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2020 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 2020. 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 2020 *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 2020. 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

MDHSS 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, 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 is only representative of people who seek HIV testing at publicly funded testing sites. The data is 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 in which 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://wwwdasis.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/healthyyouth/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 is 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.

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.

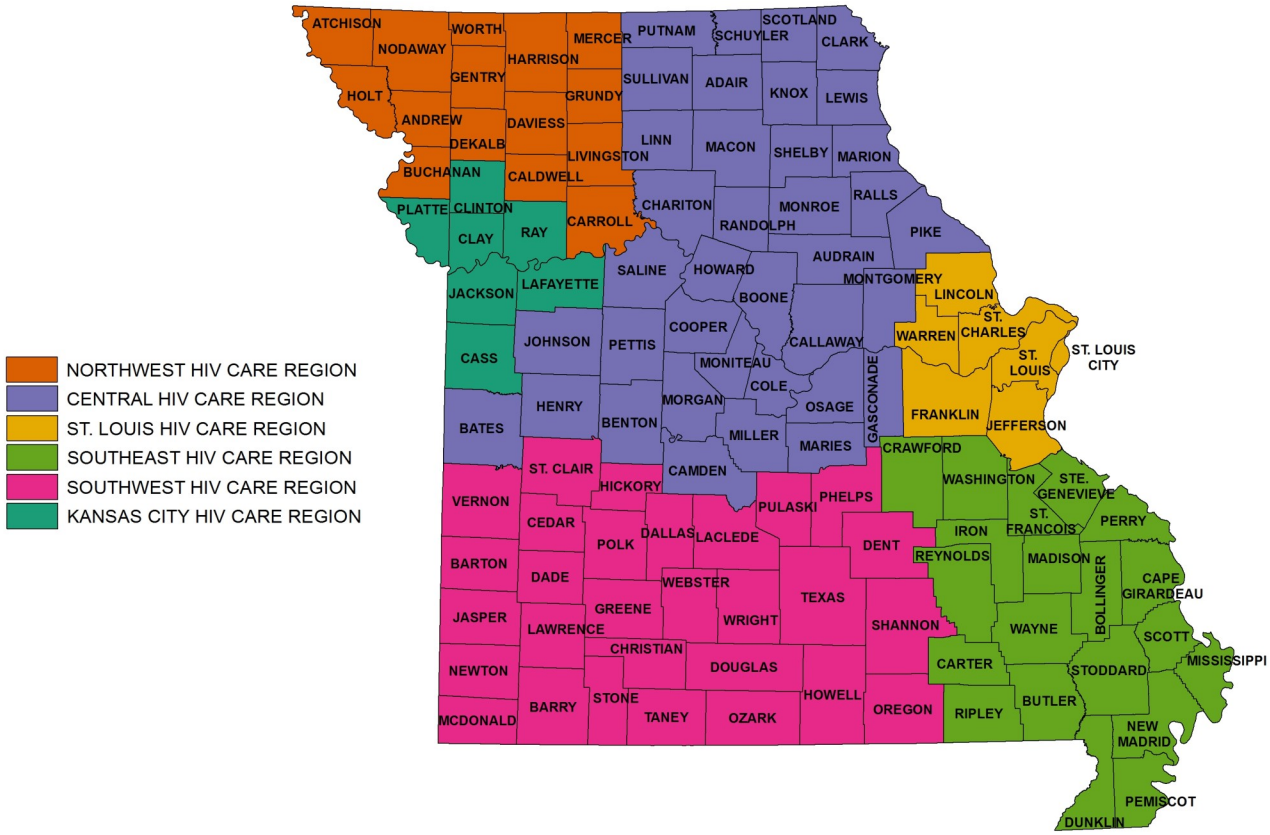
Anonymous Testing: The data does not include cases of HIV infection reported or diagnosed in persons anonymously tested at the state's four anonymous testing sites in St. Louis City, Kansas City, Springfield and Columbia.

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 (BHSH), 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

HIV Care Region. In 2019, the Kansas City HIV Care Region counties Johnson, Bates, Henry, and Benton Counties were moved into the Central HIV Care Region. As a result of these changes regional data before the 2019 *Profiles* should not be compared to previous *Profiles*. Additionally, calculations for the past ten years were recalculated using the HIV care regions at the regional level in order to accurately display trends over time in the 2020 *Profiles*.

MISSOURI HIV CARE REGIONS



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

CPPG=Comprehensive Prevention Planning Group

DHSS=Missouri Department of Health and Senior Services

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

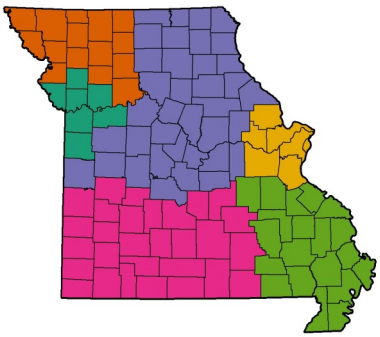
STD=Sexually Transmitted Disease

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	1,028,672	600,226	111,186	439,004	586,338	242,546	**3,007,972**
Female	1,091,841	639,044	109,682	447,046	594,889	246,954	**3,129,456**
Total	**2,120,513**	**1,239,270**	**220,868**	**886,050**	**1,181,227**	**489,500**	6,137,428
Race/Ethnicity							
White	1,529,345	884,297	196,223	758,503	1,042,188	432,875	**4,843,431**
Black/African American	407,883	193,603	8,340	45,508	25,068	30,936	**711,338**
Hispanic	65655	96206	8880	29707	56424	11565	**268,437**
Asian/Pacific Islander	70,543	23,773	2,111	14,395	16,342	3,456	**130,620**
American Indian/Alaskan Native	4,162	5,292	944	3,622	10,944	2,090	**27,054**
Two or More Races/Other Race	42,925	36,099	4,370	34,315	30,261	8,578	**156,548**
Total	**2,120,513**	**1,239,270**	**220,868**	**886,050**	**1,181,227**	**489,500**	6,137,428
Race/Ethnicity-Males							
White Male	749,011	432,563	97,013	375,719	513,860	213,964	**2,382,130**
Black/African American Male	185,287	91,056	5,511	25,031	14,861	16,602	**338,348**
Hispanic Male	33,822	48,596	4,857	15,527	29,674	6,109	**138,585**
Asian/Pacific Islander Male	34,141	11,143	1,048	6,768	7,394	1,575	**62,069**
American Indian/Alaskan Native Male	2,039	2,615	485	1,882	5,553	1,045	**13,619**
Two or More Races/Other Race Male	24,372	14,253	2,272	14,077	14,996	3,251	**73,221**
Total	**1,028,672**	**600,226**	**111,186**	**439,004**	**586,338**	**242,546**	3,007,972
Race/Ethnicity-Females							
White Female	780,334	451,734	99,210	382,784	528,328	218,911	**2,461,301**
Black/African American Female	222,596	102,547	2,829	20,477	10,207	14,334	**372,990**
Hispanic Female	31,833	47,610	4,023	14,180	26,750	5,456	**129,852**
Asian/Pacific Islander Female	36,402	12,630	1,063	7,627	8,948	1,881	**68,551**
American Indian/Alaskan Native Female	2,123	2,677	459	1,740	5,391	1,045	**13,435**
Two or More Races/Other Race Female	18,553	21,846	2,098	20,238	15,265	5,327	**83,327**
Total	**1,091,841**	**639,044**	**109,682**	**447,046**	**594,889**	**246,954**	3,129,456
Age							
<2	48,475	30,456	4,948	20,161	27,893	11,213	**143,146**
2-12	283,990	178,604	29,208	116,084	163,075	66,684	**837,645**
13-18	157,817	96,481	16,497	66,368	91,503	37,511	**466,177**
19-24	149,531	84,500	19,568	89,926	105,703	35,893	**485,121**
25-44	564,607	343,735	54,019	213,380	285,834	118,051	**1,579,626**
45-64	557,200	313,056	55,361	219,432	290,416	128,211	**1,563,676**
65+	358,893	192,438	41,267	160,699	216,803	91,937	**1,062,037**
Total	**2,120,513**	**1,239,270**	**220,868**	**886,050**	**1,181,227**	**489,500**	6,137,428

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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 2020, there have been a total of 22,526 persons diagnosed with HIV disease in Missouri and reported to DHSS. Of these individuals, 14,615 (64.9%) were subcategorized as stage 3 (AIDS) cases, and the remaining 7,911 (35.1%) were subcategorized as HIV cases. Of the cumulative number of persons diagnosed with HIV disease, 13,554 (60.2%) were presumed to be living at the end of 2020.
- The number of new diagnoses has fluctuated slightly between 2010 and 2020, with no sustained upward or downward trend in new HIV diagnoses over this time period. In 2020, there were 393 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 10,460 persons in 2010 to 13,554 persons in 2020. 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 2020 was highest in St. Louis City (18.3 per 100,000). The second highest rate was in St. Louis County (6.7 per 100,000) followed closely by Kansas City (6.4 per 100,000). The rate of persons newly diagnosed who were classified as stage 3 (AIDS) cases at the end of 2020 was highest in St. Louis City (4.0 per 100,000).

Who

Sex

- Males represented the majority of persons newly diagnosed and living with HIV disease. The rates of persons living with HIV disease were around 3.6 times as high among males compared to females. The rates of newly diagnosed with HIV disease were around 4.8 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 7.5 times as high as whites, and 3.3 times as high among Hispanics compared to whites. The disparity was even greater among Black/African American females with the newly diagnosed representing 50.6% 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 2011, the largest numbers of persons living with HIV disease were 45-49 years of age, whereas in 2020 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 2011, the largest numbers of persons newly diagnosed with HIV disease were between 19-24 years of age**,** compared to 2020 when the largest numbers of new diagnoses were 25-29 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—2020

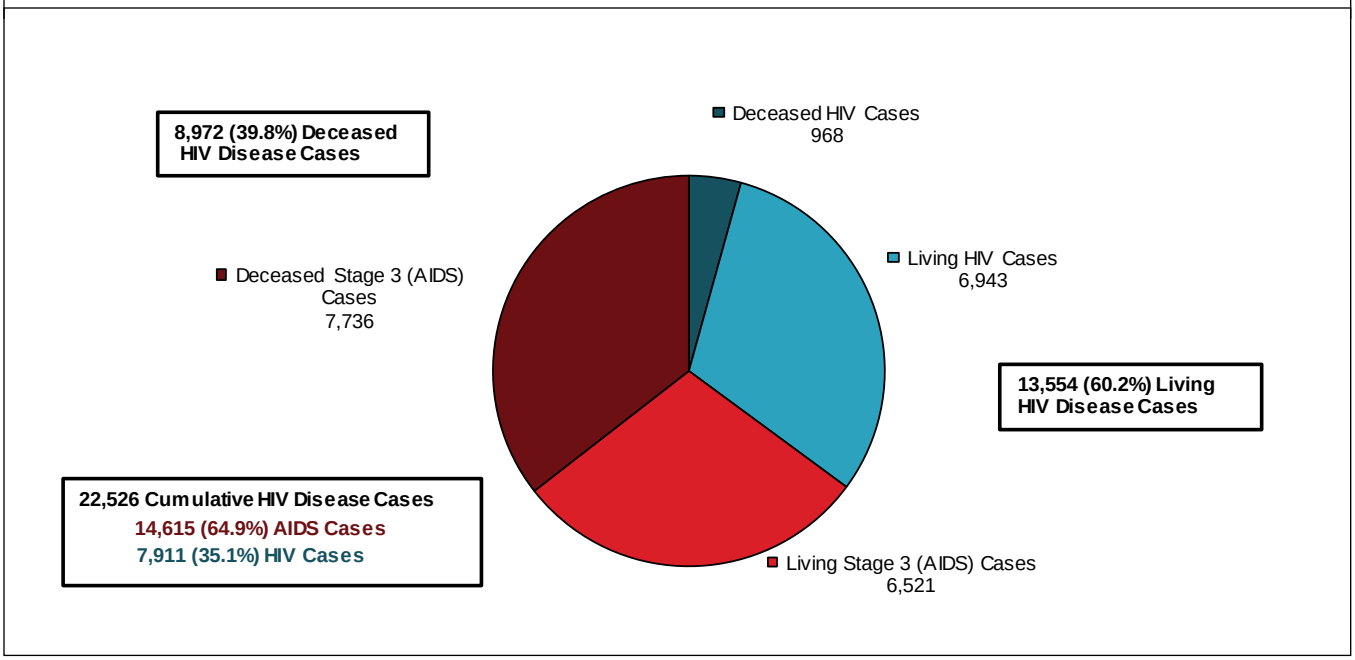
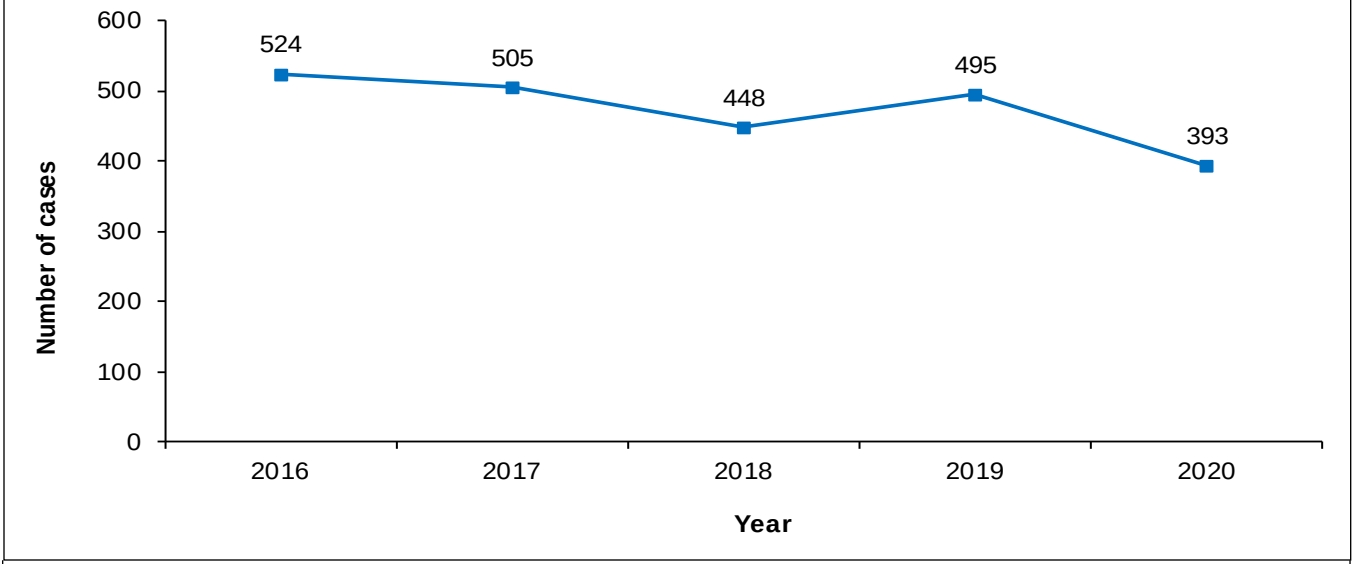


Figure 2. Living and new HIV disease cases and deaths by year*, Missouri, 2016—2020

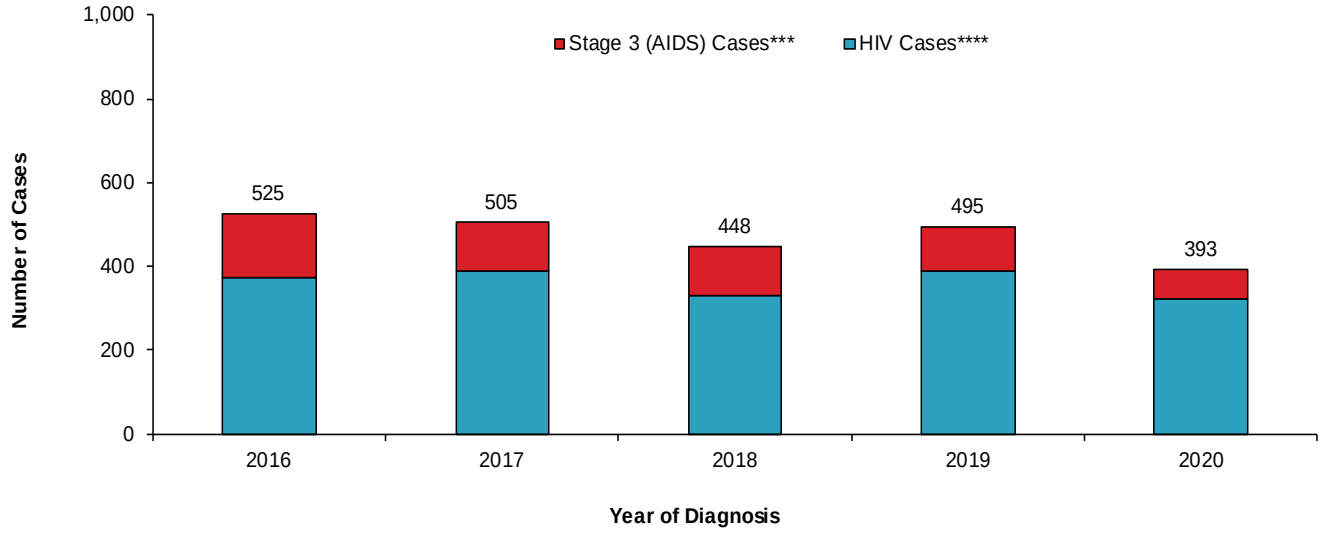


*For living HIV disease cases-the number of individuals living with HIV disease at the end of the year; For new HIV disease cases-the number of individuals newly diagnosed in the year; For HIV disease deaths-the number of individuals that died in the year.

From 1985 to 2020, there have been a total of 22,526 HIV disease cases diagnosed in Missouri and reported to DHSS (Figure 1). Of the cumulative cases reported, 60.2% were still presumed to be living with HIV disease at the end of 2020. Among those living with HIV disease, 7,911 were classified as HIV cases at the end of 2020 and 14,615 were classified as stage 3 (AIDS) cases.

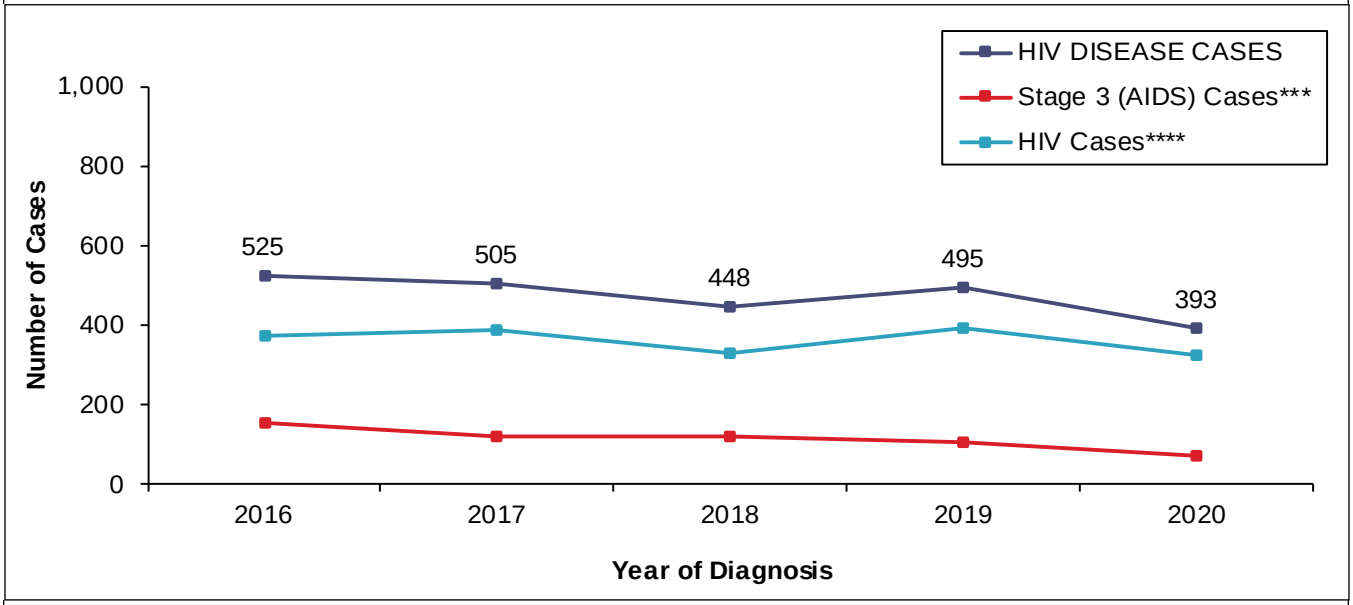
At the end of 2020, there were 13,554 persons living with HIV disease whose most recent diagnosis occurred in Missouri (Figure 2). The number of people living with HIV disease increased each year. There were 393 new HIV disease diagnoses in 2020. The number of new diagnoses from 2016 to 2020 has fluctuated with 524 cases in 2016 to 393 cases in 2020. The number of deaths among persons with HIV disease each year has remained generally steady. The lower number of deaths in 2020 was likely due to delays in death reporting.

Figure 3. HIV disease cases, by current status* and year of diagnosis, Missouri, 2016-2020**



*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, 2020.

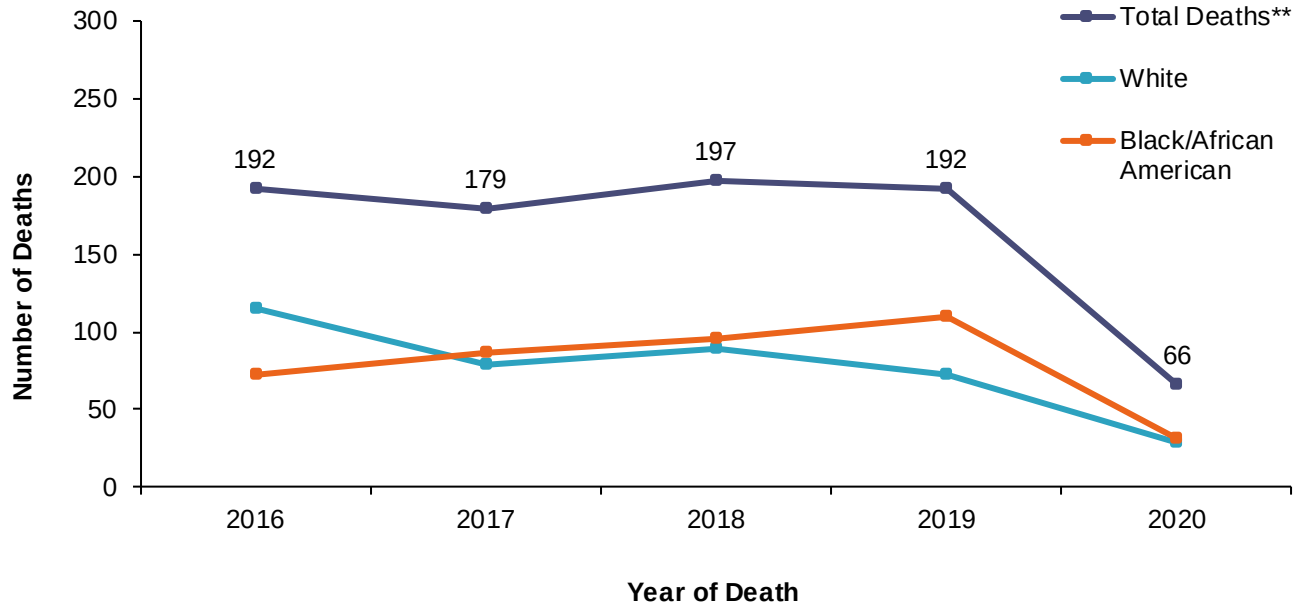
Figure 4. Reported HIV disease cases, by current status* and year of diagnosis, Missouri, 2016-2020**



*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, 2020.

