

Epidemiologic Profiles of HIV, STD, and Hepatitis in Missouri—2015



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Background

The Division of HIV/AIDS Prevention at the Centers for Disease Control and Prevention (CDC) and the Health Resources and Services Administration (HRSA) released the *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 Care Act Special Questions and Considerations

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

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

Characterizes patterns in the use of services by the population living with HIV disease in Missouri.

General Information:

The 2015 *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 2015. 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 2011-2017. 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 (MDHSS), Bureau of Health Care Analysis and Data Dissemination and U.S. Census Bureau

MDHSS maintains population files for Missouri and its counties based on data provided by the U.S. Census Bureau in partnership with the Federal-State Cooperative Program for Population Estimates. Census counts are produced every ten years, with the 2010 census representing the most recent census. Population estimates are produced for non-census years based on adjustments made to the most recent census counts. Due to the time required to compute the estimates, the most recent year's estimates are not available for use in the *Profiles*, and the 2014 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 being of more than one race. This change reflects the current level of race/ethnicity detail that is captured for HIV surveillance data. As a result of the change, the population estimates from *Profiles* prior to 2009 will not be comparable with the current *Profiles*.

2. HIV Epidemic Data

HIV/Stage 3 (AIDS) Surveillance Data, eHARS

Missouri's communicable disease reporting rule, 19 CSR 20-20.020, established reporting of stage 3 (AIDS) cases in 1983, named HIV cases in 1987, CD4 lymphocyte counts in 1991, and HIV viral load lab results in 2000. 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. Since the 2016 updates were not effective until May 1, 2016, the most recent updates will not impact the quality of information within the 2015 *Profiles*, which reflect information collected through February 28, 2016.

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 MDHSS, 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 is based on diagnosis date and not the time of infection. The diagnosis can be made at any clinical stage of the disease. The characteristics associated with new diagnoses may not reflect characteristics associated with recent infection. The surveillance system only includes data on individuals that are tested confidentially and reported. Members of certain subpopulations may be more or less likely to be tested, and therefore, different subpopulations could be over- or under-represented among diagnosed and reported HIV cases.

3. HIV-Related Indicators of Risk Data

Hepatitis Surveillance Data, MDHSS, WebSurv

Missouri's communicable disease reporting rule, 19 CSR 20-20.020, requires reporting of acute and chronic hepatitis B and C cases, perinatal hepatitis B, and prenatal hepatitis B within three days to the local health authority or MDHSS. Demographic information, vital status, laboratory results, and treatment information are collected on standardized report forms and laboratory reports. MDHSS 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 MDHSS. Demographic information, vital status, laboratory results, and treatment information are collected on standardized report forms and laboratory reports. MDHSS 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, MDHSS 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 in this system are

presented based on the date of report to the health department and not the diagnosis date. The data represent only those individuals tested and reported, which underestimates the true burden of infection as many infected individuals do not seek care, often due to a lack of symptoms. In addition, many people receive treatment without being tested, again underestimating the true burden of infection. Since morbidity is frequently entered based on the receipt of laboratory reports at MDHSS, 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 MDHSS. Demographic information, vital status, laboratory results, and treatment information are collected on standardized report forms and laboratory reports. MDHSS Bureau of Communicable Disease Control and Prevention is responsible for managing the tuberculosis surveillance data stored in WebSurv. Limitations of the data include incomplete race/ethnicity information and underreporting.

4. HIV Care Services Data

HIV Case Management Data, SCOUT

MDHSS 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 in order for data to be compared across the nation. When changes in testing technology and in the understanding of a disease occur, revisions to case definitions may occur. The HIV surveillance case definition was revised in 2014 in large part to account for the implementation of the new HIV testing algorithms that no longer required the western blot as the confirmatory test. A major change to remove the distinction between HIV cases and AIDS cases occurred in the 2014 revised surveillance case definition. All individuals infected with HIV disease are classified as HIV disease with progression of the disease classified as stages (0-3). For more information, visit <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6303a1.htm>.

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

HIV Disease, HIV Case, Stage 3 (AIDS) Case: HIV disease includes all individuals diagnosed with the HIV virus regardless of the stage of disease progression. All persons with HIV disease can be sub-classified as **either a stage 3 (AIDS) case** (if they are in the later stages of the disease process and have met the case definition for stage 3 (AIDS)) **or an HIV case** (if they are in the earlier stages of the disease process and have not met the stage 3 (AIDS) case definition). In this report, the sub-classification of HIV or stage 3 (AIDS) is based on an individual's status of disease progression as of December 31, 2015.

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

Reporting Delay: Delays exist between the time HIV infection is diagnosed and the time the infection is reported to MDHSS. 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 MDHSS through February 28, 2016.

Place of Residence: Data are presented based on an individual's residence at time of most recent diagnosis of

Epi Profiles Summary: Introduction

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 to the current residence.

Vital Status: Cases are presumed to be alive unless MDHSS 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 2015 *Profiles*.

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

Routine Interstate Duplicate Review (RIDR): The mobility of American citizens impacts the ability to accurately track individuals living with HIV/stage 3 (AIDS). Mobility may result in the same HIV-infected person being counted in two or more different states. To help respond to potential duplication problems, the CDC initiated the Interstate Duplication Evaluation Project (IDEP), now called Routine Interstate Duplicate Review (RIDR), in 2002. RIDR compares patient records throughout the nation in order to identify duplicate cases. The states with duplicate cases contact one another to compare patient profiles in order to determine the state to which the case belongs, based on residence 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.

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

Glossary of Terms: A glossary of terms is located at the end of the *Profiles*. For clarification of any terms used in the *Profiles*, please feel free to contact MDHSS 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.

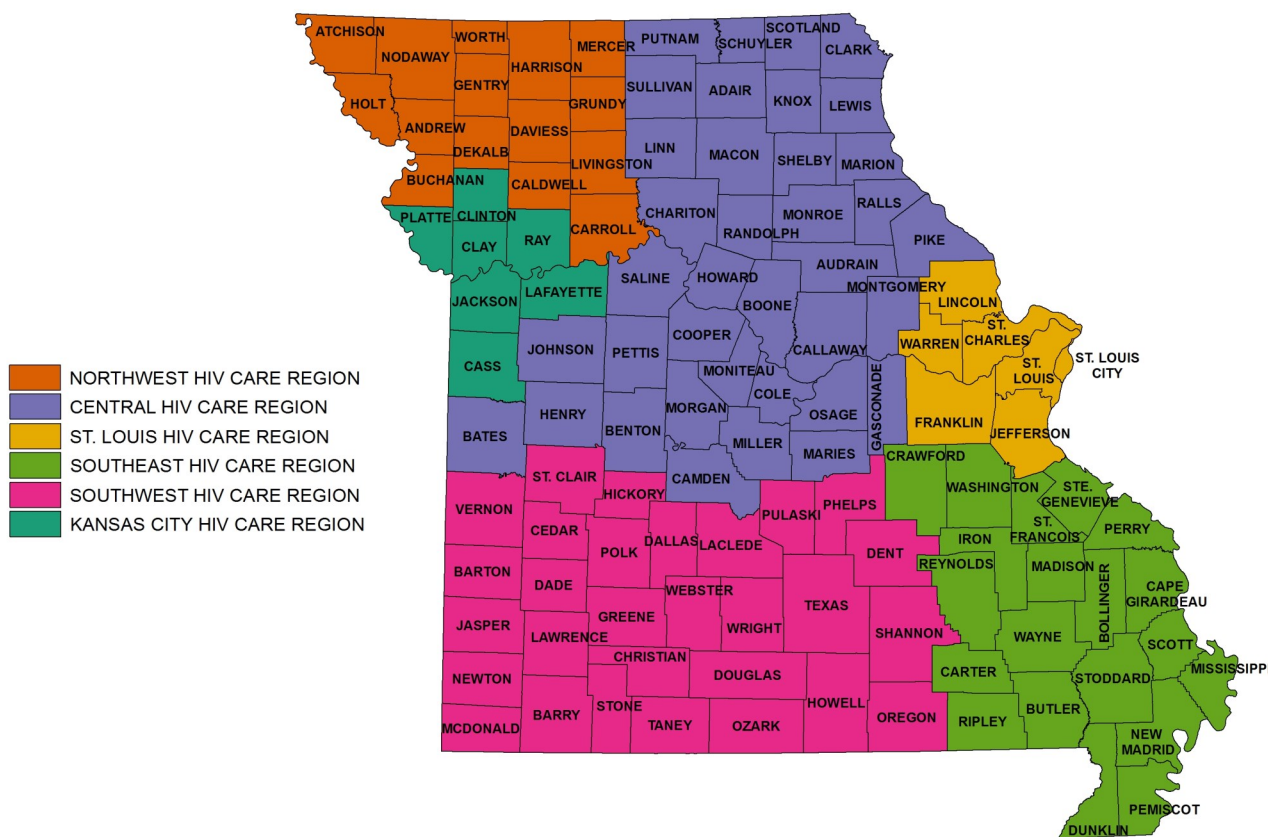
Diagnoses in Correctional Facilities: For persons living in Missouri correctional facilities (which include state, county, and local facilities) at the time of their HIV/stage 3 (AIDS), chlamydia or gonorrhea diagnosis, the location of the correctional facility is considered the individual's residence 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.

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

HIV Care Region vs. HIV Region: 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 Bureau of HIV, STD, and Hepatitis (BHSH), 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. As a result of these changes, 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



Abbreviations

AIDS=Acquired Immunodeficiency Syndrome

BHSH=Bureau of HIV, STD, and Hepatitis

BRDI=Bureau of Reportable Disease Informatics

CDC=Centers for Disease Control and Prevention

CPPG=Comprehensive Prevention Planning Group

eHARS=enhanced HIV/AIDS Reporting System

HCV=Hepatitis C Virus

HIV=Human Immunodeficiency Virus

IDEP=Interstate Duplicate Evaluation Project

IDU=Injection drug use/Injection drug user

HRSA=Health Resources and Services Administration

MDHSS=Missouri Department of Health and Senior Services

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

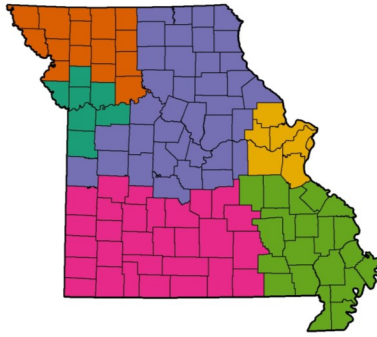
RIDR=Routine Interstate Duplicate Review

