

Epidemiologic Profiles of HIV, STD, and Hepatitis in Missouri-2017



Bureau of Reportable Disease Informatics
Division of Community and Public Health
Missouri Department of Health and Senior Services
<http://health.mo.gov/data/hivstdaids/>
1.866.628.9891



This page was intentionally left blank.

2017 Epidemiologic Profiles of HIV, STD, and Hepatitis in Missouri

TABLE OF CONTENTS

Background	i
Data Sources	ii
Technical Notes	iii
Abbreviations	vi
Missouri State Summary	
What is the scope of the HIV disease epidemic in Missouri?	1
What are the indicators of HIV disease infection risk in Missouri?	29
What are the HIV service utilization patterns of individuals with HIV disease in Missouri?	52
St. Louis HIV Care Region	
HIV Disease.....	61
STD and Hepatitis	73
Kansas City HIV Care Region	
HIV Disease.....	79
STD and Hepatitis	91
Northwest HIV Care Region	
HIV Disease.....	97
STD and Hepatitis	108
Central HIV Care Region	
HIV Disease.....	113
STD and Hepatitis	124
Southwest HIV Care Region	
HIV Disease.....	129
STD and Hepatitis	140
Southeast HIV Care Region	
HIV Disease.....	145
STD and Hepatitis	156
Glossary	160
Appendix	162

This page was intentionally left blank.

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 *Integrated Guidelines for Developing Epidemiologic Profiles* in 2004. 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 five 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 infection 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 (Acquired Immunodeficiency Syndrome) 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 two key questions:

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 disease in Missouri.

Question 5: What are the number and characteristics of the individuals who know they are HIV positive but who are not in care?

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 2017 *Profiles* provides a selective update of the questions in the *Profiles*, including the epidemiology of HIV, STDs, hepatitis, and unmet primary medical care needs among individuals living with HIV through 2017. Please refer to the data sources used in the *Profiles* on page ii and the technical notes on page iii 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 planning regions to assist with regional-level planning efforts.

Missouri Planning Cycle:

The statewide Missouri Comprehensive Prevention Planning Group (CPPG) operates on a five-year planning cycle. The current comprehensive prevention plan was developed in 2010 and runs from 2011 to 2017. 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 five 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* represent a selective update to all questions in the *Profiles*. For data from the most recent comprehensive *Profiles*, please refer to the 2014 *Epidemiologic Profiles*, which can be accessed at <http://health.mo.gov/data/hivstdaids/pdf/MOHIVSTD2014.pdf>.

Data Sources

1. Population Data

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

DHSS maintains population files for Missouri and its counties based on data provided by the U.S. Census Bureau in partnership with the Federal-State Cooperative Program for Population Estimates. Census counts are produced every ten years, with the 2010 census representing the most recent census. Population estimates are produced for non-census years based on adjustments made to the most recent census counts. Due to the time required to compute the estimates, the most recent year's estimates are not available for use in the *Profiles*, and the 2016 population estimates are used instead. Beginning with the 2008 population estimates, new race/ethnicity categories are being used, which include a separate estimate for persons identifying as 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. Additionally, in 2016, Missouri's communicable disease reporting rule was updated to include the reporting of the following: CD4 lymphocyte percent; all test results used for diagnosis or monitoring of HIV infection and all test results (positive and negative) in the test series that indicate HIV infection; pregnancy among newly identified or pre-existing HIV positive women; and negative, undetectable, or indeterminate HIV lab results occurring within 180 days prior to the test result used for diagnosis of HIV infection.

Demographic information, vital status, mode of exposure, laboratory results, and treatment and service referrals are collected on standardized case report forms and laboratory reports. The DHSS, Bureau of Reportable Disease Informatics (BRDI) 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 include data on those whose most recent diagnosis (HIV or stage 3 (AIDS)) occurred in Missouri. The data collected in the surveillance system are 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 thus may not reflect characteristics associated with recent infection. The surveillance system only includes data on individuals who 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

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, 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 BRDI is responsible for managing the hepatitis surveillance data, stored in the Missouri Health Surveillance Information System (WebSurv). Limitations of the data include incomplete race/ethnicity information and underreporting.

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 BRDI 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 BRDI 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 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.

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 (BCDCP) 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 standardized sets 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 so that data can 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 HIV 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 status of disease progression as of December 31, 2017.

Date of Diagnosis: Represents the date an individual was first diagnosed with HIV, 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, 2018.

Place of Residence: Data are presented based on an individual's residence at time of most recent diagnosis of HIV or stage 3 (AIDS). Only cases whose most recent diagnosis occurred in 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 with 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 2 of the 2017 *Profiles*.

Epi Profiles Summary: Introduction

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 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 people 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, 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 on 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.

Cumulative Interstate Duplicate Review (CIDR): In addition to RIDR, CDC initiated the Cumulative Interstate Duplicate Review (CIDR) in 2018. CIDR compares patient records throughout the nation in order to identify duplicate cases and reviews cases from the beginning of time. 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 on 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. This will be a five-year project, from 2018 to 2022.

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 with a numerator of 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 *Profiles*. For clarification of any terms used in the *Profiles*, please feel free to contact DHSS BRDI for additional information.

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

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

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

Pregnancy and HIV: Pregnant women with HIV have the potential to transmit the virus to the baby before or during birth. Women of childbearing age should be tested for HIV, especially once they become pregnant. If a pregnant woman is newly or previously diagnosed with HIV, it is important she follow the antiretroviral therapy (ART) plan as prescribed by her health care provider. The ART can cross the placenta and provide the unborn baby protection from the virus.

Geographic Area vs. HIV Care Region: When data are presented by geographic area, 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 below for the counties included when data are presented by HIV care region.

HIV Care Region vs. HIV Region: Prior to the 2014 *Profiles*, the state was divided into geographic regions known as HIV Regions using the HIV prevention planning regions. Based on guidance from the DHSS, Bureau of HIV, STD, and Hepatitis (BHS), the data in the *Profiles* from 2014 and later are 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. HIV care regions use the HIV medical case management (care) regions (see map below). 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. The Kansas City HIV Care Region no longer contains Johnson, Bates, Henry, and Benton Counties. These four counties now belong in the Central HIV Care Region. Regional data in the 2014 *Profiles* and later 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 *Profiles* for 2014 and later.

MISSOURI HIV CARE REGIONS



Revised Hepatitis Surveillance Case Definition: The hepatitis C surveillance case definition was revised in 2016 largely due to the evolution and improvement of diagnostic tests and because of the realization that infected individuals can clear a hepatitis C infection and potentially become re-infected in their lifetime. The improvements that have been made in laboratory reporting, namely electronic laboratory reporting, have made it easier for some states to receive laboratory results, including those that meet the revised case definition for hepatitis C. However, WebSurv is not currently capable of storing certain hepatitis C conditions that meet the revised case definition, namely conditions considered to be probable based on a positive hepatitis C antibody test and conditions considered to be new diagnoses due to re-infection. Until WebSurv can be amended to account for these changes, hepatitis C cases will likely be underreported in Missouri. For more information about the revised case definition, visit <https://www.cdc.gov/nndss/conditions/hepatitis-c-chronic/case-definition/2016/>.

Abbreviations

AIDS=Acquired Immunodeficiency Syndrome

ART=Antiretroviral Therapy

BCDCP=Bureau of Communicable Disease Control and Prevention

BHCADD=Bureau of Health Care Analysis and Data Dissemination

BHSH=Bureau of HIV, STD, and Hepatitis

BRDI=Bureau of Reportable Disease Informatics

CDC=Centers for Disease Control and Prevention

CIDR=Cumulative Interstate Duplicate Report

CPPG=Comprehensive Prevention Planning Group

DHSS=Missouri Department of Health and Senior Services

eHARS=enhanced HIV/AIDS Reporting System

Hetero=Heterosexual sexual contact

HIV=Human Immunodeficiency Virus

HRH=High-risk heterosexual contact

HRSA=Health Resources and Services Administration

IDEP=Interstate Duplicate Evaluation Project

IDU=Injection drug use/Injection drug user

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

P&S=Primary and secondary

RIDR=Routine Interstate Duplicate Review

SCOUT=Securing Client Outcomes Using Technology

STD=Sexually Transmitted Disease

STD*MIS=Sexually Transmitted Disease Management Information System

TB=Tuberculosis

WebSurv=Missouri Health Surveillance Information System



MISSOURI STATE SUMMARY

Population Counts, by HIV Care Region, Missouri, 2016

	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	1,024,022	588,690	112,519	439,808	579,950	247,046	2,992,035
Female	1,093,014	619,332	111,317	441,781	586,081	249,440	3,100,965
Total	2,117,036	1,208,022	223,836	881,589	1,166,031	496,486	6,093,000
Race/Ethnicity							
White	1,535,658	869,791	200,578	773,904	1,036,858	441,136	4,857,925
Black/African American	411,254	188,340	8,205	44,771	23,972	31,402	707,944
Hispanic	61,722	90,178	8,193	27,860	51,719	10,804	250,476
Asian/Pacific Islander	64,723	24,860	2,350	14,586	16,885	3,493	126,897
American Indian/Alaskan Native	4,246	5,146	890	3,395	10,447	2,018	26,142
Two or More Races/Other Race	39,433	29,707	3,620	17,073	26,150	7,633	123,616
Total	2,117,036	1,208,022	223,836	881,589	1,166,031	496,486	6,093,000
Race/Ethnicity-Males							
White Male	752,060	425,566	99,167	383,613	511,999	217,973	2,390,378
Black/African American Male	187,131	88,552	5,354	24,538	14,445	16,872	336,892
Hispanic Male	31,973	45,729	4,513	14,459	27,282	5,727	129,683
Asian/Pacific Islander Male	31,223	11,899	1,172	6,874	7,775	1,619	60,562
American Indian/Alaskan Native Male	2,100	2,535	467	1,802	5,259	1,004	13,167
Two or More Races/Other Race Male	19,535	14,409	1,846	8,522	13,190	3,851	61,353
Total	1,024,022	588,690	112,519	439,808	579,950	247,046	2,992,035
Race/Ethnicity-Females							
White Female	783,598	444,225	101,411	390,291	524,859	223,163	2,467,547
Black/African American Female	224,123	99,788	2,851	20,233	9,527	14,530	371,052
Hispanic Female	29,749	44,449	3,680	13,401	24,437	5,077	120,793
Asian/Pacific Islander Female	33,500	12,961	1,178	7,712	9,110	1,874	66,335
American Indian/Alaskan Native Female	2,146	2,611	423	1,593	5,188	1,014	12,975
Two or More Races/Other Race Female	19,898	15,298	1,774	8,551	12,960	3,782	62,263
Total	1,093,014	619,332	111,317	441,781	586,081	249,440	3,100,965
Age							
<2	50,856	31,283	5,225	20,700	29,064	11,636	148,764
2-12	288,859	178,207	29,813	116,852	162,083	68,929	844,743
13-18	162,298	95,319	16,840	66,570	91,172	38,164	470,363
19-24	157,860	85,504	20,454	93,102	107,198	37,566	501,684
25-44	552,460	327,797	54,342	210,431	279,438	119,438	1,543,906
45-64	577,811	316,307	57,896	225,621	294,747	133,137	1,605,519
65+	326,892	173,605	39,266	148,313	202,329	87,616	978,021
Total	2,117,036	1,208,022	223,836	881,589	1,166,031	496,486	6,093,000

Source: DHSS, Bureau of Health Care Analysis and Data Dissemination (BHCADD)

This page was intentionally left blank.

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

Magnitude of the Problem and General Trends

- From 1982 to 2017, a total of 21,324 persons have been diagnosed with HIV disease in Missouri and reported to DHSS. Of these individuals, 14,047 (65.9%) were subcategorized as stage 3 (AIDS) cases, and the remaining 7,277 (34.1%) were subcategorized as HIV cases. Of the cumulative number of persons diagnosed with HIV disease, 12,890 (60.4%) were presumed to be living at the end of 2017.
- The number of new diagnoses has fluctuated slightly between 2008 and 2017, with no sustained upward or downward trend in new HIV diagnoses over this time period. In 2017, there were 507 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 9,812 persons in 2008 to 12,890 persons in 2017. 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 2017 was highest in St. Louis City (32.4 per 100,000). The second highest rate was in Kansas City (15.8 per 100,000). The rate of persons newly diagnosed who were classified as stage 3 (AIDS) cases at the end of 2017 was highest in St. Louis City (4.5 per 100,000).

Who

Sex

- Males represented the majority of persons newly diagnosed (78.5%) and living with (82.4%) HIV disease. The rate of new diagnoses was 3.8 times higher and the rate of persons living with HIV disease was 4.9 times higher among males compared to females.

Race/Ethnicity

- HIV disease continues to disproportionately impact people of color. The rate of newly diagnosed HIV disease cases among blacks/African Americans was 9.3 times as high among whites, and 3.4 times as high among Hispanics compared to whites. The disparity was even greater among black/African American females. While black/African American females represented only 12.0% of Missouri's female population, they accounted for 68.8% of new HIV disease diagnoses among females. It should be emphasized that race/ethnicity in itself is not a risk factor for HIV infection; however, among many racial/ethnic 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 2008, the largest number of persons living with HIV disease was among those 45 to 49 years of age, whereas in 2017 persons 50 to 54 years old represented the largest number of living cases.
- Although the age of persons living with the disease has increased over time, the age of new diagnoses has remained relatively consistent. In 2008, the largest numbers of persons newly diagnosed with HIV disease were between 19 and 24 years of age, whereas in 2017 the largest numbers of persons newly diagnosed with HIV disease were between 25 and 29 years of 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. In 2017, there were two persons less than 13 years of age diagnosed with HIV disease.

Figure 1. HIV disease cases (living and deceased), by current HIV vs. stage 3 (AIDS) status, Missouri, 1982-2017

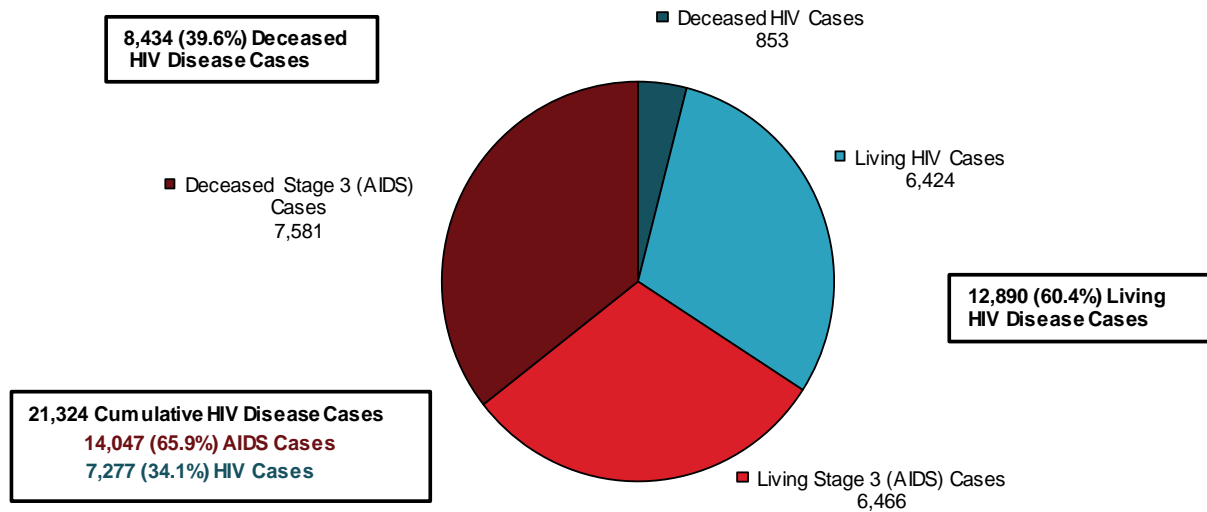
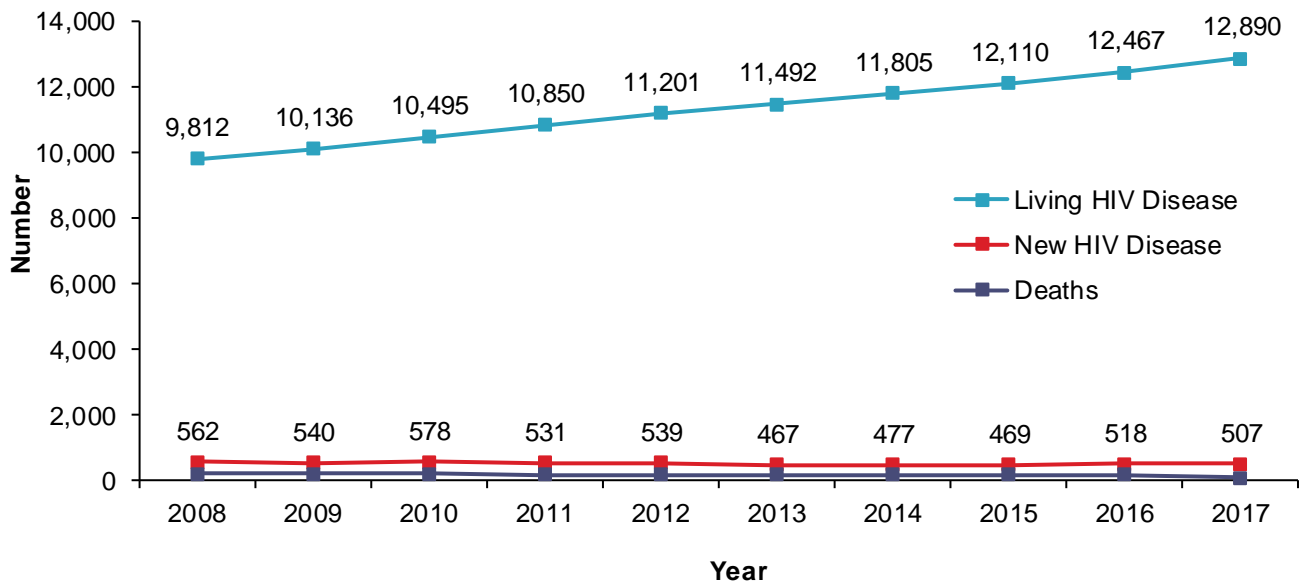


Figure 2. Living and new HIV disease cases and deaths, by year*, Missouri, 2008-2017

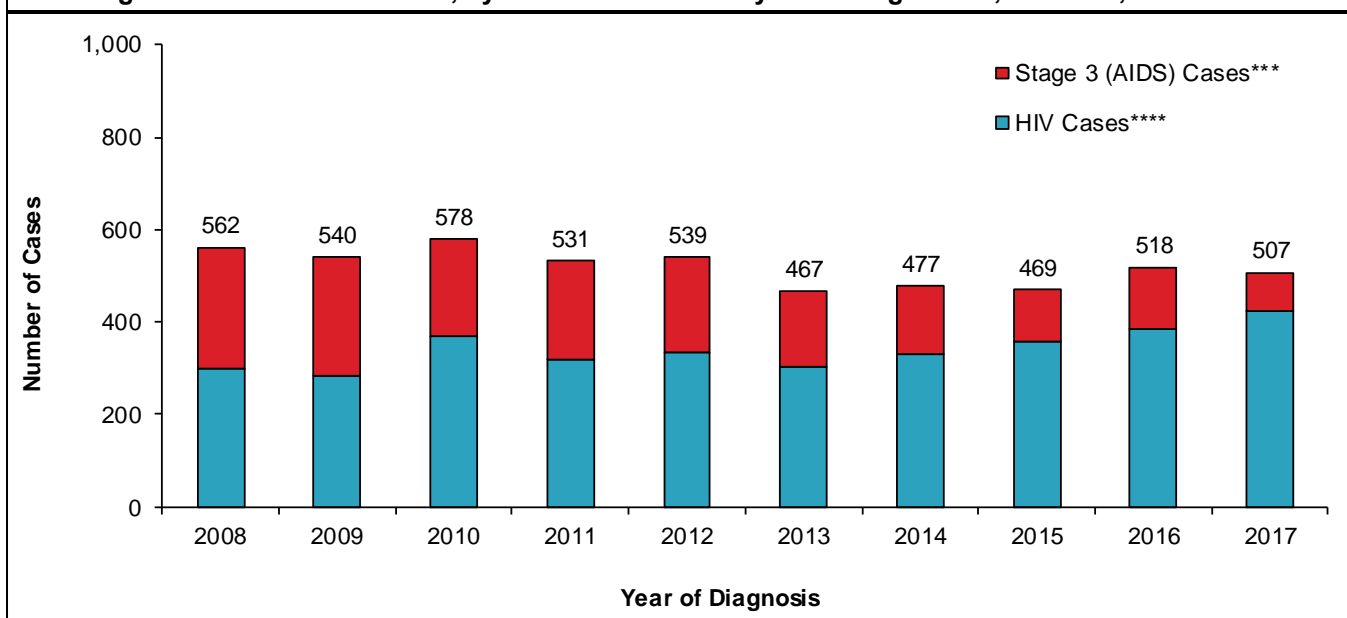


*Living HIV disease cases represent the number of individuals living with HIV disease at the end of the year. New HIV disease cases represent the number of individuals newly diagnosed in the year. HIV disease deaths represent the number of individuals who died in the year.

From 1982 to 2017, a total of 21,324 HIV disease cases have been diagnosed in Missouri and reported to DHSS (Figure 1). Of the 21,324 cumulative cases reported, 60.4% were still presumed to be living with HIV disease at the end of 2017. Among the 12,890 persons living with HIV disease, 6,424 were classified as HIV cases at the end of 2017 and 6,466 were classified as stage 3 (AIDS) cases.

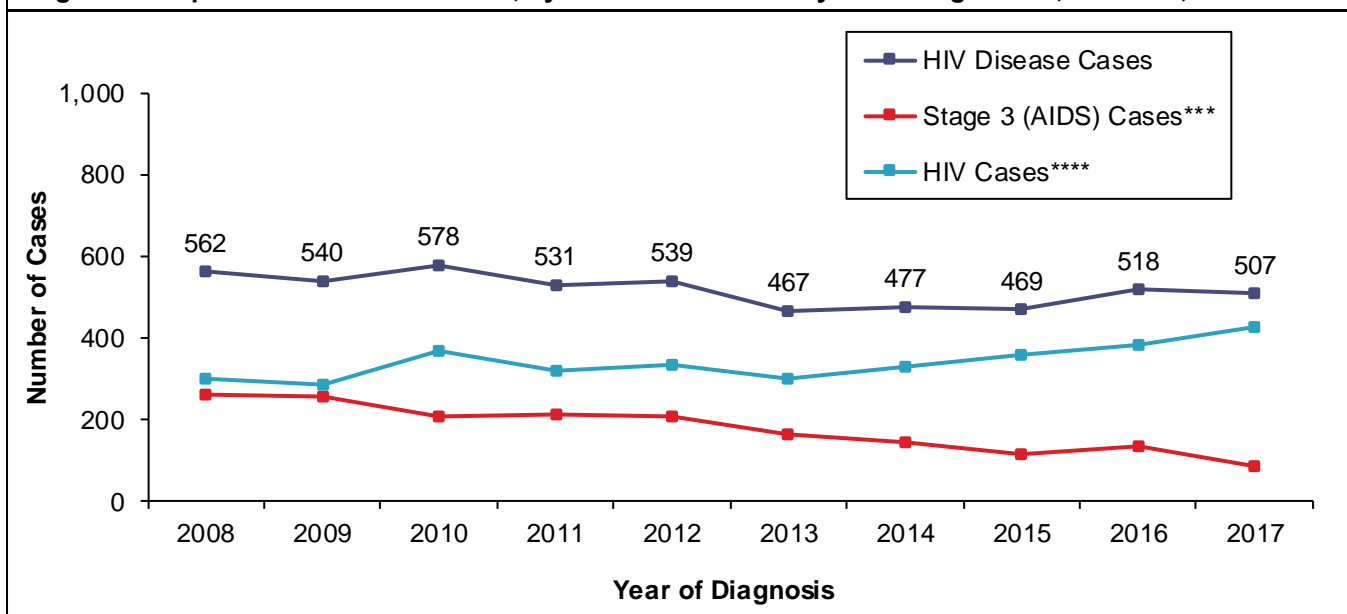
At the end of 2017, there were 12,890 persons living with HIV disease whose most recent diagnosis occurred in Missouri (Figure 2). The number of people living with HIV disease increased each year. There were 507 new HIV disease diagnoses in 2017. The number of new diagnoses each year from 2008 to 2017 has fluctuated slightly. The number of deaths among persons with HIV disease each year has remained generally steady. The lower number of deaths in 2017 (84) was likely due to delays in death reporting.

Figure 3. HIV disease cases, by current status* and year of diagnosis, Missouri, 2008-2017**



*HIV case vs. stage 3 (AIDS) case.
 **Cases are indicated by year of initial diagnosis reported to DHSS (i.e., the year in which the first diagnosis of the person, whether as an HIV case or a stage 3 (AIDS) case, was documented by DHSS).
 ***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, 2017.

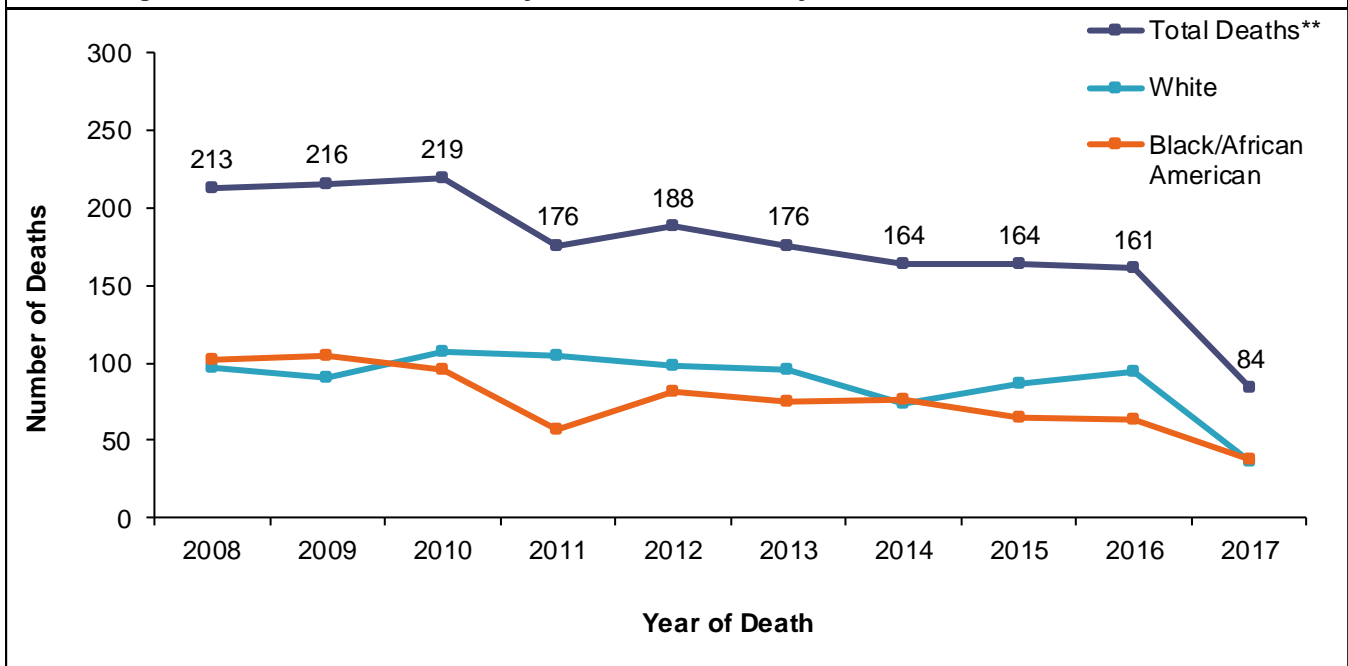
Figure 4. Reported HIV disease cases, by current status* and year of diagnosis, Missouri, 2008-2017**



*HIV case vs. stage 3 (AIDS) case.
 **Cases are indicated by year of initial diagnosis reported to DHSS (i.e., the year in which the first diagnosis of the person, whether as an HIV case or a stage 3 (AIDS) case, was documented by DHSS).
 ***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, 2017.

