

Epidemiologic Profiles of HIV, STD, and Hepatitis in Missouri 2021



Office of Epidemiology
Division of Community and Public Health
Missouri Department of Health and Senior Services
URL: <http://Health.Mo.Gov/data/hivstdaids/>
Phone Number: 1.866.628.9891



2021 Epidemiologic Profiles of HIV, STD, and Hepatitis in Missouri

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Background

The Division of HIV/AIDS Prevention at the Centers for Disease Control and Prevention (CDC) and the Health Resources and Services Administration (HRSA) released the revised *Integrated Guidance for Developing Epidemiologic Profiles* in 2022. These guidelines are meant to assist states in creating standardized profiles that meet the planning needs of HIV prevention and care programs, while allowing freedom to portray unique situations within the state. The epidemiologic profile is divided into two sections, within which four questions are addressed.

Profile Organization:

Section 1: Core Epidemiological Questions

This section deals with understanding the characteristics of the general population, the distribution of human immunodeficiency virus (HIV) disease and sexually transmitted diseases (STDs) in the state, and a description of the population at risk for HIV and STD infection. This section is organized around three key questions:

Question 1: What are the sociodemographic characteristics of the general population of Missouri?

Describes the overall demographic and socioeconomic characteristics of the general population of Missouri.

Question 2: What is the scope of the HIV disease epidemic in Missouri?

Describes the impact of the HIV disease epidemic in Missouri.

Question 3: What are the indicators of HIV disease risk in Missouri?

Provides an analysis of the high-risk populations. Both the direct and indirect measures of risk behaviors associated with HIV transmission and the indicators of high-risk behaviors are described in this section.

Section 2: Ryan White HIV/AIDS Care Act Special Questions and Considerations

This section focuses on the questions that pertain to the HRSA HIV/AIDS care planning groups. It describes access to, utilization of, and standards of care among persons in Missouri who are HIV infected. It is organized around one key question:

Question 4: What are the HIV service utilization patterns of individuals with HIV disease in Missouri?

Characterizes patterns in the use of services by the population living with HIV/AIDS in Missouri. Assesses the unmet need of persons who know they are HIV positive, but are not in care. Describes their service needs and perception of care.

General Information:

The 2021 *Profiles* provides a comprehensive update of all four questions in the *Profiles* including the sociodemographic characteristics of Missourians; epidemiology of HIV, STDs, hepatitis, and unmet primary medical care needs among individuals living with HIV through 2021. Please refer to the data sources used in the *Profiles* on page ii and the technical notes on page v to develop a better understanding for interpreting the data presented. Additional sections of the *Profiles* are dedicated to providing data specific to each of the six HIV care regions to assist with regional level planning efforts.

Missouri Planning Cycle:

The statewide Missouri Comprehensive Prevention Planning Group (CPPG) usually operates on a five year planning cycle. The current comprehensive prevention plan was developed in 2010 and runs from 2011-2016. To best serve the CPPG planning process, updates to the epidemiologic profile are designed to coincide with the CPPG's planning cycle. As a result, a complete update of all four questions of the epidemiologic profile is completed every five years, coinciding with the development of the new comprehensive HIV prevention plan. In the other years, updates will only be made to selected questions of the *Profiles*. The current *Profiles* represents a comprehensive update to all questions in the *Profiles*. For data from the previous comprehensive *Profiles*, please refer to the 2009 *Epidemiologic Profiles*, which can be accessed at <http://health.mo.gov/data/hivstdaids/pdf/MOHIVSTD2009.pdf>.

COVID Pandemic:

The World Health Organization declared COVID-19 a pandemic on March 11, 2020 and is now in the transitional phasing of becoming an endemic. Due to this, state public health workers from many programs were called to respond to more than 1 million COVID-19 case reports during this timeframe. Health care providers also responded to cases that required medical attention, and during some case surges were redirected to care for COVID-19 patients from their routine duties. For public health and health care, it's plain that preparing for emergency response and surge capacity needs is essential for our society. The negative health impacts of the lack of surge capacity experienced during the COVID-19 pandemic will likely be measured in the coming years, as they have begun to emerge in the figures presented here.

Data Sources

1. Population Data

American Community Survey, U.S. Census Bureau

The American Community Survey is a nationwide sample survey conducted every year by the U.S. Census Bureau. The survey provides population data regarding age, race, income, country of birth, languages spoken at home, education, employment, and many other areas. Single-year, three-year, and five-year estimates are currently available for the American Community survey. Single-year estimates are only available for geographic areas with a population of 65,000 or more. Three-year estimates are available for geographic areas with a population of 20,000 or more. Five-year estimates are available for all geographic areas. For more information, visit <http://www.census.gov/acs/www/>.

Migration Data Files, Internal Revenue Service (IRS)

State- and county-level migration estimates can be derived from changes in the tax filer's mailing address on domestic and foreign tax return forms between filing years. The IRS produces data files that are freely available. Migration patterns can be assessed by changes in the total number of exemptions reported between two filing years. There are some limitations associated with using tax return information to estimate migration patterns. First, the migration data file only includes tax returns filed through the 39th week of the year, which account for approximately 95% to 98% of all filed individuals returns. Second, differences exist in the likelihood of filing a tax return among various populations. Often the elderly and poor are less likely to file returns, and therefore would not be accurately represented in the migration data files. Third, the mailing address reported on the tax return may not reflect the true address of residence. Migration data are not available by demographic characteristics such as sex, age, and race/ethnicity. For more information, visit <http://www.irs.gov/uac/SOI-Tax-Stats-Migration-Data>.

Population Estimates, Missouri Department of Health and Senior Services (DHSS), Bureau of Health Care Analysis and Data Dissemination and U.S. Census Bureau

DHSS maintains population files for Missouri and its counties based on data provided by the U.S. Census Bureau in partnership with the Federal State Cooperative Program for Population Estimates. Census counts are produced every ten years, with the 2010 census representing the most recent census. Population estimates are produced for non-census years based on adjustments made to the most recent census counts. Due to the time required to compute the estimates, the most recent year's estimates are not available for use in the *Profiles*, and the 2019 population estimates are used instead. Beginning with the 2019 population estimates new race/ethnicity categories are being used, which include a separate estimate for persons identifying being of more than one race. This change reflects the current level of race/ethnicity detail that is captured for HIV surveillance data. As a result of the change, the population estimates from *Profiles* prior to 2009 will not be comparable with the current *Profiles*.

2. HIV Epidemic Data

HIV/stage 3 (AIDS) Surveillance Data, eHARS

Missouri's communicable disease reporting rule, 19 CSR 20-20.020, established reporting of stage 3 (AIDS) cases in 1983, named HIV cases in 1987, CD4 lymphocyte counts in 1991, and HIV viral load lab results in 2000. Demographic information, vital status, mode of exposure, laboratory results, and treatment and service referrals are collected on standardized case report forms and laboratory reports. The DHSS, Office of Epidemiology (OOE) is responsible for managing the HIV/stage 3 (AIDS) surveillance data, stored in the enhanced HIV/AIDS Reporting System (eHARS). Evaluations have shown a high level of completeness of the surveillance system. However, the surveillance system primarily collects information only on individuals diagnosed with HIV disease in Missouri. Some information regarding those currently living with HIV in Missouri is maintained in eHARS, but is not complete. Therefore, the *Profiles* only includes data on those whose most recent diagnosis (HIV or stage 3 (AIDS)) occurred in Missouri. The data collected in the surveillance system is based on diagnosis date, and not the time of infection. The diagnosis can be made at any clinical stage of the disease. The characteristics associated with new diagnoses may not reflect characteristics associated with recent infection. The surveillance system only includes data on individuals that are tested confidentially and reported. Members of certain subpopulations may be more or less likely to be tested, and therefore different subpopulations could be over or under-represented among diagnosed and reported HIV cases.

3. HIV-Related Indicators of Risk Data

Behavioral Risk Factor Surveillance System (BRFSS) Survey, CDC

The BRFSS survey is an annual population-based, random-digit-dialed, telephone survey of the state's civilian, non-institutionalized, adult population, 18 years of age and older. Cell phone surveys were first included in the release of the 2011 data set, meaning that data sets starting with 2011 cannot be compared to the BFRSS data sets prior to 2011. Interviewers ask questions related to health behaviors, health screening, quality of life, mental health, impairment, and access to health care and insurance. The results

are weighted by demographic characteristics and by selection probability, and are used in planning, implementing, and evaluating health promotion and disease prevention programs. For participants 18 years of age and older, the interview includes questions regarding HIV/stage 3 (AIDS)-related behaviors and testing. The BRFSS does not always contain the same questions from one year to the next. For more information, visit <http://www.cdc.gov/brfss/>.

HIV Testing Database

CDC-funded prevention project areas, including Missouri, are required to collect information related to HIV tests performed at publicly funded HIV testing sites. The data collected include demographic information, behavioral risk information, and previous testing history, among other elements. Some data elements, such as previous testing history and behavioral risk, are typically only collected on persons testing positive and therefore data may be limited. The data are only representative of people who seek HIV testing at publicly funded testing sites. The data are collected for each testing experience, and multiple tests conducted on the same individual cannot be differentiated. Beginning in September 2007, MHDSS was funded by CDC to conduct expanding HIV testing initiatives in the state. This initiative was implemented to provide HIV testing in select urban facilities (including hospital emergency departments, private clinics, and public health clinics) with the intent to test all persons seeking care. Sites were selected in Kansas City and St. Louis, and testing began in early 2008. Beginning in 2012 an initiative was set in place to address the ongoing epidemic of HIV infection among Black/African Americans in Missouri, existing testing sites were funded by CDC to enhance testing activities among Black/African American youth, women, and men who have sex with men (MSM). Testing under this initiative began in 2014. The primary goal of these activities is to increase the proportion of Black/African Americans who are aware of their HIV infection and to develop a seamless system that allows identifying HIV infected individuals, linking them to appropriate care, and re-engaging those who are lost to care.

Hepatitis Surveillance Data, DHSS, WebSurv

Missouri's communicable disease reporting rule, 19 CSR 20-20.020, requires reporting of acute and chronic hepatitis B and C cases, perinatal hepatitis B, and prenatal hepatitis B within three days to the local health authority or DHSS. Demographic information, vital status, laboratory results, and treatment information are collected on standardized report forms and laboratory reports. DHSS OOE is responsible for managing the hepatitis surveillance data, stored in the Missouri Health Surveillance Information Systems (WebSurv). Limitations of the data include incomplete race/ethnicity information and underreporting.

Hospitalization Discharge, Charges, and Days of Care, Missouri Information for Community Assessment (MICA)

The dataset includes hospital discharges among Missouri residents from non-federal and non-state acute care general and specialty hospitals. Discharges are classified into diagnosis categories based on the first of 23 possible diagnoses coded on the discharge record. Hospital charges represent the total amount billed, and may not reflect the costs associated with providing the service. Therefore, charge data should only be used to compare the impact between disease categories or geographic regions, and should not be used to produce a total cost associated with a specific disease. The data set also includes days of care, which is calculated as the difference between the admission and discharge dates. If admission and discharge occurred on the same day, days of care is set to one. For more information, visit <https://healthapps.dhss.mo.gov/MoPhims/MICAHome>.

National Survey of Substance Abuse Treatment Services (N-SSATS), Substance Abuse and Mental Health Services Administration (SAMHSA)

This national survey annually collects information from public and private facilities providing substance abuse treatment. The survey does not include information from treatment programs in jails or prisons. The survey collects information regarding the characteristics, services offered, and number of clients receiving treatment at the facilities. The survey response rate is typically very high (>95%). This survey is a point-prevalence survey, meaning that it captures a snapshot of the facility on a particular date. This survey does not represent the annual total of clients served, or necessarily the maximum capacity that a facility can handle. For more information, visit <http://www.dasis.samhsa.gov/dasis2/nssats.htm>.

National Survey on Drug Use and Health, SAMHSA

This survey is a national, multi-stage probability sample regarding illicit drug, alcohol and tobacco use among the noninstitutionalized population twelve years of age or greater. Information is collected on lifetime, annual, and past-month usage of various substances; substance abuse treatment history; the perceived need for treatment; mental health indicators; and core demographics. Survey results prior to 2002 should not be compared with more recent surveys due to changes in recruitment and weighting procedures. For more information, visit <https://nsduhweb.rti.org/>.

School Health Profiles, CDC

The School Health Profiles is derived from a sample survey of schools that serve students from sixth through

twelfth grade in each state, territory, or city of interest. The survey is conducted in even years, and assesses school health policies and programs. Survey areas include school health education requirements, physical education requirements, health policies related to HIV/stage 3 (AIDS), tobacco-use prevention, nutrition, asthma management, and the coordination of school health with the family and community. In 2012, 45 states, 18 cities, four territories, and two tribal governments collected data and were included in the analysis. Surveys are sent from the state, local or territorial education or health agency to the principal. The principal and the school's lead health education teacher complete the appropriate survey responses. Results from the principal and teacher surveys are weighted. For more information, visit <http://www.cdc.gov/healthyYouth/profiles/>.

STD Surveillance Data, WebSurv

Missouri's communicable disease reporting rule, 19 CSR 20-20.020 requires reporting of chlamydia and gonorrhea cases within three days, and syphilis, including congenital syphilis, within one day to the local health authority or DHSS. Demographic information, vital status, laboratory results, and treatment information are collected on standardized report forms and laboratory reports. DHSS OOE is responsible for managing all reportable STD surveillance data. STD data collected through 2011 were managed in the STD Management Information System (STD*MIS). Near the end of 2011, DHSS OOE began utilizing WebSurv to collect and manage STD surveillance data. The change in databases must be considered when assessing changes in STD cases reported since 2012 compared to prior years. Data in this system are presented based on the date of report to the health department and not the diagnosis date. The data represent only those individuals tested and reported, which underestimates the true burden of infection as many infected individuals do not seek care, often due to a lack of symptoms. In addition, many people receive treatment without being tested, again underestimating the true burden of infection. Since morbidity is frequently entered based on the receipt of laboratory reports at DHSS, race and ethnicity information is often not available. Incomplete race and ethnicity reporting limits the interpretation of trends for these characteristics.

Treatment Episode Data Set (TEDS), SAMHSA

This data set collects national information regarding admissions to public and private providers of substance abuse treatment that receive public funding. At a minimum for all states, the data set includes demographic information, date of admission, number of prior treatment episodes, and information related to the substance abuse problem. TEDS does not include all admissions to substance abuse treatment; the completeness of client-level data included in the data set varies depending on state reporting practices and the availability of public funds. For more information, visit <https://www.samhsa.gov/data/data-we-collect/teds-treatment-episode-data-set>.

Youth Risk Behavior Surveillance System (YRBSS) Survey, CDC

The YRBSS survey is administered by the Missouri Department of Elementary and Secondary Education to monitor specific behaviors among high school students that contribute to the leading causes of morbidity and mortality. The survey is administered in the spring of odd-numbered years. Student participation is voluntary, and local parental permission procedures are followed. The students who participate in the survey constitute a valid sample of high school-age youth. The results may be used to make inferences about the health-risk behaviors of all Missouri public high school students. However, the results from the statewide survey cannot be used to provide estimates for smaller geographic areas than the state. The YRBSS does survey some large, urban school districts to obtain estimates for a smaller geographic area; no Missouri school district participated in the more area-specific survey. Data from the 2011 survey were not released due to small sample sizes. For more information, visit <http://www.cdc.gov/healthyouth/data/yrbs/index.htm>.

Tuberculosis Disease Surveillance Data, WebSurv

Missouri's communicable disease reporting rule, 19 CSR 20-20.020, requires reporting of tuberculosis disease within one day to the local health authority or DHSS. Demographic information, vital status, laboratory results, and treatment information are collected on standardized report forms and laboratory reports. DHSS Bureau of Communicable Disease Control and Prevention is responsible for managing the tuberculosis surveillance data stored in WebSurv. Limitations of the data include incomplete race/ethnicity information and underreporting.

4. HIV Care Services Data

HIV Case Management Data, SCOUT

DHSS participates in a cooperative agreement with HRSA for the provision of several programs funded by the Ryan White HIV Treatment Modernization Act. Data for persons served by these programs are collected and stored in the Securing Client Outcomes Using Technology (SCOUT) database. Data include key demographic and eligibility related variables for persons residing in Missouri, and portions of Illinois and Kansas. These data are used to monitor the level of need and the provision of services for individuals utilizing Ryan White funded services.

Technical Notes

Revised HIV Surveillance Case Definition: Case definitions are used for all national reportable conditions. Case definitions are a standardized set of requirements to determine whether an individual is counted as a case for a particular disease. Case definitions allow states to count cases in a standard fashion in order for data to be compared across the nation. When changes in testing technology and in the understanding of a disease occur, revisions to case definitions may occur. The HIV surveillance case definition was revised in 2014 in large part to account for the implementation of the new HIV testing algorithms that no longer required the western blot as the confirmatory test. A major change to remove the distinction between HIV cases and AIDS cases occurred in the 2014 revised surveillance case definition. All individuals infected with HIV disease are classified as HIV disease with progression of the disease classified as stages (0-3). For more information, visit <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6303a1.htm>.

Stage 3 (AIDS): Stage 3 (AIDS) represents an advanced stage of HIV infection when the CD4+T-lymphocyte values are usually persistently depressed. Stages are defined primarily based on the CD4+T-lymphocyte values and age. For additional information, visit <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6303a1.htm>.

HIV Disease, HIV Case, Stage 3 (AIDS) Case: HIV disease includes all individuals diagnosed with the HIV virus regardless of the stage of disease progression. All persons with HIV disease can be sub-classified as either a stage 3 (AIDS) case (if they are in the later stages of the disease process and have met the case definition for stage 3 (AIDS)), or an HIV case (if they are in the earlier stages of the disease process and have not met the stage 3 (AIDS) case definition). In this report, the sub-classification of HIV or stage 3 (AIDS) is based on an individual's most severe stage of HIV disease progression as of December 31, 2014.

Date of Diagnosis: Represents the date an individual was first diagnosed with the HIV virus, regardless of the stage of disease progression. However, in many instances the initial diagnosis of infection does not occur until several years after the initial infection, so at best the trends in diagnosed HIV cases can only approximate actual trends in new HIV infections.

Reporting Delay: Delays exist between the time HIV infection is diagnosed and the time the infection is reported to DHSS. As a result of reporting delays, case numbers for the most recent years of diagnosis may not be complete. Data from recent years should be considered provisional. The data presented in this report have not been adjusted for reporting delay. The data in this report represent all information reported to DHSS through February 28, 2015.

Place of Residence: Data are presented based on an individual's residence at time of most recent diagnosis of HIV or stage 3 (AIDS). Only cases whose most recent diagnosis was Missouri are included in the analyses presented in the *Profiles*. This residence at time of most recent diagnosis may or may not correspond with the individual's residence at the time of initial infection, or to the current residence.

Vital Status: Cases are presumed to be alive unless DHSS has received notification of death. Current vital status information for cases is ascertained through routine matches with Missouri death certificates, reports of death from other states' surveillance programs, and routine site visits with major reporting sites. When comparing *Profiles*, changes in the number of living cases in a select year between the *Profiles* is due to adjustments based on results of death matching activities. Revisions for the number of persons living at the end of the year for the past ten years can be found in Figure 14 of the 2014 *Profiles*.

Exposure Category: Despite possible existence of multiple methods through which HIV can be transmitted, cases are assigned a single most likely exposure category based on a hierarchy developed by the CDC. A limitation of the dataset is the large number of cases reported with an undetermined exposure category. Data on cases with missing exposure category information have been proportionately re-distributed into known exposure categories in selected analyses.

categories in selected analyses.

Routine Interstate Duplicate Review (RIDR): The mobility of American citizens impacts the ability to accurately track individuals living with HIV/stage 3 (AIDS). Mobility may result in the same HIV infected person being counted in two or more different states. To help respond to potential duplication problems, the CDC initiated the Interstate Duplication Evaluation Project (IDEP), now called Routine Interstate Duplicate Review (RIDR) in 2002. RIDR compares patient records throughout the nation in order to identify duplicate cases. The states with duplicate cases contact one another to compare patient profiles in order to determine the state to which the case belongs, based on residence during the earliest date of diagnosis. Because of this process, the cumulative number of cases within Missouri may change, but the process has increased the accuracy of Missouri's data by reducing the chance that a case has been counted more than once nationally.

Small Numbers: Data release limitations are set to ensure that the information cannot be used to inadvertently identify an individual. It is difficult to make meaningful statements concerning trends in areas with low numbers of cases. Please interpret rates where the numerator is less than 20 cases with caution because of the low reliability of rates based on a small number of cases.

Glossary of Terms: A glossary of terms is located at the end of the profile. If the reader is unclear about any terms used in the *Profiles*, please feel free to contact DHSS Office of Epidemiology for additional information.

Race/Ethnicity: Race and ethnicity information has been collected under two different systems in the HIV/stage 3 (AIDS) reporting system. Since many cases were reported under the old classification system, the use of the race and ethnicity categories from the old classification system will be maintained in this report. All cases identified with a Hispanic ethnicity will be reported in the *Profiles* as Hispanic, regardless of reported race information. In the text of this document, whenever cases are being discussed, the term "white" means white, not Hispanic, and "Black/African American" means Black/African American, not Hispanic. The number of cases reported as "not Hispanic" may include individuals whose ethnicity was not reported. Individuals who reported multiple racial categories or whose race was unknown are included in the category "other/unknown" or "two or more races/unknown" depending on the table or figure.

Diagnoses in Correctional Facilities: For persons living in Missouri correctional facilities (which include state, county, and local facilities) at the time of their HIV/stage 3 (AIDS), chlamydia or gonorrhea diagnosis, the location of the correctional facility is considered the individual's residence at diagnosis. For persons living in Missouri correctional facilities at the time of their syphilis diagnosis, the residence at diagnosis is considered the individual's address prior to being incarcerated. Data for persons diagnosed in Missouri correctional facilities are included in the statewide data, since most of these individuals were likely Missouri residents prior to incarceration. However, diagnoses in Missouri correctional facilities are not included in the HIV/stage 3 (AIDS) data for the six HIV care regions of the state. This exclusion at the regional level is based on the fact that these individuals, especially those in the state prison system, are often incarcerated in a different location than where they were residing (and were likely infected) prior to imprisonment. If included among the cases from the area where imprisoned at the time of diagnosis, it would distort the picture of the epidemic in that area. Individuals diagnosed at federal correctional facilities in Missouri are not included in any data presented.

Anonymous Testing: The data do not include cases of HIV infection reported or diagnosed in persons anonymously tested at the state's four anonymous testing sites in St. Louis City, Kansas City, Springfield, and Columbia.

Geographic Area vs. HIV Care Region: When data are presented by geographic area, the St. Louis City represents individuals diagnosed in the St. Louis City limits. St. Louis County represents individuals diagnosed in St. Louis County. Kansas City represents individuals diagnosed in the Kansas City limits. Outstate represents individuals diagnosed in all other areas. Refer to the map on the following page for the counties included when data are presented by HIV care region.

HIV Care Region vs. HIV Region: Previous *Profiles* divided the state into geographic regions known as HIV Regions using the HIV prevention planning regions. Based on guidance from the Bureau of HIV, STD, and Hepatitis (BHS), the data in the 2014 *Profiles* is presented by HIV care regions in an effort to align with future goals to have a single definition for the geographic regions used for HIV planning. Beginning with the 2014 *Profiles*, the state was divided into geographic regions known as HIV care regions using the HIV medical case management (care) regions. The transition to care regions resulted in some changes. The North Central HIV Region is now known as the Central HIV Care Region. The remaining five regions maintained the same names. The counties comprising the St. Louis, Southeast, and Southwest HIV Care Regions remained the same. The Northwest HIV Care Region no longer contains Clinton County. Clinton County now belongs to the Kansas City

Abbreviations

AIDS=Acquired Immunodeficiency Syndrome

BHSH=Bureau of HIV, STD, and Hepatitis

OOE=Office of Epidemiology

BRFSS=Behavioral Risk Factor Surveillance System

CDC=Centers for Disease Control and Prevention

DHSS=Missouri Department of Health and Senior Services

CPPG=Comprehensive Prevention Planning Group

eHARS=enhanced HIV/AIDS Reporting System

HIV=Human Immunodeficiency Virus

IDEP=Interstate Duplicate Evaluation Project

IDU=Injection drug use/Injection drug user

IRS=Internal Revenue Service

HRSA=Health Resources and Services Administration

MICA=Missouri Information for Community Assessment

MSM=Men who have sex with men

MSM/IDU=Men who have sex with men and inject drugs

NIR=No indicated risk

N-SSATS=National Survey of Substance Abuse Treatment Services

P&S=Primary and secondary

RIDR=Routine Interstate Duplicate Review

SAMSHA=Substance Abuse and Mental Health Services Administration

SCOUT=Securing Client Outcomes Using Technology

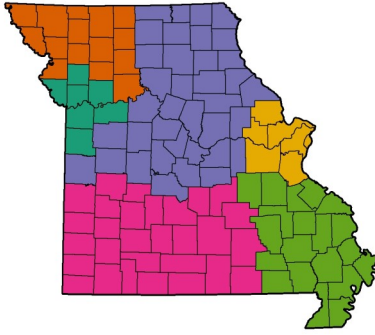
STD=Sexually Transmitted Disease

STD*MIS=Sexually Transmitted Disease Management Information System

TB=Tuberculosis

TEDS=Treatment Episode Data Set

YRBSS= Youth Risk Behavioral Surveillance System



MISSOURI STATE SUMMARY

Population Counts, by HIV Care Region, Missouri, 2020

	St. Louis HIV Care Region	Kansas City HIV Care Region	Northwest HIV Care Region	Central HIV Care Region	Southwest HIV Care Region	Southeast HIV Care Region	Missouri Total
Sex							
Male	1,029,221	608,068	108,161	440,793	586,338	242,546	3,017,723
Female	1,096,373	641,132	108,182	445,086	594,889	246,954	3,133,825
Total	2,125,594	1,249,200	216,343	885,879	1,181,227	489,500	6,151,548
Race/Ethnicity							
White	1,550,381	903,521	194,791	781,216	1,042,188	432,875	4,927,636
Black/African American	422,150	208,008	8,920	52,575	25,068	30,936	758,250
Hispanic	67,566	99,370	8,781	30,904	56,424	11,565	276,096
Asian/Pacific Islander	79,467	31,280	2,877	16,842	16,342	3,456	155,470
American Indian/Alaskan Native	6,030	7,021	974	4,342	10,944	2,090	34,096
Total	2,125,594	1,249,200	216,343	885,879	1,150,966	480,922	6,151,548
Race/Ethnicity-Males							
White Male	759,980	441,672	95,990	386,157	513,860	213,964	2,422,702
Black/African American Male	192,696	98,021	5,503	28,256	14,861	16,602	361,117
Hispanic Male	34,865	50,037	4,769	16,073	29,674	6,109	142,186
Asian/Pacific Islander Male	38,785	14,890	1,409	8,078	7,394	1,575	74,739
American Indian/Alaskan Native Male	2,895	3,448	490	2,229	5,553	1,045	16,979
Total	1,029,221	608,068	108,161	440,793	571,342	239,295	3,017,723
Race/Ethnicity-Females							
White Female	790,401	461,849	98,801	395,059	528,328	218,911	2,504,934
Black/African American Female	229,454	109,987	3,417	24,319	10,207	14,334	397,133
Hispanic Female	32,701	49,333	4,012	14,831	26,750	5,456	133,910
Asian/Pacific Islander Female	40,682	16,390	1,468	8,764	8,948	1,881	80,731
American Indian/Alaskan Native Female	3,135	3,573	484	2,113	5,391	1,045	17,117
Total	1,096,373	641,132	108,182	445,086	579,624	241,627	3,133,825
Age							
<2	48,065	30,317	142,909	142,909	27,893	11,213	142,909
2-12	283,512	178,662	835,507	835,507	163,075	66,684	835,507
13-18	157,392	97,171	467,543	467,543	91,503	37,511	467,543
19-24	148,459	85,616	483,476	483,476	105,706	35,893	483,476
25-44	570,110	347,143	1,586,731	1,586,731	285,834	118,051	1,586,731
45-64	549,206	311,439	1,545,668	1,545,668	290,416	128,211	1,545,668
65+	368,850	198,852	1,089,714	1,089,714	216,803	91,937	1,089,714
Total	2,125,594	1,249,200	6,151,548	6,151,548	1,181,230	489,500	6,151,548

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Key Highlights: What is the scope of the HIV disease epidemic in Missouri?