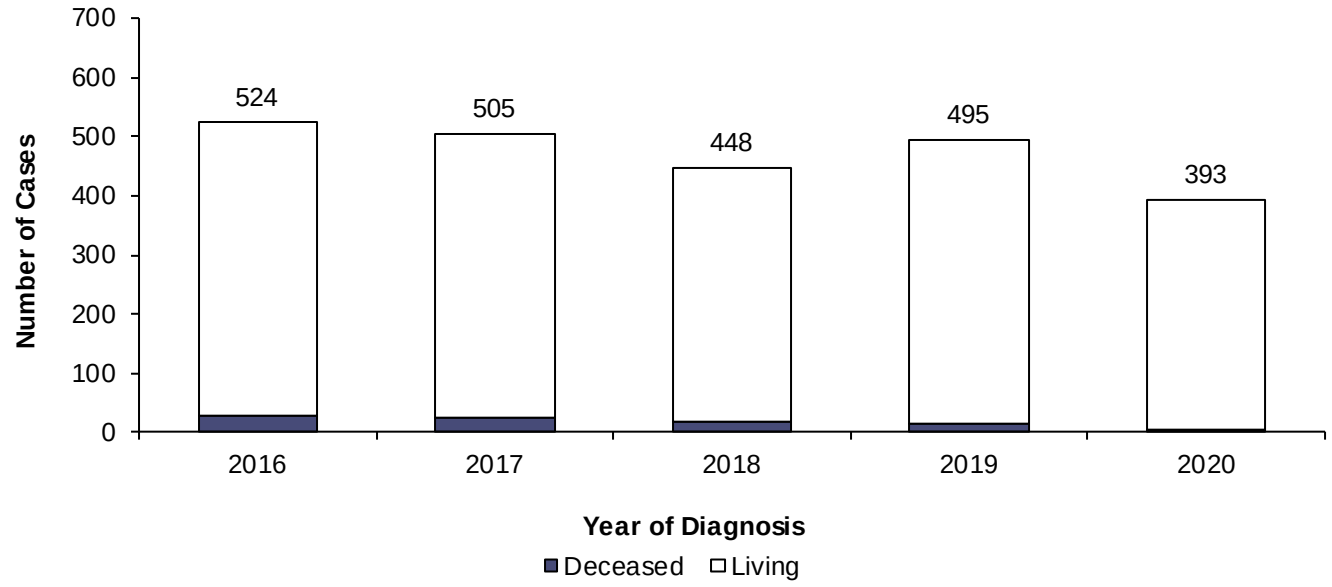
Between 2016 and 2020, the number of new HIV disease diagnoses has ranged from 525 cases in 2016, to 393 cases in 2020 (Figures 3 and 4). The number of new diagnoses has fluctuated slightly between 2016 and 2020, with no sustained upward or downward trend in new HIV diagnoses over this time period. However, 2020 is slightly lower than previous years, but we have to interpret this number in caution due to COVID pandemic. 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 2016, a larger number are currently classified as stage 3 (AIDS) cases compared to those diagnosed in 2020 because they have been living with the virus longer.

Figure 5. HIV disease deaths*, by selected race, by year of death, Missouri, 2016—2020†**



*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, 2020, and reported by February 28, 2021.

Figure 6. Persons diagnosed with HIV disease by current vital status* and year of diagnosis, Missouri, 2016—2020**



*Vital status on December 31, 2020.
**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 2016 and 2020, but then decreases drastically in 2020 (Figure 5). There was a decrease in deaths from 2016 to 2017 from 192 to 179. The lower number of deaths through 2020 is likely due to delays in death reporting. Of the 524 persons diagnosed with HIV disease in 2016, 29 (5.53%) were deceased by the end of 2020 (Figure 6). Among the 393 cases first diagnosed in 2020, 3 (0.76%) were deceased at the end of 2020. 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, 2020

	HIV*			Stage 3 (AIDS)**			HIV Disease***		
	Cases	%	Rate****	Cases	%	Rate****	Cases	%	Rate****
Sex									
Male	5,662	81.5%	188.2	5,456	83%	181.4	11,118	82.0%	369.6
Female	1,281	18.5%	40.9	1,155	17%	36.9	2,436	18.0%	77.8
Total	**6,943**	**100.0%**	**113.1**	**6,611**	**100%**	**107.7**	**13,554**	**100.0%**	**220.8**
Race/Ethnicity									
White	3,193	46.0%	65.9	3,072	47%	63.4	6,265	46.2%	129.4
Black/African American	3,160	45.5%	444.2	3,021	46%	424.7	6,181	45.6%	868.9
Hispanic	361	5.2%	134.5	328	5%	122.2	689	5.1%	256.7
Asian/Pacific Islander	65	0.9%	49.8	42	1%	32.2	107	0.8%	81.9
American Indian/Alaskan Native	8	0.1%	29.6	3	0%	11.1	11	0.1%	40.7
Two or More Races/Unknown	156	2.2%	99.6	139	2%	88.8	295	2.2%	188.4
Total	**6,943**	**100.0%**	**113.1**	**6,605**	**100%**	**107.6**	**13,548**	**100.0%**	**220.7**
Race/Ethnicity-Males									
White Male	2,783	49.2%	116.8	2,734	50%	114.8	5,517	49.6%	231.6
Black/African American Male	2,384	42.1%	704.6	2,300	42%	679.8	4,684	42.1%	1384.4
Hispanic Male	312	5.5%	225.1	278	5%	200.6	590	5.3%	425.7
Asian/Pacific Islander Male	52	0.9%	83.8	28	1%	45.1	80	0.7%	128.9
American Indian/Alaskan Native Male	8	0.1%	58.7	3	0%	22.0	11	0.1%	80.8
Two or More Races/Unknown Male	123	2.2%	168.0	113	2%	154.3	236	2.1%	322.3
Total	**5,662**	**100.0%**	**188.2**	**5,456**	**100%**	**181.4**	**11,118**	**100.0%**	**369.6**
Race/Ethnicity-Females									
White Female	410	32.0%	16.7	338	29%	13.7	748	30.7%	30.4
Black/African American Female	776	60.6%	208.0	721	62%	193.3	1,497	61.5%	401.4
Hispanic Female	49	3.8%	37.7	50	4%	38.5	99	4.1%	76.2
Asian/Pacific Islander Female	13	1.0%	19.0	14	1%	20.4	27	1.1%	39.4
American Indian/Alaskan Native Female	0	0.0%	0.0	0	0%	0.0	0	0.0%	0.0
Two or More Races/Unknown Female	33	2.6%	39.6	32	3%	38.4	65	2.7%	78.0
Total	**1,281**	**100.0%**	**40.9**	**1,155**	**100%**	**36.9**	**2,436**	**100.0%**	**77.8**
Current Age‡									
<2	1	0.0%	0.7	0	0%	0.0	1	0.0%	0.7
2-12	16	0.2%	1.9	2	0%	0.2	18	0.2%	2.1
13-18	47	0.7%	10.1	4	0%	0.9	51	0.5%	10.9
19-24	318	4.6%	65.6	43	1%	8.9	361	3.5%	74.4
25-44	3,278	47.2%	207.5	617	19%	39.1	3,895	38.0%	246.6
45-54	2,791	40.2%	178.5	1,872	57%	119.7	4,663	45.5%	298.2
65+	492	7.1%	46.3	772	23%	72.7	1,264	12.3%	119.0
Total	**6,943**	**100.0%**	**113.1**	**3,310**	**100%**	**53.9**	**10,253**	**100.0%**	**167.1**

†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 2020
**Cases classified as stage 3 (AIDS) by December 31, 2020.
***The sum of HIV cases and stage 3 (AIDS) cases.
****Per 100,000 population based on 2019 DHSS estimates.
‡Based on age as of December 31, 2020.
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, 2020

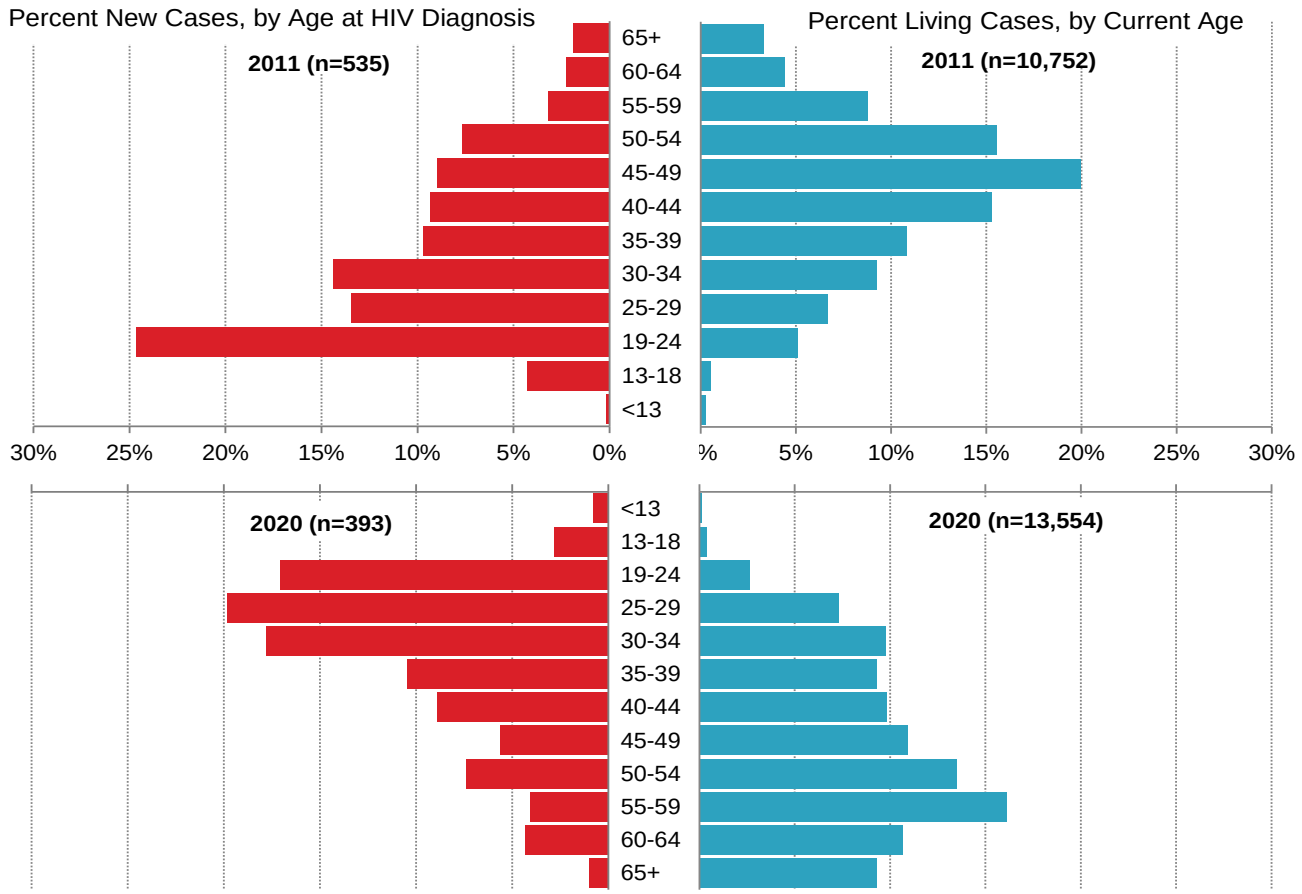
	HIV*			Stage 3 (AIDS)**			HIV Disease***		
	Cases	%	Rate****	Cases	%	Rate****	Cases	%	Rate****
Sex									
Male	250	77.2%	8.3	54	78.3%	1.8	304	77.4%	10.1
Female	74	22.8%	2.4	15	21.7%	0.5	89	22.6%	2.8
Total	**324**	**100.0%**	**5.3**	**69**	**100.0%**	**1.1**	**393**	**100.0%**	**6.4**
Race/Ethnicity									
White	118	36.4%	2.4	34	49.3%	0.7	152	38.7%	3.1
Black/African American	146	45.1%	20.5	20	29.0%	2.8	166	42.2%	23.3
Hispanic	20	6.2%	7.5	7	10.1%	2.6	27	6.9%	10.1
Asian/Pacific Islander	9	2.8%	6.9	1	1.4%	0.8	10	2.5%	7.7
American Indian/Alaskan Native	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	0.0
Two or More Races/Unknown	31	9.6%	19.8	7	10.1%	4.5	38	9.7%	24.3
Total	**324**	**100.0%**	**5.3**	**69**	**100.0%**	**1.1**	**393**	**100.0%**	**6.4**
Race/Ethnicity-Males									
White Male	98	39.2%	4.1	28	51.9%	1.2	126	41.4%	5.3
Black/African American Male	107	42.8%	31.6	14	25.9%	4.1	121	39.8%	35.8
Hispanic Male	18	7.2%	13.0	7	13.0%	5.1	25	8.2%	18.0
Asian/Pacific Islander Male	7	2.8%	11.3	0	0.0%	0.0	7	2.3%	11.3
American Indian/Alaskan Native Male	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	0.0
Two or More Races/Unknown Male	20	8.0%	--	5	9.3%	--	25	8.2%	--
Total	**250**	**100.0%**	**8.3**	**54**	**100.0%**	**1.8**	**304**	**100.0%**	**10.1**
Race/Ethnicity-Females									
White Female	20	27.0%	0.8	6	40.0%	0.2	26	29.2%	1.1
Black/African American Female	39	52.7%	10.5	6	40.0%	1.6	45	50.6%	12.1
Hispanic Female	2	2.7%	1.5	0	0.0%	0.0	2	2.2%	1.5
Asian/Pacific Islander Female	2	2.7%	2.9	1	6.7%	1.5	3	3.4%	4.4
American Indian/Alaskan Native Female	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	0.0
Two or More Races/Unknown Female	11	14.9%	13.2	2	13.3%	2.4	13	14.6%	15.6
Total	**74**	**100.0%**	**2.4**	**15**	**100.0%**	**0.5**	**89**	**100.0%**	**2.8**
Current Age‡									
<2	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	0.0
2-12	3	0.8%	0.0	0	0.0%	0.0	3	0.8%	2.1
13-18	11	2.8%	2.4	0	0.0%	0.0	11	2.8%	2.4
19-24	67	17.0%	13.8	4	8.9%	0.8	71	18.1%	14.6
25-44	224	57.0%	141.4	18	40.0%	1.2	242	61.6%	15.3
45-54	84	21.4%	6.8	22	48.9%	1.4	106	27.0%	6.8
65+	4	1.0%	0.4	1	2.2%	0.1	5	1.3%	0.5
Total	**393**	**100.0%**	**6.4**	**45**	**100.0%**	**0.9**	**393**	**100.0%**	**6.4**

*HIV cases diagnosed during 2020 which remained HIV cases at the end of the year. Includes persons diagnosed in Missouri correctional facilities.
**Stage 3 (AIDS) cases initially diagnosed in 2020.
***The sum of newly diagnosed HIV cases and newly diagnosed stage 3 (AIDS) cases. Does not include cases diagnosed prior to 2020 with HIV, which progressed to stage 3 (AIDS) in 2020.
****Per 100,000 population based on 2019 DHSS estimates.
‡Based on age as of December 31, 2020.
Note: Percentages may not total due to rounding.

Of the 6,943 persons living with HIV at the end of 2020, 81.5% 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 (46%, 45.5%) respectively, the rate of those living with HIV disease was 6.7 times as high among Blacks/African Americans compared to whites. The rate was 2 times as high among Hispanics compared to whites. Among males, the rate of living cases among blacks/African Americans was 6 times as high as the rate among whites, and 1.8 times as high among Hispanics compared to whites. Among females, the rate of those living with HIV disease among Blacks/African Americans was 13.2 times as high as the rate among whites, and 2.5 times as high among Hispanics compared to whites.

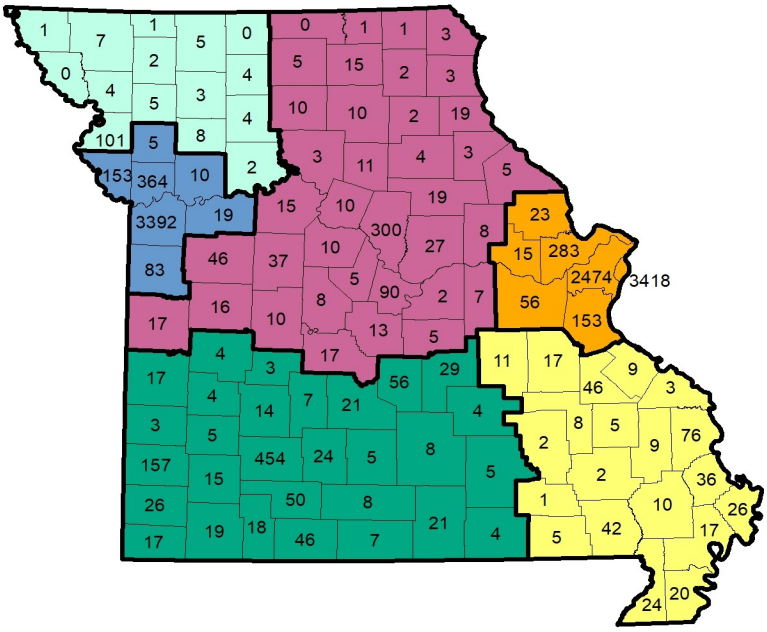
Of the persons 324 newly diagnosed with HIV disease in 2020, 21.3% were classified as stage 3 (AIDS) cases by the end of 2020 (Table 2). The rate of new HIV disease diagnoses was 3.6 times as high among males compared to females. The rate of new HIV disease cases was 7.5 times as high among Blacks/African Americans compared to whites, and 3.3 times as high among Hispanics compared to whites. The rate of new HIV disease diagnoses was greatest among persons 25-44 years of age at the end of 2020 (14.5 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, 2011 and 2020



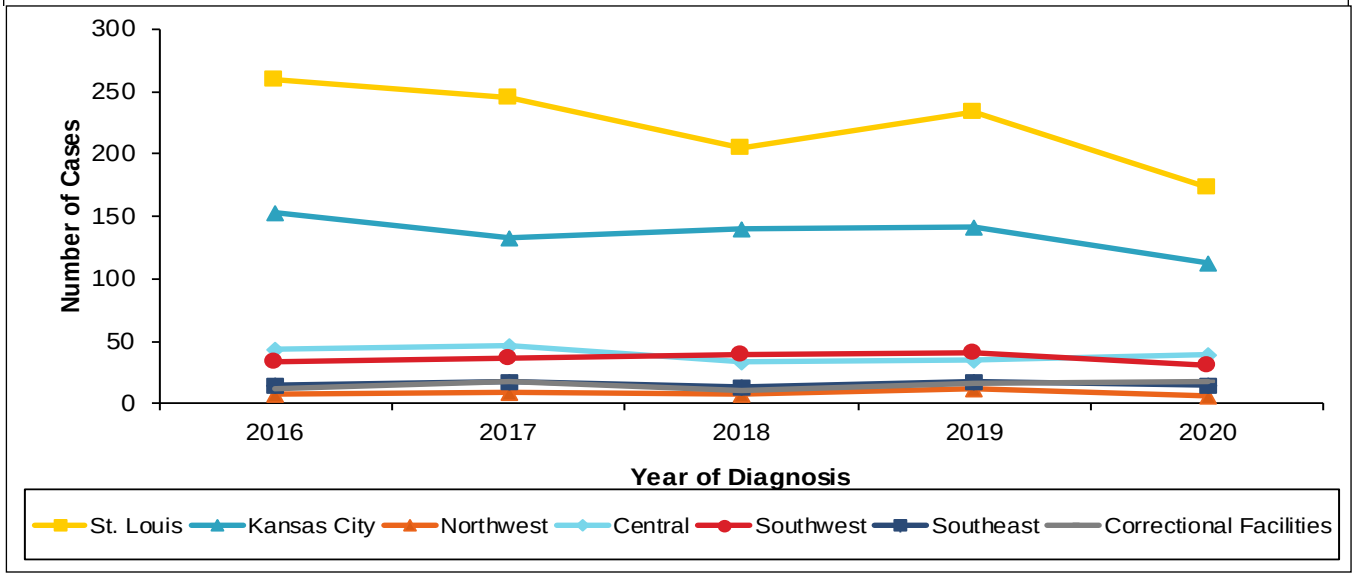
Changes have occurred in the distribution of the age at diagnosis among new HIV disease cases over time (Figure 7). In 2011, the greatest proportion of new diagnoses occurred among those ages 19-24 (25%). In 2020, the greatest proportion of new diagnoses occurred among ages 25-29 (20%). Although the age of new diagnoses has decreased, the age of individuals living with HIV has increased over time. In 2011, the greatest proportion of living cases was among those ages 45-49 (20%). In 2020, the greatest proportion of living cases was between 55-59 years old (16%).

Figure 8. Number of persons living with HIV disease by county of residence* and HIV care region at time of diagnosis, Missouri, 1982-2020



*Based on residence at time of most recent diagnosis of HIV or stage 3 (AIDS). Excludes persons diagnosed in Missouri correctional facilities (n=350).

Figure 9. Persons diagnosed with HIV disease by HIV care region at time of diagnosis, Missouri, 2016-2020



The largest numbers of persons living with HIV disease in 2020 were most recently diagnosed in St. Louis City (3418), Jackson County (3392), and St. Louis County (2474) (Figure 8). The St. Louis HIV Care Region has represented the largest number of new HIV disease diagnoses in each year from 2016-2020 (Figure 9). In 2020 the St. Louis HIV Care Region represented the lowest number of new cases (146) in a year since 1987.

The number of new diagnoses in the Kansas City Region and St. Louis Region has been generally stable from 2016 to 2020 with a slight decrease in 2019 for the St. Louis Region and slight increase in 2016 for the Kansas City Region. In the remainder of the HIV care regions, the number of new diagnoses has been generally stable from 2016 to 2020, with slight fluctuations seen in select years.

Table 3. New and living HIV and stage 3 (AIDS) cases and rates, by geographic area, and by HIV care region, 2020

	HIV Cases						Stage 3 (AIDS) Cases					
	Diagnosed 2020*			Living with HIV			Diagnosed 2020**			Living with Stage 3 (AIDS)		
Location	Cases	%	Rate***	Cases	%	Rate***	Cases	%	Rate***	Cases	%	Rate***
Geograhic Area												
St. Louis City†	55	17.0%	18.3	1,773	25.5%	589.9	12	17.4%	4.0	1,645	24.9%	547.3
St. Louis County†	67	20.7%	6.7	1,332	19.2%	134.0	22	31.9%	2.2	1,142	17.3%	114.9
Kansas City†	74	22.8%	6.4	1,490	21.5%	128.1	10	14.5%	0.9	1,709	25.9%	146.9
Outstate†	112	34.6%	3.0	1,998	28.8%	54.3	24	34.8%	0.7	1,771	26.8%	48.1
Missouri Correctional Facilities††	16	4.9%	N/A	350	5.0%	N/A	1	1.4%	N/A	344	5.2%	N/A
MISSOURI TOTAL	**324**	**100.0%**	**5.3**	**6,943**	**100.0%**	**113.1**	**69**	**100.0%**	**1.1**	**6,611**	**100.0%**	**107.7**
HIV Care Region												
St. Louis†	136	42.0%	6.4	3,469	50.0%	163.6	37	53.6%	1.7	3,039	46.0%	143.3
Kansas City†	97	29.9%	7.8	1,908	27.5%	154.0	16	23.2%	1.3	2,118	32.0%	170.9
Northwest†	4	1.2%	1.8	72	1.0%	32.6	2	2.9%	0.9	75	1.1%	34.0
Central†	38	11.7%	4.3	428	6.2%	48.3	1	1.4%	0.1	331	5.0%	37.4
Southwest†	22	6.8%	1.9	543	7.8%	46.0	8	11.6%	0.7	508	7.7%	43.0
Southeast†	11	3.4%	2.2	173	2.5%	35.3	4	5.8%	0.8	196	3.0%	40.0
Missouri Correctional Facilities††	16	4.9%	N/A	350	5.0%	N/A	1	1.4%	N/A	344	5.2%	N/A
MISSOURI TOTAL	**324**	**100.0%**	**5.3**	**6,943**	**100.0%**	**113.1**	**69**	**100.0%**	**1.1**	**6,611**	**100.0%**	**107.7**

*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 2020 that progressed to stage 3 (AIDS) in 2020.
***Per 100,000 population based on 2019 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 2020 by geographic area and HIV care region (Table 3). Out of state had the highest proportion, 34.6%, of newly diagnosed HIV disease cases that progressed to stage 3 (AIDS) at the end of 2020. In comparison, the proportion was 20.7%, 22.8%, 17%, and 4.9% for St. Louis County, Kansas City, St. Louis City, and Missouri correctional facilities, respectively.