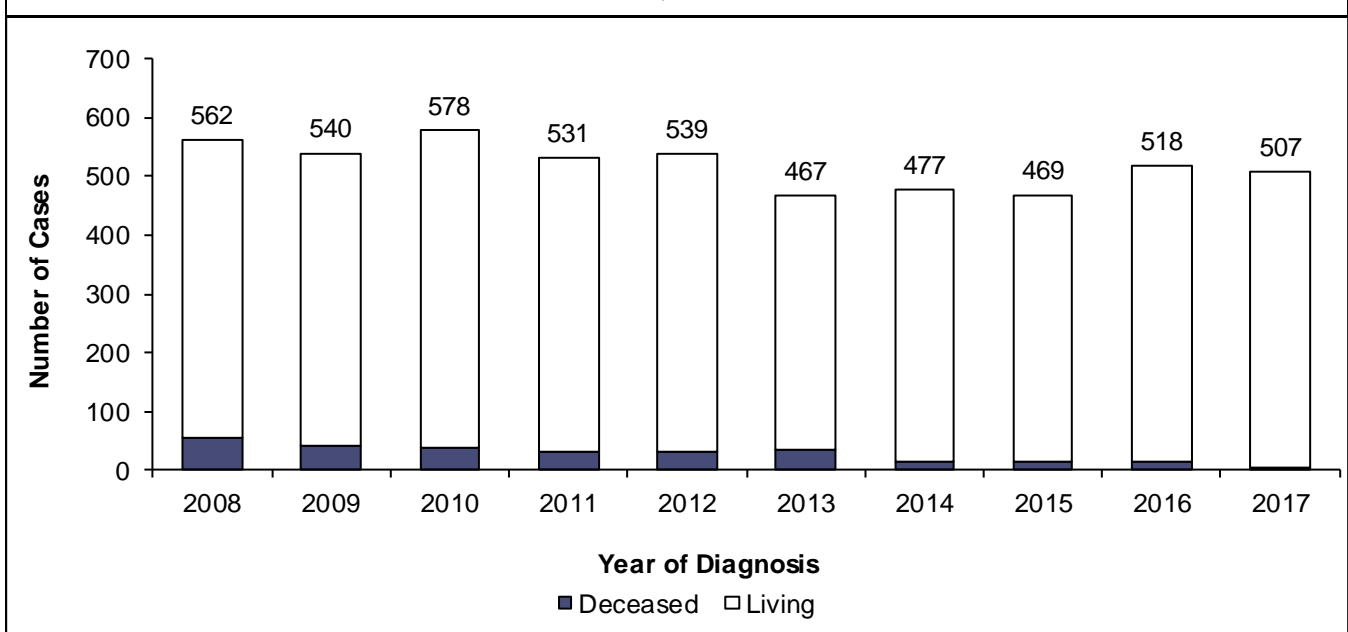
Between 2008 and 2017, the number of new HIV disease diagnoses has ranged from 562 cases in 2008 to 507 cases in 2017 (Figures 3 and 4). The number of new diagnoses fluctuated slightly between 2008 and 2017, with a slight upward trend from 2013 to 2017. Differences in the number of persons sub-classified as stage 3 (AIDS) cases each year are due to the progression of the disease over time. For those diagnosed with HIV disease in 2008, a larger number are currently classified as stage 3 (AIDS) cases compared to those diagnosed in 2017 because they have been living with the virus longer.

Figure 5. HIV disease deaths*, by selected race and year of death, Missouri, 2008-2017†**



*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, 2017, and reported by February 28, 2018.

Figure 6. Persons diagnosed with HIV disease, by current vital status* and year of diagnosis, Missouri, 2008-2017**



*Vital status on December 31, 2017.
 **Cases are indicated by year of initial diagnosis reported to DHSS (i.e., the year in which the first diagnosis of the person, whether as an HIV case or a stage 3 (AIDS) case, was documented by DHSS).

The number of deaths among persons with HIV disease remained generally steady from 2008 to 2010 and then decreased from 2010 to 2011. The number of deaths steadily decreased between 2012 and 2016 (Figure 5). The lower number of deaths in 2017 (84) is likely due to delays in death reporting. Of the 562 persons diagnosed with HIV disease in 2008, 57 (10.1%) were deceased by the end of 2017 (Figure 6). Among the 507 cases first diagnosed in 2017, 5 (1.0%) were deceased at the end of 2017. 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, 2017

	HIV*			Stage 3 (AIDS)**			HIV Disease***		
	Cases	%	Rate****	Cases	%	Rate****	Cases	%	Rate****
Sex									
Male	5,260	81.9%	175.8	5,365	83.0%	179.3	10,625	82.4%	355.1
Female	1,164	18.1%	37.5	1,101	17.0%	35.5	2,265	17.6%	73.0
Total	6,424	100.0%	105.4	6,466	100.0%	106.1	12,890	100.0%	211.6
Race/Ethnicity									
White	3,037	47.3%	62.5	3,061	47.3%	63.0	6,098	47.3%	125.5
Black/African American	2,957	46.0%	417.7	2,973	46.0%	419.9	5,930	46.0%	837.6
Hispanic	289	4.5%	115.4	292	4.5%	116.6	581	4.5%	232.0
Asian/Pacific Islander	54	0.8%	42.6	41	0.6%	32.3	95	0.7%	74.9
American Indian/Alaskan Native	6	0.1%	23.0	3	0.0%	11.5	9	0.1%	34.4
Two or More Races/Unknown	81	1.3%	--	96	1.5%	--	177	1.4%	--
Total	6,424	100.0%	105.4	6,466	100.0%	106.1	12,890	100.0%	211.6
Race/Ethnicity-Males									
White Male	2,661	50.6%	111.3	2,736	51.0%	114.5	5,397	50.8%	225.8
Black/African American Male	2,241	42.6%	665.2	2,276	42.4%	675.6	4,517	42.5%	1,340.8
Hispanic Male	246	4.7%	189.7	245	4.6%	188.9	491	4.6%	378.6
Asian/Pacific Islander Male	42	0.8%	69.4	28	0.5%	46.2	70	0.7%	115.6
American Indian/Alaskan Native Male	6	0.1%	45.6	3	0.1%	22.8	9	0.1%	68.4
Two or More Races/Unknown Male	64	1.2%	--	77	1.4%	--	141	1.3%	--
Total	5,260	100.0%	175.8	5,365	100.0%	179.3	10,625	100.0%	355.1
Race/Ethnicity-Females									
White Female	376	32.3%	15.2	325	29.5%	13.2	701	30.9%	28.4
Black/African American Female	716	61.5%	193.0	697	63.3%	187.8	1,413	62.4%	380.8
Hispanic Female	43	3.7%	35.6	47	4.3%	38.9	90	4.0%	74.5
Asian/Pacific Islander Female	12	1.0%	18.1	13	1.2%	19.6	25	1.1%	37.7
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	17	1.5%	--	19	1.7%	--	36	1.6%	--
Total	1,164	100.0%	37.5	1,101	100.0%	35.5	2,265	100.0%	73.0
Current Age[‡]									
<2	1	0.0%	0.7	0	0.0%	0.0	1	0.0%	0.7
2-12	28	0.4%	3.3	3	0.0%	0.4	31	0.2%	3.7
13-18	38	0.6%	8.1	6	0.1%	1.3	44	0.3%	9.4
19-24	398	6.2%	79.3	74	1.1%	14.8	472	3.7%	94.1
25-44	2,979	46.4%	193.0	1,730	26.8%	112.1	4,709	36.5%	305.0
45-64	2,642	41.1%	164.6	4,127	63.8%	257.1	6,769	52.5%	421.6
65+	338	5.3%	34.6	526	8.1%	53.8	864	6.7%	88.3
Total	6,424	100.0%	105.4	6,466	100.0%	106.1	12,890	100.0%	211.6

[†]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 2017.

**Cases classified as stage 3 (AIDS) by December 31, 2017.

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

****Per 100,000 population based on 2016 DHSS estimates.

[‡]Based on age as of December 31, 2017

Note: Percentages may not total 100% 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 by current age, Missouri, 2017

	HIV*			Stage 3 (AIDS)**			HIV Disease***		
	Cases	%	Rate****	Cases	%	Rate****	Cases	%	Rate****
Sex									
Male	336	79.2%	11.2	62	74.7%	2.1	398	78.5%	13.3
Female	88	20.8%	2.8	21	25.3%	0.7	109	21.5%	3.5
Total	424	100.0%	7.0	83	100.0%	1.4	507	100.0%	8.3
Race/Ethnicity									
White	160	37.7%	3.3	32	38.6%	0.7	192	37.9%	4.0
Black/African American	225	53.1%	31.8	38	45.8%	5.4	263	51.9%	37.1
Hispanic	25	5.9%	10.0	9	10.8%	3.6	34	6.7%	13.6
Asian/Pacific Islander	7	1.7%	5.5	3	3.6%	2.4	10	2.0%	7.9
American Indian/Alaskan Native	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	0.0
Two or More Races/Unknown	7	1.7%	5.7	1	1.2%	0.8	8	1.6%	--
Total	424	100.0%	7.0	83	100.0%	1.4	507	100.0%	8.3
Race/Ethnicity-Males									
White Male	140	41.7%	5.9	27	43.5%	1.1	167	42.0%	7.0
Black/African American Male	162	48.2%	48.1	26	41.9%	7.7	188	47.2%	55.8
Hispanic Male	22	6.5%	17.0	6	9.7%	4.6	28	7.0%	21.6
Asian/Pacific Islander Male	6	1.8%	9.9	2	3.2%	3.3	8	2.0%	13.2
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	6	1.8%	--	1	1.6%	--	7	1.8%	--
Total	336	100.0%	11.2	62	100.0%	2.1	398	100.0%	13.3
Race/Ethnicity-Females									
White Female	20	22.7%	0.8	5	23.8%	0.2	25	22.9%	1.0
Black/African American Female	63	71.6%	17.0	12	57.1%	3.2	75	68.8%	20.2
Hispanic Female	3	3.4%	2.5	3	14.3%	2.5	6	5.5%	5.0
Asian/Pacific Islander Female	1	1.1%	1.5	1	4.8%	1.5	2	1.8%	3.0
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	1	1.1%	--	0	0.0%	--	1	0.9%	--
Total	88	100.0%	2.8	21	100.0%	0.7	109	100.0%	3.5
Current Age[†]									
<2	1	0.2%	0.7	0	0.0%	0.0	1	0.2%	0.7
2-12	0	0.0%	0.0	1	1.2%	0.1	1	0.2%	0.1
13-18	10	2.4%	2.1	0	0.0%	0.0	10	2.0%	2.1
19-24	101	23.8%	20.1	7	8.4%	1.4	108	21.3%	21.5
25-44	238	56.1%	15.4	41	49.4%	2.7	279	55.0%	18.1
45-64	64	15.1%	4.0	32	38.6%	2.0	96	18.9%	6.0
65+	10	2.4%	1.0	2	2.4%	0.2	12	2.4%	1.2
Total	424	100.0%	7.0	83	100.0%	1.4	507	100.0%	8.3

*HIV cases diagnosed during 2017 which remained HIV cases at the end of the year. Includes persons diagnosed in Missouri correctional facilities.

**Stage 3 (AIDS) cases initially diagnosed in 2017.

***The sum of newly diagnosed HIV cases and newly diagnosed stage 3 (AIDS) cases. Does not include cases diagnosed prior to 2017 with HIV which progressed to stage 3 (AIDS) in 2017.

****Per 100,000 population based on 2016 DHSS estimates.

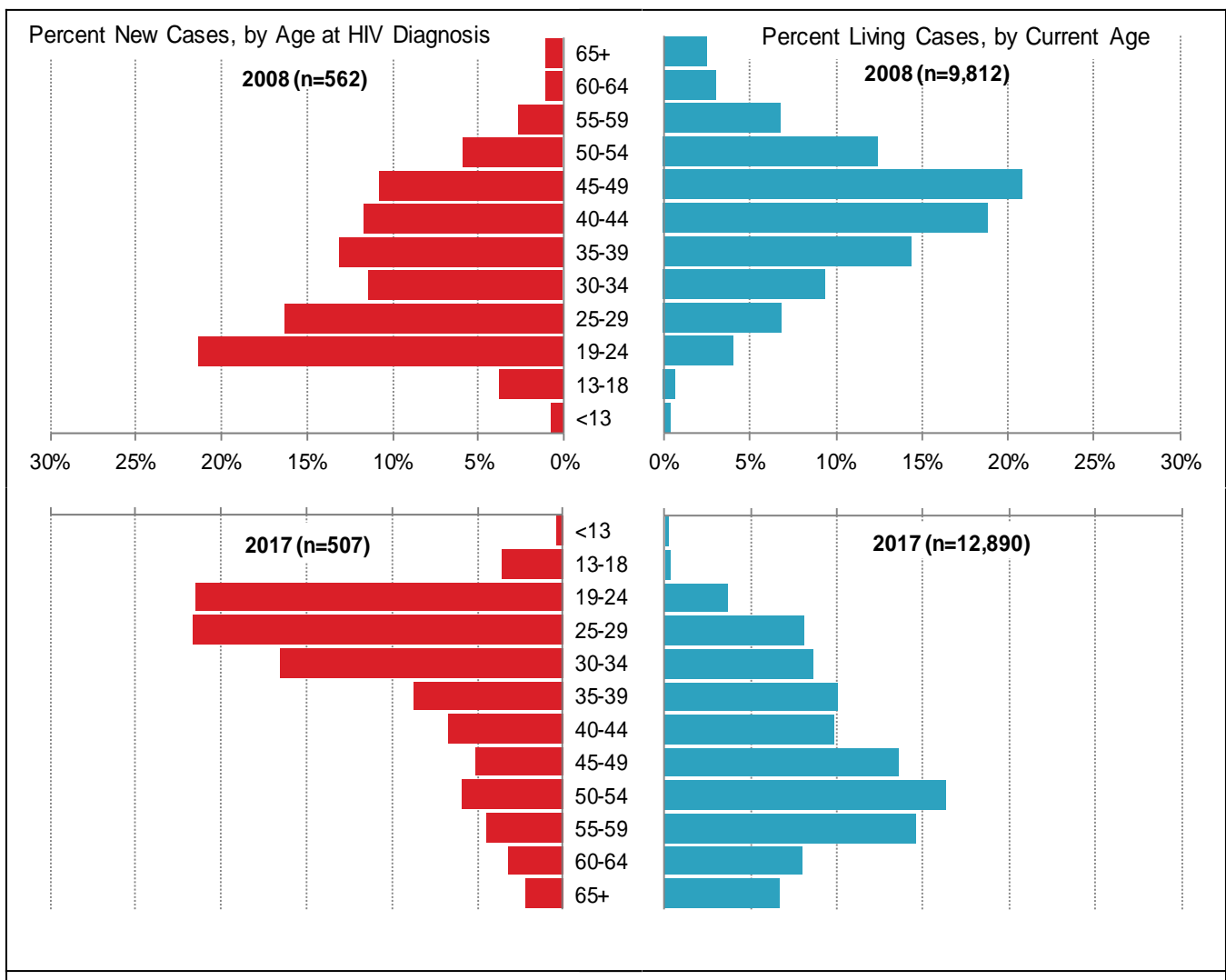
†Based on age as of December 31, 2017.

Note: Percentages may not total 100% due to rounding.

Of the 12,890 persons living with HIV at the end of 2017, 82.4% were males (Table 1). The rate of those living with HIV disease was 4.9 times as high among males compared to females. Although whites represented the largest proportion of living HIV disease cases (47.3%), the rate of those living with HIV disease was 6.7 times as high among blacks/African Americans compared to whites. The rate was 1.8 times higher among Hispanics compared to whites. Among males, the rate of living cases among blacks/African Americans was 5.9 times as high as the rate among whites, and 1.7 times as high among Hispanics compared to whites. Among females, the rate of those living with HIV disease among blacks/African Americans was 13.4 times as high as the rate among whites, and 2.6 times as high among Hispanics compared to whites.

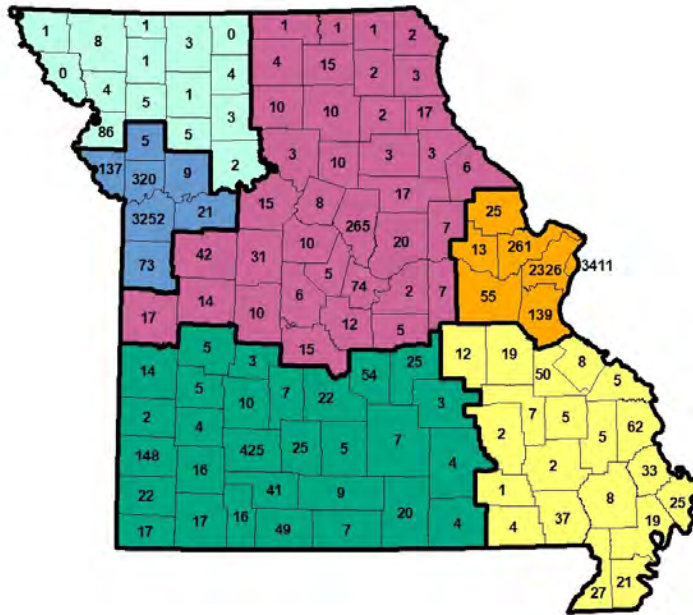
Of the 507 persons newly diagnosed with HIV disease in 2017, 16.4% were classified as stage 3 (AIDS) cases by the end of 2017 (Table 2). The rate of new HIV disease diagnoses was 3.8 times as high among males compared to females. The rate of new HIV disease cases was 9.3 times as high among blacks/African Americans compared to whites and 3.4 times as high among Hispanics compared to whites. The rate of new HIV disease diagnoses was greatest among persons 19 to 24 years of age at the end of 2017 (21.5 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, 2008 and 2017



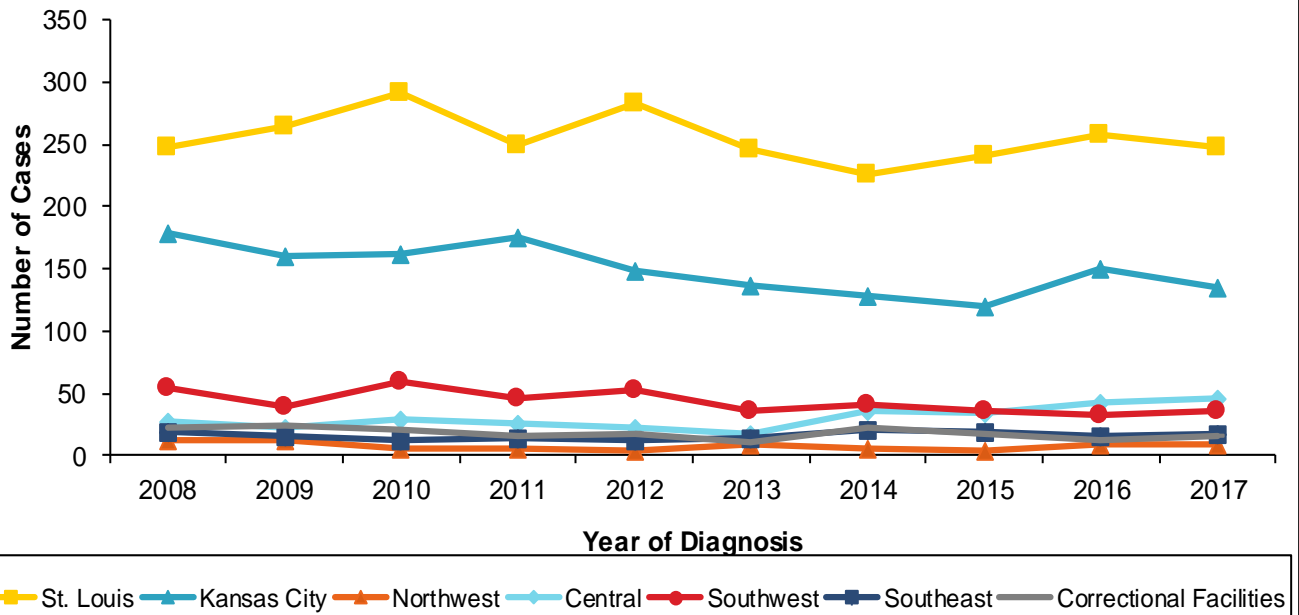
The distribution of the age at diagnosis among new HIV disease cases has remained among younger populations over time (Figure 7). In 2008, the greatest proportion of new diagnoses occurred among those ages 19 to 24 (21.4%) and 25 to 29 (16.4%). In 2017, the greatest proportion of new diagnoses occurred among those ages 25 to 29 (21.7%) followed closely by those 19 to 24 (21.5%). Although the age of new diagnoses has remained consistent, the age of individuals living with HIV has increased over time. In 2008, the greatest proportion of living cases was among those ages 45 to 49 (20.8%). In 2017, the greatest proportion of living cases was among those 50 to 54 years old (16.4%).

Figure 8. Number of persons living with HIV disease, by county of residence* and HIV care region at time of diagnosis, Missouri, 1982-2017



*Based on residence at time of most recent diagnosis of HIV or stage 3 (AIDS). Excludes persons diagnosed in Missouri correctional facilities (n=706).

Figure 9. Persons diagnosed with HIV disease by HIV care region at time of diagnosis, Missouri, 2008-2017



The largest numbers of persons living with HIV disease in 2017 were most recently diagnosed in St. Louis City (3,411), Jackson County (3,252), and St. Louis County (2,326) (Figure 8).

The St. Louis HIV Care Region represented the largest number of new HIV disease diagnoses in each year from 2008 to 2017 (Figure 9). The numbers of new diagnoses reported in the St. Louis HIV Care Region fluctuated from 2008 to 2014 with a slight decrease from 2016 to 2017. Increases were seen in all regions other than the St. Louis HIV Care Region and the Kansas City HIV Care Region from 2016 to 2017.

Table 3. New and living HIV and stage 3 (AIDS) cases and rates, by geographic area, and by HIV care region, Missouri, 2017

Location	HIV Cases						Stage 3 (AIDS) Cases					
	Diagnosed 2017*			Living with HIV			Diagnosed 2017**			Living with Stage 3 (AIDS)		
	Cases	%	Rate***	Cases	%	Rate***	Cases	%	Rate***	Cases	%	Rate***
Geographic Area												
St. Louis City†	101	23.8%	32.4	1,747	27.2%	561.0	14	16.9%	4.5	1,664	25.7%	534.4
St. Louis County†	95	22.4%	9.5	1,234	19.2%	123.6	18	21.7%	1.8	1,092	16.9%	109.4
Kansas City†	76	17.9%	15.8	1,379	21.5%	286.4	14	16.9%	2.9	1,670	25.8%	346.9
Outstate†	136	32.1%	3.2	1,721	26.8%	40.0	37	44.6%	0.9	1,677	25.9%	39.0
Missouri Correctional Facilities††	16	3.8%	N/A	343	5.3%	N/A	0	0.0%	N/A	363	5.6%	N/A
MISSOURI TOTAL	424	100.0%	7.0	6,424	100.0%	105.4	83	100.0%	1.4	6,466	100.0%	106.1
HIV Care Region												
St. Louis†	209	49.3%	9.9	3,250	50.6%	153.5	38	45.8%	1.8	2,980	46.1%	140.8
Kansas City†	114	26.9%	9.4	1,747	27.2%	144.6	21	25.3%	1.7	2,070	32.0%	171.4
Northwest†	7	1.7%	3.1	58	0.9%	25.9	2	2.4%	0.9	66	1.0%	29.5
Central†	42	9.9%	4.8	368	5.7%	41.7	4	4.8%	0.5	307	4.7%	34.8
Southwest†	26	6.1%	2.2	501	7.8%	43.0	10	12.0%	0.9	485	7.5%	41.6
Southeast†	10	2.4%	2.0	157	2.4%	31.6	8	9.6%	1.6	195	3.0%	39.3
Missouri Correctional Facilities††	16	3.8%	N/A	343	5.3%	N/A	0	0.0%	N/A	363	5.6%	N/A
MISSOURI TOTAL	424	100.0%	7.0	6,424	100.0%	105.4	83	100.0%	1.4	6,466	100.0%	106.1
<p>*HIV cases diagnosed and reported to DHSS during 2017 which remained HIV cases at the end of the year. **Does not include HIV cases diagnosed prior to 2017 that progressed to stage 3 (AIDS) in 2017. ***Per 100,000 population based on 2016 DHSS estimates. †Does not include persons diagnosed in Missouri correctional facilities. ††Includes persons diagnosed in Missouri correctional facilities. Note: Percentages may not total 100% due to rounding.</p>												

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 2017 by geographic area and HIV care region (Table 3). In Outstate, 44.6% of newly diagnosed HIV disease cases progressed to stage 3 (AIDS) by the end of 2017. In comparison, the proportions were 21.7%, 16.9%, and 16.9% for St. Louis County, Kansas City, and St. Louis City, respectively. In the St. Louis HIV Care Region, 45.8% of newly diagnosed HIV disease cases progressed to stage 3 (AIDS) at the end of 2017, whereas the proportions were 25.3%, 12.0%, 9.6%, 4.8%, and 2.4% for the regions of Kansas City, Southwest, Southeast, Central, and Northwest, respectively. The variation in the proportion of newly diagnosed individuals that progressed to stage 3 (AIDS) by the end of 2017 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 rates of new and living HIV and living stage 3 (AIDS) cases were greatest in St. Louis City (Table 3). The rate of new HIV case diagnoses in St. Louis City was 10.1 times as high as Outstate and 4.9 times as high in Kansas City compared to Outstate. The rate of new stage 3 (AIDS) case diagnoses was 3.2 times as high in Kansas City compared to Outstate and 5.0 times as high in St. Louis City compared to Outstate. This demonstrates the disproportionate impact of HIV disease in the major metropolitan areas in Missouri.

Table 4. Diagnosed HIV cases and rates, by selected race/ethnicity and geographic area, Missouri, 2017

Area	White			Black/African American			Hispanic			Total		
	Cases	%	Rate*	Cases	%	Rate*	Cases	%	Rate*	Cases**	%	Rate*
St. Louis City†	21	20.8%	15.5	73	72.3%	50.1	4	4.0%	31.9	101	100.0%	32.4
St. Louis County†	17	17.9%	2.6	70	73.7%	28.9	5	5.3%	17.7	95	100.0%	9.5
Kansas City†	30	39.5%	11.3	36	47.4%	25.8	7	9.2%	14.3	76	100.0%	15.8
Outstate Missouri†	82	60.3%	2.2	40	29.4%	22.2	9	6.6%	5.6	136	100.0%	3.2
Missouri Correctional Facilities††	10	62.5%	N/A	6	37.5%	N/A	0	0.0%	N/A	16	100.0%	N/A
MISSOURI TOTAL	160	37.7%	3.3	225	53.1%	31.8	25	5.9%	10.0	424	100.0%	7.0

*Per 100,000 population based on 2016 DHSS estimates.

**Includes cases among 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 100% due to rounding.

Table 5. Diagnosed HIV cases and rates, by selected race/ethnicity and HIV care region, Missouri, 2017

HIV Care Region	White			Black/African American			Hispanic			Total		
	Cases	%	Rate*	Cases	%	Rate*	Cases	%	Rate*	Cases**	%	Rate*
St. Louis†	49	23.4%	3.2	144	68.9%	35.0	9	4.3%	14.6	209	100.0%	9.9
Kansas City†	49	43.0%	5.6	50	43.9%	26.5	11	9.6%	12.2	114	100.0%	9.4
Northwest†	5	71.4%	2.5	2	28.6%	24.4	0	0.0%	0.0	7	100.0%	3.1
Central†	27	64.3%	3.5	11	26.2%	24.6	3	7.1%	10.8	42	100.0%	4.8
Southwest†	17	65.4%	1.6	8	30.8%	33.4	0	0.0%	0.0	26	100.0%	2.2
Southeast†	3	30.0%	0.7	4	40.0%	12.7	2	20.0%	18.5	10	100.0%	2.0
Missouri Correctional Facilities††	10	62.5%	N/A	6	37.5%	N/A	0	0.0%	N/A	16	100.0%	N/A
MISSOURI TOTAL	160	37.7%	3.3	225	53.1%	31.8	25	5.9%	11.3	424	100.0%	7.0

*Per 100,000 population based on 2016 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 100% due to rounding.

The proportion of new HIV cases diagnosed in 2017 by race/ethnicity varied by geographic area (Table 4). Whites comprised 60.3% of new HIV case diagnoses in Outstate, but only 20.8% of new HIV cases in St. Louis City and 17.9% in St. Louis County. 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 10.1 times as high as the rate among whites and 2.5 times as high among Hispanics compared to whites. In comparison, in St. Louis City, the rate of new HIV cases was 3.2 times as high in blacks/African Americans compared to whites and 2.1 times as high among Hispanics compared to whites.

Similar patterns to those observed for the geographic areas were also present by HIV care region (Table 5). In the Northwest HIV Care Region, whites represented 71.4% of new HIV case diagnoses, whereas blacks/African Americans represented the majority of cases in the St. Louis HIV Care Region (68.9%).

Table 6. Newly diagnosed and living HIV and stage 3 (AIDS) cases in men who have sex with men, by selected race/ethnicity, Missouri, 2017

Race/Ethnicity	<u>HIV Cases*</u>				<u>Stage 3 (AIDS) Cases</u>			
	<u>Newly Diagnosed</u>		<u>Living</u>		<u>Newly Diagnosed**</u>		<u>Living</u>	
	Cases	%	Cases	%	Cases	%	Cases	%
White	102	42.0%	2,130	52.6%	16	48.5%	2,139	53.4%
Black/African American	115	47.3%	1,630	40.3%	12	36.4%	1,615	40.4%
Hispanic	17	7.0%	199	4.9%	2	6.1%	162	4.0%
Other/Unknown	9	3.7%	88	2.2%	3	9.1%	86	2.1%
MISSOURI TOTAL***	243	100.0%	4,047	100.0%	33	100.0%	4,002	100.0%

*Remained HIV cases at the end of the year.
**Does not include HIV cases diagnosed prior to 2017 that progressed to stage 3 (AIDS) in 2017.
***Totals include persons diagnosed in Missouri correctional facilities.
Note: Percentages may not total 100% due to rounding.

Table 7. Living HIV disease cases in men who have sex with men, by selected race/ethnicity and current age group, Missouri, 2017

Age Group	<u>White</u>		<u>Black/African American</u>		<u>Hispanic</u>		<u>Total*</u>	
	Cases	%**	Cases	%**	Cases	%**	Cases	%**
13-18	1	0.0%	10	0.3%	0	0.0%	12	0.1%
19-24	70	1.6%	231	7.1%	13	3.6%	332	4.1%
25-44	1,186	27.8%	1,548	47.7%	173	47.9%	2,993	37.2%
45-64	2,618	61.3%	1,345	41.4%	160	44.3%	4,185	52.0%
65+	394	9.2%	111	3.4%	15	4.2%	527	6.5%
MISSOURI TOTAL	4,269	100.0%	3,245	100.0%	361	100.0%	8,049	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 100% due to rounding.

The data presented for each exposure category in Tables 6 through 19 have not been adjusted to redistribute individuals with missing exposure category information. Therefore, these data represent only 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 2017. These data are subject to change.

