HIV in infants. The tests used to diagnose HIV infection in children less than 18 months of age are either the HIV RNA or HIV DNA nucleic acid test. The CDC recommends testing infants born to mothers with HIV at 14-21 days, again at 1-2 months, and at 4 to 6 months.⁴ Some providers perform a nucleic acid test at birth to rule out in-utero transmission. Some providers perform a fourth-generation HIV antibody screen between 12 and 18 months of age to document the loss of maternal antibodies. If the full testing algorithm is not documented, the status in the HIV surveillance system remains classified as a “perinatal HIV exposure” rather than a seroreverter or pediatric HIV. In Wisconsin, it is recommended providers perform an HIV RNA or DNA PCR at birth, 2 weeks, 4 weeks, and 4 months followed by a fourth generation antigen/antibody test at around 18 months of age.

Since 1982, 564 known infants have been born in Wisconsin to women living with HIV. Ten percent of infants were infected with HIV, the majority of whom were born during the mid-1980s to mid-1990s. During 2010-2014, 107 infants were born to women living with HIV; three (2.8%) infants were infected with HIV.

HIV outcome status among HIV-exposed infants, Wisconsin, 2010-2014



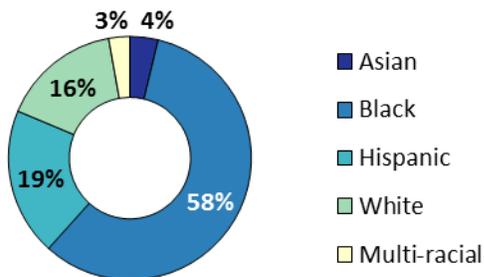
PERINATAL HIV EXPOSURE

2: PEOPLE LIVING WITH HIV

Race/Ethnicity

Among exposed infants in Wisconsin during 2010-2014, 58% were Black, 19% Hispanic, 16% White, 4% Asian, and 3% Multi-Racial. This distribution reflects the characteristics of women living with HIV in Wisconsin.

HIV exposed infants by race/ethnicity, Wisconsin, 2010-2014



In order to sustain Wisconsin's success in its low numbers of pediatric HIV cases, providers of pregnant women are urged to conduct HIV screening as part of the routine panel of prenatal screening tests, and repeat screening during the third trimester in women at high risk for HIV⁵ (women with multiple sex partners, who trade sex for goods or services, women who share needles, or women with a new sexually transmitted infection).

The Wisconsin Primary Care Support Network is a group of infectious disease specialists that provide specialized care, intensive case management services, and statewide consultation to clinicians providing care for pregnant women, infants, children, and adolescents up to the age of 25 with HIV and AIDS.⁶ The Network is also an excellent resource for HIV testing questions related to these populations and can be contacted 24 hours/day by calling 414-266-2000 and asking to speak with the HIV program person on call.

References and Notes

1. Primary Care Support Network, PeriNet data
2. CDC fact sheet. HIV among pregnant women, infants, and children. Available at: <http://www.cdc.gov/hiv/group/gender/pregnantwomen/index.html>
3. Selik RM, Mokotoff ED, Branson B, *et al.* Revised surveillance case definition for HIV infection—United States, 2014. 2014:MMWR;63 (RR03):1-10. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6303a1.htm>
4. Panel on Antiretroviral Therapy and Medical Management of HIV-Infected Children. Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection. Available at <http://aidsinfo.nih.gov/contentfiles/lvguidelines/pediatricguidelines.pdf>. Accessed November 6, 2015 [pC-1]
5. Branson BM, Handsfield HH, Lampe MA, *et al.* Revised recommendations for HIV testing of adults, adolescents, and pregnant women in healthcare settings. 2006 MMWR;55(RR14):1-17. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5514a1.htm>
6. Primary Care Support Network, available at: <http://www.mcw.edu/Pediatrics/InfectiousDiseases/AboutUs.htm>



SEX WORKERS

2: PEOPLE LIVING WITH HIV

HIGHLIGHTS

- People engaging in sex work are at a higher risk for HIV and other sexually transmitted infections than non-sex workers.
- Transgender female sex workers are at higher risk for HIV compared to sex workers of other genders and transgender females who do not engage in sex work.
- The annual number of HIV diagnoses due to sex work is unknown.

This chapter addresses HIV in individuals whose HIV infection is attributed to sexual activity for income, employment, or non-monetary items like food, drugs, or shelter. These individuals are denoted in this report as sex workers. The term “sex” will be used to denote any sexual activity provided in exchange for monetary or non-monetary items.

Data on sex workers’ HIV risk are limited. Furthermore, individuals with HIV who participate in sex work have their risk attributed elsewhere, namely men having sex with men (MSM), injection drug use, or high-risk heterosexual contact.

Federal and Wisconsin laws state that sex trafficking includes the engagement of minors in sexual activity for financial gain. For simplicity, this chapter considers sex-trafficked individuals to be sex workers.

National Data

It is difficult to ascertain data on how much HIV can be attributed to sex work. However, several studies conducted in large cities within the United States have looked at the HIV and sexually transmitted infection (STI) prevalence rates among people who buy or sell sex. One study in San Francisco examined HIV prevalence among MSM who also used injection drugs. A majority of the men (68%) engaged in sex work with at least one male partner in their lifetime, and HIV prevalence was 12%.¹ The researchers concluded that “sex work was strongly associated with HIV infection.”

A study of men ages 18 to 35 attending an urban health center found that men with a sex-purchasing history were more likely to report HIV or STI diagnoses compared to men who did not report this behavior (16.8% versus 2.9% respectively).² Finally, a study examining both men and women found that HIV prevalence was higher among individuals who sold, or both bought and sold sex, compared to individuals who only bought sex.³ This finding implies that the risk of HIV may be higher among sex workers; however, these findings may be confounded by other risk factors.

Transgender female sex workers are also at high risk for HIV infection. A meta-analysis covering large metropolitan cities across 14 countries revealed a 27.3% HIV prevalence among transgender female sex workers, compared to 14.7% among transgender women not engaging in sex work, 15.1% in cisgender male sex workers, and 4.5% in cisgender female sex workers.⁴ Transgender female sex workers were estimated to be at a four-fold greater risk for HIV infection compared to biologically female sex workers.



The red umbrella is an international symbol of sex workers’ rights and the International Day to End Violence Against Sex Workers

Several factors may explain why HIV infection may be higher for sex workers, especially among MSM.⁵ Sex workers were more likely to report the following behaviors/characteristics:

- Do not discuss HIV and other STIs with their partners or believe the discussions would be untruthful.
- Are incentivized to engage in sex without condoms.
- Engage in survival sex because they lack basic necessities (e.g. food, shelter).
- Use sex to support their drug and alcohol use.

The AIDS/HIV Program has not identified any Wisconsin



SEX WORKERS

2: PEOPLE LIVING WITH HIV

studies conducted to examine the relationship between sex workers and HIV. However, information provided from other sources indicates the potential for a large number of sex workers in Wisconsin. For example, the Federal Bureau of Investigation revealed in October 2015 that a recent Wisconsin trafficking operation is “tied for third nationwide in number of juveniles recovered.”⁶ In addition, Milwaukee has been consistently ranked in the top five cities for the recovery of trafficked adolescents.⁷

References and Notes

1. Bacon O, Lum P, Hahn J, Evans J, Davidson P, Moss A, Page-Shafer K. Commercial Sex Work and Risk of HIV Infection Among Young Drug-Injecting Men Who Have Sex with Men in San Francisco. *Sexually Transmitted Diseases*. 2006;33(4): 228-234.
2. Decker MR, Raj A, Gupta J, Silverman JG. Sex Purchasing and Associations with HIV/STI among a Clinic-Based Sample of US Men. *Journal of Acquired Immune Deficiency Syndrome*. 2008;48(3):355–359.
3. Jenness SM, Kobrak P, Wendel T, Neaigus A, Murrill CS, Hagan H. Patterns of Exchange Sex and HIV Infection in High-Risk Heterosexual Men and Women. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*. 2011;88(2):329-341.
4. Operario D, Soma T, Underhill K. Sex Work and HIV Status Among Transgender Women: Systematic Review and Meta-Analysis. *Journal of Acquired Immune Deficiency Syndromes*. 2008;48(1): 97-103.
5. Mimiaga MJ, Reisner SL, Tinsley JP, Mayer KH, Safren SA. Street Workers and Internet Escorts: Contextual and Psychosocial Factors Surrounding HIV Risk Behavior among Men Who Engage in Sex Work with other Men. *Journal of Urban Health*. 2009;86(1): 54-66.
6. Federal Bureau of Investigation. FBI Announces Results of Nationwide Human Trafficking Operation. October 13, 2015. Accessed November 20, 2015, at <https://www.fbi.gov/milwaukee/press-releases/2015/fbi-announces-results-of-nationwide-human-trafficking-operation>.
7. The Guardian. Hub of Human Trafficking: Underground Sex Trade Thrives in Milwaukee. November 2, 2015. Accessed November 20, 2015, at <http://www.theguardian.com/us-news/2015/nov/02/hub-human-trafficking-underground-sex-trade-milwaukee>.



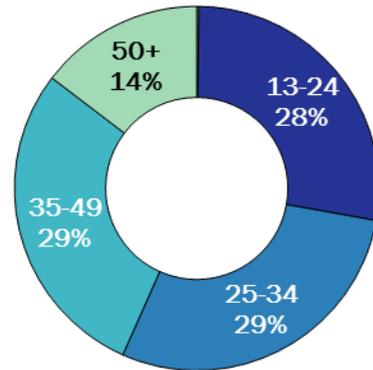
MEN

2: PEOPLE LIVING WITH HIV

HIGHLIGHTS

- Men accounted for four of five recent HIV diagnoses in Wisconsin.
- Black males were 12 times and Hispanic males were five times more likely to be diagnosed with HIV than White males.
- HIV infections doubled among young males from 2005 to 2014.
- Male-to-male sexual contact accounted for 90% of all infections among men.

Age at HIV diagnosis among males, Wisconsin, 2010-2014



White males were generally older at the time of HIV diagnosis compared to males of other racial and ethnic groups.

Median age at HIV diagnosis among males, Wisconsin, 2010-2014

Race/Ethnicity	Number	Median Age (Years) [†]
All Males	992	32
American Indian [‡]	6	34
Asian	21	31
Black	395	26
Hispanic	155	32
Multi-Racial	16	29
White	398	39
Unknown	1	-

[†]Median age calculated for counts ≥ 5 .

[‡]Estimate is statistically unreliable due to case count < 12 .

Race/Ethnicity

While the number of HIV diagnoses in White and Black males during 2010-2014 was similar, the Black population in Wisconsin is much smaller than the White population, indicating a significant racial disparity in HIV diagnoses.

Black males were 12 times more likely, and Hispanic males five times more likely, to be diagnosed with HIV compared to White males.

This chapter addresses HIV in individuals whose birth sex was reported as male. Risk sections are limited to individuals ages 13 or older at the time of diagnosis.

New Diagnoses*

Of the 1,203 HIV infections diagnosed in Wisconsin during 2010-2014, 992 (82%) were among males, with an HIV diagnosis rate of 7 per 100,000. The annual number of new HIV diagnoses among males was stable from 2005 to 2014.



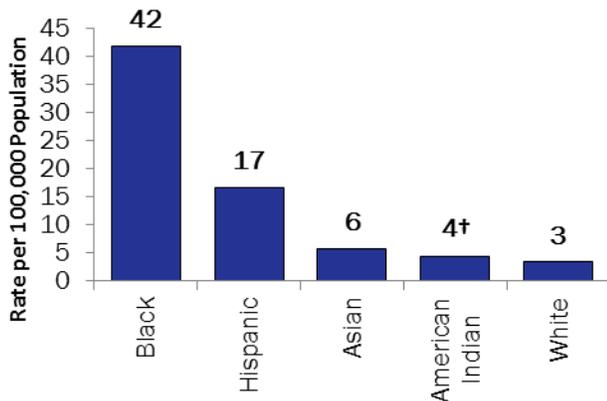
Age at Diagnosis

The median age at diagnosis for males diagnosed during 2010-2014 was 32 years.



2: PEOPLE LIVING WITH HIV

HIV diagnosis rate among males by race/ethnicity, Wisconsin, 2010-2014



†Rates are statistically unreliable due to case count <12.

The HIV diagnosis rate declined from 2005 to 2014 among White males and was stable among Black and Hispanic males.

Risk Exposure

Men who have sex with men (MSM) accounted for the majority of infections among men diagnosed with HIV in Wisconsin. White males had the highest proportion of MSM-attributed infections (95%) and Asian males had the lowest (77%).

Proportion new HIV diagnoses among males by risk exposure†, Wisconsin, 2010-2014

Race/Ethnicity	MSM (Including MSM/PWID)	PWID	HRH
All Men	90%	4%	6%
American Indian	90%	3%	7%
Asian	77%	1%	22%
Black	88%	4%	8%
Hispanic	82%	9%	9%
Multi-Racial	91%	0%	9%
White	95%	3%	2%

†MSM=Men who have sex with men; PWID=people who inject drugs; HRH=high-risk heterosexual contact.

From 2005 to 2014 the following trends in HIV diagnoses were observed among all males:

- Stable among MSM (including MSM who also injected drugs).
- Declined among non-MSM who injected drugs and those with high-risk heterosexual contact.

While the annual number of new HIV infections among MSM remained stable, diagnoses among MSM ages 13-24 doubled between 2005 and 2010. Diagnoses declined among MSM ages 35-49 over the same time period and remained stable among other age groups.

Prevalence*

As of December 31, 2014, 80% (n=5,546) of all people living with HIV in Wisconsin were men.

According to the CDC, an estimated 13.3% of HIV-infected males are undiagnosed, meaning an additional 851 may be living with HIV in Wisconsin but are unaware of their infection.¹

References and Notes

*Data have been statistically adjusted using CDC's multiple imputation procedure to account for individuals with unknown risk, unless otherwise noted.

1. Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas—2012. *HIV Surveillance Supplemental Report* 2014;19(No. 3). <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published November 2014. Accessed December 15, 2015.



WOMEN

2: PEOPLE LIVING WITH HIV

HIGHLIGHTS

- Females accounted for one of five new HIV diagnoses in Wisconsin during 2010-2014
- Black females are 30 times and Hispanic females are 7.5 times more likely to be diagnosed with HIV than White females.
- High-risk heterosexual exposure accounts for 75% of all infections among females.

This chapter addresses HIV in individuals whose birth sex was reported as female. Risk sections are limited to individuals ages 13 or older at the time of diagnosis.

New Diagnoses*

Of the 1,203 HIV infections diagnosed in Wisconsin during 2010-2014, 211 (18%) were among females, with an HIV diagnosis rate of just over 1 per 100,000. The annual number of new HIV diagnoses among females decreased from 2005 to 2014.

Females as a proportion of new HIV diagnoses, Wisconsin, 2010-2014



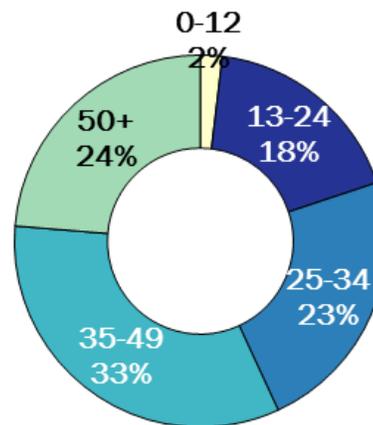
Age at Diagnosis

Most (80%) females diagnosed with HIV in Wisconsin during 2010-2014 were ages 25 and older at the time of diagnosis.

38

median age at diagnosis

Age at HIV diagnosis among females, Wisconsin, 2010-2014



The median age at diagnosis for all females living with HIV in Wisconsin was 38. Asian and Multi-Racial women tended to be younger, although these numbers should be interpreted with caution due to small case counts.

Median age at HIV diagnosis among females, Wisconsin, 2010-2014

Race/Ethnicity	Number	Median Age (Years) [†]
All Females	211	38
American Indian	3	-
Asian	5	30 [‡]
Black	116	38
Hispanic	28	35
Multi-Racial	7	23 [‡]
White	52	41

[†]Median age calculated for counts ≥ 5 .

[‡]Estimate is statistically unreliable due to case count < 12 .

Race/Ethnicity

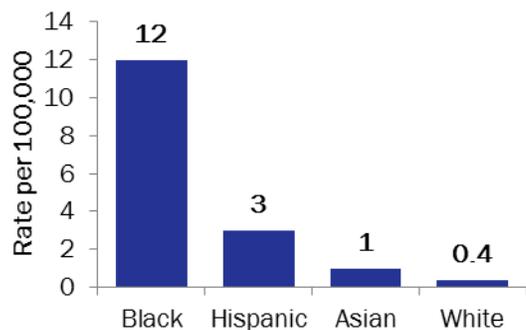
Among females diagnosed with HIV in Wisconsin during 2010-2014, 55% were Black, 25% were White, and 13% were Hispanic. Black females were 30 times more likely, and Hispanic females more than seven times more likely, to be diagnosed with HIV compared to White females.



WOMEN

2: PEOPLE LIVING WITH HIV

HIV diagnosis rate among females by race/ethnicity, Wisconsin, 2010-2014



The HIV diagnosis rate for White females declined from 2005 to 2014, while remaining stable or fluctuating among Black and Hispanic females.

Risk Exposure

Three in four HIV infections diagnosed among women in Wisconsin during 2010-2014 were attributed to high-risk heterosexual contact. Similar to that seen statewide, HIV infections in women attributed to injection drug use or high-risk heterosexual contact declined from 2005 to 2014.

Prevalence*

As of December 31, 2014, 20% (n=1,353) of all people living with HIV in Wisconsin were female.

According to the CDC, an estimated 11.4% of HIV-infected females are undiagnosed. This means that an additional 157 females may be living with HIV in Wisconsin but are unaware of their infection.¹

References and Notes

*Data have been statistically adjusted using CDC's multiple imputation procedure to account for individuals with unknown risk, unless otherwise noted.

1. Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas—2012. *HIV Surveillance Supplemental Report* 2014;19(No. 3). <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published November 2014. Accessed December 15, 2015.



TRANSGENDER

2: PEOPLE LIVING WITH HIV

HIGHLIGHTS

- Data on HIV diagnoses among transgender people are very limited, both nationally and in Wisconsin.

National data indicate:

- Very high rates of HIV among transgender women (male-to-female) with the highest rates in Blacks.
- A large percentage of transgender women living with HIV are unaware of their status.

identity referring to an individual's sense of themselves and sexual orientation referring to an individual's attractions and partnering.

According to the CDC, transgender women are among the groups at highest risk for HIV infection.¹ A national meta-analysis indicated an estimated 27.7% HIV prevalence among transgender women, with a large proportion (27-48%) of transgender women reporting high-risk sexual behaviors.² A high proportion of HIV-infected transgender women in these studies were previously unaware of their status.

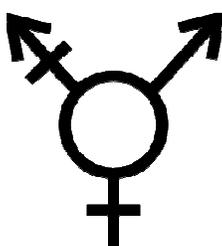
The meta-analysis indicated a higher HIV prevalence among Black (16.7%) and Hispanic (16.1%) transgender women compared to White transgender women (6.1%). The estimated HIV prevalence among transgender men was much lower, averaging 0% to 3% across studies.