SCOUT=Securing Client Outcomes Using Technology

STD=Sexually Transmitted Disease

STD*MIS=Sexually Transmitted Disease Management Information System

TB=Tuberculosis



MISSOURI STATE SUMMARY

Population Counts, by HIV Care Region, Missouri, 2014

	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	1,019,242	578,929	113,357	438,276	576,170	248,248	2,974,222
Female	1,091,848	609,557	112,060	441,629	583,162	251,111	3,089,367
Total	2,111,090	1,188,486	225,417	879,905	1,159,332	499,359	6,063,589
Race/Ethnicity							
White	1,538,634	860,555	203,062	776,141	1,034,480	445,168	4,858,040
Black/African American	409,518	184,363	8,348	44,078	24,223	31,737	702,267
Hispanic	59,500	86,899	7,719	26,523	49,429	10,152	240,222
Asian/Pacific Islander	62,053	23,807	2,047	13,655	16,110	3,190	120,862
American Indian/Alaskan Native	4,347	5,053	866	3,242	10,163	1,904	25,575
Two or More Races/Other Race	37,038	27,809	3,375	16,266	24,927	7,208	116,623
Total	2,111,090	1,188,486	225,417	879,905	1,159,332	499,359	6,063,589
Race/Ethnicity-Males							
White Male	752,053	420,898	100,431	384,201	510,403	219,898	2,387,884
Black/African American Male	186,415	86,493	5,501	24,110	14,531	16,983	334,033
Hispanic Male	30,627	44,275	4,234	13,793	26,037	5,379	124,345
Asian/Pacific Islander Male	29,649	11,306	1,044	6,391	7,467	1,438	57,295
American Indian/Alaskan Native Male	2,158	2,489	448	1,708	5,166	938	12,907
Two or More Races/Other Race Male	18,340	13,468	1,699	8,073	12,566	3,612	57,758
Total	1,019,242	578,929	113,357	438,276	576,170	248,248	2,974,222
Race/Ethnicity-Females							
White Female	786,581	439,657	102,631	391,940	524,077	225,270	2,470,156
Black/African American Female	223,103	97,870	2,847	19,968	9,692	14,754	368,234
Hispanic Female	28,873	42,624	3,485	12,730	23,392	4,773	115,877
Asian/Pacific Islander Female	32,404	12,501	1,003	7,264	8,643	1,752	63,567
American Indian/Alaskan Native Female	2,189	2,564	418	1,534	4,997	966	12,668
Two or More Races/Other Race Female	18,698	14,341	1,676	8,193	12,361	3,596	58,865
Total	1,091,848	609,557	112,060	441,629	583,162	251,111	3,089,367
Age							
<2	50,744	31,185	5,364	20,646	28,701	12,191	148,831
2-12	290,709	176,817	30,269	117,525	162,258	69,783	847,361
13-18	165,174	94,019	16,966	67,092	91,642	38,468	473,361
19-24	163,225	87,530	21,459	95,303	109,639	39,772	516,928
25-44	550,891	321,944	54,131	209,662	277,816	119,634	1,534,078
45-64	581,074	313,463	58,926	227,651	295,126	134,575	1,610,815
65+	309,273	163,528	38,302	142,026	194,150	84,936	932,215
Total	2,111,090	1,188,486	225,417	879,905	1,159,332	499,359	6,063,589

Source: MDHSS, Bureau of Health Care Analysis and Data Dissemination

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

Magnitude of the Problem and General Trends

- From 1982 to 2015, there have been a total of 20,312 persons diagnosed with HIV disease in Missouri and reported to MDHSS. Of these individuals, 13,643 (67%) were subcategorized as stage 3 (AIDS) cases, and the remaining 6,669 (33%) were subcategorized as HIV cases. Of the cumulative number of persons diagnosed with HIV disease, 12,259 (60%) were presumed to be living at the end of 2015.
- The number of new diagnoses has fluctuated slightly between 2006 and 2015, with no sustained upward or downward trend in new HIV diagnoses over this time period. In 2015, there were 468 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 9,096 persons in 2006 to 12,259 persons in 2015. 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 2015 was highest in St. Louis City (25.8 per 100,000). The second highest rate was in Kansas City (14.2 per 100,000). The rate of persons newly diagnosed who were classified as stage 3 (AIDS) cases at the end of 2015 was highest in St. Louis City (6.3 per 100,000).

Who

Sex

- Males represented the majority of persons newly diagnosed (84%) and living with (83%) HIV disease. The rates of new diagnoses and persons living with HIV disease were about five 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 7.9 times as high as whites, and 2.1 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% of Missouri's female population, black/African American females accounted for 64% of new female HIV disease diagnoses. 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 2006, the largest numbers of persons living with HIV disease were 40-44 years of age, whereas in 2015 persons 50-54 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 decreased. In 2015, the largest numbers of persons newly diagnosed with HIV disease were between 19-24 years of age, compared to 2006 when the largest numbers of new diagnoses were among persons 40-44 years of age. The difference may be attributed to increased testing among younger individuals or due to a true increase in the number of new infections at a younger age.

Exposure Category

- The majority of new diagnoses continue to be attributed to men who have sex with men (MSM). Among females, heterosexual contact was the primary mode of transmission. In 2015, there were three people less than 13 years of age diagnosed with HIV disease. Two of these cases were among children born outside of the U.S.

Figure 1. HIV disease cases (living and deceased), by current HIV vs. stage 3 (AIDS) status, Missouri, 1982—2015

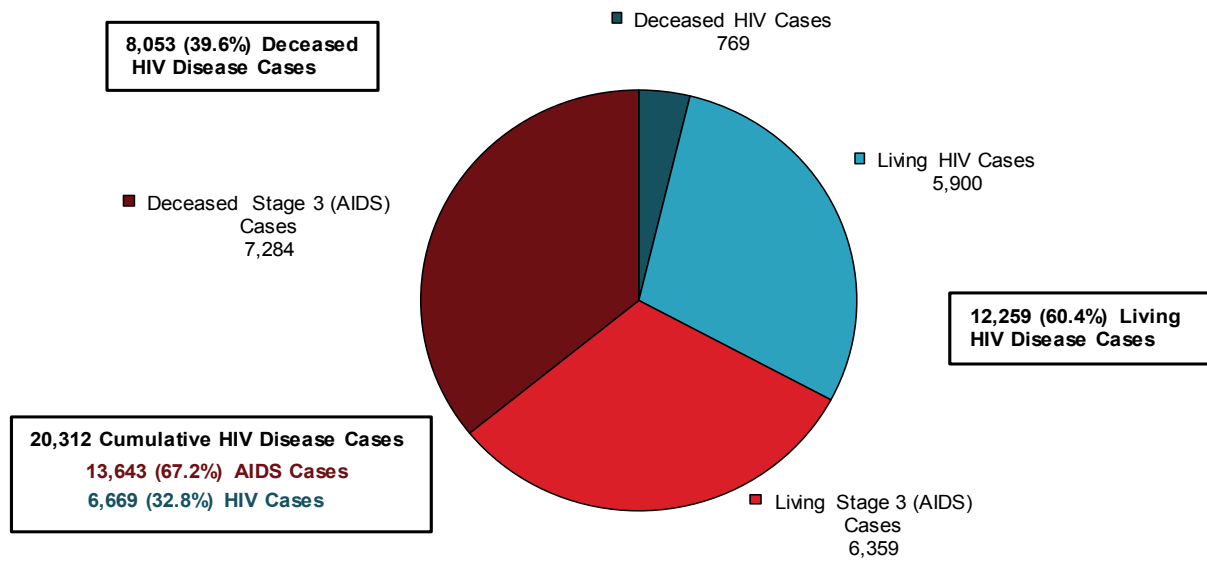
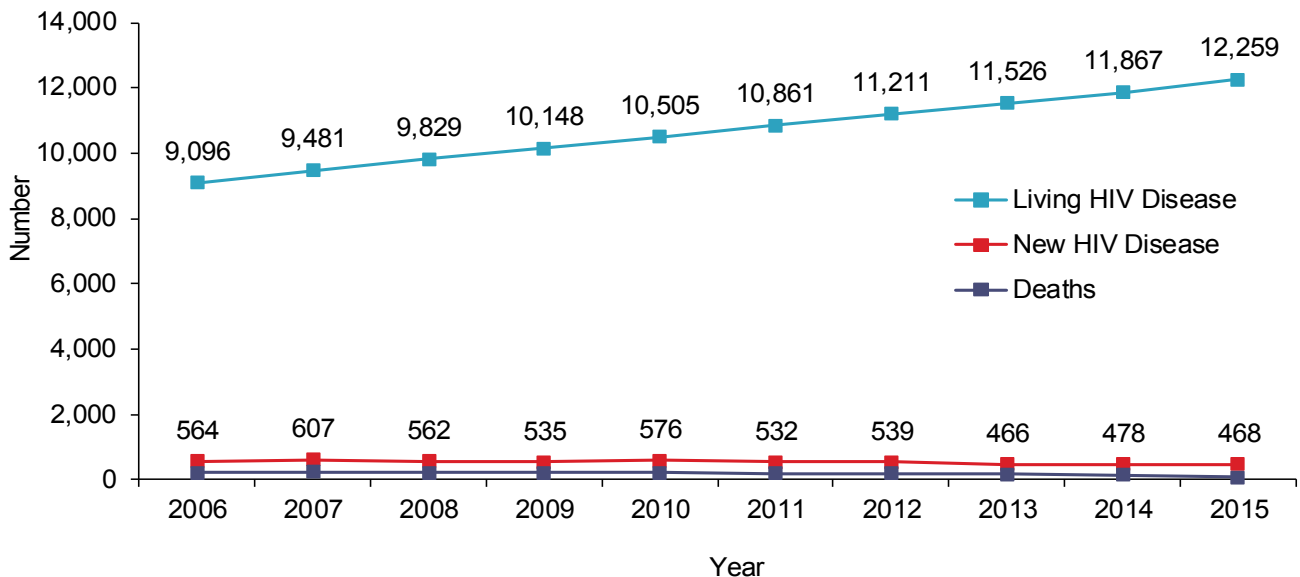


Figure 2. Living and new HIV disease cases and deaths by year*, Missouri, 2006—2015

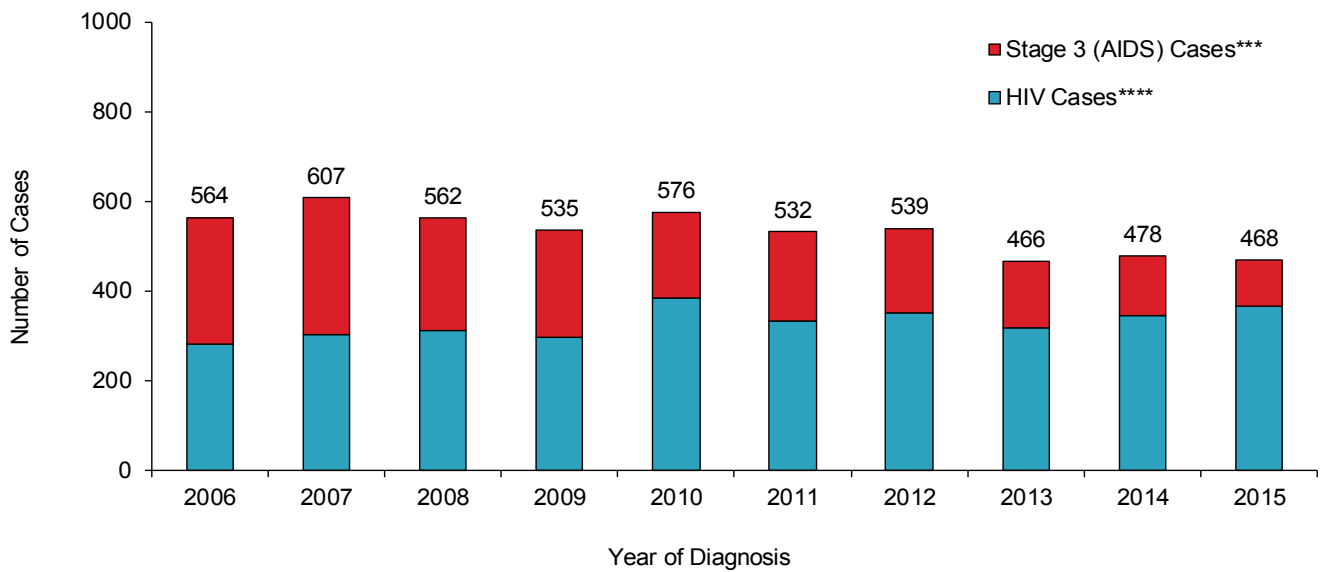


*For living HIV disease cases—the number of individuals living with HIV disease at the end of the year; For new HIV disease cases—the number of individuals newly diagnosed in the year; For HIV disease deaths—the number of individuals that died in the year.