A total of 276 new HIV disease diagnoses were attributed to men who have sex with men (MSM) in 2017 (Table 6). The number of new HIV cases among blacks/African Americans was 1.1 times as many new HIV cases among whites; however, whites represented 1.3 times the number of new stage 3 (AIDS) cases compared to blacks/African Americans in 2017. Whites represented a larger 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, 12.0% progressed to stage 3 (AIDS) by the end of 2017.

The distribution of living HIV disease cases by current age varied by race/ethnicity among MSM, with those who identify as non-white tending to be between 25 and 44 years of age (Table 7). Among white MSM living with HIV disease, the majority (61.3%) were between 45 and 64 years of age at the end of 2017. However, only 41.4% of living black/African American MSM and 44.3% of living Hispanic MSM with HIV disease were in this age group. The greatest numbers of black/African American and Hispanic MSM living with HIV disease were between 25 and 44 years of age. Blacks/African Americans represented the largest number of MSM under the age of 25 (241).

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, 2017

Geographic Area	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%***
St. Louis City	1,033	46.2%	1,107	49.5%	48	2.1%	2,238	27.8%
St. Louis County	576	39.1%	816	55.4%	57	3.9%	1,473	18.3%
Kansas City	1,099	51.5%	829	38.8%	150	7.0%	2,135	26.5%
Outstate	1,469	77.8%	278	14.7%	100	5.3%	1,889	23.5%
Missouri Correctional Facilities	92	29.3%	215	68.5%	6	1.9%	314	3.9%
MISSOURI TOTAL	4,269	53.0%	3,245	40.3%	361	4.5%	8,049	100.0%
HIV Care Region								
St. Louis	1,854	46.3%	1,962	49.0%	111	2.8%	4,008	49.8%
Kansas City	1,438	55.1%	912	35.0%	189	7.2%	2,608	32.4%
Northwest	58	89.2%	5	7.7%	2	3.1%	65	0.8%
Central	255	72.9%	72	20.6%	19	5.4%	350	4.3%
Southwest	458	84.7%	40	7.4%	29	5.4%	541	6.7%
Southeast	114	69.9%	39	23.9%	5	3.1%	163	2.0%
Missouri Correctional Facilities	92	29.3%	215	68.5%	6	1.9%	314	3.9%
MISSOURI TOTAL	4,269	53.0%	3,245	40.3%	361	4.5%	8,049	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 100% due to rounding.								

Of the 8,049 MSM living with HIV disease at the end of 2017, the largest proportion was diagnosed in St. Louis City (27.8%), followed by Kansas City (26.5%) (Table 8). There were differences in the proportion of living HIV disease cases among MSM diagnosed in each geographic area by race/ethnicity. In Outstate Missouri, 77.8% of persons living with HIV disease attributed to MSM were white, whereas only 29.3% of persons living with HIV disease 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 49.8% of all living cases among MSM and the Kansas City HIV Care Region comprised 32.4%. The proportion of living cases among white MSM was highest in the Northwest HIV Care Region (89.2%) and lowest in Missouri correctional facilities (29.3%).

Race/Ethnicity	<u>HIV Cases*</u>				<u>Stage 3 (AIDS) Cases</u>			
	<u>Newly Diagnosed</u>		<u>Living</u>		<u>Newly Diagnosed**</u>		<u>Living</u>	
	<u>Cases</u>	<u>%</u>	<u>Cases</u>	<u>%</u>	<u>Cases</u>	<u>%</u>	<u>Cases</u>	<u>%</u>
White	14	70.0%	174	68.5%	1	0.0%	232	63.2%
Black/African American	5	25.0%	66	26.0%	0	0.0%	118	32.2%
Hispanic	1	5.0%	10	3.9%	0	0.0%	10	2.7%
Other/Unknown	0	0.0%	4	1.6%	0	0.0%	7	1.9%
MISSOURI TOTAL***	20	100.0%	254	100.0%	1	100.0%	367	100.0%

*Remained HIV cases at the end of the year.
 **Does not include HIV cases diagnosed prior to 2017 that progressed to stage 3 (AIDS) in 2017.
 ***Totals include persons diagnosed in Missouri correctional facilities.
 Note: Percentages may not total 100% due to rounding.

Age Group	<u>White</u>		<u>Black/African American</u>		<u>Hispanic</u>		<u>Total*</u>	
	<u>Cases</u>	<u>%**</u>	<u>Cases</u>	<u>%**</u>	<u>Cases</u>	<u>%**</u>	<u>Cases</u>	<u>%**</u>
13-18	0	0.0%	0	0.0%	0	0.0%	0	0.0%
19-24	9	2.2%	1	0.5%	1	5.0%	11	1.8%
25-44	127	31.3%	40	21.7%	10	50.0%	184	29.6%
45-64	246	60.6%	132	71.7%	9	45.0%	391	63.0%
65+	24	5.9%	11	6.0%	0	0.0%	35	5.6%
MISSOURI TOTAL	406	100.0%	184	100.0%	20	100.0%	621	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 100% due to rounding.

A total of 21 new HIV disease diagnoses were attributed to men who have sex with men and inject drugs (MSM/IDU) in 2017 (Table 9). The small number of new cases diagnosed among MSM/IDU makes patterns by race/ethnicity and sex difficult to interpret. One newly diagnosed case progressed to stage 3 (AIDS) by the end of 2017. Whites represented the majority (70.0%) of new HIV cases among MSM/IDU. Among living HIV and stage 3 (AIDS) cases, whites represented the largest proportion of cases (68.5% and 63.2%, 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 (60.6% and 71.7%, respectively) were between 45 and 64 years of age at the end of 2017. Comparatively, only 45% of Hispanic MSM/IDU living with HIV disease were between 45 and 64 years of age.

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, 2017

Geographic Area	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%***
St. Louis City	45	42.1%	58	54.2%	3	2.8%	107	17.2%
St. Louis County	25	49.0%	26	51.0%	0	0.0%	51	8.2%
Kansas City	99	64.7%	39	25.5%	9	5.9%	153	24.6%
Outstate	195	87.8%	17	7.7%	7	3.2%	222	35.7%
Missouri Correctional Facilities	42	47.7%	44	50.0%	1	1.1%	88	14.2%
MISSOURI TOTAL	406	65.4%	184	29.6%	20	3.2%	621	100.0%
HIV Care Region								
St. Louis	84	48.6%	84	48.6%	4	2.3%	173	27.9%
Kansas City	140	69.0%	46	22.7%	10	4.9%	203	32.7%
Northwest	9	100.0%	0	0.0%	0	0.0%	9	1.4%
Central	35	85.4%	4	9.8%	2	4.9%	41	6.6%
Southwest	79	90.8%	3	3.4%	3	3.4%	87	14.0%
Southeast	17	85.0%	3	15.0%	0	0.0%	20	3.2%
Missouri Correctional Facilities	42	47.7%	44	50.0%	1	1.1%	88	14.2%
MISSOURI TOTAL	406	65.4%	184	29.6%	20	3.2%	621	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 100% due to rounding.

Of the 621 MSM/IDU living with HIV disease at the end of 2017, the largest proportion was diagnosed in Outstate Missouri (35.7%), followed by Kansas City (24.6%) (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, 87.8% of living cases attributed to MSM/IDU were white, whereas only 42.1% of living cases diagnosed in St. Louis City among MSM/IDU were white.

The Kansas City HIV Care Region represented 32.7% of all living cases among MSM/IDU, and the St. Louis HIV Care Region comprised 27.9%. The proportion of living cases among white MSM/IDU was highest in the Southwest HIV Care Region (90.8%) and lowest in the Missouri Correctional Facilities (47.7%).

Table 12. Newly diagnosed and living HIV and stage 3 (AIDS) cases in injection drug users, by selected race/ethnicity and sex, Missouri, 2017

Race/Ethnicity and Sex	HIV Cases*				Stage 3 (AIDS) Cases			
	Newly Diagnosed		Living		Newly Diagnosed**		Living	
	Cases	%	Cases	%	Cases	%	Cases	%
White Male	9	60.0%	90	34.1%	0	0.0%	103	25.6%
Black/African American Male	0	0.0%	66	25.0%	0	0.0%	128	31.8%
Hispanic Male	0	0.0%	5	1.9%	1	33.3%	17	4.2%
White Female	5	33.3%	60	22.7%	2	66.7%	67	16.6%
Black/African American Female	1	6.7%	37	14.0%	0	0.0%	74	18.4%
Hispanic Female	0	0.0%	3	1.1%	0	0.0%	9	2.2%
MISSOURI TOTAL***	15	100.0%	264	100.0%	3	100.0%	403	100.0%

*Remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2017 that progressed to stage 3 (AIDS) in 2017.

***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 100% due to rounding.

Table 13. Living HIV disease cases in injection drug users, by selected race/ethnicity and sex and current age group, Missouri, 2017

Age Group	White Males		Black/African American Males		White Females		Black/African American Females		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%**	Cases	%**
13-18	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
19-24	0	0.0%	0	0.0%	1	0.8%	1	0.9%	3	0.4%
25-44	41	21.2%	37	19.1%	45	35.4%	23	20.7%	159	23.8%
45-64	140	72.5%	130	67.0%	79	62.2%	76	68.5%	449	67.3%
65+	12	6.2%	27	13.9%	2	1.6%	11	9.9%	56	8.4%
MISSOURI TOTAL	193	100.0%	194	100.0%	127	100.0%	111	100.0%	667	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 100% due to rounding.

A total of 18 new HIV disease diagnoses were attributed to injection drug use (IDU) in 2017 (Table 12). The small number of new cases diagnosed among IDU makes patterns by race/ethnicity and sex difficult to interpret. Of the newly diagnosed cases among IDU, 16.7% progressed to stage 3 (AIDS) by the end of 2017. Males represented approximately 61.3% of all living HIV disease cases among IDU.

Among IDU living with HIV disease, a smaller proportion of white males had progressed to stage 3 (AIDS) by the end of 2017 compared to non-white males. 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 (34.1%) while black/African American males represented the largest proportion (31.8%) 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 2017 (Table 13). The age group of 25 to 44 represented the second highest number of cases. The proportion of living HIV disease cases between the ages of 25 and 44 was greatest among white females.

Table 14. Living HIV disease cases in injection drug users, by selected race/ethnicity, by geographic area, by HIV care region, Missouri, 2017

Geographic Area	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%***
St. Louis City	21	16.2%	104	80.0%	3	2.3%	130	19.5%
St. Louis County	19	37.3%	30	58.8%	1	2.0%	51	7.6%
Kansas City	45	30.6%	84	57.1%	15	10.2%	147	22.0%
Outstate	183	81.7%	30	13.4%	11	4.9%	224	33.6%
Missouri Correctional Facilities	52	45.2%	57	49.6%	4	3.5%	115	17.2%
MISSOURI TOTAL	320	48.0%	305	45.7%	34	5.1%	667	100.0%
HIV Care Region								
St. Louis	70	33.2%	134	63.5%	4	1.9%	211	31.6%
Kansas City	80	42.8%	87	46.5%	17	9.1%	187	28.0%
Northwest	5	71.4%	2	28.6%	0	0.0%	7	1.0%
Central	33	73.3%	9	20.0%	3	6.7%	45	6.7%
Southwest	64	83.1%	8	10.4%	5	6.5%	77	11.5%
Southeast	16	64.0%	8	32.0%	1	4.0%	25	3.7%
Missouri Correctional Facilities	52	45.2%	57	49.6%	4	3.5%	115	17.2%
MISSOURI TOTAL	320	48.0%	305	45.7%	34	5.1%	667	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 100% due to rounding.								

Of the 667 IDU living with HIV disease at the end of 2017, the largest proportion was diagnosed in Outstate Missouri (33.6%), followed by Kansas City (22%) (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, 81.7% of living cases attributed to IDU were white, whereas only 16.2% of living cases diagnosed in St. Louis City among IDU were white. The differences are likely due to variations in the general population of the geographic areas.

The St. Louis HIV Care Region represented 31.6% of all living cases among IDU, and the Kansas City HIV Care Region comprised 28.0%. The proportion of living cases among white IDU was highest in the Southwest HIV Care Region (83.1%) and lowest in the St. Louis HIV Care Region (33.2%), while the reverse was true of black/African American living cases among IDU (10.4% and 63.5%). 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 was in the Kansas City HIV Care Region (17).

Table 15. Newly diagnosed and living HIV and stage 3 (AIDS) cases in heterosexual contacts, by selected race/ethnicity and sex, Missouri, 2017

Race/Ethnicity and Sex	<u>HIV Cases*</u>				<u>Stage 3 (AIDS) Cases</u>			
	<u>Newly Diagnosed</u>		<u>Living</u>		<u>Newly Diagnosed**</u>		<u>Living</u>	
	<u>Cases</u>	<u>%</u>	<u>Cases</u>	<u>%</u>	<u>Cases</u>	<u>%</u>	<u>Cases</u>	<u>%</u>
White Male	1	1.3%	59	6.2%	2	9.1%	60	6.3%
Black/African American Male	8	10.0%	139	14.5%	5	22.7%	186	19.6%
Hispanic Male	0	0.0%	5	0.5%	0	0.0%	11	1.2%
White Female	12	15.0%	238	24.9%	3	13.6%	206	21.7%
Black/African American Female	52	65.0%	460	48.1%	8	36.4%	437	46.0%
Hispanic Female	3	3.8%	28	2.9%	3	13.6%	28	2.9%
MISSOURI TOTAL***	80	100.0%	956	100.0%	22	100.0%	951	100.0%

*Remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2017 that progressed to stage 3 (AIDS) in 2017.

***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 100% due to rounding.

Table 16. Living HIV disease cases in heterosexual contacts, by selected race/ethnicity and sex, by current age group, Missouri, 2017

Age Group	<u>White Males</u>		<u>Black/African American Males</u>		<u>White Females</u>		<u>Black/African American Females</u>		<u>Total*</u>	
	<u>Cases</u>	<u>%**</u>	<u>Cases</u>	<u>%**</u>	<u>Cases</u>	<u>%**</u>	<u>Cases</u>	<u>%**</u>	<u>Cases</u>	<u>%**</u>
13-18	0	0.0%	0	0.0%	0	0.0%	1	0.1%	1	0.1%
19-24	1	0.8%	5	1.5%	5	1.1%	44	4.9%	57	3.0%
25-44	19	16.0%	116	35.7%	147	33.1%	388	43.3%	728	38.2%
45-64	77	64.7%	181	55.7%	251	56.5%	423	47.2%	986	51.7%
65+	22	18.5%	23	7.1%	41	9.2%	41	4.6%	135	7.1%
MISSOURI TOTAL	119	100.0%	325	100.0%	444	100.0%	897	100.0%	1,907	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 100% due to rounding.

A total of 102 new HIV disease diagnoses were attributed to heterosexual contact in 2017 (Table 15). Black/African American females represented the largest number of new HIV disease diagnoses among heterosexuals. They were also more likely to have progressed to stage 3 (AIDS) by the end of 2017 than white females (36.4% compared to 13.6%). Overall, 21.6% of newly diagnosed cases attributed to heterosexual contact progressed to stage 3 (AIDS) by the end of 2017. Females represented 75.9% of living HIV cases and 70.6% of living stage 3 (AIDS) cases among heterosexual contact cases.

Among heterosexual contact cases, the greatest proportion of living cases was among adults aged 45 to 64 years of age in all race and sex categories presented (Table 16). This age group comprised just over half (51.7%) of total cases.

Geographic Area	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%***
St. Louis City	68	12.5%	449	82.8%	15	2.8%	542	28.4%
St. Louis County	85	19.5%	327	75.0%	13	3.0%	436	22.9%
Kansas City	61	21.2%	205	71.2%	15	5.2%	288	15.1%
Outstate	330	61.5%	159	29.6%	27	5.0%	537	28.2%
Missouri Correctional Facilities	19	18.3%	82	78.8%	2	1.9%	104	5.5%
MISSOURI TOTAL	563	29.5%	1,222	64.1%	72	3.8%	1,907	100.0%
HIV Care Region								
St. Louis	204	19.5%	790	75.4%	30	2.9%	1,048	55.0%
Kansas City	107	28.9%	225	60.8%	25	6.8%	370	19.4%
Northwest	12	54.5%	10	45.5%	0	0.0%	22	1.2%
Central	78	60.5%	43	33.3%	4	3.1%	129	6.8%
Southwest	94	66.7%	32	22.7%	8	5.7%	141	7.4%
Southeast	49	52.7%	40	43.0%	3	3.2%	93	4.9%
Missouri Correctional Facilities	19	18.3%	82	78.8%	2	1.9%	104	5.5%
MISSOURI TOTAL	563	29.5%	1,222	64.1%	72	3.8%	1,907	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 100% due to rounding.								

Of the 1,907 living cases among heterosexual contacts at the end of 2017, the largest proportion was diagnosed in St. Louis City (28.4%), and the next highest was Outstate Missouri (28.2%) (Table 17). There were differences in the proportion of living HIV disease cases among heterosexuals diagnosed in each geographic area by race/ethnicity. In Outstate, 61.5% of living cases attributed to heterosexual contact were white, whereas only 12.5% of living cases diagnosed in St. Louis City among heterosexual contact cases were white. 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 whites and Hispanics.

The St. Louis HIV Care Region represented 55.0% of all living cases among heterosexuals, and the Kansas City HIV Care Region comprised 19.4%. The proportion of white living cases among heterosexuals was highest in the Southwest HIV Care Region (66.7%) and lowest in the St. Louis HIV Care Region (19.5%). The proportion of black/African American living cases was highest in Missouri correctional facilities (78.8%) and lowest in the Southwest HIV Care Region (22.7%).

Table 18. Deaths* among HIV cases, by selected race and sex and mode of transmission, Missouri, 1982-2017

Mode of Transmission	<u>White Males</u>		<u>Black/African American Males</u>		<u>White Females</u>		<u>Black/African American Females</u>		<u>Total**</u>	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
MSM	257	64.9%	167	57.2%	0	0.0%	0	0.0%	443	51.9%
MSM/IDU	47	11.9%	18	6.2%	0	0.0%	0	0.0%	69	8.1%
IDU	36	9.1%	33	11.3%	12	26.1%	19	26.4%	107	12.5%
Heterosexual Contact	8	2.0%	25	8.6%	24	52.2%	36	50.0%	96	11.3%
No Indicated Risk (NIR)	41	10.4%	48	16.4%	10	21.7%	16	22.2%	129	15.1%
MISSOURI TOTAL***	396	100.0%	292	100.0%	46	100.0%	72	100.0%	853	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 100% due to rounding.

Table 19. Deaths* among stage 3 (AIDS) cases, by selected race and sex and mode of transmission, Missouri, 1982-2017

Mode of Transmission	<u>White Males</u>		<u>Black/African American Males</u>		<u>White Females</u>		<u>Black/African American Females</u>		<u>Total**</u>	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
MSM	3,439	77.5%	1,372	67.3%	0	0.0%	0	0.0%	5,029	66.3%
MSM/IDU	455	10.3%	219	10.7%	0	0.0%	0	0.0%	702	9.3%
IDU	185	4.2%	198	9.7%	83	27.2%	111	24.6%	619	8.2%
Heterosexual Contact	70	1.6%	101	5.0%	161	52.8%	272	60.2%	627	8.3%
No Indicated Risk (NIR)	130	2.9%	125	6.1%	33	10.8%	46	10.2%	364	4.8%
MISSOURI TOTAL***	4,435	100.0%	2,038	100.0%	305	100.0%	452	100.0%	7,581	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 239 cases (3.2%) 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 100% due to rounding.

The number of deaths that have occurred among persons still classified as HIV cases at the time of death was small (853) in comparison to the number of deaths among persons classified as stage 3 (AIDS) (7,581) (Tables 18 and 19). The greatest proportion of deaths among HIV cases has occurred among white males (46.4%) (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 stage 3 (AIDS) cases (Table 19). The proportion of deaths among stage 3 (AIDS) cases with no indicated risk 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, Missouri, 2017

Exposure Category	HIV Cases				Stage 3 (AIDS) Cases			
	2017*		Living		2017**		Living	
Adult/Adolescent								
MSM	288	68.2%	4,512	71.1%	50	60.2%	4,348	67.6%
MSM/IDU	23	5.5%	281	4.4%	1	1.2%	397	6.2%
IDU	17	4.0%	311	4.9%	4	4.8%	467	7.3%
Heterosexual Contact	93	22.0%	1,231	19.4%	28	33.7%	1,177	18.3%
Hemophilia/Coagulation Disorder	0	0.0%	8	0.1%	0	0.0%	31	0.5%
Blood Transfusion or Tissue Recipient	0	0.0%	2	0.0%	0	0.0%	7	0.1%
No Indicated Risk (NIR)	-----	-----	-----	-----	-----	-----	-----	-----
ADULT/ADOLESCENT SUBTOTAL	422	† 100.0%	6,349	† 100.0%	83	100.0%	6,428	† 100.0%
Pediatric (<13 years old)								
PEDIATRIC SUBTOTAL	1	100.0%	77	100.0%	1	100.0%	38	100.0%
TOTAL	423		6,426		84		6,466	

*HIV cases reported during 2017 which remained HIV cases at the end of the year.
 **Does not include HIV cases diagnosed prior to 2017 that progressed to stage 3 (AIDS) in 2017.
 †Includes one case with a confirmed "other" exposure category among persons newly diagnosed with HIV, three cases among persons living with HIV, and one case among persons living with stage 3 (AIDS).
 Note: Percentages may not total 100% due to rounding.

The data in Table 20 have been adjusted to proportionately redistribute individuals with no indicated risk factor to known exposure categories based on sex and race/ethnicity. These data do not reflect the true counts of persons reported in each exposure category. Among both new and living HIV and stage 3 (AIDS) cases, MSM represented the greatest proportion of cases. One new HIV case and one new stage 3 (AIDS) case were diagnosed among children less than 13 years of age in 2017.

The majority of HIV disease cases diagnosed in 2017 (91.0%) and those living with HIV disease (92.7%) were residents of a metropolitan area at the time of diagnosis (Table 21). For a list of counties classified as a metropolitan area, please 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 was lower in less populated areas than in metropolitan areas. Whereas 82.9% of living HIV disease cases in metropolitan areas occurred among males, only 70.9% of living cases in nonmetropolitan areas were among males. There were differences in the distribution of living HIV disease cases by race/ethnicity based on the population of the area of residence. As the population of the area of residence decreased, the proportion of living cases that occurred among whites increased. Only 46.2% of living HIV disease diagnoses were among whites in metropolitan areas compared to 78.7% in nonmetropolitan areas. There were also differences based on the population of the area of residence in the distribution of new and living HIV disease cases by exposure category. Among those newly diagnosed, the percentage of diagnoses among MSM were similar in metropolitan and micropolitan populations, but decreased in nonmetropolitan populations. However, among those living with HIV disease, the proportion of cases attributed to MSM generally decreased as the area of residence decreased. Among those newly diagnosed and living with HIV disease, the proportion of persons between 45 and 64 years of age were highest in nonmetropolitan areas.

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 by age at diagnosis, Missouri, 2017†

	Newly Diagnosed						Living					
	Metropolitan Area**	Micropolitan Area***	Nonmetropolitan Area****	Metropolitan Area**	Micropolitan Area***	Nonmetropolitan Area****	Metropolitan Area**	Micropolitan Area***	Nonmetropolitan Area****	Metropolitan Area**	Micropolitan Area***	Nonmetropolitan Area****
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
Sex												
Male	354	79.2%	18	72.0%	12	63.2%	9,361	82.9%	366	73.6%	280	70.9%
Female	93	20.8%	7	28.0%	7	36.8%	1,931	17.1%	131	26.4%	115	29.1%
Total	447	100.0%	25	100.0%	19	100.0%	11,292	100.0%	497	100.0%	395	100.0%
Race/Ethnicity												
White	156	34.9%	12	48.0%	14	73.7%	5,216	46.2%	344	69.2%	311	78.7%
Black/African American	246	55.0%	7	28.0%	4	21.1%	5,294	46.9%	114	22.9%	65	16.5%
Hispanic	30	6.7%	3	12.0%	1	5.3%	525	4.6%	24	4.8%	16	4.1%
Other/Unknown	15	3.4%	3	12.0%	0	0.0%	257	2.3%	15	3.0%	3	0.8%
Total	447	100.0%	25	100.0%	19	100.0%	11,292	100.0%	497	100.0%	395	100.0%
Exposure Category												
MSM	253	56.6%	15	60.0%	7	36.8%	7,326	64.9%	235	47.3%	174	44.1%
MSM/IDU	20	4.5%	1	4.0%	0	0.0%	477	4.2%	35	7.0%	21	5.3%
IDU	8	1.8%	1	4.0%	3	15.8%	484	4.3%	34	6.8%	34	8.6%
Heterosexual Contact	93	20.8%	3	12.0%	4	21.1%	1,598	14.2%	106	21.3%	99	25.1%
No Indicated Risk (NIR)	70	15.7%	5	20.0%	5	26.3%	1,273	11.3%	74	14.9%	54	13.7%
Other	1	0.2%	0	0.0%	0	0.0%	42	0.4%	3	0.6%	3	0.8%
Pediatric	2	0.4%	0	0.0%	0	0.0%	92	0.8%	10	2.0%	10	2.5%
Total	447	100.0%	25	100.0%	19	100.0%	11,292	100.0%	497	100.0%	395	100.0%
Age at Diagnosis												
<2	1	0.2%	0	0.0%	0	0.0%	46	0.4%	4	0.8%	5	1.3%
2-12	1	0.2%	0	0.0%	0	0.0%	35	0.3%	5	1.0%	3	0.8%
13-18	17	3.8%	1	4.0%	0	0.0%	307	2.7%	12	2.4%	12	3.0%
19-24	97	21.7%	6	24.0%	4	21.1%	1,850	16.4%	74	14.9%	39	9.9%
25-44	240	53.7%	16	64.0%	6	31.6%	7,121	63.1%	309	62.2%	216	54.7%
45-64	82	18.3%	2	8.0%	7	36.8%	1,861	16.5%	90	18.1%	114	28.9%
65+	9	2.0%	0	0.0%	2	10.5%	72	0.6%	3	0.6%	6	1.5%
Total	447	100.0%	25	100.0%	19	100.0%	11,292	100.0%	497	100.0%	395	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 2013 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 2013 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 2013 US Census estimates. See Appendix for map of included counties.

Note: Percentages may not total 100% due to rounding.