New Diagnoses in Wisconsin

A total of 31 known transgender individuals have been diagnosed with HIV infection in Wisconsin since the beginning of the epidemic (28 male-to-females and three female-to-male). While the data collection of self-reported gender identity has improved over time, this likely underestimates the true number of transgender individuals diagnosed with HIV infection in Wisconsin. Of the 31 known transgender individuals diagnosed with HIV in Wisconsin, 25 of the diagnoses occurred between

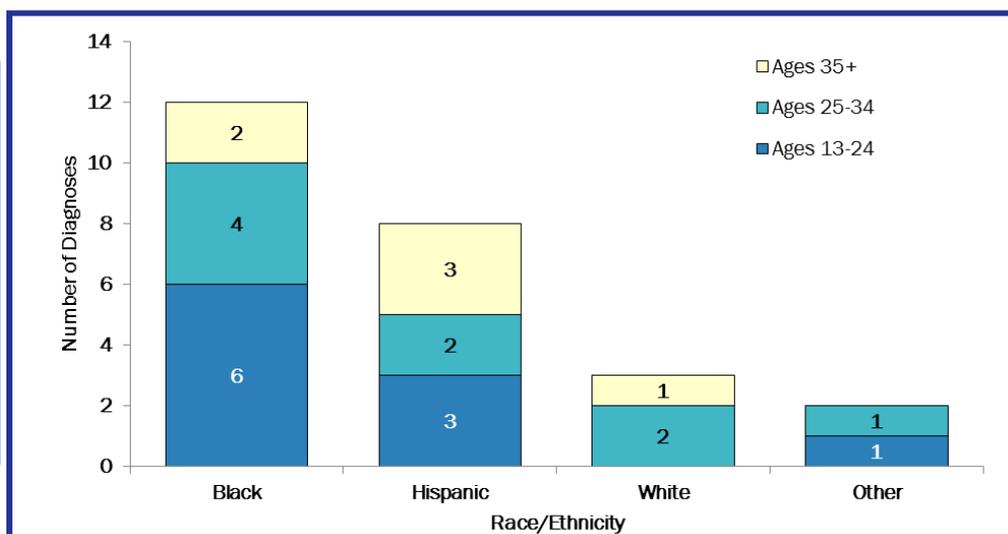
Context and national data

The term "transgender" refers to people whose gender identity does not conform to their sex assigned at birth. It includes



people who self-identify as male-to-female or transgender women, female-to-male or transgender men, and many other gender nonconforming identities. A transgender person may have the anatomy of their sex at birth, the other sex, or a combination. Gender identity and sexual orientation are separate, distinct concepts, with gender

Number of HIV diagnoses among transgender individuals by race/ethnicity and age at diagnosis, Wisconsin, 2005-2014



25
known transgender individuals diagnosed
in Wisconsin between 2005-2014



TRANSGENDER

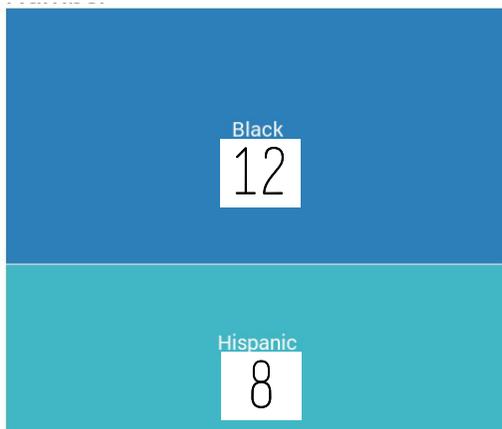
2: PEOPLE LIVING WITH HIV

2005 and 2014. Of these 25 recent diagnoses:

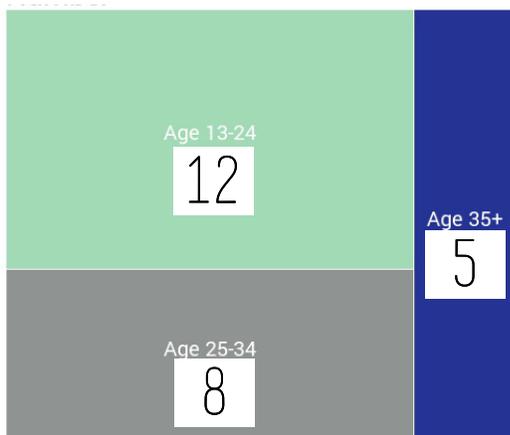
- 22 were male-to-female; 3 were female-to-male



- 12 were Black; 8 were Hispanic



- 12 were ages 13-24, 8 were ages 25-34, and 5 were ages 35 and older



- 19 were in Milwaukee County

Prevalence

Thirty-eight transgender people in Wisconsin are known to be living with HIV. This is likely to be an underestimate.

References and Notes

1. Centers for Disease Control and Prevention. HIV Among Transgender People. Accessed September 10, 2015, at <http://www.cdc.gov/hiv/group/gender/transgender/index.html>.
2. Herbst, HH et al. (2008), Estimating HIV Prevalence and Risk Behaviors of Transgender Persons in the United States: A Systematic Review. *AIDS Behav* 12:1-17. DOI 10.1007/s10461-007-9299-3



BLACK/AFRICAN - AMERICAN

2: PEOPLE LIVING WITH HIV

HIGHLIGHTS

- Four in 10 recent HIV diagnoses were in Black men and women.
- The HIV diagnosis rate in Blacks is more than 10 times higher than in Whites.
- One in three Black men who have sex with men (MSM) in Wisconsin is living with HIV.

This chapter addresses HIV in non-Hispanic Blacks or African-Americans.

New Diagnoses*

Black people accounted for 511 (42%) of the 1,203 HIV infections diagnosed in Wisconsin during 2010-2014, but make up only 7% of the state's population. The HIV diagnosis rate in Black people were more than 10 times higher than in White people and nearly three times higher than in Hispanic people. The HIV diagnosis rate remained level among Black people and Hispanic people but declined in White people.

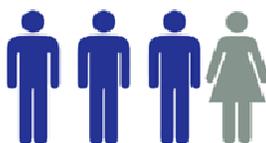
Number and rate of HIV diagnoses by race/ethnicity, Wisconsin, 2010-2014

Race/Ethnicity	Number	Annual rate per 100,000
American Indian†	9	3
Asian	26	4
Black	511	27
Hispanic	183	10
Multi-Racial‡	23	-
White	450	2

†Estimate is statistically unreliable due to case count <12
‡Multi-racial population denominator not available.

Sex

Three in 4 Black people diagnosed with HIV in Wisconsin during 2010-2014 were male.



Gender

Of the 25 known transgender persons diagnosed with HIV during 2005-2014, 12 are Black, and 10 of these were diagnosed before age 35.

Age at Diagnosis

Black males were diagnosed at a much younger age than both Black females and males of other racial/ethnic groups.

Median age at diagnosis† by race/ethnicity and sex, Wisconsin, 2010-2014

Race/Ethnicity	Males	Females
American Indian	33.5‡	-
Asian	31	30‡
Black	26	38
Hispanic	32	34.5
Multi-Racial	29	23‡
White	39	41

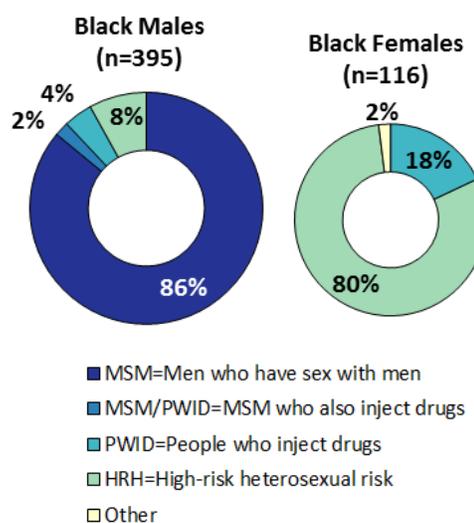
†Median age calculated for counts ≥5.

‡Estimate is statistically unreliable due to case count <12.

Risk Exposure

Men who have sex with men (MSM), including MSM who also injected drugs, accounted for 88% of infections among Black males diagnosed with HIV in Wisconsin. Among Black women, 80% of HIV diagnoses were attributed to high-risk heterosexual contact.

HIV diagnoses in Black people by sex and risk exposure, Wisconsin, 2010-2014



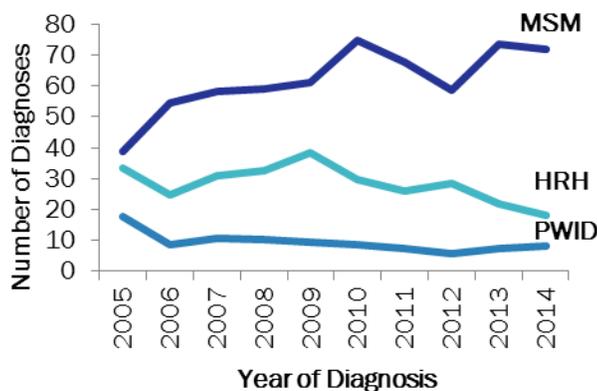
BLACK/AFRICAN - AMERICAN

2: PEOPLE LIVING WITH HIV

HIV diagnoses in Wisconsin during 2005-2014:

- More than doubled in young Black MSM.
- Increased in Black MSM ages 25 and older.
- Declined in Black people who inject drugs (PWID) and those with high-risk heterosexual contact.

HIV diagnoses by risk exposure in Blacks in Wisconsin, 2005-2014



Geography

Milwaukee County residents account for nearly four in five diagnoses among Black people in Wisconsin.

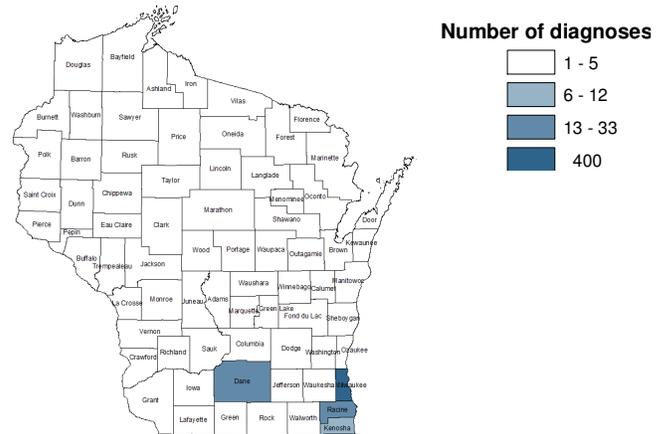
HIV diagnoses among Blacks in Wisconsin by county, 2010-2014 (n=511)

County	Percent of the state's Black diagnoses	Annual rate per 100,000 Population
All Counties	100%	27
Milwaukee	78%	31
Dane	6%	22
Racine	5%	23
Kenosha	2%	20
All other	0%-1%	<12

For every 10 Black Wisconsin residents diagnosed with HIV during 2010-14, approximately:

- 8 are in Milwaukee County
- 7 are male
- 6 are attributed to male-to-male sex
- 6.5 are under age 35

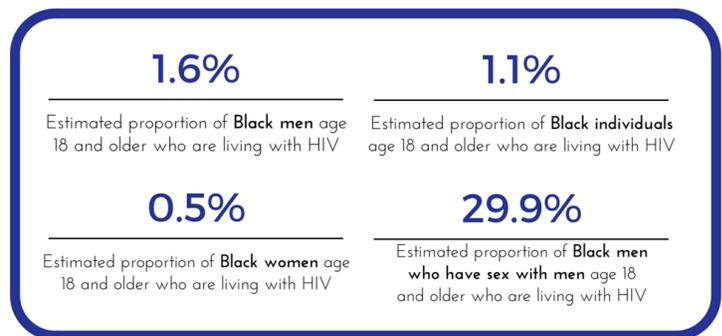
HIV diagnoses in Black people by county, Wisconsin, 2010-2014



HIV Prevalence*

As of December 31, 2014, 38% (n=2,629) of all people living with HIV in Wisconsin were Black. According to the CDC, an estimated 13.7% of Black people infected with HIV are undiagnosed, meaning an additional 417 Black people may be living with HIV in Wisconsin but are unaware of their infection.¹ One in three Black MSM is estimated to be living with HIV compared to 9% of Hispanic and 3% of White MSM. About 1 in 200 Black females and Black non-MSM males is living with HIV.

Prevalence of HIV in Black sub-populations, Wisconsin, 2014



References and Notes

*Data have been statistically adjusted using CDC's multiple imputation procedure to account for individuals with unknown risk, unless otherwise noted.

1. Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas—2012. *HIV Surveillance Supplemental Report* 2014;19(No. 3). <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published November 2014. Accessed December



HISPANIC/LATINO

2: PEOPLE LIVING WITH HIV

HIGHLIGHTS

- Hispanics account for 15% of recent HIV diagnoses in Wisconsin.
- The HIV diagnosis rate in Hispanics is more than five times higher than in Whites.
- One in 11 Hispanic men who have sex with men (MSM) in Wisconsin is living with HIV.

This chapter addresses HIV in Hispanics or Latino people. The federal Office of Management and Budget (OMB) defines Hispanic or Latino as “a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.”

New Diagnoses*

Hispanic people accounted for 183 (15%) of the 1,203 HIV infections diagnosed in Wisconsin during 2010-2014, but make up only 6% of the state’s population. The HIV diagnosis rate in Hispanics was five times higher than in Whites during 2010-2014. The HIV diagnosis rate remained level among Hispanic and Black people but declined in Whites during 2005-2014.

Number and rate of HIV diagnoses by race/ethnicity, Wisconsin, 2010-2014

Race/Ethnicity	Number	Annual rate per 100,000
American Indian†	9	3
Asian	26	4
Black	511	27
Hispanic	183	10
Multi-Racial‡	23	-
White	450	2

†Estimate is statistically unreliable due to case count <12

‡Multi-racial population denominator not available.

Sex

Males accounted for six in seven Hispanic people diagnosed with HIV in Wisconsin during 2010-2014.



Gender

Of the 25 known transgender persons diagnosed with HIV during 2005-2014, eight are Hispanic and five were diagnosed before the age of 35.

Age at Diagnosis

Hispanic males and females had a median age at diagnoses that was younger than White people, but older than most other racial/ethnic minority groups.

Median age at diagnosis† by race/ethnicity and sex, Wisconsin, 2010-2014

Race/Ethnicity	Males	Females
American Indian	33.5‡	-
Asian	31	30‡
Black	26	38
Hispanic	32	34.5
Multi-Racial	29	23‡
White	39	41

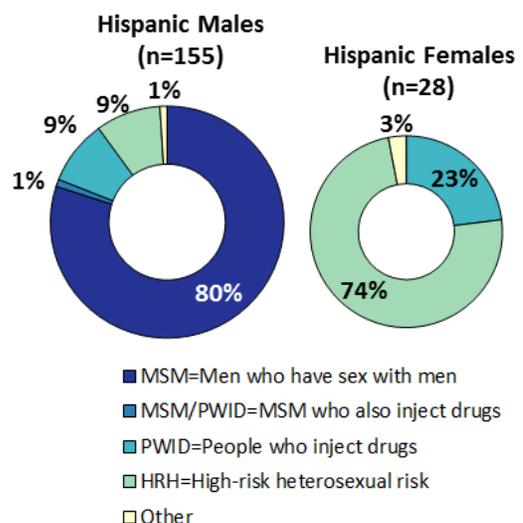
†Median age calculated for counts ≥5

‡Estimate is statistically unreliable due to case count <12

Risk Exposure

Men who have sex with men (MSM), including MSM who also injected drugs, accounted for 80% of infections among Hispanic males diagnosed with HIV in Wisconsin. Among Hispanic women, 74% of HIV diagnoses were attributed to high-risk heterosexual contact.

HIV diagnoses in Hispanics by sex and risk exposure, Wisconsin, 2010-2014



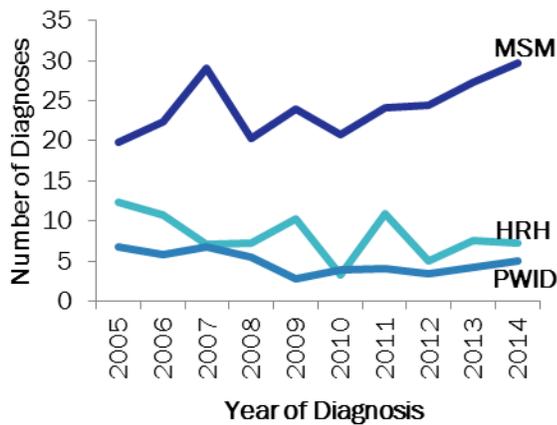
HISPANIC/LATINO

2: PEOPLE LIVING WITH HIV

HIV diagnoses in Wisconsin during 2005-2014:

- Increased in Hispanic MSM.
- Declined in Hispanic people who inject drugs and high-risk heterosexuals.

HIV diagnoses by risk exposure in Hispanic people in Wisconsin, 2005-2014



Geography

Milwaukee County residents account for half of diagnoses among Hispanic people in Wisconsin.

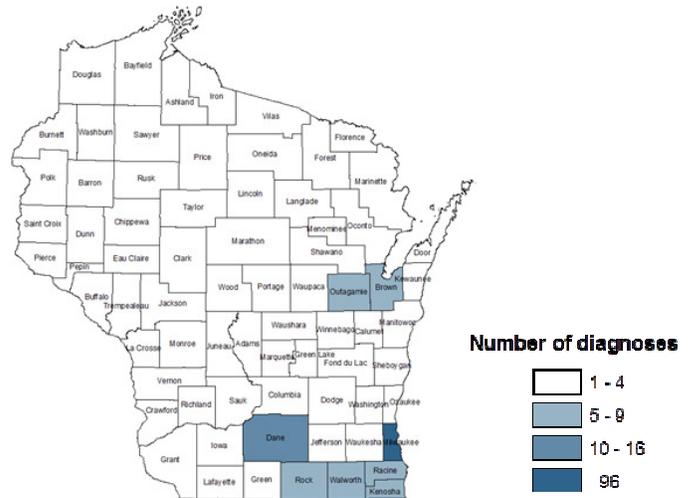
HIV diagnoses among Hispanics in Wisconsin by county, 2010-2014 (n=183)

County	Percent of the state's Hispanic diagnoses	Annual rate per 100,000
All counties	100%	10
Milwaukee	52%	15
Dane	9%	11
Brown	5%	9
Racine	4%	7
Outagamie	3%	17
Kenosha	3%	6
Walworth	3%	11
All others	0%-3%	Variable

For every 10 Hispanic Wisconsin residents diagnosed with HIV during 2010-14, approximately:

- 5 are in Milwaukee County
- 8.5 are male
- 7 are attributed to male-to-male sex
- 5.5 are under age 35

HIV diagnoses in Hispanics by county, Wisconsin, 2010-2014



HIV Prevalence*

As of December 31, 2014, 15% (n=869) of all people living with HIV in Wisconsin were of Hispanic ethnicity.