From 1982 to 2015, there have been a total of 20,312 HIV disease cases diagnosed in Missouri and reported to MDHSS (Figure 1). Of the 20,312 cumulative cases reported, 60% were still presumed to be living with HIV disease at the end of 2015. Among the 12,259 living with HIV disease, 5,900 were classified as HIV cases at the end of 2015 and 6,359 were classified as stage 3 (AIDS) cases.

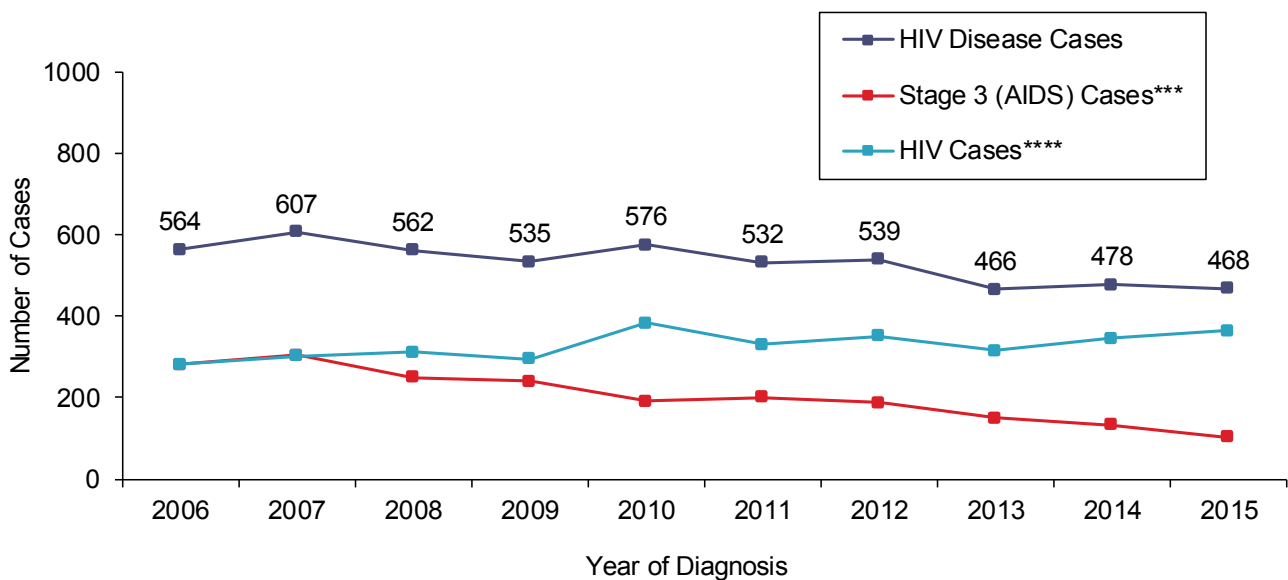
At the end of 2015, there were 12,259 persons living with HIV disease whose most recent diagnosis occurred in Missouri (Figure 2). The number of people living with HIV disease increased each year. There were 468 new HIV disease diagnoses in 2015. The number of new diagnoses from 2006 to 2015 has fluctuated; the number of new diagnoses ranged from 466 cases in 2013 to 607 cases in 2007. The number of deaths among persons with HIV disease each year has remained generally steady. The lower number of deaths in 2015 was likely due to delays in death reporting.

Figure 3. HIV disease cases, by current status* and year of diagnosis, Missouri, 2006-2015**



*HIV case vs. stage (AIDS) case
 **Cases are indicated by year of initial diagnosis reported to MDHSS. (The year in which the first diagnosis of the person, whether as an HIV case or a stage 3 (AIDS) case, was documented by the Department).
 ***These cases were either: 1) initially reported as HIV cases and then later reclassified as stage 3 (AIDS) cases because they subsequently met the stage 3 (AIDS) case definition; or 2) initially reported as stage 3 (AIDS) cases.
 ****These cases were initially reported as HIV cases and have remained HIV cases. They have not met the case definition for stage 3 (AIDS) as of December 31, 2015.

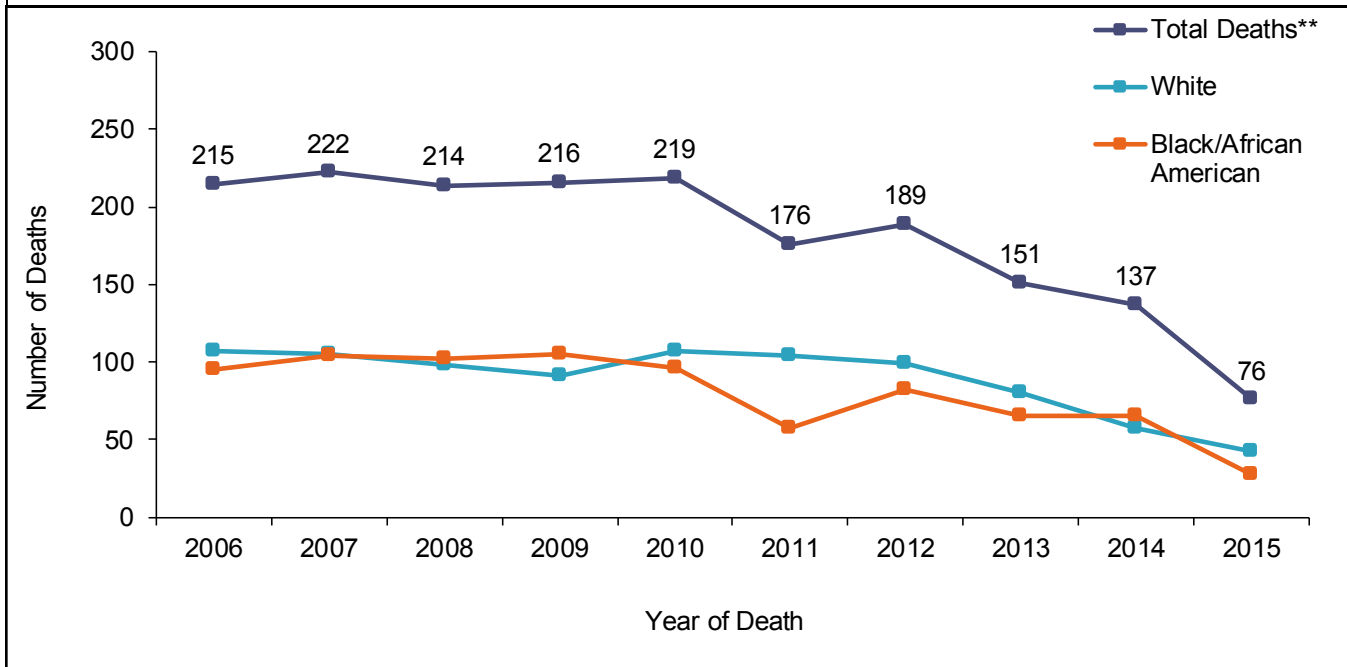
Figure 4. Reported HIV disease cases, by current status* and year of diagnosis, Missouri, 2006-2015**



*HIV case vs. stage 3 (AIDS) case
 **Cases are indicated by year of initial diagnosis reported to MDHSS. (The year in which the first diagnosis of the person, whether as an HIV case or an stage 3 (AIDS) case, was documented by the Department).
 ***These cases were either: 1) initially reported as HIV cases and then later reclassified as stage 3 (AIDS) cases because they subsequently met the stage 3 (AIDS) case definition; or 2) initially reported as stage 3 (AIDS) cases.
 ****These cases were initially reported as HIV cases and have remained HIV cases. They have not met the case definition for stage 3 (AIDS) as of December 31, 2015.

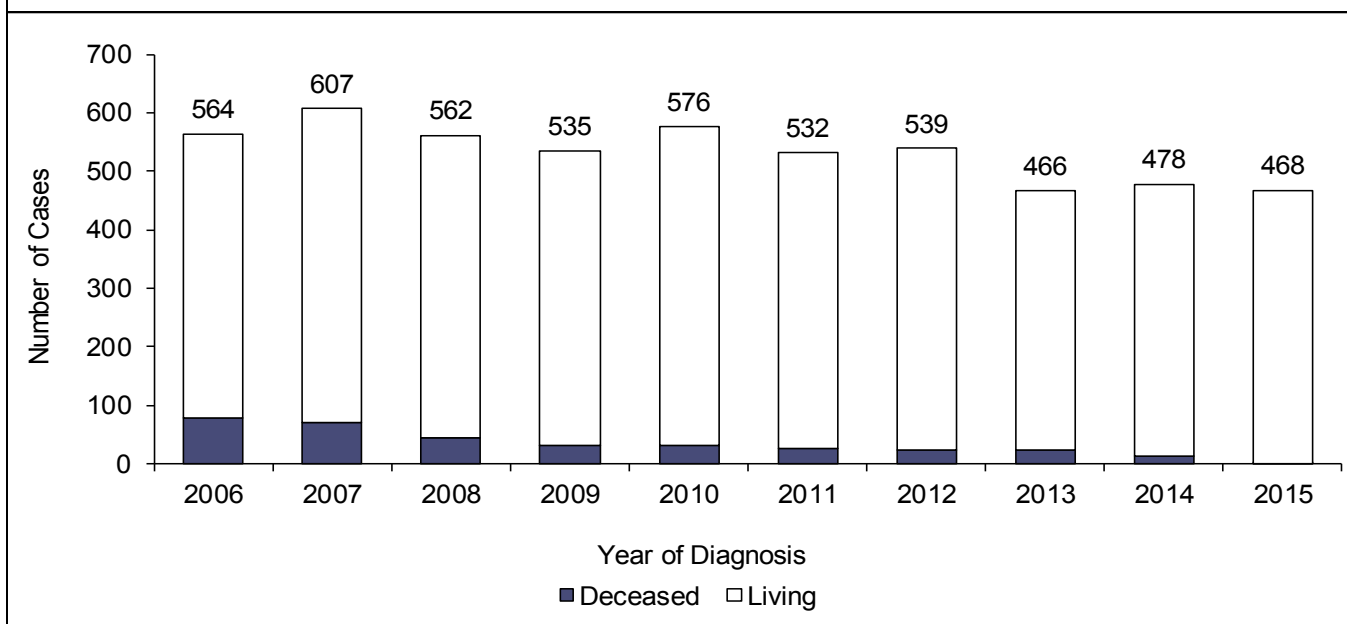
Between 2006 and 2015, the number of new HIV disease diagnoses has ranged from 466 cases in 2013, to 607 cases in 2007 (Figures 3 and 4). The number of new diagnoses has fluctuated slightly between 2006 and 2015, with no sustained upward or downward trend in new HIV diagnoses over this time period. Differences in the number of persons sub-classified as stage 3 (AIDS) cases each year are due to the progression of the disease over time. For those diagnosed with HIV disease in 2006, a larger number are currently classified as stage 3 (AIDS) cases compared to those diagnosed in 2015 because they have been living with the virus longer.

Figure 5. HIV disease deaths*, by selected race, by year of death, Missouri, 2006—2015†**



*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, 2015, and reported by February 28, 2016.