Figure 10. Length of time between HIV and stage 3 (AIDS) diagnosis, by race/ethnicity, Missouri, 2008-2016

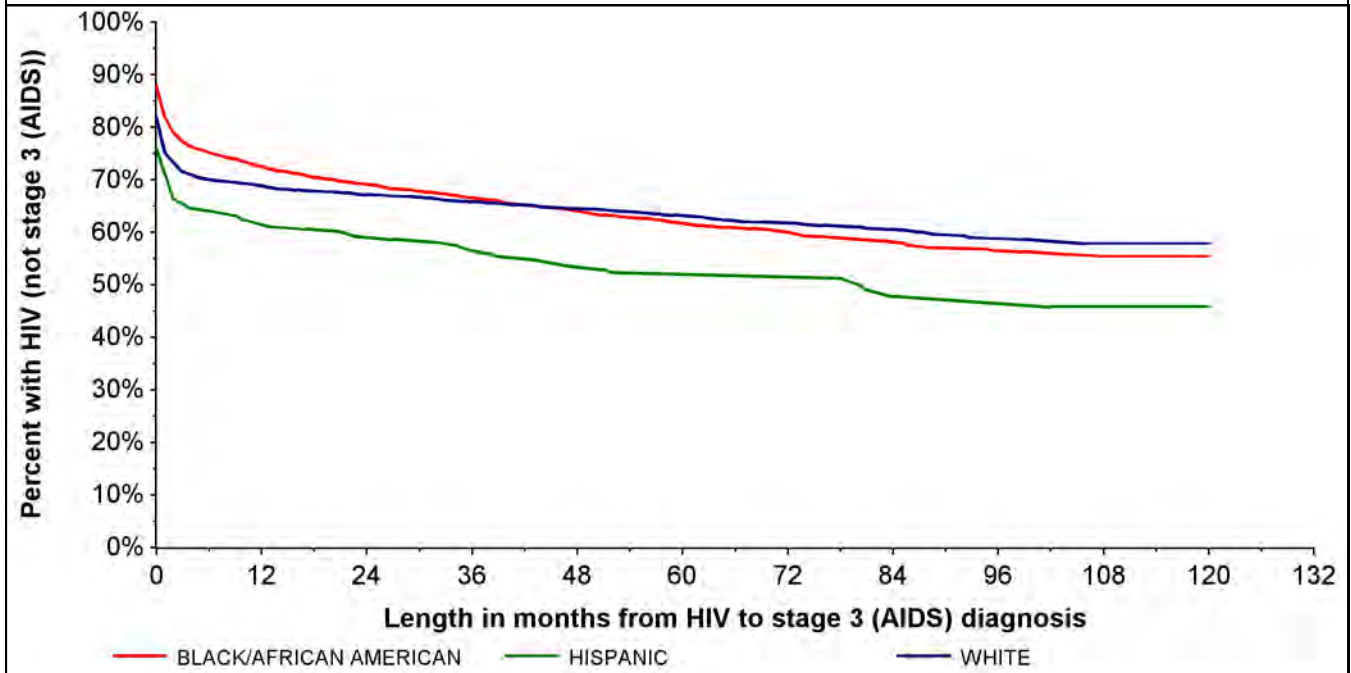
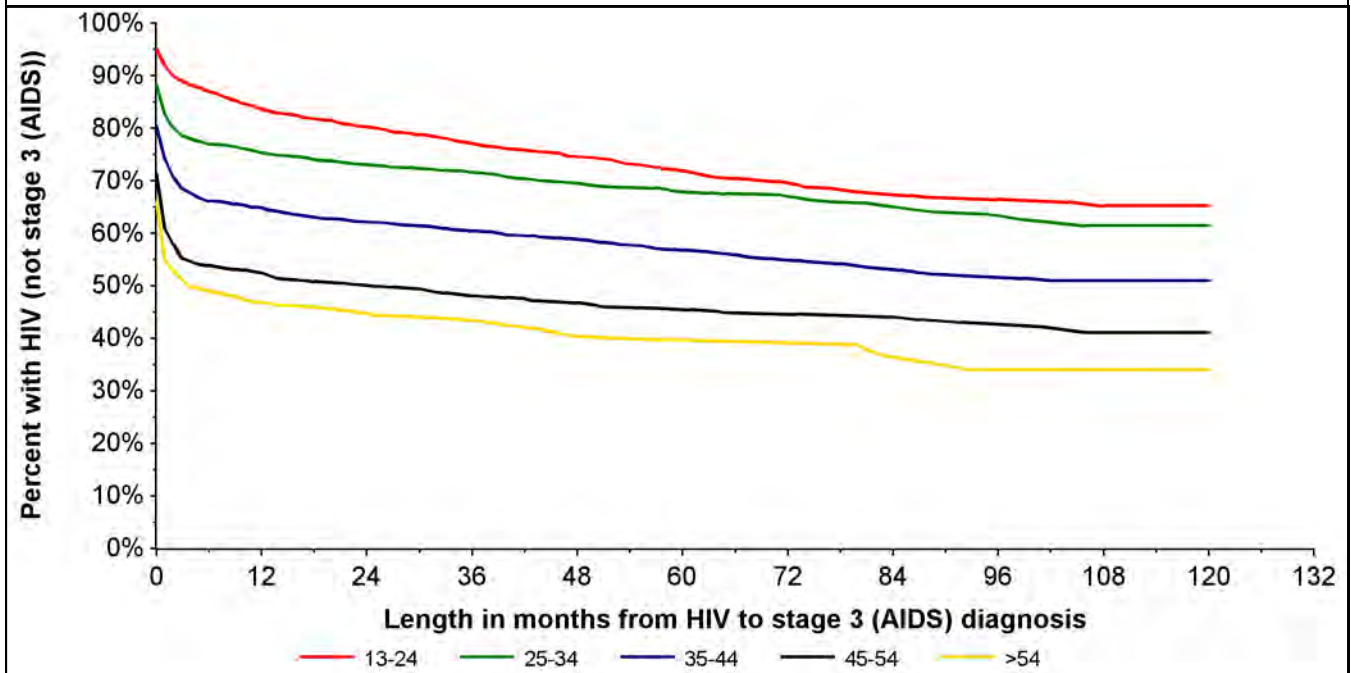


Figure 11. Length of time between HIV and stage 3 (AIDS) diagnosis, by age at diagnosis*, Missouri, 2008-2016



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

A greater proportion of Hispanics progressed from HIV to stage 3 (AIDS) within 12 months of their HIV diagnosis compared to whites and blacks/African Americans (Figure 10). It is important to note that for all curves displayed, data in the later months should be interpreted with caution as they are based on small numbers. Please note, figures 10 through 17 are based on persons diagnosed as of 2016, as not enough time has elapsed to accurately measure length of time for progression to stage 3 (AIDS) or death for 2017 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 11). 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, 2008-2016

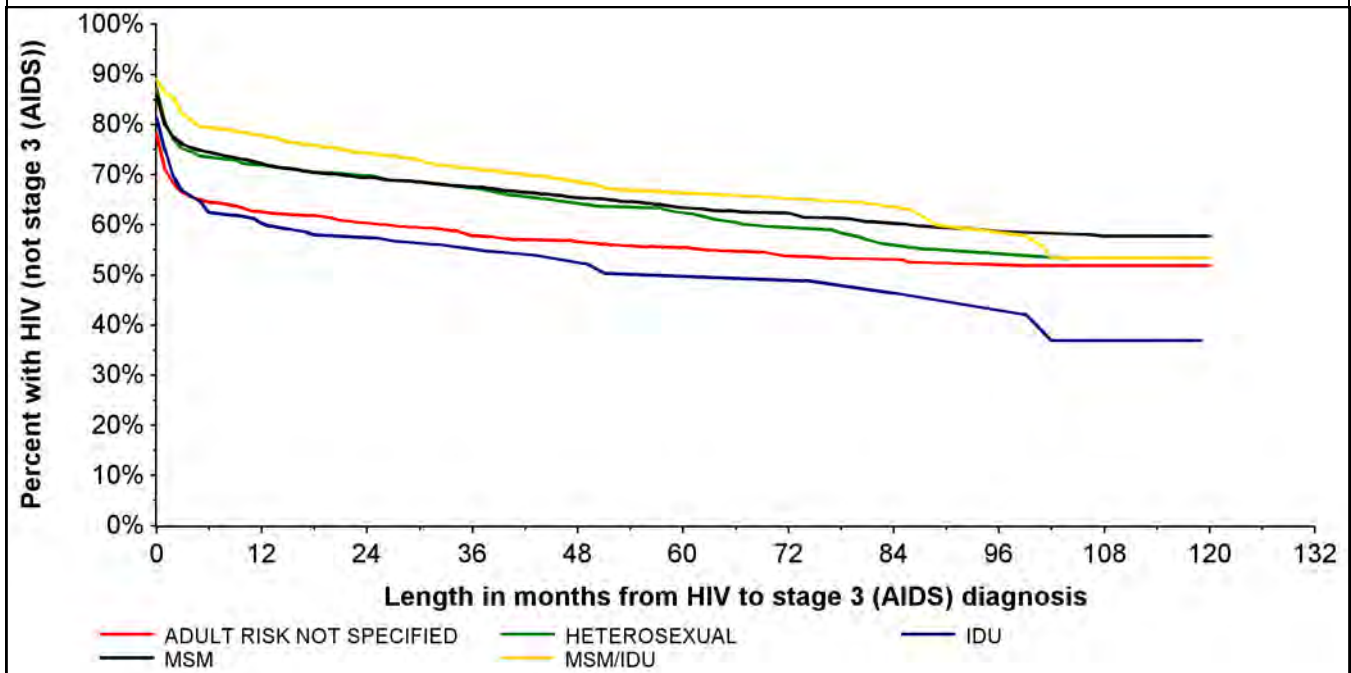
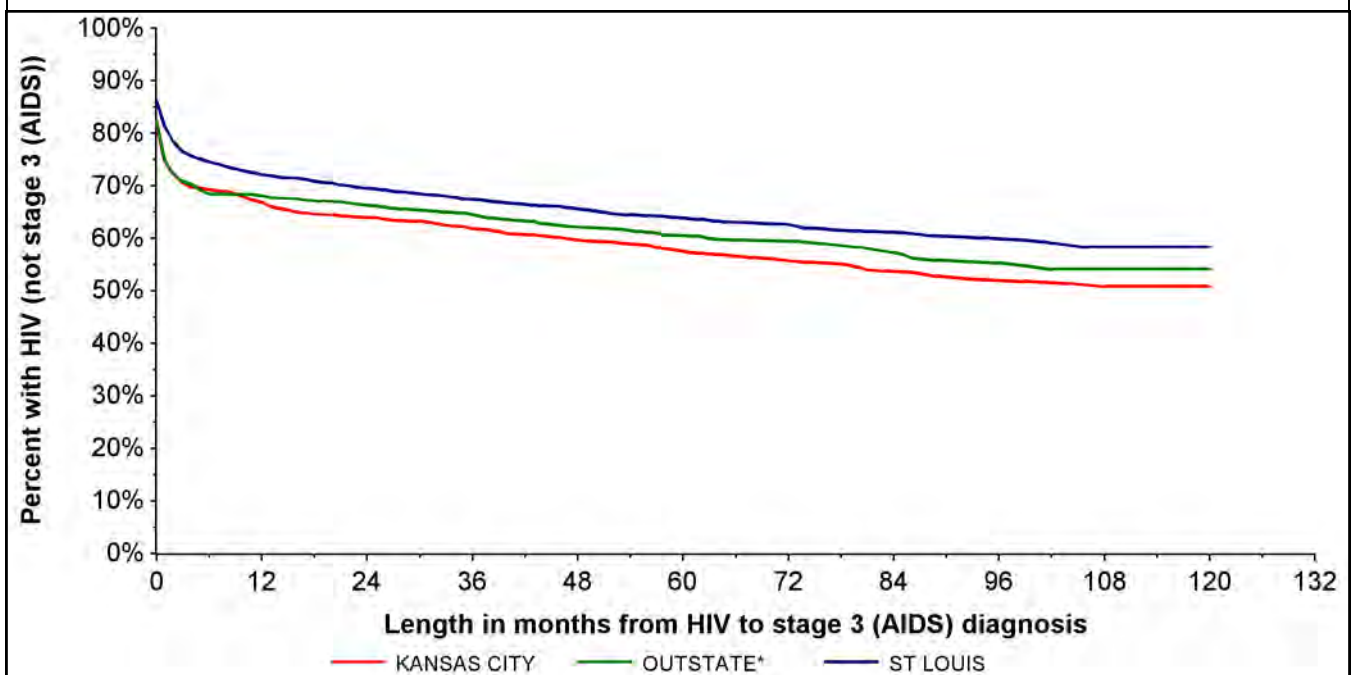


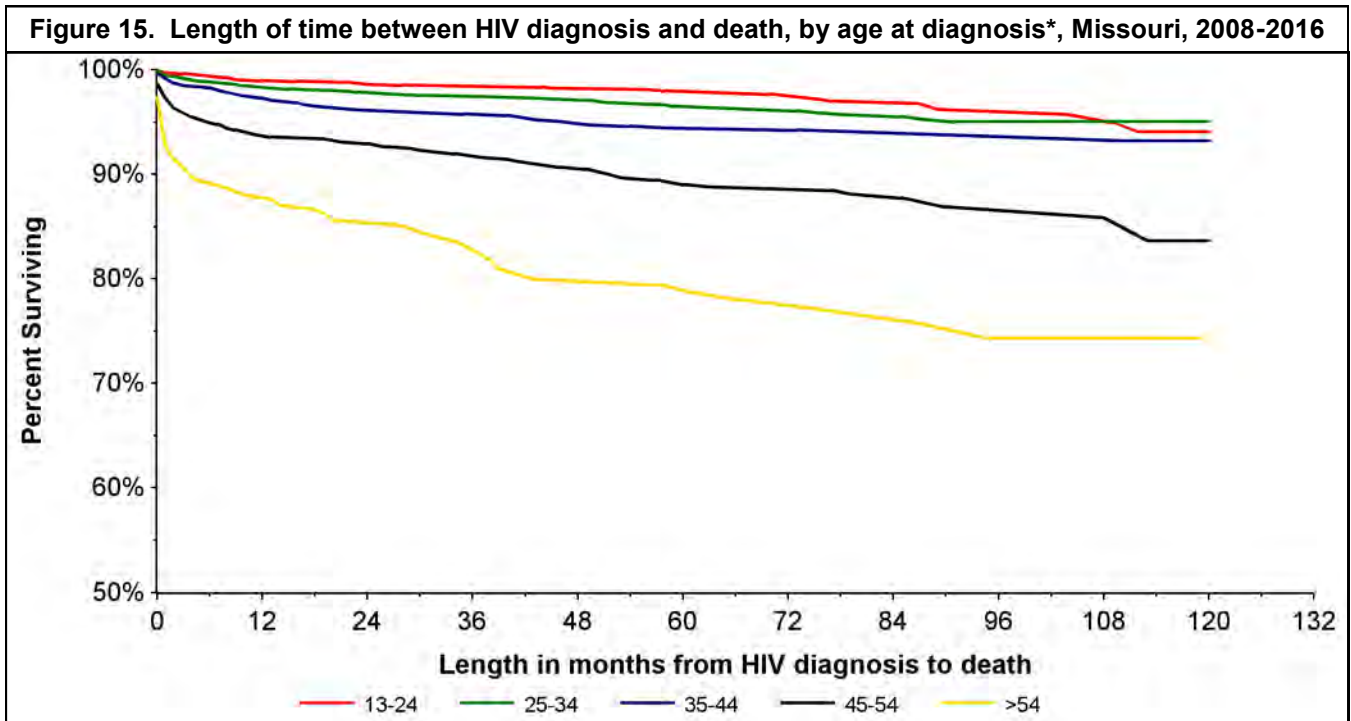
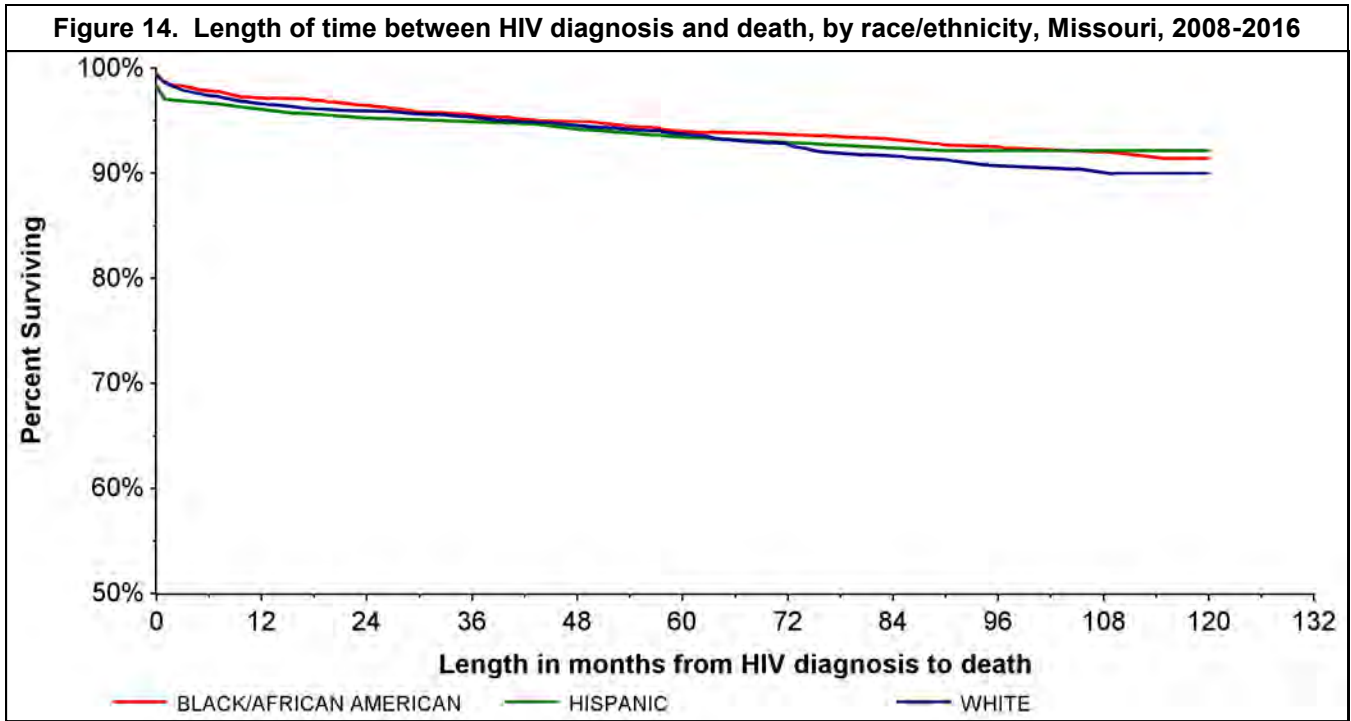
Figure 13. Length of time between HIV and stage 3 (AIDS) diagnosis, by HIV care region*, Missouri, 2008-2016



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

A greater proportion of IDU progressed from HIV to stage 3 (AIDS) within 12 months of their HIV diagnosis compared to individuals from all other exposure categories (Figure 12). At 96 months after the initial HIV diagnosis, the proportion of cases that progressed to stage 3 (AIDS) remained higher for IDU compared with other exposure categories.

There were differences in the progression from HIV to stage 3 (AIDS) by HIV care region (Figure 13). The proportion of individuals that progressed to stage 3 (AIDS) over time was generally greater for the 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.



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

The length of time between the initial HIV diagnosis and reported death was similar by race/ethnicity (Figure 14). Five years following the initial HIV diagnosis, 93% of all individuals were still living.

Over time, the proportion of cases that were deceased was higher as the age at initial HIV diagnosis increased (Figure 15). For example, 72 months following the initial diagnosis, nearly 98% of individuals diagnosed between 13 and 24 years of age were still living, compared to only 70% 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, 2008-2016

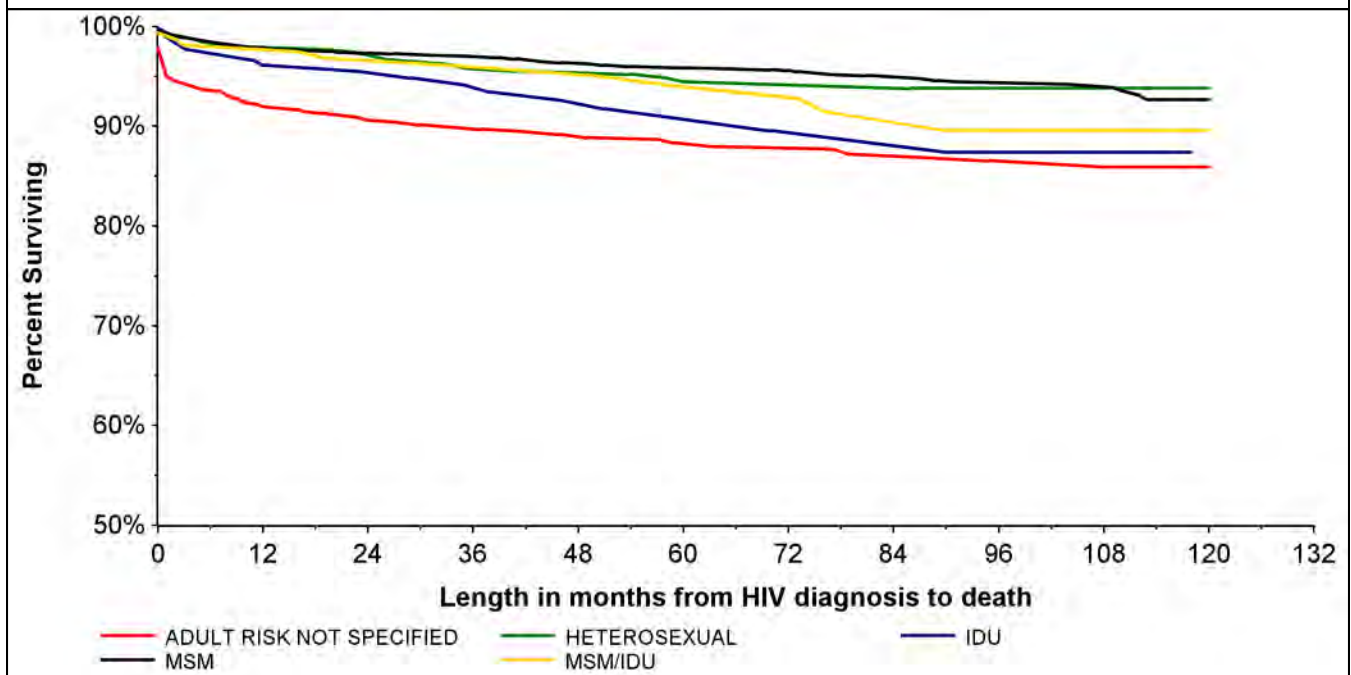
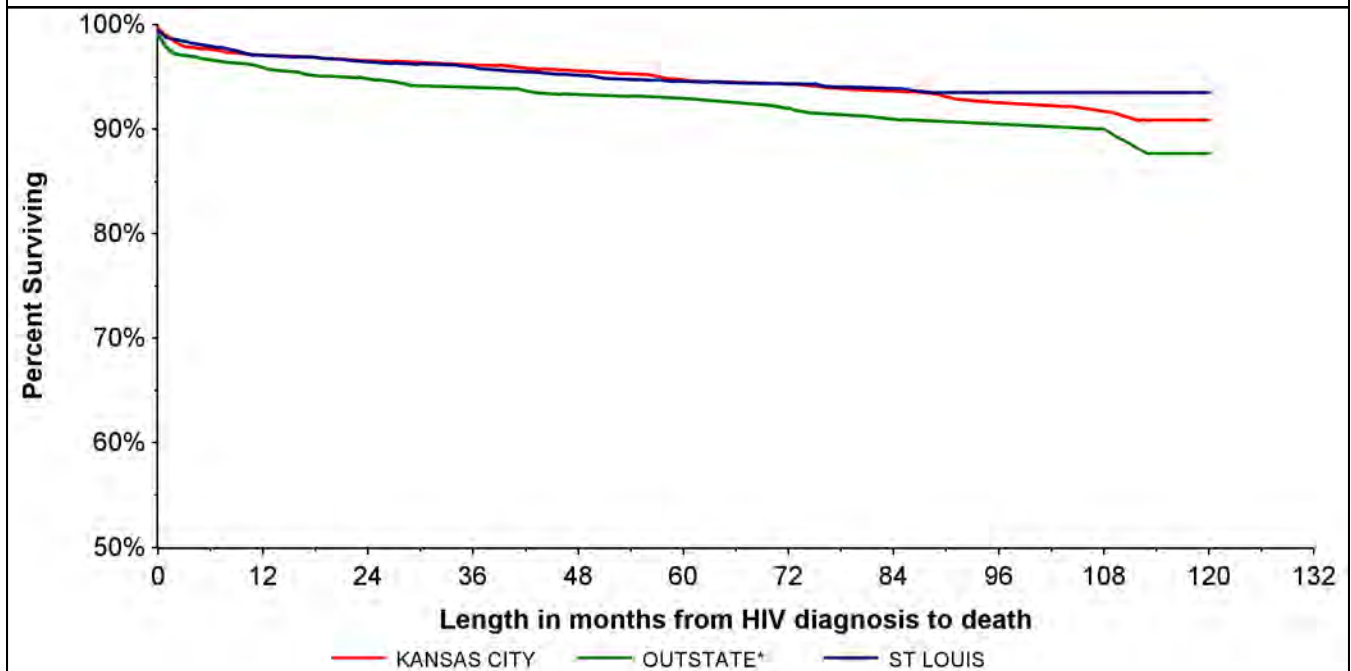


Figure 17. Length of time between HIV diagnosis and death, by HIV care region*, Missouri, 2008-2016



*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 16). Differences in survival persisted over time.

There were not significant differences in survival following HIV diagnosis by HIV care region (Figure 17). At 24 months following the initial HIV diagnosis, the proportion still living was 97% for the Kansas City HIV Care Region and the St. Louis HIV Care Region, and 95% for the Outstate HIV Care Regions combined.

Table 22. Initial CD4 and viral load values[†] among adults and adolescents newly diagnosed with HIV disease, Missouri, 2015-2016

Viral Load (copies/mL)	CD4 Count (cells/ μ L)											
	No Test		<200		200-350		351-500		>500		Total	
	N	%*	N	%*	N	%*	N	%*	N	%*	N	%**
No Test	86	8.8%	4	0.4%	7	0.7%	11	1.1%	23	2.4%	131	13.4%
0-10,000	23	2.4%	14	1.4%	27	2.8%	44	4.5%	119	12.2%	227	23.2%
10,001-100,000	35	3.6%	64	6.6%	93	9.5%	60	6.1%	94	9.6%	346	35.4%
>100,000	7	0.7%	141	14.4%	39	4.0%	50	5.1%	36	3.7%	273	27.9%
Total	151	15.5%	223	22.8%	166	17.0%	165	16.9%	272	27.8%	977	100.0%

[†]Within 12 months of the initial HIV diagnosis

*% of table total

**% of column total

Please note, data in tables 22 and 23 reflect new HIV disease diagnoses in 2015 and 2016, as not enough time has elapsed to accurately measure CD4 and viral load values among persons diagnosed with HIV disease in 2017. Of persons newly diagnosed with HIV disease between 2015 and 2016, 8.8% did not have a CD4 or a viral load laboratory result reported to DHSS within 12 months of diagnosis (Table 22). Nearly 23% of persons diagnosed between 2015 and 2016 had an initial CD4 count of less than 200 cells/ μ L. This 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 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, 2015-2016

	Number	% with CD4 within 12 months of HIV diagnosis	Median of initial CD4 counts (cells/ μ L)
HIV Status			
HIV (not stage 3 (AIDS))	734	79.8%	472
Concurrent HIV and stage 3 (AIDS)	197	100.0%	51
Stage 3 (AIDS) >1 month after HIV diagnosis	46	93.5%	177
Sex			
Male	806	84.6%	383
Female	171	84.2%	322
Race/Ethnicity			
White	408	89.2%	376
Black/African American	467	80.1%	379
Hispanic	62	87.1%	406
Other/Unknown	40	85.0%	354
Exposure Category			
MSM	631	86.4%	403
MSM/IDU	29	96.6%	465
IDU	40	90.0%	339
HRH	184	80.4%	308
Other	1	100.0%	814
NIR	92	73.9%	232
Age at HIV Diagnosis			
13-18	40	85.0%	430
19-24	247	84.2%	448
25-44	465	83.4%	392
45-64	211	88.2%	205
65+	14	71.4%	96

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 race/ethnicity, exposure category, and age at HIV diagnosis (Table 23). There was no significant difference in the percent of females (84.6%) compared to males (84.2%) with at least one CD4 within 12 months of initial diagnosis. The initial median CD4 count tended to be greater for males (383 cells/ μ L) compared to females (322 cells/ μ L). A greater proportion of Hispanics and whites tended to have a CD4 count within 12 months of diagnosis compared to blacks/African Americans, with Hispanics having 87.1%, whites having 89.2%, and blacks/African Americans having 80.1%. Among those with a CD4 count within 12 months of diagnosis, the initial median CD4 count tended to be lower among Other/Unknown (354 cells/ μ L). Among exposure categories, MSM/IDU and IDU cases had a higher 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 among individuals with no identified 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.

This page was intentionally left blank.

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 2016 (400 cases) to 2017 (507 cases). Increases were seen in all HIV care regions.
- The rate of reported cases was highest in Iron County (58.7 per 100,000).
- Blacks/African Americans were disproportionately impacted, with a case rate 5.8 times as high as the rate among whites.

Early Latent Syphilis

- The number of early latent syphilis cases increased from 2016 (276 cases) to 2017 (423 cases). Increases were seen in all HIV care regions.
- The rate of reported cases was highest in Dunklin County (63.1 per 100,000).
- Males represented the majority (84.9%) of reported early latent syphilis cases.
- The case rate was 6.0 times as high among blacks/African Americans compared to whites.

Gonorrhea

- The number of reported gonorrhea cases increased from 2016 (11,479 cases) to 2017 (13,086 cases). Increases were seen in all HIV care regions except for the St. Louis HIV Care Region.
- The rate of reported cases was highest in St. Louis City (738.8 per 100,000).
- A larger proportion of reported gonorrhea cases was diagnosed between 15 and 19 years of age among black/African American females (31.2%) compared to white females (19.3%), black/African American males (17.5%), and white males (7.4%).

Chlamydia

- The number of reported chlamydia cases increased from 2016 (30,843 cases) to 2017 (32,683 cases). Increases were seen in all HIV care regions except the Southeast HIV Care Region.
- The rate of reported cases was highest in St. Louis City (1,421.5 per 100,000).
- A larger proportion of reported chlamydia cases was diagnosed between 15 and 19 years of age among white females (32.9%) compared to black/African American females (36.1%), black/African American males (26.5%) and white males (17.5%).

Hepatitis B

- The number of reported hepatitis B cases in Missouri increased from 2016 (562 cases) to 2017 (594 cases).
- The rate of reported cases was highest in St. Clair County (32.4 per 100,000).
- Among females, the largest number of cases was among persons 30 to 39 years of age, while among males the largest number of cases was among persons 50 to 59 years of age.

Hepatitis C

- The number of reported hepatitis C cases in Missouri decreased from 2016 (5,088 cases) to 2017 (4,946 cases). Please note that this is not likely due to a true decrease in morbidity but is more likely attributed to a change in case definition and data collection methods. Please see the Technical Notes section for more information.
- The rate of reported cases was highest in DeKalb County (459.8 per 100,000).
- Among females and males, the largest number of cases was among persons 50 to 59 years of age.

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

- There were 763 persons living with HIV who were reported with at least one other STD in 2017.
- Of the 423 early syphilis cases reported in 2017, 38.5% were among individuals living with HIV. Only 1.6% of gonorrhea cases and less than 1.0% of chlamydia cases reported in 2017 were among individuals living with HIV.
- The St. Louis HIV Care Region represented 66.6% of all living HIV cases reported with multiple STD co-infections in 2017.
- Although blacks/African Americans represented only 46.0% of living HIV disease cases, they represented 61.9% of individuals diagnosed with an STD co-infection.
- Of the 12,890 individuals living with HIV disease, 65 were reported with a hepatitis B and/or C co-infection in 2017.
- Three percent (3.0%) of chronic hepatitis B cases and less than 1.0% of chronic hepatitis C cases reported in 2017 were among persons living with HIV disease.
- Of the 12,890 individuals living with HIV disease, two were reported with TB disease in 2017.