Magnitude of the Problem and General Trends

- From 1982 to 2021, there have been a total of 23,059 persons diagnosed with HIV disease in Missouri and reported to DHSS. Of these individuals, 14,846 (64.4%) were subcategorized as stage 3 (AIDS) cases, and the remaining 8,213 (35.6%) were subcategorized as HIV cases. Of the cumulative number of persons diagnosed with HIV disease, 13,856 (60.1%) were presumed to be living at the end of 2021.
- The number of new diagnoses has fluctuated slightly between 2017 and 2021, with no sustained upward or downward trend in new HIV diagnoses over this time period. In 2021, there were 559 persons newly diagnosed with HIV disease. However, this value has not been adjusted for reporting delays, and therefore is likely to change.
- The number of persons living with HIV disease continued to increase every year, from 12,671 persons in 2017 to 13,856 persons in 2021. The increase is primarily due to the fact that individuals are living longer with the disease as a result of improved treatment and medical care.

Where

- HIV disease disproportionately impacts the state's two major metropolitan areas (St. Louis and Kansas City). The highest rates of new diagnoses and persons living with HIV disease were found in these two areas.
- The rate of persons newly diagnosed who remained classified as HIV cases at the end of 2021 was highest in St. Louis City (30.6 per 100,000). The rate of persons newly diagnosed who were classified as stage 3 (AIDS) cases at the end of 2021 was highest in St. Louis City (5.3 per 100,000).

Who **Sex**

- Males represented the majority of persons newly diagnosed and living HIV disease. The rates of persons living with HIV disease were around 4.7 times as high among males compared to females. The rates of newly diagnosed with HIV disease were around 4.4 times as high among males compared to females.

Race/Ethnicity

- HIV disease continues to disproportionately impact minorities. The rate of newly diagnosed HIV disease cases among Blacks/African Americans was 7.4 times as high as whites, and 4.1 times as high among Hispanics compared to whites. The disparity was even greater among Black/African American females with the newly diagnosed representing 50% of Missouri's female population. It should be emphasized that race/ethnicity in itself is not a risk factor for HIV infection; however, among many racial/ethnic minority populations, social, economic, and cultural factors are associated with high rates of HIV risk behavior. These factors also may be barriers to receiving HIV prevention information or accessing HIV testing, diagnosis, and treatment.

Age

- The age of individuals living with HIV disease has increased over time. In 2012, the largest numbers of persons living with HIV disease were 45-49 years of age, whereas in 2021 persons 55-59 years old represented the largest number of living cases.
- The age of individuals newly diagnosed with HIV has slightly increased over time. In 2012, the largest numbers of persons newly diagnosed with HIV disease were between 19-24 years of age, compared to 2021 when the largest numbers of new diagnoses were 30-34 years of age. The difference may be attributed to increased testing among younger individuals or due to a true increase in the number of new infections at a younger age.

Exposure Category

- The majority of new diagnoses continue to be attributed to men who have sex with men (MSM). Among females, heterosexual contact was the primary mode of transmission.

Figure 1. HIV disease cases (living and deceased), by current HIV vs. stage 3 (AIDS) status, Missouri, 1982—2021

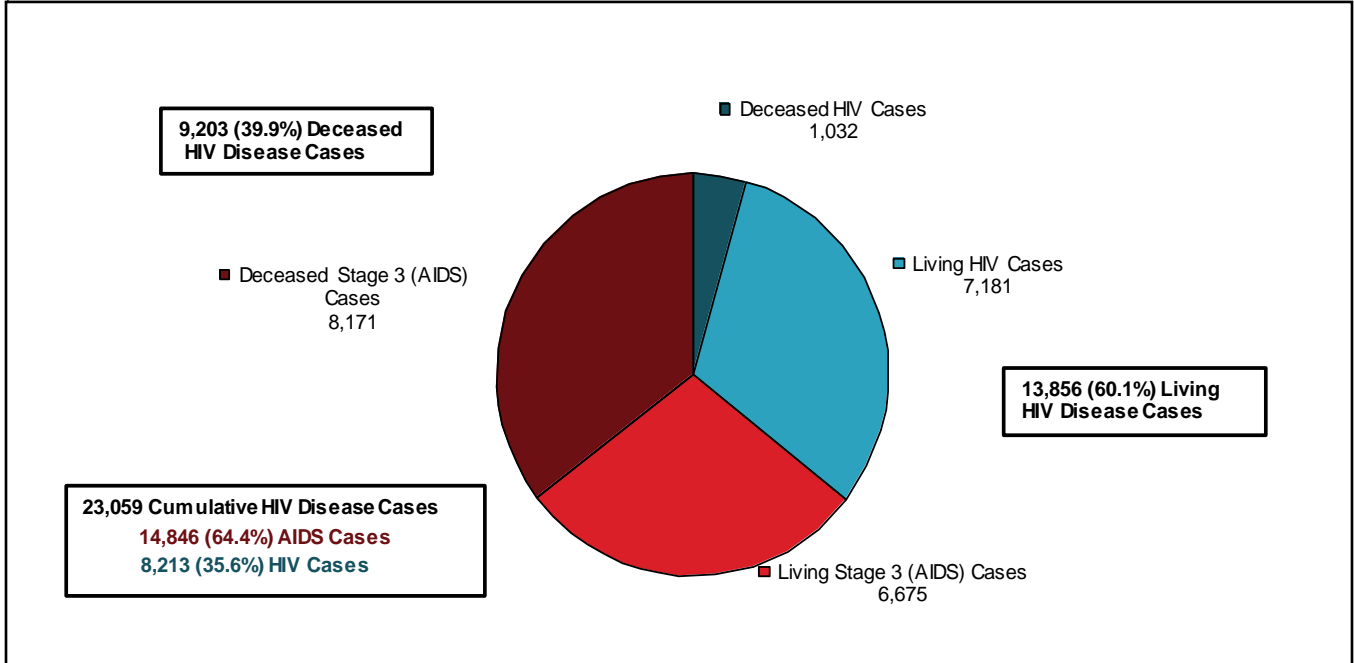
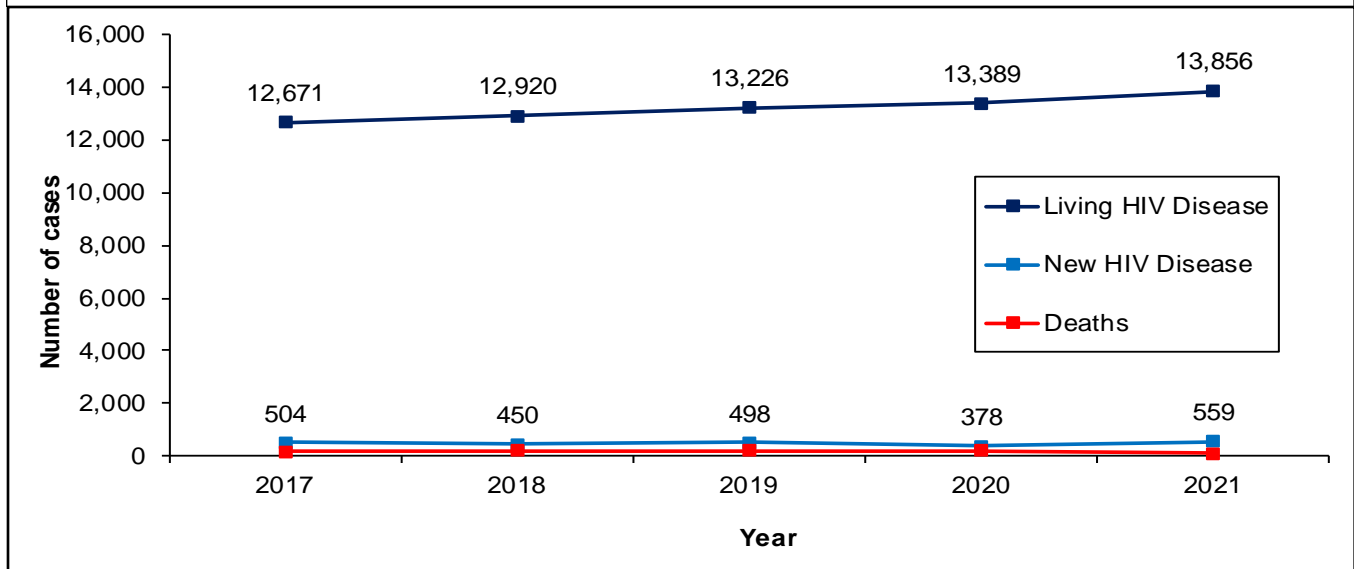


Figure 2. Living and new HIV disease cases and deaths by year*, 2017—2021

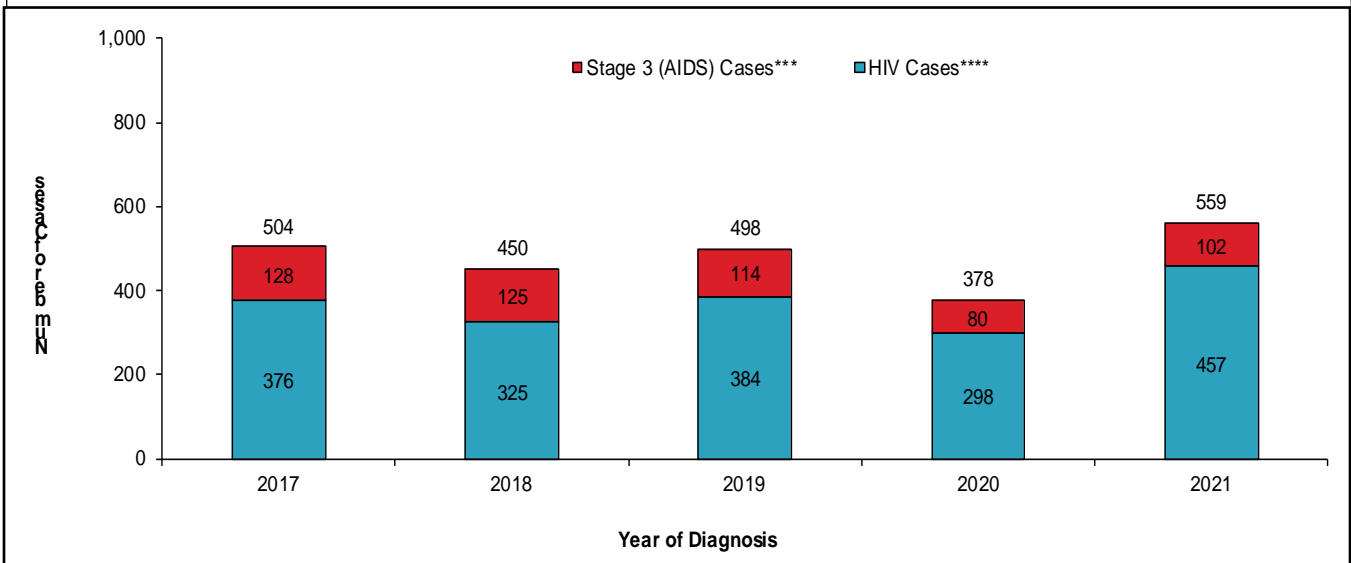


*For living HIV disease cases-the number of individuals living with HIV disease at the end of the year; For new HIV disease cases-the number of individuals newly diagnosed in the year; For HIV disease deaths-the number of individuals that died in the year.

From 1985 to 2021, there have been a total of 23,059 HIV disease cases diagnosed in Missouri and reported to DHSS (Figure 1). Of the cumulative cases reported, 60.1% were still presumed to be living with HIV disease at the end of 2021. Among those living with HIV disease, 8,213 were classified as HIV cases and 14,846 were classified as stage 3 (AIDS) cases.

At the end of 2021, there were 13,856 persons living with HIV disease whose most recent diagnosis occurred in Missouri (Figure 2). The number of people living with HIV disease increased each year. There were 559 new HIV disease diagnoses in 2021. The number of new diagnoses from 2017 to 2021 has fluctuated; the number of new diagnoses ranged from 504 cases in 2017 to 559 cases in 2021. The number of deaths among persons with HIV disease each year has remained generally steady. The lower number of deaths in 2021 was likely due to delays in death reporting.

Figure 3. HIV disease cases, by current status* and year of diagnosis, Missouri, 2017-2021**



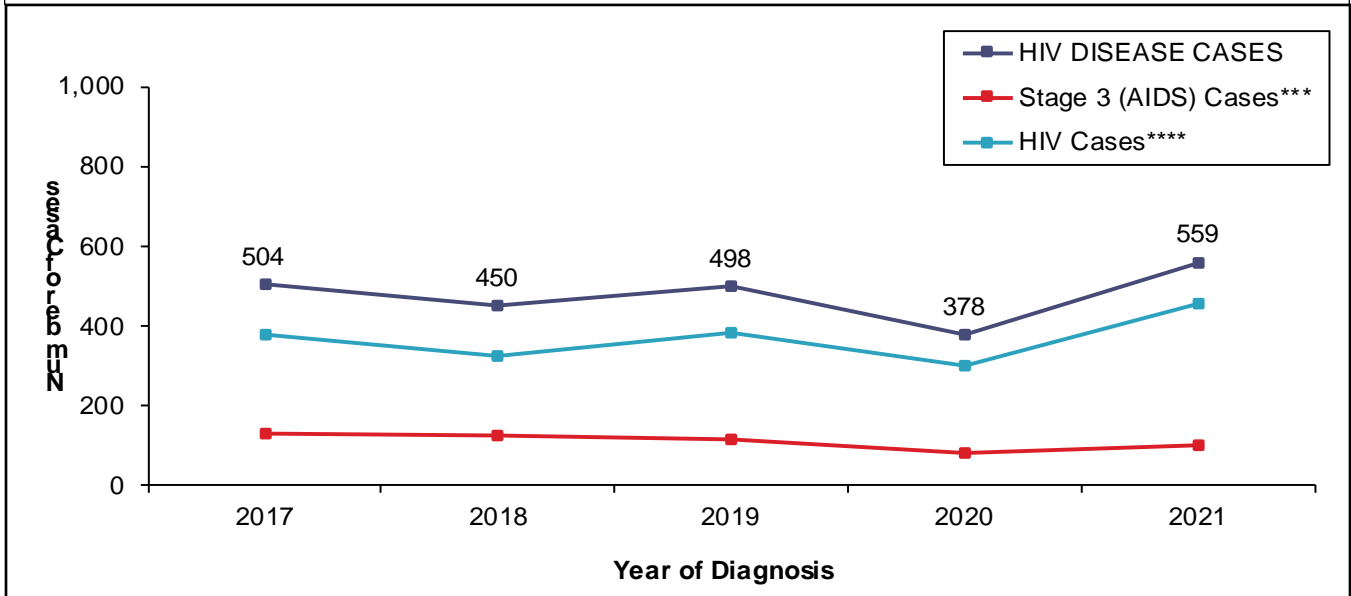
*HIV case vs. stage 3 (AIDS) case

**Cases are indicated by year of initial diagnosis reported to DHSS. (The year in which the first diagnosis of the person, whether as a HIV case or a stage 3 (AIDS) case, was documented by the department).

***These cases were either: 1) initially reported as HIV cases and then later reclassified as stage 3 (AIDS) cases because they subsequently met the stage 3 (AIDS) case definition; or 2) initially reported as stage 3 (AIDS) cases.

****These cases were initially reported as HIV cases and have remained HIV cases. They have not met the case definition for stage 3 (AIDS) as of December 31, 2021.

Figure 4. Reported HIV disease cases, by current status* and year of diagnosis, Missouri, 2017-2021**



*HIV case vs. stage 3 (AIDS) case

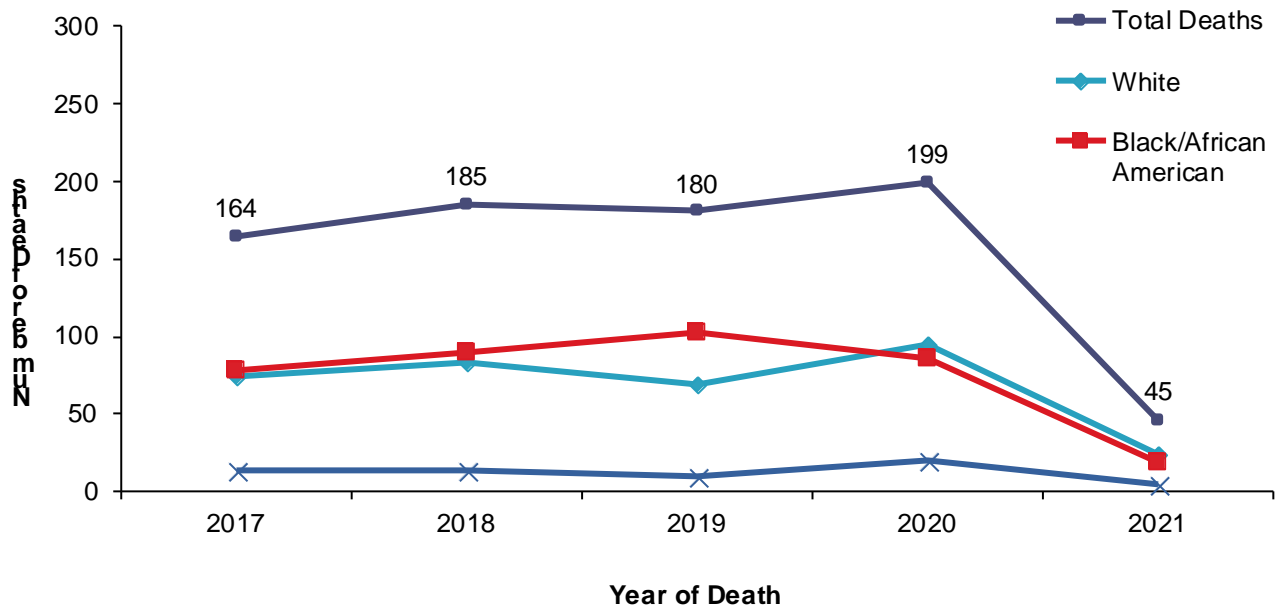
**Cases are indicated by year of initial diagnosis reported to DHSS. (The year in which the first diagnosis of the person, whether as a HIV case or a stage 3 (AIDS) case, was documented by the department).

***These cases were either: 1) initially reported as HIV cases and then later reclassified as stage 3 (AIDS) cases because they subsequently met the stage 3 (AIDS) case definition; or 2) initially reported as stage 3 (AIDS) cases.

****These cases were initially reported as HIV cases and have remained HIV cases. They have not met the case definition for stage 3 (AIDS) as of December 31, 2021.

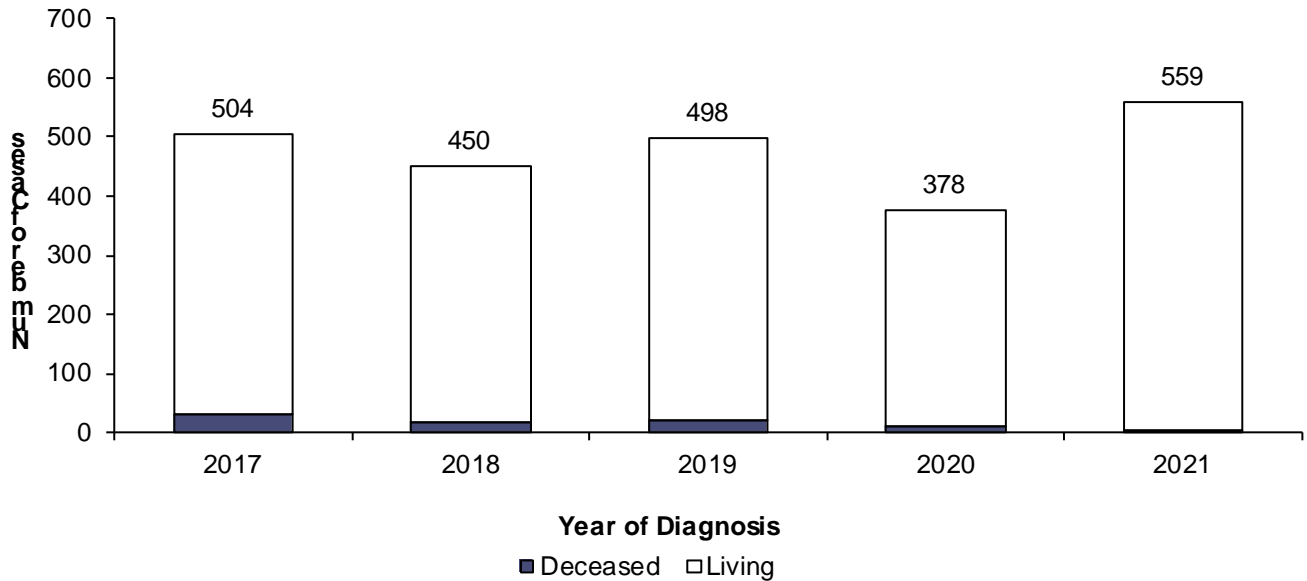
Between 2017 and 2021, the number of new HIV disease diagnoses has ranged from 504 cases in 2017 to 559 cases in 2021 (Figures 3 and 4). The number of new diagnoses has fluctuated slightly between 2017 and 2021, with no sustained upward or downward trend in new HIV diagnoses over this time period. Differences in the number of persons sub-classified as stage 3 (AIDS) cases each year are due to the progression of the disease over time. For those diagnosed with HIV disease in 2017, a larger number are currently classified as stage 3 (AIDS) cases compared to those diagnosed in 2021 because they have been living with the virus longer.

Figure 5. HIV disease deaths*, by selected race, by year of death, Missouri, 2017—2021†**



*Includes deaths that have occurred among those diagnosed with HIV disease in Missouri.
 **Total deaths include persons of all races.
 †Only includes deaths through December 31, 2021, and reported by February 28, 2022.

Figure 6. Persons diagnosed with HIV disease by current vital status* and year of diagnosis, Missouri, 2017—2021**



*Vital status on December 31, 2021.
 **Cases are indicated by year of initial diagnosis reported to DHSS. (The year in which the first diagnosis of the person, whether as a HIV case or a stage 3 (AIDS) case, was documented by the department).

The number of deaths among persons with HIV disease was generally steady between 2017 and 2021 (Figure 5). Of the 504 persons diagnosed with HIV disease in 2017, 32 (6.35%) were deceased by the end of 2021 (Figure 6). Among the 559 cases first diagnosed in 2021, 6 (1.07%) were deceased at the end of 2021. The difference in the proportion of cases that are deceased is due to the length of time individuals have been living with the disease.

Table 1. Living[†] HIV, stage 3 (AIDS), and HIV disease cases, by sex, by race/ethnicity, by race/ethnicity and sex, and by current age, Missouri, 2021

	HIV*			Stage 3 (AIDS)**			HIV Disease***		
	Cases	%	Rate****	Cases	%	Rate****	Cases	%	Rate****
Sex									
Male	5,862	81.6%	194.3	5,497	82%	182.2	11,359	82.0%	376.4
Female	1,319	18.4%	42.1	1,178	18%	37.6	2,497	18.0%	79.7
Total	7,181	100.0%	116.7	6,675	100%	108.5	13,856	100.0%	225.2
Race/Ethnicity									
White	3,279	46.7%	66.5	3,097	48%	62.8	6,376	47.1%	129.4
Black/African American	3,268	46.5%	431.0	3,041	47%	401.1	6,309	46.6%	832.0
Hispanic	397	5.7%	143.8	336	5%	121.7	733	5.4%	265.5
Asian/Pacific Islander	67	1.0%	43.1	43	1%	27.7	110	0.8%	70.8
American Indian/Alaskan Native	14	0.2%	41.1	3	0%	8.8	17	0.1%	49.9
Total	7,025	100.0%	114.2	6,520	100%	106.0	13,545	100.0%	220.2
Race/Ethnicity-Males									
White Male	2,851	49.7%	117.7	2,748	51%	113.4	5,599	50.4%	231.1
Black/African American Male	2,474	43.1%	685.1	2,309	43%	639.4	4,783	43.0%	1324.5
Hispanic Male	343	6.0%	241.2	285	5%	200.4	628	5.7%	441.7
Asian/Pacific Islander Male	57	1.0%	76.3	30	1%	40.1	87	0.8%	116.4
American Indian/Alaskan Native Male	12	0.2%	70.7	3	0%	17.7	15	0.1%	88.3
Total	5,737	100.0%	190.1	5,375	100%	178.1	11,112	100.0%	368.2
Race/Ethnicity-Females									
White Female	428	33.2%	17.1	349	30%	13.9	777	31.9%	31.0
Black/African American Female	794	61.6%	199.9	732	64%	184.3	1,526	62.7%	384.3
Hispanic Female	54	4.2%	40.3	51	4%	38.1	105	4.3%	78.4
Asian/Pacific Islander Female	10	0.8%	12.4	13	1%	16.1	23	0.9%	28.5
American Indian/Alaskan Native Female	2	0.2%	11.7	0	0%	0.0	2	0.1%	11.7
Total	1,288	100.0%	41.1	1,145	100%	36.5	2,433	100.0%	77.6
Current Age[‡]									
<2	3	0.1%	2.1	0	0%	0.0	3	0.0%	2.1
2-12	22	0.4%	2.6	2	0%	0.2	24	0.3%	2.9
13-18	47	0.9%	10.1	6	0%	1.3	53	0.6%	11.3
19-24	296	5.7%	61.2	41	1%	8.5	337	3.9%	69.7
25-44	1,771	33.9%	111.6	597	17%	37.6	2,368	27.3%	149.2
45-64	1,648	31.6%	106.6	1,043	30%	67.5	2,691	31.0%	174.1
65+	1,431	27.4%	131.3	1,770	51%	162.4	3,201	36.9%	293.7
Total	5,218	100.0%	84.8	3,459	100%	56.2	8,677	100.0%	141.1

[†]Includes persons diagnosed with HIV disease in Missouri who are currently living, regardless of current residence. Includes persons diagnosed in Missouri correctional facilities.

*Cases which remained HIV cases at the end of 2021.