In St. Louis HIV Care Region, 49% of newly diagnosed HIV disease cases progressed to stage 3 (AIDS) at the end of 2020. The proportion was 27.5%, 1%, 6.2%, 7.8%, 2.5%, 5% for Kansas City, Northwest, Central, Southwest, Southeast and Missouri correction facilities the HIV care regions of respectively. The variation in the proportion of newly diagnosed individuals that progressed to stage 3 (AIDS) by the end of 2020 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.

The rate of new and living HIV and living stage 3 (AIDS) cases were greatest in St. Louis City. The rate of new HIV case diagnoses in St. Louis City was 5.7 times as high as Outstate, and 1.3 times as high in Kansas City compared to Outstate. This demonstrates the disproportionate impact of HIV disease on the major metropolitan areas in Missouri.

Table 4. Diagnosed HIV cases and rates, by selected race/ethnicity, by geographic area, Missouri, 2020

Area	White			Black/African American			Hispanic			Total		
	Cases	%	Rate*	Cases	%	Rate*	Cases	%	Rate*	Cases**	%	Rate*
St. Louis City†	14	25.5%	10.4	34	61.8%	25.2	5	9.1%	39.9	55	100.0%	18.3
St. Louis County†	15	22.4%	2.3	48	71.6%	19.5	1	1.5%	3.3	67	100.0%	6.7
Kansas City†	22	29.7%	2.7	40	54.1%	20.8	8	10.8%	8.5	74	100.0%	6.4
Outstate Missouri†	57	50.9%	1.8	20	17.9%	14.6	5	4.5%	3.8	112	100.0%	3.0
Missouri Correctional Facilities††	10	62.5%	N/A	4	25.0%	N/A	1	6.3%	N/A	16	100.0%	N/A
MISSOURI TOTAL	**118**	**36.4%**	**2.4**	**146**	**45.1%**	**20.5**	**20**	**6.2%**	**7.5**	**324**	**100.0%**	**5.3**

*Per 100,000 population based on 2019 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, 2020

HIV Care Region	White			Black/African American			Hispanic			Total		
	Cases	%	Rate*	Cases	%	Rate*	Cases	%	Rate*	Cases**	%	Rate*
St. Louis†	35	25.7%	2.3	83	61.0%	20.3	6	4.4%	9.1	136	100.0%	6.4
Kansas City†	36	37.1%	4.1	44	45.4%	22.7	12	12.4%	12.5	97	100.0%	7.8
Northwest†	1	25.0%	0.5	1	25.0%	12.0	0	0.0%	0.0	4	100.0%	1.8
Central†	22	57.9%	2.9	6	15.8%	13.2	1	2.6%	3.4	38	100.0%	4.3
Southwest†	10	45.5%	1.0	4	18.2%	16.0	0	0.0%	0.0	22	100.0%	1.9
Southeast†	4	36.4%	0.9	4	36.4%	12.9	0	0.0%	0.0	11	100.0%	2.2
Missouri Correctional Facilities††	10	62.5%	N/A	4	25.0%	N/A	1	6.3%	N/A	16	100.0%	N/A
MISSOURI TOTAL	**118**	**36.4%**	**2.4**	**146**	**45.1%**	**20.5**	**20**	**6.2%**	**3.7**	**324**	**100.0%**	**5.3**

*Per 100,000 population based on 2019 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 2020 by race/ethnicity varied by geographic area (Table 4). Whites comprised 62.5% of new HIV case diagnoses in 2020 in Missouri correctional facilities but only 29.7% in Kansas City and 25% in St. Louis City. Out of state compromised 50.9% of new HIV cases. 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 Outstate, the rate of new HIV cases among Blacks/African Americans was 8.1 times as high as the rate among whites, and 2.1 times as high among Hispanics compared to whites. In comparison, the rate of new HIV cases was 8.5 times as high in Blacks/African Americans compared to whites and 1.4 times for Hispanics compared to whites in St. Louis County.

Different patterns observed for the geographic areas were also present by HIV care region (Table 5). In the Missouri correctional facilities, whites represented 62.5% of new HIV case diagnoses, whereas Blacks/African Americans represented the majority of cases in the St. Louis HIV Care Region (61%) and Hispanics in the Kansas City HIV Care Region (12.4%).

Table 6. Newly diagnosed and living HIV and stage 3 (AIDS) cases in men who have sex with men, by selected race/ethnicity, Missouri, 2020

	HIV Cases*				Stage 3 (AIDS) Cases			
	Newly Diagnosed		Living		Newly Diagnosed**		Living	
Race/Ethnicity	Cases	%	Cases	%	Cases	%	Cases	%
White	62	38.5%	2,216	51.1%	16	61.5%	2,124	52.4%
Black/African American	76	47.2%	1,744	40.2%	4	15.4%	1,639	40.4%
Hispanic	13	8.1%	257	5.9%	4	15.4%	184	4.5%
Other/Unknown	10	6.2%	123	2.8%	2	7.7%	110	2.7%
MISSOURI TOTAL* **	**161**	**100.0%**	**4,340**	**100.0%**	**26**	**100.0%**	**4,057**	**100.0%**

*Remained HIV cases at the end of the year.
**Does not include HIV cases diagnosed prior to 2019 that progressed to stage 3 (AIDS) in 2020.
***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, 2020

	White		Black/African American		Hispanic		Total*	
Age Group	Cases	%**	Cases	%**	Cases	%**	Cases	%**
13-18	2	0.0%	3	0.1%	0	0.0%	6	0.1%
19-24	49	1.1%	162	4.8%	16	3.6%	241	2.9%
25-44	1,164	26.8%	1,668	49.3%	218	49.4%	3,170	37.8%
45-64	2,557	58.9%	1,382	40.9%	183	41.5%	4,203	50.1%
65+	568	13.1%	168	5.0%	24	5.4%	777	9.3%
MISSOURI TOTAL	**4,340**	**100.0%**	**3,383**	**100.0%**	**441**	**100.0%**	**8,397**	**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 10-23 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 2020. The data is subject to change.

There were a total of 161 new HIV disease diagnoses attributed to MSM in 2020 (Table 6). Blacks/African Americans had the highest proportion of MSM new HIV cases at 47.2%, while whites had the highest proportion of MSM new stage 3 (AIDS) cases at 61.5%. Whites had the largest proportion of MSM living with both HIV and stage 3 (AIDS) compared to Blacks/African Americans and Hispanics. Of the newly diagnosed cases among MSM, 16% progressed to stage 3 (AIDS) by the end of 2020.

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 50.1%. Among white MSM living with HIV disease, the majority (58.9%) were between 45-64 years of age at the end of 2020. The greatest numbers of Black/African American and Hispanic MSM living with HIV disease were between 25-44, and Black/African Americans represented the largest number of MSM under the age of 25 (165).

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, 2020

	White		Black/African American		Hispanic		Total*	
Geographic Area	**Cases**	**%****	**Cases**	**%****	**Cases**	**%****	**Cases**	**%*****
St. Louis City	1,024	45.5%	1,108	49.2%	57	2.5%	2,250	26.8%
St. Louis County	573	36.9%	881	56.7%	66	4.2%	1,554	18.5%
Kansas City	1,126	50.1%	861	38.3%	187	8.3%	2,246	26.7%
Outstate	1,530	74.6%	335	16.3%	124	6.0%	2,051	24.4%
Missouri Correctional Facilities	87	29.4%	198	66.9%	7	2.4%	296	3.5%
MISSOURI TOTAL	**4,340**	**51.7%**	**3,383**	**40.3%**	**441**	**5.3%**	**8,397**	**100.0%**
HIV Care Region								
St. Louis	1,865	44.8%	2,058	49.4%	138	3.3%	4,167	49.6%
Kansas City	1,474	53.7%	954	34.8%	233	8.5%	2,745	32.7%
Northwest	57	86.4%	6	9.1%	2	3.0%	66	0.8%
Central	279	71.9%	81	20.9%	23	5.9%	388	4.6%
Southwest	462	82.5%	43	7.7%	31	5.5%	560	6.7%
Southeast	116	66.3%	43	24.6%	7	4.0%	175	2.1%
Missouri Correctional Facilities	87	29.4%	198	66.9%	7	2.4%	296	3.5%
MISSOURI TOTAL	**4,340**	**51.7%**	**3,383**	**40.3%**	**441**	**5.3%**	**8,397**	**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 8,397 MSM living with HIV disease at the end of 2020, the largest proportion were diagnosed in St. Louis City (26.8%), followed by Kansas City (26.7%) (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, 74.6% of persons living with HIV disease attributed to MSM were white, whereas only 29% 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 49.1% of all living cases among MSM and the Kansas City HIV Care Region comprised 32.7%. 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, 2020

	HIV Cases*				Stage 3 (AIDS) Cases			
	Newly Diagnosed		Living		Newly Diagnosed**		Living	
Race/Ethnicity	Cases	%	Cases	%	Cases	%	Cases	%
White	5	62.5%	189	66.8%	2	0.0%	241	63.9%
Black/African American	1	12.5%	71	25.1%	0	0.0%	115	30.5%
Hispanic	0	0.0%	14	4.9%	0	0.0%	13	3.4%
Other/Unknown	2	25.0%	9	3.2%	0	0.0%	8	2.1%
MISSOURI TOTAL* **	**8**	**100.0%**	**283**	**100.0%**	**2**	**100.0%**	**377**	**100.0%**

*Remained HIV cases at the end of the year.
**Does not include HIV cases diagnosed prior to 2020 that progressed to stage 3 (AIDS) in 2020.
***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, 2020

	White		Black/African American		Hispanic		Total*	
Age Group	Cases	%**	Cases	%**	Cases	%**	Cases	%**
13-18	0	0.0%	0	0.0%	0	0.0%	0	0.0%
19-24	5	1.2%	0	0.0%	1	3.7%	6	0.9%
25-44	148	34.4%	45	24.2%	13	48.1%	215	32.6%
45-64	231	53.7%	118	63.4%	13	48.1%	370	56.1%
65+	46	10.7%	23	12.4%	0	0.0%	69	10.5%
MISSOURI TOTAL	**430**	**100.0%**	**186**	**100.0%**	**27**	**100.0%**	**660**	**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 8 new HIV disease diagnoses attributed to men who have sex with men and inject drugs (MSM/IDU) in 2020 (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, 25% of newly diagnosed cases progressed to stage 3 (AIDS) by the end of 2020. Whites represented the majority (62.5%) of new HIV cases among MSM/IDU. Among living HIV and stage 3 (AIDS) cases, whites represented the largest proportion of cases, 66.8% and 63.9%, 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, 53.7% and 63.4%, were between 45-64 years of age at the end of 2020. In contrast, the largest proportion of Hispanic MSM/IDU with HIV disease were between 25-44 and 45-64 years of age (both at 48%). The highest proportion of MSM/ IDU living with HIV disease were between 45-64 years of age (56%) while no cases of MSM/IDU living with HIV disease were between 13-18 years of age at the end of 2020.

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, 2020

	White		Black/African American		Hispanic		Total*	
Geographic Area	**Cases**	**%****	**Cases**	**%****	**Cases**	**%****	**Cases**	**%*****
St. Louis City	44	40.7%	59	54.6%	4	3.7%	108	16.4%
St. Louis County	25	48.1%	27	51.9%	0	0.0%	52	7.9%
Kansas City	102	62.2%	46	28.0%	10	6.1%	164	24.8%
Outstate	216	85.4%	18	7.1%	12	4.7%	253	38.3%
Missouri Correctional Facilities	43	51.8%	36	43.4%	1	1.2%	83	12.6%
MISSOURI TOTAL	**430**	**65.2%**	**186**	**28.2%**	**27**	**4.1%**	**660**	**100.0%**
HIV Care Region								
St. Louis	84	46.9%	86	48.0%	7	3.9%	179	27.1%
Kansas City	146	67.0%	52	23.9%	13	6.0%	218	33.0%
Northwest	12	100.0%	0	0.0%	0	0.0%	12	1.8%
Central	42	84.0%	4	8.0%	3	6.0%	50	7.6%
Southwest	86	89.6%	3	3.1%	3	3.1%	96	14.5%
Southeast	17	85.0%	3	15.0%	0	0.0%	20	3.0%
Missouri Correctional Facilities	43	51.8%	36	43.4%	1	1.2%	83	12.6%
MISSOURI TOTAL	**430**	**65.2%**	**186**	**28.2%**	**27**	**4.1%**	**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 660 MSM/IDU living with HIV disease at the end of 2020, the largest proportion was diagnosed in Outstate Missouri (38.3%), followed by Kansas City (24.8%) (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, 85.4% of living cases attributed to MSM/IDU were white. The Kansas City geographic area represented the largest proportion instate of all living cases among MSM/IDU.

Kansas City HIV Care Region represented the largest proportion of all living cases among MSM/IDU at 33% and then St. Louis HIV Care Region comprised 27%. 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 (47%). The proportion of Black/African American among MSM/IDU was highest in St. Louis. 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, 2020

	HIV Cases*				Stage 3 (AIDS) Cases			
	Newly Diagnosed		Living		Newly Diagnosed**		Living	
Race/Ethnicity and Sex	Cases	%	Cases	%	Cases	%	Cases	%
White Male	4	44.4%	97	34.2%	1	50.0%	98	24.9%
Black/African American Male	0	0.0%	64	22.5%	0	0.0%	119	30.3%
Hispanic Male	0	0.0%	4	1.4%	0	0.0%	18	4.6%
White Female	4	44.4%	74	26.1%	1	50.0%	72	18.3%
Black/African American Female	1	11.1%	39	13.7%	0	0.0%	70	17.8%
Hispanic Female	0	0.0%	3	1.1%	0	0.0%	10	2.5%
MISSOURI TOTAL* **	**9**	**100.0%**	**284**	**100.0%**	**2**	**100.0%**	**393**	**100.0%**

*Remained HIV cases at the end of the year.
**Does not include HIV cases diagnosed prior to 2020 that progressed to stage 3 (AIDS) in 2020.
***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, 2020

	White Males		Black/African American Males		White Females		Black/African American Females		Total*	
Age Group	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%	1	0.7%	2	1.8%	4	0.6%
25-44	46	23.6%	29	15.8%	59	40.4%	18	16.5%	165	24.4%
45-64	126	64.6%	115	62.8%	80	54.8%	74	67.9%	420	62.0%
65+	22	11.3%	39	21.3%	6	4.1%	15	13.8%	88	13.0%
MISSOURI TOTAL	**195**	**100.0%**	**183**	**100.0%**	**146**	**100.0%**	**109**	**100.0%**	**677**	**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 9 new HIV disease diagnoses attributed to injection drug use (IDU) in 2020 (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, 2 progressed to stage 3 (AIDS) by the end of 2020. There were 274 living HIV cases and 400 living stage 3 (AIDS) cases diagnosed among IDU. Males represented 60% 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 2020 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 2020 (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 194 (29%).

Table 14. Living HIV disease cases in injecting drug users, by selected race/ethnicity, by geographic area, by HIV care region, Missouri, 2020

	White		Black/African American		Hispanic		Total*	
Geographic Area	**Cases**	**%****	**Cases**	**%****	**Cases**	**%****	**Cases**	**%*****
St. Louis City	21	17.5%	95	79.2%	2	1.7%	120	17.7%
St. Louis County	17	33.3%	32	62.7%	1	2.0%	51	7.5%
Kansas City	48	33.1%	78	53.8%	16	11.0%	145	21.4%
Outstate	197	81.4%	31	12.8%	12	5.0%	242	35.7%
Missouri Correctional Facilities	58	48.7%	56	47.1%	4	3.4%	119	17.6%
MISSOURI TOTAL	**341**	**50.4%**	**292**	**43.1%**	**35**	**5.2%**	**677**	**100.0%**
HIV Care Region								
St. Louis	67	33.5%	127	63.5%	3	1.5%	200	29.5%
Kansas City	93	47.4%	80	40.8%	19	9.7%	196	29.0%
Northwest	6	60.0%	3	30.0%	0	0.0%	10	1.5%
Central	33	73.3%	10	22.2%	2	4.4%	45	6.6%
Southwest	70	82.4%	10	11.8%	5	5.9%	85	12.6%
Southeast	14	63.6%	6	27.3%	2	9.1%	22	3.2%
Missouri Correctional Facilities	58	48.7%	56	47.1%	4	3.4%	119	17.6%
MISSOURI TOTAL	**341**	**50.4%**	**292**	**43.1%**	**35**	**5.2%**	**677**	**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 IDU living with HIV disease at the end of 2020, the largest proportion was diagnosed in Outstate Missouri (34.1%), followed by Kansas City (22.3%) (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, 81.3% 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 (79.4%), while Hispanics were in Kansas City (10%). The differences are likely due to variations in the general population of the geographic areas.

The St. Louis HIV Care Region represented 30.7% of all living cases among IDU, and the Kansas City HIV Care Region comprised 28.2%. The proportion of white living cases among IDU was highest in the Southwest HIV Care Region (81.9%) and lowest in the St. Louis HIV Care Region (33.8%). The highest proportion of Black/ African American living cases among IDU were in St. Louis HIV Care Region (62.8%). 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 (8.9%).

Table 15. Newly diagnosed and living HIV and stage 3 (AIDS) cases in heterosexual contacts, by selected race/ethnicity and sex, Missouri, 2020

	HIV Cases*				Stage 3 (AIDS) Cases			
	Newly Diagnosed		Living		Newly Diagnosed**		Living	
Race/Ethnicity and Sex	Cases	%	Cases	%	Cases	%	Cases	%
White Male	6	11.3%	67	6.2%	0	0.0%	59	6.0%
Black/African American Male	4	7.5%	155	14.3%	2	22.2%	181	18.4%
Hispanic Male	1	1.9%	8	0.7%	0	0.0%	14	1.4%
White Female	8	15.1%	256	23.7%	1	11.1%	206	21.0%
Black/African American Female	31	58.5%	532	49.2%	5	55.6%	462	47.0%
Hispanic Female	2	3.8%	31	2.9%	0	0.0%	30	3.1%
MISSOURI TOTAL* **	**53**	**100.0%**	**1082**	**100.0%**	**9**	**100.0%**	**982**	**100.0%**

*Remained HIV cases at the end of the year.
**Does not include HIV cases diagnosed prior to 2020 that progressed to stage 3 (AIDS) in 2020.
***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, 2020

	White Males		Black/African American Males		White Females		Black/African American Females		Total*	
Age Group	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%	7	2.1%	6	0.4%	37	3.7%	52	2.5%
25-44	26	20.6%	105	31.3%	1,355	80.6%	373	37.5%	702	34.0%
45-64	73	57.9%	197	58.6%	272	16.2%	523	52.6%	1,133	54.9%
65+	27	21.4%	27	8.0%	49	2.9%	59	5.9%	175	8.5%
MISSOURI TOTAL	**126**	**100.0%**	**336**	**100.0%**	**1,682**	**100.0%**	**994**	**100.0%**	**2,064**	**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 66 new HIV disease diagnoses attributed to heterosexual contact in 2020 (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). Black/African American females were more likely to have progressed to stage 3 (AIDS) by the end of 2020 (40%).

Females represented 76.6% of living HIV cases and 70.3% 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. (Table 16). There were no cases under the age of 13 years old and only 2 cases between the ages of 13-18 years of age.

Table 17. Living HIV disease cases in heterosexual contacts, by selected race/ethnicity, by geographic area, by HIV care region, Missouri, 2020

	White		Black/African American		Hispanic		Total*	
Geographic Area	**Cases**	**%****	**Cases**	**%****	**Cases**	**%****	**Cases**	**%*****
St. Louis City	65	11.6%	467	83.7%	16	2.9%	558	27.0%
St. Louis County	93	19.3%	361	74.7%	16	3.3%	483	23.4%
Kansas City	68	20.4%	234	70.3%	18	5.4%	333	16.1%
Outstate	342	58.2%	189	32.1%	31	5.3%	588	28.5%
Missouri Correctional Facilities	20	19.6%	79	77.5%	2	2.0%	102	4.9%
MISSOURI TOTAL	**588**	**28.5%**	**1,330**	**64.4%**	**83**	**4.0%**	**2,064**	**100.0%**
HIV Care Region								
St. Louis	212	18.6%	867	76.0%	35	3.1%	1,141	55.3%
Kansas City	124	28.5%	259	59.5%	31	7.1%	435	21.1%
Northwest	13	54.2%	10	41.7%	1	4.2%	24	1.2%
Central	82	60.3%	45	33.1%	4	2.9%	136	6.6%
Southwest	93	65.0%	34	23.8%	8	5.6%	143	6.9%
Southeast	44	53.0%	36	43.4%	2	2.4%	83	4.0%
Missouri Correctional Facilities	20	19.6%	79	77.5%	2	2.0%	102	4.9%
MISSOURI TOTAL	**588**	**28.5%**	**1,330**	**64.4%**	**83**	**4.0%**	**2,064**	**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 1,946 living cases among heterosexual contacts at the end of 2020, the largest proportion was diagnosed in St. Louis City and Outstate (28.2% and 27.9%) (Table 17). There were differences in the proportion of living HIV disease cases among heterosexuals diagnosed in each geographic area by race/ethnicity. Among whites, the highest proportion of living HIV cases among heterosexual contacts were in Outstate (61%) while Black/ African American were in St. Louis City (82.8%). Hispanics had lower HIV cases with a total of 75 living cases among heterosexual contacts. The largest number of cases were seen in Outstate. The differences are likely due to variations in the general population of the geographic areas. Blacks/African Americans represented a larger proportion of living HIV disease cases among heterosexual contact cases (64.1%) compared to all other exposure categories.

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 (66.4%) and lowest in St. Louis (19.1%). The proportion of Black/African American living cases was highest in Missouri correctional facilities (77.7%) and lowest in the Southwest HIV Care Region (22.9%). Among Hispanic living cases the highest proportion was in Kansas City (7.2%) while the lowest was in Missouri correction facilities (2%).

Table 18. Deaths* among HIV cases, by mode of transmission, by selected race and sex, Missouri, 1982—2020

	White Males		Black/African American Males		White Females		Black/African American Females		Total**	
Mode of Transmission	**Cases**	**%**	**Cases**	**%**	**Cases**	**%**	**Cases**	**%**	**Cases**	**%**
MSM	287	66.3%	205	59.6%	0	0.0%	0	0.0%	514	53.1%
MSM/IDU	50	11.5%	21	6.1%	0	0.0%	0	0.0%	75	7.7%
IDU	36	8.3%	33	9.6%	11	21.6%	20	23.5%	108	11.2%
Heterosexual Contact	10	2.3%	30	8.7%	28	54.9%	47	55.3%	121	12.5%
No Indicated Risk (NIR)	43	9.9%	54	15.7%	12	23.5%	17	20.0%	141	14.6%
MISSOURI TOTAL* **	**433**	**100.0%**	**344**	**100.0%**	**51**	**100.0%**	**85**	**100.0%**	**968**	**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—2020

	White Males		Black/African American Males		White Females		Black/African American Females		Total**	
Mode of Transmission	**Cases**	**%**	**Cases**	**%**	**Cases**	**%**	**Cases**	**%**	**Cases**	**%**
MSM	3,543	77.1%	1,466	66.4%	0	0.0%	0	0.0%	5,242	65.5%
MSM/IDU	477	10.4%	230	10.4%	0	0.0%	0	0.0%	736	9.2%
IDU	198	4.3%	210	9.5%	89	27.6%	118	23.6%	659	8.2%
Heterosexual Contact	78	1.7%	125	5.7%	172	53.4%	294	58.9%	695	8.7%
No Indicated Risk (NIR)	145	3.2%	154	7.0%	33	10.2%	63	12.6%	429	5.4%
MISSOURI TOTAL* **	**4,598**	**100.0%**	**2,208**	**100.0%**	**322**	**100.0%**	**499**	**100.0%**	**8,004**	**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 (889) in comparison to the number of deaths among persons classified as stage 3 (AIDS) (7,736) (Tables 22 and 23). The greatest proportion of deaths among HIV cases has occurred among males that have sex with males (52%) (Table 18).