According to the CDC, an estimated 14.7% of Hispanic people infected with HIV are undiagnosed, meaning an additional 150 Hispanic people may be living with HIV in Wisconsin but are unaware of their infection.¹

The prevalence in Hispanic people is more than three times higher than in Whites. Nine percent of Hispanic MSM are estimated to be living with HIV compared to 3% of White MSM.

References and Notes

*Data have been statistically adjusted using CDC's multiple imputation procedure to account for individuals with unknown risk, unless otherwise noted.

1. Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas—2012. *HIV Surveillance Supplemental Report* 2014;19(No. 3). <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published November 2014. Accessed December 15, 2015.



AMERICAN INDIAN

2: PEOPLE LIVING WITH HIV

HIGHLIGHTS

- Data on HIV diagnoses in American Indian individuals are very limited, both nationally and in Wisconsin.
- 70 American Indians were diagnosed with HIV in Wisconsin during 1985-2014.
- Injection drug use accounted for 38% of diagnoses in females and 18% of diagnoses in males, a higher percentage than in other racial/ethnic groups.
- An estimated 50 American Indians are living with HIV in Wisconsin, including those unaware of their HIV status.

The diagnosis rate among American Indians is higher than that of Whites, although the rate for American Indians should be interpreted with caution due to small numbers.

Number and rate of HIV diagnoses by race/ethnicity, Wisconsin, 2010-2014

Race/Ethnicity	Number	Annual rate per 100,000
American Indian†	9	3
Asian	26	4
Black	511	27
Hispanic	183	10
Multi-Racial‡	23	-
White	450	2

†Estimate is statistically unreliable due to case count <12.

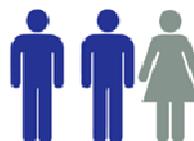
‡Multi-racial population denominator not available.

Because of the relatively small number of diagnoses in the recent period, the rest of this summary is based on the 70 American Indians diagnosed with HIV in Wisconsin from 1985 to 2014.

Sex

Males accounted for two in three American Indians diagnosed with HIV in Wisconsin during 1985-2014. In other racial/ethnic groups, males accounted for at least 3 in 4 diagnoses.

Age



The median age at diagnosis for all American Indians diagnosed with HIV in Wisconsin is 29 for females and 31 for males—similar to that of other non-Whites.

Risk Exposure

Men who have sex with men (MSM), including MSM who also injected drugs, accounted for 73% of infections among American Indian males diagnosed with HIV in Wisconsin. Injection drug use accounted for 37% and 18% of diagnoses in females and males respectively, a higher percentage than in

This chapter addresses HIV in American Indians. The federal Office of Management and Budget (OMB) defines American Indian and Alaskan Native as “a person having origins in any of the original peoples of North and South American (including Central America), and who maintains tribal affiliation or community attachment.”

Context and national data

According to the CDC, American Indian communities in the U.S. bear a proportional burden of HIV infection based on their population size. In 2010, less than 1% of new infections came from American Indians.

Similar to other racial groups, males accounted for the majority of HIV diagnoses in Wisconsin. Most HIV infections among American Indian males were attributed to male-to-male sexual contact, whereas most HIV infections among American Indian females were attributed to heterosexual contact. In 2013, compared to other racial groups nationally, American Indians had the highest percentage of reported HIV infection attributable to injection drug use.¹

New HIV Diagnoses*

American Indians accounted for 9 (<1%) of the 1,203 people diagnosed with HIV infection in Wisconsin during 2010-2014.



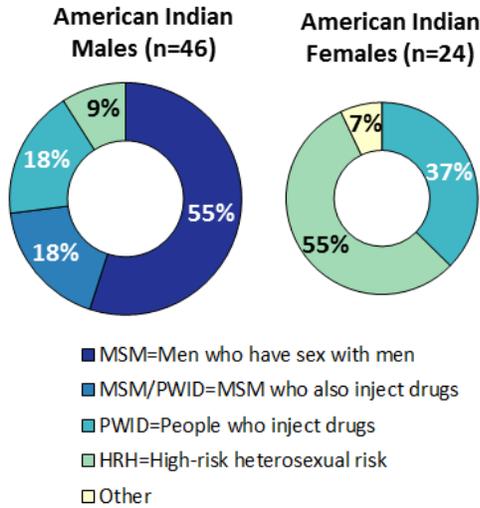
AMERICAN INDIAN

2: PEOPLE LIVING WITH HIV

other racial/ethnic groups. High-risk heterosexual contact accounted for 55% of diagnoses in American Indian women.

living with HIV in Wisconsin were American Indian.

HIV diagnoses in American Indians by sex and risk exposure, Wisconsin, 1985-2014

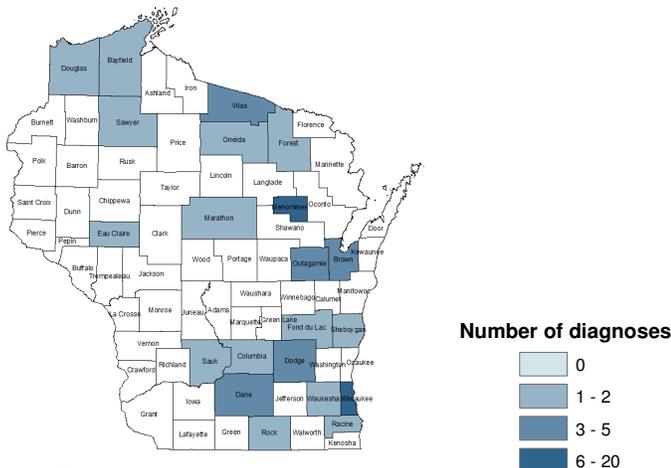


According to the CDC, an estimated 18.9% of American Indians infected with HIV are undiagnosed, meaning an additional 10 American Indians may be living with HIV in Wisconsin but are unaware of their infection.²

Geography

HIV diagnoses among American Indians have been distributed across the state, with 29% from Milwaukee County, 19% from Menominee County, 32% from northern counties and 20% from south and south-central Wisconsin.

HIV diagnoses in American Indians by county, Wisconsin, 1985-2014



HIV Prevalence

As of December 31, 2014, less than 1% (n=41) of all people

References and Notes

*Data have been statistically adjusted using CDC's multiple imputation procedure to account for individuals with unknown risk, unless otherwise noted.

- Centers for Disease Control and Prevention. HIV/AIDS Among American Indians and Alaska Natives. (2015, April 15). Retrieved from <http://www.cdc.gov/hiv/group/raciaethnic/aian/index.html>.
- Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas—2012. *HIV Surveillance Supplemental Report* 2014;19(No. 3). <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published November 2014. Accessed December 15, 2015.



HIGHLIGHTS

- Data on HIV diagnoses in Asian individuals are very limited, both nationally and in Wisconsin.
- 100 Asians were diagnosed with HIV in Wisconsin during 1985-2014.
- While male-to-male sexual contact accounted for two-thirds of diagnoses among Asian males, high-risk heterosexual contact accounted for 29% of diagnoses, a higher percentage than in other racial/ethnic groups.
- An estimated 97 Asians are living with HIV in Wisconsin, including those unaware of their HIV status.

This chapter addresses HIV in Asian people, Native Hawaiians, and Pacific Islanders. The U.S. census in 2010 defines Asian as a “person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent” and Native Hawaiian or Other Pacific Islander as a “person with origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.” This report will use the term “Asians” for brevity.

Context and National data

According to the CDC, diagnoses among Asians nationally declined between 2007 and 2010.¹ Asians accounted for 2% of new HIV infections in the United States in 2010.

Like other racial groups, the majority of people diagnosed with HIV were male. Most HIV infections among Asian males were attributed to male-to-male sexual contact whereas most HIV infections among Asian females were attributed to high-risk heterosexual contact.

New Diagnoses*

Asians accounted for 26 (<1 %) of the 1,203 people diagnosed with HIV infections in Wisconsin during 2010-2014. The diagnosis rate among Asians was twice the rate for Whites.

Number and rate of HIV diagnoses by race/ethnicity, Wisconsin, 2010-2014

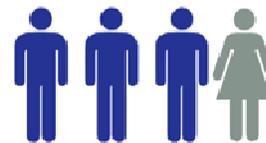
Race/Ethnicity	Number	Annual rate per 100,000
American Indian†	9	3
Asian	26	4
Black	511	27
Hispanic	183	10
Multi-Racial‡	23	-
White	450	2

†Estimate is statistically unreliable due to case count <12 .
‡Multi-racial population denominator not available.

Because of the relatively small number of diagnoses in the recent period, the rest of this summary is based on the 100 Asians diagnosed with HIV in Wisconsin from 1985 to 2014.

Sex

Males accounted for three in four of the 100 Asians diagnosed with HIV in Wisconsin during 1985-2014.



Age

The median age at diagnosis for all Asians diagnosed with HIV in Wisconsin is 30 for females and 31 for males—similar to that of other non-Whites.

Risk Exposure

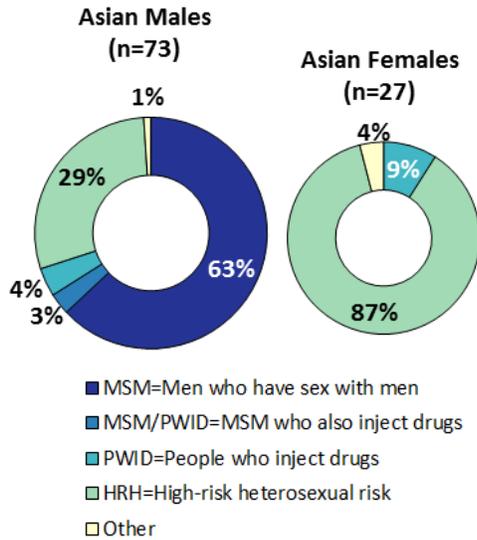
Men who have sex with men (MSM), including MSM who also injected drugs, accounted for 66% of infections among Asian males diagnosed with HIV in Wisconsin. An additional 29% were due to high-risk heterosexual contact, which is the largest percentage among males of the other racial/ethnic groups. Injection drug use accounted for 4% and 9% among Asian males and females respectively. High-risk heterosexual contact accounted for 87% of HIV diagnoses among Asian women.



ASIAN

2: PEOPLE LIVING WITH HIV

HIV diagnoses in Asians by sex and risk exposure, Wisconsin, 1985-2014



HIV Prevalence

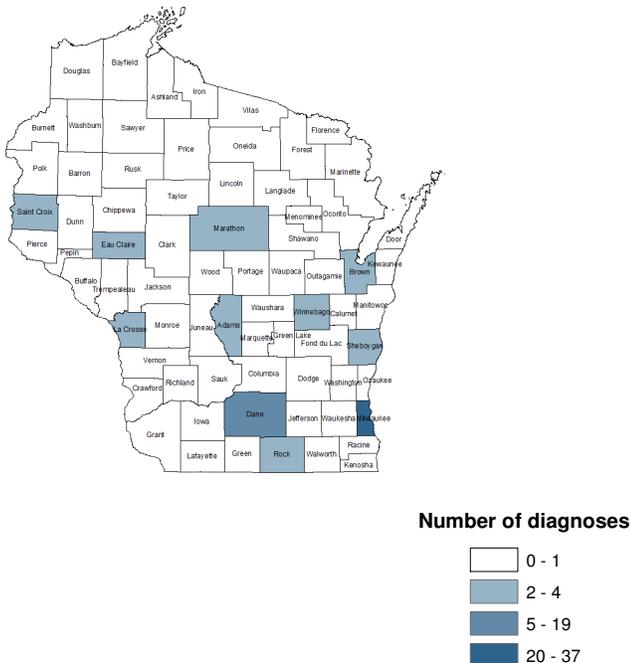
As of December 31, 2014, 1% (n=77) of all people living with HIV in Wisconsin were Asian.

According to the CDC, an estimated 20.6% of Asians infected with HIV are undiagnosed, meaning an additional 20 Asians may be living with HIV in Wisconsin but are unaware of their infection.²

Geography

Three in four (73%) diagnoses among Asians were made in Southern and Southeastern Wisconsin, including 41% from Milwaukee County, followed by 12% in the northeast, 10% in the west, and 4% in the north.

HIV diagnoses in Asians by county, Wisconsin, 1985-2014



References and Notes

*Data have been statistically adjusted using CDC's multiple imputation procedure to account for individuals with unknown risk, unless otherwise noted.

- Centers for Disease Control and Prevention. HIV/AIDS Among Asians in the United States. Accessed April 8, 2016. Retrieved from <http://www.cdc.gov/hiv/group/raciaethnic/aian/index.html>.
- Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas—2012. *HIV Surveillance Supplemental Report* 2014;19(No. 3). <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published November 2014. Accessed December 15, 2015.



HIGHLIGHTS

- Youth accounted for 1 in 4 new HIV diagnoses in Wisconsin during 2010-2014.
- Black youth were 26 times more likely to be diagnosed with HIV than their White counterparts.
- The annual number of new diagnoses among youth doubled from 2005 to 2014.

Black youth were 26 times more likely to be diagnosed with HIV than their White counterparts.

Risk Exposure

Most (85%) new diagnoses among youth in Wisconsin are among MSM. The remaining new diagnoses are attributed to high-risk heterosexual contact (11%) and injection drug use (3%). Among young females diagnosed with HIV, 79% of diagnoses were attributed to high-risk heterosexual contact and 21% to injection drug use. Diagnoses increased among young Black MSM from 2005 to 2014, while remaining stable in young White and Hispanic MSM.

Geography

Youth were most likely to be diagnosed with HIV in Milwaukee (66%) and Dane (8%) counties. Small metropolitan counties make up 21% of diagnoses among youth while non-metro counties made up just 5% of diagnoses.

Prevalence

As of December 31, 2014, approximately 4% (n~265) of all people living with HIV in Wisconsin were ages 13-24. However, according to the CDC, youth have the highest estimated percentage of individuals unaware of their HIV infection. Therefore, an additional 279 youth are estimated to be living with HIV in Wisconsin but are unaware of their infection.¹

This chapter addresses HIV in youth, defined as individuals ages 13-24 years old at the time of diagnosis (new diagnosis section) or were ages 13-24 as of December 31, 2014 (prevalence section).

New Diagnoses*

Of the 1,203 people diagnosed with HIV infection in Wisconsin during 2010-2014, 312 (26%) were among youth. Most (88%) youth diagnosed during this period were male. The annual number of new HIV diagnoses among youth doubled from 2005 to 2014.

Race/Ethnicity

Among youth newly diagnosed with HIV in Wisconsin during 2010-2014, 17% were White and 83% were from a minority racial/ethnic group.

Number and rate of diagnoses among youth ages 13-24 by race/ethnicity, Wisconsin, 2010-2014

Race/Ethnicity	Number	Rate per 100,000
Statewide	312	5
American Indian†	2	-
Asian	8	5
Black	199	52
Hispanic	42	12
Multi-Racial‡	6	-
White	54	2
Unknown‡	1	-

†Rates based on counts <5 are not shown.

‡Population denominator is unavailable for rate calculation.

References and Notes

*Data have been statistically adjusted using CDC's multiple imputation procedure to account for individuals with unknown risk, unless otherwise noted.

1. Centers for Disease Control and Prevention. Monitoring selected national HIV prevention and care objectives by using HIV surveillance data—United States and 6 dependent areas—2012. *HIV Surveillance Supplemental Report* 2014;19(No. 3). <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published November 2014. Accessed December 15, 2015.



ADULTS AGES 50 AND OVER

2: PEOPLE LIVING WITH HIV

HIGHLIGHTS

- Adults ages 50 and older account for less than one in five new diagnoses during 2010-2014 but represent one in two people living with HIV in Wisconsin.
- Older Blacks and Hispanics are at least 12 times more likely than older Whites to be diagnosed with HIV.

This chapter addresses HIV in adults who were ages 50 and older at the time of HIV diagnosis (new diagnoses section) or were ages 50 and older as of December 31, 2014 (prevalence section).

New Diagnoses*

Of the 1,203 HIV infections diagnosed in Wisconsin during 2010-2014, 195 (16%) were among adults aged 50 and over. Three in 4 new diagnoses among older adults during this period were male. The annual number of new HIV diagnoses among older adults fluctuated between 2005 and 2014 with no clear trend.

Race/Ethnicity

Among older adults newly diagnosed with HIV in Wisconsin during 2010-2014, 50% were White and 50% were from a minority racial/ethnic group.

Number and rate of diagnoses among adults ages 50 and older by race/ethnicity, Wisconsin, 2010-2014

Race/Ethnicity	Number	Rate per 100,000
Statewide	195	2
American Indian†	3	-
Asian	2	-
Black	65	16
Hispanic	26	12
Multi-Racial‡	1	-
White	98	1

†Rates based on counts <5 are not shown.

‡Population denominator is unavailable for rate calculation.

Despite a similar number of new diagnoses among Whites and non-Whites ages 50 and older, minorities are still disproportionately impacted given the difference in population size. Older Blacks and Hispanics are at least 12 times more likely than older Whites to be diagnosed with HIV.

Risk Exposure

Over half (58%) of new diagnoses among adults ages 50 and older in Wisconsin during 2010-2015 were among men who have sex with men (MSM), including those who also inject drugs. The remaining infections among older adults were attributed to high-risk heterosexual contact (26%) and injection drug use (15%). Diagnoses were stable among adults ages 50 and older of all risk groups between 2005 and 2014.

Geography

Milwaukee County accounts for almost half of all diagnoses among older adults in Wisconsin during 2010-2014. The HIV diagnosis rate among older adults in Milwaukee County is at least 2 times higher than in Dane County and small metropolitan counties, and more than 18 times higher than in non-metropolitan counties.

Number, percent, and rate of HIV diagnoses among adults ages 50 and older by metro grouping, Wisconsin, 2010-2014

	Number	% of New Diagnoses	Rate per 100,000
Dane County	23	12%	3
Milwaukee County	92	47%	6
Non-Metro Counties	15	8%	0.3
Small Metro Counties	65	33%	2

Prevalence

As of December 31, 2014, adults ages 50 and older years accounted for almost half (44%) of people living with HIV in Wisconsin. An additional 120 adults ages 50 and older are estimated to be living with HIV in Wisconsin but are unaware of their infection.¹

References and notes

*Data have been statistically adjusted using CDC's multiple imputation procedure to account for individuals with unknown risk, unless otherwise noted.



LATE DIAGNOSIS

2: PEOPLE LIVING WITH HIV

HIGHLIGHTS

- 1 in 3 individuals diagnosed with HIV infection in Wisconsin during 2010-2014 progressed to AIDS within 1 year of their HIV diagnosis.
- People ages 13-29 years at the time of diagnosis, and Black people were less likely to be late testers.

The definition of late testers is individuals who progress to AIDS within one year of receiving their initial HIV diagnosis, including those who receive a concurrent HIV and AIDS diagnosis. A concurrent diagnosis is when AIDS is diagnosed within 30 days of the HIV diagnosis.

AIDS typically develops 8 to 10 years after initial HIV infection in the absence of treatment, and is determined based on very low CD4 count and/or an infection with an opportunistic AIDS-defining infection. Early diagnosis is thus important both for optimal health outcomes for the infected individual and for reducing the risk of further disease transmission.