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	201	48.6%	8.4	53	57.0%	2.1	254	5.2
Black/African American	179	43.2%	53.1	35	37.6%	9.4	214	30.2
Other/Unknown*	34	8.2%	--	5	5.4%	--	39	--
Total	414	100.0%	13.8	93	100.0%	3.0	507	8.3
St. Louis HIV Care Region								
White	70	35.0%	9.3	6	20.7%	0.8	76	4.9
Black/African American	121	60.5%	64.7	22	75.9%	9.8	143	34.8
Other/Unknown*	9	4.5%	--	1	3.4%	--	10	--
Total	200	100.0%	19.5	29	100.0%	2.7	229	10.8
Kansas City HIV Care Region								
White	80	56.3%	18.8	26	63.4%	5.9	106	12.2
Black/African American	49	34.5%	55.3	11	26.8%	11.0	60	31.9
Other/Unknown*	13	9.2%	--	4	9.8%	--	17	--
Total	142	100.0%	24.1	41	100.0%	6.6	183	15.1
Northwest HIV Care Region								
White	7	100.0%	7.1	2	66.7%	2.0	9	4.5
Black/African American	0	0.0%	0.0	1	33.3%	35.1	1	12.2
Other/Unknown*	0	0.0%	--	0	0.0%	--	0	--
Total	7	100.0%	6.2	3	100.0%	2.7	10	4.5
Central HIV Care Region								
White	8	50.0%	2.1	12	92.3%	3.1	20	2.6
Black/African American	5	31.3%	20.4	1	7.7%	4.9	6	13.4
Other/Unknown*	3	18.8%	--	0	0.0%	--	3	--
Total	16	100.0%	3.6	13	100.0%	2.9	29	3.3
Southwest HIV Care Region								
White	26	76.5%	5.1	5	100.0%	1.0	31	3.0
Black/African American	2	5.9%	13.8	0	0.0%	0.0	2	8.3
Other/Unknown*	6	17.6%	--	0	0.0%	--	6	--
Total	34	100.0%	5.9	5	100.0%	0.9	39	3.3
Southeast HIV Care Region								
White	10	66.7%	4.6	2	100.0%	0.9	12	2.7
Black/African American	2	13.3%	11.9	0	0.0%	0.0	2	6.4
Other/Unknown*	3	20.0%	--	0	0.0%	--	3	--
Total	15	100.0%	6.1	2	100.0%	0.8	17	3.4
*Includes cases identified with Hispanic ethnicity.								
**Per 100,000 population based on 2016 DHSS population estimates.								
Note: Percentages may not total 100% due to rounding.								

A total of 507 P&S syphilis cases were reported in 2017 (Table 24). This number represented a 26.8% increase from the 400 P&S syphilis cases reported in 2016. The majority of cases (81.7%) were reported among males. The rate of P&S syphilis cases among males was highest in the Kansas City HIV Care Region (24.1 per 100,000), followed by the St. Louis HIV Care Region (19.5 per 100,000). Forty-five percent (45.2%) of all P&S syphilis cases were reported in the St. Louis HIV Care Region and 36.1% were reported in the Kansas City HIV Care Region. The rate of reported P&S syphilis cases was higher for blacks/African Americans compared to whites in all regions.

Figure 19. Reported P&S syphilis cases, by race and sex and age group at diagnosis, Missouri, 2017

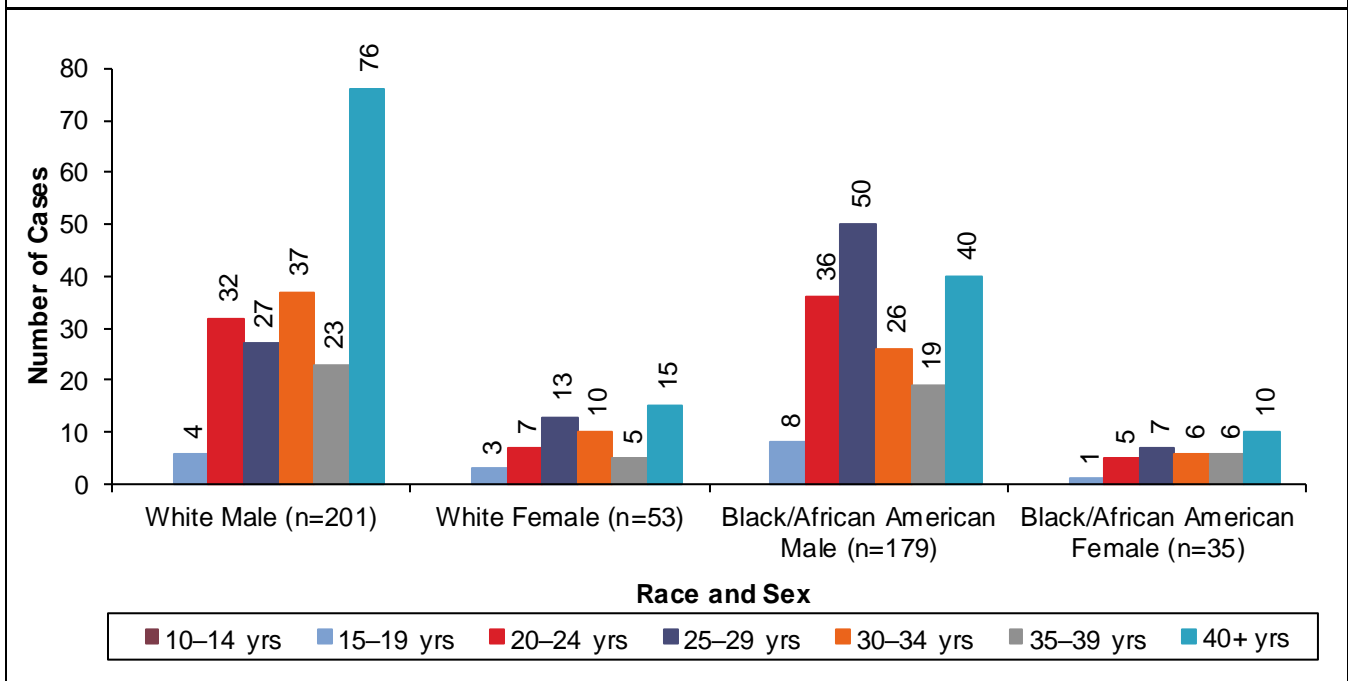
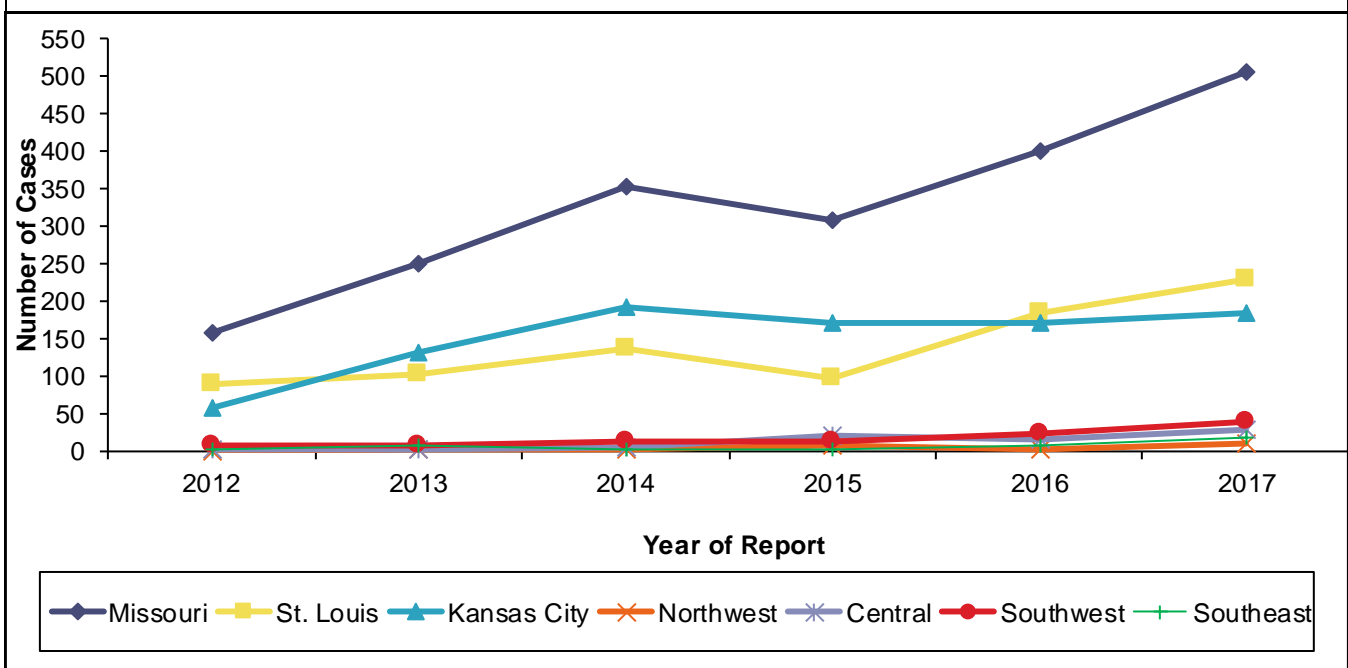


Figure 20. Reported P&S syphilis cases, by HIV care region and year of report, Missouri, 2012-2017



The largest numbers of P&S syphilis cases were reported among white males (201) and black/African American males (179) (Figure 19). The number of reported cases increased from 2016 to 2017 among all 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, white females, and black/African American females, the largest numbers of cases were reported among individuals 40 or more years of age at the time of diagnosis. Among black/African American males, the largest numbers of cases were reported among individuals 25 to 29 years of age.

The trend in the number of reported P&S syphilis cases in Missouri has fluctuated from 2012 to 2017, with increases seen from 2012 to 2014, followed by a decrease from 2014 to 2015 and then an increase from 2015 to 2017 (Figure 20). The number of reported P&S syphilis cases increased from 2016 to 2017 in the St. Louis HIV Care Region (183 to 229), the Southwest HIV Care Region (23 to 39), the Southeast HIV Care Region (6 to 17), the Kansas City HIV Care Region (171 to 183), the Central HIV Care Region (15 to 29), and the Northwest HIV Care Region (2 to 10).

Table 25. Reported early latent syphilis cases and rates, by sex, HIV care region and race*, Missouri, 2017								
	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	165	46.0%	6.9	39	60.9%	1.6	204	4.2
Black/African American	156	43.5%	46.3	21	32.8%	5.7	177	25.0
Other/Unknown*	38	10.6%	--	4	6.3%	--	42	--
Total	359	100.0%	12.0	64	100.0%	2.1	423	6.9
St. Louis HIV Care Region								
White	71	36.4%	9.4	5	27.8%	0.6	76	4.9
Black/African American	108	55.4%	57.7	12	66.7%	5.4	120	29.2
Other/Unknown*	16	8.2%	--	1	5.6%	--	17	--
Total	195	100.0%	19.0	18	100.0%	1.6	213	10.1
Kansas City HIV Care Region								
White	38	46.3%	8.9	20	76.9%	4.5	58	6.7
Black/African American	29	35.4%	32.7	5	19.2%	5.0	34	18.1
Other/Unknown*	15	18.3%	--	1	3.8%	--	16	--
Total	82	100.0%	13.9	26	100.0%	4.2	108	8.9
Northwest HIV Care Region								
White	4	57.1%	4.0	2	100.0%	2.0	6	3.0
Black/African American	1	14.3%	18.7	0	0.0%	0.0	1	12.2
Other/Unknown*	2	28.6%	--	0	0.0%	--	2	--
Total	7	100.0%	6.2	2	100.0%	1.8	9	4.0
Central HIV Care Region								
White	7	43.8%	1.8	7	77.8%	1.8	14	1.8
Black/African American	7	43.8%	28.5	1	11.1%	4.9	8	17.9
Other/Unknown*	2	12.5%	--	1	11.1%	--	3	--
Total	16	100.0%	3.6	9	100.0%	2.0	25	2.8
Southwest HIV Care Region								
White	37	84.1%	7.2	2	100.0%	0.4	39	3.8
Black/African American	4	9.1%	27.7	0	0.0%	0.0	4	16.7
Other/Unknown*	3	6.8%	--	0	0.0%	--	3	--
Total	44	100.0%	7.6	2	100.0%	0.3	46	3.9
Southeast HIV Care Region								
White	8	53.3%	3.7	3	42.9%	1.3	11	2.5
Black/African American	7	46.7%	41.5	3	42.9%	20.6	10	31.8
Other/Unknown*	0	0.0%	--	1	14.3%	--	1	--
Total	15	100.0%	6.1	7	100.0%	2.8	22	4.4
*Includes cases identified with Hispanic ethnicity.								
**Per 100,000 population based on 2016 DHSS population estimates.								
Note: Percentages may not total 100% due to rounding.								

A total of 423 early latent syphilis cases were reported in 2017, compared to 276 cases reported in 2016 (Table 25). The majority of cases (84.9%) were reported among males. The rate of early latent syphilis cases was highest in the St. Louis HIV Care Region (10.1 per 100,000), followed by the Kansas City HIV Care Region (8.9 per 100,000). Approximately half (50.4%) of all early latent syphilis cases were reported in the St. Louis HIV Care Region and 25.5% were reported in the Kansas City HIV Care Region. The rate of reported early latent syphilis cases was higher for blacks/African Americans compared to whites in all regions.

Figure 22. Reported early latent syphilis cases, by race and sex and age group at diagnosis, Missouri, 2017

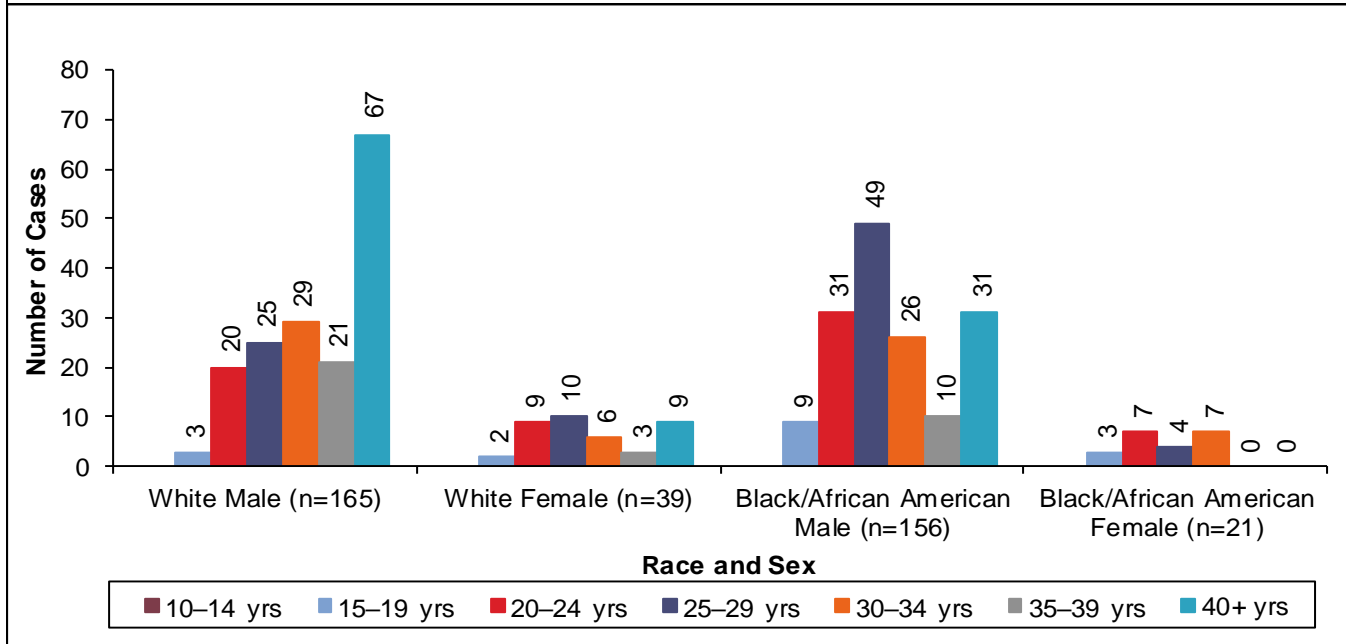
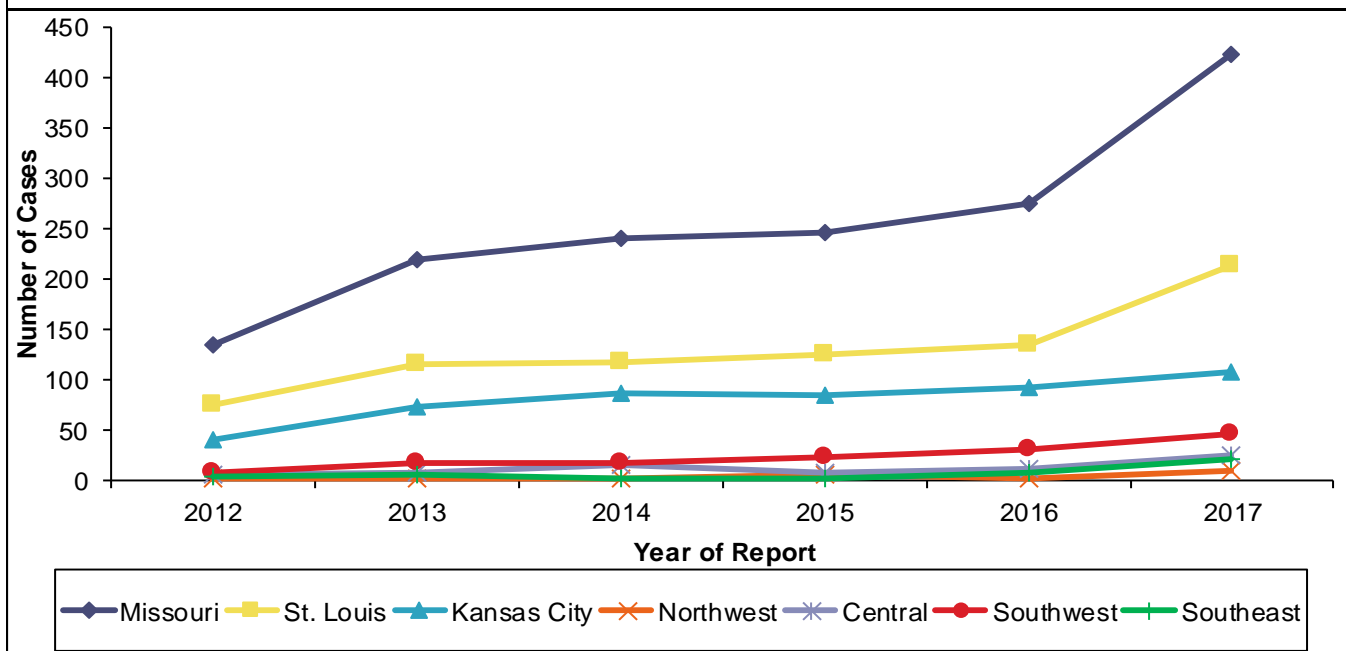


Figure 23. Reported early latent syphilis cases by HIV care region and year of report, Missouri, 2012-2017



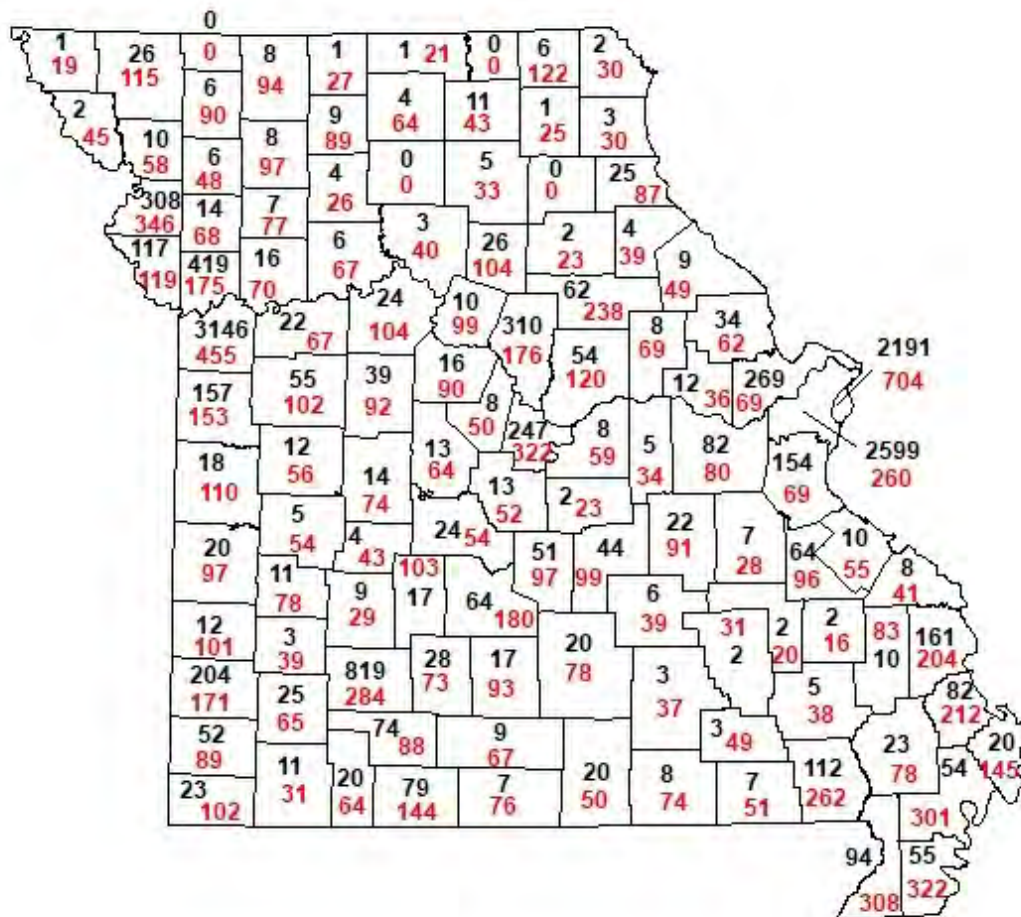
The largest numbers of early latent syphilis cases were reported among white males (165) and black/African American males (156) (Figure 22). The number of reported cases increased among both males and females. From 2016 to 2017 the number of early latent syphilis cases among black/African American males increased from 103 to 156 cases. Among white males, the largest numbers of cases were reported among individuals 40 or more years of age at the time of diagnosis. Among black/African American males, cases were greatest among those 25 to 29 years of age.

The number of reported early latent syphilis cases in Missouri steadily increased from 2012 to 2017 (Figure 23). The number of reported early latent syphilis cases increased from 2016 to 2017 in all HIV care regions.

Table 26. Reported gonorrhea cases and rates, by sex, HIV care region and race*, Missouri, 2017								
	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	2,188	30.9%	91.5	2,390	39.9%	96.9	4,578	94.2
Black/African American	3,819	53.9%	1,133.6	2,786	46.5%	750.8	6,605	933.0
Other/Unknown*	1,081	15.3%	--	821	13.7%	--	1,903	--
Total	7,088	100.0%	236.9	5,997	100.0%	193.4	13,086	214.8
St. Louis HIV Care Region								
White	500	16.4%	66.5	370	16.2%	47.2	870	56.7
Black/African American	2,079	68.1%	1,111.0	1,566	68.5%	698.7	3,645	886.3
Other/Unknown*	476	15.6%	--	349	15.3%	--	826	--
Total	3,055	100.0%	298.3	2,285	100.0%	209.1	5,341	252.3
Kansas City HIV Care Region								
White	629	30.0%	147.8	657	36.7%	147.9	1,286	147.9
Black/African American	1,170	55.7%	1,321.3	916	51.1%	917.9	2,086	1,107.6
Other/Unknown*	301	14.3%	--	218	12.2%	--	519	--
Total	2,100	100.0%	356.7	1,791	100.0%	289.2	3,891	322.1
Northwest HIV Care Region								
White	108	58.7%	108.9	177	81.2%	174.5	285	142.1
Black/African American	52	28.3%	971.2	22	10.1%	771.7	74	901.9
Other/Unknown*	24	13.0%	--	19	8.7%	--	43	--
Total	184	100.0%	163.5	218	100.0%	195.8	402	179.6
Central HIV Care Region								
White	253	47.9%	66.0	311	60.3%	79.7	564	72.9
Black/African American	189	35.8%	770.2	122	23.6%	603.0	311	694.6
Other/Unknown*	86	16.3%	--	83	16.1%	--	169	--
Total	528	100.0%	120.1	516	100.0%	116.8	1,044	118.4
Southwest HIV Care Region								
White	549	63.0%	107.2	633	79.7%	120.6	1,182	114.0
Black/African American	176	20.2%	1,218.4	54	6.8%	566.8	230	959.5
Other/Unknown*	146	16.8%	--	107	13.5%	--	253	--
Total	871	100.0%	150.2	794	100.0%	135.5	1,665	142.8
Southeast HIV Care Region								
White	149	42.6%	68.4	242	61.6%	108.4	391	88.6
Black/African American	153	43.7%	906.8	106	27.0%	729.5	259	824.8
Other/Unknown*	48	13.7%	--	45	11.5%	--	93	--
Total	350	100.0%	141.7	393	100.0%	157.6	743	149.7
*Includes cases identified with Hispanic ethnicity.								
**Per 100,000 population based on 2016 DHSS population estimates.								
Note: Percentages may not total 100% due to rounding.								

A total of 13,086 gonorrhea cases were reported in 2017 (Table 26). This represented a 14.0% increase in the number of reported cases compared to 2016 (11,479 cases). The majority of cases (54.2%) were reported among males. Of all reported gonorrhea cases, 40.8% were reported in the St. Louis HIV Care Region and 29.7% were reported in the Kansas City HIV Care Region. The Southwest HIV Care Region had the third largest number of gonorrhea cases reported. The rate of reported gonorrhea cases was higher for blacks/African Americans compared to whites in all regions.

Figure 24. Reported gonorrhea cases* and rates**, by county, Missouri, 2017

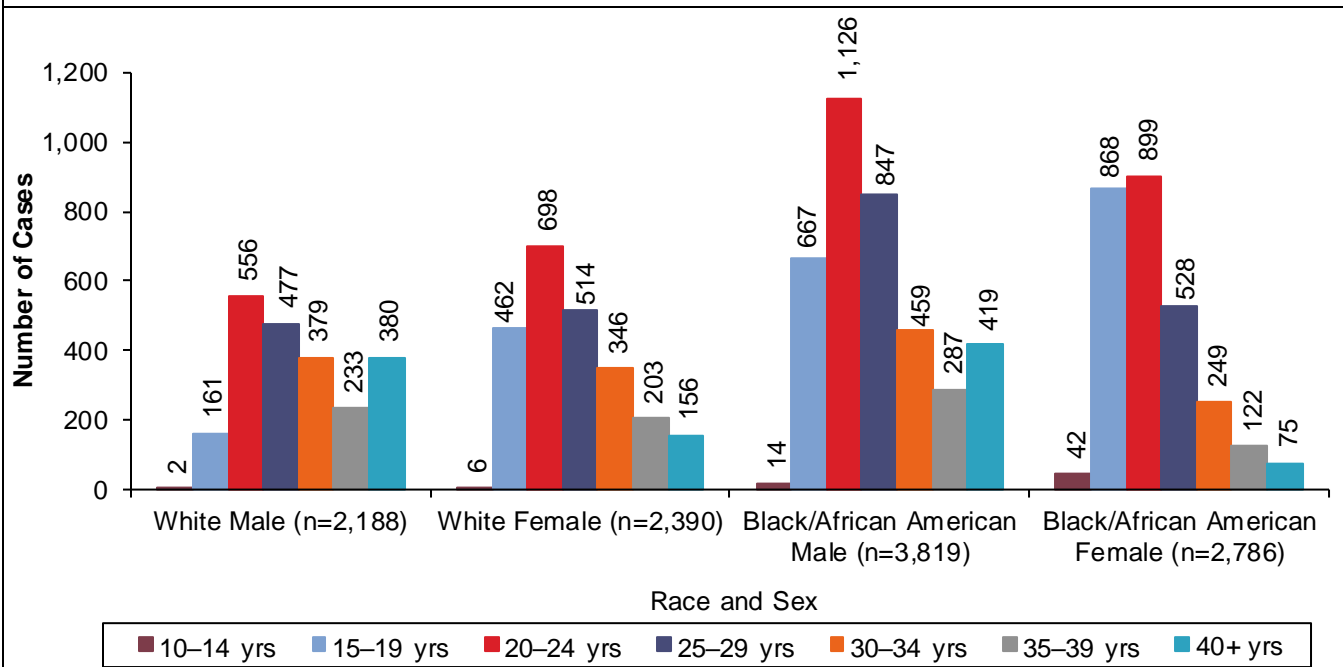


*Case counts are in black.