Figure 6. Persons diagnosed with HIV disease by current vital status* and year of diagnosis, Missouri, 2006—2015**



*Vital status on December 31, 2015.
 **Cases are indicated by year of initial diagnosis reported to MDHSS. (The year in which the first diagnosis of the person, whether as an HIV case or a stage 3 (AIDS) case, was documented by the Department).

The number of deaths among persons with HIV disease was generally steady between 2006 and 2010 (Figure 5). The lower number of deaths from in the more recent years is likely due to delays in death reporting. Of the 564 persons diagnosed with HIV disease in 2006, 77 (14%) were deceased by the end of 2015 (Figure 6). Among the 468 cases first diagnosed in 2015, 1 (0.2%) were deceased at the end of 2015. 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, 2015

	HIV*			Stage 3 (AIDS)**			HIV Disease***		
	Cases	%	Rate****	Cases	%	Rate****	Cases	%	Rate****
Sex									
Male	4,830	81.9%	162.4	5,309	83.5%	178.5	10,139	82.7%	340.9
Female	1,070	18.1%	34.6	1,050	16.5%	34.0	2,120	17.3%	68.6
Total	5,900	100.0%	97.3	6,359	100.0%	104.9	12,259	100.0%	202.2
Race/Ethnicity									
White	2,867	48.6%	59.0	3,055	48.0%	62.9	5,922	48.3%	121.9
Black/African American	2,684	45.5%	382.2	2,925	46.0%	416.5	5,609	45.8%	798.7
Hispanic	244	4.1%	101.6	267	4.2%	111.1	511	4.2%	212.7
Asian/Pacific Islander	48	0.8%	39.7	37	0.6%	30.6	85	0.7%	70.3
American Indian/Alaskan Native	6	0.1%	23.5	4	0.1%	15.6	10	0.1%	39.1
Two or More Races/Unknown	51	0.9%	--	71	1.1%	--	122	1.0%	--
Total	5,900	100.0%	97.3	6,359	100.0%	104.9	12,259	100.0%	202.2
Race/Ethnicity-Males									
White Male	2,507	51.9%	105.0	2,745	51.7%	115.0	5,252	51.8%	219.9
Black/African American Male	2,040	42.2%	610.7	2,245	42.3%	672.1	4,285	42.3%	1282.8
Hispanic Male	201	4.2%	161.6	229	4.3%	184.2	430	4.2%	345.8
Asian/Pacific Islander Male	37	0.8%	64.6	27	0.5%	47.1	64	0.6%	111.7
American Indian/Alaskan Native Male	6	0.1%	46.5	4	0.1%	31.0	10	0.1%	77.5
Two or More Races/Unknown Male	39	0.8%	--	59	1.1%	--	98	1.0%	--
Total	4,830	100.0%	162.4	5,309	100.0%	178.5	10,139	100.0%	340.9
Race/Ethnicity-Females									
White Female	360	33.6%	14.6	310	29.5%	12.5	670	31.6%	27.1
Black/African American Female	644	60.2%	174.9	680	64.8%	184.7	1,324	62.5%	359.6
Hispanic Female	43	4.0%	37.1	38	3.6%	32.8	81	3.8%	69.9
Asian/Pacific Islander Female	11	1.0%	17.3	10	1.0%	15.7	21	1.0%	33.0
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	12	1.1%	--	12	1.1%	--	24	1.1%	--
Total	1,070	100.0%	34.6	1,050	100.0%	34.0	2,120	100.0%	68.6
Current Age[‡]									
<2	0	0.0%	0.0	1	0.0%	0.7	1	0.0%	0.7
2-12	29	0.5%	3.4	1	0.0%	0.1	30	0.2%	3.5
13-18	38	0.6%	8.0	7	0.1%	1.5	45	0.4%	9.5
19-24	411	7.0%	79.5	103	1.6%	19.9	514	4.2%	99.4
25-44	2,733	46.3%	178.2	1,865	29.3%	121.6	4,598	37.5%	299.7
45-64	2,438	41.3%	151.4	3,978	62.6%	247.0	6,416	52.3%	398.3
65+	251	4.3%	26.9	404	6.4%	43.3	655	5.3%	70.3
Total	5,900	100.0%	97.3	6,359	100.0%	104.9	12,259	100.0%	202.2

[†]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 2015.

**Cases classified as stage 3 (AIDS) by December 31, 2015.

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

****Per 100,000 population based on 2014 MDHSS estimates.

[‡]Based on age as of December 31, 2015.

Note: Percentages may not total due to rounding.

Table 2. Diagnosed HIV, stage 3 (AIDS), and HIV disease cases, by sex, by race/ethnicity, by race/ethnicity and sex, and current age, Missouri, 2015

	HIV*			Stage 3 (AIDS)**			HIV Disease***		
	Cases	%	Rate****	Cases	%	Rate****	Cases	%	Rate****
Sex									
Male	304	83.3%	10.2	87	84.5%	2.9	391	83.5%	13.1
Female	61	16.7%	2.0	16	15.5%	0.5	77	16.5%	2.5
Total	365	100.0%	6.0	103	100.0%	1.7	468	100.0%	7.7
Race/Ethnicity									
White	149	40.8%	3.1	51	49.5%	1.0	200	42.7%	4.1
Black/African American	185	50.7%	26.3	39	37.9%	5.6	224	47.9%	31.9
Hispanic	15	4.1%	6.2	6	5.8%	2.5	21	4.5%	8.7
Asian/Pacific Islander	7	1.9%	5.8	4	3.9%	3.3	11	2.4%	9.1
American Indian/Alaskan Native	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	0.0
Two or More Races/Unknown	9	2.5%	7.7	3	2.9%	2.6	12	2.6%	10.3
Total	365	100.0%	6.0	103	100.0%	1.7	468	100.0%	7.7
Race/Ethnicity-Males									
White Male	132	43.4%	5.5	47	54.0%	2.0	179	45.8%	7.5
Black/African American Male	146	48.0%	43.7	29	33.3%	8.7	175	44.8%	52.4
Hispanic Male	14	4.6%	11.3	6	6.9%	4.8	20	5.1%	16.1
Asian/Pacific Islander Male	4	1.3%	7.0	2	2.3%	3.5	6	1.5%	10.5
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	8	2.6%	--	3	3.4%	--	11	2.8%	--
Total	304	100.0%	10.2	87	100.0%	2.9	391	100.0%	13.1
Race/Ethnicity-Females									
White Female	17	27.9%	0.7	4	25.0%	0.2	21	27.3%	0.9
Black/African American Female	39	63.9%	10.6	10	62.5%	2.7	49	63.6%	13.3
Hispanic Female	1	1.6%	0.9	0	0.0%	0.0	1	1.3%	0.9
Asian/Pacific Islander Female	3	4.9%	4.7	2	12.5%	3.1	5	6.5%	7.9
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	1.6%	--	0	0.0%	--	1	1.3%	--
Total	61	100.0%	2.0	16	100.0%	0.5	77	100.0%	2.5
Current Age[†]									
<2	0	0.0%	0.0	1	1.0%	0.7	1	0.2%	0.7
2-12	2	0.5%	0.2	0	0.0%	0.0	2	0.4%	0.2
13-18	12	3.3%	2.5	1	1.0%	0.2	13	2.8%	2.7
19-24	106	29.0%	20.6	11	10.7%	2.1	117	25.0%	22.6
25-44	194	53.2%	12.7	39	37.9%	2.5	233	49.8%	15.2
45-64	46	12.6%	2.8	47	45.6%	2.9	93	19.9%	5.8
65+	5	1.4%	0.6	4	3.9%	0.4	9	1.9%	1.0
Total	365	100.0%	6.1	103	100.0%	1.7	468	100.0%	7.7

*HIV cases diagnosed during 2015 which remained HIV cases at the end of the year. Includes persons diagnosed in Missouri correctional facilities.

**Stage 3 (AIDS) cases initially diagnosed in 2015.

***The sum of newly diagnosed HIV cases and newly diagnosed stage 3 (AIDS) cases. Does not include cases diagnosed prior to 2015 with HIV, which progressed to stage 3 (AIDS) in 2015.

****Per 100,000 population based on 2014 MDHSS estimates.

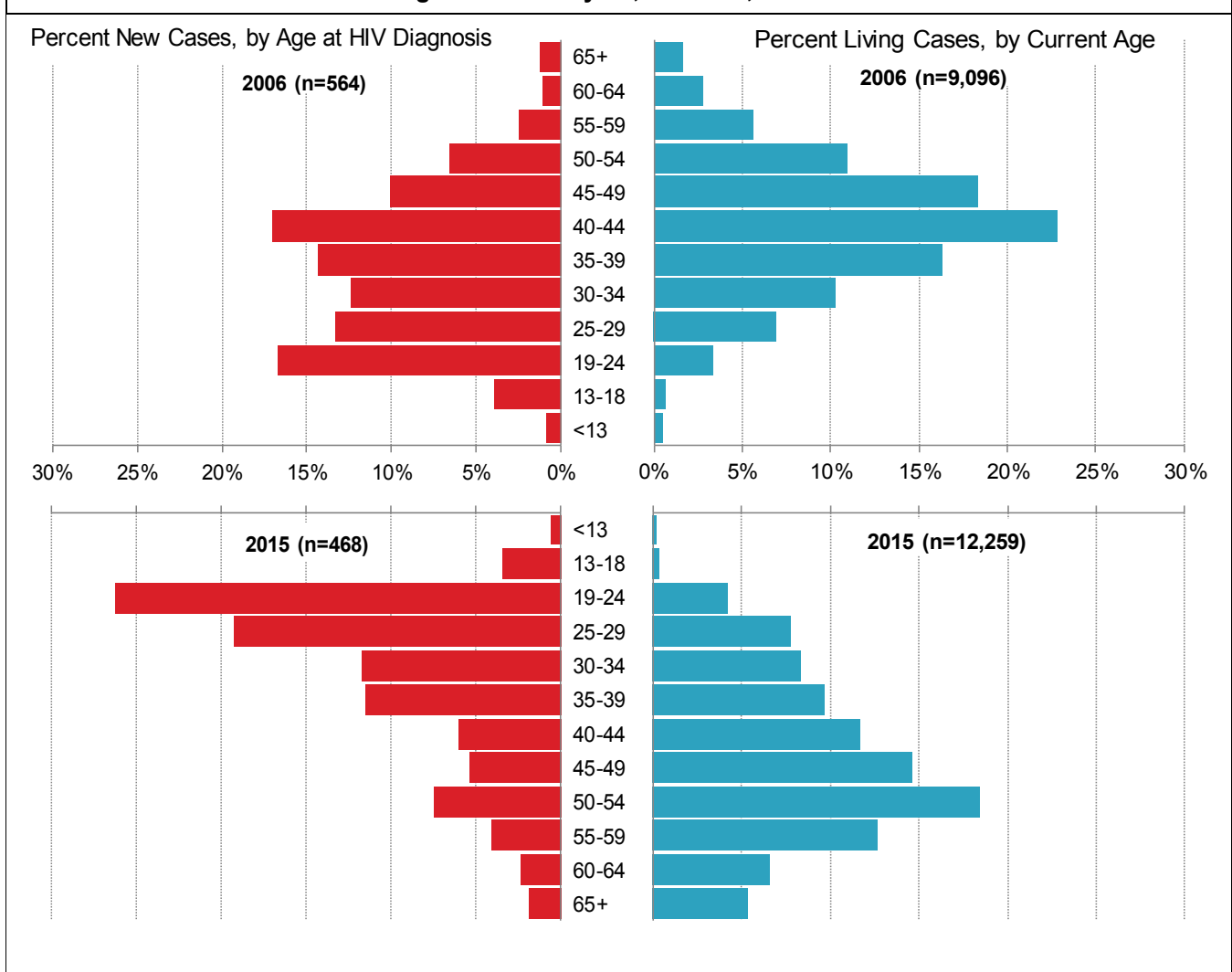
†Based on age as of December 31, 2015.