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. Similar patterns were observed for deaths among male stage 3 (AIDS) cases (Table 19). Among both white and Black/African American female stage 3 (AIDS) cases, heterosexual contact represented the majority of deaths. 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, 2020

Exposure Category	HIV Cases				Stage 3 (AIDS) Cases			
	2020*		Living		2020**		Living	
Adult/Adolescent								
MSM	161	55.5%	4,340	63.7%	26	38.2%	4,057	62.1%
MSM/IDU	8	2.8%	283	4.2%	2	2.9%	377	5.8%
IDU	9	3.1%	284	4.2%	2	2.9%	393	6.0%
Heterosexual Contact	53	18.3%	1,082	15.9%	9	13.2%	982	15.0%
Hemophilia/Coagulation Disorder	0	0.0%	5	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	**290**	**† 100.0%**	**6,818**	**† 100.0%**	**68**	**100.0%**	**6,534**	**† 100.0%**
Pediatric (<13 years old)								
PEDIATRIC SUBTOTAL	**3**	**100.0%**	**80**	**100.0%**	**0**	**0.0%**	**38**	**100.0%**
TOTAL	**293**		**6,898**		**68**		**6,572**	

*HIV cases reported during 2020 which remained HIV cases at the end of the year.
**Does not include HIV cases diagnosed prior to 2020 that progressed to stage 3 (AIDS) in 2020.
†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 was adjusted to proportionately re-distribute individuals with no indicated risk factor based on sex and race/ethnicity to known exposure categories. The data does 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 weigh those with no indicated risk more heavily than the MSM category.

The majority of new HIV disease cases diagnosed in 2020 (94%) and those living with HIV disease (93%) were residents of a metropolitan area at the time of diagnosis (Table 21). The proportion of new HIV diagnoses in non -metropolitan areas was slightly higher in 2020 compared to previous years. 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. The proportion of males living with HIV disease decreased as the population of the area of residence decreased; whereas, 83% of living HIV disease cases in metropolitan areas occurred among males, only 71% of living cases in non-metropolitan 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. As the population of the area of residence became smaller, the proportion of living cases that occurred among whites increased. For example, only 68% of living HIV disease diagnoses were among whites in metropolitan areas compared to 78% in non-metropolitan areas. There were also differences based on the population of the area of residence in the distribution of living HIV disease cases by exposure category. As the population of the area of residence decreased, the proportion of cases attributed to MSM generally decreased. Among those living with HIV disease, the proportion of cases diagnosed between 45-64 years of age increased as the population of the area of residence decreased.

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, 2020†

	Newly Diagnosed						Living					
	Metropolitan Area**		Micropolitan Area***		metropolitan Area****		Metropolitan Area**		Micropolitan Area***		metropolitan Area****	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
Sex												
Male	268	79.3%	15	62.5%	9	60.0%	9,779	82.6%	379	73.2%	293	70.6%
Female	70	20.7%	9	37.5%	6	40.0%	2,062	17.4%	139	26.8%	122	29.4%
Total	**338**	**100.0%**	**24**	**100.0%**	**15**	**100.0%**	**11,841**	**100.0%**	**518**	**100.0%**	**415**	**100.0%**
Race/Ethnicity												
White	124	36.7%	8	33.3%	9	64.3%	5,346	45.1%	344	66.4%	322	77.6%
Black/African American	154	45.6%	7	29.2%	1	7.1%	5,507	46.5%	122	23.6%	66	15.9%
Hispanic	24	7.1%	2	8.3%	0	0.0%	620	5.2%	28	5.4%	15	3.6%
Other/Unknown	36	10.7%	7	29.2%	4	28.6%	368	3.1%	24	4.6%	12	2.9%
Total	**338**	**100.0%**	**24**	**100.0%**	**14**	**100.0%**	**11,841**	**100.0%**	**518**	**100.0%**	**415**	**100.0%**
Exposure Category												
MSM	177	52.4%	3	12.5%	5	35.7%	7,637	64.5%	233	45.0%	184	44.3%
MSM/IDU	8	2.4%	2	8.3%	0	0.0%	515	4.3%	37	7.1%	23	5.5%
IDU	7	2.1%	1	4.2%	0	0.0%	492	4.2%	33	6.4%	33	8.0%
Heterosexual Contact	60	17.8%	1	4.2%	0	0.0%	1,736	14.7%	104	20.1%	93	22.4%
No Indicated Risk (NIR)	81	24.0%	17	70.8%	9	64.3%	1,322	11.2%	98	18.9%	68	16.4%
Other	2	0.6%	0	0.0%	0	0.0%	42	0.4%	3	0.6%	4	1.0%
Pediatric	3	0.9%	0	0.0%	0	0.0%	97	0.8%	10	1.9%	10	2.4%
Total	**338**	**100.0%**	**24**	**100.0%**	**14**	**100.0%**	**11,841**	**100.0%**	**518**	**100.0%**	**415**	**100.0%**
Age at Diagnosis												
<2	1	0.3%	0	0.0%	0	0.0%	46	0.4%	4	0.8%	5	1.2%
2-12	2	0.6%	0	0.0%	0	0.0%	39	0.3%	5	1.0%	3	0.7%
13-18	8	2.4%	1	4.2%	2	14.3%	320	2.7%	13	2.5%	13	3.1%
19-24	61	18.0%	3	12.5%	1	7.1%	1,956	16.5%	78	15.1%	43	10.4%
25-44	187	55.3%	16	66.7%	7	50.0%	7,435	62.8%	317	61.2%	231	55.7%
45-64	75	22.2%	4	16.7%	4	28.6%	1,964	16.6%	98	18.9%	114	27.5%
65+	4	1.2%	0	0.0%	0	0.0%	81	0.7%	3	0.6%	6	1.4%
Total	**338**	**100.0%**	**24**	**100.0%**	**14**	**100.0%**	**11,841**	**100.0%**	**518**	**100.0%**	**415**	**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, 2012-2019

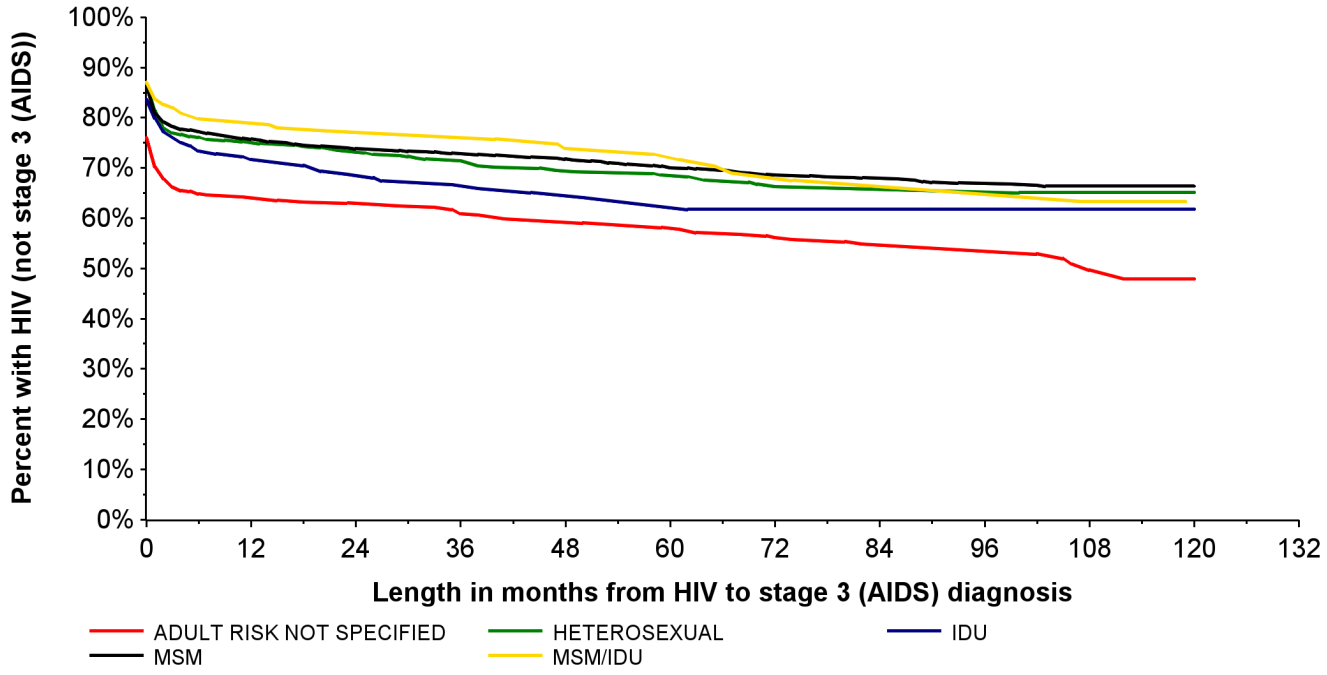
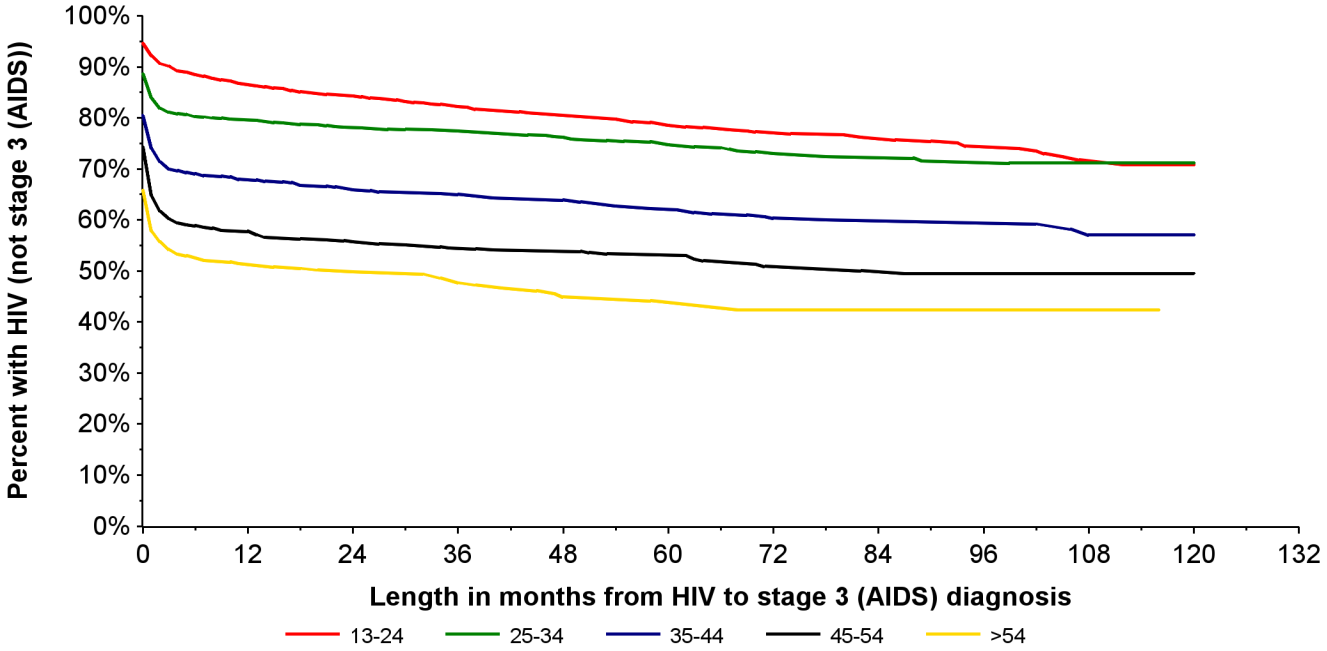


Figure 11. Length of time between HIV and stage 3 (AIDS) diagnosis, by age at diagnosis*, Missouri, 2012-2019



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

A lesser 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 22). 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 22 through 29 are based on persons diagnosed as of 2019, as not enough time has elapsed to accurately measure length of time for progression to stage 3 (AIDS) or death for 2020 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, 2012-2019

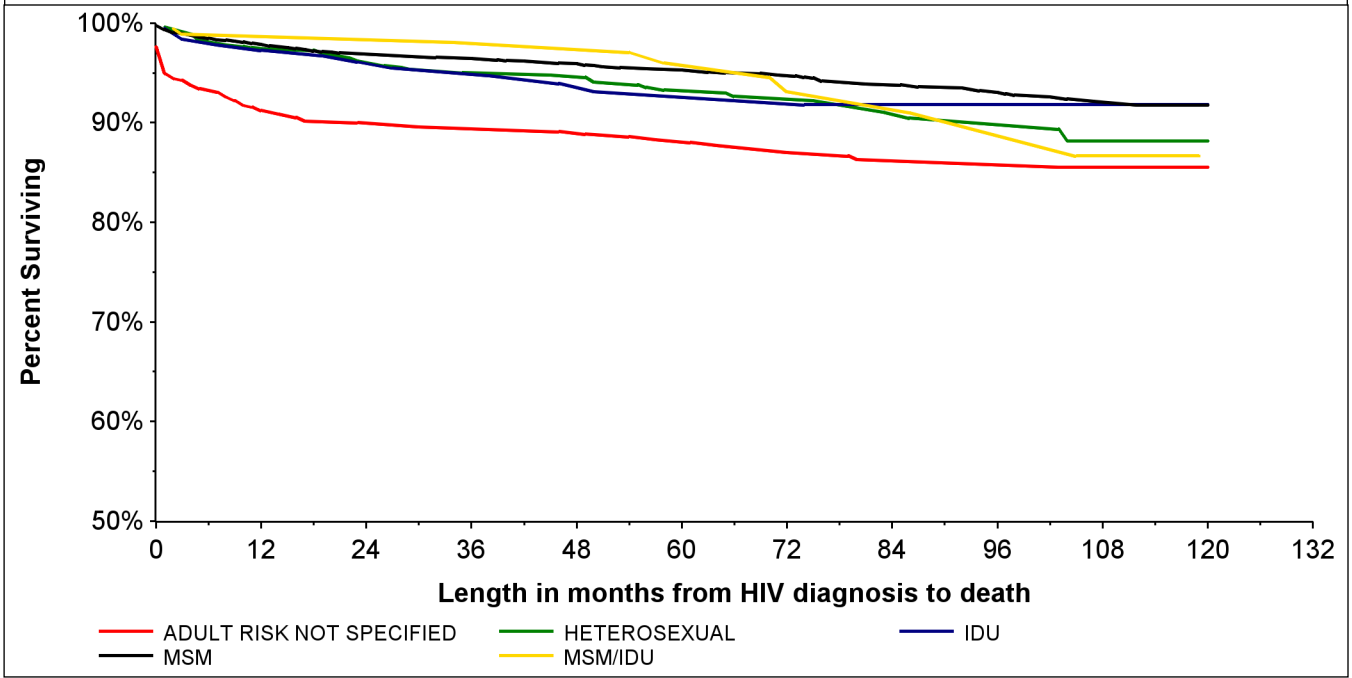
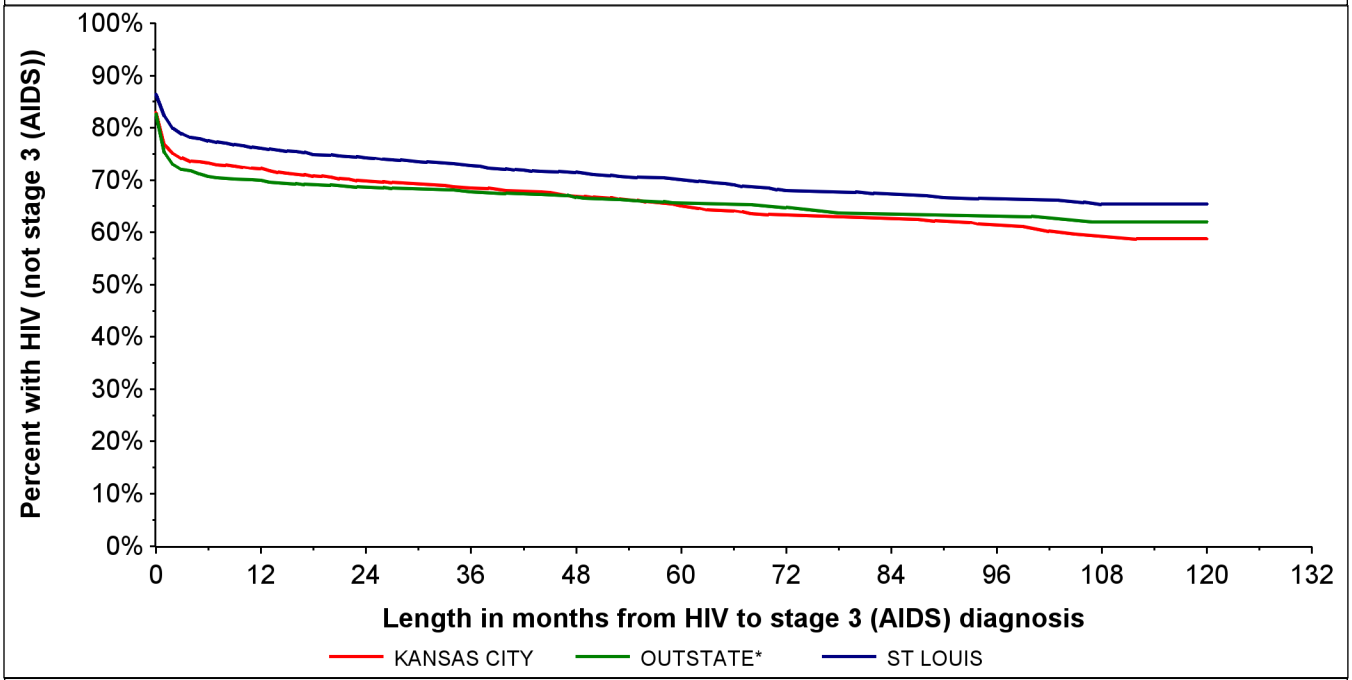


Figure 13. Length of time between HIV and stage 3 (AIDS) diagnosis, by HIV care region*, Missouri, 2012-2019



*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 24). 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 25). The proportion of individuals that progressed to stage 3 (AIDS) over time was generally greater for the Kansas City HIV Care Region and all Outstate HIV Care Regions combined compared to the St. Louis HIV Care Region. 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, 2012-2019

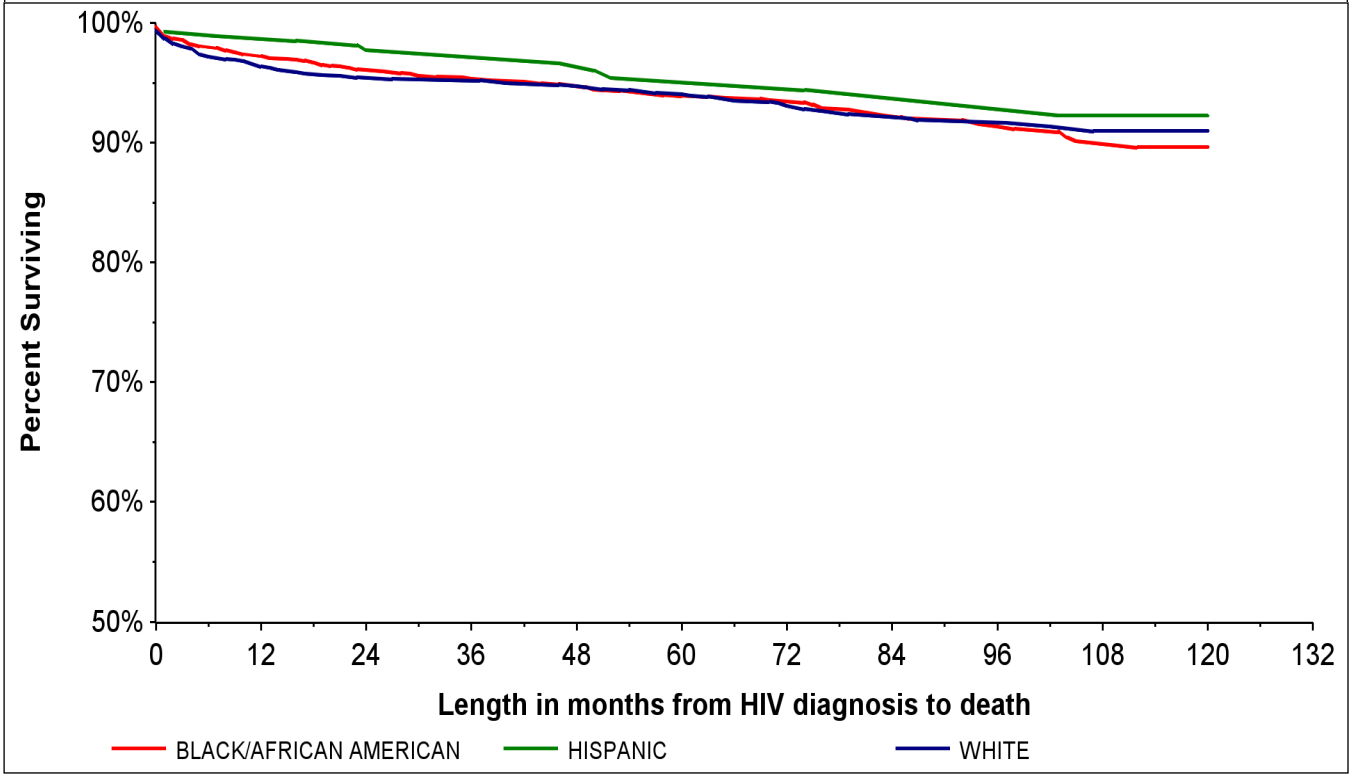
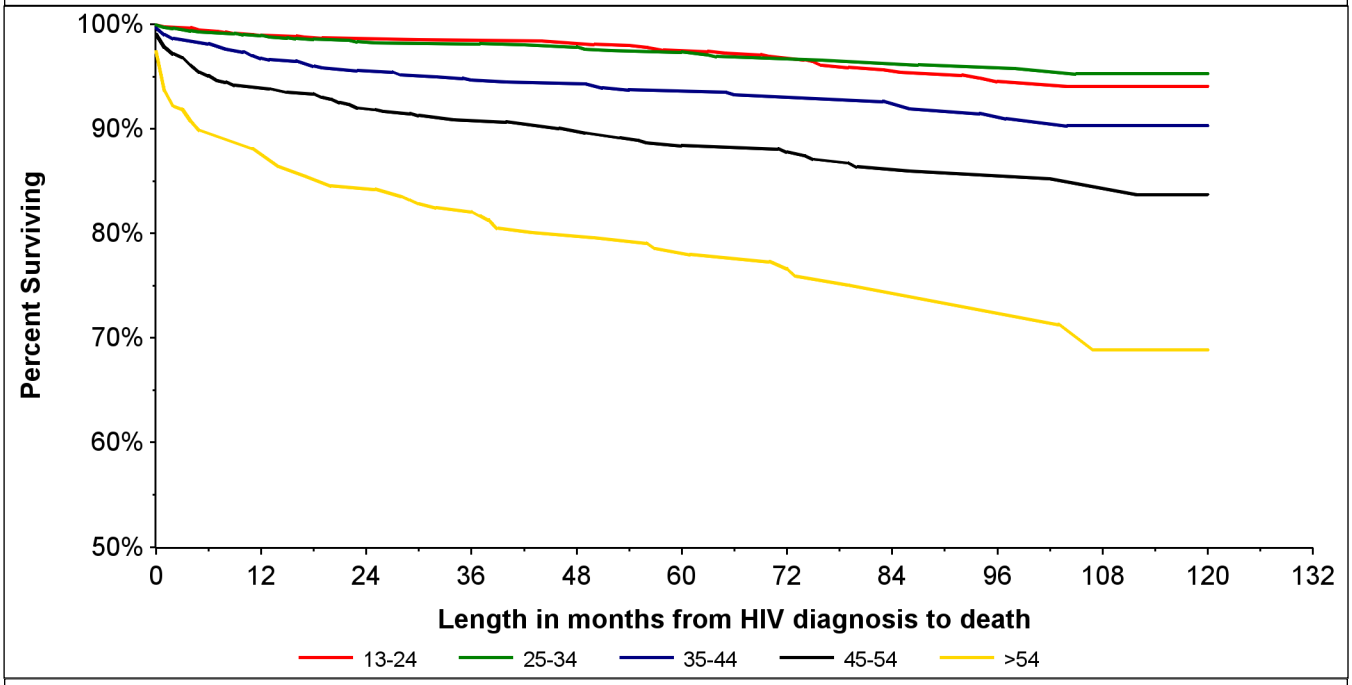