**Case rates are in red, per 100,000 population based on 2016 DHSS population estimates.

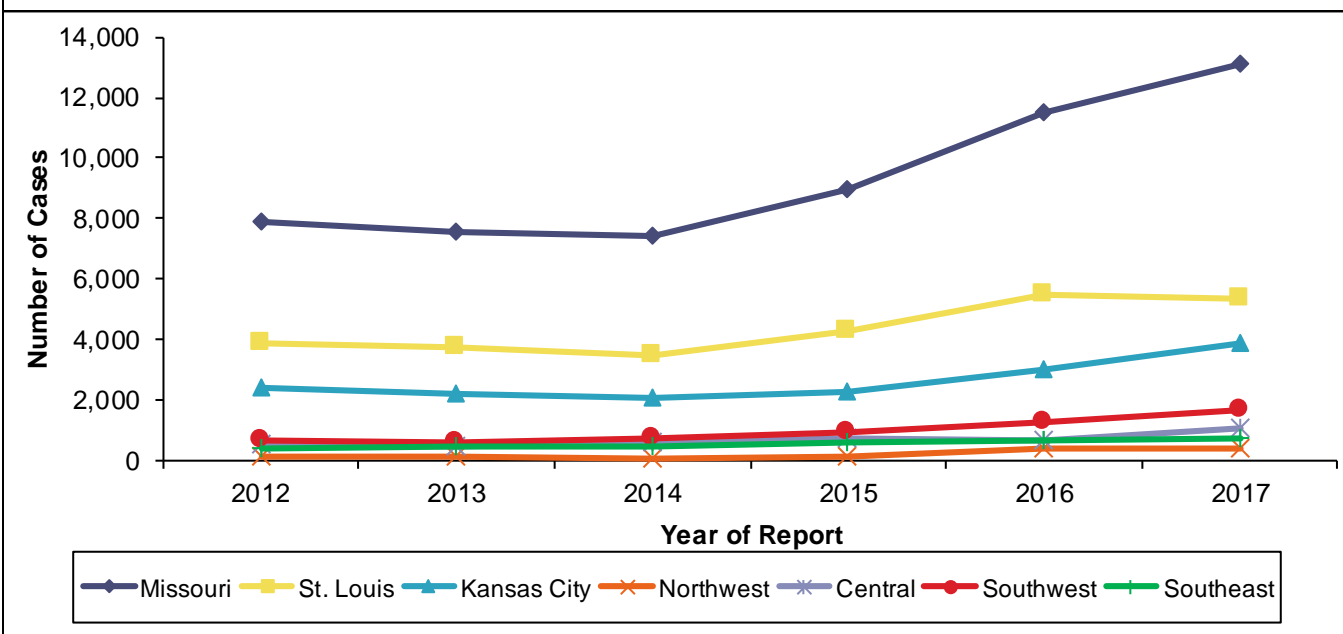
Gonorrhea cases reported in St. Louis City, St. Louis County, and Jackson County represented 60.7% of all reported cases in 2017 (Figure 24). There were four counties that did not report any gonorrhea cases in 2017. Jackson County had the highest number of reported gonorrhea cases (3,146). St. Louis City had the highest rate of reported gonorrhea cases at 704 per 100,000 persons. This means that for every 100,000 persons living in St. Louis City, there were 704 reported with gonorrhea in 2017.

Figure 25. Reported gonorrhea cases, by race and sex and age group at diagnosis, Missouri, 2017



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, 2012-2017



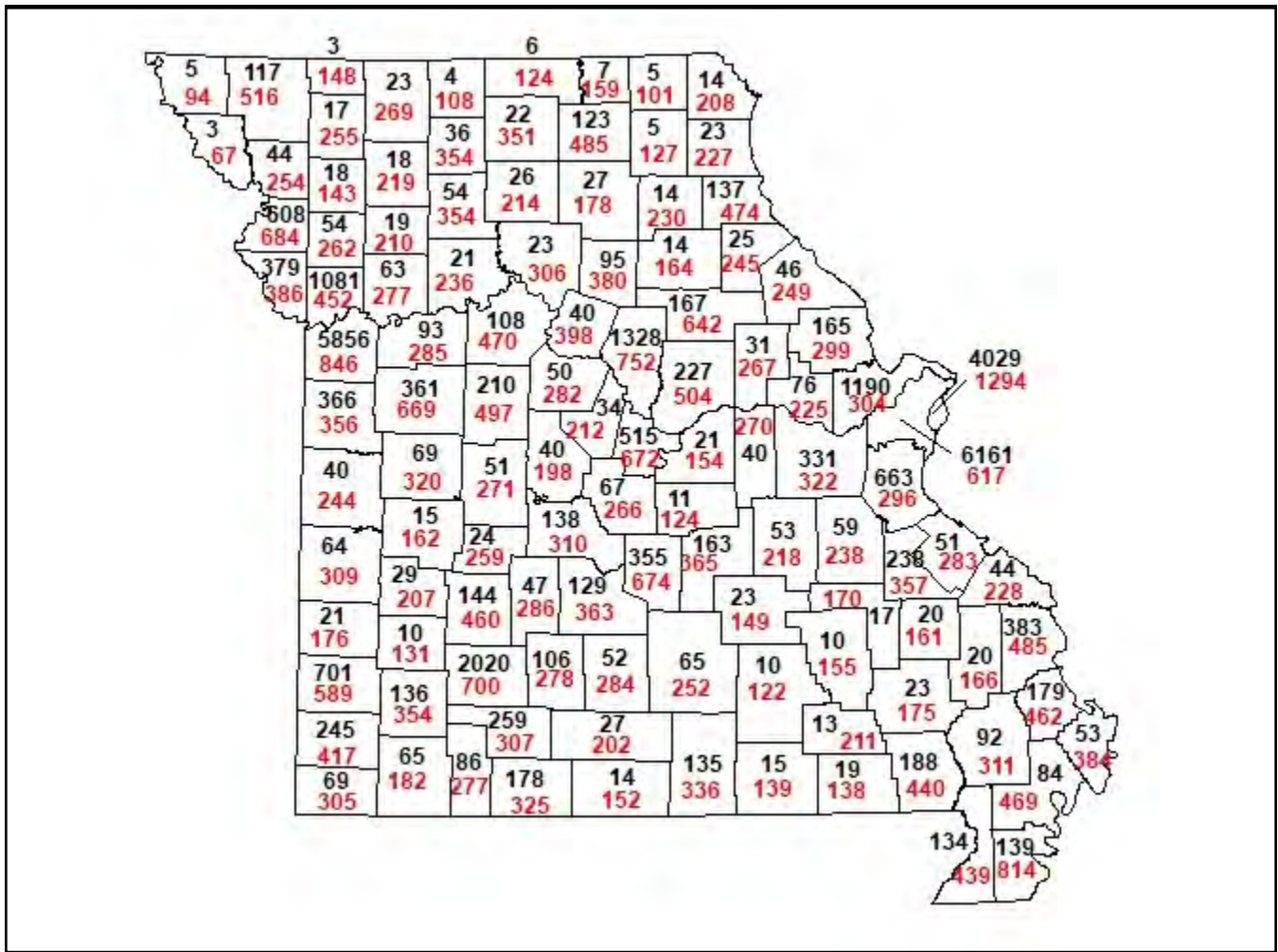
The largest numbers of gonorrhea cases were reported among black/African American males (3,819) and black/African American females (2,786) (Figure 25). The number of reported cases increased from 2016 to 2017 among all race/ethnicity and sex categories presented. Among all race/ethnicity and sex categories presented, the largest numbers of cases were reported among individuals 20 to 24 years of age at the time of diagnosis. A greater proportion of gonorrhea cases among white males (17.4%) and black/African American males (11.0%) was diagnosed among individuals 40 or more years of age compared to female cases.

The number of reported gonorrhea cases in Missouri decreased slightly from 2012 through 2014, and then increased through 2017 (Figure 26). The number of reported gonorrhea cases was higher in 2017 than 2016 in all HIV care regions except for the St. Louis HIV Care Region.

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	4,138	37.7%	173.1	9,711	44.7%	393.5	13,849	285.1
Black/African American	4,686	42.7%	1,391.0	7,468	34.4%	2,012.7	12,154	1,716.8
Other/Unknown*	2,158	19.7%	--	4,522	20.8%	--	6,680	--
Total	10,982	100.0%	367.0	21,701	100.0%	699.8	32,683	536.4
St. Louis HIV Care Region								
White	947	22.0%	125.9	2,016	24.3%	257.3	2,963	192.9
Black/African American	2,462	57.1%	1,315.7	4,317	52.0%	1,926.2	6,779	1,648.4
Other/Unknown*	903	20.9%	--	1,970	23.7%	--	2,873	--
Total	4,312	100.0%	421.1	8,303	100.0%	759.6	12,615	595.9
Kansas City HIV Care Region								
White	807	29.7%	189.6	1,868	36.1%	420.5	2,675	307.5
Black/African American	1,313	48.4%	1,482.7	2,135	41.2%	2,139.5	3,448	1,830.7
Other/Unknown*	595	21.9%	--	1,174	22.7%	--	1,769	--
Total	2,715	100.0%	461.2	5,177	100.0%	835.9	7,892	653.3
Northwest HIV Care Region								
White	199	62.0%	200.7	533	79.7%	525.6	732	364.9
Black/African American	63	19.6%	1,176.7	46	6.9%	1,613.5	109	1,328.5
Other/Unknown*	59	18.4%	--	90	13.5%	--	149	--
Total	321	100.0%	285.3	669	100.0%	601.0	990	442.3
Central HIV Care Region								
White	682	51.6%	177.8	1,861	65.6%	476.8	2,543	328.6
Black/African American	388	29.3%	1,581.2	503	17.7%	2,486.0	891	1,990.1
Other/Unknown*	252	19.1%	--	474	16.7%	--	726	--
Total	1,322	100.0%	300.6	2,838	100.0%	642.4	4,160	471.9
Southwest HIV Care Region								
White	1,233	68.5%	240.8	2,611	76.6%	497.5	3,844	370.7
Black/African American	288	16.0%	1,993.8	201	5.9%	2,109.8	489	2,039.9
Other/Unknown*	279	15.5%	--	595	17.5%	--	874	--
Total	1,800	100.0%	310.4	3,407	100.0%	581.3	5,207	446.6
Southeast HIV Care Region								
White	270	52.7%	123.9	822	62.9%	368.3	1,092	247.5
Black/African American	172	33.6%	1,019.4	266	20.4%	1,830.7	438	1,394.8
Other/Unknown*	70	13.7%	--	219	16.8%	--	289	--
Total	512	100.0%	207.2	1,307	100.0%	524.0	1,819	366.4
*Includes cases identified with Hispanic ethnicity.								
**Per 100,000 population based on 2016 DHSS population estimates.								
Note: Percentages may not total 100% due to rounding.								

A total of 32,683 chlamydia cases were reported in 2017 (Table 27). This represented a 6.0% increase in cases reported from 2016 (30,843 cases). The majority of cases (66.4%) were reported among females. The rate of chlamydia cases among females was highest in the Kansas City HIV Care Region (835.9 per 100,000), followed by the St. Louis HIV Care Region (759.6 per 100,000). Almost thirty-nine percent (38.6%) of all chlamydia cases were reported in the St. Louis HIV Care Region and 24.1% were reported in the Kansas City HIV Care Region. The Southwest HIV Care Region had the third largest number of chlamydia cases reported. 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, 2017



*Case counts are in black.

**Case rates are in red, per 100,000 population based on 2016 DHSS population estimates.

Chlamydia cases reported in St. Louis City, St. Louis County, and Jackson County represented 49.1% of all reported chlamydia cases in 2017 (Figure 27), although these areas represent only 32.8% of Missouri’s general population. All counties reported at least one chlamydia case in 2017. St. Louis County had the highest number of reported cases in 2017 (6,161). St. Louis City had the highest rate of reported chlamydia cases at 1,294 per 100,000 persons. This means that for every 100,000 persons living in St. Louis City, there were 1,294 reported with chlamydia in 2017.

Figure 28. Reported chlamydia cases, by race and sex and age group at diagnosis, Missouri, 2017

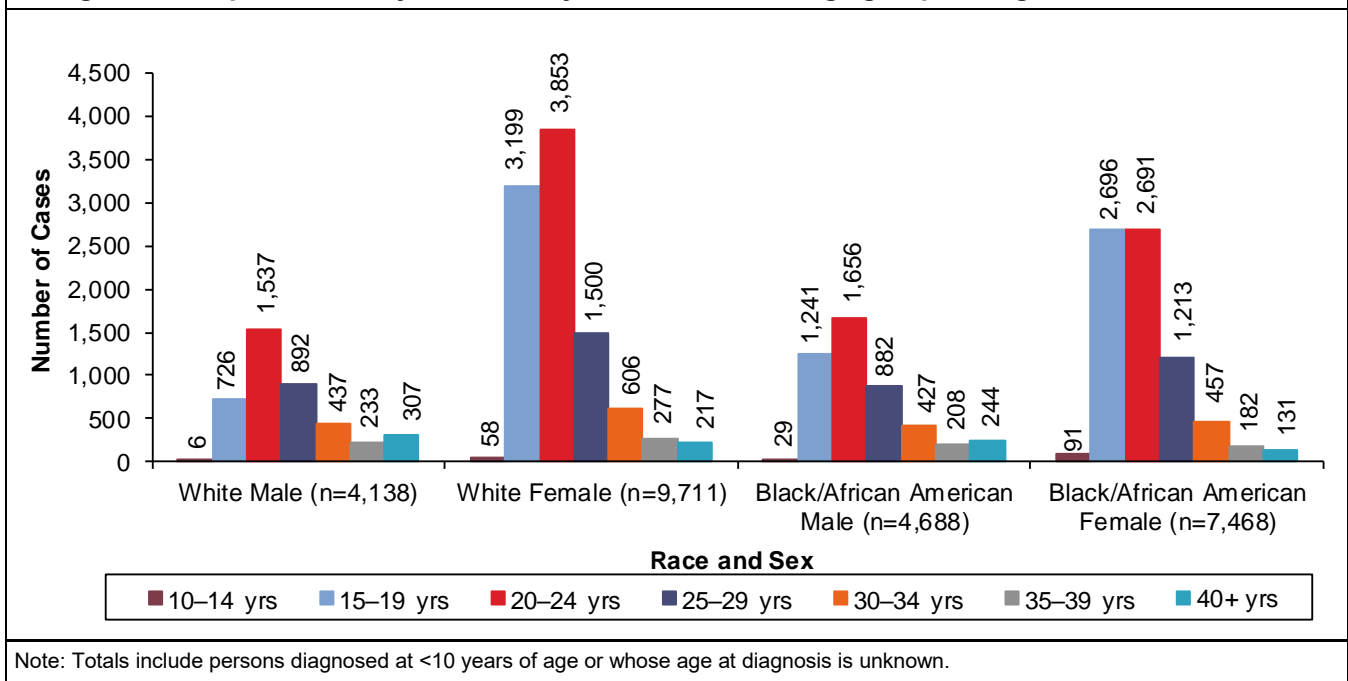
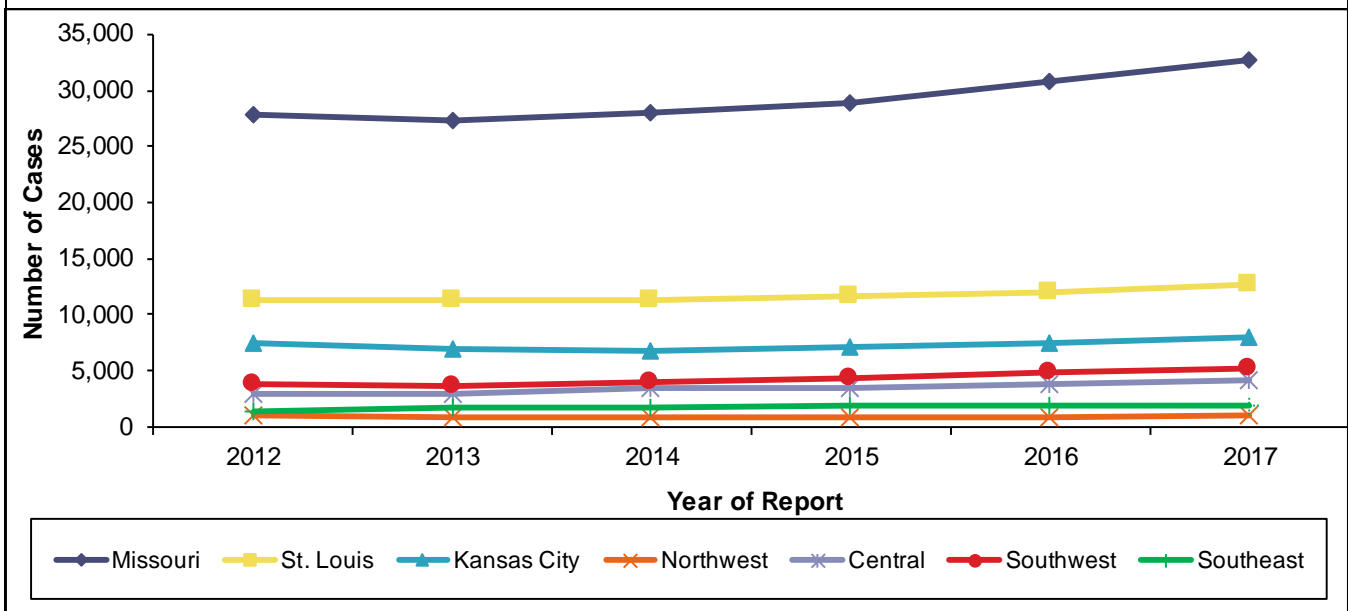


Figure 29. Reported chlamydia cases, by HIV care region and year of report, Missouri, 2012-2017



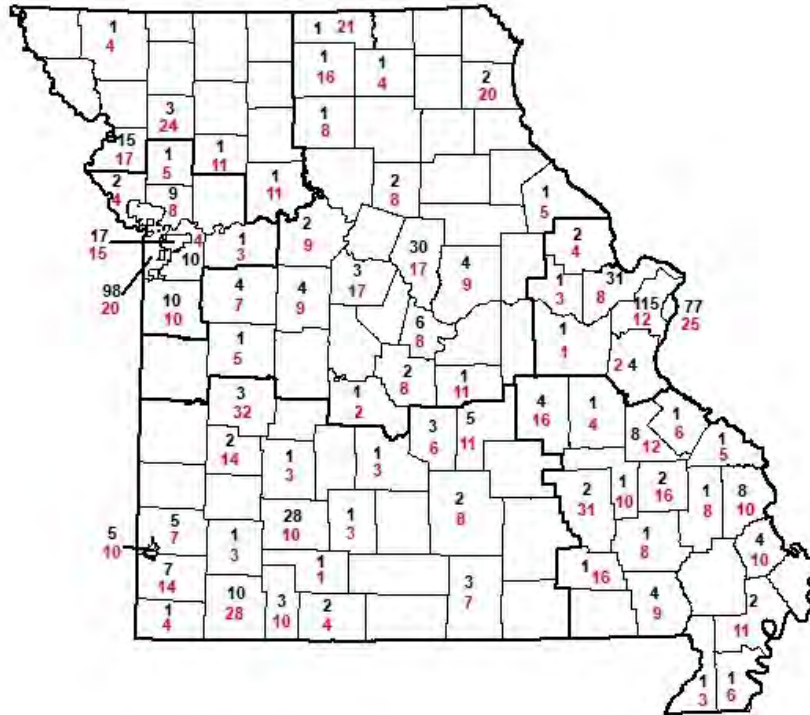
The largest numbers of chlamydia cases were reported among white females (9,711) and black/African American females (7,468) (Figure 28). The number of reported cases increased from 2016 to 2017 among all race/ethnicity and sex categories presented. Among all race/ethnicity and sex categories presented except black/African American females, the largest numbers of cases were reported among individuals 20 to 24 years of age at the time of diagnosis. Black/African American females had 5 more cases in the 15 to 19 years category than the 20 to 24 years category. The proportion of reported cases among individuals 15 to 19 years of age at the time of diagnosis was highest among white females (32.9%) and black/African American females (36.1%).

The number of reported chlamydia cases in Missouri decreased slightly from 2012 to 2013 and then increased from 2013 through 2017 (Figure 29). The number of reported chlamydia cases increased from 2016 to 2017 in all HIV care regions except for the Southeast HIV Care Region.

Table 28. Reported hepatitis B[†] cases and rates, by sex, HIV care region and race*, Missouri, 2017								
	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	80	30.8%	3.3	41	12.3%	1.7	121	2.5
Black/African American	38	14.6%	11.3	60	18.0%	16.2	98	13.8
Other/Unknown*	142	54.6%	--	233	69.8%	--	375	--
Total	260	100.0%	8.7	334	100.0%	10.8	594	9.7
St. Louis HIV Care Region								
White	22	22.2%	2.9	7	5.3%	0.9	29	1.9
Black/African American	24	24.2%	12.8	28	21.2%	12.5	52	12.6
Other/Unknown*	53	53.5%	--	97	73.5%	--	150	--
Total	99	100.0%	9.7	132	100.0%	12.1	231	10.9
Kansas City HIV Care Region								
White	9	15.8%	2.1	8	8.8%	1.8	17	2.0
Black/African American	10	17.5%	11.3	22	24.2%	22.0	32	17.0
Other/Unknown*	38	66.7%	--	61	67.0%	--	99	--
Total	57	100.0%	9.7	91	100.0%	14.7	148	12.3
Northwest HIV Care Region								
White	4	44.4%	4.0	5	41.7%	4.9	9	4.5
Black/African American	1	11.1%	18.7	1	8.3%	35.1	2	24.4
Other/Unknown*	4	44.4%	--	6	50.0%	--	10	--
Total	9	100.0%	8.0	12	100.0%	10.8	21	9.4
Central HIV Care Region								
White	11	37.9%	2.9	3	7.9%	0.8	14	1.8
Black/African American	2	6.9%	8.2	4	10.5%	19.8	6	13.4
Other/Unknown*	16	55.2%	--	31	81.6%	--	47	--
Total	29	100.0%	6.6	38	100.0%	8.6	67	7.6
Southwest HIV Care Region								
White	22	52.4%	4.3	14	33.3%	2.7	36	3.5
Black/African American	0	0.0%	0.0	2	4.8%	21.0	2	8.3
Other/Unknown*	20	47.6%	--	26	61.9%	--	46	--
Total	42	100.0%	7.2	42	100.0%	7.2	84	7.2
Southeast HIV Care Region								
White	12	50.0%	5.5	4	21.1%	1.8	16	3.6
Black/African American	1	4.2%	5.9	3	15.8%	20.6	4	12.7
Other/Unknown*	11	45.8%	--	12	63.2%	--	23	--
Total	24	100.0%	9.7	19	100.0%	7.6	43	8.7
[†] 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 2016 DHSS population estimates. Note: Percentages may not total 100% due to rounding.								

Of the 594 hepatitis B cases reported in 2017, 31 were reported with acute hepatitis B, 411 with chronic hepatitis B, and 152 with prenatal hepatitis B (Table 28). There were no perinatal hepatitis B cases reported in 2017. The number of reported hepatitis B cases in Missouri increased by 32 cases from 2016 (562) to 2017 (594). The number of individuals reported with hepatitis B increased from 2016 to 2017 in all HIV care regions except for the Southwest HIV Care Region. The rate of reported hepatitis B cases was highest in the Kansas City HIV Care Region (12.3 per 100,000). Overall, 56.2% of reported cases were females, although variations in the ratio of male-to-female cases existed among the HIV care regions. The large proportion of cases with unknown race/ethnicity information makes it difficult to interpret differences in reported infections by race/ethnicity.

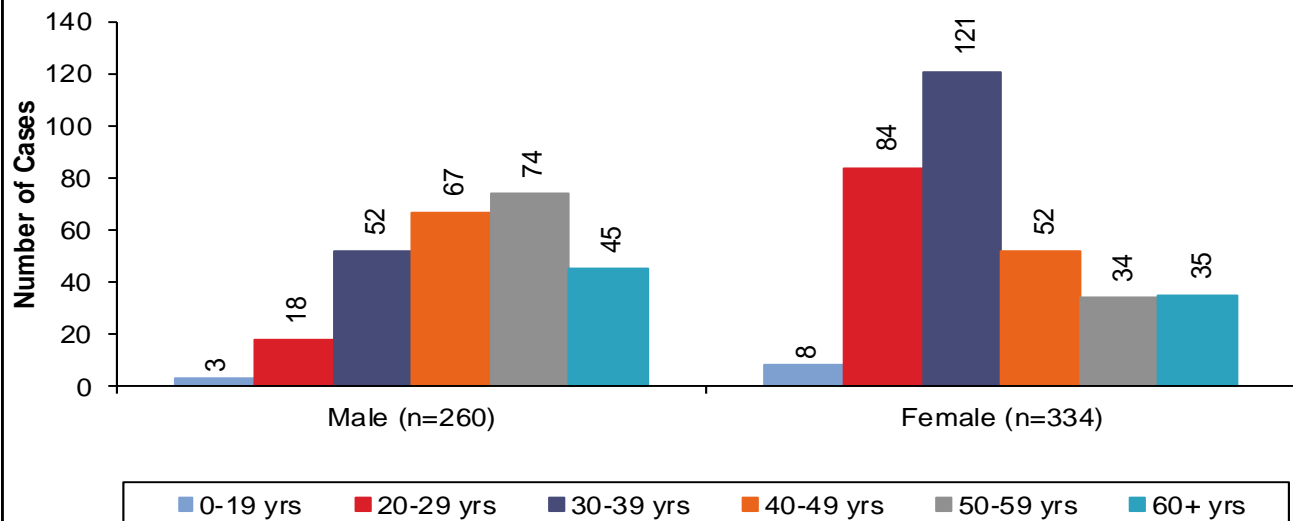
Figure 30. Reported hepatitis B cases* and rates, by jurisdiction, Missouri, 2017**



*Case counts are in black.

**Case rates are in red, per 100,000 population based on 2016 DHSS population estimates.

Figure 31. Reported hepatitis B cases, by sex and age group at diagnosis, Missouri, 2017



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

St. Louis County had the greatest number of reported hepatitis B cases (115), followed by Kansas City (98) (Figure 30). There were 44 jurisdictions that did not report any hepatitis B cases in 2017.

There were differences in the age distribution of reported hepatitis B cases by sex (Figure 31). Among males, the largest numbers of reported cases were among individuals 50 to 59 years of age. The largest numbers of cases among females were individuals 30 to 39 years of age at diagnosis.

Table 29. Reported hepatitis C[†] cases and rates, by sex, HIV care region and race*, Missouri, 2017								
	Male			Female			Total[‡]	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	1,283	41.5%	53.7	904	48.8%	36.6	2,187	45.0
Black/African American	461	14.9%	136.8	182	9.8%	49.0	643	90.8
Other/Unknown*	1,350	43.6%	--	766	41.4%	--	2,116	--
Total	3,094	100.0%	103.4	1,852	100.0%	59.7	4,946	81.2
St. Louis HIV Care Region								
White	328	30.4%	43.6	231	38.5%	29.5	559	36.4
Black/African American	330	30.6%	176.3	140	23.3%	62.5	470	114.3
Other/Unknown*	422	39.1%	--	229	38.2%	--	651	--
Total	1,080	100.0%	105.5	600	100.0%	54.9	1,680	79.4
Kansas City HIV Care Region								
White	131	25.8%	30.8	88	32.6%	19.8	219	25.2
Black/African American	49	9.6%	55.3	28	10.4%	28.1	77	40.9
Other/Unknown*	328	64.6%	--	154	57.0%	--	482	--
Total	508	100.0%	86.3	270	100.0%	43.6	778	64.4
Northwest HIV Care Region								
White	112	65.9%	112.9	52	64.2%	51.3	164	81.8
Black/African American	11	6.5%	205.5	4	4.9%	140.3	15	182.8
Other/Unknown*	47	27.6%	--	25	30.9%	--	72	--
Total	170	100.0%	151.1	81	100.0%	72.8	251	112.1
Central HIV Care Region								
White	165	50.6%	43.0	109	58.0%	27.9	274	35.4
Black/African American	24	7.4%	97.8	5	2.7%	24.7	29	64.8
Other/Unknown*	137	42.0%	--	74	39.4%	--	211	--
Total	326	100.0%	74.1	188	100.0%	42.6	514	58.3
Southwest HIV Care Region								
White	393	56.2%	76.8	303	62.0%	57.7	696	67.1
Black/African American	21	3.0%	145.4	2	0.4%	21.0	23	95.9
Other/Unknown*	285	40.8%	--	184	37.6%	--	469	--
Total	699	100.0%	120.5	489	100.0%	83.4	1,188	101.9
Southeast HIV Care Region								
White	154	49.5%	70.7	121	54.0%	54.2	275	62.3
Black/African American	26	8.4%	154.1	3	1.3%	20.6	29	92.4
Other/Unknown*	131	42.1%	--	100	44.6%	--	231	--
Total	311	100.0%	125.9	224	100.0%	89.8	535	107.8

[†]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 2016 DHSS population estimates.
 Note: Percentages may not total 100% due to rounding.

Of the 4,946 hepatitis C cases reported in 2017, 49 were reported with acute hepatitis C and 4,897 with chronic hepatitis C. The number of reported hepatitis C cases in Missouri decreased by 142 cases from 2016 (5,088) to 2017 (4,946) (Table 29). However, the decrease is not likely due to a true decrease in morbidity but is more likely due to data collection methods and the inability for Missouri's current reportable disease surveillance system to account for hepatitis C case definition changes. Please see the Technical Notes section for more information. The number of persons reported with hepatitis C decreased from 2016 to 2017 in the St. Louis, Kansas City, and Central HIV Care Regions, whereas there was an increase in the Northwest, Southeast, and Southwest HIV Care Regions. Overall, the rate of reported hepatitis C cases was highest in the Northwest HIV Care Region (112.1 per 100,000). In Missouri overall, 62.6% of the reported cases were males. The large proportion of cases with unknown race/ethnicity information makes it difficult to interpret differences in reported infections by race/ethnicity.