Note: Percentages may not total due to rounding.

Of the 12,259 persons living with HIV at the end of 2015, 83% were males (Table 1). The rate of those living with HIV disease was 5.0 times as high among males compared to females. Although whites represented the largest proportion of living HIV disease cases (48%), the rate of those living with HIV disease was 6.6 times as high among blacks/African Americans compared to whites. The rate was 1.7 times as high among Hispanics compared to whites. Among males, the rate of living cases among blacks/African Americans was 5.8 times as high as the rate among whites, and 1.6 times as high among Hispanics compared to whites. Among females, the rate of those living with HIV disease among blacks/African Americans was 13.3 times as high as the rate among whites, and 2.6 times as high among Hispanics compared to whites.

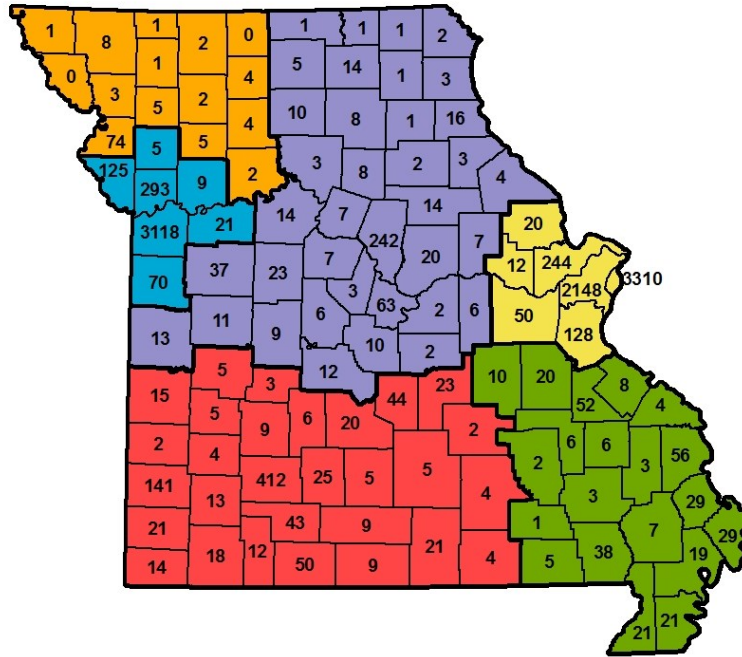
Of the 468 persons newly diagnosed with HIV disease in 2015, 22% were classified as stage 3 (AIDS) cases by the end of 2015 (Table 2). The rate of new HIV disease diagnoses was 5.2 times as high among males compared to females. The rate of new HIV disease cases was 7.8 times as high among blacks/African Americans compared to whites, and 2.1 times as high among Hispanics compared to whites. The rate of new HIV disease diagnoses was greatest among persons 19-24 years of age at the end of 2015 (23.0 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, 2006 and 2015



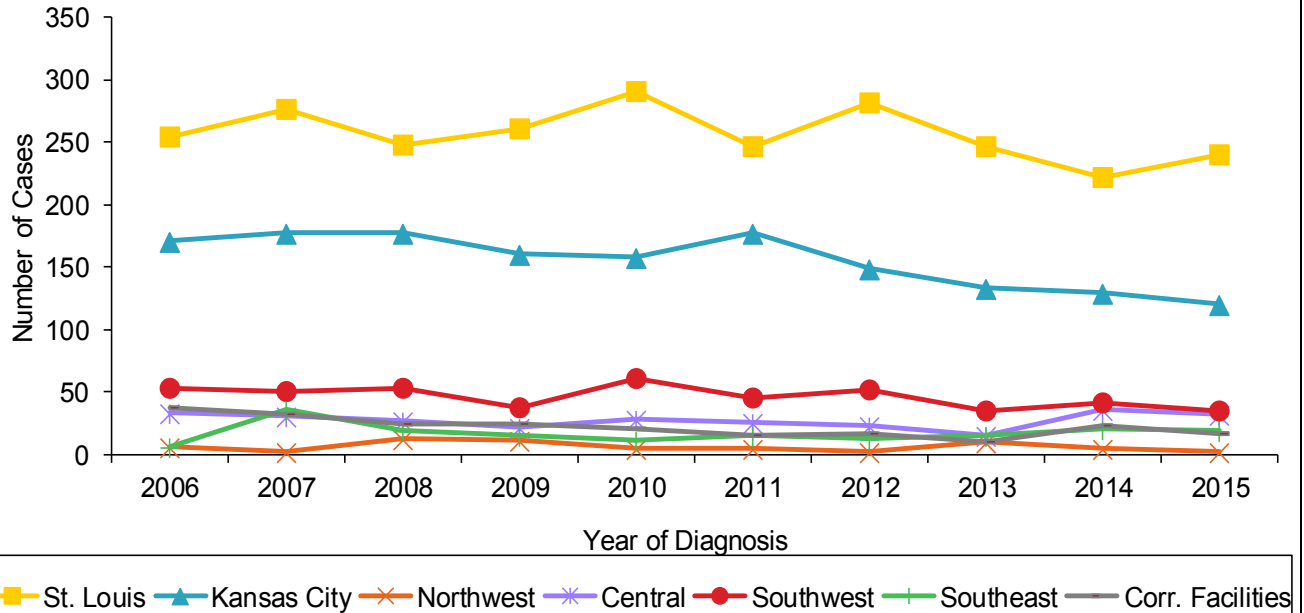
Changes have occurred in the distribution of the age at diagnosis among new HIV disease cases over time (Figure 7). In 2006, the greatest proportion of new diagnoses occurred among those ages 40-44 (17.0%) and 25-29 (16.7%). In 2015, the greatest proportion of new diagnoses occurred among those ages 19-24 (26%). Although the age of new diagnoses has decreased, the age of individuals living with HIV has increased over time. In 2006, the greatest proportion of living cases was among those ages 40-44 (23%). In 2015, the greatest proportion of living cases was between 50-54 years old (18%).

Figure 8. Number of persons living with HIV disease by county of residence* and HIV care region at time of diagnosis, Missouri, 1982-2015



*Based on residence at time of most recent diagnosis of HIV or stage 3 (AIDS). Excludes persons diagnosed in Missouri correctional facilities (n=719).

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



The largest numbers of persons living with HIV disease in 2015 were most recently diagnosed in St. Louis City (3,310), Jackson County (3,118) and St. Louis County (2,148) (Figure 8). The St. Louis HIV Care Region has represented the largest number of new HIV disease diagnoses in each year from 2006-2015 (Figure 9). In the St. Louis HIV Care Region the number of new diagnoses has been lower in years 2013-2015 compared to the previous years presented.

The number of new diagnoses in the Kansas City, St. Louis, and the Southwest HIV Care Regions has been generally stable from 2006 to 2012 with slight decreases seen in more recent years. In the remainder of the HIV care regions, the number of new diagnoses has been generally stable from 2006 to 2015, with slight fluctuations seen in select years.

Table 3. New and living HIV and stage 3 (AIDS) cases and rates, by geographic area, and by HIV care region, Missouri, 2015

Location	HIV Cases						Stage 3 (AIDS) Cases					
	Diagnosed 2015*			Living with HIV			Diagnosed 2015**			Living with Stage 3 (AIDS)		
	Cases	%	Rate***	Cases	%	Rate***	Cases	%	Rate***	Cases	%	Rate***
Geographic Area												
St. Louis City†	82	22.5%	25.8	1,619	27.4%	510.1	20	19.4%	6.3	1,691	26.6%	532.7
St. Louis County†	79	21.6%	7.9	1,106	18.7%	110.4	29	28.2%	2.9	1,042	16.4%	104.0
Kansas City†	67	18.4%	14.2	1,273	21.6%	270.4	19	18.4%	4.0	1,653	26.0%	351.1
Outstate†	120	32.9%	2.8	1,560	26.4%	36.5	35	34.0%	0.8	1,596	25.1%	37.3
Missouri Correctional Facilities††	17	4.7%	N/A	342	5.8%	N/A	0	0.0%	N/A	377	5.9%	N/A
Total	365	100.0%	6.0	5,900	100.0%	97.3	103	100.0%	1.7	6,359	100.0%	104.9
HIV Care Region												
St. Louis†	186	51.0%	8.8	2,967	50.3%	140.5	54	52.4%	2.6	2,945	46.3%	139.5
Kansas City†	93	25.5%	7.8	1,604	27.2%	135.0	28	27.2%	2.4	2,037	32.0%	171.4
Northwest†	2	0.5%	0.9	51	0.9%	22.6	1	1.0%	0.4	61	1.0%	27.1
Central†	30	8.2%	3.4	310	5.3%	35.2	3	2.9%	0.3	281	4.4%	31.9
Southwest†	26	7.1%	2.2	475	8.1%	41.0	9	8.7%	0.8	469	7.4%	40.5
Southeast†	11	3.0%	2.2	151	2.6%	30.2	8	7.8%	1.6	189	3.0%	37.8
Missouri Correctional Facilities††	17	4.7%	N/A	342	5.8%	N/A	0	0.0%	N/A	377	5.9%	N/A
MISSOURI	365	100.0%	6.0	5,900	100.0%	97.3	103	100.0%	1.7	6,359	100.0%	104.9

*HIV cases diagnosed and reported to the Department during 2015 which remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2015 that progressed to stage 3 (AIDS) in 2015.

***Per 100,000 population based on 2014 MDHSS estimates.

†Does not include persons diagnosed in Missouri correctional facilities.

††Includes persons diagnosed in Missouri correctional facilities.

Note: Percentages may not total due to rounding.

There were differences in the proportion of persons newly diagnosed with HIV disease that were either concurrently diagnosed with stage 3 (AIDS) or progressed to stage 3 (AIDS) at the end of 2015 by geographic area and HIV care region (Table 3). In St. Louis County, 27% of newly diagnosed HIV disease cases progressed to stage 3 (AIDS) at the end of 2015. In comparison, the proportion was 23%, 22%, 20%, and 0% for Outstate, Kansas City, St. Louis City, and Missouri correctional facilities, respectively. In the Southeast HIV Care Region, 42% of newly diagnosed HIV disease cases progressed to stage 3 (AIDS) at the end of 2015, whereas the proportion was 33%, 26%, 23%, 23%, 9%, and 0% for the HIV care regions of Northwest, Southwest, Kansas City, St. Louis, Central, and Missouri correctional facilities, respectively. The variation in the proportion of newly diagnosed individuals that progressed to stage 3 (AIDS) by the end of 2015 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 new 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 9.2 times as high as Outstate, and 5.1 times as high in Kansas City compared to Outstate. The rate of new stage 3 (AIDS) case diagnoses was 7.9 times as high in St. Louis City compared to Outstate and 5 times as high in Kansas City compared to Outstate. This demonstrates the disproportionate impact of HIV disease on the major metropolitan areas in Missouri.