**Cases classified as stage 3 (AIDS) by December 31, 2021.

***The sum of HIV cases and stage 3 (AIDS) cases.

****Per 100,000 population based on 2020 DHSS estimates.

[‡]Based on age as of December 31, 2021.

Note: Percentages may not total due to rounding.

Table 2. Diagnosed HIV, stage 3 (AIDS), and HIV disease cases, by sex, by race/ethnicity, by race/ethnicity and sex, and current age, Missouri, 2021

	HIV*			Stage 3 (AIDS)**			HIV Disease***		
	Cases	%	Rate****	Cases	%	Rate****	Cases	%	Rate****
Sex									
Male	373	81.6%	12.4	81	79.4%	2.7	454	81.2%	15.0
Female	84	18.4%	2.7	21	20.6%	0.7	105	18.8%	3.4
Total	457	100.0%	7.4	102	100.0%	1.7	559	100.0%	9.1
Race/Ethnicity									
White	166	37.6%	3.4	55	56.7%	1.1	221	41.0%	4.5
Black/African American	222	50.2%	29.3	32	33.0%	4.2	254	47.1%	33.5
Hispanic	42	9.5%	15.2	9	9.3%	3.3	51	9.5%	18.5
Asian/Pacific Islander	6	1.4%	3.9	1	1.0%	0.6	7	1.3%	4.5
American Indian/Alaskan Native	6	1.4%	17.6	0	0.0%	0.0	6	1.1%	17.6
Total	442	100.0%	7.2	97	100.0%	1.6	539	100.0%	8.8
Race/Ethnicity-Males									
White Male	132	36.8%	5.4	46	60.5%	1.9	178	40.9%	7.3
Black/African American Male	180	50.1%	49.8	22	28.9%	6.1	202	46.4%	55.9
Hispanic Male	37	10.3%	26.0	7	9.2%	4.9	44	10.1%	30.9
Asian/Pacific Islander Male	6	1.7%	8.0	1	1.3%	1.3	7	1.6%	9.4
American Indian/Alaskan Native Male	4	1.1%	23.6	0	0.0%	0.0	4	0.9%	23.6
Total	359	100.0%	11.9	76	100.0%	2.5	435	100.0%	14.4
Race/Ethnicity-Females									
White Female	34	41.0%	1.4	9	42.9%	0.4	43	41.3%	1.7
Black/African American Female	42	50.6%	10.6	10	47.6%	2.5	52	50.0%	13.1
Hispanic Female	5	6.0%	3.7	2	9.5%	1.5	7	6.7%	5.2
Asian/Pacific Islander Female	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	0.0
American Indian/Alaskan Native Female	2	2.4%	11.7	0	0.0%	0.0	2	1.9%	11.7
Total	83	100.0%	2.6	21	100.0%	0.7	104	100.0%	3.3
Current Age[†]									
<2	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	0.0
2-12	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	0.0
13-18	5	1.2%	1.1	1	1.2%	0.2	6	1.1%	1.3
19-24	97	23.0%	20.1	8	9.9%	1.7	105	18.8%	21.7
25-44	190	45.1%	12.0	24	29.6%	1.5	214	38.3%	13.5
45-64	84	20.0%	5.4	29	35.8%	1.9	113	20.2%	7.3
65+	45	10.7%	4.1	19	23.5%	1.7	64	11.4%	5.9
Total	421	100.0%	6.8	81	100.0%	1.3	559	100.0%	9.1

*HIV cases diagnosed during 2021 which remained HIV cases at the end of the year. Includes persons diagnosed in Missouri correctional facilities.

**Stage 3 (AIDS) cases initially diagnosed in 2021.

***The sum of newly diagnosed HIV cases and newly diagnosed stage 3 (AIDS) cases. Does not include cases diagnosed prior to 2021 with HIV, which progressed to stage 3 (AIDS) in 2021.

****Per 100,000 population based on 2020 DHSS estimates.

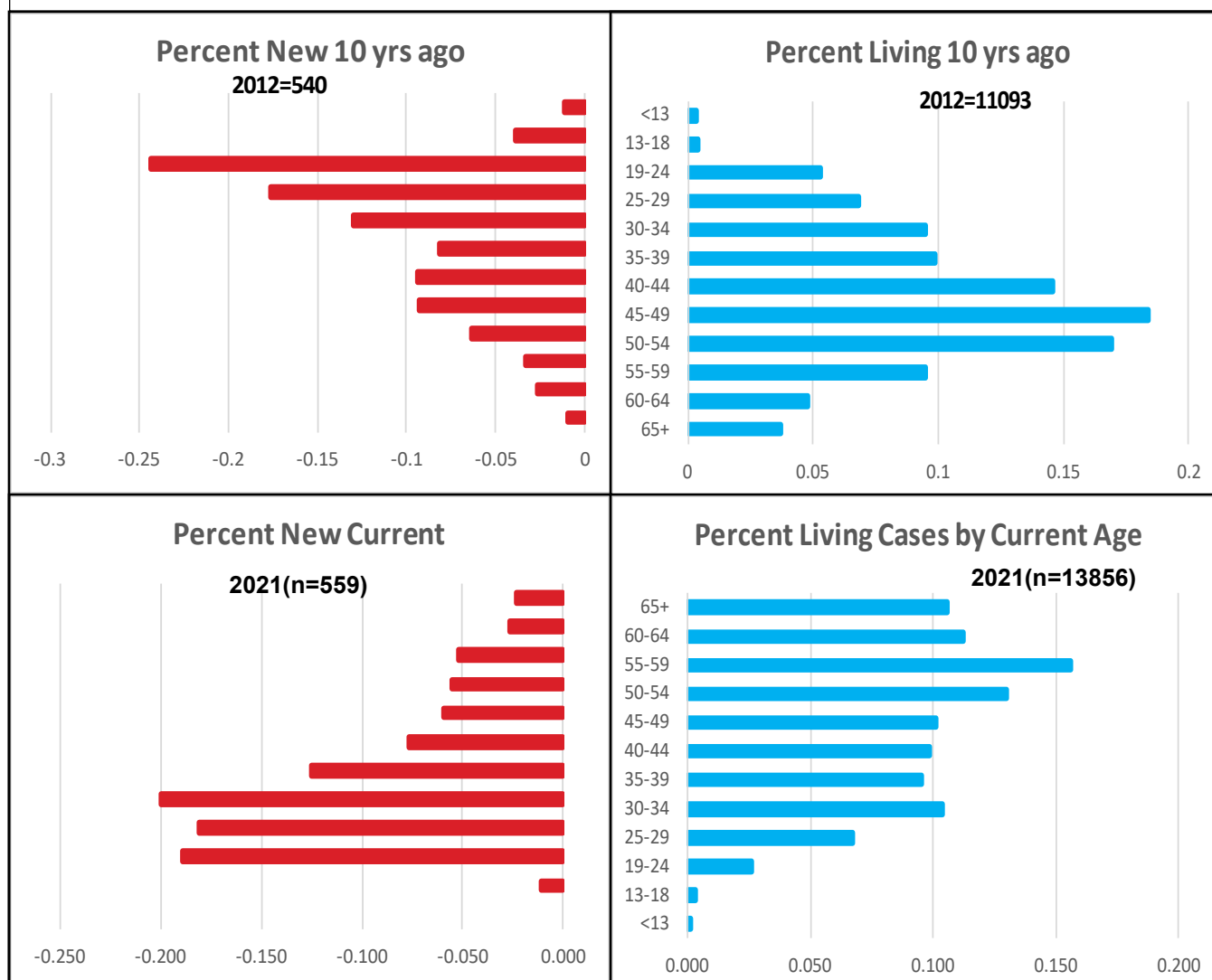
†Based on age as of December 31, 2021.

Note: Percentages may not total due to rounding.

Of the 13,856 persons living with HIV at the end of 2021, 82% were males (Table 1). The rate of those living with HIV disease was 4.8 times as high among males compared to females. Whites and Black/African Americans represented the largest proportion of living HIV disease cases. However, the rate of those living with HIV disease was 6.4 times as high among Blacks/African Americans compared to whites. Among males, the rate of living cases among Blacks/African Americans was 5.7 times as high as the rate among whites. Among females, the rate of those living with HIV disease among Blacks/African Americans was 12.4 times as high as the rate among whites.

Of the persons 559 newly diagnosed with HIV disease in 2021, 18.2% were classified as stage 3 (AIDS) cases by the end of 2021 (Table 2). The rate of new HIV disease diagnoses was 4.4 times as high among males compared to females. The rate of new HIV disease cases was 7.4 times as high among males and 7.7 times as high among females that were Blacks/African Americans compared to whites. The number of HIV disease diagnoses was greatest among persons 25-44 years of age (38.3%) at the end of 2021. However, the rate was greater among people 19-24 years of age (21.7 per 100,000).

Figure 7. Distribution of new HIV disease cases by age at diagnosis and living HIV disease cases by current age in selected year, Missouri, 2012 and 2021



Changes have occurred in the distribution of the age at diagnosis among new HIV disease cases over time (Figure 7). In 2012, the greatest proportion of new diagnoses occurred among those ages 19-24 (24%). In 2021, the greatest proportion of new diagnoses occurred among ages 30-34 (20%). In 2012, the greatest proportion of living cases was among those ages 45-49 (18%). In 2021, the greatest proportion of living cases was between 55-59 years old (16%).

Table 3. New and living HIV and stage 3 (AIDS) cases and rates, by geographic area, and by HIV care region, 2021

Location	HIV Cases						Stage 3 (AIDS) Cases					
	Diagnosed 2020*			Living with HIV			Diagnosed 2020**			Living with Stage 3 (AIDS)		
	Cases	%	Rate***	Cases	%	Rate***	Cases	%	Rate***	Cases	%	Rate***
Geographic Area												
St. Louis City†	92	20.1%	30.6	1,817	25.3%	604.5	16	15.7%	5.3	1,644	24.6%	546.9
St. Louis County†	115	25.2%	11.6	1,470	20.5%	147.9	28	27.5%	2.8	1,177	17.6%	118.4
Kansas City†	93	20.4%	8.0	1,539	21.4%	132.3	21	20.6%	1.8	1,714	25.7%	147.4
Outstate†	147	32.2%	4.0	2,011	28.0%	54.7	34	33.3%	0.9	1,797	26.9%	48.8
Missouri Correctional Facilities††	10	2.2%	N/A	344	4.8%	N/A	3	2.9%	N/A	343	5.1%	N/A
MISSOURI TOTAL	457	100.0%	7.4	7,181	100.0%	117.0	102	100.0%	1.7	6,675	100.0%	108.8
HIV Care Region												
St. Louis†	229	50.1%	10.8	3,596	50.1%	169.6	49	48.0%	2.3	3,075	46.1%	145.0
Kansas City†	120	26.3%	9.7	1,968	27.4%	158.8	28	27.5%	2.3	2,128	31.9%	171.7
Northwest†	7	1.5%	3.2	79	1.1%	35.8	1	1.0%	0.5	80	1.2%	36.2
Central†	32	7.0%	3.6	444	6.2%	50.1	10	9.8%	1.1	348	5.2%	39.3
Southwest†	44	9.6%	3.7	573	8.0%	48.5	8	7.8%	0.7	506	7.6%	42.8
Southeast†	15	3.3%	3.1	177	2.5%	36.2	3	2.9%	0.6	195	2.9%	39.8
Missouri Correctional Facilities††	10	2.2%	N/A	344	4.8%	N/A	3	2.9%	N/A	343	5.1%	N/A
MISSOURI TOTAL	457	100.0%	7.4	7,181	100.0%	117.0	102	100.0%	1.7	6,675	100.0%	108.8

*HIV cases diagnosed and reported to the department during 2020 which remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2021 that progressed to stage 3 (AIDS) in 2021.

***Per 100,000 population based on 2020 DHSS estimates.

†Does not include persons diagnosed in Missouri correctional facilities.

††Includes persons diagnosed in Missouri correctional facilities.

Note: Percentages may not total due to rounding.

There were differences in the proportion of persons newly diagnosed with HIV disease that were either concurrently diagnosed with stage 3 (AIDS) or progressed to stage 3 (AIDS) at the end of 2021 by geographic area and HIV care region (Table 3). For geographic area, Outstate had the highest proportion, 32.4%, of newly diagnosed HIV disease cases that progressed to stage 3 (AIDS) at the end of 2021. Excluding outstate, Saint Louis County has highest number of newly diagnosed HIV disease cases while Saint Louis City has the highest number of living HIV disease diagnoses. The rate of those living with HIV disease and those newly diagnosed with HIV disease was highest in St. Louis City.

For HIV Care Regions, St. Louis HIV Care Region has the highest proportion of newly and living HIV disease diagnoses. St. Louis HIV Care Region also has the highest number of cases (18%) that progressed to stage 3 (AIDS) at the end of 2021.

The variation in the proportion of newly diagnosed individuals that progressed to stage 3 (AIDS) by the end of 2021 among the geographic areas may be related to differences in when individuals were tested in the course of their disease progression, or differences in active surveillance techniques.

Table 4. Diagnosed HIV cases and rates, by selected race/ethnicity, by geographic area, Missouri, 2021

Area	White			Black/African American			Hispanic			Total		
	Cases	%	Rate*	Cases	%	Rate*	Cases	%	Rate*	Cases**	%	Rate*
St. Louis City†	28	30.4%	20.8	53	57.6%	39.2	8	8.7%	63.8	92	100.0%	30.6
St. Louis County†	19	16.5%	2.9	83	72.2%	33.7	8	7.0%	26.7	115	100.0%	11.6
Kansas City†	27	29.0%	3.3	48	51.6%	25.0	11	11.8%	11.7	93	100.0%	8.0
Outstate Missouri†	85	57.8%	2.6	36	24.5%	26.2	15	10.2%	11.4	147	100.0%	4.0
Missouri Correctional Facilities††	7	70.0%	N/A	2	20.0%	N/A	0	0.0%	N/A	10	100.0%	N/A
MISSOURI TOTAL	166	36.3%	3.4	222	48.6%	31.2	42	9.2%	15.6	457	100.0%	7.4

*Per 100,000 population based on 2020 DHSS estimates.

**Includes cases in persons whose race/ethnicity is either unknown or not listed.

†Does not include persons diagnosed in Missouri correctional facilities.

††Includes persons diagnosed in Missouri correctional facilities.

Note: Row percentages are shown. Percentages may not total due to rounding.

Table 5. Diagnosed HIV cases and rates, by selected race/ethnicity, by HIV care region, Missouri, 2021

HIV Care Region	White			Black/African American			Hispanic			Total		
	Cases	%	Rate*	Cases	%	Rate*	Cases	%	Rate*	Cases**	%	Rate*
St. Louis†	64	27.9%	4.2	139	60.7%	34.1	16	7.0%	24.4	229	100.0%	10.8
Kansas City†	38	31.7%	4.3	59	49.2%	30.5	16	13.3%	16.6	120	100.0%	9.7
Northwest†	3	42.9%	1.5	1	14.3%	12.0	2	28.6%	22.5	7	100.0%	3.2
Central†	16	50.0%	2.1	12	37.5%	26.4	3	9.4%	10.1	32	100.0%	3.6
Southwest†	29	65.9%	2.8	4	9.1%	16.0	5	11.4%	8.9	44	100.0%	3.7
Southeast†	9	60.0%	2.1	5	33.3%	16.2	0	0.0%	0.0	15	100.0%	3.1
Missouri Correctional Facilities††	7	70.0%	N/A	2	20.0%	N/A	0	0.0%	N/A	10	100.0%	N/A
MISSOURI TOTAL	166	36.3%	3.4	222	48.6%	31.2	42	9.2%	7.8	457	100.0%	7.4

*Per 100,000 population based on 2020 DHSS estimates.

**Includes cases in persons whose race/ethnicity is either unknown or not listed.

†Does not include persons diagnosed in Missouri correctional facilities.

††Includes persons diagnosed in Missouri correctional facilities.

Note: Row percentages are shown. Percentages may not total due to rounding.

The proportion of new HIV cases diagnosed in 2021 by race/ethnicity varied by geographic area (Table 4). Whites were the highest proportion of newly diagnosed HIV cases for Outstate while the rest of the geographic areas, Black/African Americans were the highest proportion. Differences in the general population distribution of each of these geographic areas likely explain some of the variation observed.

The difference in the rate of new HIV case diagnoses by race/ethnicity also varied by geographic area. In Saint Louis County, the rate of new HIV cases among Blacks/African Americans was 11.6 times as high as the rate among whites. In Saint Louis County, the rate of new HIV cases was 9.2 times as high in Hispanic compared to whites.

Different patterns observed for the geographic areas were also present by HIV care region (Table 5). St. Louis HIV Care Region and Kansas City HIV Care Region, Black/African American have the highest proportion of newly diagnosed HIV cases while the rest of the regions whites are the highest proportion. In terms of rates, Black/African Americans have the highest rates among all regions except Northwest. However, we have to interpret this with caution due to low number of cases.

Table 6. Newly diagnosed and living HIV and stage 3 (AIDS) cases in men who have sex with men, by selected race/ethnicity, Missouri, 2021

Race/Ethnicity	HIV Cases*				Stage 3 (AIDS) Cases			
	Newly Diagnosed		Living		Newly Diagnosed**		Living	
	Cases	%	Cases	%	Cases	%	Cases	%
White	81	34.8%	2,252	50.4%	22	61.1%	2,129	52.2%
Black/African American	115	49.4%	1,804	40.3%	9	25.0%	1,642	40.3%
Hispanic	23	9.9%	276	6.2%	4	11.1%	190	4.7%
Other/Unknown	14	6.0%	139	3.1%	1	2.8%	117	2.9%
MISSOURI TOTAL***	233	100.0%	4,471	100.0%	36	100.0%	4,078	100.0%

*Remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2021 that progressed to stage 3 (AIDS) in 2021.

***Totals include persons diagnosed in Missouri correctional facilities.

Note: Percentages may not total due to rounding.

Table 7. Living HIV disease cases in men who have sex with men, by selected race/ethnicity, by current age group, Missouri, 2021

Age Group	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%**
13-18	1	0.0%	3	0.1%	0	0.0%	5	0.1%
19-24	42	1.0%	158	4.6%	15	3.2%	225	2.6%
25-44	1,177	26.9%	1,722	50.0%	233	50.0%	3,263	38.2%
45-64	2,501	57.1%	1,366	39.6%	191	41.0%	4,154	48.6%
65+	660	15.1%	197	5.7%	27	5.8%	902	10.6%
MISSOURI TOTAL	4,381	100.0%	3,446	100.0%	466	100.0%	8,549	100.0%

*Row totals and percentages include cases in persons whose race/ethnicity is either unknown or not listed. Totals include persons diagnosed in Missouri correctional facilities.

**Percentage of cases per age group.

Note: Percentages may not total due to rounding.

The data presented for each exposure category for Tables 6-20 have not been adjusted to redistribute individuals with missing exposure category information. Therefore these data only represent those individuals with an exposure category reported to DHSS. The total number of individuals in each exposure category is likely underestimated, especially among those newly diagnosed in 2021. These data are subject to change.

There were a total of 269 new HIV disease diagnoses attributed to MSM in 2021 (Table 6). Blacks/African Americans had the highest proportion of MSM new HIV cases at 49% while whites had the highest proportion of MSM new stage 3 (AIDS) cases at 61%. Of the newly diagnosed cases among MSM, 13.4% progressed to stage 3 (AIDS) by the end of 2020. Whites had the largest proportion of MSM living with both HIV and stage 3 (AIDS).

The distribution of living HIV disease cases by current age varied by race/ethnicity among MSM (Table 7). The largest proportion overall in Missouri were between the ages of 45-64 at 48.6%. Among white MSM living with HIV disease, the majority (58.9%) were between 45-64 years of age at the end of 2021. The greatest numbers of Black/African American and Hispanic MSM living with HIV disease were between 25-44 years old.

Table 8. Living HIV disease cases in men who have sex with men, by selected race/ethnicity, by geographic area, by HIV care region, Missouri, 2021

Geographic Area	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%***
St. Louis City	1,020	45.0%	1,122	49.5%	59	2.6%	2,267	26.5%
St. Louis County	583	35.5%	936	57.0%	81	4.9%	1,641	19.2%
Kansas City	1,130	49.6%	873	38.3%	194	8.5%	2,277	26.6%
Outstate	1,559	75.1%	325	15.7%	126	6.1%	2,075	24.3%
Missouri Correctional Facilities	89	30.8%	190	65.7%	6	2.1%	289	3.4%
MISSOURI TOTAL	4,381	51.2%	3,446	40.3%	466	5.5%	8,549	100.0%
HIV Care Region								
St. Louis	1,871	44.1%	2,103	49.6%	149	3.5%	4,239	49.6%
Kansas City	1,479	53.0%	974	34.9%	243	8.7%	2,789	32.6%
Northwest	61	81.3%	7	9.3%	4	5.3%	75	0.9%
Central	294	72.1%	84	20.6%	24	5.9%	408	4.8%
Southwest	469	81.6%	47	8.2%	34	5.9%	575	6.7%
Southeast	118	67.8%	41	23.6%	6	3.4%	174	2.0%
Missouri Correctional Facilities	89	30.8%	190	65.7%	6	2.1%	289	3.4%
MISSOURI TOTAL	4,381	51.2%	3,446	40.3%	466	5.5%	8,549	100.0%
<p>*Row totals and percentages include cases in persons whose race/ethnicity is either unknown or not listed. Missouri totals include persons diagnosed in Missouri correctional facilities. **Percentage of race/ethnicity in each area/region. ***Percentage of cases per area/region. Note: Percentages may not total due to rounding.</p>								

Of the 8,549 MSM living with HIV disease at the end of 2021, the largest proportion were diagnosed in Kansas City (26.6%), followed by Saint Louis City (26.5%) (Table 8). There were differences in the proportion of living HIV disease cases among MSM diagnosed in each geographic area by race/ethnicity. In Outstate Missouri, 75.1% of persons living with HIV disease attributed to MSM were white, whereas only 30.8% of this group who were diagnosed in Missouri correctional facilities were white. The differences were likely due to variations in the general population of the geographic areas.

Similar patterns were also seen for the HIV care regions. The St. Louis HIV Care Region represented 49.6% of all living cases among MSM and the Kansas City HIV Care Region comprised 32.6%. The St. Louis HIV Care Region and Kansas City Care Region also had the highest proportion of living cases among white MSM.

Table 9. Newly diagnosed and living HIV and stage 3 (AIDS) cases in men who have sex with men and inject drugs, by selected race/ethnicity, Missouri, 2021

Race/Ethnicity	HIV Cases*				Stage 3 (AIDS) Cases			
	Newly Diagnosed		Living		Newly Diagnosed**		Living	
	Cases	%	Cases	%	Cases	%	Cases	%
White	9	50.0%	192	65.5%	6	0.0%	243	63.8%
Black/African American	3	16.7%	72	24.6%	0	0.0%	114	29.9%
Hispanic	3	16.7%	17	5.8%	0	0.0%	14	3.7%
Other/Unknown	3	16.7%	12	4.1%	1	0.0%	10	2.6%
MISSOURI TOTAL***	18	100.0%	293	100.0%	7	100.0%	381	100.0%

*Remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2021 that progressed to stage 3 (AIDS) in 2021.

***Totals include persons diagnosed in Missouri correctional facilities.

Note: Percentages may not total due to rounding.

Table 10. Living HIV disease cases in men who have sex with men and inject drugs, by selected race/ethnicity, by current age group, Missouri, 2021

Age Group	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%**
13-18	0	0.0%	0	0.0%	0	0.0%	0	0.0%
19-24	3	0.7%	0	0.0%	2	6.5%	5	0.7%
25-44	145	33.3%	43	23.1%	15	48.4%	216	32.0%
45-64	233	53.6%	115	61.8%	14	45.2%	369	54.7%
65+	54	12.4%	28	15.1%	0	0.0%	84	12.5%
MISSOURI TOTAL	435	100.0%	186	100.0%	31	100.0%	674	100.0%

*Row totals and percentages include cases in persons whose race/ethnicity is either unknown or not listed. Totals include persons diagnosed in Missouri correctional facilities.

**Percentage of cases per age group.

Note: Percentages may not total due to rounding.

There were a total of 25 new HIV disease diagnoses attributed to men who have sex with men and inject drugs (MSM/IDU) in 2021 (Table 9). The small number of new cases diagnosed among MSM/IDU make patterns by race/ethnicity and sex are difficult to interpret. Although based on a small number of cases, 28% of newly diagnosed cases progressed to stage 3 (AIDS) by the end of 2021. Whites represented the majority (60%) of new HIV cases among MSM/IDU. Among living HIV and stage 3 (AIDS) cases, whites represented the largest proportion of cases, 65.5% and 63.8%, respectively.

The distribution of living HIV disease cases by current age varied by race/ethnicity among MSM/IDU (Table 10). Among white and Black/African American MSM/IDU living with HIV disease, the majority were between 45-64 years of age at the end of 2021. In contrast, the largest proportion of Hispanic MSM/IDU with HIV disease were between 25-44 and 45-64 years of age. The highest proportion of MSM/IDU living with HIV disease were between 45-64 years of age (54.7%) while no cases of MSM/IDU living with HIV disease were between 13-18 years of age at the end of 2021.

Table 11. Living HIV disease cases in men who have sex with men and inject drugs, by selected race/ethnicity, by geographic area, by HIV care region, Missouri, 2021

Geographic Area	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%***
St. Louis City	44	40%	57	52.3%	5	4.6%	109	16.2%
St. Louis County	24	46%	28	53.8%	0	0.0%	52	7.7%
Kansas City	102	60%	48	28.2%	11	6.5%	170	25.2%
Outstate	223	86%	16	6.2%	14	5.4%	260	38.6%
Missouri Correctional Facilities	42	51%	37	44.6%	1	1.2%	83	12.3%
MISSOURI TOTAL	435	65%	186	27.6%	31	4.6%	674	100.0%
HIV Care Region								
St. Louis	83	46.1%	85	47.2%	8	4.4%	180	27.3%
Kansas City	148	64.9%	55	24.1%	14	6.1%	228	34.5%
Northwest	12	100.0%	0	0.0%	0	0.0%	12	1.8%
Central	42	80.8%	4	7.7%	5	9.6%	52	7.9%
Southwest	89	91.8%	2	2.1%	3	3.1%	97	14.7%
Southeast	19	86.4%	3	13.6%	0	0.0%	22	3.3%
Missouri Correctional Facilities	42	50.6%	37	44.6%	1	1.2%	83	12.6%
MISSOURI TOTAL	435	65.9%	186	28.2%	31	4.7%	660	100.0%

*Row totals and percentages include cases in persons whose race/ethnicity is either unknown or not listed. Missouri totals include persons diagnosed in Missouri correctional facilities.

**Percentage of race/ethnicity in each area/region.

***Percentage of cases per area/region.

Note: Percentages may not total due to rounding.

Of the 674 MSM/IDU living with HIV disease at the end of 2021, the largest proportion was diagnosed in Outstate Missouri (38.6%), followed by Kansas City (25.2%) (Table 11). There were differences in the proportion of living HIV disease cases among MSM/IDU diagnosed in each geographic area by race/ethnicity. In Outstate Missouri, 86% of living cases attributed to MSM/IDU were white.