Figure 15. Length of time between HIV diagnosis and death, by age at diagnosis*, Missouri, 2012-2019



*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 26). 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 27). For example, 72 months following the initial diagnosis, 96% of individuals diagnosed between 13-24 years of age were still living, compared to only 77% 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, 2012-2019

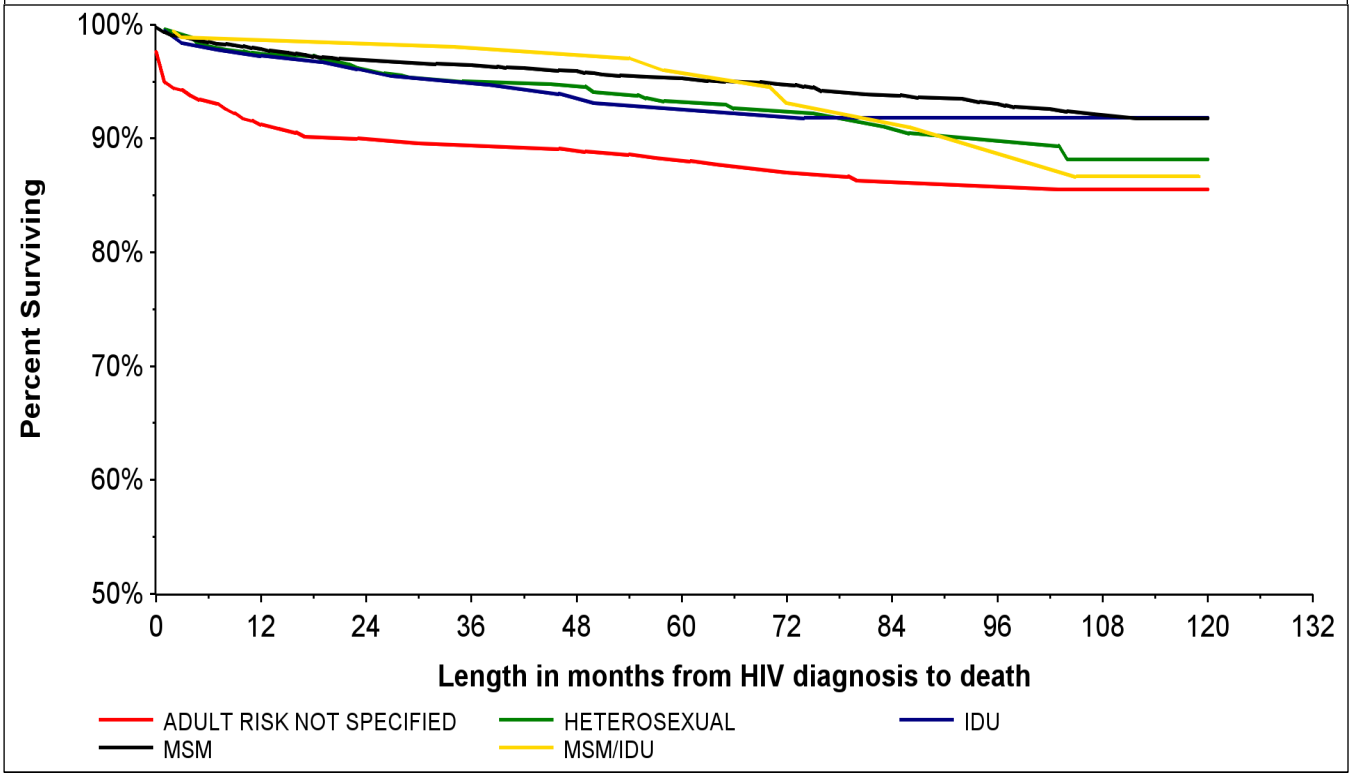
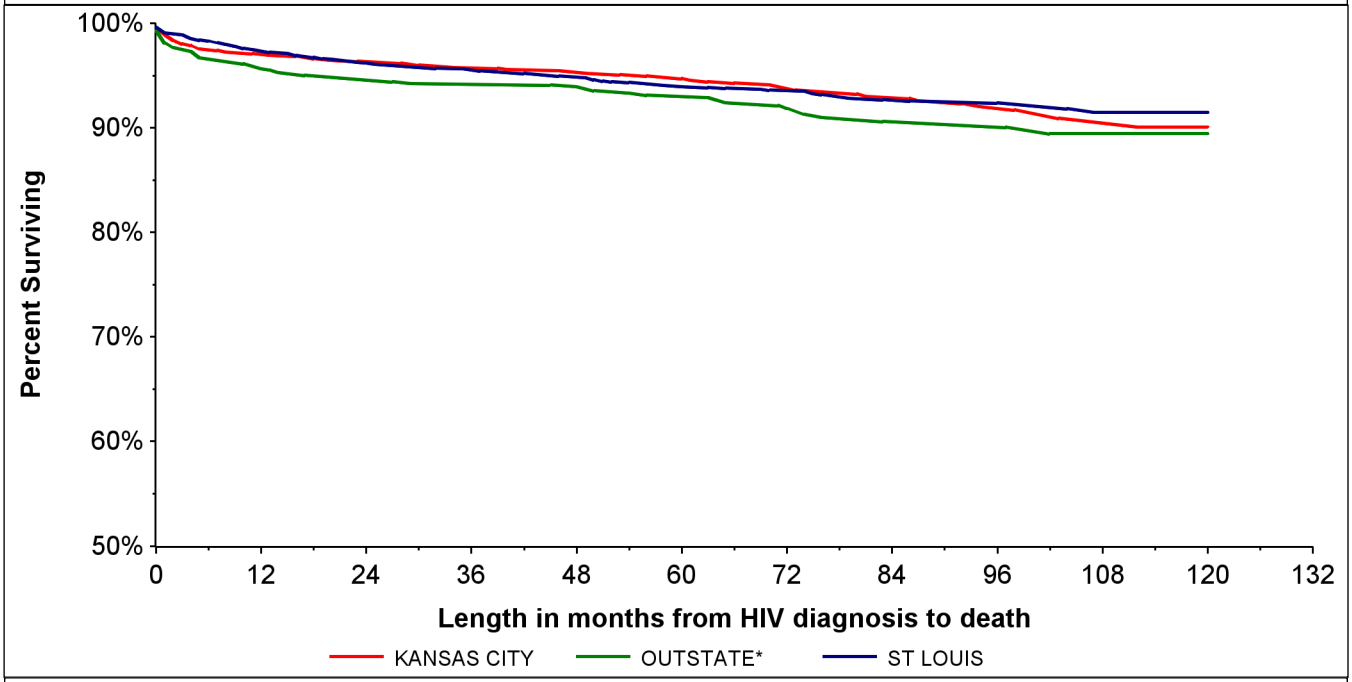


Figure 17. Length of time between HIV diagnosis and death, by HIV care region*, Missouri, 2012-2019



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

A greater proportion of IDU and those with no reported risk were deceased within 36 months of their HIV diagnosis compared to individuals from all other exposure categories (Figure 28). Differences in survival persisted over time.

There were not significant differences in survival following HIV diagnosis by HIV care region (Figure 29). 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, 2019-2020

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	70	7.4%	9	1.0%	7	0.7%	11	1.2%	19	2.0%	116	12.3%
0-10,000	50	5.3%	14	1.5%	20	2.1%	40	4.3%	111	11.8%	235	25.0%
10,001-100,000	35	3.7%	43	4.6%	63	6.7%	66	7.0%	92	9.8%	299	31.8%
>100,000	23	2.4%	134	14.3%	52	5.5%	39	4.1%	42	4.5%	290	30.9%
Total	**178**	**18.9%**	**200**	**21.3%**	**142**	**15.1%**	**156**	**16.6%**	**264**	**28.1%**	**940**	**100.0%**

†Within 12 months of the initial HIV diagnosis
* % of table total
**% of column total

Of persons newly diagnosed with HIV disease between 2019 and 2020, 7.4% did not have a CD4 or a viral load laboratory result reported to DHSS within 12 months of diagnosis (Table 22). Nearly 21.3% of persons diagnosed between 2019 and 2020 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, 2019-2020

	Number	% with CD4 within 12 months of HIV diagnosis	Median of initial CD4 counts (cells/ µL)
HIV Status			
HIV (not stage 3 (AIDS))	718	75.8%	495
Concurrent HIV and stage 3 (AIDS)	170	100.0%	61
Stage 3 (AIDS) >1 month after HIV diagnosis	52	92.3%	152
Sex			
Male	748	82.2%	377
Female	192	76.6%	412
Race/Ethnicity			
White	364	86.3%	386
Black/African American	449	78.4%	386
Hispanic	75	74.7%	371
Other/Unknown	52	76.9%	384
Exposure Category			
MSM	517	82.0%	391
MSM/IDU	53	86.8%	481
IDU	42	83.3%	474
HRH	198	78.3%	386
Other	3	33%	672
NIR	127	79.5%	265
Age at HIV Diagnosis			
13-18	29	51.7%	614
19-24	204	74.0%	421
25-44	506	82.8%	390
45-64	185	88.1%	315
65+	16	87.5%	316

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 2019 and 2020, a greater proportion of Males had a CD4 within 12 months of diagnosis (82.2%) compared to Females (76.6%). The initial median CD4 count tended to be greater for Females (412 cells/μL) compared to Males (377 cells/μL). A greater proportion of Whites tended to have a CD4 count within 12 months of diagnosis compared to Blacks/African Americans, with Whites having the highest proportion (86.3%). Among those with a CD4 count within 12 months of diagnosis, the initial median CD4 count tended to be lower among Hispanics (371 cells/μL). 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 increased 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. A 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.

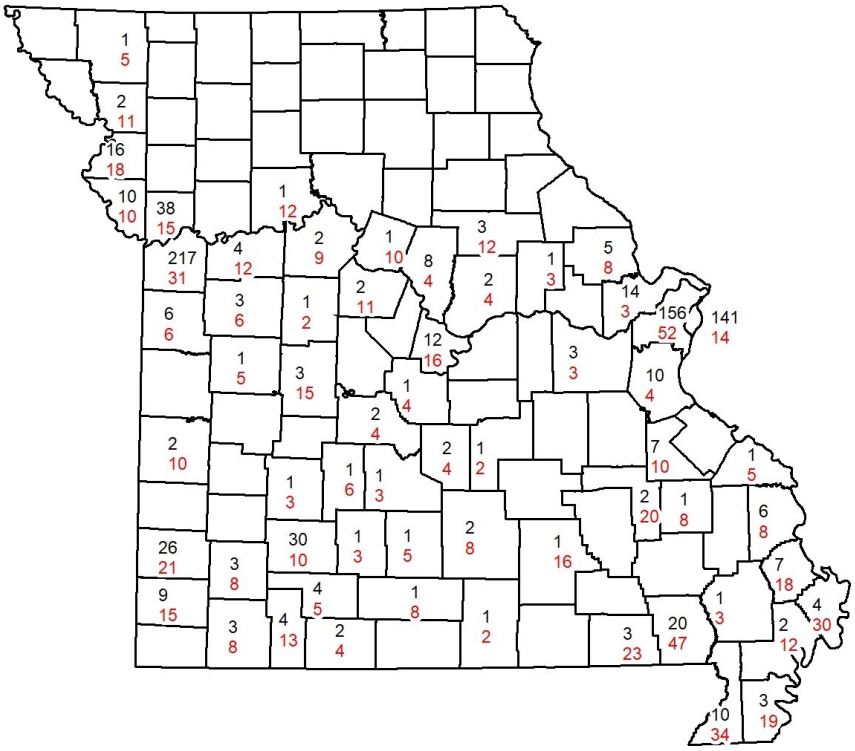
Table 24. Reported P&S syphilis cases and rates, by race*, by HIV care region, by sex, Missouri, 2020

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	239	47.5%	9.7	137	59.8%	5.6	376	7.6
Black/African American	264	52.5%	78.0	92	40.2%	24.7	414	58.2
Total	**503**	**100.0%**	**16.7**	**229**	**100.0%**	**8.1**	**790**	**13.5**
St. Louis HIV Care Region								
White	47	22.7%	6.3	21	23.3%	2.7	68	4.4
Black/African American	160	77.3%	86.4	69	76.7%	31.0	229	56.1
Total	**207**	**100.0%**	**22.2**	**90**	**100.0%**	**9.0**	**297**	**15.3**
Kansas City HIV Care Region								
White	92	55.8%	21.3	50	40.7%	11.1	142	16.1
Black/African American	73	44.2%	80.2	73	59.3%	71.2	146	75.4
Total	**165**	**100.0%**	**31.5**	**123**	**100.0%**	**22.2**	**288**	**26.7**
Northwest HIV Care Region								
White	10	90.9%	10.3	9	100.0%	9.1	19	9.7
Black/African American	1	9.1%	18.1	0	0.0%	0.0	1	12.0
Total	**11**	**100.0%**	**10.7**	**9**	**100.0%**	**8.8**	**20**	**9.8**
Central HIV Care Region								
White	15	60.0%	4.0	9	81.8%	2.4	24	3.2
Black/African American	10	40.0%	40.0	2	18.2%	9.8	12	26.4
Total	**25**	**100.0%**	**6.2**	**11**	**100.0%**	**2.7**	**36**	**4.5**
Southwest HIV Care Region								
White	49	87.5%	9.5	29	100.0%	5.5	78	7.5
Black/African American	7	12.5%	47.1	0	0.0%	0.0	7	27.9
Total	**56**	**100.0%**	**10.6**	**29**	**100.0%**	**5.4**	**85**	**8.0**
Southeast HIV Care Region								
White	26	65.0%	186.2	19	79.2%	8.7	45	19.3
Black/African American	14	35.0%	84.3	5	20.8%	34.9	19	61.4
Total	**40**	**100.0%**	**130.9**	**24**	**100.0%**	**10.3**	**64**	**24.3**

*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2019 DHSS population estimates.

There were a total of 790 P&S syphilis cases reported in 2020 (Table 24). This number represented a decrease from the 817 P&S syphilis cases reported in 2019. The majority of cases (64%) were reported among males. The rate of P&S syphilis cases among males was highest in the St. Louis City HIV Care Region (50). St. Louis HIV Care Region and Kansas City HIV Care Region represented the largest proportion of P&S syphilis cases, 37% and 36% respectively. The rate of reported P&S syphilis cases was higher for Blacks/African Americans compared to whites in all regions that reported P&S syphilis cases among Blacks/African Americans.

Figure 18. Reported P&S syphilis cases* and rates, by county, Missouri, 2020**



*Case counts are in black.
**Case rates are in red, per 100,000 population based on 2019 DHSS population estimates.

P&S syphilis cases were concentrated in metropolitan areas (Figure 30). There were 52 counties that did not report any P&S syphilis cases in 2020. St. Louis had the highest rate of reported P&S syphilis cases at 38 per 100,000 persons. This rate means that for every 100,000 persons living in St. Louis, there were 38 reported with P&S syphilis in 2020.

Figure 19. Reported P&S syphilis cases, by race and sex, by age group at diagnosis, Missouri, 2020

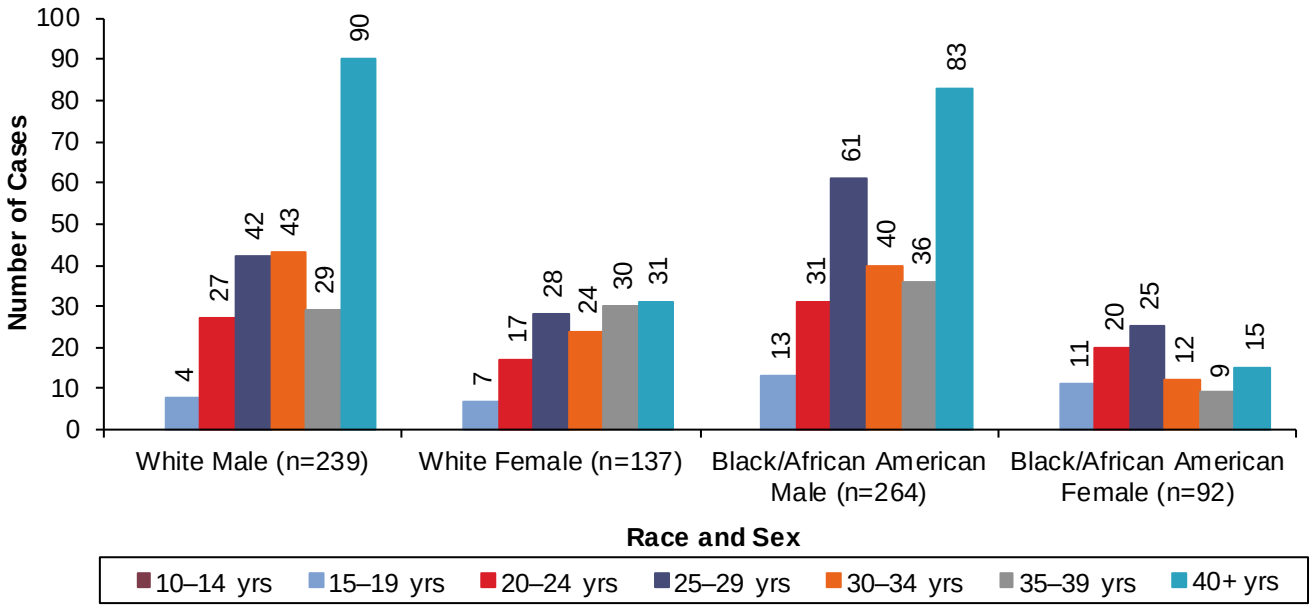
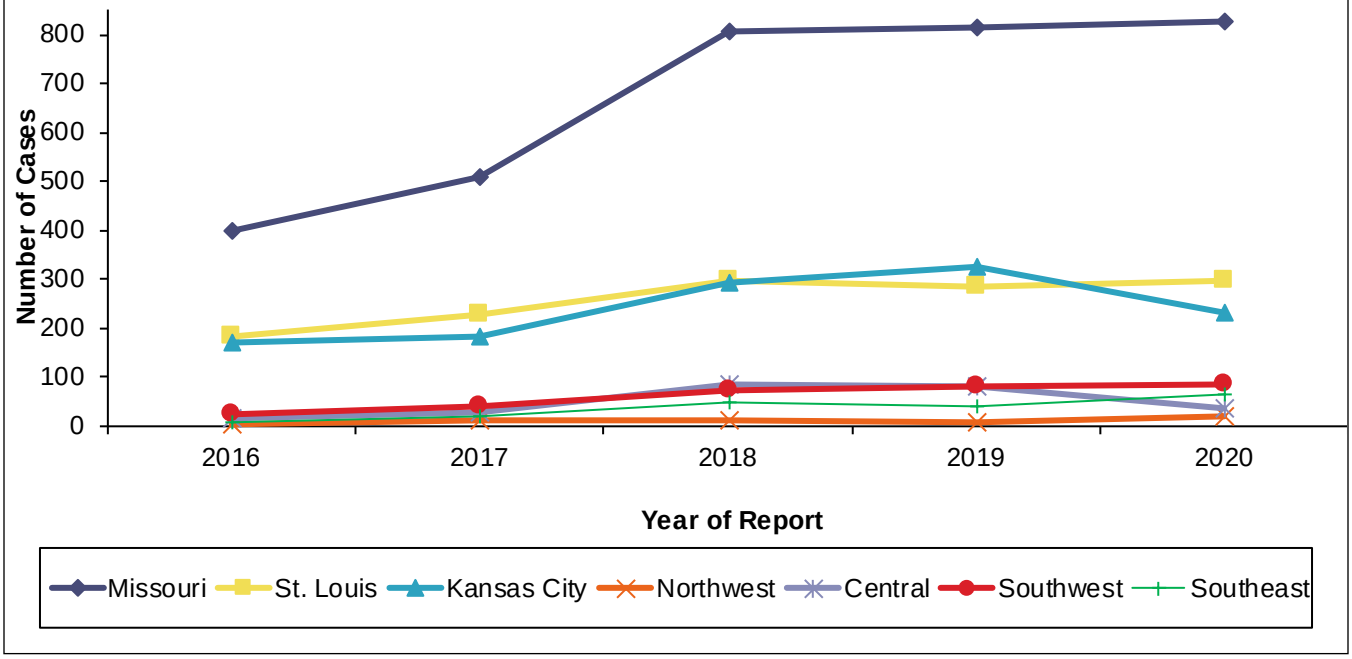


Figure 20. Reported P&S syphilis cases by HIV care region and year of report, Missouri, 2016-2020



The largest numbers of P&S syphilis cases were reported among Black/African American males (264) (Figure 31). The number of reported cases increased from 2018 to 2019 among all other race/ethnicity and sex categories presented. There were differences in the distribution of reported cases by age at diagnosis among the race/ethnicity and sex categories. Among white males, Black/African American males, and white 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 2016 to 2017 and then increased drastically from 2017 to 2018 (Figure 32). The number of reported P&S syphilis cases decreased from 2019 to 2020 in the Kansas City and Central. The number of reported P&S syphilis cases increased from 2019 to 2020 in the remaining HIV regions.