Demographics*

Late testers accounted for 384 (32%) of the 1,203 HIV infections diagnosed in

Wisconsin during 2010-2014.

Among late testers, 84% received a concurrent HIV and AIDS diagnosis. The number of late testers and proportion of late testers within each demographic group is shown to the right.

The following groups were more likely to have an AIDS diagnosis within a year of initial HIV diagnosis: Whites and Asians compared to Blacks, and people ages 30 and older at the time of HIV diagnosis compared to those ages 13-29 at the time of HIV diagnosis.

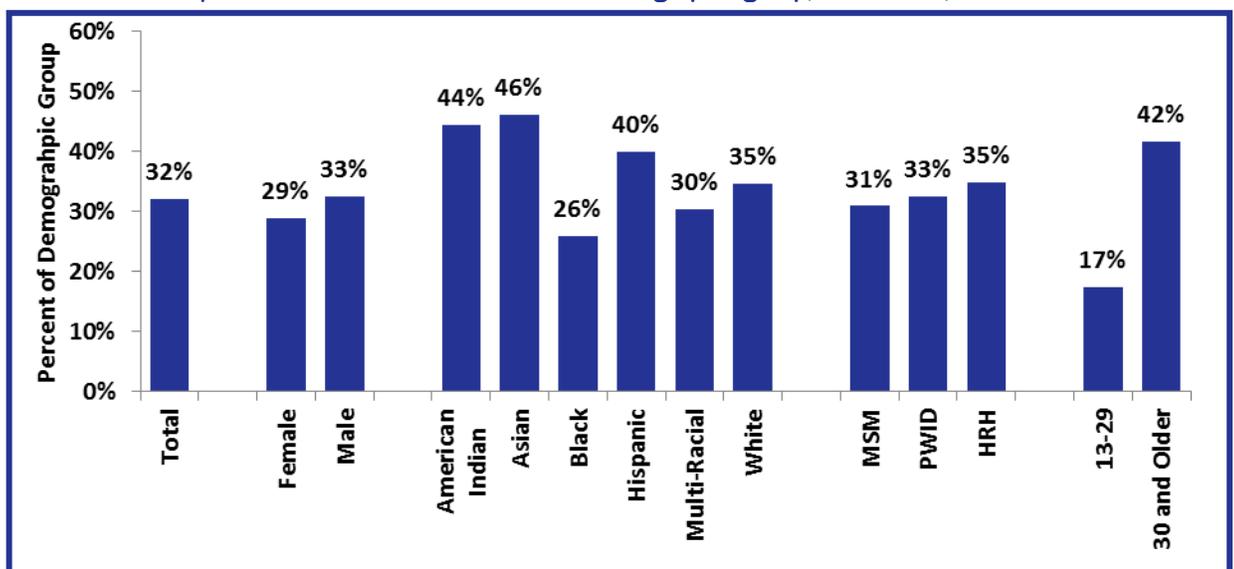
Limitations

AIDS diagnoses are based primarily on CD4 counts that fall below 200. During 2010 and part of 2011, laboratory reporting is known to have been incomplete in Wisconsin, and therefore some cases of AIDS may have been missed. In addition, the AIDS case definition was updated in April 2014 such that individuals with a CD4 count below 200 are not classified as AIDS if they are known to be recently infected (i.e., documented negative HIV test within 180 days prior to their HIV diagnosis). It is also possible that some recently infected individuals are mistakenly classified as AIDS in the HIV surveillance system because a recent negative HIV test is not documented.

References and notes

*Data have been statistically adjusted using CDC's multiple imputation procedure to account for individuals with unknown risk, unless otherwise noted.

Proportion of later testers within each demographic group,† Wisconsin, 2010-2014



†MSM=men who have sex with men, including MSM who also inject drugs; PWID=people who inject drugs; HRH=high-risk heterosexual.



INCARCERATED PERSONS

2: PEOPLE LIVING WITH HIV

HIGHLIGHTS

- An average of 6 cases of HIV per year were diagnosed within the Wisconsin Department of Corrections (DOC) during 2000-2014.
- Approximately 7 in 1,000 DOC inmates are living with HIV.



This chapter addresses HIV in individuals who were diagnosed with HIV, or are living with HIV, in one of Wisconsin's state or federal correctional facilities. Individuals diagnosed or

living with HIV in a county jail are excluded. In Wisconsin, Dodge Correctional Institution is the central reception center for adult males who are sentenced to prison. HIV testing at Dodge Correctional Institution is offered to all inmates at intake or conducted at the request of the inmate during incarceration. Acceptance of HIV testing at intake is 90%. HIV testing is similar at Taycheedah Correctional Institution, Wisconsin's correctional facility for women.

New Diagnoses*

Between 1985 and 2014, 274 individuals were first diagnosed with HIV in the Wisconsin Department of Corrections (DOC) between 1985 and 2014. The number of people diagnosed with HIV in the DOC has decreased significantly, from an average of 12 new diagnoses per year during 1985-1999, to an average of six cases per year during 2000-2014. The number of individuals

diagnosed with HIV infection in the DOC during 2000-2014 is shown in the table below by select demographic categories.

Number of HIV diagnoses from the Wisconsin Department of Corrections, by sex and select characteristics, 2000-2014

	Male	Female	Total
Total	82	6	88
Race/Ethnicity			
African American	45	1	46
American Indian	1	0	1
Hispanic	16	0	16
White	19	5	24
Multi-Racial	1	0	1
Age at Diagnosis			
13-24	1	12	13
25-34	2	34	36
35-49	2	33	35
50 and Older	1	3	4
Risk Exposure†			
MSM	55	-	55
PWID	15	2	17
HRH	12	4	16

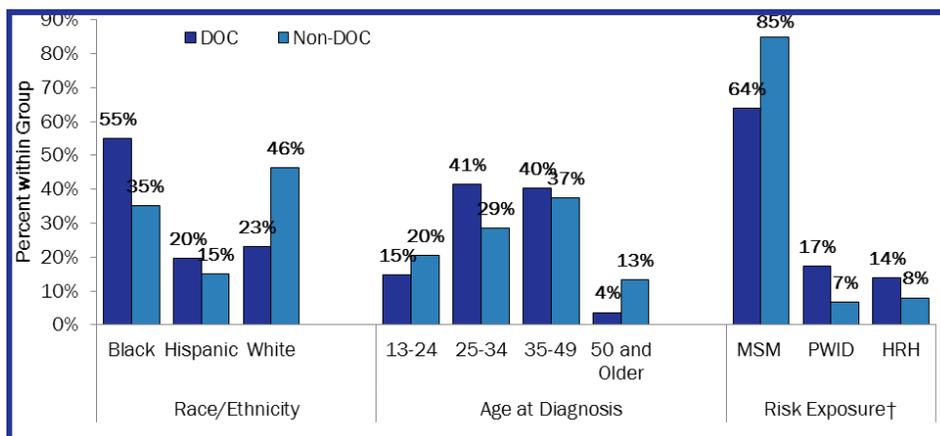
†MSM=Men to who have sex with men, includes MSM who also inject drugs; PWID=people who inject drugs; HRH=high-risk heterosexual contact.

Individuals diagnosed with HIV infection within DOC were more likely to be Black, Hispanic, ages 25-34, have a history of injection drug use or high-risk heterosexual contact compared to individuals diagnosed outside of DOC.

Prevalent Cases

At any one time, there are approximately 150 HIV positive individuals incarcerated within the DOC. With 22,600 inmates annually, the estimated HIV prevalence within the DOC is 7 per 1,000 inmates.

Demographic comparison of HIV diagnoses made within the Department of Corrections (DOC) compared to those made outside the DOC, Wisconsin, 2000-2014



References and notes

*Icon illustration by Academic Fausto Albamonte, the Noun Project *Data have been statistically adjusted using CDC's multiple imputation procedure to account for individuals with unknown risk, unless otherwise noted. 1. Wisconsin Department of Corrections. Inmate Profile 2014. <http://doc.wi.gov/Documents/WEB/ABOUT/DATARESEARCH/NOTABLESTATISTICS/Inmate%20Profile-12-31-2014.pdf>. Accessed October 10, 2015.



METROPOLITAN GROUPING

2: PEOPLE LIVING WITH HIV

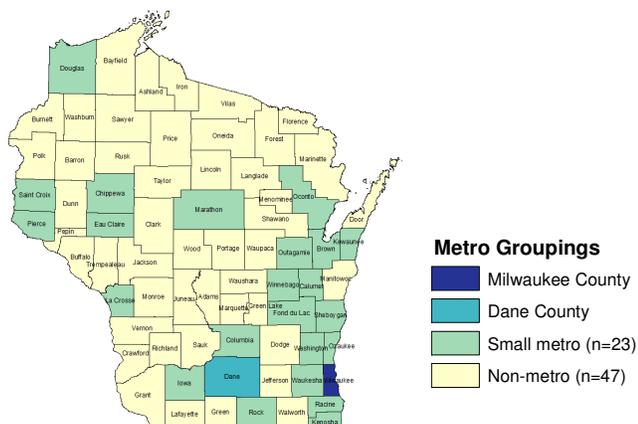
HIGHLIGHTS

- More than half (54%) of recent HIV diagnosis occurred among residents of Milwaukee County.
- Compared to non-metropolitan counties, new diagnosis rates were 10-fold higher in Milwaukee County, four-fold higher in Dane County and 1 1/2 times higher in small metro counties.



Based on U.S. Census Bureau definitions,¹ Wisconsin counties were grouped into four metropolitan, or “metro,” levels: Milwaukee County (large metropolitan), Dane County (medium-sized metro); small metro (23 counties); and non-metro (47 counties), as shown on the map.

Wisconsin counties by metro grouping



New Diagnoses

The HIV diagnosis rate is much higher in Milwaukee County than in other Wisconsin counties.



Number, percent, and rate of HIV diagnoses by metro grouping, Wisconsin, 2010-2014

	Number of Diagnoses	Percent of Diagnoses	Annual Rate per 100,000 Population
Statewide	1,203	100%	4
Milwaukee County	654	54%	14
Dane County	138	12%	6
Small Metro	305	25%	2
Non-Metro	106	9%	1

HIV diagnosis rates remained level overall but declined in non-metro counties during 2005-2014.

Age at Diagnosis

The median age at diagnosis during 2010-2014 was age 30 in Milwaukee County, but about age 35 in the other metro areas.

Race/Ethnicity

HIV diagnosis rates among Blacks and Hispanics are twice as high in Milwaukee as in small and non-metro counties. Whites have a lower rate in every metro grouping; Even so, the rate in Milwaukee is five-fold higher than in small and non-metro counties.

HIV diagnosis rate by metro grouping and race, Wisconsin, 2010-2014

	Annual Rate per 100,000 Population		
	Black	Hispanic	White
Statewide	27	10	2
Milwaukee County	31	15	5
Dane County	22	11	4
Small Metro	17	7	1
Non-Metro	15	7	1

Risk Exposure

Each metro grouping had a similar proportion of diagnoses across reported risk groups, with the exception of non-metro counties, which had fewer MSM-attributed infections and more infections due to injection drug use.



METROPOLITAN GROUPING

2: PEOPLE LIVING WITH HIV

Proportion of HIV diagnoses within each metro grouping by reported risk exposure†, Wisconsin, 2010-2014

	MSM (Including MSM/ PWID)	PWID	HRH
Statewide	82%	5%	12%
Milwaukee County	81%	6%	13%
Dane County	87%	3%	10%
Small Metro	83%	5%	12%
Non-Metro	79%	8%	13%

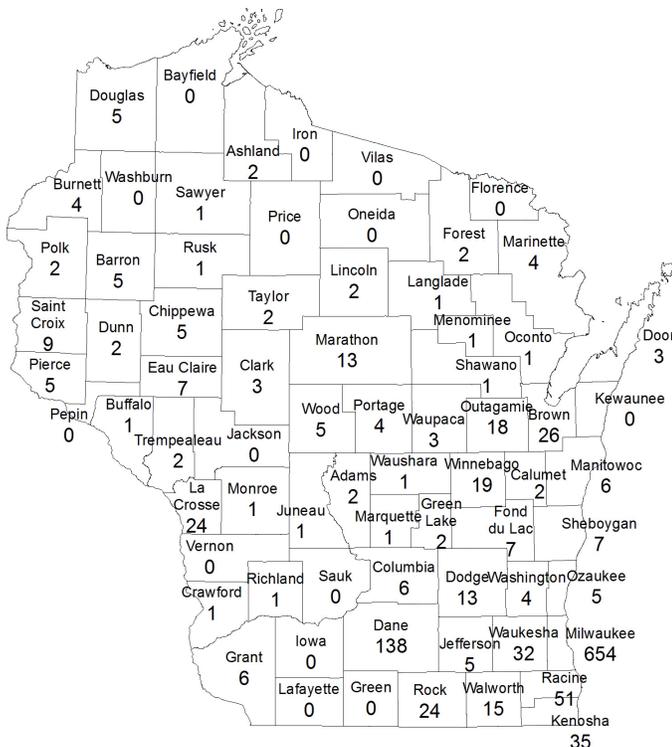
† MSM=men who have sex with men; PWID=people who inject drugs; HRH=high-risk heterosexual.

Reported number, percent and rate of people living with HIV infection by metro grouping, Wisconsin, 2014

	Number of Prevalent Cases†	Percent of Prevalent Cases	Rate per 100,000
Statewide	6,667	100%	116
Milwaukee County	3,249	49%	341
Dane County	824	12%	162
Small Metro	1,880	28%	69
Non-Metro	714	11%	46

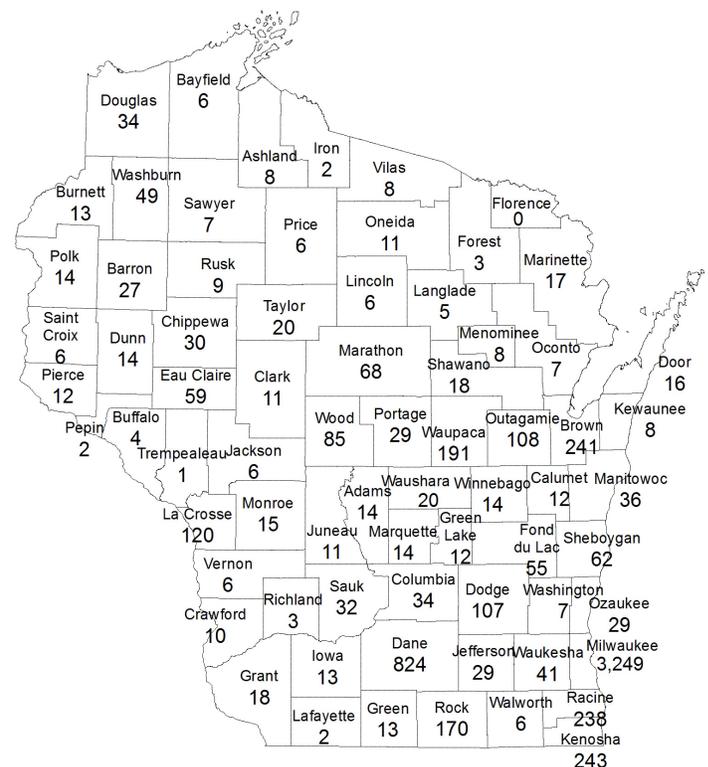
†Excludes persons in the Department of Corrections.

HIV diagnoses by county†, Wisconsin, 2010-2014 (n=1,203)



†Includes a small number of cases diagnosed in the Department of Corrections in selected counties.

People reported with HIV and presumed to be alive by county of residence†, Wisconsin, 2014 (n=6,667)



†Excludes persons in the Department of Corrections

Prevalence

HIV prevalence rates are highest in Milwaukee County and lowest in non-metro counties.

References and Notes

*Data have been statistically adjusted using CDC's multiple imputation procedure to account for individuals with unknown risk, unless otherwise noted.

*Rural/urban icon illustration by Iconathon, the Noun Project

- Ingram DD, Franco SJ. NCHS urban-rural classification scheme for counties. *Vital Health Stat 2*. 2012 Jan;(154):1-65.



SEXUALLY TRANSMITTED INFECTIONS

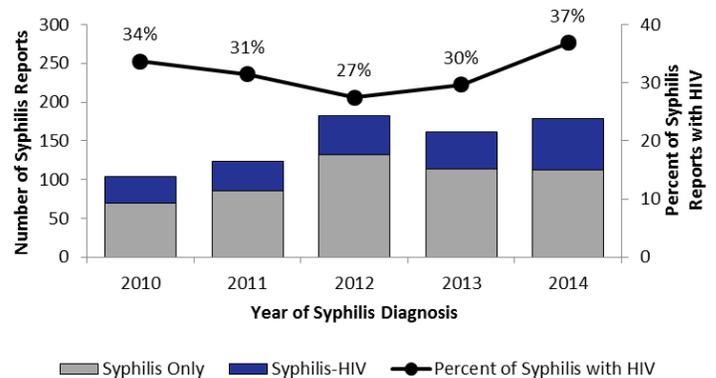
3: CO - MORBID CONDITIONS

HIGHLIGHTS

- In 2014, among people living with HIV (PLWH), the number of co-infections with STIs was 66 early syphilis, 101 gonorrhea, and 110 chlamydia.
- In 2014, the syphilis diagnosis rate among PLWH was 300 times the rate among the general population.
- Most STIs occurred among PLWH who reported male-male sexual contact at the time of HIV diagnosis.
- Among PLWH, rates of syphilis, gonorrhea, and chlamydia showed an increasing trend during 2010-2014.
- Almost half of STI diagnoses among PLWH occurred more than five years after HIV diagnosis.

During 2010-2014 there were 238 syphilis-HIV co-infections in Wisconsin residents. Fourteen people had multiple syphilis infections during this time, and did not differ in age or race from co-infected people with a single syphilis infection. The proportion of people reported with a new syphilis infection that had HIV ranged from 27%-37%. In 2014, there were approximately 10 people diagnosed with early syphilis per every 1,000 people in Wisconsin living with HIV.

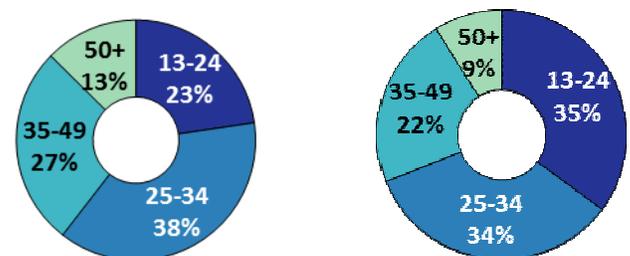
Primary, secondary, and early latent syphilis diagnoses and percent with HIV co-infection, Wisconsin, 2010-2014



Characteristics of people co-infected with syphilis and HIV

Among 238 syphilis and HIV co-infections during 2010-2014, 38% were 25 to 34 years old. The median age was 32 years (range 17-60), and 100% were male; 44% were non-Hispanic Black, 43% were non-Hispanic White and 11% were Hispanic of any race.