Table 4. Diagnosed HIV cases and rates, by selected race/ethnicity, by geographic area, Missouri, 2015

Area	White			Black/African American			Hispanic			Total		
	Cases	%	Rate*	Cases	%	Rate*	Cases	%	Rate*	Cases**	%	Rate*
St. Louis City†	23	28.0%	16.6	53	64.6%	35.4	0	0.0%	0.0	82	100.0%	25.8
St. Louis County†	14	17.7%	2.1	59	74.7%	24.9	4	5.1%	14.5	79	100.0%	7.9
Kansas City†	26	38.8%	10.1	33	49.3%	23.9	6	9.0%	12.8	67	100.0%	14.2
Outstate Missouri†	79	65.8%	2.1	30	25.0%	16.9	5	4.2%	3.3	120	100.0%	2.8
Missouri Correctional Facilities††	7	41.2%	N/A	10	58.8%	N/A	0	0.0%	N/A	17	100.0%	N/A
MISSOURI TOTAL	149	40.8%	3.1	185	50.7%	26.3	15	4.1%	6.2	365	100.0%	6.0

*Per 100,000 population based on 2014 MDHSS estimates.

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

†Does not include persons diagnosed in Missouri correctional facilities.

††Includes persons diagnosed in Missouri correctional facilities.

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

Table 5. Diagnosed HIV cases and rates, by selected race/ethnicity, by HIV care region, Missouri, 2015

HIV Care Region	White			Black/African American			Hispanic			Total		
	Cases	%	Rate*	Cases	%	Rate*	Cases	%	Rate*	Cases**	%	Rate*
St. Louis†	56	30.1%	3.6	117	62.9%	28.6	4	2.2%	6.7	186	100.0%	8.8
Kansas City†	43	46.2%	5.0	38	40.9%	20.6	10	10.8%	11.5	93	100.0%	7.8
Northwest†	1	50.0%	0.5	1	50.0%	12.0	0	0.0%	0.0	2	100.0%	0.9
Central†	18	60.0%	2.3	10	33.3%	22.7	0	0.0%	0.0	30	100.0%	3.4
Southwest†	18	69.2%	1.7	4	15.4%	16.5	1	3.8%	2.0	26	100.0%	2.2
Southeast†	6	54.5%	1.3	5	45.5%	15.8	0	0.0%	0.0	11	100.0%	2.2
Missouri Correctional Facilities††	7	41.2%	N/A	10	58.8%	N/A	0	0.0%	N/A	17	100.0%	N/A
MISSOURI TOTAL	149	40.8%	3.1	185	50.7%	26.3	15	4.1%	6.2	365	100.0%	6.0

*Per 100,000 population based on 2014 MDHSS estimates.

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

†Does not include persons diagnosed in Missouri correctional facilities.

††Includes persons diagnosed in Missouri correctional facilities.

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

The proportion of new HIV cases diagnosed in 2015 by race/ethnicity varied by geographic area (Table 4). Whites comprised 66% of new HIV case diagnoses in 2015 in Outstate, but only 18% of new HIV cases 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 8 times as high as the rate among whites, and 1.6 times as high among Hispanics compared to whites. In comparison, in St. Louis City, the rate of new HIV cases was 2.1 times as high in blacks/African Americans compared to whites, and the rate of new HIV cases was lower for Hispanics compared to whites. In 2015, there were no new HIV cases reported among Hispanics in St. Louis City.

Similar patterns observed for the geographic areas were also present by HIV care region (Table 5). In the Southwest HIV Care Region, whites represented 69% of new HIV case diagnoses, whereas blacks/African Americans represented the majority of cases in the St. Louis (63%) and Missouri correctional facilities (59%).

Table 6. Newly diagnosed and living HIV and stage 3 (AIDS) cases in men who have sex with men, by selected race/ethnicity, Missouri, 2015

Race/Ethnicity	HIV Cases*				Stage 3 (AIDS) Cases			
	Newly Diagnosed		Living		Newly Diagnosed**		Living	
	Cases	%	Cases	%	Cases	%	Cases	%
White	110	45.6%	1,998	54.1%	35	58.3%	2,152	54.5%
Black/African American	111	46.1%	1,477	40.0%	20	33.3%	1,577	39.9%
Hispanic	12	5.0%	161	4.4%	2	3.3%	150	3.8%
Other/Unknown	8	3.3%	60	1.6%	3	5.0%	72	1.8%
MISSOURI TOTAL***	241	100.0%	3,696	100.0%	60	100.0%	3,951	100.0%

*Remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2015 that progressed to stage 3 (AIDS) in 2015.

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

Note: Percentages may not total due to rounding.

Table 7. Living HIV disease cases in men who have sex with men, by selected race/ethnicity, by current age group, Missouri, 2015

Age Group	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%**
13-18	0	0.0%	7	0.2%	0	0.0%	7	0.1%
19-24	69	1.7%	273	8.9%	11	3.5%	360	4.7%
25-44	1,226	29.5%	1,411	46.2%	149	47.9%	2,861	37.4%
45-64	2,552	61.5%	1,290	42.2%	140	45.0%	4,028	52.7%
65+	303	7.3%	73	2.4%	11	3.5%	391	5.1%
MISSOURI TOTAL	4,150	100.0%	3,054	100.0%	311	100.0%	7,647	100.0%

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

**Percentage of cases per age group.

Note: Percentages may not total due to rounding.

The data presented for each exposure category for Tables 6-19 have not been adjusted to redistribute individuals with missing exposure category information. Therefore these data only represent those individuals with an exposure category reported to MDHSS. The total number of individuals in each exposure category is likely underestimated, especially among those newly diagnosed in 2015. These data are subject to change.

There were a total of 301 new HIV disease diagnoses attributed to MSM in 2015 (Table 6). The number of new HIV cases among blacks/African Americans was about equal to the number of new HIV cases among whites, however, whites represented 1.7 times as many new stage 3 (AIDS) cases compared to black/African Americans in 2015. 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, 20% progressed to stage 3 (AIDS) by the end of 2015.

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 younger (Table 7). Among white MSM living with HIV disease, the majority (62%) were between 45-64 years of age at the end of 2015. However, only 42% of living black/African American MSM and 45% 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 25-44, and black/African Americans represented the largest number of MSM under the age of 25 (280).

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, 2015

Geographic Area	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%***
St. Louis City	1,046	48.0%	1,051	48.3%	42	1.9%	2,177	28.5%
St. Louis County	560	41.3%	727	53.6%	54	4.0%	1,357	17.7%
Kansas City	1,056	52.0%	804	39.6%	125	6.2%	2,030	26.5%
Outstate	1,390	79.2%	250	14.2%	83	4.7%	1,756	23.0%
Missouri Correctional Facilities	98	30.0%	222	67.9%	7	2.1%	327	4.3%
MISSOURI TOTAL	4,150	54.3%	3,054	39.9%	311	4.1%	7,647	100.0%
HIV Care Region								
St. Louis	1,833	48.2%	1,813	47.6%	100	2.6%	3,805	49.8%
Kansas City	1,382	55.9%	876	35.4%	160	6.5%	2,474	32.4%
Northwest	54	90.0%	5	8.3%	1	1.7%	60	0.8%
Central	223	74.1%	61	20.3%	14	4.7%	301	3.9%
Southwest	449	85.2%	40	7.6%	26	4.9%	527	6.9%
Southeast	111	72.5%	37	24.2%	3	2.0%	153	2.0%
Missouri Correctional Facilities	98	30.0%	222	67.9%	7	2.1%	327	4.3%
MISSOURI TOTAL	4,150	54.3%	3,054	39.9%	311	4.1%	7,647	100.0%
*Row totals and percentages include cases in persons whose race/ethnicity is either unknown or not listed. Missouri totals include persons diagnosed in Missouri correctional facilities.								
**Percentage of race/ethnicity in each area/region.								
***Percentage of cases per area/region.								
Note: Percentages may not total due to rounding.								

Of the 7,647 MSM living with HIV disease at the end of 2015, the largest proportion were diagnosed in St. Louis City (29%), followed by Kansas City (27%) (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, 79% of persons living with HIV disease attributed to MSM were white, whereas only 30% of this group who were diagnosed in Missouri correctional facilities were white. The differences were likely due to variations in the general population of the geographic areas.

Similar patterns were also seen for the HIV care regions. The St. Louis HIV Care Region represented 50% of all living cases among MSM and the Kansas City HIV Region comprised 32%. The proportion of living cases among white MSM was highest in the Northwest HIV Care Region and lowest in Missouri correctional facilities.

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	9	81.8%	161	66.8%	0	0.0%	228	61.6%
Black/African American	1	9.1%	69	28.6%	0	0.0%	126	34.1%
Hispanic	0	0.0%	6	2.5%	0	0.0%	11	3.0%
Other/Unknown	1	9.1%	5	2.1%	0	0.0%	5	1.4%
MISSOURI TOTAL***	11	100.0%	241	100.0%	0	100.0%	370	100.0%

*Remained HIV cases at the end of the year.
 **Does not include HIV cases diagnosed prior to 2015 that progressed to stage 3 (AIDS) in 2015.
 ***Totals include persons diagnosed in Missouri correctional facilities.
 Note: Percentages may not total due to rounding.

Age Group	<u>White</u>		<u>Black/African American</u>		<u>Hispanic</u>		<u>Total*</u>	
	Cases	%**	Cases	%**	Cases	%**	Cases	%**
13-18	0	0.0%	0	0.0%	0	0.0%	0	0.0%
19-24	6	1.5%	4	2.1%	0	0.0%	10	1.6%
25-44	117	30.1%	48	24.6%	9	52.9%	181	29.6%
45-64	247	63.5%	131	67.2%	8	47.1%	389	63.7%
65+	19	4.9%	12	6.2%	0	0.0%	31	5.1%
MISSOURI TOTAL	389	100.0%	195	100.0%	17	100.0%	611	100.0%

*Row totals and percentages include cases in persons whose race/ethnicity is either unknown or not listed. Totals include persons diagnosed in Missouri correctional facilities.
 **Percentage of cases per age group.
 Note: Percentages may not total due to rounding.

There were a total of 11 new HIV disease diagnoses attributed to men who have sex with men and inject drugs (MSM/IDU) in 2015 (Table 9). The small number of new cases diagnosed among MSM/IDU make patterns by race/ethnicity and sex difficult to interpret. There were no newly diagnosed cases that progressed to stage 3 (AIDS) by the end of 2015. Whites represented the majority (82%) of new HIV cases among MSM/IDU. Among living HIV and stage 3 (AIDS) cases, whites represented the largest proportion of cases, 67% and 62%, 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, 64% and 67%, were between 45-64 years of age at the end of 2015. In contrast, only 47% of living Hispanic MSM/IDU with HIV disease were between 45-64 years of age. The greatest proportion of Hispanic MSM/IDU living with HIV disease were between 25-44 years of age at the end of 2015.

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, 2015

Geographic Area	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%***
St. Louis City	45	39.5%	65	57.0%	3	2.6%	114	18.7%
St. Louis County	26	49.1%	27	50.9%	0	0.0%	53	8.7%
Kansas City	99	63.5%	42	26.9%	9	5.8%	156	25.5%
Outstate	176	88.4%	15	7.5%	5	2.5%	199	32.6%
Missouri Correctional Facilities	43	48.3%	46	51.7%	0	0.0%	89	14.6%
MISSOURI TOTAL	389	63.7%	195	31.9%	17	2.8%	611	100.0%
HIV Care Region								
St. Louis	83	45.9%	93	51.4%	4	2.2%	181	29.6%
Kansas City	135	68.9%	45	23.0%	9	4.6%	196	32.1%
Northwest	8	100.0%	0	0.0%	0	0.0%	8	1.3%
Central	28	80.0%	5	14.3%	2	5.7%	35	5.7%
Southwest	76	91.6%	3	3.6%	2	2.4%	83	13.6%
Southeast	16	84.2%	3	15.8%	0	0.0%	19	3.1%
Missouri Correctional Facilities	43	48.3%	46	51.7%	0	0.0%	89	14.6%
MISSOURI TOTAL	389	63.7%	195	31.9%	17	2.8%	611	100.0%

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

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

***Percentage of cases per area/region.

Note: Percentages may not total due to rounding.