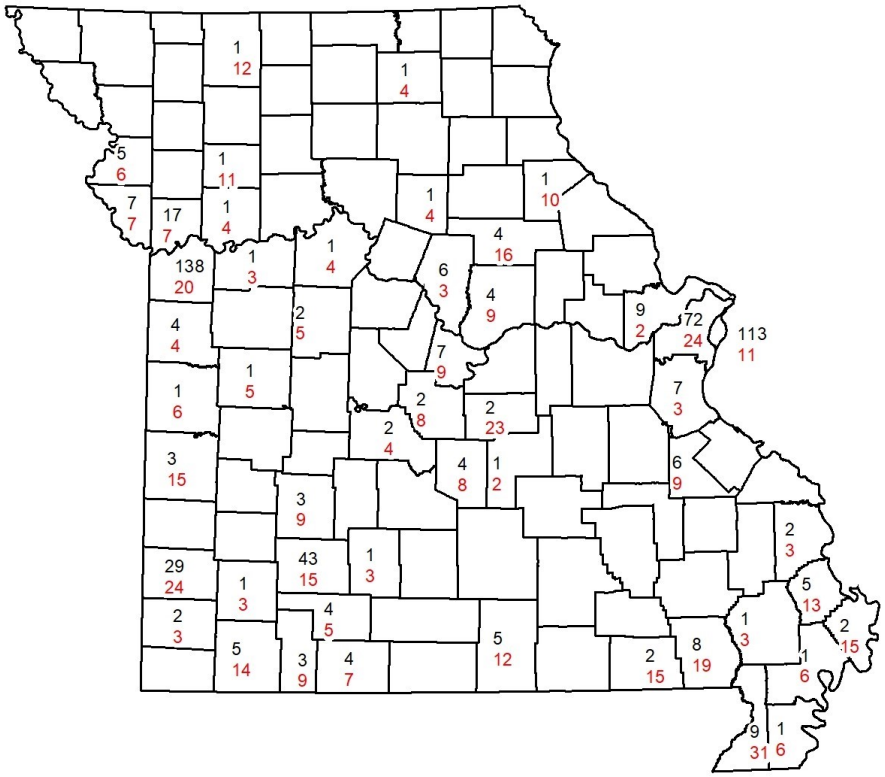
Table 25. Reported early latent syphilis cases and rates, by race*, by HIV care region, by sex, Missouri, 2020

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	494	74.4%	20.1	92	68.7%	3.7	586	6.1
Black/African American	170	25.6%	50.2	42	31.3%	11.3	212	30.1
Total	**664**	**100.0%**	**22.1**	**134**	**100.0%**	**4.7**	**798**	**8.8**
St. Louis HIV Care Region								
White	44	28.8%	5.9	8	21.6%	1.0	52	3.4
Black/African American	109	71.2%	58.8	29	78.4%	13.0	138	33.8
Total	**153**	**100.0%**	**16.4**	**37**	**100.0%**	**3.7**	**190**	**9.8**
Kansas City HIV Care Region								
White	71	63.4%	16.4	28	73.7%	6.2	99	11.2
Black/African American	41	36.6%	45.0	10	26.3%	9.8	51	26.3
Total	**112**	**100.0%**	**21.4**	**38**	**100.0%**	**6.9**	**150**	**13.9**
Northwest HIV Care Region								
White	8	100.0%	8.2	4	66.7%	4.0	12	6.1
Black/African American	0	0.0%	0.0	2	33.3%	70.7	2	24.0
Total	**8**	**100.0%**	**7.8**	**6**	**100.0%**	**5.9**	**14**	**6.8**
Central HIV Care Region								
White	13	81.3%	3.5	16	100.0%	4.2	29	3.8
Black/African American	3	18.8%	12.0	0	0.0%	0.0	3	6.6
Total	**16**	**100.0%**	**4.0**	**16**	**100.0%**	**4.0**	**32**	**4.0**
Southwest HIV Care Region								
White	62	88.6%	12.1	24	96.0%	4.5	86	8.3
Black/African American	8	11.4%	53.8	1	4.0%	9.8	9	35.9
Total	**70**	**100.0%**	**13.2**	**25**	**100.0%**	**4.6**	**95**	**8.9**
Southeast HIV Care Region								
White	9	50.0%	64.5	15	88.2%	6.9	24	10.3
Black/African American	9	50.0%	54.2	2	11.8%	14.0	11	35.6
Total	**18**	**100.0%**	**58.9**	**17**	**100.0%**	**7.3**	**35**	**13.3**

*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2019 DHSS population estimates.

There were a total of 798 early latent syphilis cases reported in 2020 (Table 29). The majority of cases (83%) were reported among males. The rate of early latent syphilis cases among all cases was highest in the Kansas City HIV Care Region (16.1), followed by the Southwest HIV Care Region (11.5). Thirty-six percent (36%) of all early latent syphilis cases were reported in the Kansas City HIV Care Region and 25% were reported in the Southwest HIV Care Region. The St. Louis HIV Care Region had the third largest number of early latent syphilis cases reported. 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 21. Reported early latent syphilis cases* and rates, by county, Missouri, 2020**



*Case counts are in black.
**Case rates are in red, per 100,000 population based on 2019 DHSS population estimates.

Early latent syphilis cases were concentrated in metropolitan areas (Figure 33). There were 56 counties that did report any early latent syphilis cases in 2020. Jackson County had the highest number of reported early latent syphilis cases (138).

Figure 22. Reported early latent syphilis cases, by race and sex, by age group at diagnosis, Missouri, 2020

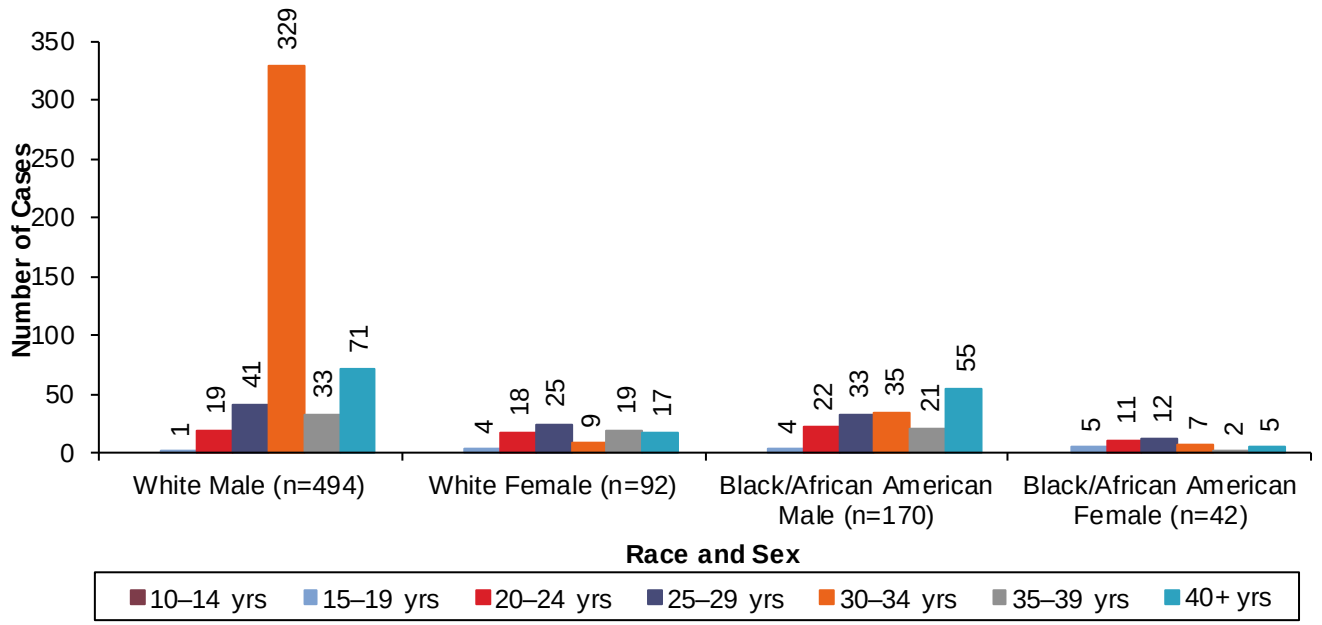
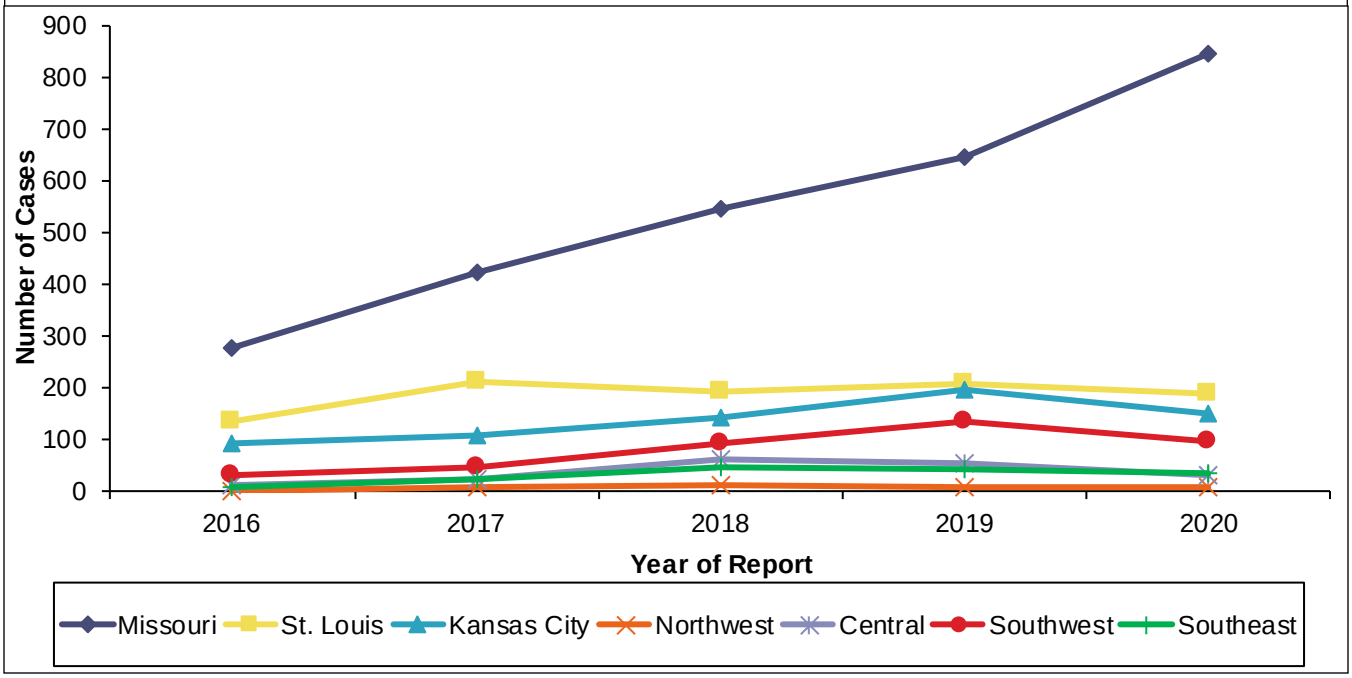


Figure 23. Reported early latent syphilis cases by HIV care region and year of report, Missouri, 2016-2020



The largest numbers of early latent syphilis cases were reported among white males (494) (Figure 34). 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 2016 to 2020 (Figure 35). Throughout all regions the number of reported early latent syphilis cases remained about the same from 2016 to 2020.

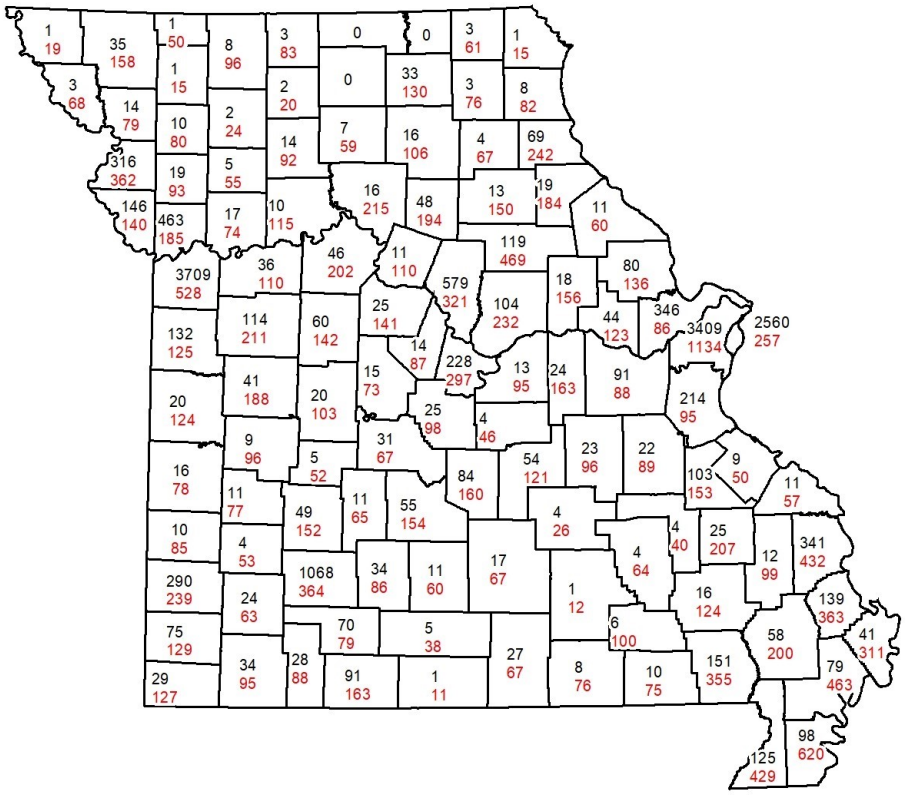
Table 26. Reported gonorrhea cases and rates, by race*, by HIV care region, by sex, Missouri, 2020

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	2,557	34.3%	103.9	3,244	47.5%	131.8	5,803	117.9
Black/African American	4,901	65.7%	1448.5	3,584	52.5%	960.9	8,487	1193.1
Total	**7,458**	**100.0%**	**247.9**	**6,828**	**100.0%**	**240.9**	**14,290**	**244.6**
St. Louis HIV Care Region								
White	519	17.0%	69.3	554	20.8%	71.0	1073	70.2
Black/African American	2525	83.0%	1362.8	2104	79.2%	945.2	4629	1134.9
Total	**3,044**	**100.0%**	**325.8**	**2,658**	**100.0%**	**265.0**	**5,702**	**294.3**
Kansas City HIV Care Region								
White	682	31.0%	157.7	705	40.4%	156.1	1387	156.8
Black/African American	1521	69.0%	1670.4	1041	59.6%	1015.1	2562	1323.3
Total	**2,203**	**100.0%**	**420.7**	**1,746**	**100.0%**	**315.0**	**3,949**	**366.4**
Northwest HIV Care Region								
White	125	67.6%	128.8	168	93.3%	169.3	293	149.3
Black/African American	60	32.4%	1088.7	12	6.7%	424.2	72	863.3
Total	**185**	**100.0%**	**180.4**	**180**	**100.0%**	**176.4**	**365**	**178.4**
Central HIV Care Region								
White	364	53.0%	96.9	611	77.2%	159.6	975	128.5
Black/African American	323	47.0%	1290.4	180	22.8%	879.0	503	1105.3
Total	**687**	**100.0%**	**171.4**	**791**	**100.0%**	**196.2**	**1,478**	**183.8**
Southwest HIV Care Region								
White	610	71.3%	118.7	787	91.5%	149.0	1397	134.0
Black/African American	246	28.7%	1655.3	73	8.5%	715.2	319	1272.5
Total	**856**	**100.0%**	**161.9**	**860**	**100.0%**	**159.7**	**1,716**	**160.8**
Southeast HIV Care Region								
White	256	53.0%	1833.3	422	70.7%	192.8	678	291.1
Black/African American	227	47.0%	1367.3	175	29.3%	1220.9	402	1299.5
Total	**483**	**100.0%**	**1580.2**	**597**	**100.0%**	**256.0**	**1,080**	**409.4**

*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2019 DHSS population estimates.

There were a total of 14,290 gonorrhea cases reported in 2020 (Table 30). This count represented a decrease in the number of reported cases compared to 2018. The majority of cases (55%) were reported among males. The rate of reported gonorrhea cases was higher for Blacks/African Americans compared to whites in all regions. The proportion of gonorrhea cases reported varied by HIV care region. The St. Louis HIV Care Region had the largest number of gonorrhea cases reported. The Black/African Americans were the largest proportion of gonorrhea cases in Kansas City HIV Care Region and St. Louis HIV Care Region. In Southwest, Southeast, and Central there were a higher number of female gonorrhea cases.

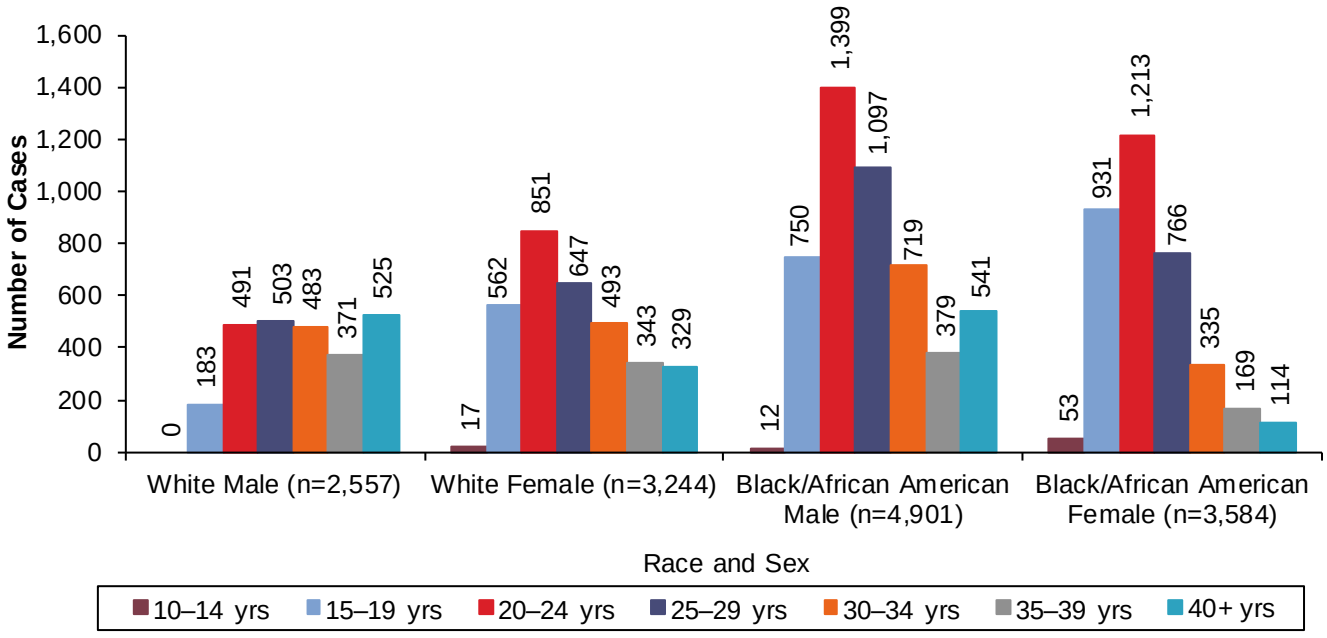
Figure 24. Reported gonorrhea cases* and rates, by county, Missouri, 2020**



*Case counts are in black.
**Case rates are in red, per 100,000 population based on 2019 DHSS population estimates.

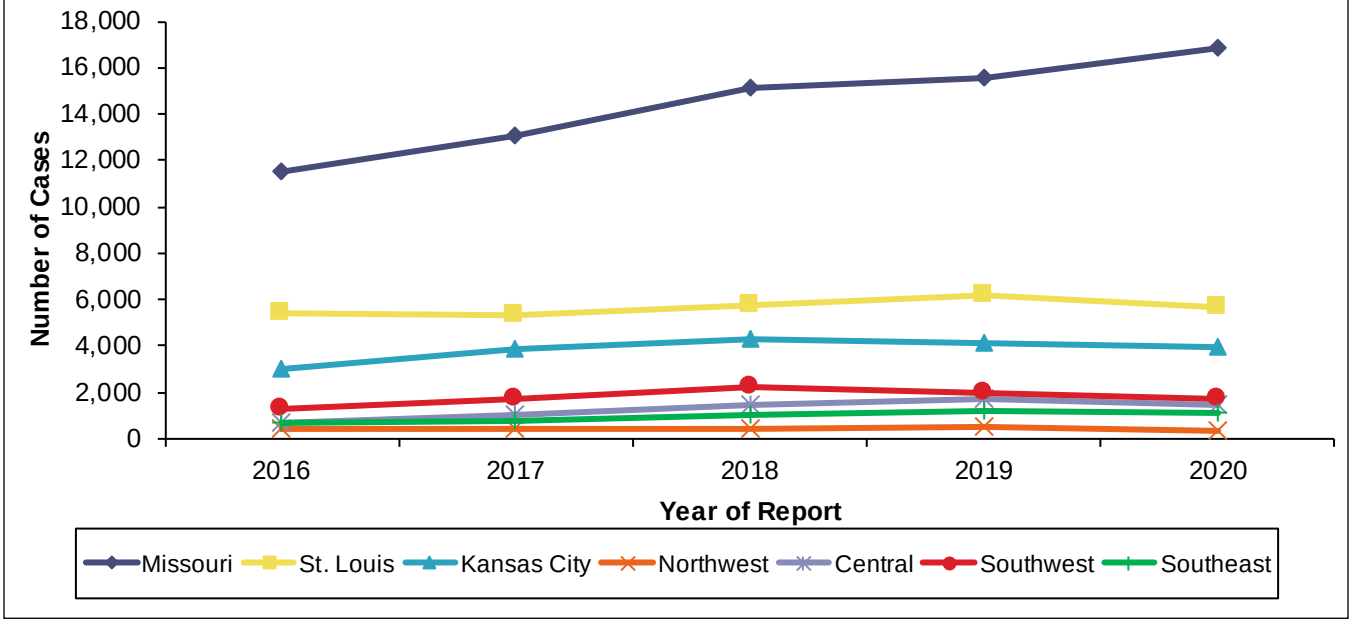
Gonorrhea cases reported in St. Louis City, St. Louis County, and Jackson County represented 56% of all reported cases in 2020 (Figure 36). There were 3 counties that did not report any gonorrhea cases in 2020. Kansas City had the highest rate of reported gonorrhea cases at 333 per 100,000 persons. This rate means that for every 100,000 persons living in Kansas City, there were 333 reported with gonorrhea in 2020.

Figure 25. Reported gonorrhea cases, by race and sex, by age group at diagnosis, Missouri, 2020



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, 2016-2020



The largest proportion of gonorrhea cases were reported among Black/African American males (Figure 37). For ethnicity, the largest number of gonorrhea cases were reported among Black/African Americans (8485). In terms of gender, the largest number of gonorrhea cases were reported among males (7458). For all race/ethnicity and gender except white males, the largest proportion of gonorrhea cases were between the ages of 20-24 years old.

The number of reported gonorrhea cases in Missouri increased from 2016 through 2020 (Figure 38). The numbers of reported gonorrhea cases were fluctuated slightly from 2016 through 2020 in all HIV care regions. The number of reported gonorrhea cases was higher in 2017 compared to 2016 in all HIV care regions, except for the St. Louis HIV Care Regions.