Kansas City HIV Care Region represented the largest proportion of all living cases among MSM/IDU at 34.5% followed by St. Louis HIV Care Region at 27.3%. The proportion of white living cases among MSM/IDU was highest in the Northwest HIV Care Region (100%) and lowest in the St. Louis HIV Care Region (46%). The proportion of Black/African American among MSM/IDU was highest in St. Louis HIV Care Region. Among Hispanics, the highest proportion was in Central and Kansas City.

Table 12. Newly diagnosed and living HIV and stage 3 (AIDS) cases in injecting drug users, by selected race/ethnicity and sex, Missouri, 2021

Race/Ethnicity and Sex	<u>HIV Cases*</u>				<u>Stage 3 (AIDS) Cases</u>			
	<u>Newly Diagnosed</u>		<u>Living</u>		<u>Newly Diagnosed**</u>		<u>Living</u>	
	Cases	%	Cases	%	Cases	%	Cases	%
White Male	5	27.8%	99	34.1%	3	75.0%	97	25.1%
Black/African American Male	1	5.6%	61	21.0%	0	0.0%	113	29.3%
Hispanic Male	0	0.0%	4	1.4%	0	0.0%	18	4.7%
White Female	8	44.4%	76	26.2%	1	25.0%	74	19.2%
Black/African American Female	2	11.1%	40	13.8%	0	0.0%	68	17.6%
Hispanic Female	0	0.0%	4	1.4%	0	0.0%	10	2.6%
MISSOURI TOTAL***	18	100.0%	290	100.0%	4	100.0%	386	100.0%

*Remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2021 that progressed to stage 3 (AIDS) in 2021.

***Totals include cases in persons whose race/ethnicity is either unknown or not listed. Totals include persons diagnosed in Missouri correctional facilities.

Note: Percentages may not total due to rounding.

Table 13. Living HIV disease cases in injecting drug users, by selected race/ethnicity and sex, by current age group, Missouri, 2021

Age Group	<u>White Males</u>		<u>Black/African American Males</u>		<u>White Females</u>		<u>Black/African American Females</u>		<u>Total*</u>	
	Cases	%**	Cases	%**	Cases	%**	Cases	%**	Cases	%**
13-18	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
19-24	1	0.5%	0	0.0%	0	0.0%	2	1.9%	3	0.4%
25-44	49	25.0%	27	15.5%	59	39.3%	20	18.5%	171	25.3%
45-64	120	61.2%	101	58.0%	84	56.0%	73	67.6%	403	59.6%
65+	26	13.3%	46	26.4%	7	4.7%	13	12.0%	99	14.6%
MISSOURI TOTAL	196	100.0%	174	100.0%	150	100.0%	108	100.0%	676	100.0%

*Row totals and percentages include cases in persons whose race/ethnicity is either unknown or not listed. Totals include persons diagnosed in Missouri correctional facilities.

**Percentage of cases per age group.

Note: Percentages may not total due to rounding.

There were a total of 22 new HIV disease diagnoses attributed to injection drug use (IDU) in 2021 (Table 12). The small number of new cases diagnosed among IDU make patterns by race/ethnicity and sex difficult to interpret. Of the newly diagnosed cases among IDU, 4 progressed to stage 3 (AIDS) by the end of 2021. There were 290 living HIV cases and 386 living stage 3 (AIDS) cases diagnosed among IDU. Males represented 53.8% of living HIV cases diagnosed among IDU.

Among IDU living with HIV disease, a smaller proportion of white males and white females had progressed to stage 3 (AIDS) by the end of 2021 compared to non-white males and females. There were differences in the distribution of living cases by race/ethnicity and sex among IDU between those classified as HIV cases compared to those classified as stage 3 (AIDS) cases. For example, white males represented the largest proportion of living HIV cases (34%) while Black/African American males represented the largest proportion (32%) of living stage 3 (AIDS) cases among IDU.

The greatest numbers of persons living with HIV disease in each race/ethnicity and sex category presented among IDU were 45 to 64 years of age at the end of 2021 (Table 13). White males represented the largest proportion of living HIV diagnosed among IDU at 196 (29%) followed closely by Black/African American males at 174 (29%).

Table 14. Living HIV disease cases in injecting drug users, by selected race/ethnicity, by geographic area, by HIV care region, Missouri, 2021

Geographic Area	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%***
St. Louis City	20	17.2%	92	79.3%	2	1.7%	116	17.2%
St. Louis County	18	34.0%	32	60.4%	1	1.9%	53	7.8%
Kansas City	51	35.9%	72	50.7%	17	12.0%	142	21.0%
Outstate	200	80.6%	31	12.5%	12	4.8%	248	36.7%
Missouri Correctional Facilities	57	48.7%	55	47.0%	4	3.4%	117	17.3%
MISSOURI TOTAL	346	51.2%	282	41.7%	36	5.3%	676	100.0%
HIV Care Region								
St. Louis	68	34.2%	124	62.3%	3	1.5%	199	29.4%
Kansas City	93	48.7%	74	38.7%	20	10.5%	191	28.3%
Northwest	7	63.6%	3	27.3%	0	0.0%	11	1.6%
Central	30	73.2%	9	22.0%	2	4.9%	41	6.1%
Southwest	73	81.1%	10	11.1%	5	5.6%	90	13.3%
Southeast	18	66.7%	7	25.9%	2	7.4%	27	4.0%
Missouri Correctional Facilities	57	48.7%	55	47.0%	4	3.4%	117	17.3%
MISSOURI TOTAL	346	51.2%	282	41.7%	36	5.3%	676	100.0%

*Row totals and percentages include cases in persons whose race/ethnicity is either unknown or not listed. Missouri totals include persons diagnosed in Missouri correctional facilities.

**Percentage of race/ethnicity in each area/region.

***Percentage of cases per area/region.

Note: Percentages may not total due to rounding.

Of the 676 IDU living with HIV disease at the end of 2021, the largest proportion was diagnosed in Outstate Missouri (36.7%), followed by Kansas City (21%) (Table 14). There were differences in the proportion of living HIV disease cases among IDU diagnosed in each geographic area by race/ethnicity. In Outstate Missouri, 80.6% of living cases attributed to IDU were white. Among Black/African American the largest proportion of living HIV disease cases among IDU were in St. Louis City (79.3%), while Hispanics were in Kansas City (12%). The differences are likely due to variations in the general population of the geographic areas.

The St. Louis and Kansas City HIV Care Region represented 57.7% of all living cases among IDU. The proportion of white living cases among IDU was highest in the Southwest HIV Care Region (81.1%) and lowest in the St. Louis HIV Care Region (34.2%). The highest proportion of Black/African American living cases among IDU were in St. Louis HIV Care Region (62.3%). Though proportions of Hispanic living cases among IDU by HIV care region are difficult to interpret due to small numbers of individuals in this population, the highest number of these cases are in the Kansas City Region (10.5%).

Table 15. Newly diagnosed and living HIV and stage 3 (AIDS) cases in heterosexual contacts, by selected race/ethnicity and sex, Missouri, 2021

Race/Ethnicity and Sex	<u>Newly Diagnosed</u>		<u>Living</u>		<u>Newly Diagnosed**</u>		<u>Living</u>	
	Cases	%	Cases	%	Cases	%	Cases	%
White Male	2	2.9%	65	5.9%	1	5.0%	56	5.6%
Black/African American Male	8	11.8%	154	13.9%	2	10.0%	185	18.4%
Hispanic Male	2	2.9%	8	0.7%	0	0.0%	14	1.4%
White Female	15	22.1%	261	23.6%	5	25.0%	210	20.9%
Black/African American Female	36	52.9%	550	49.7%	10	50.0%	477	47.5%
Hispanic Female	4	5.9%	34	3.1%	2	10.0%	31	3.1%
MISSOURI TOTAL***	68	100.0%	1107	100.0%	20	100.0%	1005	100.0%

*Remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2021 that progressed to stage 3 (AIDS) in 2021.

***Total includes cases in persons whose race/ethnicity is either unknown or not listed. Totals include persons diagnosed in Missouri correctional facilities.

Note: Percentages may not total due to rounding.

Table 16. Living HIV disease cases in heterosexual contacts, by selected race/ethnicity and sex, by current age group, Missouri, 2021

Age Group	<u>White Males</u>		<u>Black/African American Males</u>		<u>White Females</u>		<u>Black/African American Females</u>		<u>Total*</u>	
	Cases	%**	Cases	%**	Cases	%**	Cases	%**	Cases	%**
13-18	0	0.0%	0	0.0%	0	0.0%	2	0.2%	2	0.1%
19-24	0	0.0%	5	1.5%	3	0.6%	34	3.3%	47	2.2%
25-44	26	21.5%	109	32.2%	134	28.5%	383	37.3%	714	33.8%
45-64	68	56.2%	193	56.9%	277	58.8%	546	53.2%	1,158	54.8%
65+	27	22.3%	32	9.4%	57	12.1%	62	6.0%	191	9.0%
MISSOURI TOTAL	121	100.0%	339	100.0%	471	100.0%	1,027	100.0%	2,112	100.0%

*Row totals and percentages include cases in persons whose race/ethnicity is either unknown or not listed. Totals include persons diagnosed in Missouri correctional facilities.

**Percentage of cases per age group.

Note: Percentages may not total due to rounding.

There were a total of 88 new HIV disease diagnoses attributed to heterosexual contact in 2021 (Table 15). The small number of new cases diagnosed among heterosexuals make patterns by race/ethnicity and sex difficult to interpret. Though based on small numbers, Black/African American females represented the largest number of new HIV disease diagnoses and new stage 3 (AIDS) diagnoses among heterosexuals. Black/African American females represented the highest proportion of living HIV disease and stage 3 (AIDS). Females represented 76.3% of living HIV cases and 71.4% of living stage 3 (AIDS) cases among heterosexual contact cases.

Among heterosexual contact cases, the greatest proportion of living cases was between 45-64 years of age in all races and genders in 2021. (Table 16). There were only two cases under the age of 13 years old.

Table 17. Living HIV disease cases in heterosexual contacts, by selected race/ethnicity, by geographic area, by HIV care region, Missouri, 2021

Geographic Area	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%***
St. Louis City	63	11.1%	474	83.7%	17	3.0%	566	26.8%
St. Louis County	101	18.9%	402	75.1%	18	3.4%	535	25.3%
Kansas City	70	19.8%	249	70.5%	20	5.7%	353	16.7%
Outstate	337	60.6%	163	29.3%	30	5.4%	556	26.3%
Missouri Correctional Facilities	21	20.6%	78	76.5%	2	2.0%	102	4.8%
MISSOURI TOTAL	592	28.0%	1,366	64.7%	87	4.1%	2,112	100.0%
HIV Care Region								
St. Louis	218	18.6%	889	75.7%	37	3.2%	1,174	55.6%
Kansas City	123	27.0%	276	60.5%	34	7.5%	456	21.6%
Northwest	12	52.2%	10	43.5%	1	4.3%	23	1.1%
Central	82	62.1%	43	32.6%	3	2.3%	132	6.3%
Southwest	93	65.0%	34	23.8%	8	5.6%	143	6.8%
Southeast	43	52.4%	36	43.9%	2	2.4%	82	3.9%
Missouri Correctional Facilities	21	20.6%	78	76.5%	2	2.0%	102	4.8%
MISSOURI TOTAL	592	28.0%	1,366	64.7%	87	4.1%	2,112	100.0%

*Row totals and percentages include cases in persons whose race/ethnicity is either unknown or not listed. Missouri totals include persons diagnosed in Missouri correctional facilities.

**Percentage of race in each area/region.

***Percentage of cases per area/region.

Note: Percentages may not total due to rounding.

Of the 2,112 living cases among heterosexual contacts at the end of 2021, the largest proportion was diagnosed in St. Louis City, St. Louis County, and Outstate (Table 17). There were differences in the proportion of living HIV disease cases among heterosexuals diagnosed in each geographic area by race/ethnicity. In terms of geographic, Black/African Americans represented a larger proportion of living HIV disease cases among heterosexual contact cases (64.7%) compared to all other exposure categories. Among whites, the highest proportion of living HIV cases among heterosexual contacts were in Outstate (60.6%) while Black/African American were in St. Louis City (83.7%). Hispanics had lower HIV cases with a total of 87 living cases among heterosexual contacts. The differences are likely due to variations in the general population of the geographic areas.

In terms of HIV Care Regions, the St. Louis HIV Care Region represented 54.9% of all living cases among heterosexuals. The proportion of white living cases among heterosexuals was highest in the Southwest HIV Care Region (65%) and lowest in St. Louis (18.6%). The proportion of Black/African American living cases was highest in Missouri correctional facilities (76.5%) followed closely by St. Louis HIV Care Region (75.7%). Among Hispanic living cases the highest proportion was in Kansas City (7.5%).

Table 18. Deaths* among HIV cases, by mode of transmission, by selected race and sex, Missouri, 1982—2021

Mode of Transmission	<u>White Males</u>		<u>Black/African American Males</u>		<u>White Females</u>		<u>Black/African American Females</u>		<u>Total**</u>	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
MSM	304	66.8%	217	59.0%	0	0.0%	0	0.0%	545	52.8%
MSM/IDU	55	12.1%	25	6.8%	0	0.0%	0	0.0%	85	8.2%
IDU	35	7.7%	35	9.5%	12	22.2%	21	22.8%	111	10.8%
Heterosexual Contact	10	2.2%	32	8.7%	30	55.6%	51	55.4%	133	12.9%
No Indicated Risk (NIR)	44	9.7%	58	15.8%	12	22.2%	19	20.7%	149	14.4%
MISSOURI TOTAL ***	455	100.0%	368	100.0%	54	100.0%	92	100.0%	1032	100.0%

*May or may not be due to HIV-related illnesses.

**Totals include cases in persons whose race/ethnicity is either unknown or not listed.

***Total (numbers and percentages) include 9 cases (1.1%) with a mode of transmission not indicated on the table, such as hemophilia/coagulation disorder, blood transfusion or tissue recipient, etc. Totals include persons diagnosed in Missouri correctional facilities.

Note: Percentages may not total due to rounding.

Table 19. Deaths* among stage 3 (AIDS) cases, by mode of transmission, by selected race and sex, Missouri, 1982—2021

Mode of Transmission	<u>White Males</u>		<u>Black/African American Males</u>		<u>White Females</u>		<u>Black/African American Females</u>		<u>Total**</u>	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
MSM	3,586	76.7%	1,499	66.4%	0	0.0%	0	0.0%	5,326	65.2%
MSM/IDU	495	10.6%	237	10.5%	0	0.0%	0	0.0%	761	9.3%
IDU	202	4.3%	216	9.6%	91	27.2%	118	23.0%	672	8.2%
Heterosexual Contact	82	1.8%	127	5.6%	180	53.7%	303	59.2%	720	8.8%
No Indicated Risk (NIR)	151	3.2%	156	6.9%	36	10.7%	67	13.1%	449	5.5%
MISSOURI TOTAL ***	4,673	100.0%	2,258	100.0%	335	100.0%	512	100.0%	8,171	100.0%

*May or may not be due to stage 3 (AIDS)-related illnesses.

**Totals include cases in persons whose race/ethnicity is either unknown or not listed.

***Total (numbers and percentages) include 243 cases (3.1%) with a mode of transmission not indicated on the table, such as hemophilia/coagulation disorder, blood transfusion or tissue recipient, etc. Totals include persons diagnosed in Missouri correctional facilities.

Note: Percentages may not total due to rounding.

The number of deaths that have occurred among persons still classified as HIV cases at the time of death was small (1032) in comparison to the number of deaths among persons classified as stage 3 (AIDS) (8,171) (Tables 18 and 19). The greatest proportion of deaths among HIV cases and persons classified as stage 3 (AIDS) has occurred among males that have sex with males.

There were differences in the distribution of deaths among HIV cases by mode of transmission among the race/ethnicity and sex categories. Among males, the majority of deaths occurred among cases attributed to MSM. Among female HIV cases, the largest number of deaths occurred among cases attributed to heterosexual contact. The proportion of deaths among those with no indicated risk among stage 3 (AIDS) cases was smaller than that among HIV cases, likely because there was more time to obtain exposure category information.

Table 20. Newly diagnosed and living HIV and stage 3 (AIDS) cases with exposure category assignments for Missouri, 2021

Exposure Category	HIV Cases				Stage 3 (AIDS) Cases			
	2021*		Living		2021**		Living	
Adult/Adolescent								
MSM	233	69.1%	4,471	72.5%	36	53.7%	4,078	61.5%
MSM/IDU	18	5.3%	293	4.7%	7	10.4%	381	5.7%
IDU	18	5.3%	290	4.7%	4	6.0%	386	5.8%
Heterosexual Contact	68	20.2%	1,107	17.9%	20	29.9%	1,005	15.1%
Hemophilia/Coagulation Disorder	0	0.0%	6	0.1%	0	0.0%	27	0.4%
Blood Transfusion or Tissue Recipient	0	0.0%	2	0.0%	0	0.0%	7	0.1%
No Indicated Risk (NIR)	-----	-----	-----	-----	-----	-----	-----	-----
ADULT/ADOLESCENT SUBTOTAL	337	† 100.0%	6,169	† 100.0%	67	100.0%	6,636	† 100.0%
Pediatric (<13 years old)								
PEDIATRIC SUBTOTAL	0	0.0%	82	100.0%	0.0%		39	100.0%
TOTAL	337		6,251		67		6,675	

*HIV cases reported during 2021 which remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2021 that progressed to stage 3 (AIDS) in 2021.

†Includes 2 cases with a confirmed "other" exposure category among persons living with HIV and one case among persons living with stage 3 (AIDS).

Note: Percentages may not total due to rounding.

The data in Table 20 have been adjusted to proportionately re-distribute individuals with no indicated risk factor based on sex and race/ethnicity to known exposure categories. These data do not reflect the true counts of persons reported in each exposure category. Among both new and living HIV and stage 3 (AIDS) cases, MSM represented the greatest proportion of cases. The proportion of MSM cases was greater for living HIV and stage 3 (AIDS) cases compared to the proportion among their respective new cases. This proportion may indicate changes in how individuals are being infected over time. However, the observed pattern may also be related to the method used to re-distribute those with unknown risks. The method used to re-distribute new cases may weight those with no indicated risk more heavily than the MSM category.

The majority of new HIV disease cases diagnosed in 2021 (92%) and those living with HIV disease (93%) were residents of a metropolitan area at the time of diagnosis (Table 21). For a list of counties that were classified as a metropolitan area refer to the Appendix. There were differences in the proportion of living HIV disease cases by sex based on the population of the area of residence. Whereas 82.4% of living HIV disease cases in metropolitan areas occurred among males, only 71.5% of living cases in nonmetropolitan areas were among males. There were differences in the distribution of living HIV disease cases by race/ethnicity based on the population of the area of residence. In metropolitan areas, only 44.6% of living HIV disease diagnoses were among whites compared to 79.5% in nonmetropolitan areas. There were also differences based on the population of area of residence in the distribution of living HIV disease cases by exposure category.

Table 21. Newly diagnosed and living HIV disease* cases, by population of area of residence at time of diagnosis, by sex, by race/ethnicity, by exposure category and age at diagnosis, Missouri, 2021[†]

	Newly Diagnosed						Living					
	Metropolitan Area**		Micropolitan Area***		Nonmetropolitan Area****		Metropolitan Area**		Micropolitan Area***		Nonmetropolitan Area****	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
Sex												
Male	405	80.7%	25	86.2%	12	80.0%	10,066	82.4%	395	74.5%	303	71.5%
Female	97	19.3%	4	13.8%	3	20.0%	2,149	17.6%	135	25.5%	121	28.5%
Total	502	100.0%	29	100.0%	15	100.0%	12,215	100.0%	530	100.0%	424	100.0%
Race/Ethnicity												
White	182	36.3%	15	51.7%	14	93.3%	5,447	44.6%	351	66.2%	337	79.5%
Black/African American	246	49.0%	6	20.7%	0	0.0%	5,701	46.7%	126	23.8%	64	15.1%
Hispanic	46	9.2%	4	13.8%	1	6.7%	669	5.5%	33	6.2%	14	3.3%
Other/Unknown	28	5.6%	4	13.8%	0	0.0%	398	3.3%	20	3.8%	9	2.1%
Total	502	100.0%	29	100.0%	15	100.0%	12,215	100.0%	530	100.0%	424	100.0%
Exposure Category												
MSM	247	49.2%	10	34.5%	8	53.3%	7,825	64.1%	242	45.7%	193	45.5%
MSM/IDU	23	4.6%	0	0.0%	1	6.7%	529	4.3%	38	7.2%	24	5.7%
IDU	16	3.2%	3	10.3%	1	6.7%	491	4.0%	34	6.4%	34	8.0%
Heterosexual Contact	86	17.1%	0	0.0%	1	6.7%	1,820	14.9%	99	18.7%	91	21.5%
No Indicated Risk (NIR)	129	25.7%	16	55.2%	4	26.7%	1,409	11.5%	104	19.6%	68	16.0%
Other	1	0.2%	0	0.0%	0	0.0%	44	0.4%	3	0.6%	4	0.9%
Pediatric	0	0.0%	0	0.0%	0	0.0%	97	0.8%	10	1.9%	10	2.4%
Total	502	100.0%	29	100.0%	15	100.0%	12,215	100.0%	530	100.0%	424	100.0%
Age at Diagnosis												
<2	0	0.0%	0	0.0%	0	0.0%	45	0.4%	4	0.8%	5	1.2%
2-12	0	0.0%	0	0.0%	0	0.0%	40	0.3%	5	0.9%	3	0.7%
13-18	5	1.0%	1	3.4%	0	0.0%	317	2.6%	14	2.6%	11	2.6%
19-24	92	18.3%	7	24.1%	3	20.0%	2,036	16.7%	83	15.7%	44	10.4%
25-44	295	58.8%	13	44.8%	10	66.7%	7,662	62.7%	316	59.6%	237	55.9%
45-64	99	19.7%	6	20.7%	2	13.3%	2,028	16.6%	105	19.8%	116	27.4%
65+	11	2.2%	2	6.9%	0	0.0%	87	0.7%	3	0.6%	8	1.9%
Total	502	100.0%	29	100.0%	15	100.0%	12,215	100.0%	530	100.0%	424	100.0%

*Includes all individuals diagnosed with the HIV virus, regardless of current status (i.e., HIV or stage 3 (AIDS))

[†]Does not include persons diagnosed in Missouri correctional facilities.

**A metropolitan area contains a core urban area with a population of at least 50,000. It also includes adjacent counties that have a high degree of social and economic integration with the core urban area. Based on 2019 US Census estimates. See Appendix for map of included counties.

***A micropolitan area contains a core urban area with a population between 10,000-49,999. It also includes adjacent counties that have a high degree of social and economic integration with the core urban area. Based on 2018 US Census estimates. See Appendix for map of included counties.

****An area that does not meet the population requirements for the metropolitan or micropolitan area. Based on 2019 US Census estimates. See Appendix for map of included counties.

Note: Percentages may not total due to rounding.

Figure 10. Length of time between HIV and stage 3 (AIDS) diagnosis, by race/ethnicity, Missouri, 2014-2021

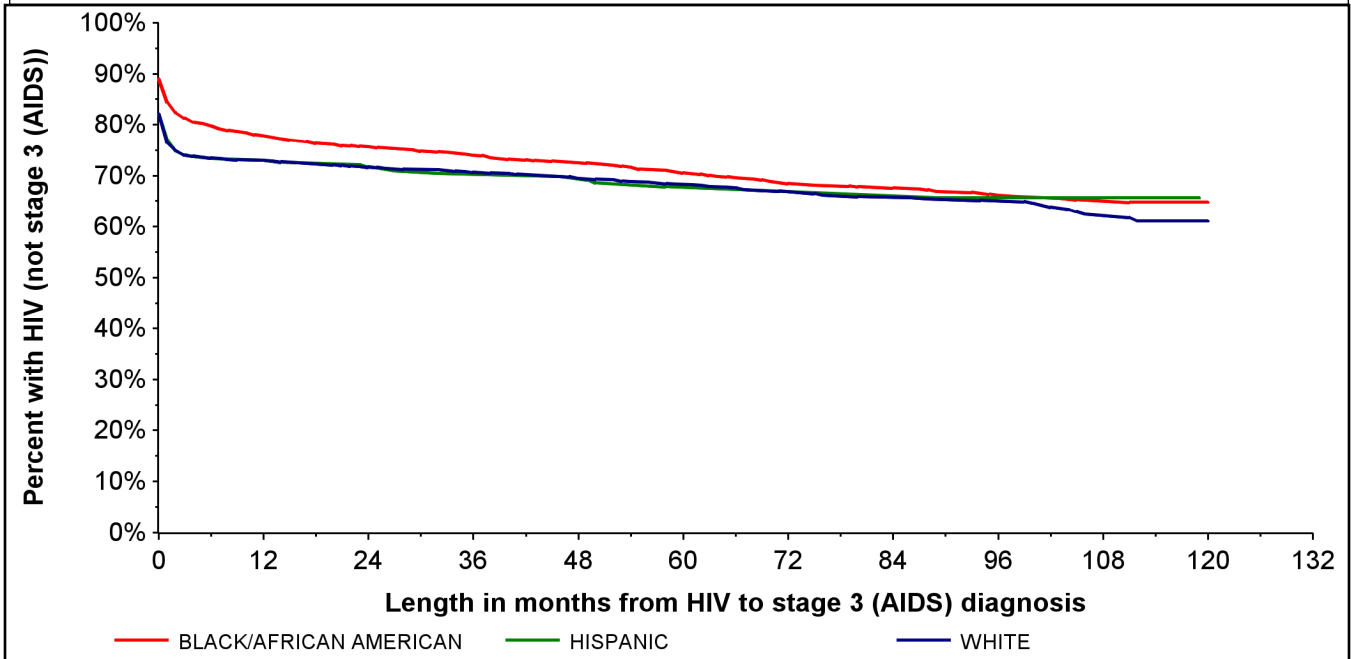
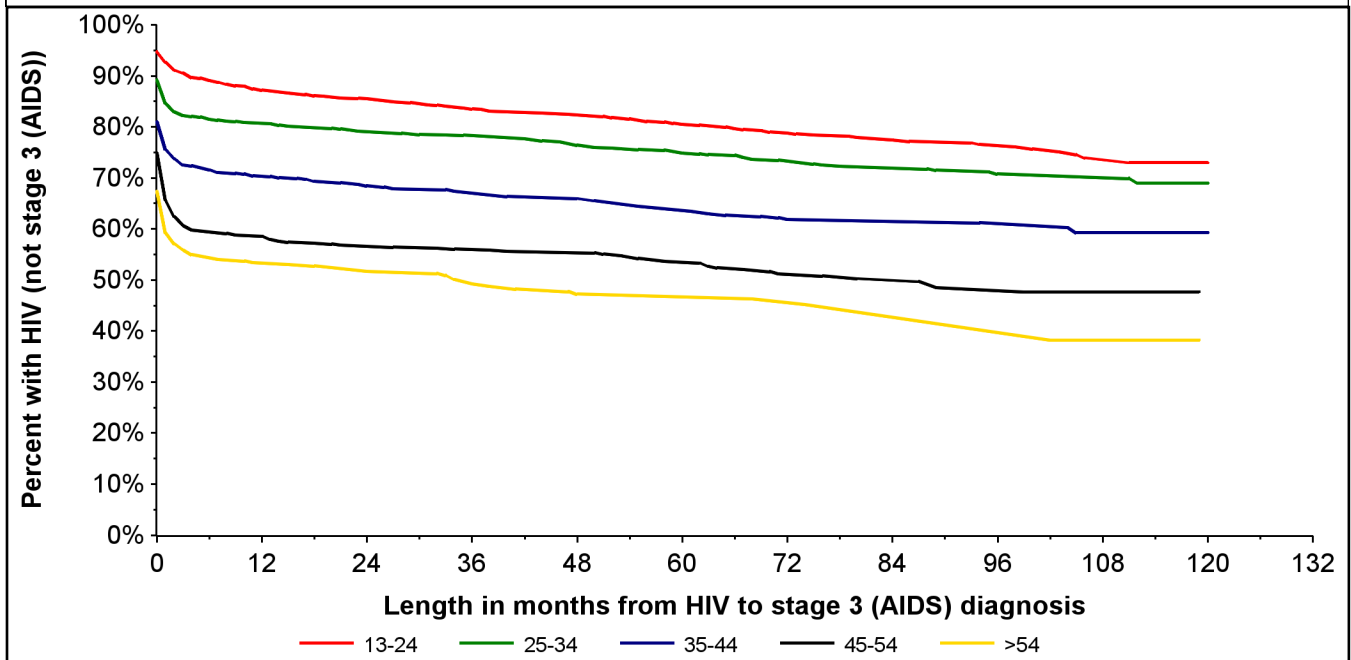


Figure 11. Length of time between HIV and stage 3 (AIDS) diagnosis, by age at diagnosis*, Missouri, 2014-2021



*Age at earliest diagnosis of HIV disease, regardless of disease progression.