Figure 32. Reported hepatitis C cases* and rates**, by jurisdiction, Missouri, 2017

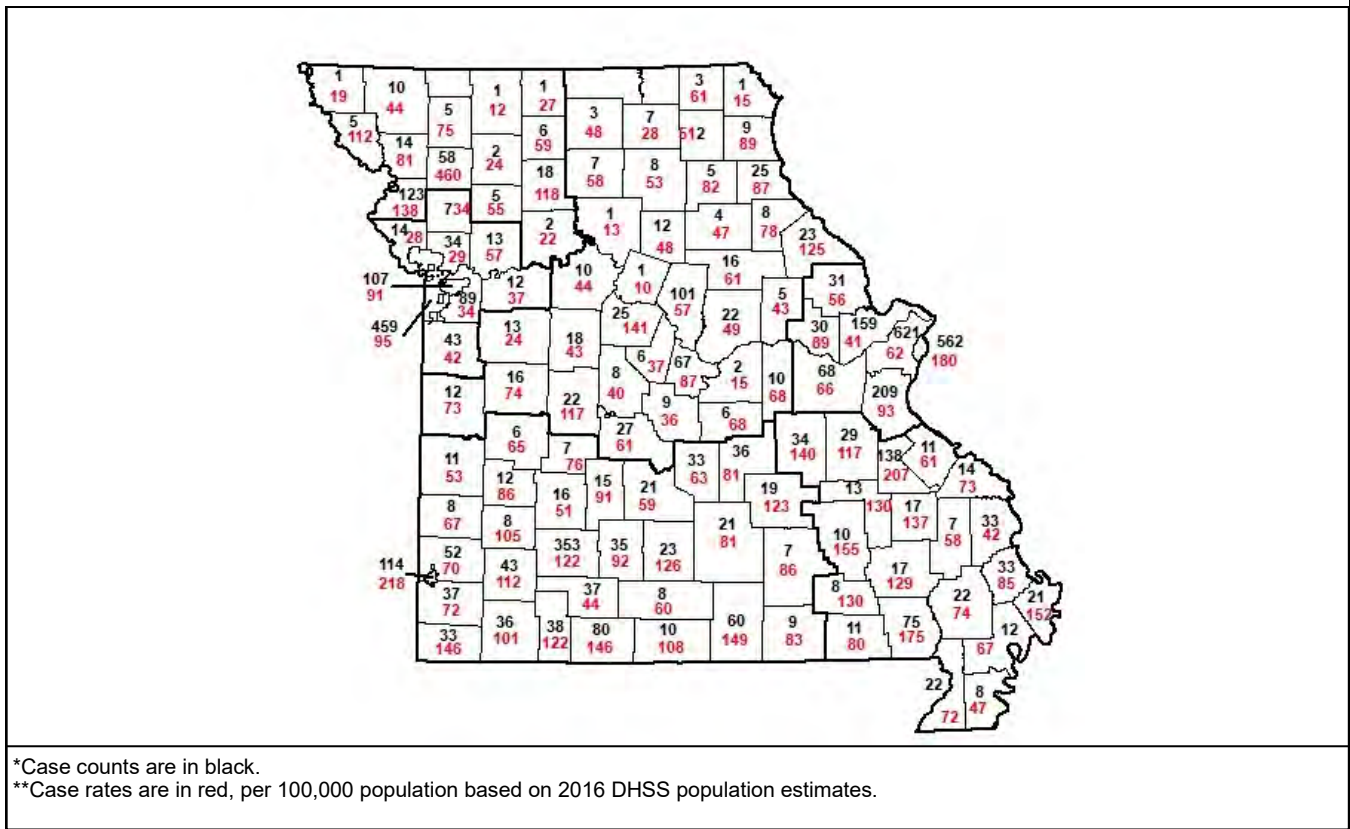
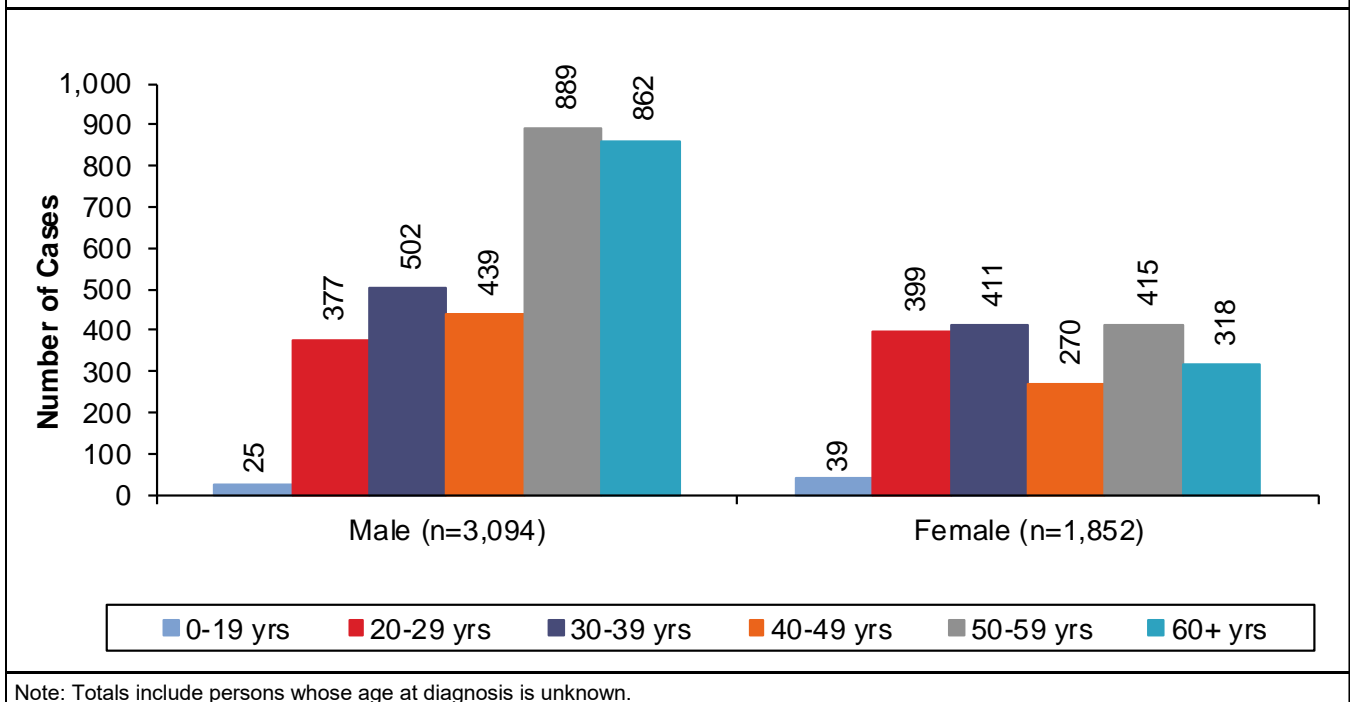


Figure 33. Reported hepatitis C cases, by sex and age group at diagnosis, Missouri, 2017



St. Louis County had the greatest number of reported hepatitis C cases with 621 (Figure 32). The second largest number of hepatitis C cases was reported in St. Louis City (562). All but three counties reported at least one hepatitis C case in 2017.

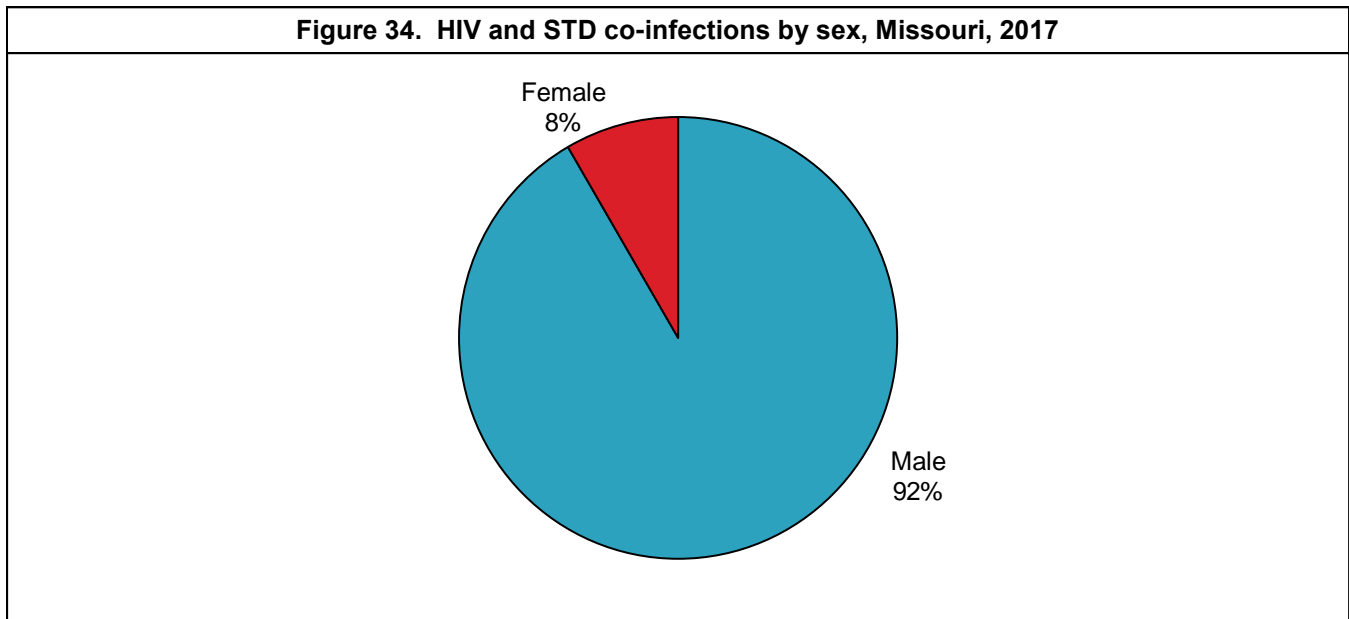
Among males and females, the largest numbers of reported hepatitis C cases were between 50 and 59 years of age. The second largest number of reported hepatitis C cases in males was in the 60+ years category and in females, the 30 to 39 years category (Figure 33).

Table 30. HIV and STD co-infections, by HIV diagnosis year and type of co-infection, Missouri, 2017

Co-infection	Diagnosed with HIV Prior to 2017		Diagnosed with HIV in 2017		Total	
	N	%	N	%	N	%
Chlamydia	125	20.3%	31	21.2%	156	20.4%
Gonorrhea	183	29.7%	32	21.9%	215	28.2%
Syphilis*	129	20.9%	34	23.3%	163	21.4%
Chlamydia and Gonorrhea	90	14.6%	29	19.9%	119	15.6%
Chlamydia and Syphilis*	24	3.9%	5	3.4%	29	3.8%
Gonorrhea and Syphilis*	37	6.0%	7	4.8%	44	5.8%
Chlamydia, Gonorrhea, and Syphilis*	29	4.7%	8	5.5%	37	4.8%
Total	617	100.0%	146	100.0%	763	100.0%

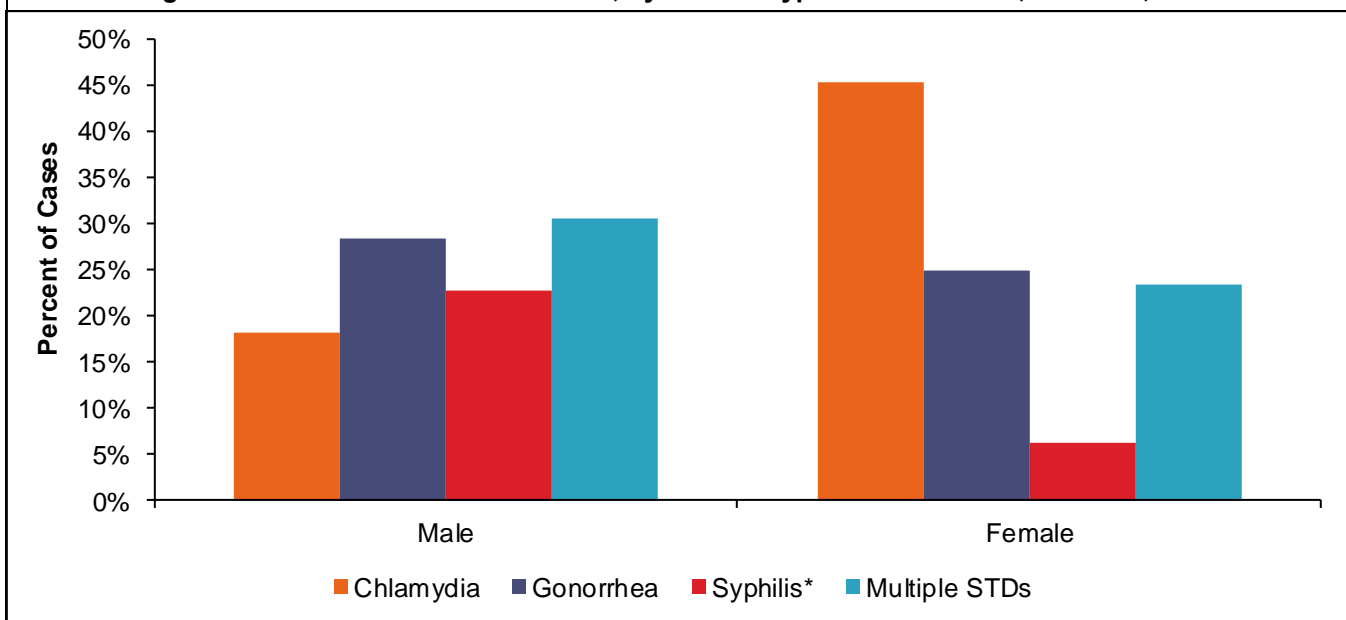
*Represents early syphilis, which only includes diagnoses of primary, secondary, and early latent syphilis.
 Note: Percentages may not total 100% due to rounding.

Figure 34. HIV and STD co-infections by sex, Missouri, 2017

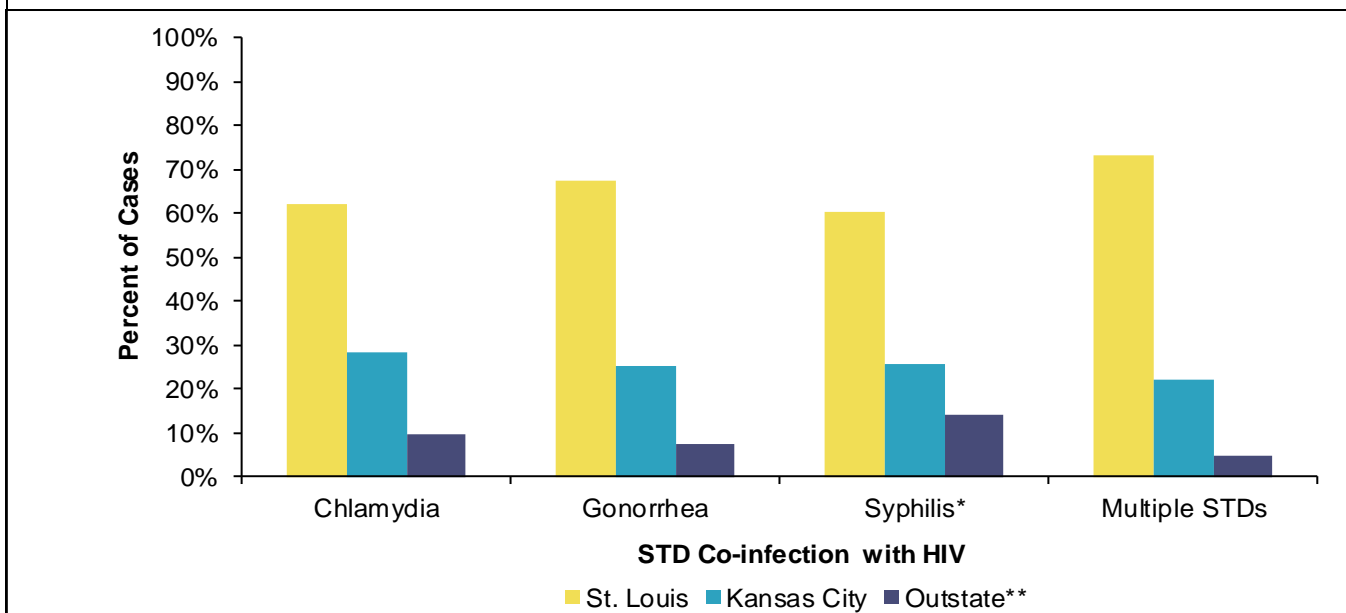


Of the 12,890 individuals living with HIV disease, 763 were reported with an STD co-infection in 2017 (Table 30). The majority of those reported with an STD co-infection were diagnosed with HIV prior to 2017 (80.9%). The largest numbers of HIV co-infections were with gonorrhea alone and syphilis alone. The proportion of reported STD infections in 2017 that were living with HIV varied by infection type. Only 1.6% of gonorrhea cases and less than 1% of chlamydia cases reported in 2017 were among individuals living with HIV. Of the 423 early syphilis cases reported in 2017, 38.5% were among individuals living with HIV.

Of the 763 reported STD co-infection cases, 92% were among males (Figure 34).

Figure 35. HIV and STD co-infections, by sex and type of co-infection, Missouri, 2017

*Represents early syphilis, which only includes diagnoses of primary, secondary, and early latent syphilis.

Figure 36. HIV and STD co-infections, by HIV care region of STD diagnosis and type of co-infection, Missouri, 2017

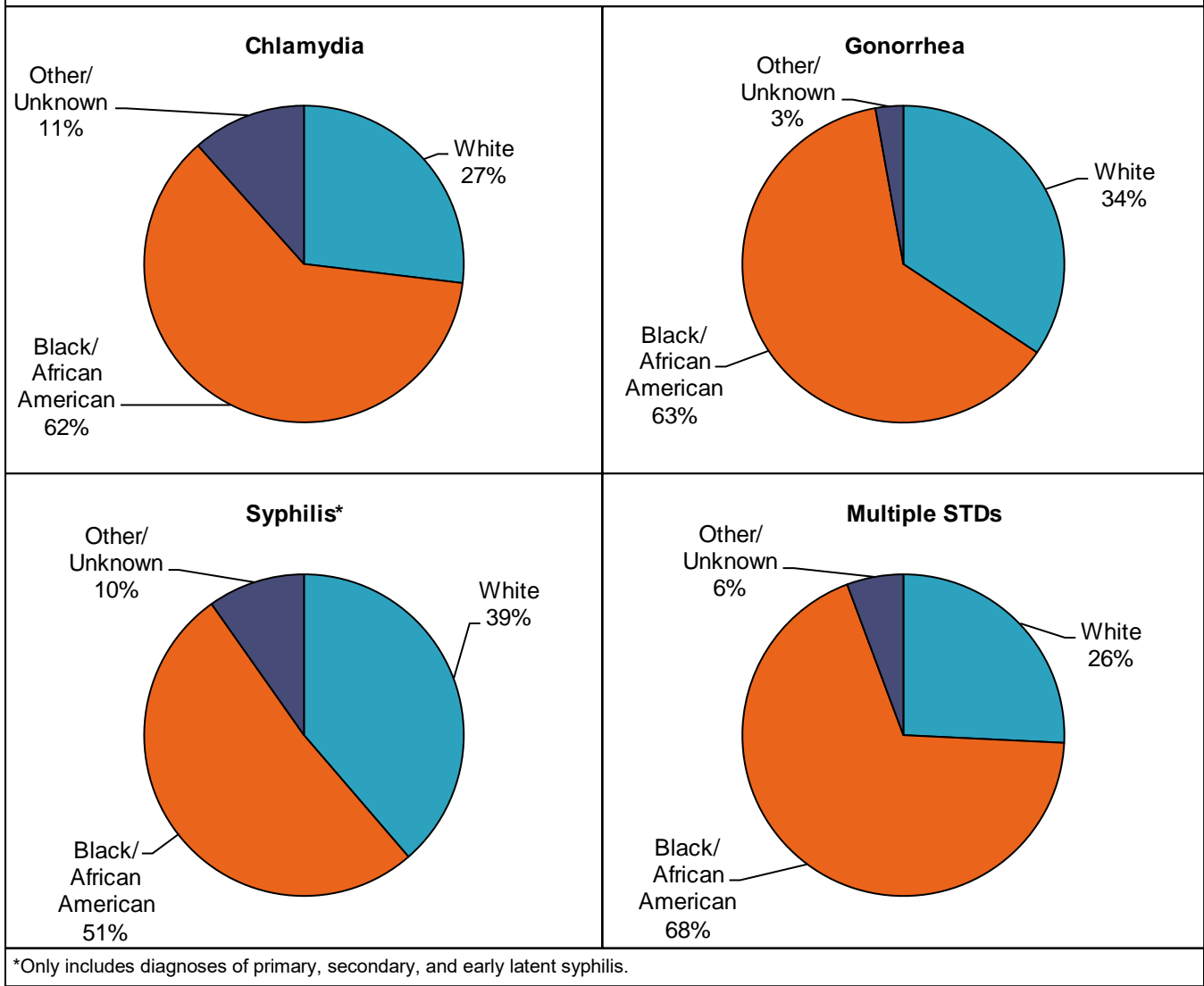
*Represents early syphilis, which only includes diagnoses of primary, secondary, and early latent syphilis.

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

There were differences in the distribution of STD co-infection types by sex (Figure 35). Among females living with HIV who were reported with an STD co-infection in 2017, 45.3% were co-infected with chlamydia, 25.0% with gonorrhea, 23.4% with multiple STDs, and 6.3% with early syphilis. Among males living with HIV and reported with an STD co-infection in 2017, 30.6% were co-infected with multiple STDs, 28.5% with gonorrhea, 22.7% with early syphilis, and 18.2% with chlamydia.

Among all HIV and STD co-infection types, the greatest proportion of cases was diagnosed in the St. Louis HIV Care Region (Figure 36). Among those living with HIV who were reported with chlamydia in 2017, 62.2% were residents of the St. Louis HIV Care Region when diagnosed with chlamydia. The St. Louis HIV Care Region represented 67.4% of all living HIV cases reported with gonorrhea in 2017, 60.1% of those with early syphilis, and 73.4% of those with multiple STD co-infections. In St. Louis, STD co-infection with HIV was highest for multiple STDs. In Kansas City, STD co-infection with HIV was highest for chlamydia, and in Outstate, STD co-infection with HIV was highest for syphilis.

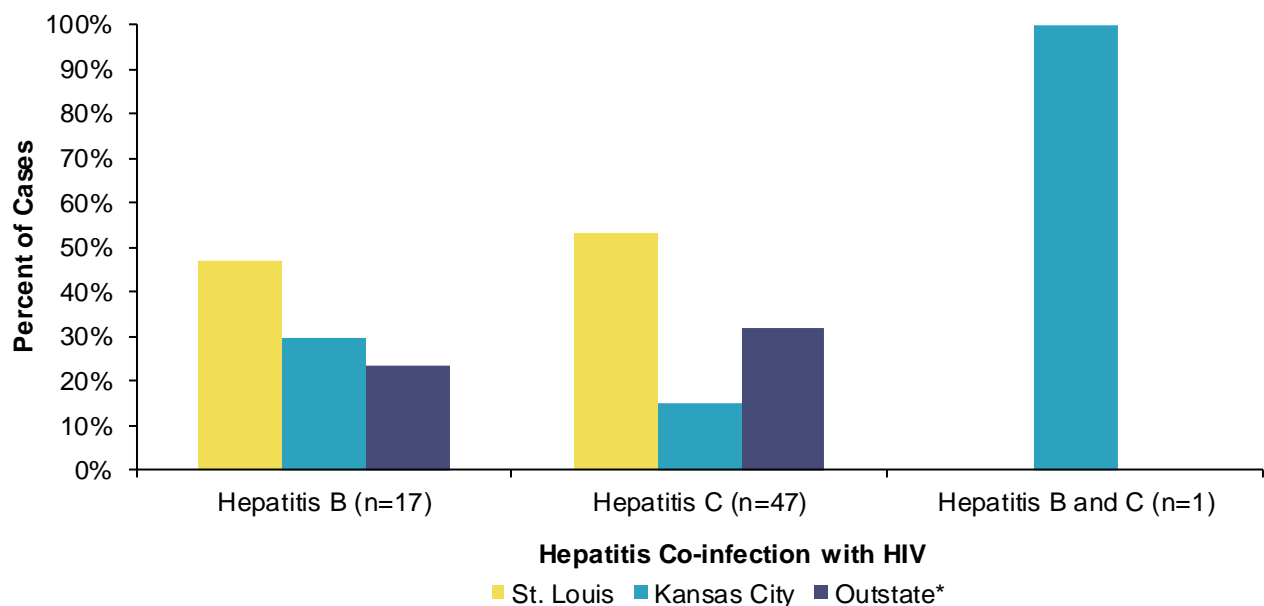
Figure 37. HIV and STD co-infections by race/ethnicity and type of co-infection, Missouri, 2017



There were differences in the distribution of race/ethnicity among HIV and STD co-infections depending on the type of STD diagnosed (Figure 37). The proportion of co-infection cases attributed to blacks/African Americans was highest among those co-infected with multiple STDs (68.6%), followed by those co-infected with gonorrhea (62.8%). In all instances, people of color were disproportionately represented in the proportion of co-infections that were reported. Although blacks/African Americans represented only 46.0% of living HIV disease cases, they represented 61.9% of individuals diagnosed with an STD co-infection.

Table 31. HIV and hepatitis co-infections, by HIV diagnosis year and type of co-infection, Missouri, 2017

Co-infection	Diagnosed with HIV Prior to 2017	Diagnosed with HIV in 2017	Total Co-infections
	N	N	N
Acute Hepatitis B	0	1	1
Chronic Hepatitis B	15	1	16
Prenatal Hepatitis B	0	0	0
Perinatal Hepatitis B	0	0	0
Acute Hepatitis C	2	1	3
Chronic Hepatitis C	35	9	44
Chronic Hepatitis B & C	1	0	1
Total	53	12	65

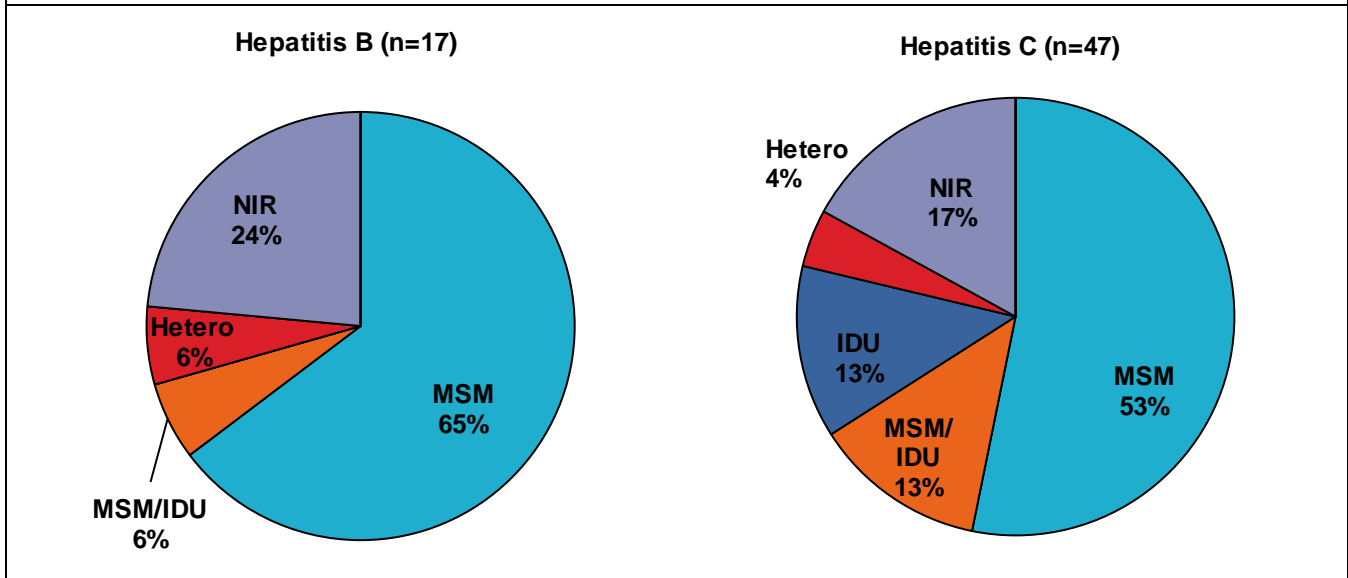
Figure 38. HIV and hepatitis co-infections, by HIV care region of hepatitis diagnosis and type of co-infection, Missouri, 2017

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

Of the 12,890 individuals living with HIV disease, 65 were reported with a hepatitis co-infection in 2017 (Table 31). The majority of those reported with a hepatitis co-infection were diagnosed with HIV prior to 2017 (81.5%). The largest number of HIV co-infections was with chronic hepatitis C. The proportion of reported hepatitis infections in 2017 that were living with HIV varied by infection type. Of the 411 chronic hepatitis B cases reported in 2017, 3.9% were among individuals living with HIV. Less than 1% of chronic hepatitis C cases reported in 2017 were among individuals living with HIV.