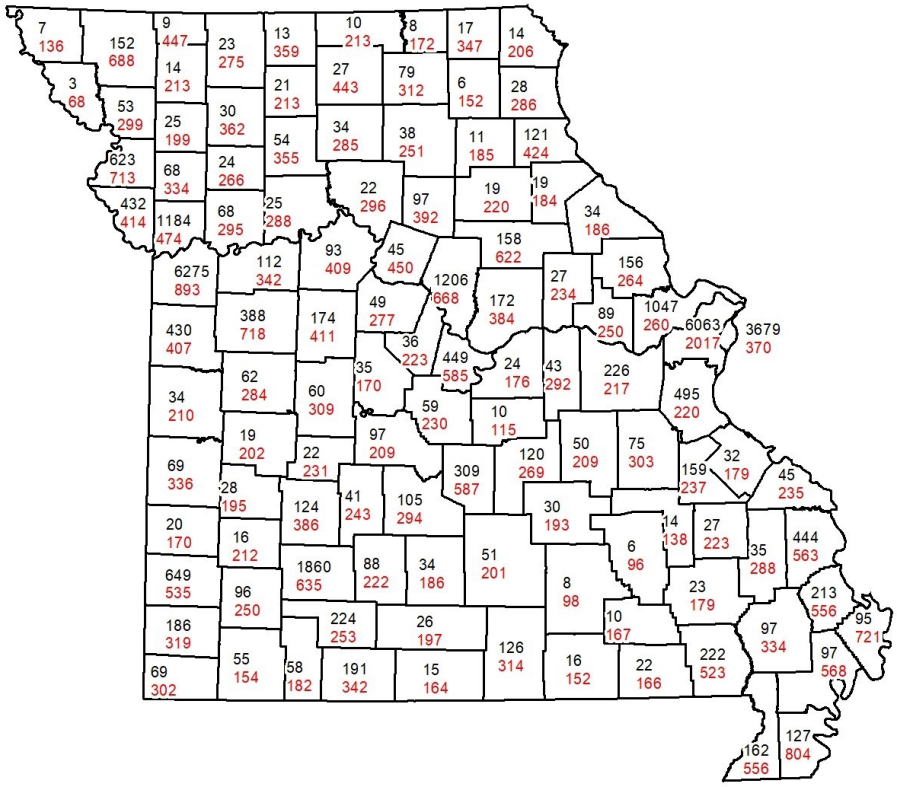
Table 27. Reported chlamydia cases and rates, by race*, by HIV care region, by sex, Missouri, 2020

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	3,691	44.3%	150.0	8,871	55.2%	360.4	12,562	255.2
Black/African American	4,648	55.7%	1373.7	7,214	44.8%	1934.1	11,331	1592.9
Total	**8,339**	**100.0%**	**277.2**	**16,085**	**100.0%**	**567.5**	**23,893**	**409.0**
St. Louis HIV Care Region								
White	800	24.9%	106.8	1677	28.5%	214.9	2477	162.0
Black/African American	2407	75.1%	1299.1	4214	71.5%	1893.1	6621	1623.3
Total	**3,207**	**100.0%**	**343.3**	**5,891**	**100.0%**	**587.4**	**9,098**	**469.6**
Kansas City HIV Care Region								
White	884	37.8%	204.4	1985	57.7%	439.4	2869	324.4
Black/African American	1457	62.2%	1600.1	1457	42.3%	1420.8	2914	1505.1
Total	**2,341**	**100.0%**	**447.1**	**3,442**	**100.0%**	**621.0**	**5,783**	**536.5**
Northwest HIV Care Region								
White	213	79.2%	219.6	576	94.3%	580.6	789	402.1
Black/African American	56	20.8%	1016.1	35	5.7%	1237.2	91	1091.1
Total	**269**	**100.0%**	**262.4**	**611**	**100.0%**	**598.8**	**880**	**430.2**
Central HIV Care Region								
White	616	62.3%	164.0	1553	77.6%	405.7	2169	286.0
Black/African American	372	37.7%	1486.2	448	22.4%	2187.8	820	1801.9
Total	**988**	**100.0%**	**246.5**	**2,001**	**100.0%**	**496.2**	**2,989**	**371.8**
Southwest HIV Care Region								
White	914	78.6%	177.9	2247	92.7%	425.3	3161	303.3
Black/African American	249	21.4%	1675.5	177	7.3%	1734.1	426	1699.4
Total	**1,163**	**100.0%**	**220.0**	**2,424**	**100.0%**	**450.1**	**3,587**	**336.1**
Southeast HIV Care Region								
White	264	57.1%	1890.6	833	76.1%	380.5	1097	471.1
Black/African American	198	42.9%	1192.6	261	23.9%	1820.8	459	1483.7
Total	**462**	**100.0%**	**1511.5**	**1,094**	**100.0%**	**469.0**	**1,556**	**589.8**

*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2019 DHSS population estimates.

There were a total of 23,893 chlamydia cases reported in 2020 (Table 31). The majority of cases (67%) were reported among females. The proportion of chlamydia cases reported among females varied by HIV care region. The St. Louis HIV Care Region reported the highest proportion of female cases (36%). The rate of chlamydia cases among females was highest in the Kansas City HIV Care Region (621), followed by the St. Louis HIV Care Region (587.4). Black/African American were the largest population in Kansas City HIV Care Region and St. Louis HIV Care Region. The rate of reported chlamydia cases was higher for Blacks/African Americans compared to whites in all regions.

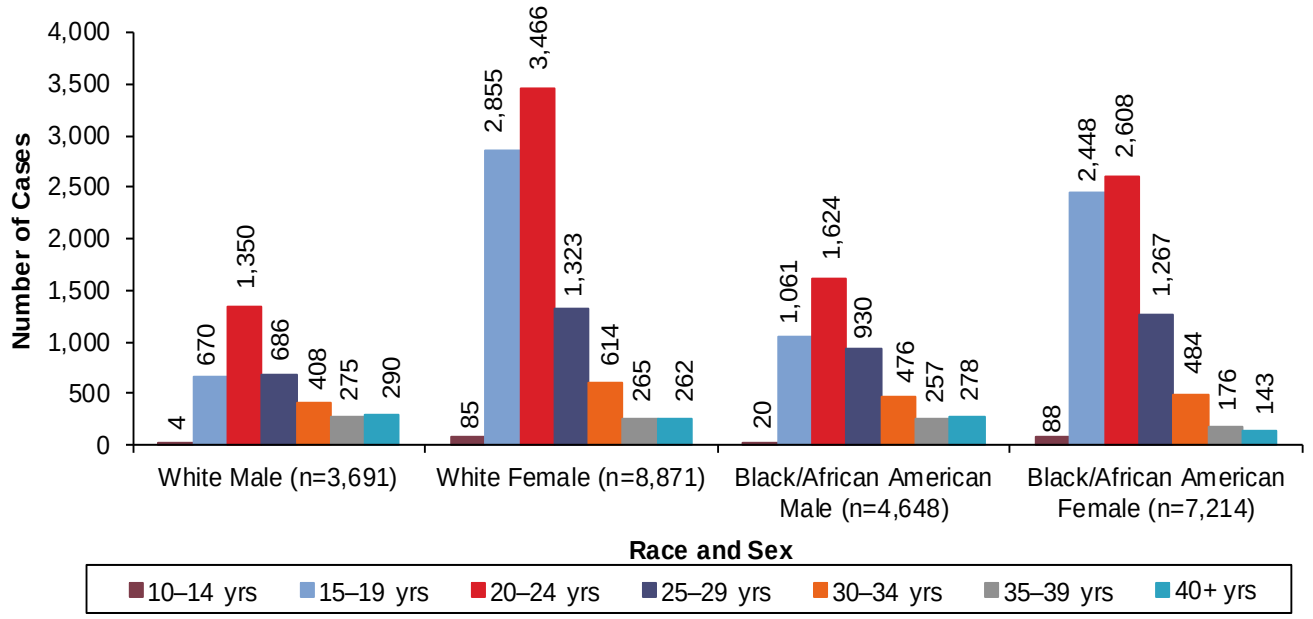
Figure 27. Reported chlamydia cases* and rates, by county, Missouri, 2020**



*Case counts are in black.
**Case rates are in red, per 100,000 population based on 2019 DHSS population estimates.

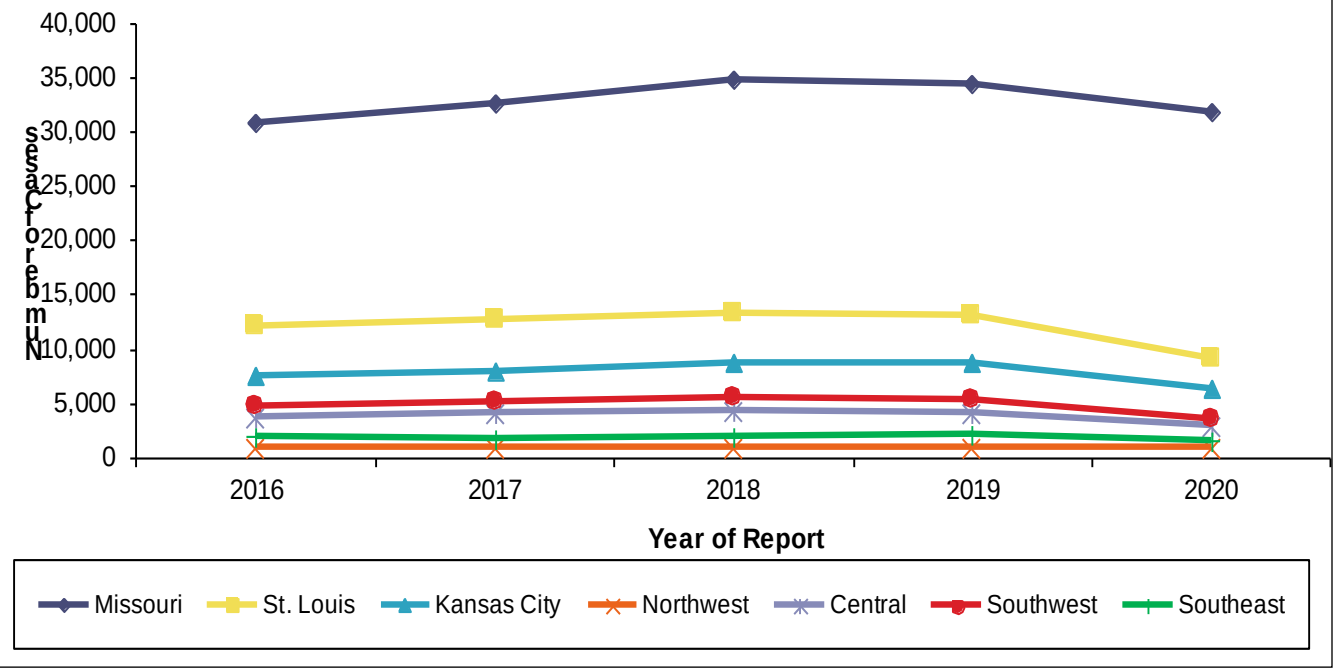
Chlamydia cases reported in St. Louis City, St. Louis County, and Jackson County represented 50% of all reported cases in 2020 (Figure 39), although these areas represent only 33% of Missouri's general population. All counties reported more than one chlamydia case in 2020. St. Louis County had the highest rate of reported chlamydia cases at 2,017 per 100,000 persons. This rate means that for every 100,000 persons living in that region, there were 2,017 reported with chlamydia in 2020.

Figure 28. Reported chlamydia cases, by race and sex, by age group at diagnosis, Missouri, 2020



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, 2016-2020



The largest numbers of chlamydia cases were reported among white females (8,871) in 2020 (Figure 40). Females had the highest number of chlamydia cases. 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 increased from 2016 to 2018, then decreased slightly through 2020 (Figure 41). All HIV care regions reported an slight decrease in the number of chlamydia cases from 2019 to 2020.

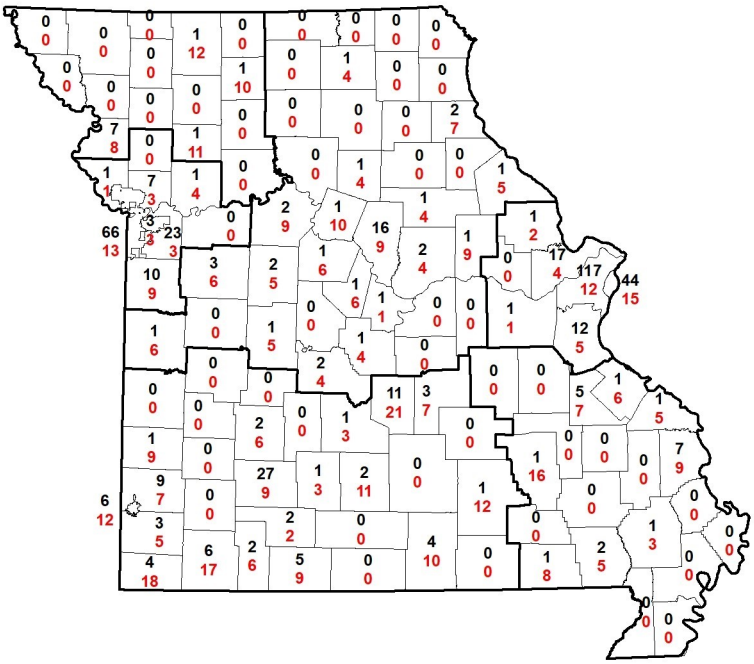
Table 28. Reported hepatitis B† cases and rates, by race*, by HIV care region, by sex, Missouri, 2020

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	52	28.7%	2.1	35	21.9%	1.4	87	1.8
Black/African American	34	18.8%	10.0	25	15.6%	6.7	59	8.3
Other/Unknown*	95	52.5%	--	100	62.5%	--	195	--
Total	**181**	**100.0%**	**6.0**	**160**	**100.0%**	**5.6**	**341**	**5.8**
St. Louis HIV Care Region								
White	13	16.5%	1.7	11	16.2%	1.4	24	1.6
Black/African American	19	24.1%	10.3	14	20.6%	6.3	33	8.1
Other/Unknown*	47	59.5%	--	43	63.2%	--	90	--
Total	**79**	**100.0%**	**8.5**	**68**	**100.0%**	**6.8**	**147**	**7.6**
Kansas City HIV Care Region								
White	9	25.7%	2.1	5	13.2%	1.1	14	1.6
Black/African American	10	28.6%	11.0	7	18.4%	6.8	17	8.8
Other/Unknown*	16	45.7%	--	26	68.4%	--	42	--
Total	**35**	**100.0%**	**6.7**	**38**	**100.0%**	**6.9**	**73**	**6.8**
Northwest HIV Care Region								
White	1	25.0%	1.0	1	50.0%	1.0	2	1.0
Black/African American	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Other/Unknown*	3	75.0%	--	1	50.0%	--	4	--
Total	**4**	**100.0%**	**3.9**	**2**	**100.0%**	**2.0**	**6**	**2.9**
Central HIV Care Region								
White	6	40.0%	1.6	4	33.3%	1.0	10	1.3
Black/African American	3	20.0%	12.0	1	8.3%	4.9	4	8.8
Other/Unknown*	6	40.0%	--	7	58.3%	--	13	--
Total	**15**	**100.0%**	**3.7**	**12**	**100.0%**	**3.0**	**27**	**3.4**
Southwest HIV Care Region								
White	20	48.8%	3.9	9	28.1%	1.7	29	2.8
Black/African American	2	4.9%	13.5	2	6.3%	19.6	4	16.0
Other/Unknown*	19	46.3%	--	21	65.6%	--	40	--
Total	**41**	**100.0%**	**7.8**	**32**	**100.0%**	**5.9**	**73**	**6.8**
Southeast HIV Care Region								
White	3	42.9%	21.5	5	62.5%	2.3	8	3.4
Black/African American	0	0.0%	0.0	1	12.5%	7.0	1	3.2
Other/Unknown*	4	57.1%	--	2	25.0%	--	6	--
Total	**7**	**100.0%**	**22.9**	**8**	**100.0%**	**3.4**	**15**	**5.7**

†Includes confirmed and probable case classifications of hepatitis B acute, hepatitis B chronic, hepatitis B prenatal, and hepatitis B perinatal.
*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2019 DHSS population estimates.

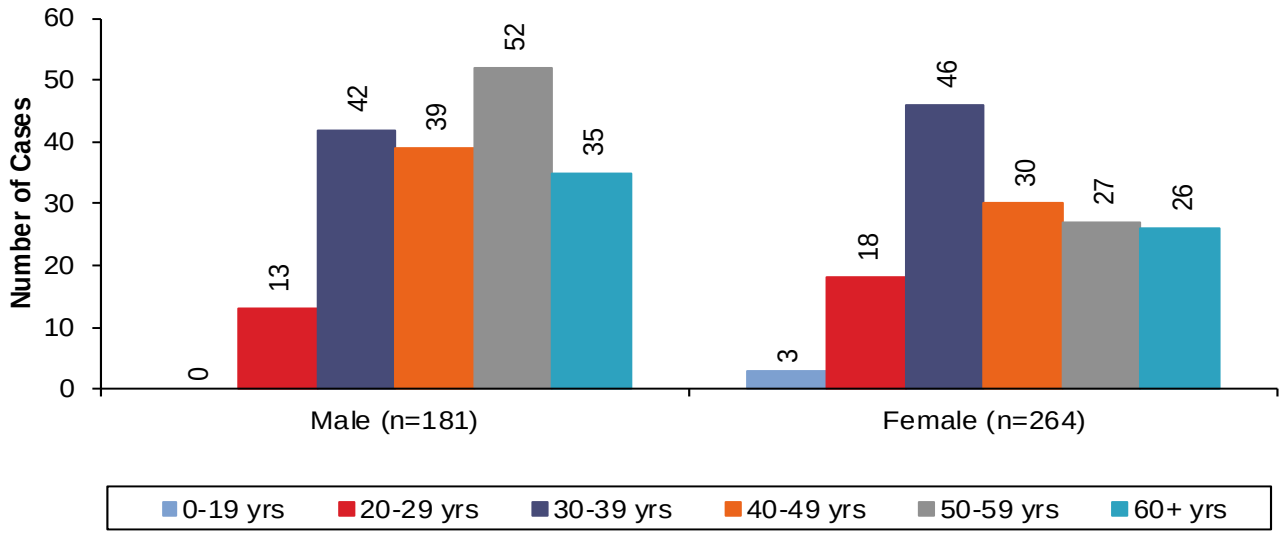
There were 341 hepatitis B cases reported in 2020 (Table 28). The number of reported hepatitis B cases in Missouri decreased by 164 cases from 2019 to 2020. Overall, the rate of reported hepatitis B cases was highest in the St. Louis HIV Care Region (7.6 per 100,000). 53% of reported hepatitis B cases were males. In terms of race/ethnicity, whites were the largest proportion of hepatitis B cases. However, this number should be interpreted with caution due to high number of unknown race/ethnicity.

Figure 30. Reported hepatitis B cases* and rates, by jurisdiction, Missouri, 2020**



*Case counts are in black.
**Case rates are in red, per 100,000 population based on 2019 DHSS population estimates.

Figure 31. Reported hepatitis B cases, by sex and by age group at diagnosis, Missouri, 2020



Note: Totals include persons whose age at diagnosis is unknown.

St. Louis County had the greatest number of reported hepatitis B cases (117), followed by Kansas City (66) (Figure 42). There were 56 jurisdictions that did not report any hepatitis B cases in 2020.

There were differences in the age distribution of reported hepatitis B cases by sex (Figure 43). Females were the highest number of hepatitis B cases. Among females, the largest numbers of reported cases were among persons 30-39 years of age. Among males, the largest number of reported cases were among persons 50-59 years of age.

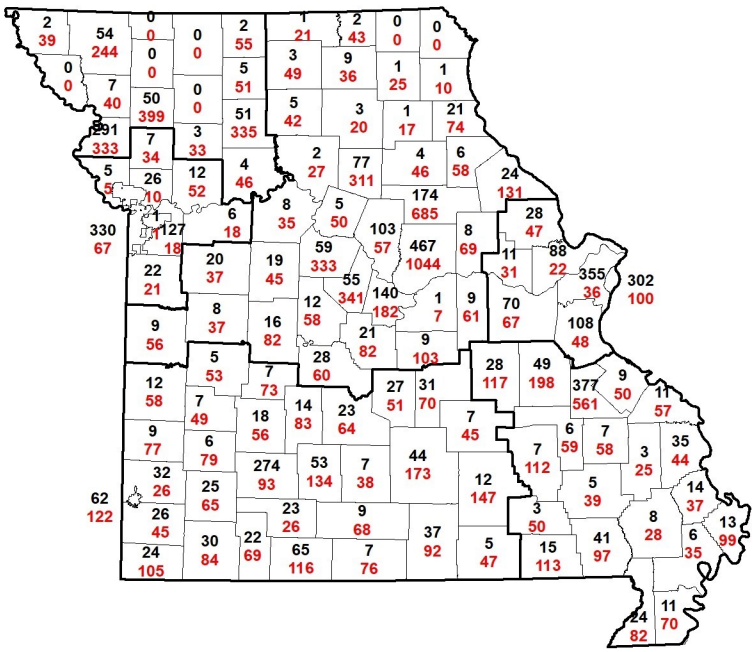
Table 29. Reported hepatitis C† cases and rates, by race*, by HIV care region, by sex, Missouri, 2020

	Male			Female			Total‡	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	852	43.3%	34.6	642	51.7%	26.1	1,494	30.3
Black/African American	221	11.2%	65.3	121	9.8%	32.4	342	48.1
Other/Unknown*	893	45.4%	--	478	38.5%	--	1,371	--
Total	**1,966**	**100.0%**	**65.4**	**1,241**	**100.0%**	**43.8**	**3,207**	**54.9**
St. Louis HIV Care Region								
White	195	33.4%	26.0	119	34.1%	15.2	314	20.5
Black/African American	132	22.6%	71.2	85	24.4%	38.2	217	53.2
Other/Unknown*	257	44.0%	--	145	41.5%	--	402	--
Total	**584**	**100.0%**	**62.5**	**349**	**100.0%**	**34.8**	**933**	**48.2**
Kansas City HIV Care Region								
White	158	46.9%	36.5	100	53.2%	22.1	258	29.2
Black/African American	51	15.1%	56.0	27	14.4%	26.3	78	40.3
Other/Unknown*	128	38.0%	--	61	32.4%	--	189	--
Total	**337**	**100.0%**	**64.4**	**188**	**100.0%**	**33.9**	**525**	**48.7**
Northwest HIV Care Region								
White	42	51.2%	43.3	36	73.5%	36.3	78	39.8
Black/African American	1	1.2%	18.1	1	2.0%	35.3	2	24.0
Other/Unknown*	39	47.6%	--	12	24.5%	--	51	--
Total	**82**	**100.0%**	**80.0**	**49**	**100.0%**	**48.0**	**131**	**64.0**
Central HIV Care Region								
White	115	42.3%	30.6	85	52.5%	22.2	200	26.4
Black/African American	20	7.4%	79.9	5	3.1%	24.4	25	54.9
Other/Unknown*	137	50.4%	--	72	44.4%	--	209	--
Total	**272**	**100.0%**	**67.9**	**162**	**100.0%**	**40.2**	**434**	**54.0**
Southwest HIV Care Region								
White	261	52.5%	50.8	231	64.3%	43.7	492	47.2
Black/African American	8	1.6%	53.8	2	0.6%	19.6	10	39.9
Other/Unknown*	228	45.9%	--	126	35.1%	--	354	--
Total	**497**	**100.0%**	**94.0**	**359**	**100.0%**	**66.7**	**856**	**80.2**
Southeast HIV Care Region								
White	81	41.8%	580.1	71	53.0%	32.4	152	65.3
Black/African American	9	4.6%	54.2	1	0.7%	7.0	10	32.3
Other/Unknown*	104	53.6%	--	62	46.3%	--	166	--
Total	**194**	**100.0%**	**634.7**	**134**	**100.0%**	**57.5**	**328**	**124.3**

†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 2019 DHSS population estimates.

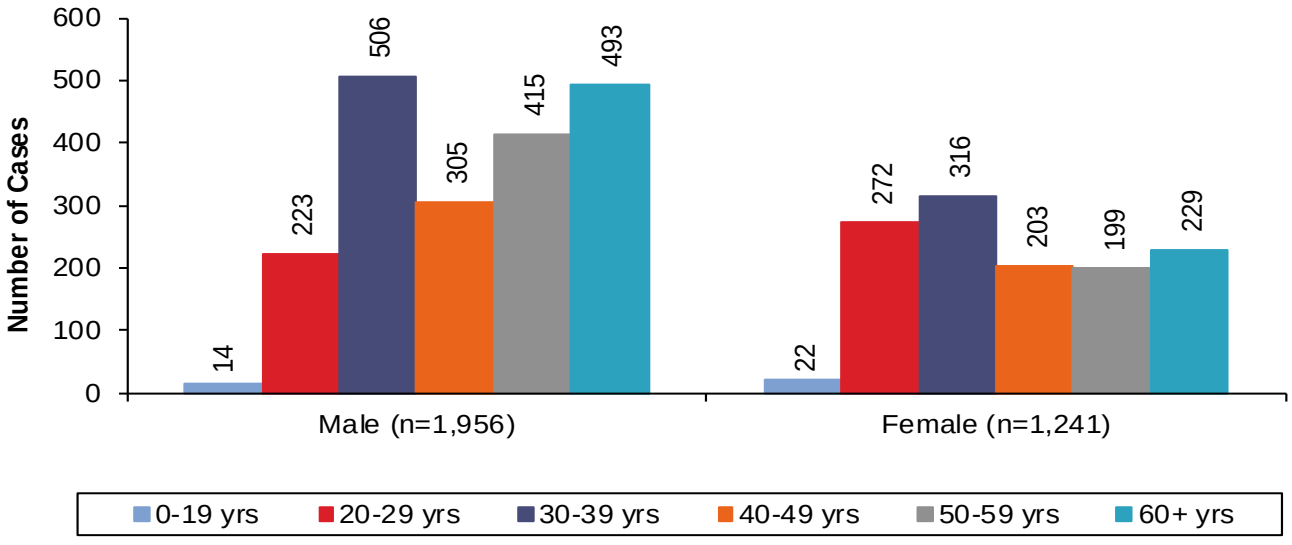
There were 3,207 hepatitis C cases reported in 2020 (Table 33). The number of reported hepatitis C cases in Missouri decreased by 1,602 cases from 2019. Overall, the rate of reported hepatitis C cases was highest in the Southeast HIV Care Region (124.3 per 100,000). In Missouri overall, 61% of the reported cases were males. Whites had the highest proportion of hepatitis cases. However, the large proportion of cases with unknown race/ethnicity information makes it difficult to analyze.