A greater proportion of Black/African Americans progressed from HIV to stage 3 (AIDS) within 12 months of their HIV diagnosis compared to whites and Hispanics (Figure 10). It is important to note that for all curves displayed, data in the later months should be interpreted with caution as they are based on small numbers. Please note, Figures 10 through 17 are based on persons diagnosed as of 2020, as not enough time has elapsed to accurately measure length of time for progression to stage 3 (AIDS) or death for 2021 diagnoses.

Younger age was associated with slower progression from HIV to stage 3 (AIDS); the proportion of individuals progressing to stage 3 (AIDS) increased as age at diagnosis increased (Figure 23). Over time, the proportion of cases that progressed to stage 3 (AIDS) remained higher as the age at initial HIV diagnosis increased.

Figure 12. Length of time between HIV and stage 3 (AIDS) diagnosis, by mode of transmission, Missouri, 2014-2021

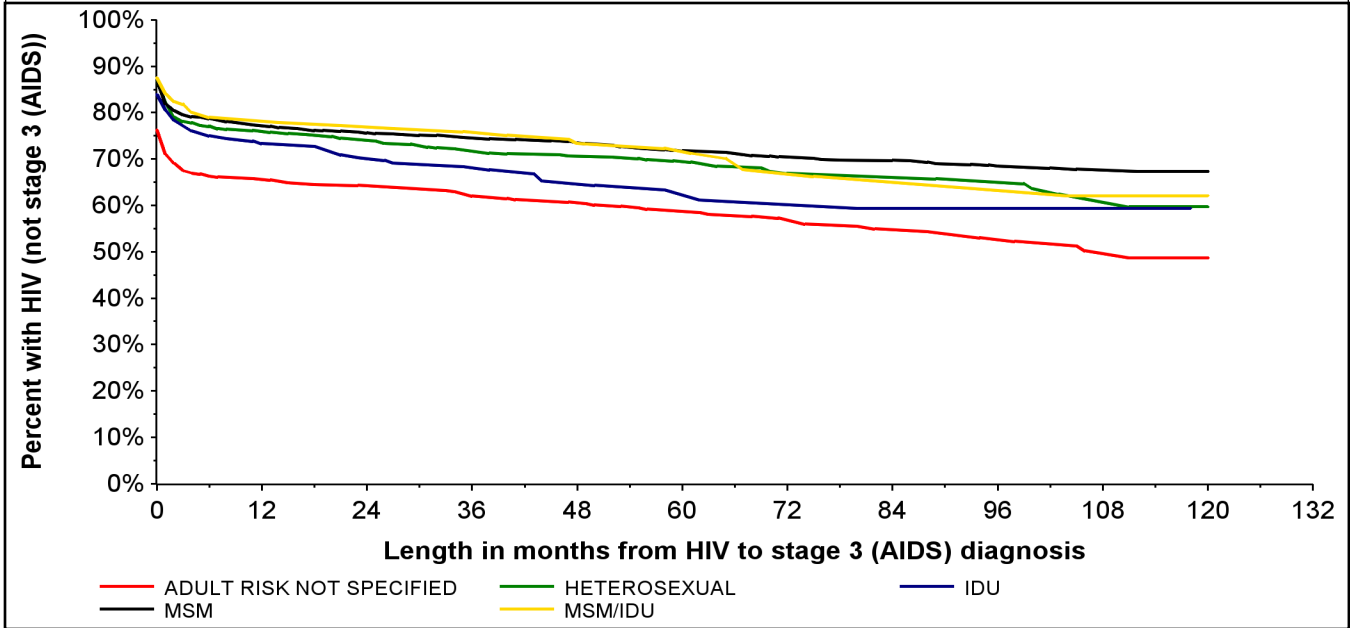
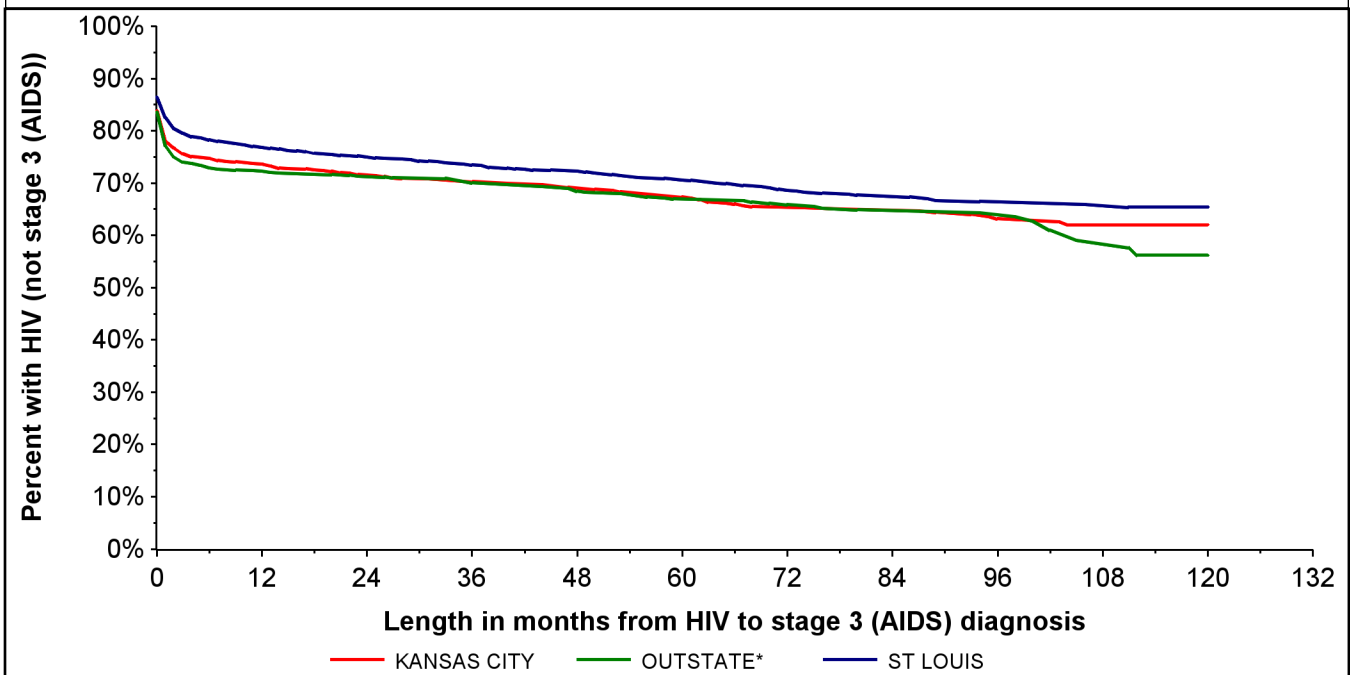


Figure 13. Length of time between HIV and stage 3 (AIDS) diagnosis, by HIV care region*, Missouri, 2014-2021



*Outstate includes the Central, Northwest, Southeast, and Southwest HIV Care Regions

A greater proportion of IDU progressed from HIV to stage 3 (AIDS) within 12 months of their HIV diagnosis compared to individuals from all other exposure categories (Figure 12). We cannot interpret adult risk not specified due to these diagnosis not having a risk.

There were differences in the progression from HIV to stage 3 (AIDS) by HIV care region (Figure 13). The proportion of individuals that progressed to stage 3 (AIDS) over time was generally greater for the Saint Louis HIV Care Region compared to all other HIV Care Regions. Differences observed among the regions may be attributed in part to differences in the routine monitoring and reporting of CD4 counts and other active surveillance techniques.

Figure 14. Length of time between HIV diagnosis and death, by race/ethnicity, Missouri, 2014-2021

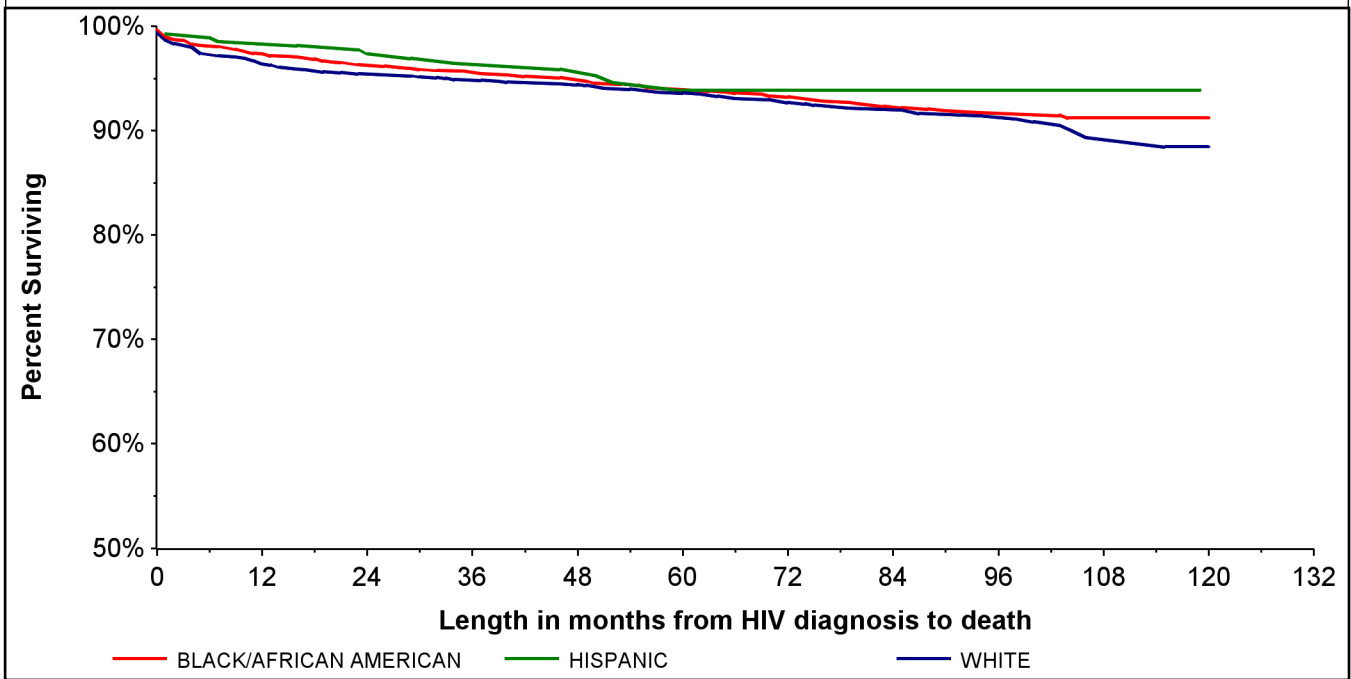
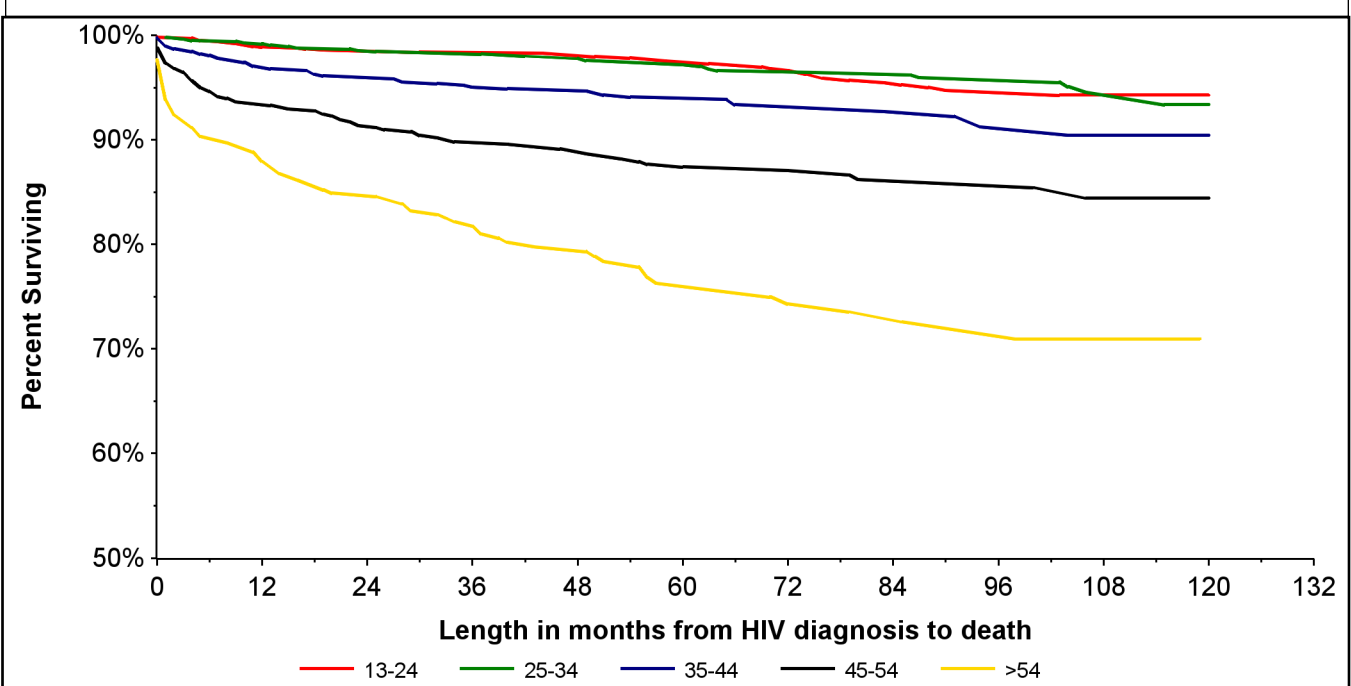


Figure 15. Length of time between HIV diagnosis and death, by age at diagnosis*, Missouri, 2014-2021



*Age at earliest diagnosis of HIV disease, regardless of disease progression.

The length of time between the initial HIV diagnosis and reported death was similar by race/ethnicity (Figure 14). Five years following the initial HIV diagnosis, 89% of all individuals were still living.

Over time, the proportion of cases that were deceased was higher as the age at initial HIV diagnosis increased (Figure 15). For example, 72 months following the initial diagnosis, 96% of individuals diagnosed between 13-24 years of age were still living, compared to only 75% of individuals diagnosed at greater than 54 years of age.

Figure 16. Length of time between HIV diagnosis and death, by mode of transmission, Missouri, 2014-2021

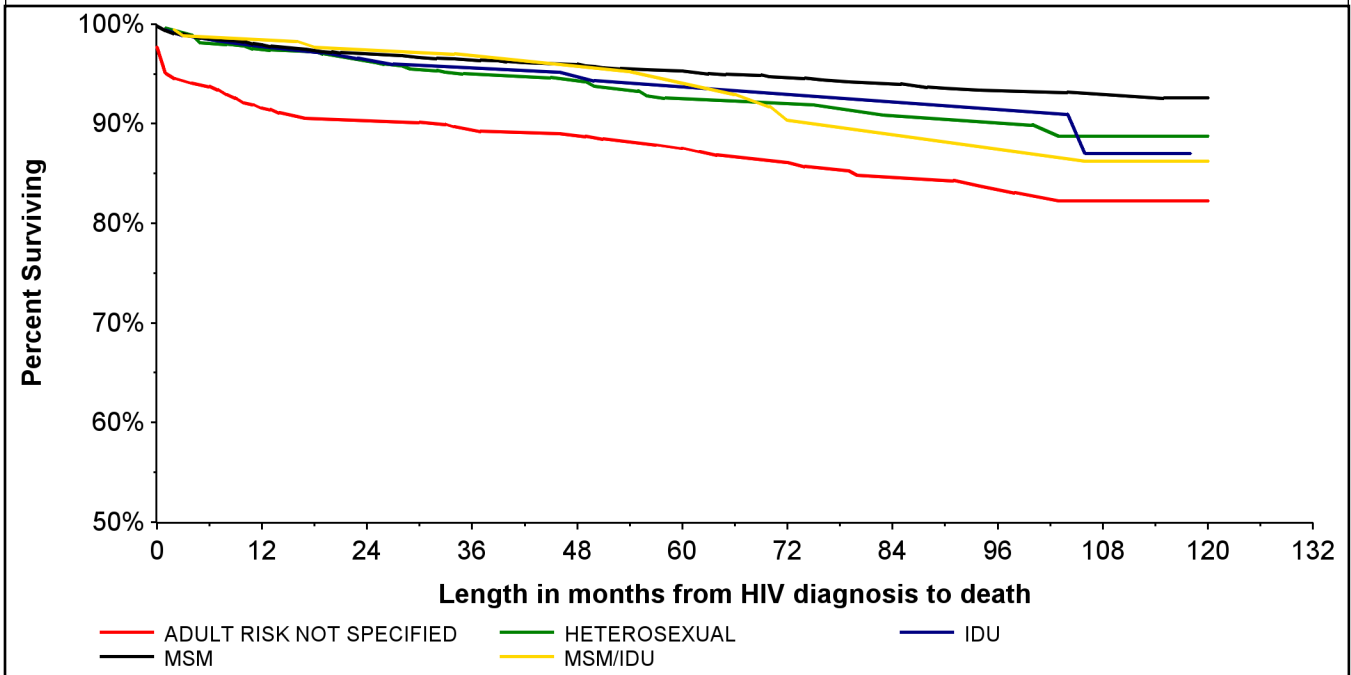
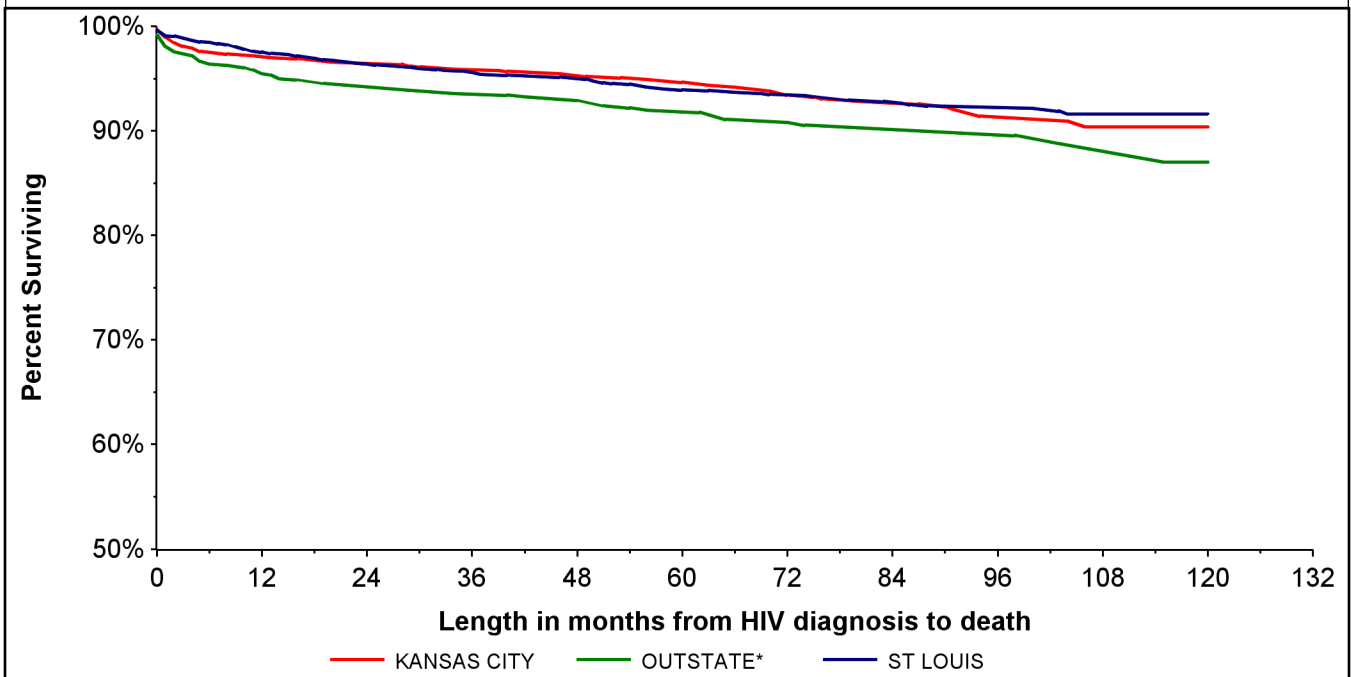


Figure 17. Length of time between HIV diagnosis and death, by HIV care region*, Missouri, 2014-2021



*Outstate includes the Central, Northwest, Southeast, and Southwest HIV Care Regions

A greater proportion of IDU were deceased within 96 months of their HIV diagnosis compared to individuals from all other exposure categories (Figure 28). A greater proportion of MSM were deceased within 65 months of their HIV diagnosis compared to individuals from all other exposure categories. A greater proportion of no risk identified decreased over length in months of their HIV diagnosis compared to individuals from all other exposure categories. Differences in survival persisted over time.

There were not significant differences in survival following HIV diagnosis by HIV care region (Figure 17). At 24 months following the initial HIV diagnosis, the proportion still living was 96% for the Kansas City HIV Care Region, 95% for the St. Louis HIV Care Region, and 94% for all other Outstate HIV Care Regions combined.

Table 22. Initial CD4 and viral load values[†] among adults and adolescents newly diagnosed with HIV disease, Missouri, 2020-2021

Viral Load (copies/mL)	CD4 Count (cells/μL)											
	No Test		<200		200-350		351-500		>500		Total	
	N	%*	N	%*	N	%*	N	%*	N	%*	N	%**
No Test	75	8.6%	6	0.7%	4	0.5%	14	1.6%	19	2.2%	118	13.5%
0-10,000	40	4.6%	16	1.8%	23	2.6%	38	4.4%	95	10.9%	212	24.3%
10,001-100,000	34	3.9%	37	4.2%	57	6.5%	61	7.0%	79	9.0%	268	30.7%
>100,000	20	2.3%	111	12.7%	57	6.5%	48	5.5%	39	4.5%	275	31.5%
Total	169	19.4%	170	19.5%	141	16.2%	161	18.4%	232	26.6%	873	100.0%

[†]Within 12 months of the initial HIV diagnosis

* % of table total

**% of column total

Of persons newly diagnosed with HIV disease between 2020 and 2021, 8.6% did not have a CD4 or a viral load laboratory result reported to DHSS within 12 months of diagnosis (Table 22). Nearly 19.5% of persons diagnosed between 2020 and 2021 had an initial CD4 count of less than 200 cells/μL. This proportion indicates that a sizable proportion of individuals were being diagnosed at a later stage of disease progression and likely were unaware of their infection for at least several years. This proportion suggests greater emphasis is needed to establish routine HIV testing, so individuals are diagnosed within a shorter time period after becoming infected.

Table 23. Percent of adults and adolescents receiving at least one CD4 within 12 months of their HIV diagnosis and the median initial CD4 count, Missouri, 2020-2021

	Number	% with CD4 within 12 months of HIV diagnosis	Median of initial CD4 counts (cells/ μL)
HIV Status			
HIV (not stage 3 (AIDS))	679	76.1%	466
Concurrent HIV and stage 3 (AIDS)	146	100.0%	69
Stage 3 (AIDS) >1 month after HIV diagnosis	48	85.4%	144
Sex			
Male	682	81.1%	385
Female	191	79.1%	367
Race/Ethnicity			
White	359	83.8%	370
Black/African American	397	79.6%	386
Hispanic	70	70.0%	435
Other/Unknown	47	80.9%	437
Exposure Category			
MSM	455	81.1%	400
MSM/IDU	41	90.2%	496
IDU	33	72.7%	468
HRH	180	80.6%	362
Other	4	75%	1,012
NIR	160	78.8%	296
Age at HIV Diagnosis			
13-18	25	68.0%	614
19-24	169	72.8%	419
25-44	492	80.7%	389
45-64	176	89.2%	300
65+	11	90.9%	261

The percent of adults and adolescents receiving at least one CD4 within 12 months of their HIV diagnosis and the median initial CD4 count varied by sex, race/ethnicity, exposure category, and age at HIV diagnosis (Table 23). Of adults and adolescents newly diagnosed between 2020 and 2021, a greater proportion of males had a CD4 within 12 months of diagnosis (81.1%) compared to females (79.1%). A greater proportion of whites (83.8%) tended to have a CD4 count within 12 months of diagnosis compared to Blacks/African Americans (79.6%). Among those with a CD4 count within 12 months of diagnosis, the initial median CD4 count tended to be lower among whites (370 cells/ μ L). Among exposure categories, MSM/IDU cases had a greater proportion of adults and adolescents receiving an initial CD4 within 12 months of diagnosis compared to persons with other known exposure categories. The initial median CD4 tended to be lowest for persons with no indicated risk compared to all other exposure categories. The median initial CD4 count tended to decrease as the age at HIV diagnosis increased. These data may be beneficial when determining groups that should be targeted for new testing initiatives to identify individuals earlier in their disease progression.

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Key Highlights: What are the indicators of HIV disease infection risk in Missouri?

Primary and Secondary (P&S) Syphilis

- The number of reported P&S syphilis cases increased from 806 cases in 2018 to 817 cases in 2019. The increase observed was due to increases in the St. Louis, Kansas City, Central, and Southwest HIV Care Regions.
- The rate of reported cases was highest in St. Louis City (26.3 per 100,000).
- Blacks/African Americans were disproportionately impacted, with a case rate 4.9 times as high as the rate among whites.

Early Latent Syphilis

- The number of early latent syphilis cases increased barely from 2018 (546 cases) to 2019 (567 cases). The increase was seen in the Kansas City, Southwest, and Southeast HIV Care Regions.
- The number of reported cases in 2019 was highest in Jackson County (158).
- Males represented the majority (67%) of reported early latent syphilis cases.
- The case rate was 2.4 times as high among Blacks/African Americans compared to whites.