Age at syphilis diagnosis among PLWH, compared to age at Syphilis diagnosis among the general population in Wisconsin, 2010-2014



People Living with HIV

General Population

There is substantial evidence that acquisition of a sexually transmitted infection (STI) increases the viral load of HIV in those with HIV infection.¹ People co-infected with HIV and an STI are more likely to transmit HIV. Furthermore, the diagnosis of an STI after HIV diagnosis suggests high-risk sexual practices. This chapter describes trends in STI diagnoses among people living with HIV and is important for HIV and STI prevention efforts.

Syphilis

Syphilis is an STI that can cause long-term complications if not treated correctly. Symptoms in adults are divided into stages. These stages are primary, secondary, early latent, and late syphilis.² This chapter reports on primary, secondary and early latent syphilis.

Of syphilis, gonorrhea, and chlamydia, the current epidemiology of syphilis overlaps most with that of HIV. There has been a notable increase in syphilis diagnoses among MSM in the U.S., as well as in Wisconsin.

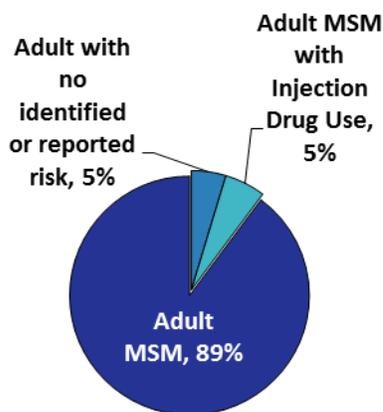


SEXUALLY TRANSMITTED INFECTIONS

3: CO - MORBID CONDITIONS

The most common county of residence at most recent diagnosis was Milwaukee County (68%), followed by Dane County (12%) and Racine County (3%). The majority (89%) of individuals with co-infection identified as MSM at the time of HIV diagnosis. Other risk exposures were male-male sexual contact with injection drug use (5%), and adults with no reported or identified risk (5%)

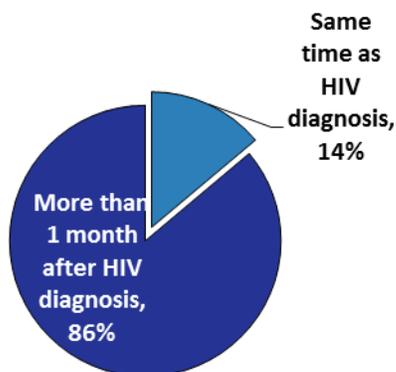
HIV transmission category of individuals with HIV and syphilis co-infection, Wisconsin, 2010-2014



Order of Infection

Among syphilis and HIV co-infections, 14% were diagnosed with HIV and syphilis concurrently (within 30 days) and 86% of syphilis infections occurred more than one month after HIV diagnosis.

Timing of syphilis co-infection among individuals with HIV, Wisconsin, 2010-2014

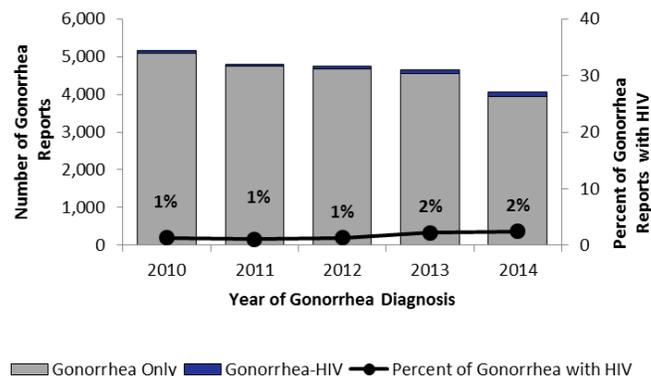


Gonorrhea

Gonorrhea is an STI that can cause infections in the genitals, rectum, and throat and create opportunity for HIV infection. It is a very common infection, especially among young people ages 15-24 years.³ During 2010-2014 there were 389 gonorrhea-HIV co-infections in Wisconsin residents. Sixty-six people had multiple gonorrhea infections during this time. This group did not differ significantly in age group or race from co-infected people with a single gonorrhea infection.

The proportion of people reported with gonorrhea infection that had HIV ranged from 1%-2% within the past five years. In 2014 there were approximately 15 people diagnosed with gonorrhea per every 1,000 people in Wisconsin living with HIV.

Gonorrhea diagnoses and percent with HIV co-infection, Wisconsin, 2010-2014



Characteristics of people co-infected with gonorrhea and HIV

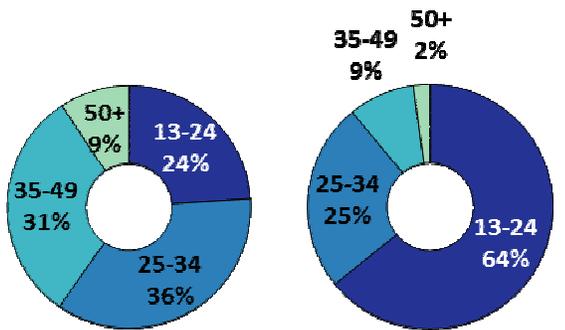
Among 389 gonorrhea and HIV co-infections during 2010-2014, 24% were 13 to 24 years old and the median age was 31 years (range 15-58 years); 92% were male; 61% were non-Hispanic Black, followed by non-Hispanic White (28%), and Hispanic of any race (7%). At the time of their most recent diagnosis, the majority resided in Milwaukee County (72%) followed by Dane County (8%) and Racine County (3%). The majority (79%) of individuals reported male-male sexual contact at the time of HIV diagnosis. Other risk exposures were high-risk heterosexual contact (6%), adults with no reported or identified risk (4%), MSM with injection drug use (3%), and injection drug use (3%).



SEXUALLY TRANSMITTED INFECTIONS

3: CO - MORBID CONDITIONS

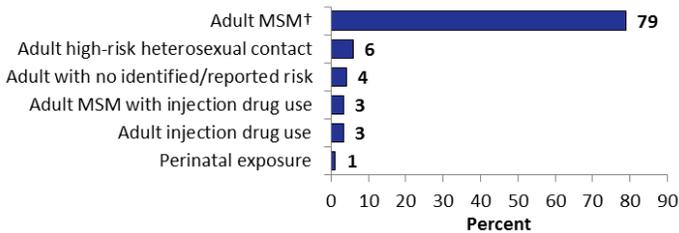
Age at gonorrhea diagnosis among PLWH, compared to age at gonorrhea diagnosis among the general population in Wisconsin, 2010-2014



People Living with HIV

General Population

HIV transmission category of individuals with HIV and Gonorrhea co-infection, Wisconsin, 2010-2014

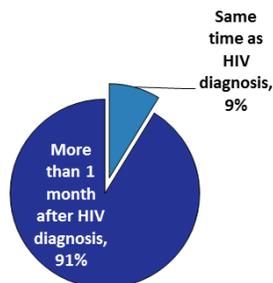


†Men Who Have Sex with Men, excluding those who also inject drugs

Order of Infection

Among gonorrhea and HIV co-infections, 9% were diagnosed with HIV and gonorrhea concurrently (within 30 days) and 91% of gonorrhea infections occurred more than one month after HIV diagnosis.

HIV transmission category of individuals with HIV and Gonorrhea co-infection, Wisconsin, 2010-2014

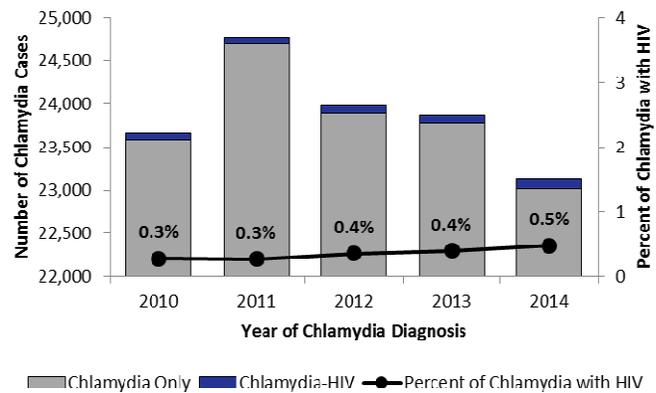


Chlamydia

Chlamydia is the most commonly reported STI in Wisconsin and in the U.S.⁴ During 2010-2014 there were 420 chlamydia-HIV co-infections in Wisconsin residents. Seventy people had multiple chlamydia infections during this time. This group did not differ significantly in age or race from co-infected people with a single chlamydia infection.

The proportion of people reported with chlamydia infection that had HIV ranged from 0.3%-0.5% within the past five years.

Chlamydia diagnoses and percent with HIV co-infection, Wisconsin, 2010-2014



In 2014 there were approximately 16 people diagnosed with chlamydia per every 1,000 people in Wisconsin living with HIV. Despite the small proportion of all chlamydia infections among PLWH (less than 1%), the rate of chlamydia diagnosis among PLWH is similar to or higher than syphilis or gonorrhea diagnosis.

Characteristics of people co-infected with Chlamydia and HIV

Among 420 chlamydia and HIV co-infections during 2010-2014, 25% were 13 to 24 years old and the median age was 31 years (range 15 – 61 years); 81% were male; 52% were Non-Hispanic Black, 33% were non-Hispanic White, and 10% were Hispanic of any race. The most common county of residence at most recent diagnosis was Milwaukee County (64%), followed by Dane County (11%), and Racine County (6%). The majority (67%) of individuals with co-infection reported MSM at the time of HIV diagnosis. Other risk exposures were adult high-risk heterosexual contact (12%), adults with no reported or

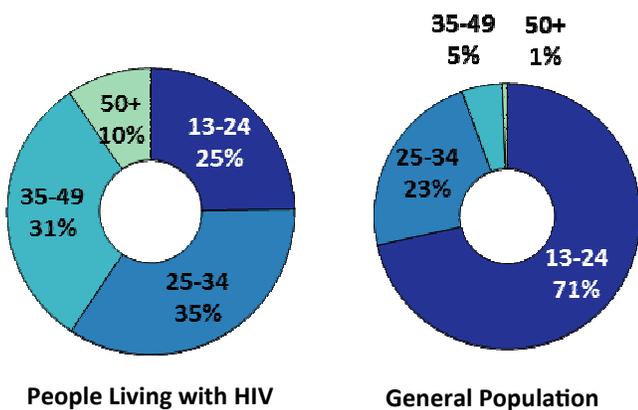


SEXUALLY TRANSMITTED INFECTIONS

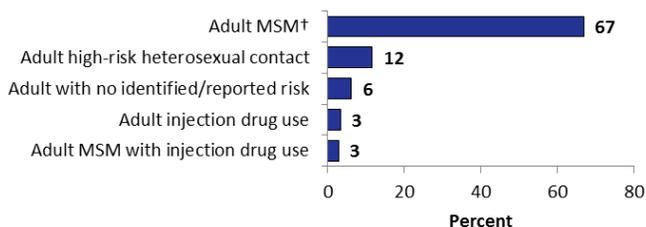
3: CO - MORBID CONDITIONS

identified risk (13%), MSM with injection drug use (3%), and injection drug use (3%).

Age at chlamydia diagnosis among PLWH, compared to age at chlamydia diagnosis among the general population in Wisconsin, 2010-2014



HIV transmission category of individuals with HIV and chlamydia co-infection, Wisconsin, 2010-2014



†Men Who Have Sex with Men, excluding those who also inject drugs

Order of Infection

Among chlamydia and HIV co-infections, 10% were diagnosed with HIV and chlamydia concurrently (within 30 days) and 90% of chlamydia infections occurred more than one month after HIV diagnosis.

Rates of Sexually Transmitted Infections among People living with HIV

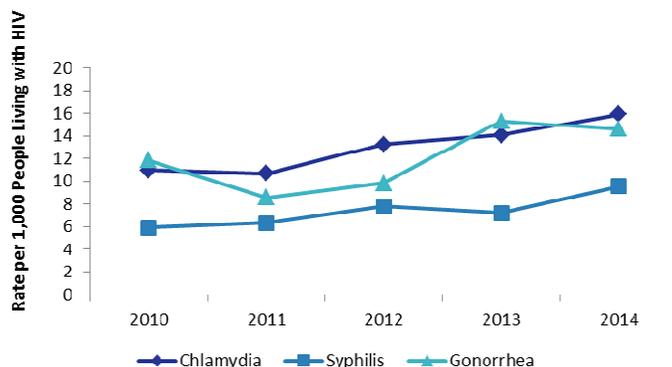
The rates of new syphilis, gonorrhea, or chlamydia infection among PLWH each exceed the rate among the general population in Wisconsin. In 2014, compared to the rate among the general population:

- Syphilis diagnoses among PLWH were: 300 times higher.

- Gonorrhea diagnoses among PLWH were 20 times higher.
- Chlamydia diagnoses among PLWH were 4 times higher.

Among the Wisconsin general population, rates of gonorrhea and chlamydia were significantly lower in 2014 than they were in 2010 (91 to 71 per 100,000 for gonorrhea and 416 to 402 per 100,000 for chlamydia) while the rate of syphilis increased during this time period (2 per 100,000 in 2010 vs. 3 per 100,000 in 2014). Among people living with HIV, rates of all STIs showed an increasing trend during 2010-2014.

Rate of sexually transmitted infections per 1,000 people living with HIV, Wisconsin, 2010-2014



References and Notes

To determine the occurrence of an STI among people living with HIV (PLWH), people presumed alive and living with HIV in Wisconsin as of December 31, 2014, were identified in the Wisconsin HIV registry (eHARS) and matched against people diagnosed with syphilis (primary, secondary, and early latent), gonorrhea, or chlamydia infection during 2010-2014. Co-infection was defined as an STI report within 30 days of, or any time after, the date of HIV diagnosis. Transmission category determined at the time of HIV diagnosis was used to describe risk associated with STI and HIV co-infection.

1. Centers for Disease Control and Prevention. December 2014. STDs and HIV – CDC Fact Sheet. Accessed at <http://www.cdc.gov/std/hiv/hiv-std-factsheet-dec-2014.pdf>.
2. Centers for Disease Control and Prevention. July 2014. Syphilis – CDC Fact Sheet. Accessed at <http://www.cdc.gov/std/syphilis/syphilis-factsheet-july-2014.pdf>.
3. Centers for Disease Control and Prevention. July 2014. Gonorrhea – CDC Fact Sheet. Accessed at <http://www.cdc.gov/std/gonorrhea/gon-factsheet-july-2014.pdf>.
4. Centers for Disease Control and Prevention. June 2014. Chlamydia – CDC Fact Sheet. Accessed at <http://www.cdc.gov/std/chlamydia/chlamydia-factsheet-june-2014.pdf>.

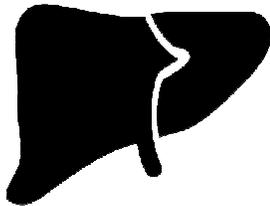


HEPATITIS C INFECTION

3: CO - MORBID CONDITIONS

HIGHLIGHTS

- An estimated 74,000 people in Wisconsin are living with hepatitis C virus (HCV) infection.
- Viral hepatitis progresses faster and causes more liver-related health problems among people living with HIV (PLWH) than among those who do not have HIV.
- As of 2014, 9% of PLWH had also been diagnosed with HCV in Wisconsin.
- Injection drug use was the most common HIV risk factor for those with HIV-HCV co-infection.
- HCV diagnosis has typically followed HIV diagnosis by one year or more.



In the United States, about 25% of HIV infected persons are also infected with HCV and co-infection is common among HIV-infected injection drug users. Viral hepatitis progresses faster and causes more liver-related health

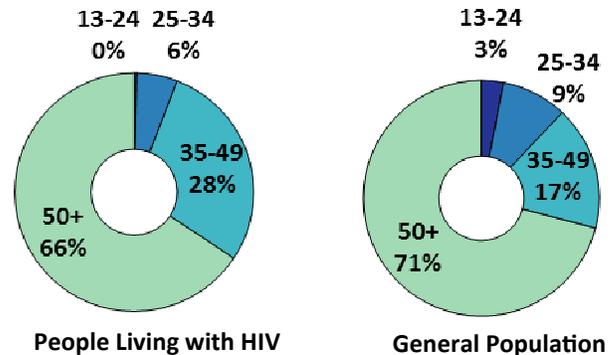
problems among people living with HIV (PLWH) than among those who do not have HIV. Those with HIV-HCV co-infection have three times the risk for liver disease and liver failure¹ and may die at a younger age than those infected with HCV alone.²

Characteristics of people co-infected with HCV and HIV

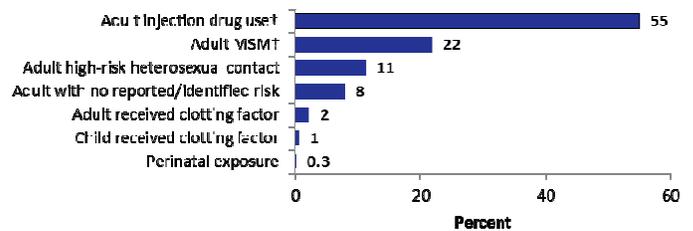
Among 632 individuals co-infected with HCV and HIV as of 2014, 67% were 50 years or older and the median age was 53 years (range 19-77 years); 75% were male; 42% were Non-Hispanic Black, 38% were non-Hispanic White and 18% were Hispanic of any race. The most common county of residence at most recent diagnosis was Milwaukee County (54%), followed by Dane (7%) and Kenosha counties (5%). The majority (55%) of individuals with co-infection reported injection drug use at the time of HIV diagnosis. Other risk exposures were male-male sexual contact excluding those who also injected drugs (22%), high-risk heterosexual contact (11%), and adults with no reported or

identified risk (8%).

Current age of individuals with HIV and HCV co-infection compared to people living with HCV among the general population, Wisconsin, 2010-2014



HIV transmission category of individuals with HIV and HCV co-infection as of 2014, Wisconsin



†Includes Men Who have Sex with Men who also inject drugs

‡Men Who Have Sex with Men, excluding those who also inject drugs

Order of Infection

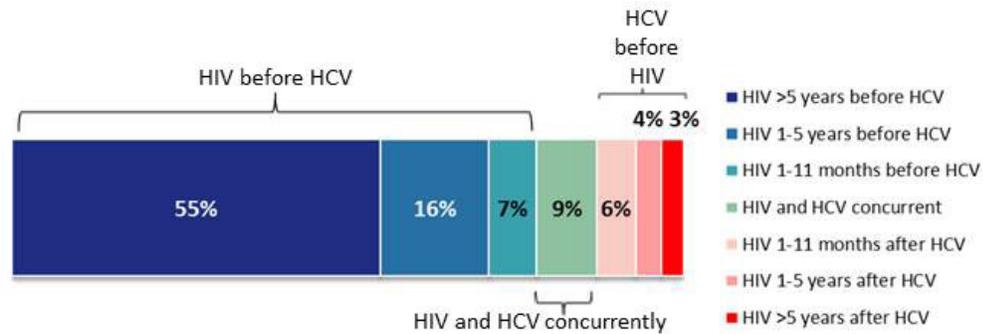
In 1999, the U.S. Public Health Service and Infectious Diseases Society of America recommended HCV screening for people with HIV infection.³ HCV diagnosis after HIV diagnosis may reflect HCV screening and does not necessarily indicate new HCV infection among PLWH. The majority (71%) of people with HCV-HIV co-infection were diagnosed with HIV at least one year or more before their HCV diagnosis. Nine percent received an HIV and HCV diagnosis concurrently (within 30 days) and 13% were diagnosed with HIV since their HCV diagnosis.