Of the 611 MSM/IDU living with HIV disease at the end of 2015, the largest proportion was diagnosed in Outstate Missouri (33%), followed by Kansas City (26%) (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, 88% of living cases attributed to MSM/IDU were white, whereas only 40% of living cases diagnosed in St. Louis City among MSM/IDU were white.

The Kansas City HIV Care Region represented 32% of all living cases among MSM/IDU, and the St. Louis HIV Care Region comprised 30%. The proportion of white living cases among MSM/IDU was highest in the Northwest HIV Care Region (100%) and lowest in the St. Louis HIV Care Region (46%).

Table 12. Newly diagnosed and living HIV and stage 3 (AIDS) cases in injecting drug users, by selected race/ethnicity and sex, Missouri, 2015

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	3	21.4%	85	32.9%	3	42.9%	108	26.8%
Black/African American Male	3	21.4%	67	26.0%	1	14.3%	135	33.5%
Hispanic Male	0	0.0%	7	2.7%	2	28.6%	13	3.2%
White Female	6	42.9%	60	23.3%	1	14.3%	61	15.1%
Black/African American Female	1	7.1%	33	12.8%	0	0.0%	74	18.4%
Hispanic Female	0	0.0%	3	1.2%	0	0.0%	8	2.0%
MISSOURI TOTAL***	14	100.0%	258	100.0%	7	100.0%	403	100.0%

*Remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2015 that progressed to stage 3 (AIDS) in 2015.

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

Note: Percentages may not total due to rounding.

Table 13. Living HIV disease cases in injecting drug users, by selected race/ethnicity and sex, by current age group, Missouri, 2015

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%	0	0.0%	0	0.0%
19-24	2	1.0%	2	1.0%	3	2.5%	28	26.2%	8	1.2%
25-44	40	20.7%	35	17.3%	48	39.7%	74	69.2%	164	24.8%
45-64	144	74.6%	147	72.8%	70	57.9%	5	4.7%	454	68.7%
65+	7	3.6%	18	8.9%	0	0.0%	0	0.0%	35	5.3%
MISSOURI TOTAL	193	100.0%	202	100.0%	121	100.0%	107	100.0%	661	100.0%

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

**Percentage of cases per age group.

Note: Percentages may not total due to rounding.

There were a total of 21 new HIV disease diagnoses attributed to injection drug use (IDU) in 2015 (Table 12). The small number of new cases diagnosed among IDU make patterns by race/ethnicity and sex difficult to interpret. Of the newly diagnosed cases among IDU, 33% progressed to stage 3 (AIDS) by the end of 2015. Males represented approximately 63% of all living HIV disease cases among IDU.

Among IDU living with HIV disease, a smaller proportion of white males and white females had progressed to stage 3 (AIDS) by the end of 2015 compared to non-white males and females. There were differences in the distribution of living cases by race/ethnicity and sex among IDU between those classified as HIV cases compared to those classified as stage 3 (AIDS) cases. For example, white males represented the largest proportion of living HIV cases (33%) while black/African American males represented the largest proportion (34%) 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 2015 (Table 13). The proportion of living HIV disease cases between the ages of 25 and 44 was greatest among black/African American females.

Table 14. Living HIV disease cases in injecting drug users, by selected race/ethnicity, by geographic area, by HIV care region, Missouri, 2015

Geographic Area	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%***
St. Louis City	23	17.4%	105	79.5%	2	1.5%	132	20.0%
St. Louis County	19	35.8%	32	60.4%	1	1.9%	53	8.0%
Kansas City	44	29.9%	88	59.9%	13	8.8%	147	22.2%
Outstate	179	82.5%	27	12.4%	11	5.1%	217	32.8%
Missouri Correctional Facilities	49	43.8%	57	50.9%	4	3.6%	112	16.9%
MISSOURI TOTAL	314	47.5%	309	46.7%	31	4.7%	661	100.0%
HIV Care Region								
St. Louis	72	33.5%	137	63.7%	3	1.4%	215	32.5%
Kansas City	81	42.6%	91	47.9%	16	8.4%	190	28.7%
Northwest	6	75.0%	1	12.5%	1	12.5%	8	1.2%
Central	29	70.7%	9	22.0%	3	7.3%	41	6.2%
Southwest	61	84.7%	8	11.1%	3	4.2%	72	10.9%
Southeast	16	69.6%	6	26.1%	1	4.3%	23	3.5%
Missouri Correctional Facilities	49	43.8%	57	50.9%	4	3.6%	112	16.9%
MISSOURI TOTAL	314	47.5%	309	46.7%	31	4.7%	661	100.0%
*Row totals and percentages include cases in persons whose race/ethnicity is either unknown or not listed. Missouri totals include persons diagnosed in Missouri correctional facilities.								
**Percentage of race/ethnicity in each area/region.								
***Percentage of cases per area/region.								
Note: Percentages may not total due to rounding.								

Of the 661 IDU living with HIV disease at the end of 2015, the largest proportion was diagnosed in Outstate Missouri (33%), 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, 83% of living cases attributed to IDU were white, whereas only 17% 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 33% of all living cases among IDU, and the Kansas City HIV Care Region comprised 29%. The proportion of white living cases among IDU was highest in the Southwest HIV Care Region (85%) and lowest in the St. Louis HIV Care Region (34%) while the reverse was true of black/African American living cases among IDU (11% and 64%). Though proportions of Hispanic living cases among IDU by HIV care region are difficult to interpret due to small numbers of individuals in this population, the highest number of these cases are in the Kansas City HIV Care Region (16).

Table 15. Newly diagnosed and living HIV and stage 3 (AIDS) cases in heterosexual contacts, by selected race/ethnicity and sex, Missouri, 2015

Race/Ethnicity and Sex	HIV Cases*				Stage 3 (AIDS) Cases			
	Newly Diagnosed		Living		Newly Diagnosed**		Living	
	Cases	%	Cases	%	Cases	%	Cases	%
White Male	1	1.8%	55	6.6%	4	23.5%	58	6.4%
Black/African American Male	16	28.1%	127	15.3%	3	17.6%	178	19.7%
Hispanic Male	2	3.5%	5	0.6%	0	0.0%	11	1.2%
White Female	10	17.5%	222	26.7%	2	11.8%	199	22.0%
Black/African American Female	24	42.1%	382	46.0%	8	47.1%	422	46.7%
Hispanic Female	1	1.8%	24	2.9%	0	0.0%	21	2.3%
MISSOURI TOTAL***	57	100.0%	831	100.0%	17	100.0%	904	100.0%

*Remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2015 that progressed to stage 3 (AIDS) in 2015.

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

Note: Percentages may not total due to rounding.

Table 16. Living HIV disease cases in heterosexual contacts, by selected race/ethnicity and sex, by current age group, Missouri, 2015

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%	1	0.3%	0	0.0%	3	0.4%	5	0.3%
19-24	0	0.0%	10	3.3%	7	1.7%	34	4.2%	52	3.0%
25-44	20	17.7%	119	39.0%	164	39.0%	378	47.0%	727	41.9%
45-64	72	63.7%	154	50.5%	216	51.3%	362	45.0%	842	48.5%
65+	21	18.6%	21	6.9%	34	8.1%	27	3.4%	109	6.3%
MISSOURI TOTAL	113	100.0%	305	100.0%	421	100.0%	804	100.0%	1,735	100.0%

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

**Percentage of cases per age group.

Note: Percentages may not total due to rounding.

There were a total of 74 new HIV disease diagnoses attributed to heterosexual contact in 2015 (Table 15). The small number of new cases diagnosed among heterosexuals make patterns by race/ethnicity and sex difficult to interpret. Though based on small numbers, black/African American females represented the largest number of new HIV disease diagnoses among heterosexuals. Black/African American females were more likely to have progressed to stage 3 (AIDS) by the end of 2015 than white females (25% vs. 17%). Overall, 23% of newly diagnosed cases attributed to heterosexual contact progressed to stage 3 (AIDS) by the end of 2015.

Females represented 76% of living HIV cases and 71% of living stage 3 (AIDS) cases among heterosexual contact cases. Among heterosexual contact cases, the greatest proportion of living cases was between 45-64 years of age in white males, black/African American males, and white females and 25-44 years of age in black/African American females (Table 16).

Geographic Area	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%***
St. Louis City	72	14.3%	415	82.5%	12	2.4%	503	29.0%
St. Louis County	71	18.5%	293	76.3%	13	3.4%	384	22.1%
Kansas City	57	21.9%	184	70.8%	13	5.0%	260	15.0%
Outstate	315	65.1%	135	27.9%	21	4.3%	484	27.9%
Missouri Correctional Facilities	19	18.3%	82	78.8%	2	1.9%	104	6.0%
MISSOURI TOTAL	534	30.8%	1,109	63.9%	61	3.5%	1,735	100.0%
HIV Care Region								
St. Louis	189	19.9%	721	75.9%	27	2.8%	950	54.8%
Kansas City	105	31.9%	195	59.3%	21	6.4%	329	19.0%
Northwest	11	57.9%	8	42.1%	0	0.0%	19	1.1%
Central	70	61.9%	36	31.9%	3	2.7%	113	6.5%
Southwest	92	70.2%	27	20.6%	7	5.3%	131	7.6%
Southeast	48	53.9%	40	44.9%	1	1.1%	89	5.1%
Missouri Correctional Facilities	19	18.3%	82	78.8%	2	1.9%	104	6.0%
MISSOURI TOTAL	534	30.8%	1,109	63.9%	61	3.5%	1,735	100.0%
*Row totals and percentages include cases in persons whose race/ethnicity is either unknown or not listed. Missouri totals include persons diagnosed in Missouri correctional facilities.								
**Percentage of race in each area/region.								
***Percentage of cases per area/region.								
Note: Percentages may not total due to rounding.								

Of the 1,735 living cases among heterosexual contacts at the end of 2015, the largest proportion was diagnosed in St. Louis City (29%); the next highest was Outstate Missouri (28%) (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, 65% of living cases attributed to heterosexual contact were white, whereas only 14% 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%) compared to whites and Hispanics.

The St. Louis HIV Care Region represented 55% of all living cases among heterosexuals, and the Kansas City HIV Care Region comprised 19%. The proportion of white living cases among heterosexuals was highest in the Southwest HIV Care Region (70%) and lowest in Missouri correctional facilities (18%). The proportion of black/African American living cases was highest in Missouri correctional facilities (79%) and lowest in the Southwest HIV Care Region (21%).

Table 18. Deaths* among HIV cases, by mode of transmission, by selected race and sex, Missouri, 1982—2015

Mode of Transmission	White Males		Black/African American Males		White Females		Black/African American Females		Total**	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
MSM	232	64.6%	151	57.2%	0	0.0%	0	0.0%	402	52.3%
MSM/IDU	42	11.7%	16	6.1%	0	0.0%	0	0.0%	62	8.1%
IDU	31	8.6%	31	11.7%	9	22.5%	19	30.6%	97	12.6%
Heterosexual Contact	9	2.5%	22	8.3%	20	50.0%	31	50.0%	85	11.1%
No Indicated Risk (NIR)	38	10.6%	43	16.3%	11	27.5%	11	17.7%	114	14.8%
MISSOURI TOTAL ***	359	100.0%	264	100.0%	40	100.0%	62	100.0%	769	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 (1.2%) 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 due to rounding.