Gonorrhea

- The number of reported gonorrhea cases decreased from 2018 (15,091 cases) to 2019 (15,586 cases). The number of reported gonorrhea cases was higher in 2019 compared to 2018 in all HIV care regions except the Kansas City and Southwest HIV Care Regions.
- Kansas City had the highest rate of reported gonorrhea cases at 333 per 100,000 persons.
- A larger proportion of reported gonorrhea cases was diagnosed between 15 and 19 years of age among Black/African American females (38.3%) compared to white females (22%), Black/African American males (30.8%), and white males (8.8%).

Chlamydia

- The number of reported chlamydia cases decreased from 34,728 in 2018 to 34,418 in 2019. An decrease in the number of reported chlamydia cases was observed in all HIV care regions except Kansas City, Northwest, and Southeast.
- Kansas City had the highest chlamydia rate in 2019 (708 per 100,000). Jackson County reported the second highest case rate of chlamydia (926 per 100,000).
- A larger proportion of reported chlamydia cases was diagnosed between 15 and 19 years old among white females (39%) compared to Black/African American females (35%), Black/African American males (17%) and white males (9%).

Hepatitis B

- The number of reported hepatitis B cases in Missouri decreased by 80 cases from 2018 (585) to 2019 (505).
- St. Louis County had the greatest number of reported hepatitis B cases with 206 cases.
- Among both males and females, the largest numbers of cases were 40-49 years of age.

Hepatitis C

- The number of reported hepatitis C cases in Missouri increased by 79 cases from 2018 (4,730) to 2019 (4,809). This large increase in hepatitis C cases was likely the result of the expansion of screening recommendations, increased knowledge and awareness among individuals at risk, and increased testing.
- St. Louis City had the greatest number of reported hepatitis C cases with 1,346 cases.
- Among males, the largest number of cases were 50-59 years of age, while the largest number of cases among females were in 30-39 years of age.

HIV, STD, Hepatitis, and Tuberculosis (TB) disease Co-infections

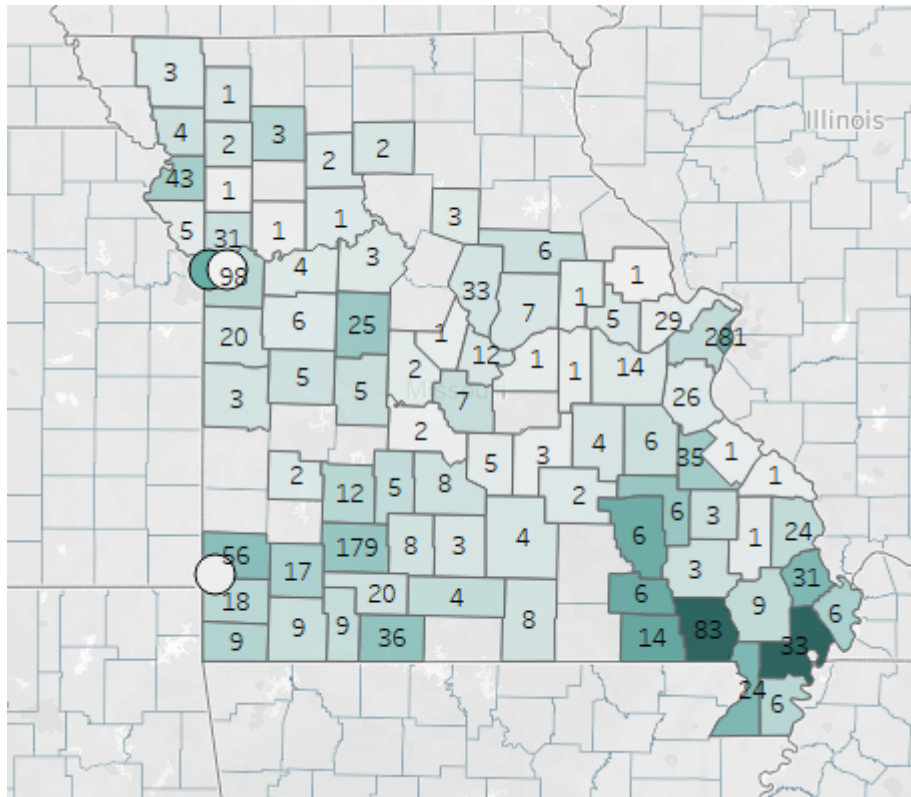
- There were 920 persons living with HIV who were reported with an STD in 2019.
- Of the 567 early syphilis cases reported in 2019, 22.9% were among individuals living with HIV. Only 32% of gonorrhea cases and 18.3 of chlamydia cases reported in 2019 were among individuals living with HIV.
- St. Louis residents represented 63.8% of all living HIV cases reported with multiple STD co-morbidities in 2019, 64.9% of those with a chlamydia co-morbidity, 48.8% of those with an early syphilis co-morbidity, and 63.7% of those with a gonorrhea co-morbidity.
- Although Blacks/African Americans represented only 45.9% of living HIV disease cases, they represented 57.8% of individuals diagnosed with an STD co-morbidity.
- Of the 13,378 individuals living with HIV disease, 79 were reported with a hepatitis co-morbidity in 2019.
- Of the 13,378 individuals living with HIV disease, five were reported with TB disease in 2019.

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	417	48.3%	16.9	295	65.3%	12.0	712	14.5
Black/African American	307	35.5%	90.7	108	23.9%	29.0	415	58.3
Other/Unknown*	140	16.2%	--	49	10.8%	--	189	--
Total	864	100.0%	28.7	452	100.0%	14.4	1,316	21.4
St. Louis HIV Care Region								
White	82	29.4%	10.9	23	21.3%	2.9	105	6.9
Black/African American	158	56.6%	85.3	74	68.5%	33.2	232	56.9
Other/Unknown*	39	14.0%	--	11	10.2%	--	50	--
Total	279	100.0%	27.8	108	100.0%	10.1	387	18.6
Kansas City HIV Care Region								
White	126	46.7%	29.1	64	66.0%	14.2	190	21.5
Black/African American	104	38.5%	114.2	25	25.8%	24.4	129	66.6
Other/Unknown*	40	14.8%	--	8	8.2%	--	48	--
Total	270	100.0%	46.1	97	100.0%	15.7	367	30.5
Northwest HIV Care Region								
White	16	80.0%	16.5	16	84.2%	16.1	32	16.3
Black/African American	3	15.0%	54.4	1	5.3%	35.3	4	48.0
Other/Unknown*	1	5.0%	--	2	10.5%	--	3	--
Total	20	100.0%	18.4	19	100.0%	17.7	39	18.0
Central HIV Care Region								
White	31	63.3%	8.3	22	84.6%	5.7	53	7.0
Black/African American	11	22.4%	43.9	2	7.7%	9.8	13	28.6
Other/Unknown*	7	14.3%	--	2	7.7%	--	9	--
Total	49	100.0%	11.5	26	100.0%	6.1	75	8.8
Southwest HIV Care Region								
White	99	66.0%	19.3	86	82.7%	16.3	185	17.8
Black/African American	9	6.0%	60.6	1	1.0%	9.8	10	39.9
Other/Unknown*	42	28.0%	--	17	16.3%	--	59	--
Total	150	100.0%	26.3	104	100.0%	17.9	254	22.1
Southeast HIV Care Region								
White	63	65.6%	451.2	84	85.7%	38.4	147	63.1
Black/African American	22	22.9%	132.5	5	5.1%	34.9	27	87.3
Other/Unknown*	11	11.5%	--	9	9.2%	--	20	--
Total	96	100.0%	244.3	98	100.0%	40.6	194	69.1

*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2020 DHSS population estimates.

There were a total of 1,316 P&S syphilis cases reported in 2021 (Table 24). The majority of cases (66%) were reported among males. The rate of P&S syphilis cases among males was highest in the Kansas City HIV Care Region (46.1). Twenty-nine percent of all P&S syphilis cases were reported in the Saint Louis HIV Care Region and 28% were reported in the Kansas City HIV Care Region. The rate of reported P&S syphilis cases was 48 times higher for Blacks/African Americans compared to whites in all regions that reported P&S syphilis cases.

Figure 18. Reported Early syphilis cases*, by county, Missouri, 2021



*Case counts are in black.
 Primary, Secondary, and early latent=early syphilis

Early syphilis cases were concentrated in metropolitan areas and the Southeast HIV Care Region (Figure 18). The highest number of cases was 281 in Saint Louis City County.

Figure 19. Reported P&S syphilis cases, by race and sex, by age group at diagnosis, Missouri, 2021

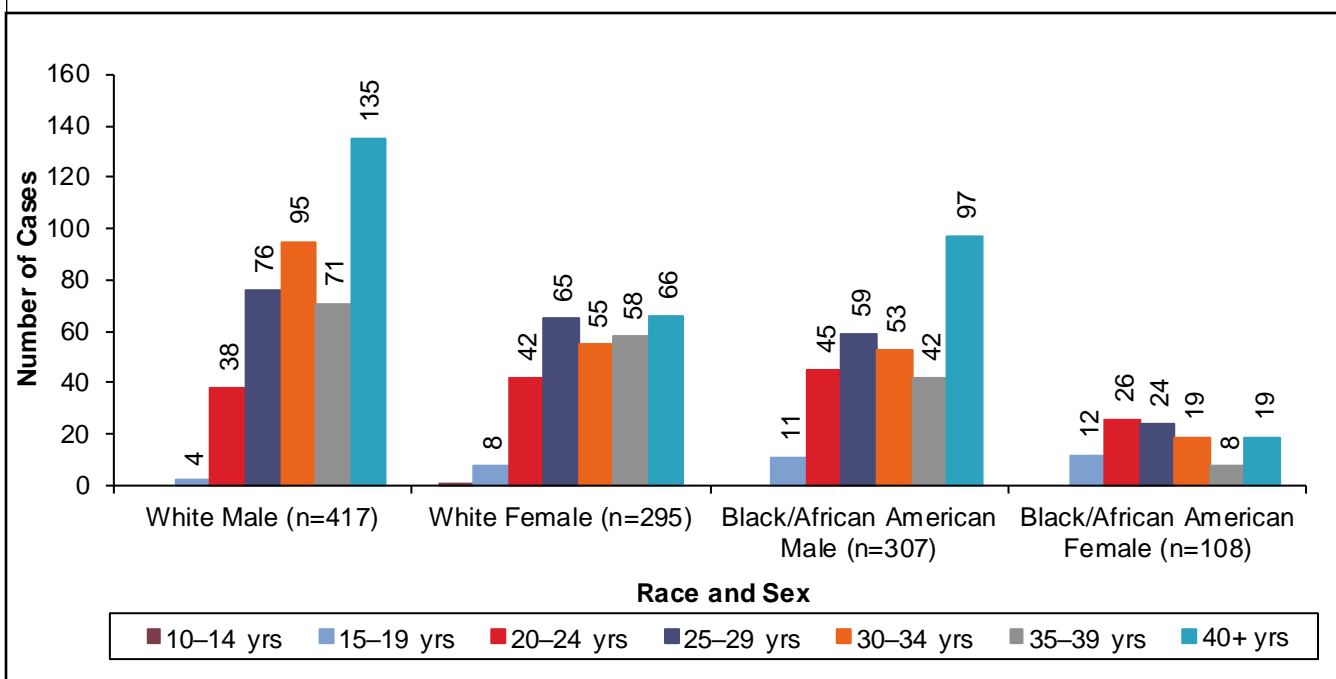
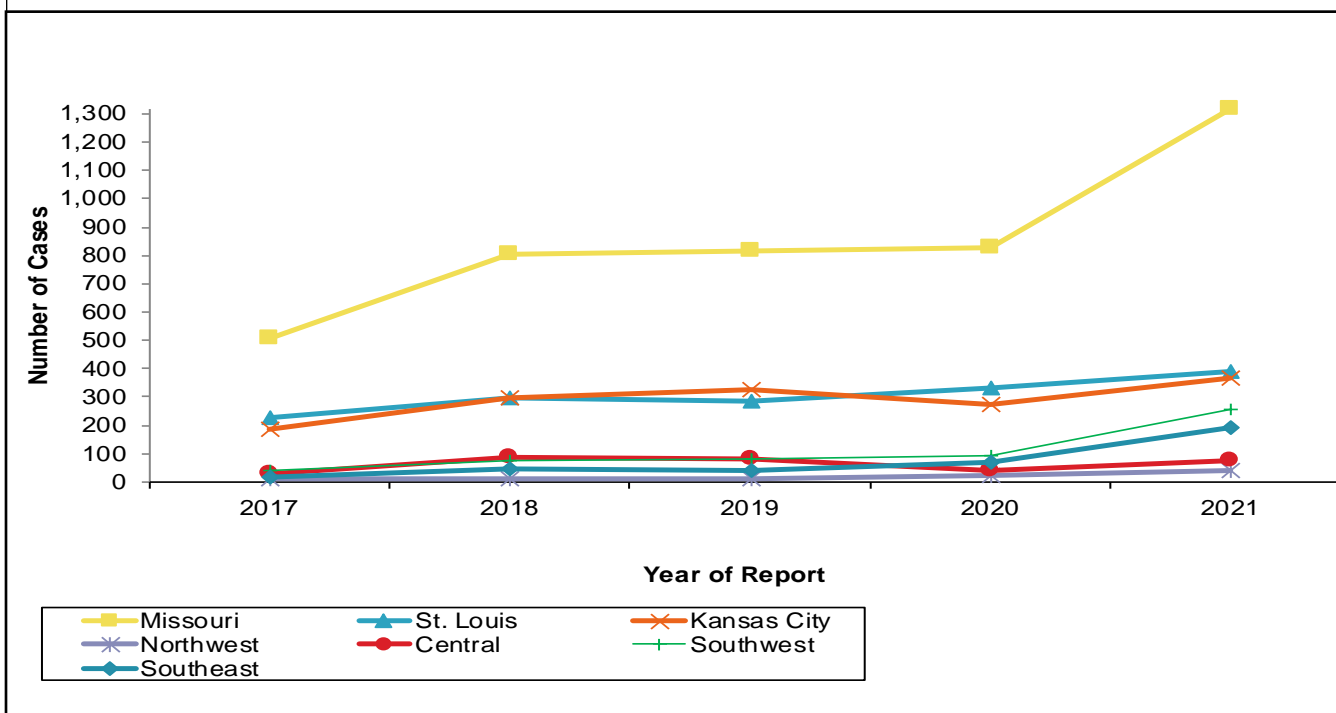


Figure 20. Reported P&S syphilis cases by HIV care region and year of report, Missouri, 2017-2021



The largest numbers of P&S syphilis cases were reported among white males (417) and Black/African American males (307) (Figure 19). There were differences in the distribution of reported cases by age at diagnosis among the race/ethnicity and sex categories. Among all genders and race/ethnicity, except Black/African American females, the largest number of cases was reported among individuals 40 or more years of age at the time of diagnosis.

The number of reported P&S syphilis cases in Missouri steadily increased from 2017 to 2020 and then increased drastically from 2020 to 2021 (Figure 20). The number of reported P&S syphilis cases decreased from 2018 to 2019 in the St. Louis HIV Care Region (101 to 136), the Kansas City HIV Care Region (298 to 285), the Central HIV Care Region (85 to 79), the Northwest HIV Care Region (10 to 8), and the Southeast HIV Care Region (47 to 41). The number of reported P&S syphilis cases increased from 2018 to 2019 in the remaining HIV regions.

Table 25. Reported early latent syphilis cases and rates, by race*, by HIV care region, by sex, Missouri, 2021								
	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	264	49.3%	10.7	159	63.1%	6.5	423	8.6
Black/African American	210	39.3%	62.1	68	27.0%	18.2	278	39.1
Other/Unknown*	61	11.4%	--	25	9.9%	--	86	--
Total	535	100.0%	17.8	252	100.0%	8.1	787	12.8
St. Louis HIV Care Region								
White	48	24.5%	6.4	14	23.0%	1.8	62	4.1
Black/African American	133	67.9%	71.8	42	68.9%	18.9	175	42.9
Other/Unknown*	15	7.7%	--	5	8.2%	--	20	--
Total	196	100.0%	19.5	61	100.0%	5.7	257	12.4
Kansas City HIV Care Region								
White	76	52.1%	17.6	23	52.3%	5.1	99	11.2
Black/African American	53	36.3%	58.2	17	38.6%	16.6	70	36.2
Other/Unknown*	17	11.6%	--	4	9.1%	--	21	--
Total	146	100.0%	24.9	44	100.0%	7.1	190	15.8
Northwest HIV Care Region								
White	13	76.5%	13.4	2	66.7%	2.0	15	7.6
Black/African American	2	11.8%	36.3	0	0.0%	0.0	2	24.0
Other/Unknown*	2	11.8%	--	1	33.3%	--	3	--
Total	17	100.0%	15.6	3	100.0%	2.8	20	9.2
Central HIV Care Region								
White	24	72.7%	6.4	11	73.3%	2.9	35	4.6
Black/African American	7	21.2%	28.0	3	20.0%	14.7	10	22.0
Other/Unknown*	2	6.1%	--	1	6.7%	--	3	--
Total	33	100.0%	7.8	15	100.0%	3.5	48	5.6
Southwest HIV Care Region								
White	68	71.6%	13.2	57	85.1%	10.8	125	12.0
Black/African American	8	8.4%	53.8	0	0.0%	0.0	8	31.9
Other/Unknown*	19	20.0%	--	10	14.9%	--	29	--
Total	95	100.0%	16.6	67	100.0%	11.6	162	14.1
Southeast HIV Care Region								
White	35	72.9%	250.6	52	83.9%	23.8	87	37.4
Black/African American	7	14.6%	42.2	6	9.7%	41.9	13	42.0
Other/Unknown*	6	12.5%	--	4	6.5%	--	10	--
Total	48	100.0%	122.2	62	100.0%	25.7	110	39.2

*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2020 DHSS population estimates.

There were a total of 787 early latent syphilis cases reported in 2021 (Table 25). The majority of cases (68%) were reported among males. The rate of early latent syphilis cases among all cases was highest in the Kansas City HIV Care Region (15.8). Thirty-three percent (33%) of all early latent syphilis cases were reported in the Saint Louis HIV Care Region. The rate of reported early latent syphilis cases was higher for blacks/African Americans compared to whites in all regions that reported cases among blacks/African Americans.

Figure 22. Reported early latent syphilis cases, by race and sex, by age group at diagnosis, Missouri, 2021

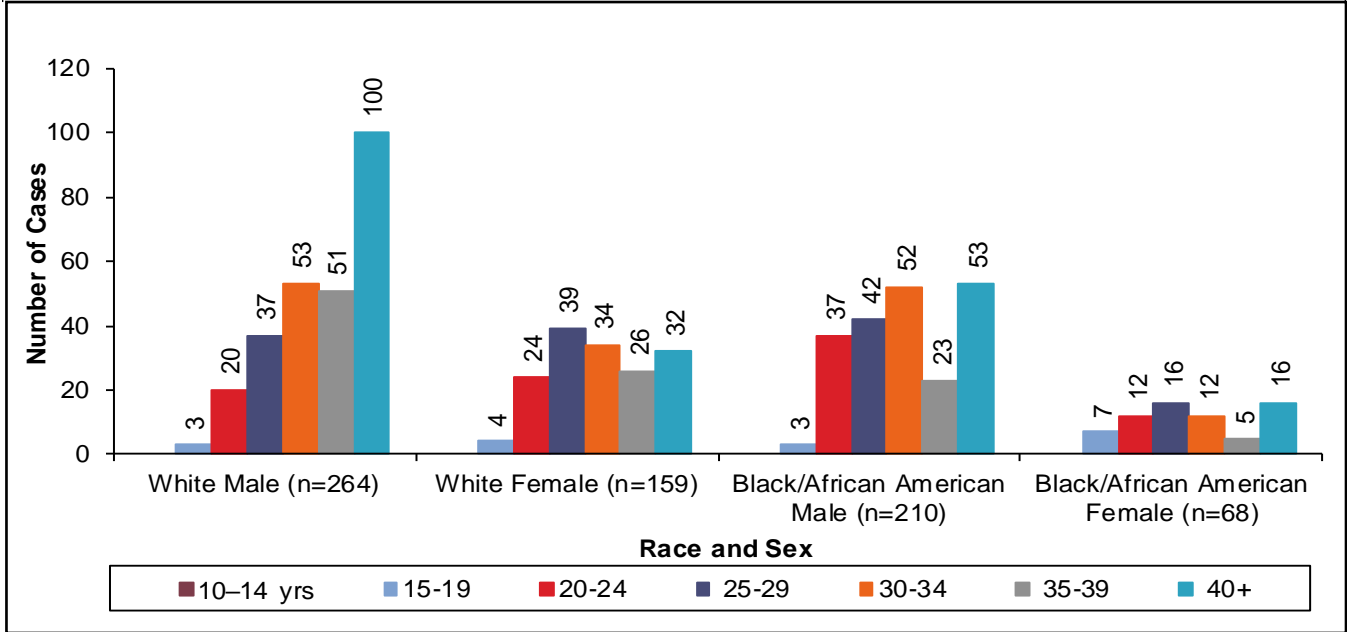
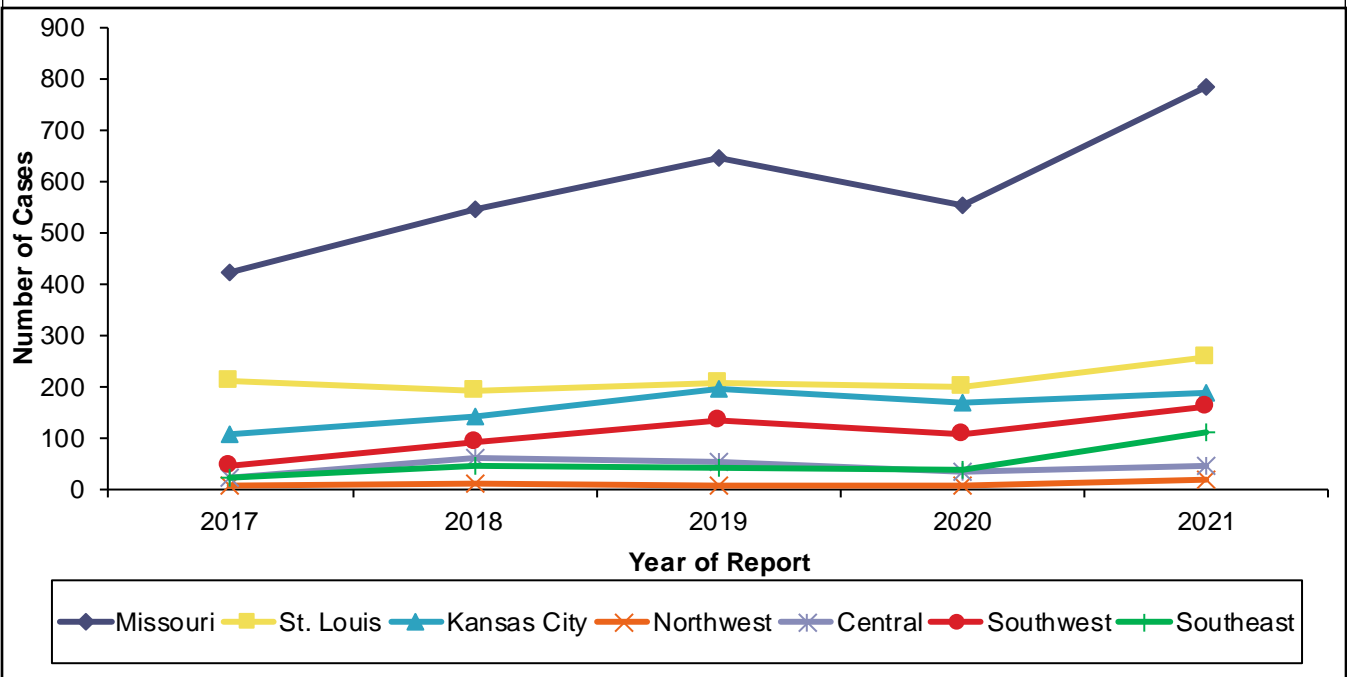


Figure 23. Reported early latent syphilis cases by HIV care region and year of report, Missouri, 2017-2021



The largest numbers of early latent syphilis cases were reported among white males (264) (Figure 22). Among white males, the largest number of cases was reported among individuals 40 or more years of age at the time of diagnosis.

The number of reported early latent syphilis cases in Missouri increased steadily from 2017 to 2021 (Figure 23). There was a decrease in 2020, but the COVID-19 pandemic may attribute to decrease in cases. Throughout all regions the number of reported early latent syphilis cases remained about the same from 2017 to 2021. Saint Louis HIV Care Region had the highest number of cases.

Table 26. Reported gonorrhea cases and rates, by race*, by HIV care region, by sex, Missouri, 2021

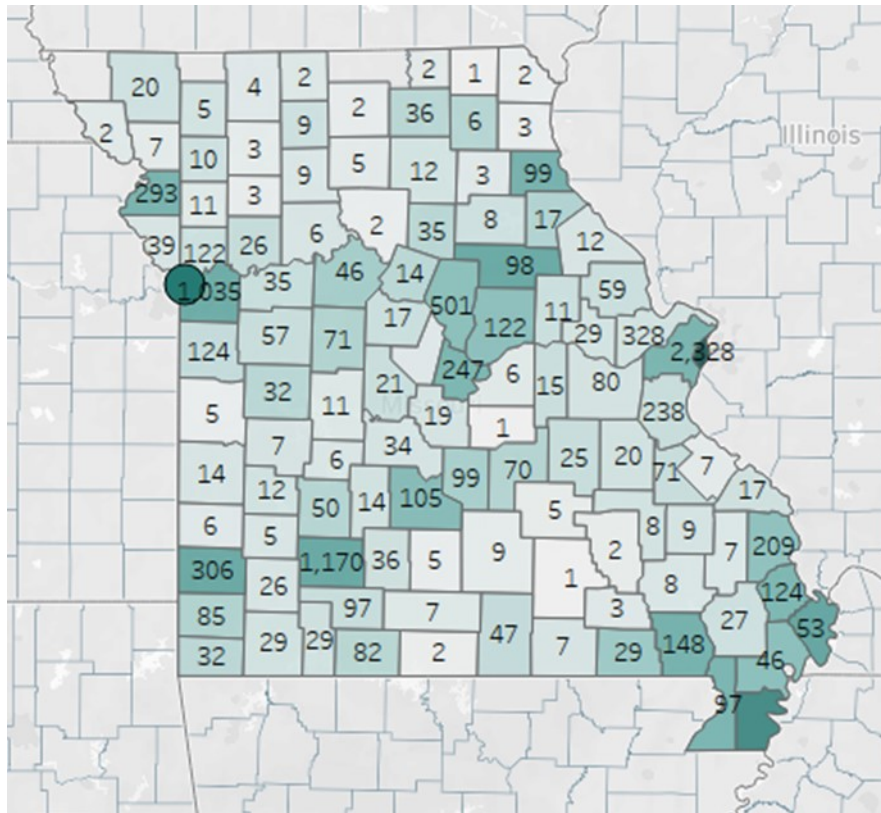
	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	2,539	30.5%	103.2	3,011	40.8%	122.3	5,550	112.7
Black/African American	4,415	53.0%	1304.9	3,193	43.2%	856.1	7,608	1069.5
Other/Unknown*	1,375	16.5%	--	1,181	16.0%	--	2,557	--
Total	8,329	100.0%	276.9	7,385	100.0%	236.0	15,715	256.1
St. Louis HIV Care Region								
White	523	15.3%	69.8	519	18.0%	66.5	1,042	68.1
Black/African American	2,329	68.1%	1257.0	1,923	66.6%	863.9	4,252	1042.5
Other/Unknown*	569	16.6%	--	447	15.5%	--	1,017	--
Total	3,421	100.0%	340.6	2,889	100.0%	269.2	6,311	303.8
Kansas City HIV Care Region								
White	640	28.1%	148.0	635	35.0%	140.6	1,275	144.2
Black/African American	1,335	58.6%	1466.1	888	48.9%	865.9	2,223	1148.2
Other/Unknown*	304	13.3%	--	293	16.1%	--	597	--
Total	2,279	100.0%	388.9	1,816	100.0%	294.2	4,095	340.4
Northwest HIV Care Region								
White	118	61.1%	121.6	142	78.9%	143.1	260	132.5
Black/African American	44	22.8%	798.4	13	7.2%	459.5	57	683.5
Other/Unknown*	31	16.1%	--	25	13.9%	--	56	--
Total	193	100.0%	177.2	180	100.0%	167.3	373	172.3
Central HIV Care Region								
White	324	42.7%	86.2	517	62.9%	135.1	841	110.9
Black/African American	305	40.2%	1218.5	154	18.7%	752.1	459	1008.6
Other/Unknown*	129	17.0%	--	151	18.4%	--	280	--
Total	758	100.0%	178.4	822	100.0%	192.6	1,580	185.5
Southwest HIV Care Region								
White	744	60.5%	144.8	853	75.2%	161.5	1,597	153.2
Black/African American	214	17.4%	1440.0	85	7.5%	832.8	299	1192.8
Other/Unknown*	271	22.1%	--	196	17.3%	--	467	--
Total	1,229	100.0%	215.1	1,134	100.0%	195.6	2,363	205.3
Southeast HIV Care Region								
White	190	42.3%	1360.6	345	63.4%	157.6	535	229.7
Black/African American	188	41.9%	1132.4	130	23.9%	906.9	318	1027.9
Other/Unknown*	71	15.8%	--	69	12.7%	--	140	--
Total	449	100.0%	1142.6	544	100.0%	225.1	993	353.5

*Includes cases identified with Hispanic ethnicity.