HEPATITIS C INFECTION

3: CO - MORBID CONDITIONS

Time between HIV and HCV diagnosis among people with HIV and HCV co-infection as of 2014, Wisconsin



References and Notes

Cases of HCV reported in Wisconsin during 2000-2014 (n=49,757) were matched against people in the Wisconsin HIV registry (eHARS) who were presumed to be alive and living with HIV in Wisconsin as of the end of 2014 (n=6,899). Individuals were matched based on date of birth, last name, and first name. As of 2014 there were 632 prevalent HCV-HIV co-infections in Wisconsin residents, or approximately 9% of PLWH.

Liver illustration by Academic Technologies, FoMD, the Noun Project

1. CDC. HIV and Viral Hepatitis. Accessed on March 26, 2014: <http://www.cdc.gov/hepatitis/populations/PDFs/HIVandHep-FactSheet.pdf>
2. Pinchoff J, et al. Deaths among people with hepatitis C in New York City, 2000-2011. *Clin Infect Dis*. 2014 58(8):1047-54.
3. CDC. 1999 USPHS/IDSA Guidelines for the prevention of opportunistic infections in persons infected with HIV. *MMWR*. 1999; 48(RR10):1-59.



TUBERCULOSIS

3: CO - MORBID CONDITIONS

HIGHLIGHTS

- 9 people living with HIV were diagnosed with TB disease between 2010-2014.
- TB disease diagnosis has typically followed HIV diagnosis by one year or more.
- 33% (3/9) of those diagnosed with TB disease between 2010-2014 were foreign-born.

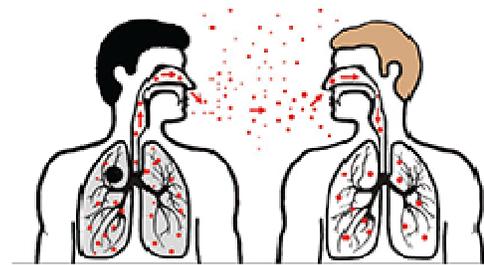
People living with untreated HIV are more susceptible to opportunistic infections, like tuberculosis (TB). TB is a bacterial infection that usually attacks the lungs. There are two conditions caused by these bacteria: active TB disease and latent TB infection (LTBI). Symptoms of TB disease include a long-lasting cough, pain in the chest, coughing up blood or sputum, and general fatigue. When someone with TB disease in the lungs or throat coughs, sneezes, or speaks, TB bacteria can be released into the air and expose people nearby.¹ LTBI occurs when TB bacteria is present in one's body, but not actively replicating.² People with LTBI are not contagious; however, they are at risk for developing TB disease. In particular, PLWH with LTBI are estimated to be 30 to 100 times more likely to develop TB disease than HIV-uninfected individuals.³ It is recommended that all persons diagnosed with HIV should be tested for TB and all persons with TB disease should be tested for HIV.

Globally, co-infections are common—among an estimated 9.6 million new cases of TB disease worldwide, about 12% (1.2 million) are among PLWH.⁴ In the United States, an estimated 7% (625) of those developing TB disease annually (~9500) occur among PLWH.⁵ In this chapter, the term co-infection refers to individuals with TB disease and HIV.

TB Disease in Wisconsin

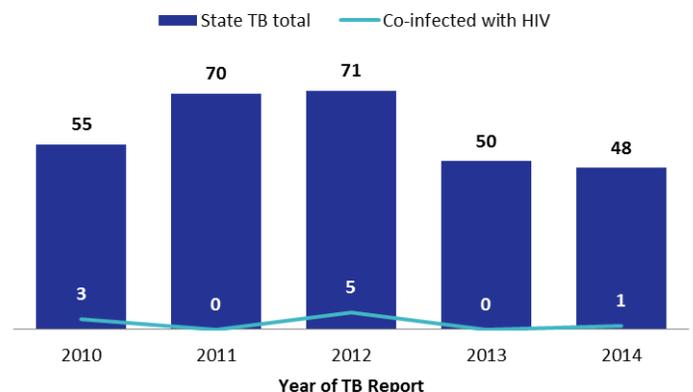
In Wisconsin, the rate of co-infection is much lower than that observed nationally. During 2010-2014, 294 people in Wisconsin developed TB disease;⁶ only nine (3%) were co-infected with HIV.

Among the nine were co-infected during 2010-2014, 3 were foreign-born. The median age at TB disease diagnosis was 44. TB disease diagnosis typically followed HIV diagnosis by one year or more; two were diagnosed with both infections at the same time.



How TB spreads

Total people reported with TB disease and those co-infected with HIV[†], Wisconsin, 2010-2014



[†]Cases of TB disease reported in Wisconsin during 2010-2014 (n=294) were matched against people presumed to be alive and living with HIV in Wisconsin as of the end of 2014 (n=6,899) identified in the Wisconsin HIV registry (eHARS). Individuals were matched based on date of birth, last name and first name.

Characteristics of individuals co-infected with TB disease and HIV

Among nine TB disease and HIV co-infections during 2010-2014, 67% were 50 years or older; the median age was 44 years (range 27-48 years); 89% were male; 67% were non-Hispanic Black, 22% were Hispanic of any race, 11% were American Indian, and <1% were non-Hispanic White. The county of

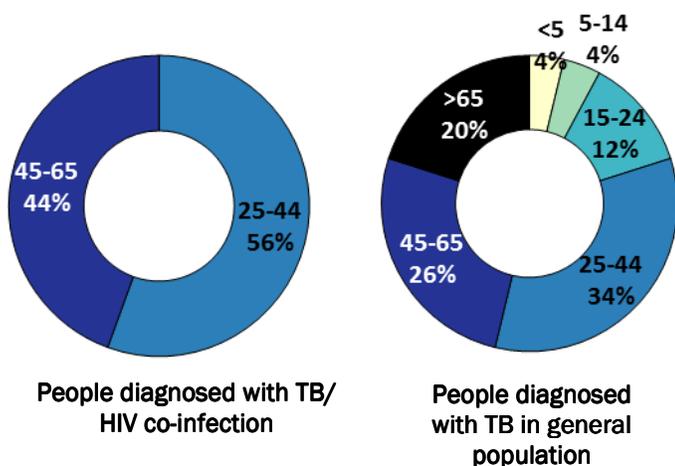


TUBERCULOSIS

3: CO - MORBID CONDITIONS

residence at TB disease diagnosis was most commonly Milwaukee County (67%); all other counties had one or fewer cases. Three (33%) of the individuals were foreign-born.

Age at TB disease diagnosis of individuals with HIV and TB co-infection compared to people diagnosed with TB alone in Wisconsin, 2010-2014



Characteristics of known LTBI and HIV co-infected individuals

LTBI is not a reportable infection in Wisconsin, but data are collected when available. From 2010-2014, 32 individuals with reported LTBI were co-infected with HIV.

References and Notes

Illustration: <http://www.cdc.gov/tb/topic/basics/default.htm>

1. CDC. Basic TB Facts. 13 March 2012. Accessed from <http://www.cdc.gov/tb/topic/basics/default.htm> on 16 February 2016.
2. WHO. What is LTBI? 2016. Accessed from <http://www.who.int/tb/challenges/tbi/en/> on 22 February 2016.
3. Menzies D. 10 November, 2015. Treatment of latent tuberculosis infection in HIV-infected adults. Accessed from <http://www.uptodate.com/contents/treatment-of-latent-tuberculosis-infection-in-hiv-infected-adults> on 22 February 2016.
4. WHO. Global Tuberculosis Control 2015, Geneva. Accessed from www.who.int/tb/publications/global_report/ on 24 February 2016.
5. Zaroni BC, Gandhi RT. 2014. Update on opportunistic infections in the era of effective antiretroviral therapy. *Infect Dis Clin North Am.* Sep;28(3):501-18. DOI: 10.1016/j.idc.2014.05.002.
6. Wisconsin Department of Health Services, Division of Public Health. Wisconsin Tuberculosis Cases by Public Health Region and County 2004-2014. Accessed from <https://www.dhs.wisconsin.gov/publications/p00438.pdf> on 22 February 2016.



MENTAL HEALTH AND SUBSTANCE USE

3: CO - MORBID CONDITIONS

HIGHLIGHTS

- Mental health disorders are at least twice as likely among people living with HIV than among the general population.
- Mental health disorders may increase HIV risk as a result of drug use or risky sexual behaviors.
- Substance use is also more common among people living with HIV compared to the general population.
- In addition to injection drug use, alcohol and non-injection drugs may increase HIV risk due to riskier sexual behavior.

- Dealing with loss of relationships or death.
- Facing stigma and discrimination associated with HIV infection.

While data are not available on the prevalence of mental health disorders among all PLWH in Wisconsin, 70% of infected individuals who completed a survey of barriers as part of a linkage and retention in care intervention stated that they sometimes felt depressed, anxious, or had other mental health concerns (Wisconsin DHS, unpublished data). While these data may not represent all PLWH in Wisconsin, they do support the thought that the prevalence of mental health illness is high among people living with HIV, especially among those who are at risk of poor linkage to care or who have fallen out of care.

Mental Illness as a Risk Factor for HIV Infection

While mental illness alone is not a risk factor for HIV infection, it can promote high-risk sexual behavior or injection drug use, which puts individuals at greater risk for HIV. For example:³

- **Low Self-Esteem:** In one study, men who have sex with men (MSM) with internalized homophobia (e.g., lack of self-acceptance for being gay) were more likely to be HIV positive. In addition, male-to-female (MTF) transgender individuals identified low self-esteem, depression, and feelings of isolation as barriers to risk reduction. For example, unprotected sex may validate their female gender identity.
- **Anxiety and Depression:** Young adults with anxiety or depression are more likely to engage in high-risk activities such as prostitution, drug use, and sex with high-risk partners.
- **Sexual Abuse:** A study of gay and bisexual men found that those who had been abused were more likely to engage in unprotected sex and injection drug use. In addition, women who have been abused may turn to drug use as a way of coping, may have trouble negotiating condom use, and may increase sexual risk-taking.

In addition, the Chicago Department of Public Health examined the association of Adverse Childhood Experiences (ACEs) and HIV risk behaviors among MSM. The study found a significant association with ACEs and sexual risk behavior, as follows:⁴

- 78% of MSM reported at least one ACE, and 32% reported four or more ACEs.

This chapter addresses mental health, and alcohol and drug abuse disorders among people living with HIV and among those at high risk of HIV infection.

Mental Health

Prevalence of Mental Health Disorders among People Living with HIV

Mental health disorders are more common among people living with HIV (PLWH) compared to the general population. In fact,¹

- General anxiety disorders are 7 times more likely in PLWH compared to the general population.
- Twice as many PLWH experience depression during their lifetime compared to the general population.

Several reasons are proposed why mental health issues are more common among people living with HIV, including:^{1,2}

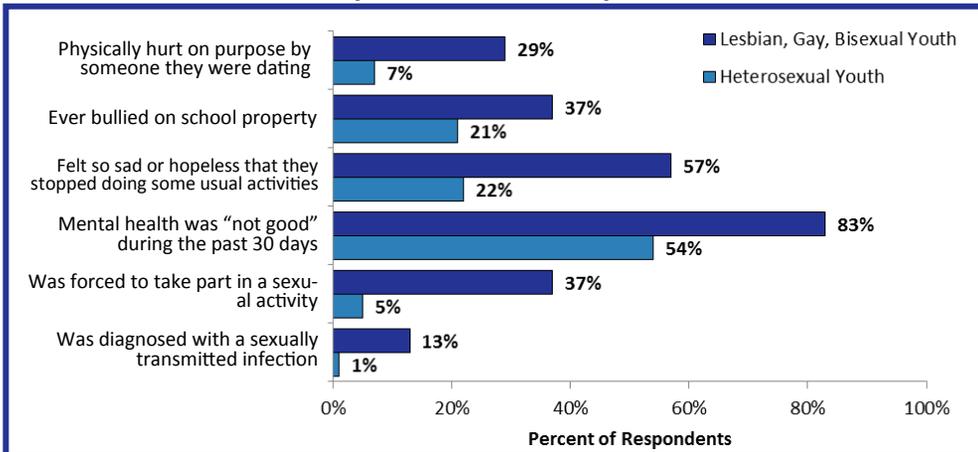
- Experience with trauma and abuse.
- Substance abuse.
- Gender stereotypes.
- Isolation due to loss of social support.
- Loss of, or fear of losing, employment.
- Financial instability.
- Disclosure of HIV status.
- Management of, or effects of, HIV medication.
- Entering or leaving the criminal justice system.



MENTAL HEALTH AND SUBSTANCE USE

3: CO - MORBID CONDITIONS

Select Wisconsin Youth Risk Behavior Survey responses† comparing lesbian, gay, and bisexual youth to heterosexual youth, 2013



barriers as part of a linkage and retention intervention stated that they were concerned about their use of drugs or alcohol (Wisconsin DHS, unpublished data). As with mental health, this number may overestimate the prevalence of substance use disorders due to the specific population surveyed, but is indicative of the need for treatment services and highlights the impact that substance use can have on adherence to care.

According to the U.S. Department of Health and Human Services, ongoing substance use among PLWH can interfere with adherence to

†Questions are paraphrased for graphing. The complete questions can be found at <http://dpi.wi.gov/sites/default/files/imce/sspw/pdf/yrebs13hssexualid.pdf>

- MSM with four or more ACEs were more likely than those with fewer ACEs to report unprotected sex with a casual partner, not knowing the HIV status of their last sex partner, and fear of finding out their HIV status.

In Wisconsin, data from the Youth Risk Behavior Survey (YRBS) also show a higher prevalence of mental health disorders, lack of safety, and sexual abuse that could lead to higher HIV risk as described above among lesbian, gay, and bisexual youth compared to heterosexual youth.⁵

Substance Use

Prevalence of Substance Use among People Living with HIV

Nationally, people living with HIV are more likely to experience substance use than the general population:⁶

- Alcohol: The lifetime prevalence of alcohol use disorders among PLWH is 2-3 times that of the general population.
- Tobacco: The smoking rate among PLWH is 2-3 times that of the general population.⁷
- Injection Drugs: While the rate of ongoing injection drug use among PLWH is unknown, about 10% of all new infections each year are among PWID. At the end of 2014, about 9% of all PLWH in Wisconsin were PWID.

In Wisconsin, the prevalence of substance use among PLWH is unknown. However, 22% of PLWH who completed a survey of

antiretroviral therapy, and can lead to other potential barriers to adherence, such as unstable housing, loss of relationships and social support, loss of employment, and involvement with the criminal justice system. In Wisconsin, PLWH whose infection was attributed to injection drug use were less likely than those with male-male or high-risk heterosexual contact to be in care, retained in care, or virally suppressed.⁹

Substance Use as a Risk Factor for HIV Infection

Injection drug use, through the sharing of needles and drug use or preparation equipment, is a direct route of HIV transmission, accounting for about 10% of annual new HIV infections in the U.S. and 7% of new infections during 2010-2014 in Wisconsin. However, use or abuse of alcohol, tobacco, and other non-injected drugs are also associated with higher HIV risk because these substances may reduce inhibitions and lead to riskier sexual behavior.¹⁰ For example:

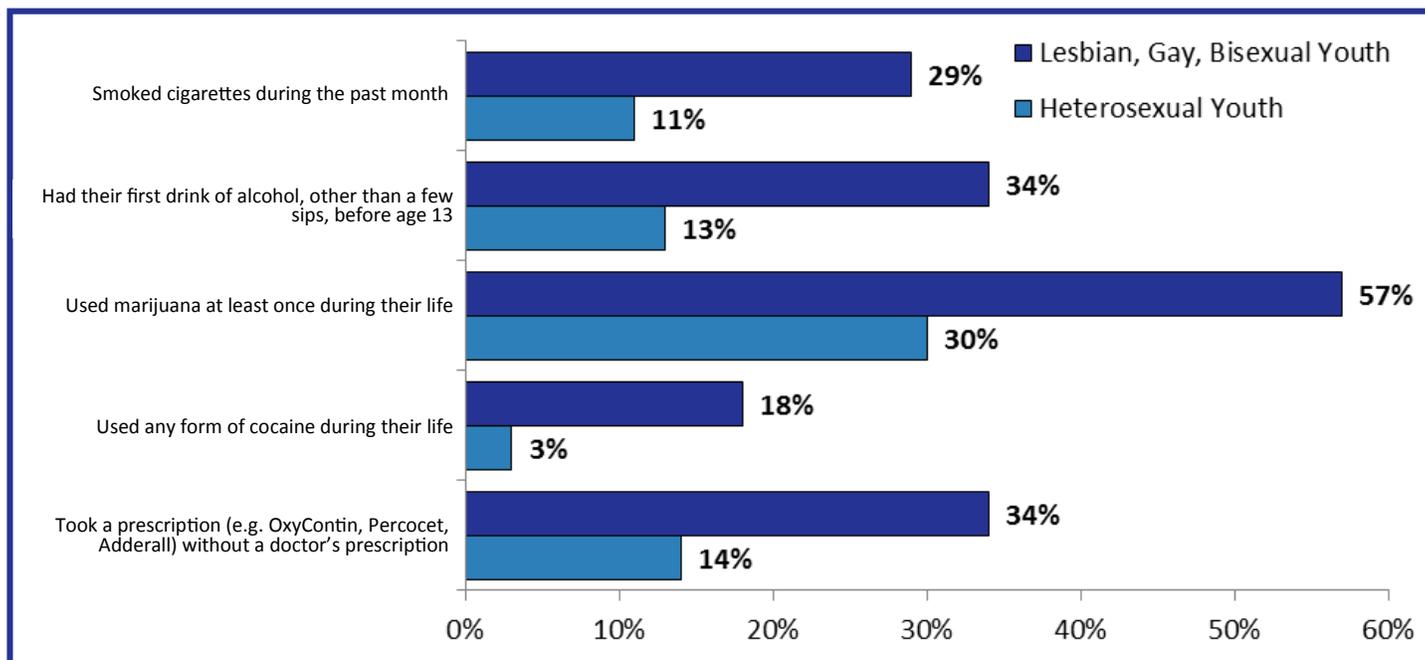
- MSM who use methamphetamine ("meth") use condoms less often, have more sex partners, and are more likely than non-MSM to inject meth (which adds an additional HIV risk) rather than smoke or snort it.¹¹
- Individuals who use crack cocaine report more sexual partners, infrequent condom use, using more than one substance, and report being less responsive to HIV prevention programs.¹¹
- MSM may use alcohol or drugs as a result of experiencing homophobia, discrimination or violence.^{10,11} MSM are more



MENTAL HEALTH AND SUBSTANCE USE

3: CO - MORBID CONDITIONS

Substance use-related Wisconsin Youth Risk Behavior Survey Responses† comparing lesbian, gay, and bisexual youth to heterosexual youth, 2013



†Questions are paraphrased for graphing. The complete questions can be found at: <http://dpi.wi.gov/sites/default/files/imce/sspw/pdf/>

likely than the general population to use alcohol or drugs, continue heavy drinking later in life, and have higher rates of substance abuse.¹¹