Figure 32. Reported hepatitis C cases* and rates, by jurisdiction, Missouri, 2020**



*Case counts are in black.
**Case rates are in red, per 100,000 population based on 2019 DHSS population estimates.

Figure 33. Reported hepatitis C cases, by sex and by age group at diagnosis, Missouri, 2020



Note: Totals include persons whose age at diagnosis is unknown.

St. Louis City had the greatest number of reported hepatitis C cases with 355 cases (Figure 44). The second largest number of hepatitis C cases occurred in Kansas City (330). There were seven jurisdictions which did not report a hepatitis C case in 2020.

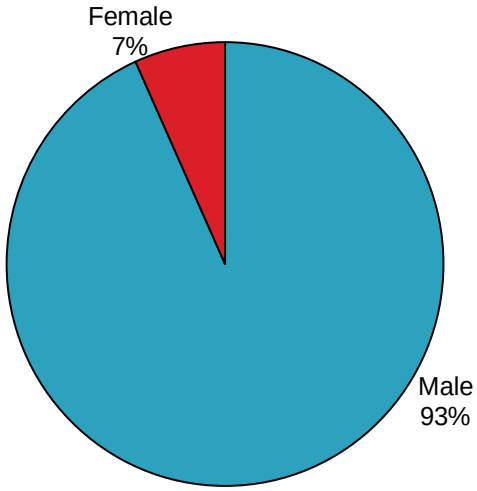
The highest number of hepatitis C cases were among males (Figure 45). Among males and females, the largest numbers of reported hepatitis C cases were between 30-39 years.

Table 30. HIV and STD co-infections, Missouri, 2020

Co-infection	Diagnosed with HIV Prior to 2020		Diagnosed with HIV in 2020		Total	
	N	%	N	%	N	%
Chlamydia	141	19.7%	24	22.9%	165	20.1%
Gonorrhea	229	32.0%	28	26.7%	257	31.3%
Syphilis*	173	24.2%	23	21.9%	196	23.9%
Chlamydia and Gonorrhea	108	15.1%	17	16.2%	125	15.2%
Chlamydia and Syphilis*	18	2.5%	3	2.9%	21	2.6%
Gonorrhea and Syphilis*	24	3.4%	5	4.8%	29	3.5%
Chlamydia, Gonorrhea, and Syphilis*	22	3.1%	5	4.8%	27	3.3%
Total	**715**	**100.0%**	**105**	**100.0%**	**820**	**100.0%**

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

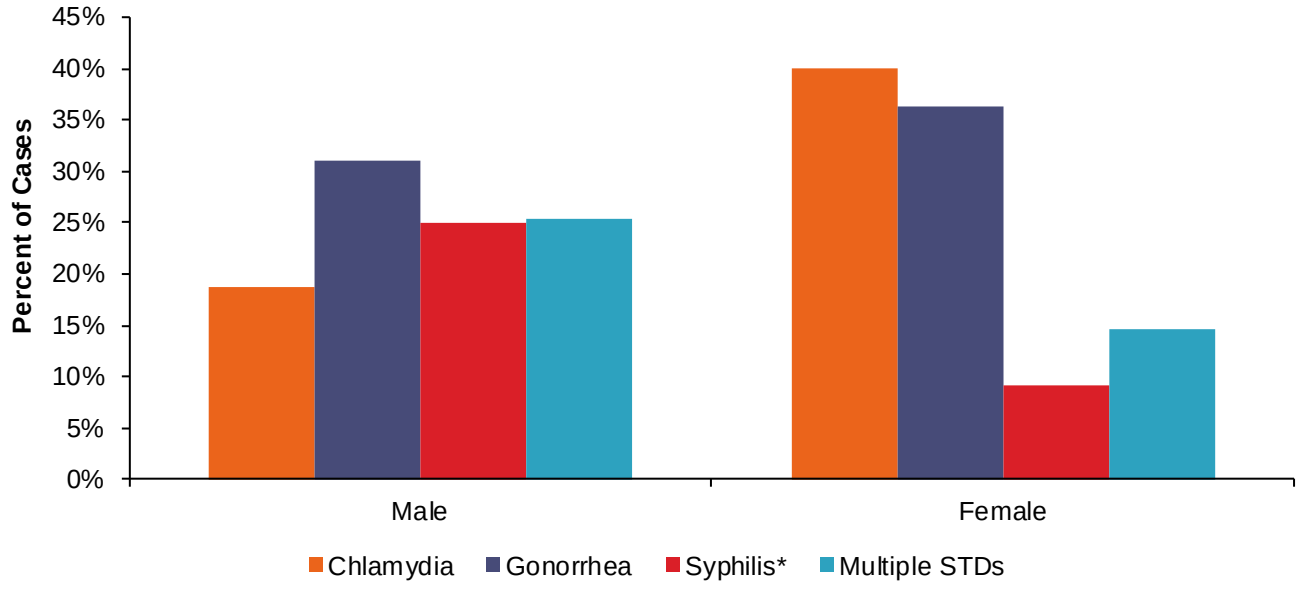
Figure 34. HIV and STD co-infections by sex, Missouri, 2020



Of the 13,554 individuals living with HIV disease, 818 were reported with an STD co-morbidity in 2020 (Table 34). The majority of those reported with an STD co-morbidity were diagnosed with HIV prior to 2020 (87%). 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. However, there were 202 that had multiple STDs that were co-morbidity with HIV.

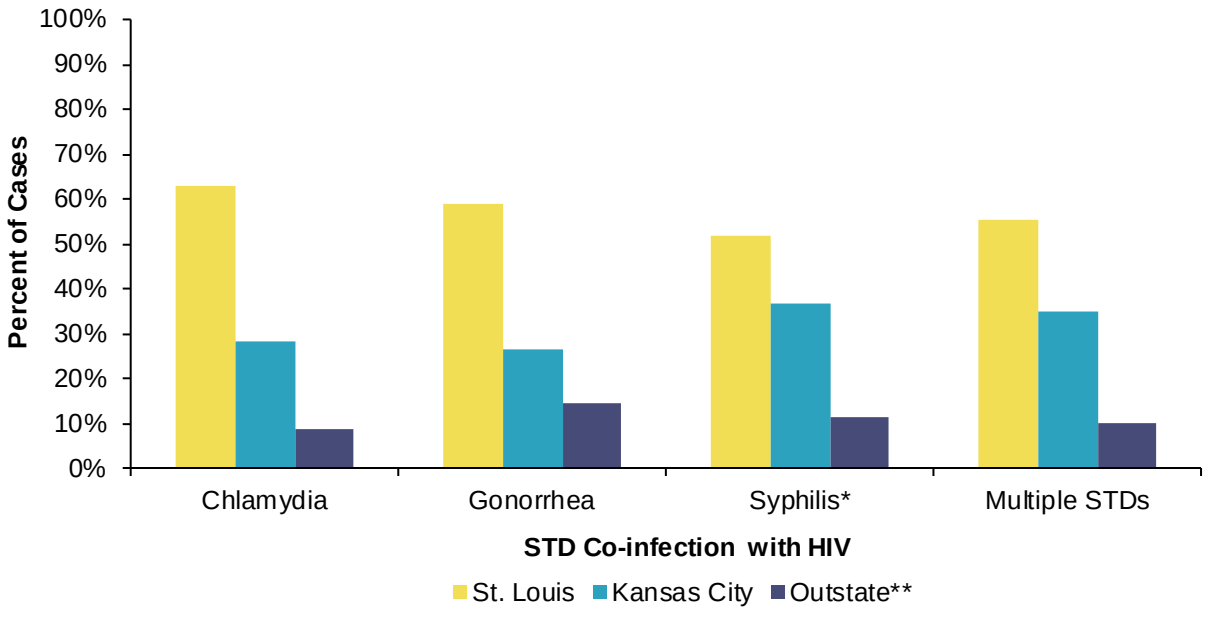
Of the 818 reported STD co-infections cases, 93% were among males (Figure 46). Males represented a higher proportion of the STD co-infections cases compared to all males living with HIV disease.

Figure 35. HIV and STD co-infections by sex and type of co-infection, Missouri, 2020



*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, 2020

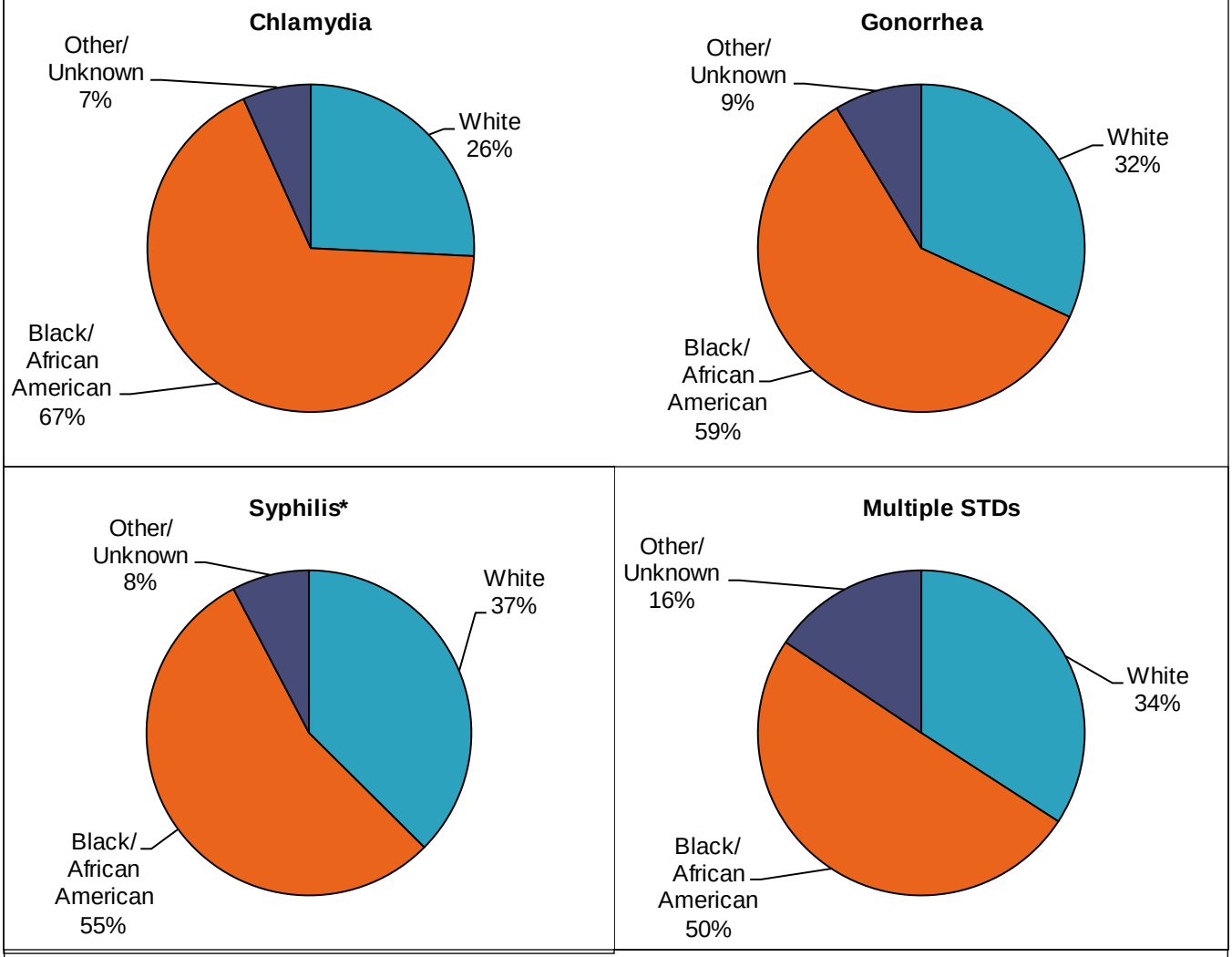


*Only includes diagnoses of primary, secondary, and early latent syphilis.
**Includes those diagnosed in the Central, Northwest, Southeast, and Southwest HIV Care Regions.
Note: Percentages may not total due to rounding.

There were differences in the distribution of STD co-morbidity types by sex (Figure 47). Among females living with HIV that were reported with an STD co-morbidity in 2020, 40% were co-infected with chlamydia, 36% with gonorrhea, 15% with multiple STDs, and 9% with syphilis. In contrast, among males living with HIV reported with an STD co-morbidity in 2020, only 31% were co-infected with gonorrhea, 19% with chlamydia, 26% with multiple STDs, and 25% 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 48). Among those living with HIV that were reported with STD co-infections in 2020, the highest proportion of STD co-infections were residents of the St. Louis HIV Care Region when diagnosed with STDs. Among those living with HIV that were reported with STD co-infections, gonorrhea had the largest proportion of STD co-infections in 2020.

Figure 37. HIV and STD co-infections by race/ethnicity and type of co-infection, Missouri, 2020



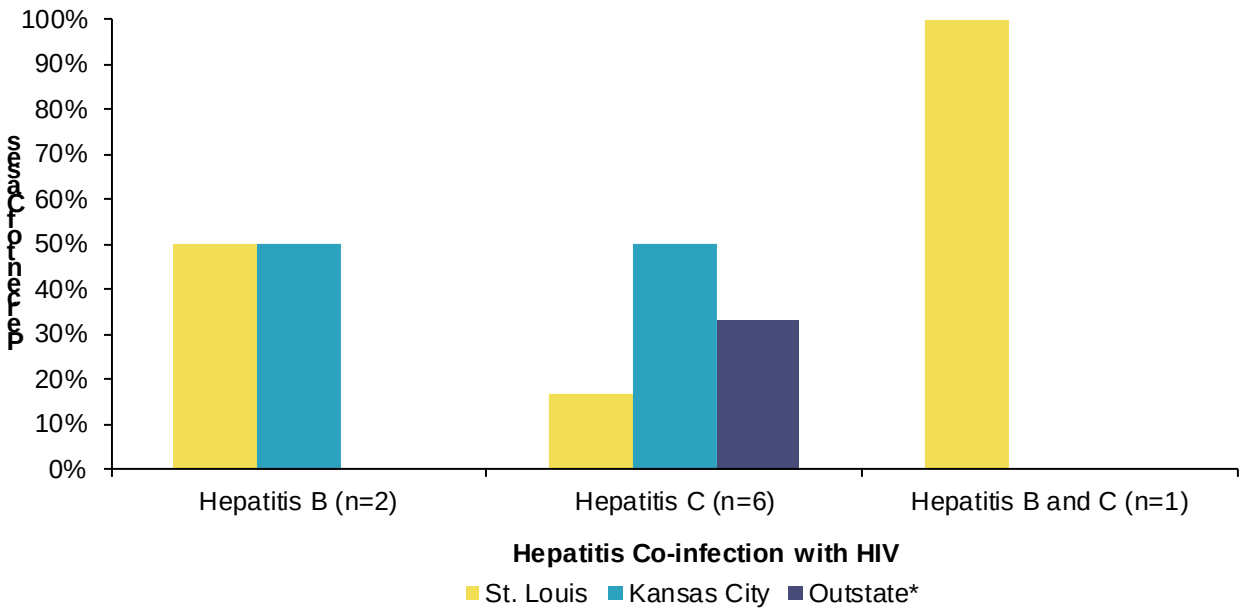
*Only includes diagnoses of primary, secondary, and early latent syphilis.

There were differences in the distribution of race/ethnicity among HIV and STD co-morbidities depending on the type of STD diagnosed (Figure 49). The proportion of co-morbidity cases attributed to Blacks/African Americans was highest among those co-infected with STDs. Among those living with HIV, gonorrhea had the largest proportion of Black/African American cases. In all instances, minorities were disproportionately represented in the proportion of co-morbidities that were reported. Black/African Americans represented 58% of living HIV disease cases.

Table 31. Reported hepatitis B and C infections among persons living with HIV disease, Missouri, 2020

Co-infection	Diagnosed with HIV Prior to 2020 N	Diagnosed with HIV in 2020 N	Total Co-infections N
Acute Hepatitis B	0	0	0
Chronic Hepatitis B	13	3	16
Prenatal Hepatitis B	1	0	1
Perinatal Hepatitis B	0	0	0
Acute Hepatitis C	1	0	1
Chronic Hepatitis C	24	8	32
Chronic Hepatitis B & C	0	0	0
Total	**39**	**11**	**50**

Figure 38. HIV and hepatitis co-infections by HIV care region of hepatitis diagnosis, Missouri, 2020

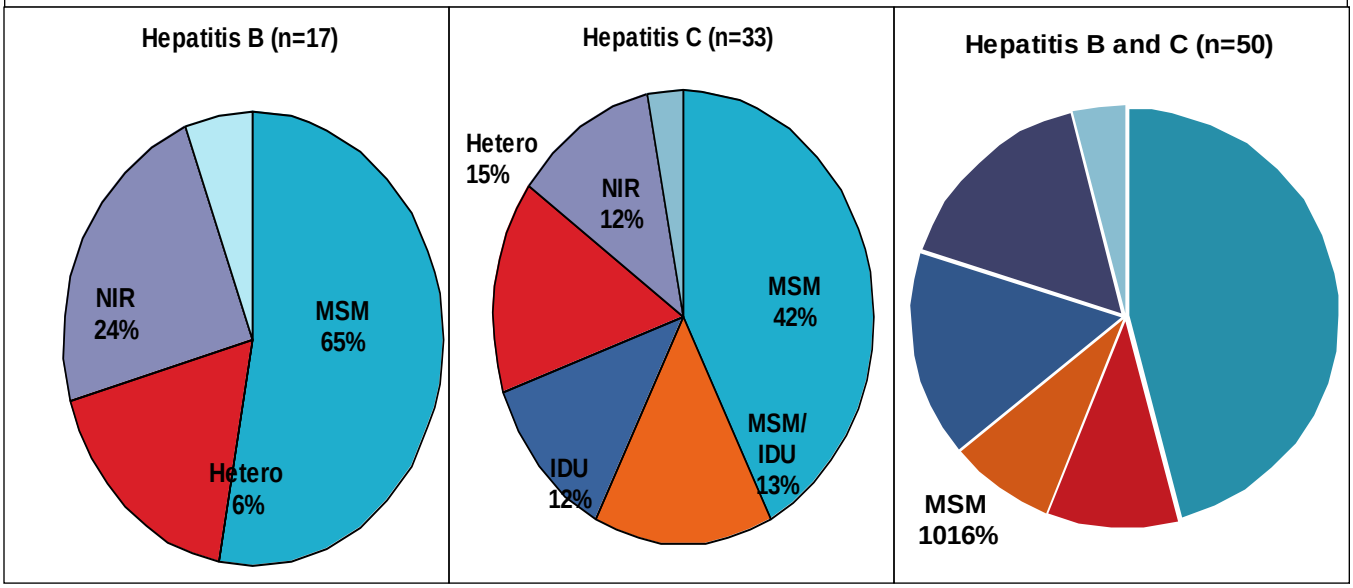


*Includes those diagnosed in the Central, Northwest, Southeast, and Southwest HIV Care Regions.

Of the 13,554 individuals living with HIV disease, 50 were reported with a hepatitis co-morbidity in 2020 (Table 35). The majority of those reported with a hepatitis co-morbidity were diagnosed with HIV prior to 2020 (78%). The largest number of HIV co-morbidities was with chronic hepatitis C.

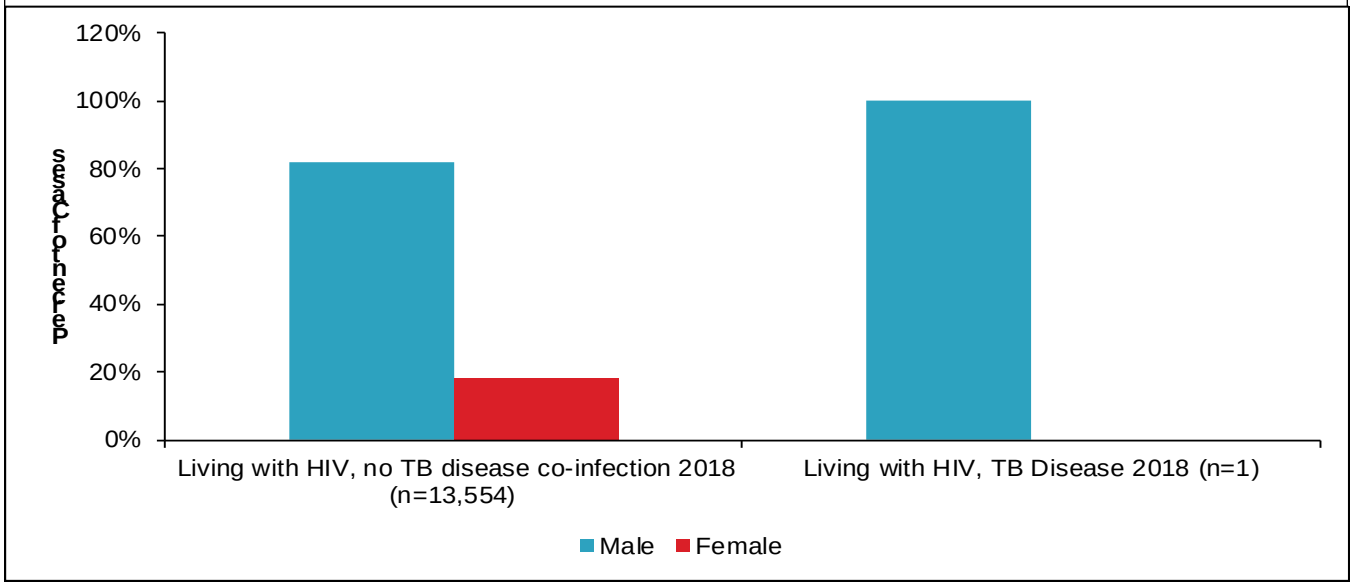
Among persons living with HIV disease that were reported with only a hepatitis B infection in 2020, exactly half were living in St. Louis HIV Care Region and Kansas City HIV Care Region at the time of the hepatitis diagnosis (Figure 50). Among HIV-positive persons reported with only a hepatitis C infection in 2020, the greatest proportion were residing in the Kansas City (50%) at the time of the hepatitis diagnosis.

Figure 39. HIV and hepatitis co-infections by HIV exposure category and type of co-infection, Missouri, 2020



Among persons living with HIV disease and reported with only a hepatitis B infection in 2020, 53% were among MSM (Figure 51). Among hepatitis C co-morbidity cases, 42% were attributed to MSM, and 15% were attributed to both MSM and IDU.

Figure 40. HIV and TB disease co-infections by sex, Missouri, 2020



Among the 13,554 persons living with HIV disease, one was reported to be diagnosed with TB disease in 2020 (Figure 52).

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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 refer 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).