**Per 100,000 population based on 2020 DHSS population estimates.

There were a total of 15,715 gonorrhea cases reported in 2021 (Table 26). The majority of cases (53%) were reported among males. Forty-eight percent (48%) of cases were reported among Black/African Americans. There are 40% of gonorrhea cases were reported in the St. Louis HIV Care Region. The highest rate of gonorrhea cases were reported in the Southeast HIV Care Region (353.5).

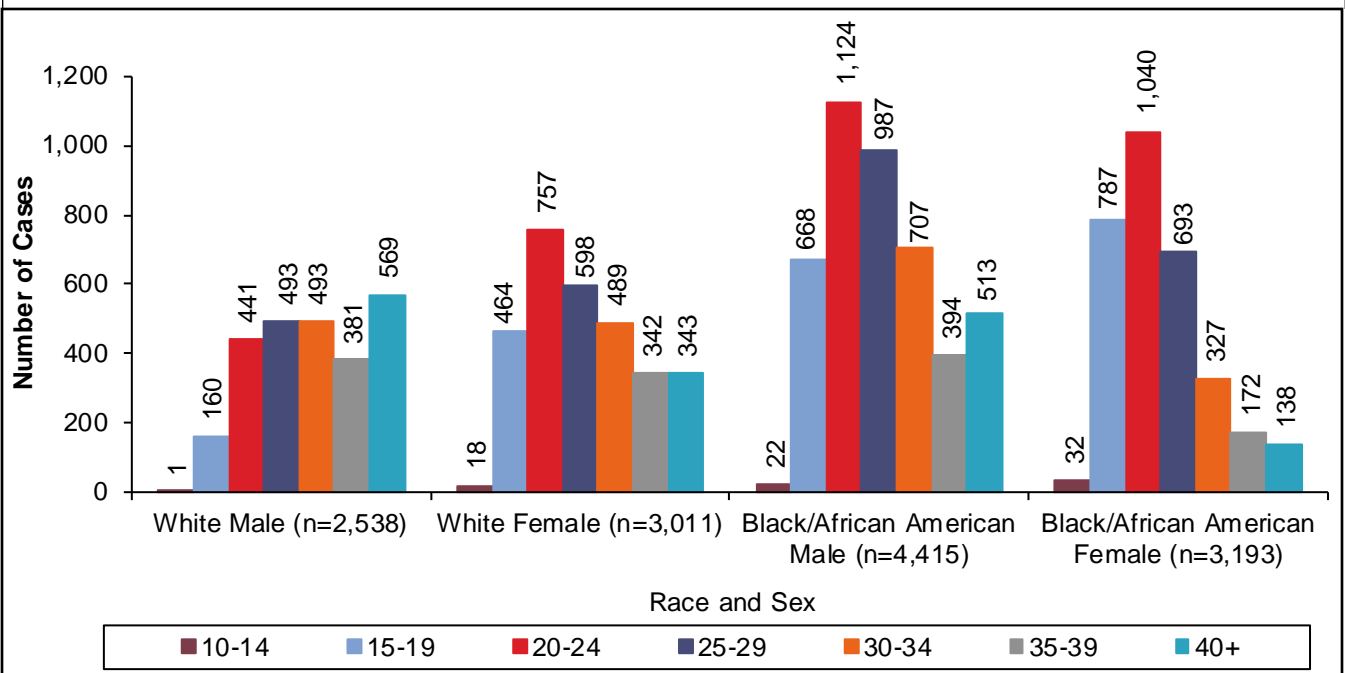
Figure 24. Reported gonorrhea cases*, by county, Missouri, 2021



*Case counts are in black.

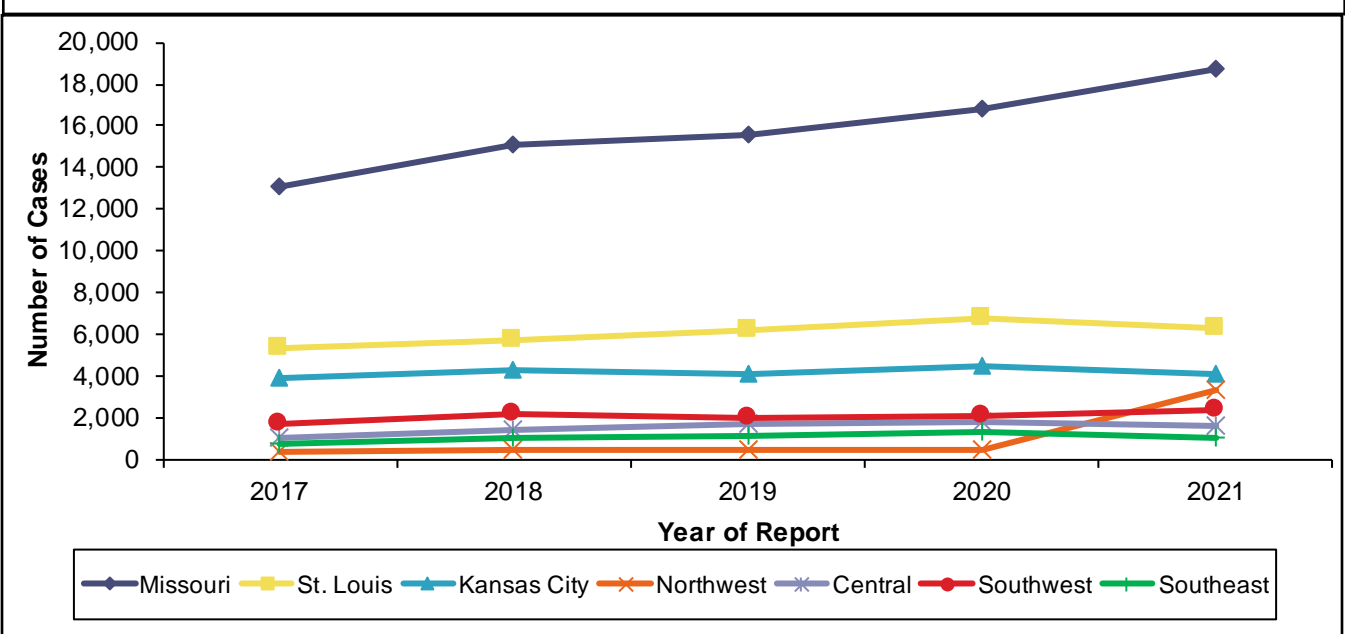
Gonorrhea cases reported in St. Louis City, St. Louis County, and Jackson County represented 56% of all reported cases in 2021 (Figure 24). There were 3 counties that did not report any gonorrhea cases in 2021. Saint Louis City had the highest reported gonorrhea cases at 2,328.

Figure 25. Reported gonorrhea cases, by race and sex, by age group at diagnosis, Missouri, 2021



Note: Totals include persons diagnosed at <10 years of age or whose age at diagnosis is unknown.

Figure 26. Reported gonorrhea cases by HIV care region and year of report, Missouri, 2017-2021



The largest numbers of gonorrhea cases were reported among Black/African American males (4,415) (Figure 25). Among all race/ethnicity and sex categories presented except white males, the largest number of cases was reported among individuals 20-24 years of age at the time of diagnosis.

The number of reported gonorrhea cases in Missouri increased from 2017 through 2021 (Figure 26). The numbers of reported gonorrhea cases were fluctuated slightly from 2017 through 2021 in all HIV care regions. Northwest HIV Care Region had an increase in 2021.

Table 27. Reported chlamydia cases and rates, by race*, by HIV care region, by sex, Missouri, 2021

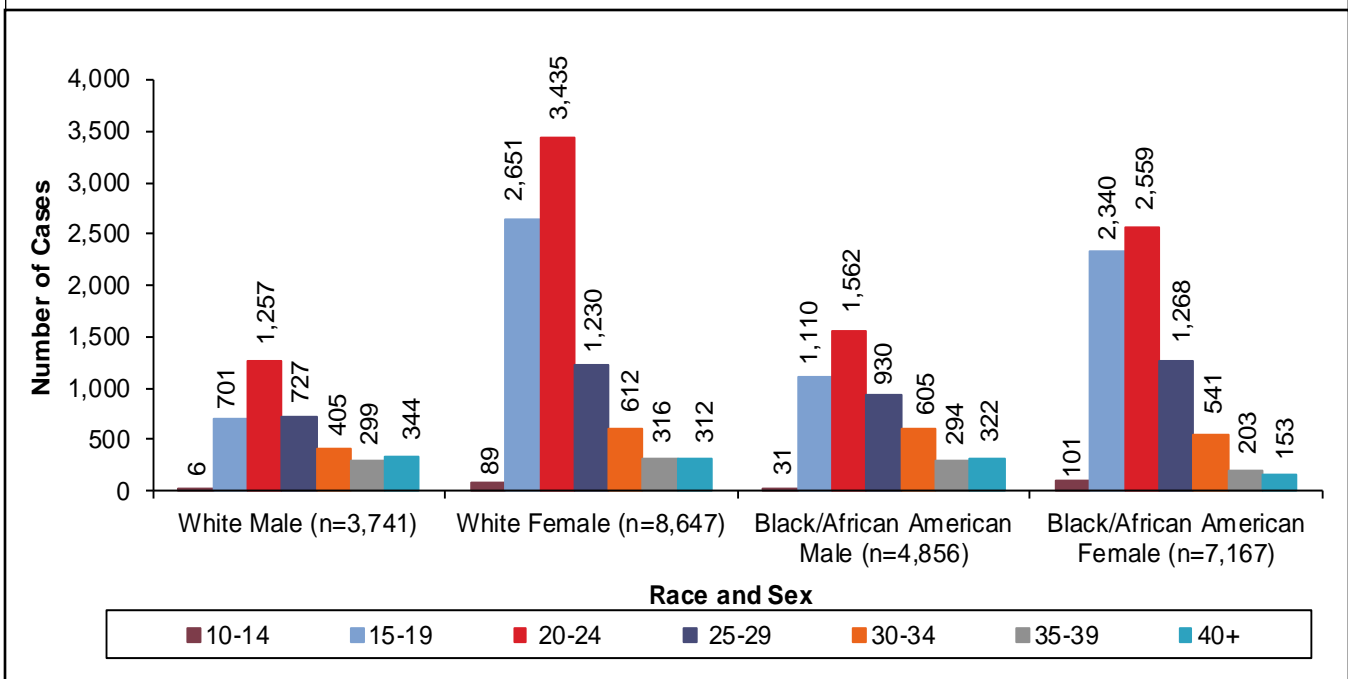
	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	3,741	33.6%	152.0	8,647	41.6%	351.3	12,388	251.7
Black/African American	4,856	43.6%	1435.2	7,167	34.5%	1921.5	12,023	1690.2
Other/Unknown*	2,541	22.8%	--	4,963	23.9%	--	7,504	--
Total	11,138	100.0%	370.3	20,777	100.0%	663.9	31,915	520.0
St. Louis HIV Care Region								
White	824	19.4%	110.0	1,678	21.7%	215.0	2,502	163.6
Black/African American	2,461	58.0%	1328.2	4,200	54.4%	1886.8	6,661	1633.1
Other/Unknown*	957	22.6%	--	1,837	23.8%	--	2,794	--
Total	4,242	100.0%	422.4	7,715	100.0%	718.8	11,957	575.5
Kansas City HIV Care Region								
White	870	27.9%	201.1	1,899	35.1%	420.4	2,769	313.1
Black/African American	1,498	48.0%	1645.1	2,041	37.7%	1990.3	3,539	1828.0
Other/Unknown*	752	24.1%	--	1,470	27.2%	--	2,222	--
Total	3,120	100.0%	532.4	5,410	100.0%	876.5	8,530	709.0
Northwest HIV Care Region								
White	192	63.2%	197.9	465	73.9%	468.7	657	334.8
Black/African American	59	19.4%	1070.6	39	6.2%	1378.6	98	1175.1
Other/Unknown*	53	17.4%	--	125	19.9%	--	178	--
Total	304	100.0%	279.1	629	100.0%	584.7	933	431.0
Central HIV Care Region								
White	624	50.4%	166.1	1,637	64.9%	427.7	2,261	298.1
Black/African American	339	27.4%	1354.3	355	14.1%	1733.7	694	1525.0
Other/Unknown*	274	22.2%	--	531	21.0%	--	805	--
Total	1,237	100.0%	291.1	2,523	100.0%	591.1	3,760	441.5
Southwest HIV Care Region								
White	964	58.7%	187.6	2,159	69.8%	408.6	3,123	299.7
Black/African American	276	16.8%	1857.2	193	6.2%	1890.9	469	1870.9
Other/Unknown*	402	24.5%	--	740	23.9%	--	1,142	--
Total	1,642	100.0%	287.4	3,092	100.0%	533.4	4,734	411.3
Southeast HIV Care Region								
White	267	45.0%	1912.1	809	57.5%	369.6	1,076	462.1
Black/African American	223	37.6%	1343.2	339	24.1%	2365.0	562	1816.7
Other/Unknown*	103	17.4%	--	260	18.5%	--	363	--
Total	593	100.0%	1509.1	1,408	100.0%	582.7	2,001	712.3

*Includes cases identified with Hispanic ethnicity.

**Per 100,000 population based on 2020 DHSS population estimates.

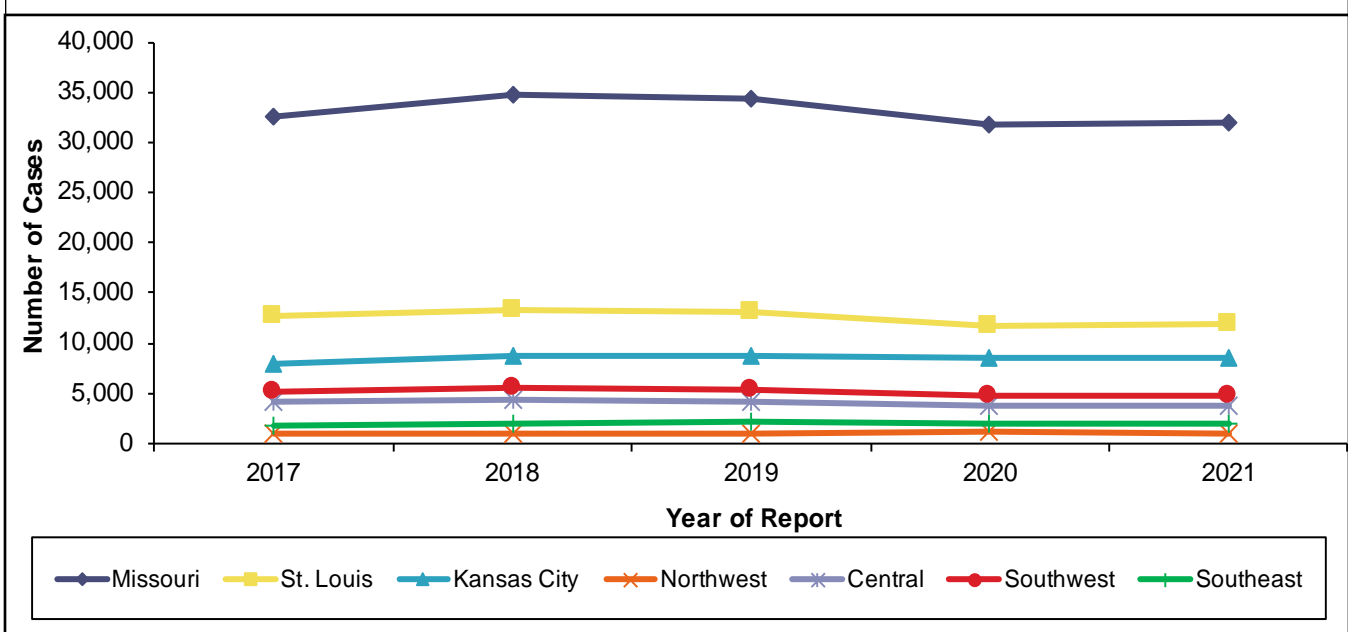
There were a total of 31,915 chlamydia cases reported in 2021 (Table 27). The majority of cases (65%) were reported among females. The proportion of chlamydia cases reported varied by HIV care region. Thirty-seven percent (37%) of all chlamydia cases were reported in the St. Louis HIV Care Region and 27% were reported in the Kansas City HIV Care Region. The rate of reported chlamydia cases was higher for Black/African Americans compared to whites in all regions.

Figure 28. Reported chlamydia cases, by race and sex, by age group at diagnosis, Missouri, 2021



Note: Totals include persons diagnosed at <10 years of age or whose age at diagnosis is unknown.

Figure 29. Reported chlamydia cases by HIV care region and year of report, Missouri, 2017-2021



The largest numbers of chlamydia cases were reported among white females (8,647) (Figure 28). Among all race/ethnicity and sex categories presented the largest number of cases was reported among individuals 20-24 years of age at the time of diagnosis.

The number of reported chlamydia cases in Missouri was relatively stable from 2017 to 2019, then decreased slightly through 2021 (Figure 29). All HIV care regions reported an slight decrease in the number of chlamydia cases from 2018 to 2019. The Saint Louis HIV Care Region had the largest number of chlamydia cases.

Table 28. Reported hepatitis B[†] cases and rates, by race*, by HIV care region, by sex, Missouri, 2021

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	88	36.5%	3.6	37	17.0%	1.5	0	0.0
Black/African American	43	17.8%	12.7	49	22.5%	13.1	0	0.0
Other/Unknown*	110	45.6%	--	132	60.6%	--	0	--
Total	241	100.0%	8.0	218	100.0%	7.0	0	0.0
St. Louis HIV Care Region								
White	24	22.4%	3.2	11	11.1%	1.4	35	2.3
Black/African American	20	18.7%	10.8	26	26.3%	11.7	46	11.3
Other/Unknown*	63	58.9%	--	62	62.6%	--	125	--
Total	107	100.0%	10.7	99	100.0%	9.2	206	9.9
Kansas City HIV Care Region								
White	15	30.6%	3.5	8	13.8%	1.8	23	2.6
Black/African American	14	28.6%	15.4	16	27.6%	15.6	30	15.5
Other/Unknown*	20	40.8%	--	34	58.6%	--	54	--
Total	49	100.0%	8.4	58	100.0%	9.4	107	8.9
Northwest HIV Care Region								
White	3	50.0%	3.1	0	0.0%	0.0	3	1.5
Black/African American	1	16.7%	18.1	0	0.0%	0.0	1	12.0
Other/Unknown*	2	33.3%	--	2	100.0%	--	4	--
Total	6	100.0%	5.5	2	100.0%	1.9	8	3.7
Central HIV Care Region								
White	10	40.0%	2.7	2	11.8%	0.5	12	1.6
Black/African American	4	16.0%	16.0	4	23.5%	19.5	8	17.6
Other/Unknown*	11	44.0%	--	11	64.7%	--	22	--
Total	25	100.0%	5.9	17	100.0%	4.0	42	4.9
Southwest HIV Care Region								
White	24	66.7%	4.7	14	38.9%	2.6	38	3.6
Black/African American	2	5.6%	13.5	3	8.3%	29.4	5	19.9
Other/Unknown*	10	27.8%	--	19	52.8%	--	29	--
Total	36	100.0%	6.3	36	100.0%	6.2	72	6.3
Southeast HIV Care Region								
White	12	66.7%	85.9	2	33.3%	0.9	14	6.0
Black/African American	2	11.1%	12.0	0	0.0%	0.0	2	6.5
Other/Unknown*	4	22.2%	--	4	66.7%	--	8	--
Total	18	100.0%	45.8	6	100.0%	2.5	24	8.5

[†]Includes confirmed and probable case classifications of hepatitis B acute, hepatitis B chronic, hepatitis B prenatal, and hepatitis B perinatal.

There were 459 hepatitis B cases reported in 2021 (Table 28). Males were 53% of reported hepatitis B cases. The large proportion of cases with unknown race/ethnicity information makes it difficult to interpret differences in reported infections by race/ethnicity. There were 53% of hepatitis B cases with an other/unknown race/ethnicity. The Saint Louis HIV Care Region had 45% of cases. Overall, the rate of reported hepatitis B cases was highest in the St. Louis HIV Care Region (9.9 per 100,000).

Table 29. Reported hepatitis C[†] cases and rates, by race*, by HIV care region, by sex, Missouri, 2021								
	Male			Female			Total[‡]	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	1,525	51.6%	62.0	697	52.8%	28.3	2,222	45.1
Black/African American	292	9.9%	86.3	114	8.6%	30.6	406	57.1
Other/Unknown*	1,138	38.5%	--	508	38.5%	--	1,645	--
Total	2,955	100.0%	98.2	1,319	100.0%	42.1	4,273	69.6
St. Louis HIV Care Region								
White	160	27.9%	21.4	120	36.1%	15.4	280	18.3
Black/African American	145	25.3%	78.3	75	22.6%	33.7	220	53.9
Other/Unknown*	269	46.9%	--	137	41.3%	--	406	--
Total	574	100.0%	57.2	332	100.0%	30.9	906	43.6
Kansas City HIV Care Region								
White	173	51.0%	40.0	79	49.1%	17.5	252	28.5
Black/African American	33	9.7%	36.2	16	9.9%	15.6	49	25.3
Other/Unknown*	133	39.2%	--	66	41.0%	--	199	--
Total	339	100.0%	57.9	161	100.0%	26.1	500	41.6
Northwest HIV Care Region								
White	182	63.0%	187.6	27	58.7%	27.2	209	106.5
Black/African American	20	6.9%	362.9	1	2.2%	35.3	21	251.8
Other/Unknown*	87	30.1%	--	18	39.1%	--	105	--
Total	289	100.0%	265.3	46	100.0%	42.8	335	154.7
Central HIV Care Region								
White	479	61.0%	127.5	212	62.2%	55.4	691	91.1
Black/African American	44	5.6%	175.8	15	4.4%	73.3	59	129.6
Other/Unknown*	262	33.4%	--	114	33.4%	--	376	--
Total	785	100.0%	184.7	341	100.0%	79.9	1,126	132.2
Southwest HIV Care Region								
White	265	55.0%	51.6	183	59.6%	34.6	448	43.0
Black/African American	6	1.2%	40.4	2	0.7%	19.6	8	31.9
Other/Unknown*	211	43.8%	--	122	39.7%	--	333	--
Total	482	100.0%	84.4	307	100.0%	53.0	789	68.6
Southeast HIV Care Region								
White	266	54.8%	1904.9	76	57.6%	34.7	342	146.9
Black/African American	44	9.1%	265.0	5	3.8%	34.9	49	158.4
Other/Unknown*	175	36.1%	--	51	38.6%	--	226	--
Total	485	100.0%	1234.3	132	100.0%	54.6	617	219.6
[†] Includes confirmed and probable case classifications of hepatitis C acute and hepatitis C chronic. [*] Includes cases identified with Hispanic ethnicity. [‡] Includes persons with unknown or other sex. ^{**} Per 100,000 population based on 2020 DHSS population estimates.								

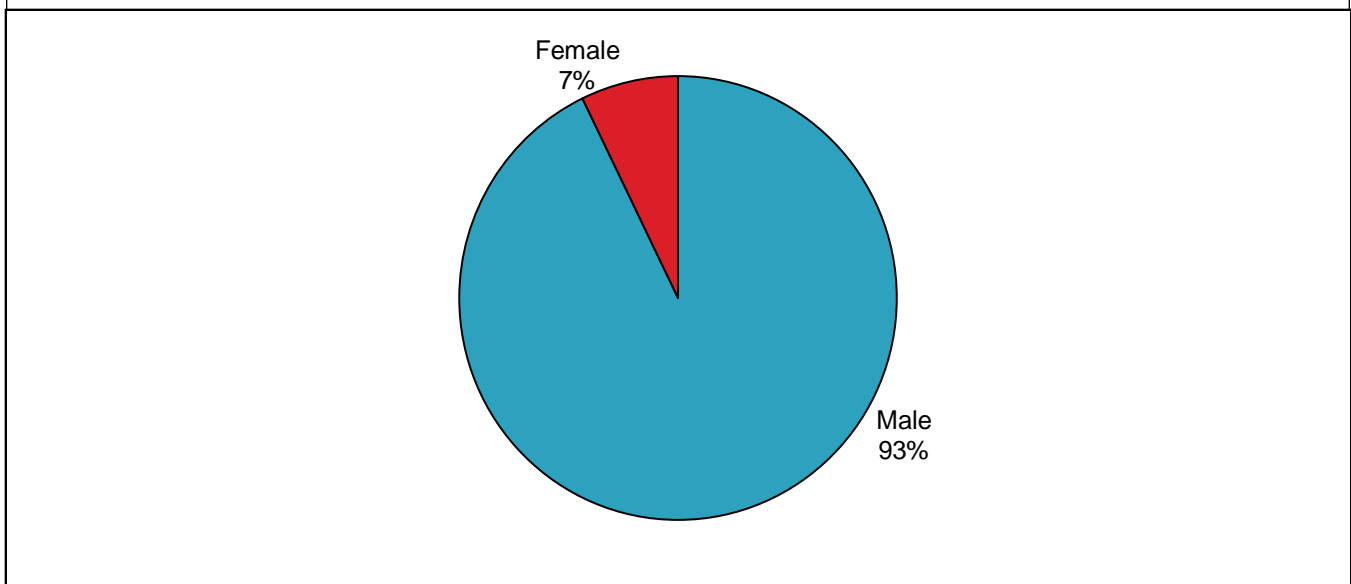
There were 4,273 hepatitis C cases reported in 2021 (Table 29). In Missouri overall, 69% of the reported cases were males. The large proportion of cases with unknown race/ethnicity (38%) information makes it difficult to analyze. There were 52% reported hepatitis C cases were Black/African Americans. For the HIV Care Regions, Central HIV Care Region had the largest proportion of cases with 26%. Overall, the rate of reported hepatitis C cases was highest in the Southeast HIV Care Region (219.6 per 100,000).