- People who have experienced abuse are more likely to overuse drugs and alcohol and practice risky sexual behaviors, such as sex without a condom, or trading sex for drugs, money, food, or shelter.¹²

Similar to mental health disorders, data from the YRBS also show a higher prevalence of substance use among lesbian, gay, and bisexual youth compared to heterosexual youth.⁵

References and Notes

1. Health Resources and Services Administration. HRSA Care Action Newsletter. January 2015. Accessed December 2, 2015, at <http://hab.hrsa.gov/deliverhivaids/mentalhealth.pdf>.
2. AIDS.gov. Mental Health. Accessed December 2, 2015, at <https://www.aids.gov/hiv-aids-basics/staying-healthy-with-hiv-aids/taking-care-of-yourself/mental-health/index.html>.
3. Center for AIDS Prevention Studies. How Does Mental Health Affect HIV Prevention? September 2001. Accessed December 2, 2015, at <http://caps.ucsf.edu/archives/factsheets/mental-health>.
4. Chicago Department of Public Health. (December 2011). Adverse Childhood Experiences and HIV Risk Behaviors among Chicago Men Who Have Sex With Men. Accessed December 22, 2015, at <http://www.cityofchicago.org/dam/city/depts/cdph/CDPH/ACEBriefDec2011Final.pdf>.
5. Department of Public Instruction. 2013 Youth Risk Behavior 2013 Sexual Identify Report. Accessed December 2, 2015, at <http://dpi.wi.gov/sites/default/files/imce/sspw/pdf/yrb13hssexualid.pdf>.
6. Justice A, Sullivan L, Fiellin D. HIV/AIDS, Comorbidity, and Alcohol. Can We Make A Difference? *Alcohol Research & Health*. 2010. 33(3):258-266.
7. AIDS.gov. HIV and Smoking. Accessed December 2, 2015 at <https://www.aids.gov/hiv-aids-basics/staying-healthy-with-hiv-aids/taking-care-of-yourself/smoking-tobacco-use/>.
8. AIDS.gov. Substance Abuse Issues. Accessed December 2, 2015, at <https://www.aids.gov/hiv-aids-basics/staying-healthy-with-hiv-aids/taking-care-of-yourself/substance-abuse-issues/index.html>.
9. Wisconsin AIDS/HIV Program. Wisconsin 2014 HIV Care Continuum: Statewide and Select Population Groups. *Wisconsin AIDS/HIV Program Notes*. November 2015. Available at: <https://www.dhs.wisconsin.gov/aids-hiv/notes.htm>.
10. McCabe SE, Bostwick WB, Hughes TL, et al. The relationship between discrimination and substance use disorders among lesbian, gay, and bisexual adults in the United States. *AJPH*. 2010. 100(10):1946-1952.
11. Gonzalez G, Przedworski J, Henning-Smith C., et al. Comparison of health and health risk factors between lesbian, gay, and bisexual adults and heterosexual adults in the United States: Results from the National Health Interview Survey. *JAMA Int Med* 2016.
12. AIDS.gov. Substance Abuse/Use. Accessed June 20, 2016, at <https://www.aids.gov/hiv-aids-basics/prevention/reduce-your-risk/substance-abuse-use/>.



HIV TESTING

4: PROGRAM OUTCOMES

HIGHLIGHTS

- Publicly funded test sites conducted nearly 29,000 tests during 2013-2014.
- About 1 in 200 publicly funded tests identified a new HIV diagnosis.
- 31% of all new diagnoses in Wisconsin occurred at publicly funded test sites.
- Among publicly funded test sites, 13% of new diagnoses in 2013 and 25% in 2014 occurred in health care settings.



The Alere Determine HIV-1/2 Ag/Ab test is used at publicly funded test sites in Wisconsin¹

This chapter addresses HIV testing data from publicly funded test sites during 2013-2014. Publicly funded test sites are those funded by the Wisconsin AIDS/HIV Program, including local public health departments, selected sexually transmitted disease clinics, community-based organizations (CBOs), and one CBO funded directly by the CDC. Data presented begin with 2013 due to changes in variable definitions starting in 2013. Because many individuals who test positive at Wisconsin's publicly funded tests sites were previously diagnosed, this chapter focuses only on *new* positives.

Test Site Data

Demographic characteristics of tests conducted and people who test positive

The table on the next page compares characteristics of persons tested at publicly funded test sites to those identified as first-time positives and provides the positivity rates by demographic group. For most populations, the demographic breakdown of those tested and those identified as new positives match closely. The largest discrepancies by gender, race/ethnicity, and risk exposure are as follows:

HIV testing at publicly funded test sites, Wisconsin, 2013-2014

	2013	2014	Total
Tests at publicly funded sites	14,615	14,096	28,711
New positives from test sites	79	69	148
New positivity rate at test sites	0.54%	0.49%	0.52%
All new diagnoses in Wisconsin	255	226	481
New positives from test sites as a percentage of all new diagnoses in Wisconsin	31%	31%	31%
New positives from publicly funded health care settings	10	17	27
New positives from publicly funded non-health care settings	69	52	121
New positives from publicly funded health care settings as a percentage of all new positives from publicly funded test sites	13%	25%	18%



HIV TESTING

4: PROGRAM OUTCOMES

Characteristics of persons tested and identified as newly diagnosed at publicly funded test sites, Wisconsin, 2013-2014

	Tests (n)	Tests (%)	Positives (n)	Positives (%)	Positivity rate
Total Tests	28,716	100%	148	100%	0.5%
Gender					
Male	21,268	74%	134	91%	0.6%
Female	7,094	25%	10	7%	0.1%
Transgender-Female to Male	26	0%	0	0%	0.0%
Transgender-Male to Female	301	1%	4	3%	1.3%
Transgender-unspecified	8	0%	0	0%	0.0%
Unknown	19	0%	0	0%	0.0%
Race/Ethnicity					
Black	12,405	43%	62	42%	0.5%
White	11,496	40%	56	38%	0.5%
Hispanic	3,190	11%	26	18%	0.8%
Asian/Pacific Islander	3,190	11%	26	1%	0.4%
American Indian	358	1%	0	0%	0.0%
Multi-racial	637	2%	1	1%	0.2%
Unknown	150	1%	1	1%	0.7%
Risk Exposure†					
MSM	9,477	33%	116	78%	1.2%
MSM/PWID	475	2%	6	4%	1.3%
High-risk Heterosexuals	1,622	6%	9	6%	0.6%
PWID	2,960	10%	5	3%	0.2%
Risk not specified	14,182	49%	12	8%	0.1%

†MSM=Men Who Have Sex With Men, PWID=People Who Inject Drugs

Gender

- Males accounted for 74% of tests, but 91% of positives from test sites.
- The positivity rate for females is 1 in 1,000, for males it is 6 in 1,000, and for transgender people it is 13 in 1,000.

Race/Ethnicity

- Hispanics accounted for 11% of tests, but 18% of positives from test sites.

Risk Exposure

- MSM and MSM/PWID accounted for 35% of all tests and 70% among those with identified risk, but 82% of positives from test sites.
- MSM and MSM/PWID have a positivity rate of 12 in 1,000; high-risk heterosexuals and PWID had positivity rates of 6 in 1,000 and 2 in 1,000 respectively.



References and Notes

1. Image source: <http://www.alere.com/en/home/product-details/determine-1-2-ag-ab-combo.html>

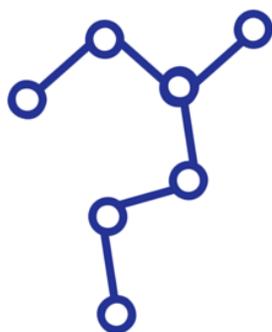


HIV PARTNER SERVICES

4: PROGRAM OUTCOMES

HIGHLIGHTS

- Of 885 index cases assigned to Partner Services during 2013-2014, 628 (71%) had completed interviews.
- Of 628 completed interviews, 616 (98%) were linked to medical care within 6 months of being contacted by the PS Provider.
- Of 690 partners identified, 476 (69%) were notified.



This chapter addresses outcomes of HIV Partner Services in Wisconsin during 2013 and 2014.¹ HIV Partner Services (PS) support and assist persons who are recently diagnosed with HIV infection and their sexual and drug-injection partners. These services are voluntary, confidential, provided by staff in local health departments, and include:

- HIV prevention education and counseling;
- Assistance with notifying sexual and drug-injection partners of their risk exposures;
- HIV testing of sexual and drug-injection partners; and
- Assessment, referral, and service linkage for health and other related services.

The two primary objectives of PS are:

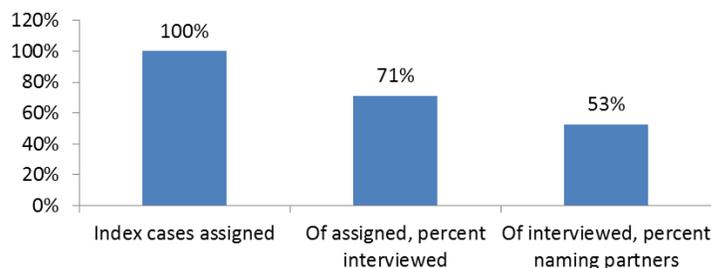
- Provide counseling, testing, and access to treatment for partners who are unaware that they are infected with HIV.
- Provide testing and prevention counseling to HIV-negative partners who have been exposed to HIV in an effort to reduce HIV-associated risk behaviors.

Summary data regarding PS outcomes for index cases and partners for the period 2013-2014 include the following:

Index case interviews

- Of 885 index cases assigned to PS, 628 (71%) had completed interviews.
- Of 628 completed interviews, 330 (53%) named one or more partners.
- 330 index cases named a total of 690 partners (average = 2.1 partners per index case).

**HIV Partner Services outcomes, Wisconsin, 2013-2014:
Index Cases (n=885)**



Index case linkage to care

- Of 628 completed interviews, 616 (98%) were linked to medical care before or within 6 months of being contacted by the PS provider.
- Of the 257 cases that did not participate in PS, 213 (83%) were in care within 6 months of the initial PS assignment.

Partners

- Of 690 partners identified, 476 (69%) were notified.
- Of the 476 partners notified, 169 (36%) were previously identified as HIV-positive.
- Of 307 partners whose status was not known to be HIV-positive, 187 (61%) were tested.
- Of 187 partners tested, 15 partners (8%) were newly diagnosed with HIV.

References and Notes

1. Wisconsin AIDS/HIV Program, Partner Services, PSWeb. Accessed 10 May 2016.



4: PROGRAM OUTCOMES

HIGHLIGHTS

- 83% of people newly diagnosed with HIV infection were linked to care within three months of diagnosis.
- 66% of PLWH had at least one medical visit.
- 88% of PLWH who had at least one viral load test (indicating some care) were virally suppressed.

- 53% of PLWH were virally suppressed at their last test during 2014.
- 88% of PLWH who had at least one viral load test (indicating some care) were virally suppressed.

The following differences in these important health indicators were observed:

- Females had among the highest percentages of success at each stage of the care continuum and were more likely than males to have accessed and engaged in care. However, among those with a viral load test, men were more likely to be virally suppressed.
- Black PLWH were the most likely to be linked to care within three months but were less likely to be in care or to be virally suppressed. Outcomes for Hispanics were similar to Whites.
- Younger PLWH (ages 13-29) were more likely than PLWH ages 30 and older to be in care, but were less likely to be virally suppressed.
- Individuals with a history of injection drug use had among the lowest proportion at each stage of the continuum, with the exception of linkage to care.

This chapter covers the use of HIV medical and supportive services by people living with HIV (PLWH) in Wisconsin during 2014, as well as medication use for Pre-Exposure Prophylaxis (PrEP) during 2014-2015.

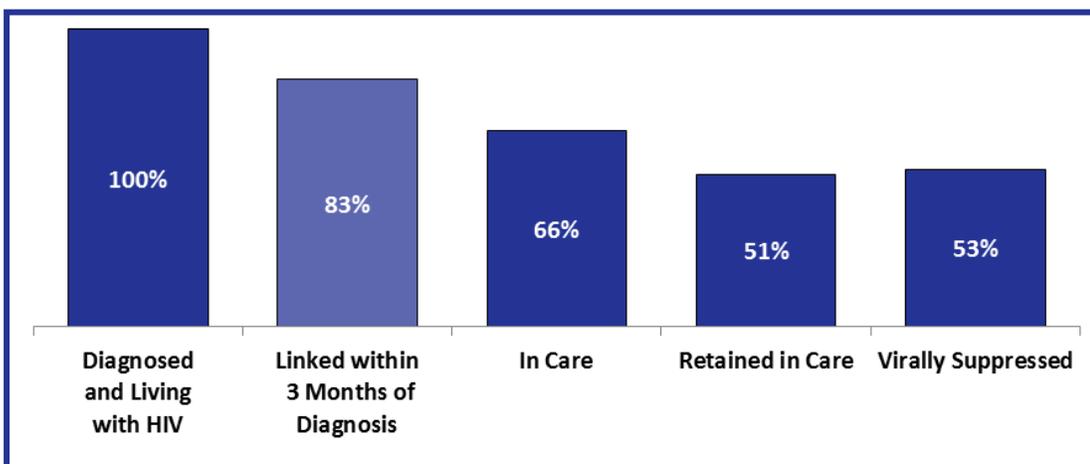
HIV Care Continuum¹

The HIV care continuum is a useful tool for visualizing health outcomes, identifying health disparities, and prioritizing programmatic efforts. Using the definitions described by the CDC,² Wisconsin's 2014 diagnosis-based HIV care continuum is presented below.

During 2014:

- 83% of people newly diagnosed with HIV infection were linked to care within three months of diagnosis.
- 66% of PLWH had at least one medical visit.
- 51% of PLWH had at least two medical visits, 90 days apart.

2014 Wisconsin HIV Care Continuum



Ryan White Program

The Ryan White HIV/AIDS Program is administered by the U.S. Department of Health and Human Services, Health Resources and Services Administration. Funding from this program allows states, cities, and local organizations to provide high quality medical and supportive services to people living with HIV who

do not have sufficient health care coverage or financial resources to manage their HIV disease. In addition, a large portion of Ryan White funding is used to cover the costs of medication, medication co-pays, and health insurance premiums through the AIDS Drug Assistance Program (ADAP) to ensure that PLWH have access to life-saving antiretroviral therapy.



HIV CARE SERVICES

4: PROGRAM OUTCOMES

Number of Ryan White clients by sex, age and race/ethnicity, Wisconsin, 2014

	Male		Female		Transgender
	13-29 Years	30 and Older	13-29 Years	30 and Older	All Ages
American Indian	5	23	2	15	2
Asian	9	27	5	13	0
Black	259	918	72	414	26
Hispanic	51	347	14	120	16
Multi-Racial	1	17	1	6	0
White	74	1385	17	236	8
Unknown	9	67	2	16	4
Total	408	2,784	113	820	56

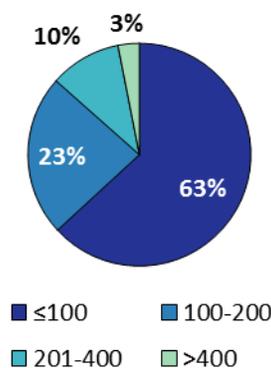
Service Utilization³

During 2014, eight Wisconsin organizations received Ryan White funding. Based on the annual Ryan White Services Report, these agencies served a total of 4,319 unique clients, which represent 63% of all PLWH in Wisconsin during 2014. Nationally, an estimated 73% of all PLWH receive care at a Ryan White-funded facility.⁴

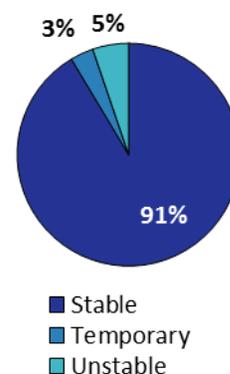
The demographics of those served by Ryan White providers during 2014 are shown above. According to a national study, clients of Ryan White-funded agencies tended to have less than a high school education, had incomes at or below the poverty level, lacked health insurance, had a history of homelessness or incarceration, were more likely to suffer from depression, and were more likely to report unmet needs for dental care, housing, transportation, and food than clients of agencies that did not receive Ryan White funding.⁵ While all these data elements are not available for Wisconsin's Ryan White population, poverty, housing, and insurance status for clients served during 2014 are shown to the right. Among PLWH in Wisconsin who received care at a Ryan White-funded facility during 2014, 63% were at or below the federal poverty level, 8% had temporary or unstable housing, and 16% lacked health insurance.

Percent of Clients Served at Ryan White Funded Agencies during 2014 by Federal Poverty Level, Housing, and Insurance Status, Wisconsin

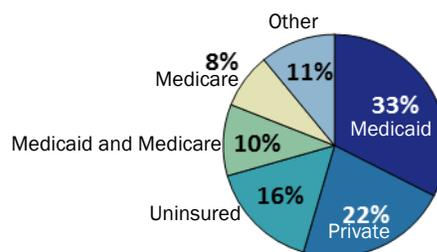
Poverty Level



Housing



Insurance



During 2014, the most commonly utilized Ryan White funded services were outpatient medical care, case management, treatment adherence, referral for health care and supportive services, and oral health care.



HIV CARE SERVICES

4: PROGRAM OUTCOMES

Number of statewide Ryan White clients served†, by core and support service category, Wisconsin, 2014

Core Services	Number Served††	Support Services	Number Served
Outpatient/Ambulatory Medical Care	2281 (53%)	Non-Medical Case Management	2840 (66%)
Medical Case Management	1863 (43%)	Treatment Adherence Counseling	1606 (37%)
Oral Health Care	1391 (32%)	Referral for Health Care/Supportive Services	1408 (33%)
Mental Health Services	570 (13%)	Health Education/Risk Reduction	961 (22%)
		Medical Transportation	518 (12%)
		Local AIDS Pharmaceutical Assistance (not ADAP)	426 (10%)
		Legal Services	413 (10%)

†Only service categories in which at least 10% of Ryan White clients used the service are shown
 †† Percentages total more than 100% because clients can enroll in multiple services

Ryan White Care Continuum³

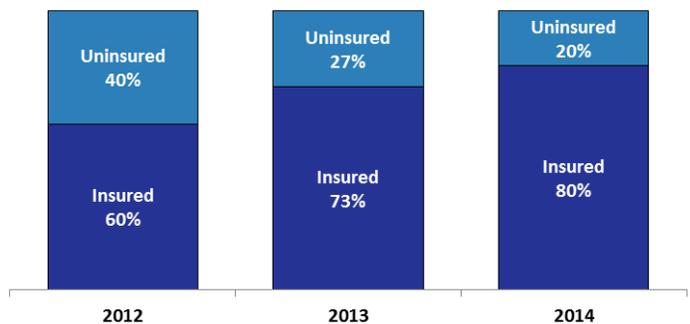
It has been documented nationally that PLWH who receive care at a Ryan White-funded facility have better health outcomes than PLWH who do not receive care at a Ryan White-funded facility.⁴ The same is true in Wisconsin— among those receiving some care during 2014, PLWH who received care at a Ryan White-funded facility had better retention in care and viral suppression than those who received care elsewhere.