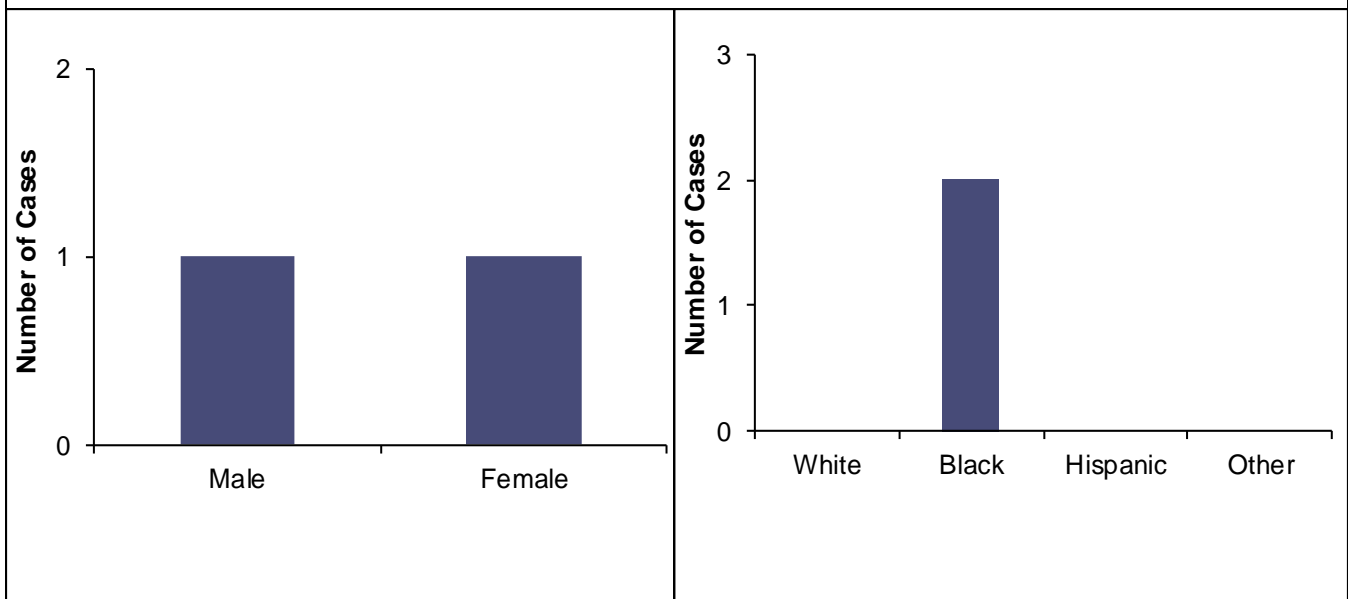
Among persons living with HIV disease that were reported with only a hepatitis B infection in 2017, the greatest proportion was residing in the St. Louis HIV Care Region (47.1%) at the time of the hepatitis diagnosis (Figure 38). Among HIV-positive persons reported with only a hepatitis C infection in 2017, the greatest proportion was residing in the St. Louis HIV Care Region (53.2%) at the time of the hepatitis diagnosis.

Figure 39. HIV and hepatitis co-infections by HIV exposure category and type of co-infection, Missouri, 2017



Among persons living with HIV disease and reported with only a hepatitis B infection in 2017, 64.7% were among MSM (Figure 39). Among hepatitis C co-infection cases, 53.2% were attributed to MSM, and 12.8% were attributed to MSM/IDU. There were one person living with HIV disease who was co-infected with both hepatitis B and C in 2017, and the risk was heterosexual contact.

Figure 40. HIV and TB disease co-infections by sex, by race, Missouri, 2017



Among the 12,890 persons living with HIV disease, two were reported to be diagnosed with TB disease in 2017. Of those co-infected with TB disease in 2017, both of the co-infections were among persons diagnosed with HIV disease prior to 2017. One co-infection was reported among persons 25 to 34 years of age and the other co-infection was reported among persons 35 to 44 years of age at the end of 2017. Both co-infections were among blacks/African Americans (Figure 40).

This page was intentionally left blank.

Key Highlights: What are the HIV service utilization patterns of individuals with HIV disease in Missouri, and what are the number and characteristics of the individuals who know they are HIV positive but who are not in care?

Magnitude of the Problem

- Overall, 67.8% of Missourians living with HIV disease had their primary care medical needs met (i.e., evidence of a CD4 lymphocyte or viral load test or diagnosis with an opportunistic infection in 2017).
- Persons enrolled in HIV medical case management were significantly more likely to have their primary care medical needs met. Of the 12,890 persons living with HIV disease in Missouri, 5,445 (42.2%) were enrolled in medical case management at some point in 2017. Ninety-five percent (95.5%) of individuals in case management had their primary care medical needs met in 2017.
- Persons living with HIV who were subcategorized as stage 3 (AIDS) cases in 2017 were more likely to have their medical needs met (73.5%) compared to persons subcategorized as HIV cases (62.1%). Similar patterns were seen regardless of whether the individuals were enrolled in HIV medical case management.
- Enrollment in HIV medical case management and current diagnostic status (i.e., HIV or stage 3 (AIDS)) were important factors influencing unmet need.

Where

- Overall, the proportion of individuals with a met need was greatest in the Northwest HIV Care Region (72.6%) and lowest in the Kansas City HIV Care Region (64.3%).
- Among those enrolled in HIV medical case management, the proportion with a met need ranged from the lowest at 92.6% in the Northwest HIV Care Region to the highest at 96.7% in the Southwest HIV Care Region.
- For those not enrolled in HIV medical case management, the proportion with a met need ranged from 44.6% in the Southwest and Kansas City HIV Care Regions to 57.1% in the Northwest HIV Care Region.

Who

Sex

- Overall, there were minimal differences observed in unmet need by sex, after controlling for factors such as enrollment in HIV medical case management, and current diagnostic status (i.e., HIV or stage 3 (AIDS)).

Race/Ethnicity

- Unmet need tended to be greater among populations of color, although factors such as case management and diagnostic status influenced the relationship between race and unmet need.
- Among persons diagnosed in 2017 who were enrolled in case management, the likelihood of entering care was lower for Hispanics (3.7%) than other races/ethnicities, followed by whites (4.4%) and black/African Americans (4.7%).

Age

- There were differences in unmet need by current age among individuals enrolled in HIV medical case management. Unmet need was greatest among individuals 13 to 18 years of age (7.7%).
- There were differences in unmet need by current age among individuals not enrolled in HIV medical case management. Unmet need was greatest among individuals 19 to 24 years of age (60.0%).

Exposure Category

- Unmet need by exposure category varied depending upon enrollment in medical case management and current diagnosis status. Among those enrolled in case management, unmet need was greatest among IDU (5.4%).

Table 32. The impact of HIV case management on access to primary medical care, by HIV care region* and race/ethnicity among individuals living with HIV disease as of December 31, 2017						
Region	Total HIV Population		Enrolled in Case Management		Not Enrolled in Case Management	
	Met Need** N (%)	Unmet Need*** N (%)	Met Need** N (%)	Unmet Need*** N (%)	Met Need** N (%)	Unmet Need*** N (%)
St. Louis Region						
White	1,611 (66.4%)	815 (33.6%)	693 (94.9%)	37 (5.1%)	918 (54.1%)	778 (45.9%)
Black/African American	2,504 (71.4%)	1,001 (28.6%)	1,725 (95.9%)	74 (4.1%)	779 (45.7%)	927 (54.3%)
Hispanic	106 (60.2%)	70 (39.8%)	70 (98.6%)	1 (1.4%)	36 (34.3%)	69 (65.7%)
Other/Unknown	92 (74.8%)	31 (25.2%)	65 (95.6%)	3 (4.4%)	27 (49.1%)	28 (50.9%)
Total	4,313 (69.2%)	1,917 (30.8%)	2,553 (95.7%)	115 (4.3%)	1,760 (49.4%)	1,802 (50.6%)
Kansas City Region						
White	1,203 (63.8%)	684 (36.2%)	577 (95.1%)	30 (4.9%)	626 (48.9%)	654 (51.1%)
Black/African American	1,011 (65.6%)	531 (34.4%)	712 (94.7%)	40 (5.3%)	299 (37.8%)	491 (62.2%)
Hispanic	164 (58.6%)	116 (41.4%)	96 (95.0%)	5 (5.0%)	68 (38.0%)	111 (62.0%)
Other/Unknown	77 (71.3%)	31 (28.7%)	37 (94.9%)	2 (5.1%)	40 (58.0%)	29 (42.0%)
Total	2,455 (64.3%)	1,362 (35.7%)	1,422 (94.9%)	77 (5.1%)	1,033 (44.6%)	1,285 (55.4%)
Northwest Region						
White	71 (74.7%)	24 (25.3%)	39 (92.9%)	3 (7.1%)	32 (60.4%)	21 (39.6%)
Black/African American	17 (68.0%)	8 (32.0%)	10 (90.9%)	1 (9.1%)	7 (50.0%)	7 (50.0%)
Hispanic	2 (50.0%)	2 (50.0%)	1 (100.0%)	0 (0.0%)	1 (33.3%)	2 (66.7%)
Other/Unknown	0 (N/A)	0 (N/A)	0 (N/A)	0 (N/A)	0 (N/A)	0 (N/A)
Total	90 (72.6%)	34 (27.4%)	50 (92.6%)	4 (7.4%)	40 (57.1%)	30 (42.9%)
Central Region						
White	331 (72.9%)	123 (27.1%)	192 (94.6%)	11 (5.4%)	139 (55.4%)	112 (44.6%)
Black/African American	101 (57.7%)	74 (42.3%)	68 (89.5%)	8 (10.5%)	33 (33.3%)	66 (66.7%)
Hispanic	19 (51.4%)	18 (48.6%)	14 (93.3%)	1 (6.7%)	5 (22.7%)	17 (77.3%)
Other/Unknown	6 (66.7%)	3 (33.3%)	4 (100.0%)	0 (0.0%)	2 (40.0%)	3 (60.0%)
Total	457 (67.7%)	218 (32.3%)	278 (93.3%)	20 (6.7%)	179 (47.5%)	198 (52.5%)
Southwest Region						
White	568 (72.6%)	214 (27.4%)	372 (97.1%)	11 (2.9%)	196 (49.1%)	203 (50.9%)
Black/African American	60 (51.7%)	56 (48.3%)	38 (97.4%)	1 (2.6%)	22 (28.6%)	55 (71.4%)
Hispanic	35 (59.3%)	24 (40.7%)	25 (96.2%)	1 (3.8%)	10 (30.3%)	23 (69.7%)
Other/Unknown	17 (58.6%)	12 (41.4%)	11 (84.6%)	2 (15.4%)	6 (37.5%)	10 (62.5%)
Total	680 (69.0%)	306 (31.0%)	446 (96.7%)	15 (3.3%)	234 (44.6%)	291 (55.4%)
Southeast Region						
White	166 (73.1%)	61 (26.9%)	111 (99.1%)	1 (0.9%)	55 (47.8%)	60 (52.2%)
Black/African American	69 (62.7%)	41 (37.3%)	44 (84.6%)	8 (15.4%)	25 (43.1%)	33 (56.9%)
Hispanic	6 (66.7%)	3 (33.3%)	2 (100.0%)	0 (0.0%)	4 (57.1%)	3 (42.9%)
Other/Unknown	3 (50.0%)	3 (50.0%)	3 (75.0%)	1 (25.0%)	0 (0.0%)	2 (100.0%)
Total	244 (69.3%)	108 (30.7%)	160 (94.1%)	10 (5.9%)	84 (46.2%)	98 (53.8%)
Statewide (MO)****						
White	4,106 (67.3%)	1,992 (32.7%)	2,077 (95.6%)	95 (4.4%)	2,029 (51.7%)	1,897 (48.3%)
Black/African American	4,095 (69.1%)	1,835 (30.9%)	2,785 (95.3%)	136 (4.7%)	1,310 (43.5%)	1,699 (56.5%)
Hispanic	340 (58.5%)	241 (41.5%)	211 (96.3%)	8 (3.7%)	129 (35.6%)	233 (64.4%)
Other/Unknown	201 (71.5%)	80 (28.5%)	125 (94.0%)	8 (6.0%)	76 (51.4%)	72 (48.6%)
Total	8,742 (67.8%)	4,148 (32.2%)	5,198 (95.5%)	247 (4.5%)	3,544 (47.6%)	3,901 (52.4%)

*Includes all individuals still living whose most recent diagnosis (i.e., HIV or stage 3 (AIDS)) occurred in the region. Does not reflect the number of individuals currently living in the region.
**Evidence of a CD4+ T-lymphocyte or viral load laboratory test result or diagnosis with an opportunistic infection in the current year.
*** No evidence of a CD4+ T-lymphocyte or viral load laboratory test result or diagnosis with an opportunistic infection in the current year.
****Statewide figures include living individuals whose most recent diagnosis occurred in a correctional facility or is unknown.
Note: Percentages may not total to 100% due to rounding.

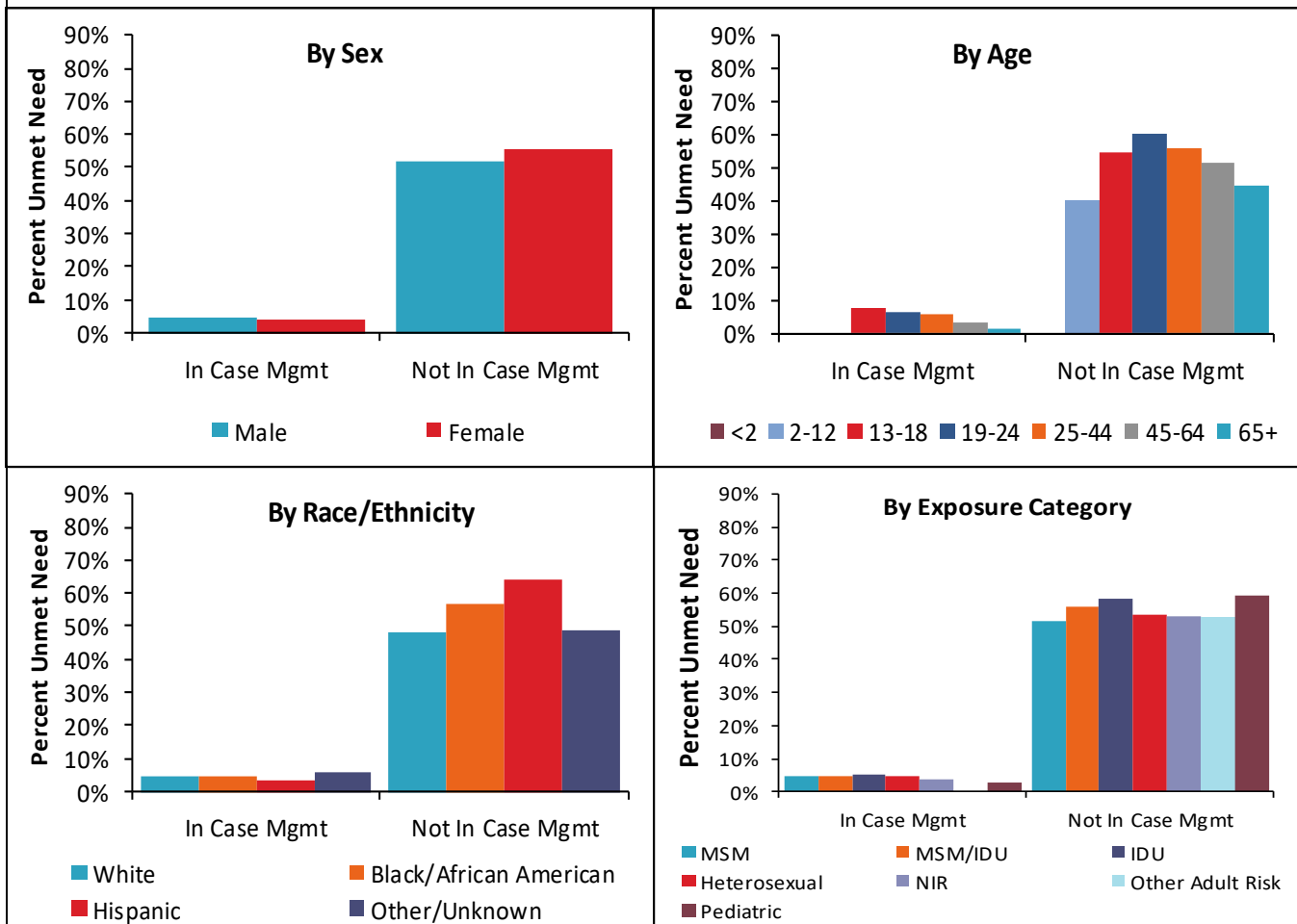
Epi Profiles Summary: Missouri

Of the 12,890 persons living with HIV at the end of 2017, 67.8% had evidence of met primary care medical needs (i.e., met need) in 2017 (Table 32). The primary care medical need was considered to be met if an individual had a CD4 lymphocyte or viral load laboratory test, or diagnosis of an opportunistic infection in 2017 that was reported to DHSS. There were differences in the proportion of individuals with met needs depending on whether the individual was enrolled in HIV medical case management in 2017. A greater proportion of those enrolled in HIV medical case management had a met need (95.5%) in 2017 compared to those not enrolled (47.6%). Several factors may contribute to the differences observed. First, case management assists clients to locate and access medical care by referral. Second, case management clients receive health education and counseling to understand the nature of routine medical care. Third, case management assists clients in identifying appropriate payer sources to fund routine medical care. Finally, it is possible that those not enrolled in case management were less likely to be currently living in Missouri, and therefore indicators of primary medical care would not be reported to DHSS. The data were presented based on individuals whose most recent diagnosis occurred in Missouri, not those known to be currently living in Missouri, as accurate data on current residence are difficult to collect.

There were differences in the proportion of individuals with a met need by HIV care region. It is important to note that data presented by HIV care region represent those who currently have a met need that were most recently diagnosed with HIV or stage 3 (AIDS) in the selected HIV care region. It does not necessarily reflect where individuals are currently living and receiving care. Overall, the proportion of individuals with a met need was greatest in the Northwest HIV Care Region (72.6%), and lowest in the Kansas HIV Care Region (64.3%). The pattern was slightly different among the regions depending on whether individuals were enrolled in HIV medical case management. For those not enrolled in HIV medical case management, the proportion with a met need ranged from 44.6% in the Southwest and Kansas City HIV Care Regions to 57.1% in the Northwest HIV Care Region.

There were differences in the proportion of persons with a met need by race/ethnicity. Statewide, met need was lower among Hispanics (58.5%) compared to all other race/ethnicity groups presented. Within each region and depending on whether the individuals were enrolled in HIV medical case management, the patterns by race/ethnicity varied slightly. Among individuals not enrolled in case management, the proportion of blacks/African Americans with a met need was lower in all HIV care regions compared to whites, and the proportion of Hispanics with a met need was also lower compared to whites in all HIV care regions except for the Southeast HIV Care Region.

Figure 41. Percent of individuals living with HIV having an unmet* primary medical care need in 2017, by enrollment in HIV case management and selected characteristics



*No evidence of a CD4+ T-lymphocyte or viral load laboratory test result or diagnosis with an opportunistic infection in the current year.

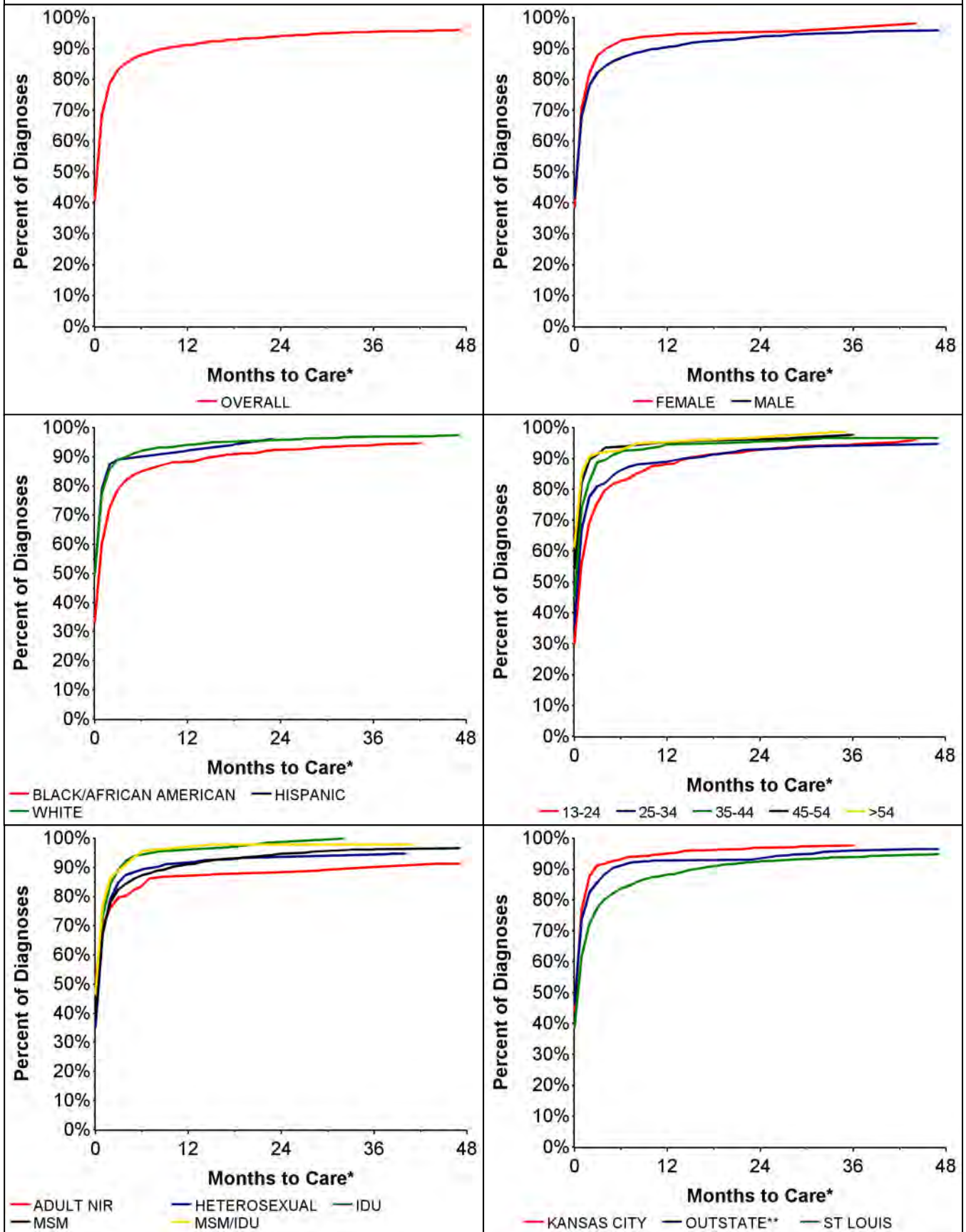
Figure 41 examines the proportion of cases with unmet need depending on whether the individuals were enrolled in HIV medical case management for selected characteristics. There were minimal differences in the proportion of individuals with unmet needs between the sexes, regardless of whether enrolled in HIV medical case management. There were differences in the proportion of individuals with unmet needs by current age among those not enrolled in case management. Unmet need was greatest among individuals 19 to 24 years of age (60.0%). Those 2 to 12 years of age had the lowest proportion of unmet need. There were also differences in the proportion of individuals with unmet needs by current age among those enrolled in case management. Unmet need was greatest among 13 to 18 year olds (7.7%). There were differences in the proportion of individuals with unmet needs by race/ethnicity among those not enrolled in case management and among those enrolled in case management. Among those not enrolled in case management, unmet need was greatest among Hispanics (64.4%) and lowest among those of other or unknown race (48.6%) and whites (48.3%). Among those enrolled in case management, unmet need was greatest among those with an other or unknown race (6.0%). There were differences in the proportion of individuals with unmet needs by exposure category among those not enrolled in case management and among those enrolled in case management. Among those not enrolled in case management, unmet need was greatest among those with a pediatric exposure (59.5%), followed by IDU (58.4%). The proportion of unmet need was lowest among MSM (51.3%). Among those enrolled in case management, unmet need was greatest among those with IDU (5.4%), followed by MSM/IDU (4.8%).

Table 33 examines the proportion of cases reported with unmet need based on current status (i.e., HIV or stage 3 (AIDS)) and selected characteristics. Overall, the proportion of those with an unmet need was greater for those classified as HIV cases compared to stage 3 (AIDS) cases. The same trend was observed regardless of whether individuals were enrolled in HIV medical case management.

Table 33. Percent of individuals living with HIV having an unmet* primary medical care need, by current status**, enrollment in HIV case management, and selected characteristics, Missouri, 2017						
	Total Population		Enrolled in Case Management		Not Enrolled in Case Management	
	HIV Cases with Unmet Need* % (N)	Stage 3 (AIDS) Cases with Unmet Need* % (N)	HIV Cases with Unmet Need* % (N)	Stage 3 (AIDS) Cases with Unmet Need* % (N)	HIV Cases with Unmet Need* % (N)	Stage 3 (AIDS) Cases with Unmet Need* % (N)
Sex						
Male	38.4% (2,022)	27.2% (1,459)	6.1% (121)	3.4% (79)	58.0% (1,901)	45.3% (1,380)
Female	35.6% (414)	23.0% (253)	4.5% (25)	3.7% (22)	64.1% (389)	45.4% (231)
Race/Ethnicity						
White	36.6% (1,112)	28.7% (880)	5.3% (55)	3.5% (40)	52.7% (1,057)	43.8% (840)
Black/African American	38.6% (1,141)	23.3% (694)	6.0% (81)	3.5% (55)	66.0% (1,060)	45.6% (639)
Hispanic	45.0% (130)	38.0% (111)	5.9% (6)	1.7% (2)	66.3% (124)	62.3% (109)
Other/Unknown	37.6% (53)	19.3% (27)	7.3% (4)	5.1% (4)	57.0% (49)	37.1% (23)
Current Age[‡]						
<2	0.0% (0)	-- (0)	-- (0)	-- (0)	0.0% (0)	-- (0)
2-12	32.1% (9)	33.3% (1)	0.0% (0)	0.0% (0)	39.1% (9)	50.0% (1)
13-18	39.5% (15)	50.0% (3)	9.1% (1)	0.0% (0)	51.9% (14)	75.0% (3)
19-24	26.1% (104)	25.7% (19)	6.4% (16)	4.3% (2)	59.5% (88)	63.0% (17)
25-44	34.6% (1,032)	25.5% (441)	6.7% (94)	4.9% (44)	59.9% (938)	47.6% (397)
45-64	42.5% (1,123)	26.8% (1,108)	4.3% (34)	2.9% (53)	59.0% (1,089)	45.6% (1,055)
65+	45.3% (153)	26.6% (140)	1.6% (1)	1.4% (2)	55.1% (152)	36.5% (138)
Exposure Category						
MSM	36.6% (1,480)	27.4% (1,097)	6.0% (95)	3.3% (57)	56.3% (1,385)	45.9% (1,040)
MSM/IDU	34.3% (87)	27.5% (101)	5.8% (8)	4.0% (7)	67.5% (79)	48.7% (94)
IDU	47.0% (124)	26.6% (107)	7.7% (7)	4.3% (9)	67.6% (117)	50.3% (98)
Heterosexual Contact	35.5% (339)	23.6% (224)	5.3% (24)	4.0% (19)	62.3% (315)	43.6% (205)
No Indicated Risk (NIR)	44.5% (362)	23.7% (158)	4.7% (12)	2.8% (8)	62.6% (350)	38.8% (150)
Other Adult Risk	61.5% (8)	35.1% (13)	0.0% (0)	0.0% (0)	66.7% (8)	46.4% (13)
Pediatric	46.8% (36)	31.6% (12)	0.0% (0)	5.3% (1)	60.0% (36)	57.9% (11)
Total	37.9% (2,436)	26.5% (1,712)	5.8% (146)	3.5% (101)	58.9% (2,290)	45.3% (1,611)

*No evidence of a CD4+ T-lymphocyte or viral load laboratory test result or diagnosis with an opportunistic infection in the current year.
 **HIV case vs. stage 3 (AIDS) case.
 †Based on age as of December 31, 2017.
 Note: Rows with the percent marked '-.' indicates that there were no living persons in the selected category.

Figure 42. Length of time in months to enter care* after initial HIV diagnosis among persons diagnosed between 2014 and 2016, by selected characteristics, Missouri



*Defined as first reported CD4+ T-lymphocyte or viral load lab result reported to DHSS.
 **Outstate includes the Central, Northwest, Southeast, and Southwest HIV Care Regions.
 Source: eHARS

Epi Profiles Summary: Missouri

Figure 42 examines the length of time until first entry into care among persons newly diagnosed with HIV disease between 2014 and 2016. Entry into care was measured as the receipt of a CD4 lymphocyte or viral load laboratory result by DHSS. Please note, 2017 diagnoses are not included in this analysis as not enough time has elapsed to accurately measure entry into care. Overall, 94% of persons recently diagnosed had entered care by one year after diagnosis. Within four years of initial diagnosis, 96% had entered care. There was a difference in the proportion of new diagnoses entering care between males and females. Among females, 94% entered care within 12 months of diagnosis while only 91% of males entered care within 12 months of diagnosis. There were differences in the proportion of new diagnoses entering care by race/ethnicity. Over time, a lower proportion of blacks/African Americans entered care compared to whites and Hispanics. At one year after diagnosis, only 88% of blacks/African Americans had entered care, compared to 92% of Hispanics and 94% of whites. There were differences in the proportion of new diagnoses entering care by age at diagnosis. Of persons diagnosed between the ages of 13 and 24, only 88% entered care within one year of diagnosis, compared to 95% of persons 55 years of age or older at the time of diagnosis. The proportion of individuals who entered care within one year of diagnosis increased as the age increased. There were differences over time in likelihood to enter care by exposure category. Among individuals with no identified risk, only 87% entered care within one year of diagnosis, compared to 95% of IDU. Among IDU, 100% entered care within 32 months of diagnosis. Differences in entry to care following diagnosis varied by HIV region of diagnosis. At one year after diagnosis, 95% of persons diagnosed in the Kansas City HIV Care Region, 93% of persons diagnosed in Outstate, and 88% of persons diagnosed in the St. Louis HIV Care Region entered care. Entry into care remained lower among those recently diagnosed in the St. Louis HIV Care Region over time. These data can be used to target populations for outreach efforts to assist with entry into HIV medical care among persons recently diagnosed.

This page was intentionally left blank.

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 that population and then multiplying by 100,000 to get the rate per 100,000.

Case definition for stage 3 (AIDS)

All HIV-infected people six years of age and older who have fewer than 200 CD4+ T cells per cubic millimeter of blood, all HIV-infected people between the ages of one and 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 being 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 cell

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)

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

HIV case

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

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 and 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 use (IDU), men who have sex with men and practice injection drug use (MSM/IDU), hemophilia/coagulation disorder, and blood transfusion or tissue recipients.

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

*Only includes infections detailed in the *Profiles*.

Stage 3 (AIDS) case

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).

Appendix