Table 30. HIV and STD co-infections, Missouri, 2021

Co-infection	Diagnosed with HIV Prior to 2021		Diagnosed with HIV in 2021		Total	
	N	%	N	%	N	%
Chlamydia	173	23.1%	22	14.4%	195	21.6%
Gonorrhea	210	28.0%	41	26.8%	251	27.8%
Syphilis*	178	23.7%	37	24.2%	215	23.8%
Chlamydia and Gonorrhea	111	14.8%	32	20.9%	143	15.8%
Chlamydia and Syphilis*	22	2.9%	6	3.9%	28	3.1%
Gonorrhea and Syphilis*	24	3.2%	8	5.2%	32	3.5%
Chlamydia, Gonorrhea, and Syphilis*	32	4.3%	7	4.6%	39	4.3%
Total	750	100.0%	153	100.0%	903	100.0%

*Only includes diagnoses of primary, secondary, and early latent syphilis.

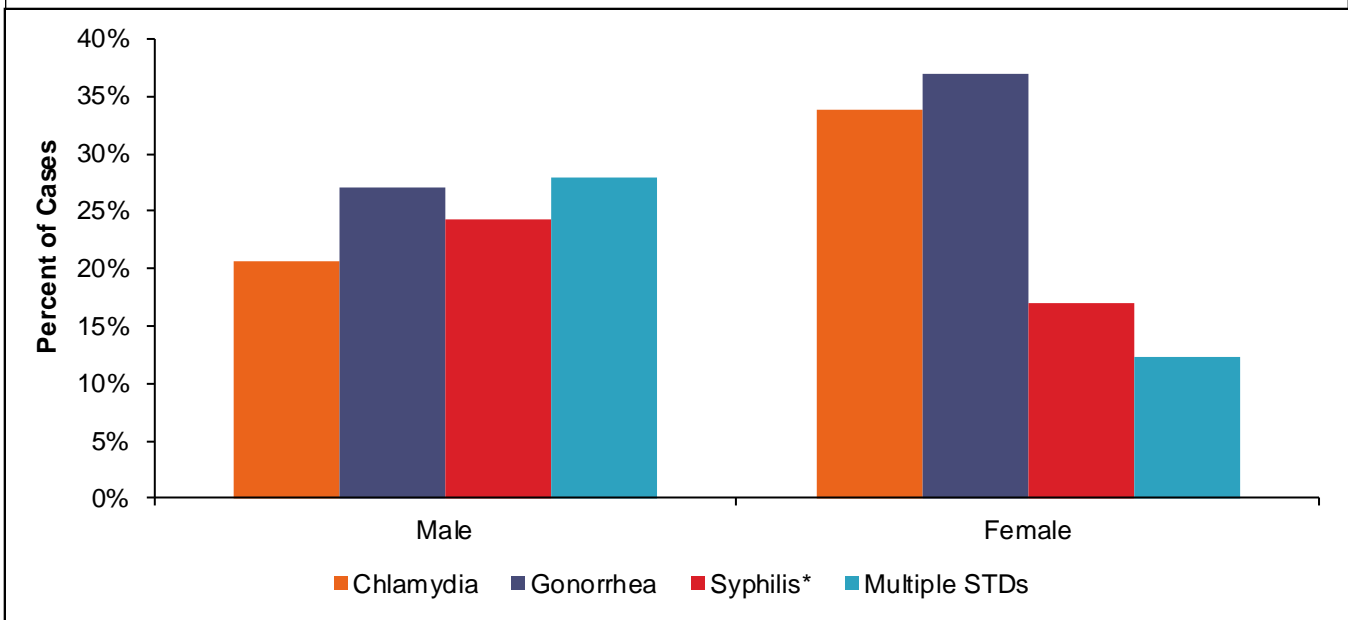
Figure 34. HIV and STD co-infections by sex, Missouri, 2021



Of the those living or newly diagnosed with HIV disease, 903 were reported with an STD co-morbidity in 2021 (Table 30). The majority of those reported with an STD co-morbidity were diagnosed with HIV prior to 2021 (83%). There were not significant differences in the type of STD co-morbidity diagnosed based on when the individual was diagnosed with HIV. The largest numbers of HIV co-morbidities were with gonorrhea.

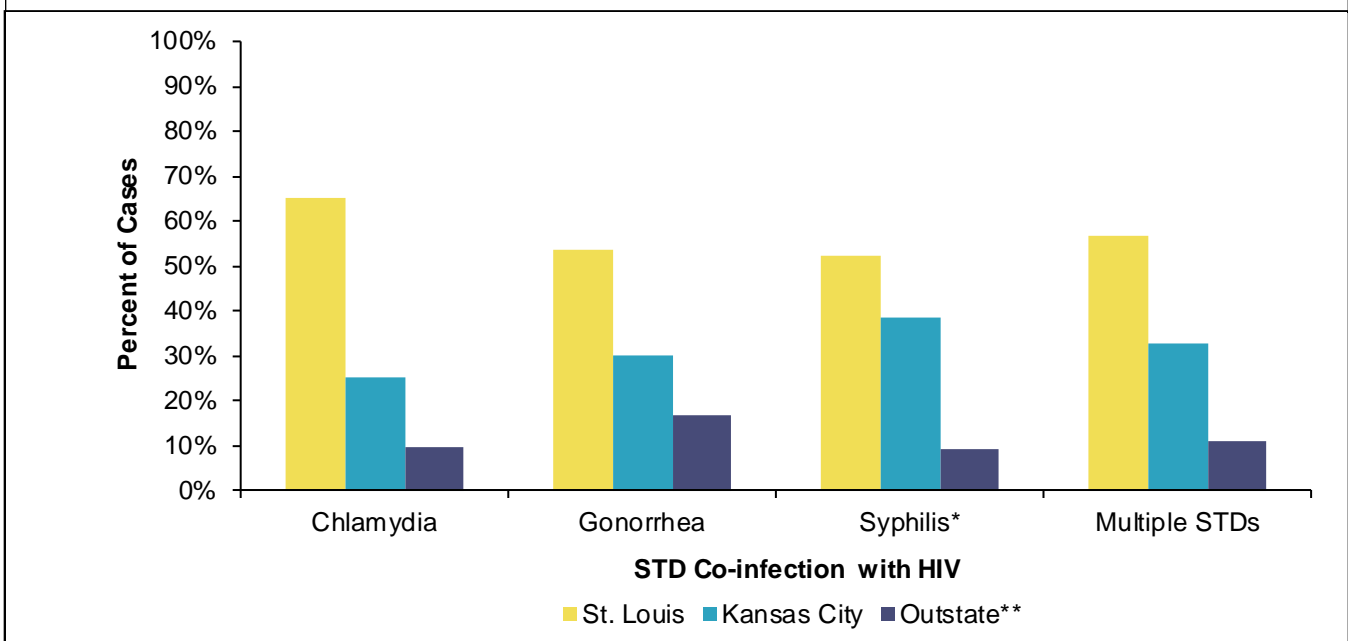
Of the 903 reported STD co-morbidity cases, 93% were among males (Figure 34). Males represented a higher proportion of the STD co-morbidity cases (93%) compared to all males living with HIV disease (82%).

Figure 35. HIV and STD co-infections by sex and type of co-infection, Missouri, 2021



*Only includes diagnoses of primary, secondary, and early latent syphilis.

Figure 36. HIV and STD co-infections by HIV care region of STD diagnosis, Missouri, 2021



*Only includes diagnoses of primary, secondary, and early latent syphilis.

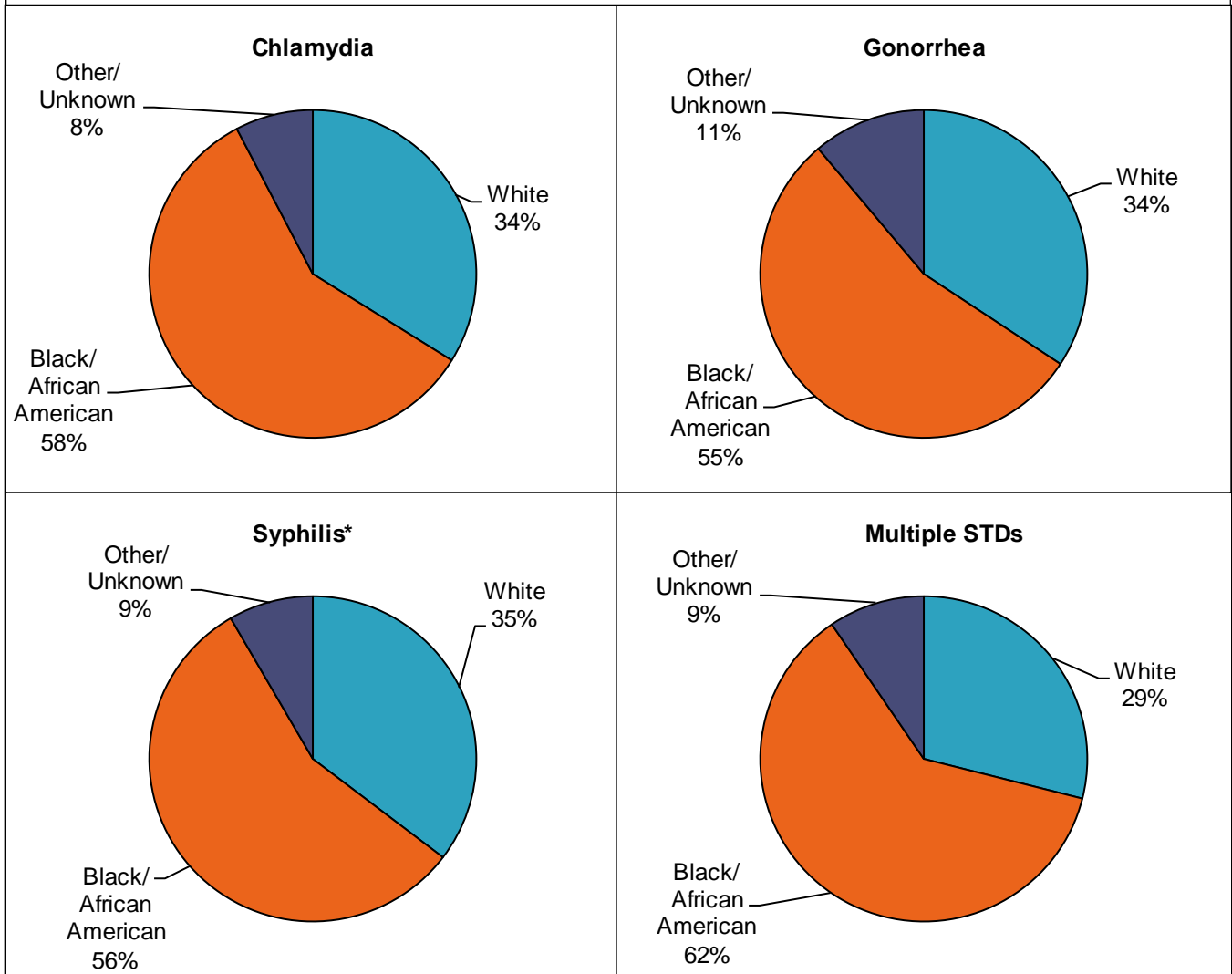
**Includes those diagnosed in the Central, Northwest, Southeast, and Southwest HIV Care Regions.

Note: Percentages may not total due to rounding.

There were differences in the distribution of STD co-morbidity types by sex (Figure 35). Among females living with HIV that were reported with an STD co-morbidity in 2021, 37% were co-infected with gonorrhea, 34% with chlamydia, 12% with multiple STDs, and 17% with syphilis. In contrast, among males living with HIV reported with an STD co-morbidity in 2021, only 27% were co-infected with gonorrhea, 21% with chlamydia, 28% with multiple STDs, and 24% with early syphilis. Due to rounding, the proportion may not total to 100%.

Among all HIV and STD co-morbidity types, the greatest proportion of cases was diagnosed in the St. Louis HIV Care Region (Figure 36). Among those living with HIV that were reported with chlamydia in 2021, 65% were residents of the St. Louis HIV Care Region when diagnosed with chlamydia. The St. Louis HIV Care Region represented 53% of all living HIV cases reported with gonorrhea in 2021, 52% of those with syphilis, and 57% of those with multiple STD co-morbidities. In St. Louis, STD co-morbidity with HIV was highest for chlamydia, while in Kansas City, STD co-morbidity with HIV was highest for syphilis.

Figure 37. HIV and STD co-infections by race/ethnicity and type of co-infection, Missouri, 2021



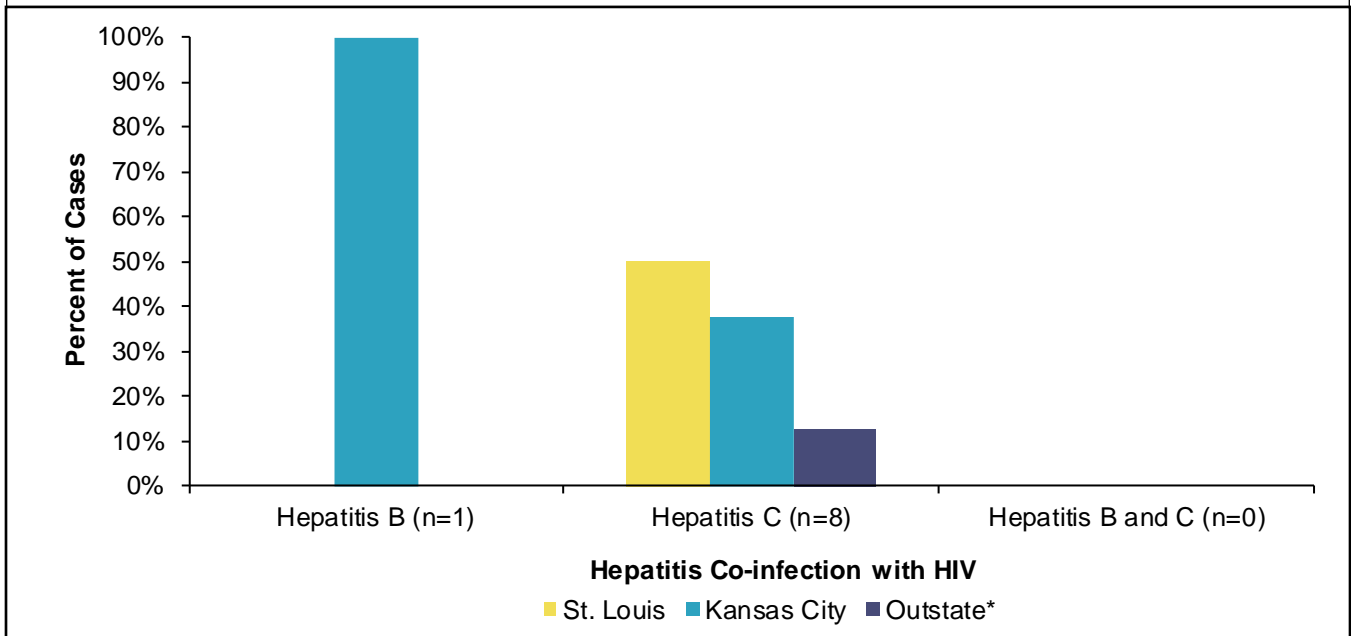
*Only includes diagnoses of primary, secondary, and early latent syphilis.

The largest proportion of HIV cases and STD co-infection were attributed to Blacks/African Americans. Black/African Americans had the highest proportion among those co-infected with multiple STDs (62%) (Figure 37). In all instances, minorities were disproportionately represented in the proportion of co-morbidities that were reported. Although Blacks/African Americans represented 47% of living HIV disease cases, they represented 58% of individuals diagnosed with an STD co-morbidity.

Table 31. Reported hepatitis B and C infections among persons living with HIV disease, Missouri, 2021

Co-infection	Diagnosed with HIV Prior to 2021	Diagnosed with HIV in 2021	Total Co-infections
	N	N	N
Acute Hepatitis B	0	0	0
Chronic Hepatitis B	11	1	12
Prenatal Hepatitis B	0	1	1
Perinatal Hepatitis B	0	0	0
Acute Hepatitis C	1	0	1
Chronic Hepatitis C	22	14	36
Chronic Hepatitis B & C	0	0	0
Total	34	16	50

Figure 38. HIV and hepatitis co-infections by HIV care region of hepatitis diagnosis, Missouri, 2021

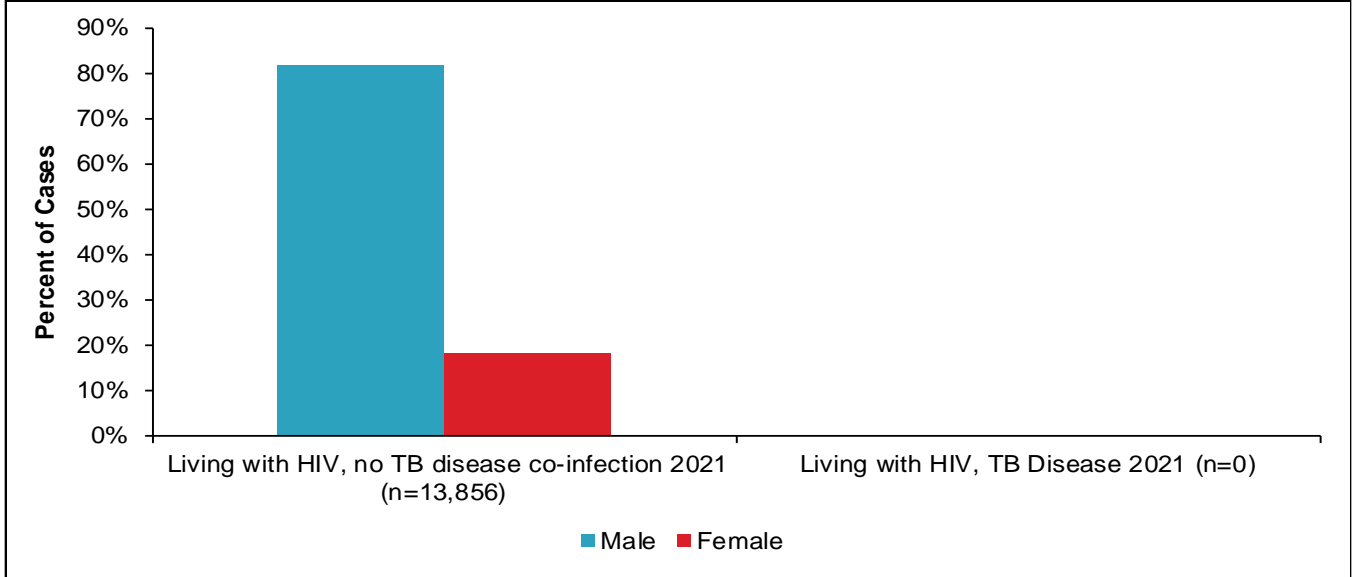


*Includes those diagnosed in the Central, Northwest, Southeast, and Southwest HIV Care Regions.

Of the 13,856 individuals living with HIV disease, 50 were reported with a hepatitis co-infection in 2021 (Table 31). The majority of those reported with a hepatitis co-morbidity were diagnosed with HIV prior to 2021 (68%). The largest number of HIV co-morbidities was with chronic hepatitis C.

Among persons living with HIV disease that were reported with only a hepatitis B infection in 2021, the greatest proportion were residing in the Kansas City HIV Care Region (100%) at the time of the hepatitis diagnosis (Figure 38). Among HIV-positive persons reported with only a hepatitis C infection in 2021, the greatest proportion were residing in the St. Louis and Kansas City HIV Care Region (88%) at the time of the hepatitis diagnosis.

Figure 39. HIV and TB disease co-infections by sex, Missouri, 2021



Among those living with HIV disease, none were reported to be diagnosed with TB disease in 2021 (Figure 39).

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Key Highlights: What are the HIV service utilization patterns of individuals with HIV disease in Missouri?

Magnitude of the Problem

- Overall, 66.4% of Missourians living with HIV disease had their primary care medical needs met (i.e., evidence of a CD4 lymphocyte or viral load test or diagnosis with an opportunistic infection in 2019).
- Persons enrolled in HIV medical case management were significantly more likely to have their primary care medical needs met. Of the 13,378 persons living with HIV disease in Missouri, 5,380 (40.2%) were enrolled in medical case management at some point in 2019. Eighty-nine percent (89%) of individuals in case management had their primary care medical needs met in 2019.
- Persons living with HIV who were subcategorized as stage 3 (AIDS) cases in 2019 were more likely to have their medical needs met (71.5%) compared to persons subcategorized as HIV cases (61.4%). Similar patterns were seen regardless of whether the individuals were enrolled in HIV medical case management.
- Enrollment in HIV medical case management and current diagnostic status (i.e., HIV or stage 3 (AIDS)) were important factors influencing unmet need.

Where

- Overall, the proportion of individuals with a met need was greatest in the Northwest and Southeast HIV Care Regions (68.5% and 68.0%), and lowest in the Kansas City HIV Care Region (64.6%).
- Among those enrolled in HIV medical case management, the proportion with a met need ranged from 83.0% in the Northwest HIV Care Region to 93.5% in the Southwest HIV Care Regions.
- For those not enrolled in HIV medical case management, the proportion with a met need ranged from 47.8% in the Southwest HIV Care Region to 60.0% in the Northwest HIV Care Region.

Who

Sex

- Overall, females not in case management was more likely to have unmet need than males, after controlling for factors such as enrollment in HIV medical case management, and current diagnostic status (i.e., HIV or stage 3 (AIDS)).

Race/Ethnicity

- Unmet need tended to be greater among minority populations, although factors such as case management and diagnostic status influenced the relationship between race and unmet need.
- Among persons diagnosed in 2018-2019, the likelihood of entering care was lower for blacks/African Americans than other races.

Age

- There were differences in unmet need by current age among individuals enrolled in HIV medical case management. Unmet need was greatest among individuals 25-44 years of age (15.4%).
- There were differences in unmet need by current age among individuals not enrolled in HIV medical case management. Unmet need was greatest among individuals 45-64 years of age (49.5%).

Exposure Category

- Unmet need by exposure category varied depending upon enrollment in medical case management and current diagnosis status.

Glossary

Case rate

The frequency of a defined event in a specified population for a given time period, usually expressed as the number of cases per 100,000 people in a population. Case rate is calculated by dividing the number of cases in the population of interest by the total number of people in the population. Then multiplying by 100,000 to get the rate per 100,000.

Case definition for stage 3 (AIDS)

All HIV-infected people six years and older who have fewer than 200 CD4⁺ T cells per cubic millimeter of blood, all HIV-infected people between the ages of one to five who have fewer than 500 CD4⁺ T cells per cubic millimeter of blood, and HIV-infected individuals under the age of one who have less than 750 CD4⁺ T cells per cubic millimeter of blood (healthy adults usually have 800 to 1,200, with 1,000 the average). In addition, the definition includes 26 clinical conditions that affect people with advanced HIV disease. Most of these conditions are opportunistic infections that generally do not affect healthy people. For additional information, visit http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6303a1.htm?s_cid=rr6303a1_e.

CD4⁺ T cells

This is a white blood cell with CD4 molecules on its surface. These cells play an important role in the human immune system. Sometimes referred to as “helper” cells, they orchestrate the body's response to certain microorganisms such as viruses. HIV virus particles attack and utilize these cells to multiply.

Cumulative number of cases

The number of all cases diagnosed with a particular condition including living and deceased individuals in a specified area.

Date of diagnosis

The date a laboratory makes a diagnosis based on the chemical analysis of a specimen.

Epidemic

The “occurrence in a community or region of cases of an illness, specified health-related behavior, or other health-related events clearly in excess of normal expectancy.”

Highly active antiretroviral therapy (HAART)

This is a treatment protocol using a combination of antiretroviral drugs to suppress the HIV virus. These drugs consist of four basic classes depending on their method of suppression: reverse transcriptase (RT) inhibitors, protease inhibitors (PI), fusion inhibitors, entry inhibitors, and integrase inhibitors.

HIV case

It refers to an individual who has been infected with the human immunodeficiency virus (HIV) that is in the early stages of the disease process and has not met the case definition for stage 3 (AIDS).

HIV disease case

This includes all individuals who have been infected with the human immunodeficiency virus (HIV). Cases can be sub-classified into either HIV cases or stage 3 (AIDS) cases.

Incidence

The number of new cases of a specified condition diagnosed within a given time. The calendar year is used in the *Profiles* to calculate incidence.

Incidence rate

The number of new cases diagnosed in a specified population for a given time period, usually expressed as the number of cases per 100,000 people in a population. Incidence rate is calculated by dividing the number of new cases in the population of interest by the total number of people in that population. Then multiplying by 100,000 to get the rate per 100,000.

Modes of transmission

Also referred to as **exposure categories**, this term refers to the way in which an individual acquired the HIV virus. The most common modes of transmission are: men who have sex with men (MSM), heterosexual contact, injection drug users (IDUs), men who have sex with men and practice injection drug use (MSM/IDUs), hemophilia/coagulation disorder, and blood transfusion or tissue recipients.

Point prevalence

This refers to the number of persons living with a specified condition at a given point in time. December 31st, is used for the *Profiles* to calculate the number of persons living with HIV or stage 3 (AIDS) for each year.

Prevalence rate

The number of individuals living with the specified condition in a specified population for a given time period, usually expressed as the number of cases per 100,000 people in a population. A prevalence rate is calculated by dividing the number of living cases in the population of interest by the total number of people in that population. Then multiplying by 100,000 to get the rate per 100,000.

Sexually Transmitted Infections

Sexually transmitted infections (STIs), commonly called **sexually transmitted diseases (STDs)** and once called venereal diseases, are among the most common infectious diseases in the United States today. They are a group of infections that are predominantly transmitted through sexual activity.

Sexually Transmitted Infections and the Organisms Responsible

Disease	Organism(s)
Acquired Immunodeficiency Syndrome (AIDS)	Human immunodeficiency virus
Chlamydial infections	Chlamydia trachomatis
Gonorrhea	Neisseria gonorrhoeae
Syphilis	Treponema pallidum

Stage 3 (AIDS) case

This refers to an individual who has been infected with human immunodeficiency virus (HIV) that is in the later stages of the disease process and has met the case definition for acquired immunodeficiency syndrome (AIDS).