AIDS Drug Assistance Program⁶ (ADAP)

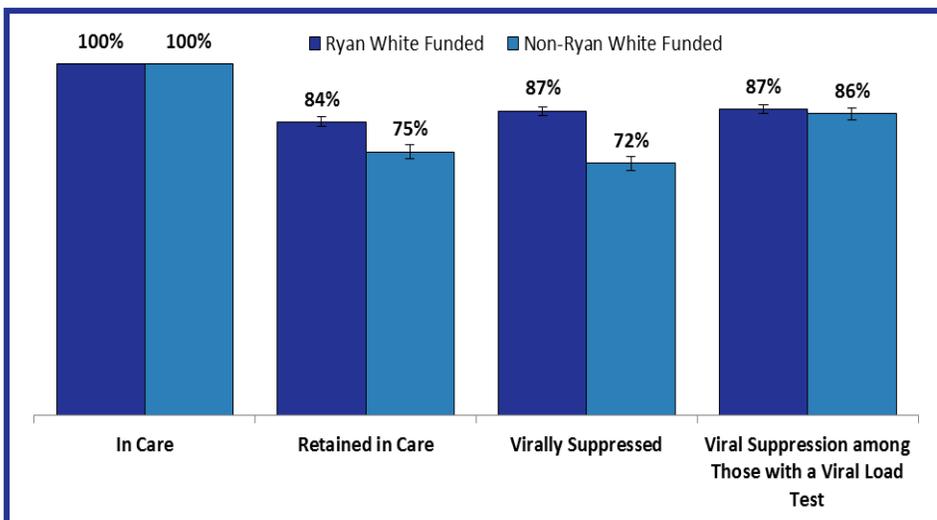
During 2014 there were 1,989 ADAP users. The ADAP users generally reflect the demographics of those living with HIV in Wisconsin. While the Wisconsin ADAP has an eligibility cut-off of 300% or less of the Federal Poverty Level (FPL), 42% of ADAP

users during 2014 were below the FPL with an additional 34% between 100-200% of the FPL.

Insurance status of users of the Wisconsin AIDS Drug Assistance Program, 2012-2014



Wisconsin HIV In Care Continuum: Care at Ryan White-funded versus non Ryan White-funded clinics, 2014



As a result of the Affordable Care Act (ACA) and eligibility changes for Wisconsin's Medicaid Program, a greater proportion of ADAP users are now insured. In 2014, 80% of ADAP users were insured, compared to just 60% and 73% in 2012 and 2013, respectively.

Medicaid Services⁷

During 2010-2014, an average of 2,200 patients with HIV received annual medical services or prescription drugs covered by Wisconsin Medicaid/Badger Care. This



HIV CARE SERVICES

4: PROGRAM OUTCOMES

accounts for about 0.3% (3 in 1,000) of the approximately 770,000 total annual Medicaid patients, and 32% of people reported and living with HIV in Wisconsin. The number of patients fluctuated modestly over the 5-year period.

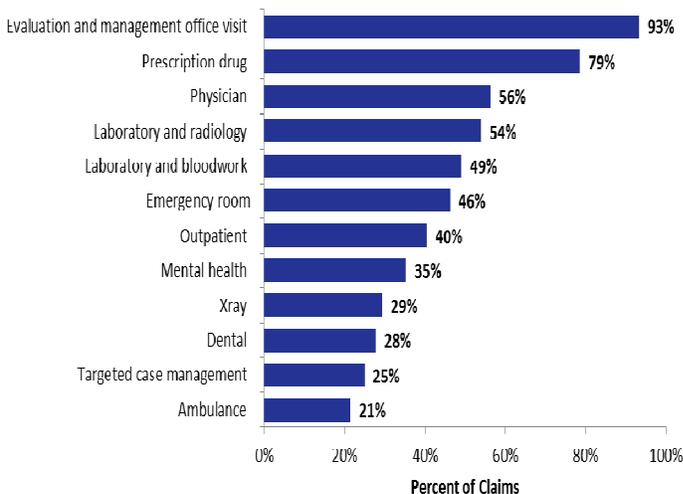
Demographic characteristics

The figure below compares demographic characteristics of Medicaid patients with HIV claims in 2014 to people presumed to be alive and living in Wisconsin at the end of 2014. While the make-up of Medicaid patients largely matches that of prevalent HIV cases, several populations have a lower rate of Medicaid claims: Whites, males, and residents of Dane County.

Service Categories

More than 90% of Medicaid patients with HIV claims had an evaluation and management office visit and 73% filled prescriptions for HIV medications. Other service categories used by more than 20% of Medicaid patients with HIV infection are shown below.

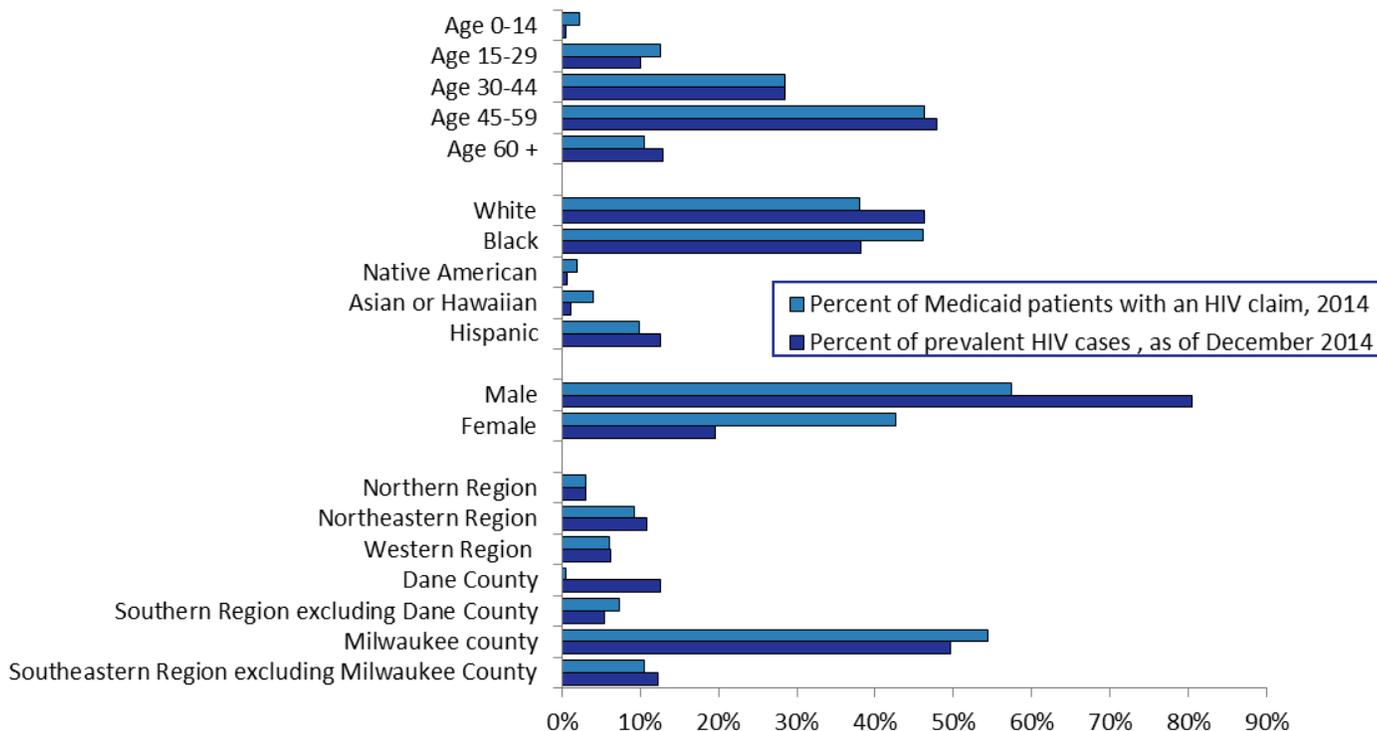
Claims by service category† among Medicaid clients with HIV claims, Wisconsin, 2014



Medicaid patients receiving PrEP

Pre-exposure prophylaxis (PrEP) is a biomedical intervention that prevents HIV infection in individuals through taking one pill a day. People

Characteristics of 2014 Medicaid clients with HIV claims and prevalent cases of HIV as of December 31, 2014, Wisconsin



†Service categories with claims by more than 20% of all Medicaid patients with HIV claims are shown.



HIV CARE SERVICES

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who are at substantial risk for acquiring HIV and take PrEP can reduce their risk of infection by over 90%.⁸

During 2014, 28 Wisconsin Medicaid patients filled one or more prescriptions for PrEP. Geographic and demographic characteristics of the 28 patients are:⁹

- County: Dane, 9; Milwaukee, 6, Other counties, 13.
- Gender: Male, 22; female, 6.
- Race/ethnicity: White, 15 (all male); no other race/gender group had more than two members.
- Age: 13-17, 1; 18-24, 3; 25-34, 10; 35 and older, 14.

Although young Black men have the highest rate of new HIV diagnoses, only two Black male Medicaid patients in Wisconsin initiated PrEP during 2014.

References and Notes

*Pill illustration by Aldric Rodriguez Iborra, the Noun Project

1. Data Source: Enhanced HIV/AIDS Reporting System (eHARS), Wisconsin Department of Health Services.
2. Centers for Disease Control and Prevention. Understanding the HIV Care Continuum. http://www.cdc.gov/hiv/pdf/dhap_continuum.pdf. Published December 2014. Accessed October 5, 2015.
3. Data Source: 2014 Ryan White Services Report (RSR), Wisconsin Department of Health Services
4. Bradley H, Viall AH, Worley PM, et al. Ryan White HIV/AIDS Program Assistance and HIV Treatment Outcomes. *CID*. 2016(62):90-8. DOI: 10.1093/cid/civ708. Accessed 20 June 2016.
5. Weiser J, Beer L, Frazier E, et al. Service delivery and patient outcomes in Ryan White HIV/AIDS Program-funded and –nonfunded health care facilities in the United States. *JAMA Intern Med*. 2015;175(10):1650-1659.
6. Data Source: AIDS Drug Assistance Program, Wisconsin Department of Health Services
7. Data Source: Wisconsin Medicaid data, Office of Health Informatics; Enhanced HIV/AIDS Reports System (eHARS), Wisconsin Department of Health Services.
8. Centers for Disease Control and Prevention. Pre-Exposure Prophylaxis (PrEP). Accessed November 9, 2015 at <http://www.cdc.gov/hiv/risk/prep/index.html>.
9. Department of Health Services, Wisconsin Medicaid data, Office of Health Informatics and HIV surveillance system. Accessed 28 June 2016.



FOR ADDITIONAL INFORMATION

5: RESOURCES

AIDS/HIV Program Main Website: <https://www.dhs.wisconsin.gov/aids-hiv/index.htm>

AIDS/HIV Program Data: <https://www.dhs.wisconsin.gov/aids-hiv/data.htm>

Wisconsin HIV/AIDS Surveillance Annual Review
Milwaukee HIV/AIDS Surveillance Annual Review
Youth Risk Behavior Survey: Sexual Behavior and Outcomes

AIDS/HIV Program Notes: <https://www.dhs.wisconsin.gov/aids-hiv/notes.htm>

AIDSVu: <http://aidsvu.org/map/>

Statewide
City of Milwaukee

STD Annual Reports: <https://www.dhs.wisconsin.gov/std/data.htm>

Statewide and by County
Statewide Adolescents Ages 15-19
Statewide Young Adults Ages 20-24
Milwaukee County
Milwaukee County Adolescents Ages 15-19
Milwaukee County Young Adults Ages 20-24
Syphilis-HIV Co-Infection

Hepatitis C Program: <https://www.dhs.wisconsin.gov/viral-hepatitis/hcv-program.htm>

Tuberculosis Program: <https://www.dhs.wisconsin.gov/tb/index.htm>

Minority Health Report: <https://www.dhs.wisconsin.gov/minority-health/report.htm>

Healthiest Wisconsin 2020: <https://www.dhs.wisconsin.gov/hw2020/index.htm>

National HIV/AIDS Strategy: <https://www.whitehouse.gov/administration/eop/onap/nhas>

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

HIV and HCV Co-infection:

<http://www.cdc.gov/hepatitis/populations/pdfs/hivandhep-factsheet.pdf>

<http://www.cdc.gov/hepatitis/populations/hiv.htm>

HCV Guidance: Recommendations for Testing, Managing and Treating Hepatitis C <http://www.hcvguidelines.org/full-report/unique-patient-populations-patients-hivhcv-coinfection>



WISCONSIN LITERATURE

5: RESOURCES

Select Wisconsin-specific scientific publications, 2010-2015

Articles contained “HIV” and “Wisconsin” in keyword search

*Includes Wisconsin AIDS/HIV Program author

Austin A, Herrick H, Proescholdbell S. Adverse childhood experiences related to poor health among lesbian, gay, and bisexual individuals. *AJPH* 2015. 106;2:314-20. DOI: 10.2105/AJPH.2015.302904

Barocas JA, Erlandson KM, Belzer BK, *et al.* Advance directives among people living with HIV: room for improvement. *AIDS Care* 2015. 27;3:370-377. DOI: 10.1080/09540121.2014.963019

*Biedrzycki P, Vergeront J, Gasiorowicz M. Increase in newly diagnosed HIV infections among young black men who have sex with men—Milwaukee County, Wisconsin, 1999-2008. *MMWR* 2011. 60;4:99-102.

Brennan MB, Kolemianen C, Barocas J, *et al.* Barriers and facilitators of universal HIV screening among internal medicine residents. *WMJ* 2013.

*Broaddus MR, Hanna CR, Schumann C, *et al.* “She makes me feel that I’m not alone”: Linkage to care specialists provide social support to people living with HIV. *AIDS CARE* 2015. 27;9:1104-1107. DOI: 10.1080/09540121.2015.1028882

Broaddus M., DiFranceisco W, Kelly J, *et al.* Social media use and high-risk sexual behavior among black men who have sex with men: A three-city study. *AIDS and Behavior* 2015. 19;2S:S90-S97. DOI: 10.1007/s10461-014-0980-z

*Gasiorowicz M, Stodola J. HIV prevalence estimates and alignment among recent diagnoses, targeted tests, and prevention services by demographic and racial/ethnic group in Wisconsin. *AIDS Education and Prevention* 2011. 23;3s:7-16.

*Grande KM, Stanley M, Redo C., *et al.* Social network diagramming as an applied tool for public health: Lessons learned from an HCV cluster. *AJPH* 2015. 105;8:1611-1616. DOI: 10.2105/AJPH.2014.302193

*Hull SJ, Gasiorowicz M, Hollander G, *et al.* Using theory to inform practice: the role of formative research in the construction of the Acceptance Journeys social marketing campaign to reduce homophobia. *Soc Marketing Quarterly* 2013.

*Hunter P, Oyervides O, Grande KM, *et al.* Facebook-augmented partner notification in a cluster of syphilis cases in Milwaukee. *Public Health Reports* 2014. 129;1S:43-49.

*Jeffries WL, Torrone EA, Vergeront J, *et al.* Increase in newly diagnosed HIV infections among young black men who have sex with men—Milwaukee County, Wisconsin, 1999-2008. *MMWR* 2011. 60:99-102.

*Jeffries WL, Okeke JO, Gelaude DJ, *et al.* An exploration of religion and spirituality among young, HIV-infected gay and bisexual men in the USA. *Culture Health & Sexuality* 2014. 16;9:1070-1083. DOI: 10.1080/13691058.2014.928370

*Jeffries WL, Townsend ES, Gelaude DJ, *et al.* HIV stigma experienced by young men who have sex with men (MSM) living with HIV infection. *AIDS Education and Prevention* 2015. 27;1:58-71. DOI: 10.1521/aeap.2015.27.1.58

*Jeffries WL, Gelaude DJ, Torrone EA, *et al.* Unhealthy environments, unhealthy consequences: Experienced homonegativity and HIV infection risk among young men who have sex with men. *Global Public Health* 2015. Aug 7:1-14. DOI:



WISCONSIN LITERATURE

5: RESOURCES

10.1080/17441692.2015.1062120

Johnson AP, MacGowan RJ, Edlridge GD, *et al.* Cost and threshold analysis of an HIV/STI/Hepatitis prevention intervention for young men leaving prison: Project START. *AIDS and Behavior* 2013. 17;8:2676-2684. DOI: 10.1007/s10461-011-0096-7

Kelly JA, Amirkhanian YA, Seal DW, *et al.* Levels and predictors of sexual HIV risk in social networks of men who have sex with men in the Midwest. *AIDS Education and Prevention* 2010. 22;6:483-495. DOI: 10.1521/aeap.2010.22.6.483

Kelly J, St Lawrence J, Tarima *et al.* Correlates of sexual HIV risk among African American men who have sex with men, *AJPH* 2015. 106;1:96-102. DOI: 10.2105/AJPH.2015.302945

Lechunga J, Owczarzak JT, Petroll AE. Marketing the HIV test to MSM: ethnic difference in preferred venues and sources. *Health Promotion Practice* 2013. 14;3:433-40.

Meiman J, Tomasallo C, Paulozzi L. Trends and characteristics of heroin overdoses in Wisconsin, 2003-2012. *Drug and Alcohol Dependence* 2015. 152:177-184. 10.1016/j.drugalcdep.2015.04.002

Mosack KE, Brouwer AM, Petroll AE. Sexual identity, identity disclosure, and health care experiences: Is there evidence for differential homophobia in primary care practice? *Womens Health Issues* 2013. 23;6: e341-346. DOI: 10.1016/j.whi.2013.07.004

Owczarzak J, Lechuga J, Petroll A. HIV testing as a standard of care for men who have sex with men: Patient and provider perspectives. *Journal of Primary Care & Community Health* 2011. 2;2:116-21. DOI: 10.1177/2150131910390370

Owczarzak J, Dicson-Gomez J. Providers' perceptions of and receptivity toward evidence-based HIV prevention interventions. *AIDS Education and Prevention* 2011. 23;2:105-117.

Petroll AE, Mosack KE. Physician awareness of sexual orientation and preventive health recommendations to men who have sex with men. *Sex Transm Dis* 2014. 38;1:63-67. DOI: 10.1097/OLQ.0b013e3181ebd50f

Sosman J, MacGowan R, Margolis A, *et al.* Sexually transmitted infections and hepatitis in men with a history of incarceration. *STIs* 2011. 38;7:634-639. DOI: 10.1097/OLQ.0b013e31820bc86c

St. Lawrence JS, Kelly JA, Dickson-Gomez, *et al.* Attitudes toward HIV voluntary counseling and testing (VCT) among African American men who have sex with men: concerns underlying reluctance to test. *AIDS Education and Prevention* 2015. 27;3:195-211.

*Stockman IJ, Guilfoyle SM, Benoit AL, *et al.* Rapid hepatitis C testing among persons at increased risk for infection in Wisconsin, 2012-2013. *MMWR* 2014. 63;14.

*Westergaard RP, Stockman IJ, Hyland HA, *et al.* Provider workforce assessment in a rural hepatitis C epidemic: Implications for scale-up of antiviral therapy. *Journal of Primary Care & Community Health* 2015. 6;3:215-17. DOI: 10.1177/2150131914560229