Table 19. Deaths* among stage 3 (AIDS) cases, by mode of transmission, by selected race and sex, Missouri, 1982—2015

Mode of Transmission	White Males		Black/African American Males		White Females		Black/African American Females		Total**	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
MSM	3,336	77.8%	1,318	68.0%	0	0.0%	0	0.0%	4,864	66.8%
MSM/IDU	437	10.2%	205	10.6%	0	0.0%	0	0.0%	668	9.2%
IDU	177	4.1%	189	9.7%	80	27.4%	109	25.4%	595	8.2%
Heterosexual Contact	66	1.5%	93	4.8%	154	52.7%	257	59.9%	592	8.1%
No Indicated Risk (NIR)	117	2.7%	113	5.8%	30	10.3%	40	9.3%	328	4.5%
MISSOURI TOTAL ***	4,288	100.0%	1,939	100.0%	292	100.0%	429	100.0%	7,284	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 237 cases (3.3%) with a mode of transmission not indicated on the table, such as hemophilia/coagulation disorder, blood transfusion or tissue recipient, etc. Totals include persons diagnosed in Missouri correctional facilities.

Note: Percentages may not total due to rounding.

The number of deaths that have occurred among persons still classified as HIV cases at the time of death was small (769) in comparison to the number of deaths among persons classified as stage 3 (AIDS) (7,284) (Tables 18 and 19). The greatest proportion of deaths among HIV cases has occurred among white males (47%) (Table 18).

There were differences in the distribution of deaths among HIV cases by mode of transmission among the race/ethnicity and sex categories. Among males, the majority of deaths occurred among cases attributed to MSM. Among female HIV cases, the largest number of deaths occurred among cases attributed to heterosexual contact. Similar patterns were observed for deaths among male stage 3 (AIDS) cases (Table 19). Among both white and black/African American female stage 3 (AIDS) cases, cases attributed to heterosexual contact represented the majority of deaths. The proportion of deaths among those with no indicated risk among stage 3 (AIDS) cases was smaller than that among HIV cases, likely because there was more time to obtain exposure category information.

Table 20. Newly diagnosed and living HIV and stage 3 (AIDS) cases with exposure category assignments for Missouri, 2015

Exposure category	HIV cases				Stage 3 (AIDS) cases			
	2015*		Living		2015**		Living	
Adult/Adolescent								
Men who have sex with men	262	72.2%	4,125	70.8%	71	69.6%	4,291	67.8%
Men who have sex with men and inject drugs	12	3.3%	267	4.6%	0	0.0%	400	6.3%
Injecting drug use	15	4.1%	308	5.3%	8	7.8%	468	7.4%
Heterosexual contact	73	20.1%	1,113	19.1%	23	22.5%	1,125	17.8%
Hemophilia/coagulation disorder	0	0.0%	8	0.1%	0	0.0%	33	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	363	† 100.0%	5,826	† 100.0%	102	100.0%	6,325	† 100.0%
Pediatric (<13 years old)								
PEDIATRIC SUBTOTAL	2	100.0%	74	100.0%	1	100.0%	34	100.0%

*HIV cases reported during 2015 which remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2015 that progressed to stage 3 (AIDS) in 2015.

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

Note: Percentages may not total due to rounding.

The data in Table 20 have been adjusted to proportionately re-distribute individuals with no indicated risk factor based on sex and race/ethnicity to known exposure categories. These data do not reflect the true counts of persons reported in each exposure category. Among both new and living HIV and stage 3 (AIDS) cases, MSM represented the greatest proportion of cases. The proportion of MSM cases was greater for new HIV and stage 3 (AIDS) cases compared to the proportion among their respective living cases. This may indicate changes in how individuals are being infected over time. However, the observed pattern may also be related to the method used to re-distribute those with unknown risks. The method used to re-distribute new cases may weight those with no indicated risk more heavily than the MSM category. There were two new HIV cases and one new stage 3 (AIDS) case diagnosed among children less than 13 years of age in 2015.

The majority of HIV disease cases diagnosed in 2015 (93%) and those living with HIV disease (93%) were residents of a metropolitan area at the time of diagnosis (Table 21). For a list of counties that were classified as a metropolitan area refer to the Appendix. There were differences in the proportion of living HIV disease cases by sex based on the population of the area of residence. The proportion of males living with HIV disease decreased as the population of the area of residence decreased. Whereas 83% of living HIV disease cases in metropolitan areas occurred among males, only 72% 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 became smaller, the proportion of living cases that occurred among whites increased. For example, only 47% of living HIV disease diagnoses were among whites in metropolitan areas compared to 77% in nonmetropolitan areas. There were also differences based on the population of area of residence in the distribution of new and living HIV disease cases by exposure category. As the population of the area of residence decreased, the proportion of new and living cases attributed to MSM generally decreased. Among those living with HIV disease, the proportion of cases diagnosed between 45-64 years of age increased as the population of the area of residence decreased.

Table 21. Newly diagnosed and living HIV disease* cases, by population of area of residence at time of diagnosis, by sex, by race/ethnicity, by exposure category and age at diagnosis, Missouri, 2015†

	Newly Diagnosed						Living					
	Metropolitan Area**		Micropolitan Area***		Nonmetropolitan Area****		Metropolitan Area**		Micropolitan Area***		Nonmetropolitan Area****	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
Sex												
Male	354	84.5%	12	70.6%	12	80.0%	8,906	83.1%	333	73.5%	268	71.7%
Female	65	15.5%	5	29.4%	3	20.0%	1,807	16.9%	120	26.5%	106	28.3%
Total	419	100.0%	17	100.0%	15	100.0%	10,713	100.0%	453	100.0%	374	100.0%
Race/Ethnicity												
White	171	40.8%	13	76.5%	9	60.0%	5,079	47.4%	324	71.5%	288	77.0%
Black/African American	205	48.9%	3	17.6%	6	40.0%	4,970	46.4%	103	22.7%	67	17.9%
Hispanic	20	4.8%	1	5.9%	0	0.0%	462	4.3%	18	4.0%	16	4.3%
Other/Unknown	23	5.5%	0	0.0%	0	0.0%	202	1.9%	8	1.8%	3	0.8%
Total	419	100.0%	17	100.0%	15	100.0%	10,713	100.0%	453	100.0%	374	100.0%
Exposure Category												
Men who have sex with men	279	66.6%	10	58.8%	5	33.3%	6,942	64.8%	208	45.9%	170	45.5%
Men who have sex with men and inject drugs	10	2.4%	0	0.0%	0	0.0%	471	4.4%	32	7.1%	19	5.1%
Injecting drug use	17	4.1%	2	11.8%	0	0.0%	487	4.5%	33	7.3%	29	7.8%
Heterosexual contact	65	15.5%	2	11.8%	3	20.0%	1,443	13.5%	98	21.6%	90	24.1%
No Indicated Risk (NIR)	44	10.5%	3	17.6%	7	46.7%	1,241	11.6%	70	15.5%	53	14.2%
Other	1	0.2%	0	0.0%	0	0.0%	43	0.4%	2	0.4%	4	1.1%
Pediatric	3	0.7%	0	0.0%	0	0.0%	86	0.8%	10	2.2%	9	2.4%
Total	419	100.0%	17	100.0%	15	100.0%	10,713	100.0%	453	100.0%	374	100.0%
Age at Diagnosis												
<2	1	0.2%	0	0.0%	0	0.0%	46	0.4%	5	1.1%	4	1.1%
2-12	2	0.5%	0	0.0%	0	0.0%	29	0.3%	5	1.1%	3	0.8%
13-18	15	3.6%	0	0.0%	1	6.7%	289	2.7%	8	1.8%	12	3.2%
19-24	114	27.2%	2	11.8%	1	6.7%	1,691	15.8%	60	13.2%	35	9.4%
25-44	207	49.4%	7	41.2%	5	33.3%	6,852	64.0%	287	63.4%	210	56.1%
45-64	74	17.7%	8	47.1%	5	33.3%	1,742	16.3%	85	18.8%	105	28.1%
65+	6	1.4%	0	0.0%	3	20.0%	64	0.6%	3	0.7%	5	1.3%
Total	419	100.0%	17	100.0%	15	100.0%	10,713	100.0%	453	100.0%	374	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 due to rounding.

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

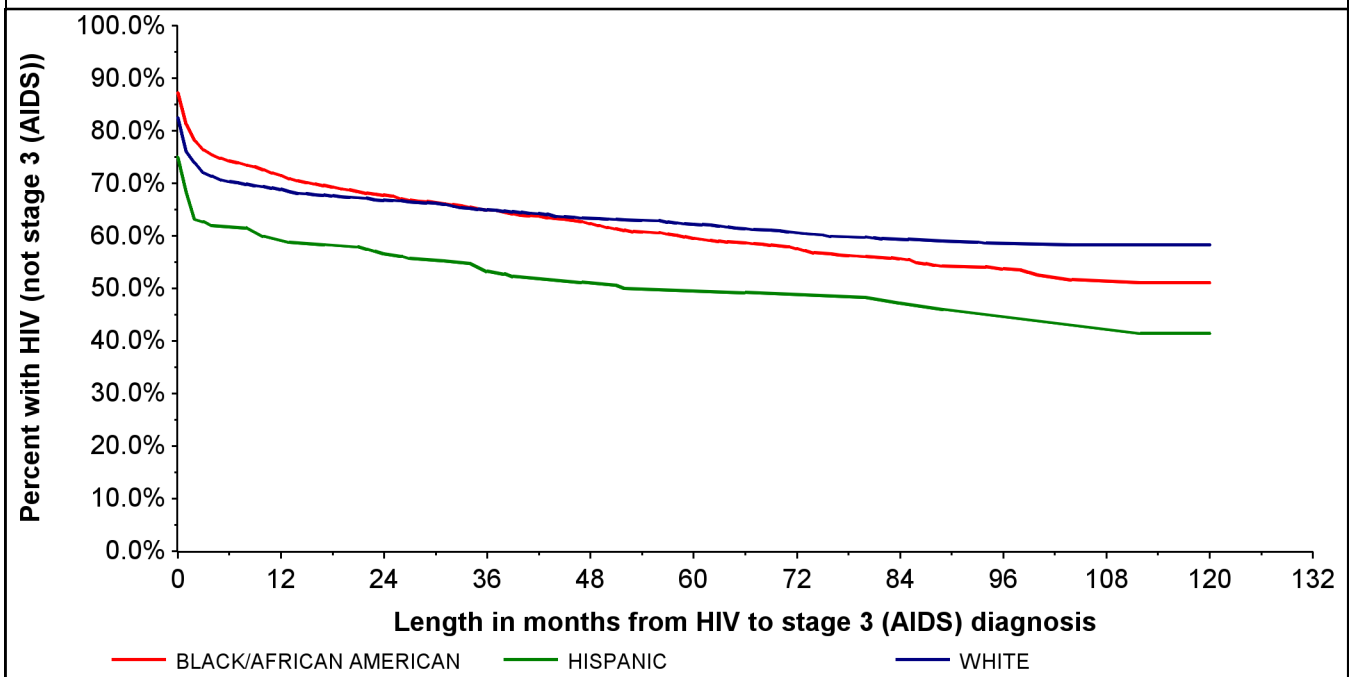
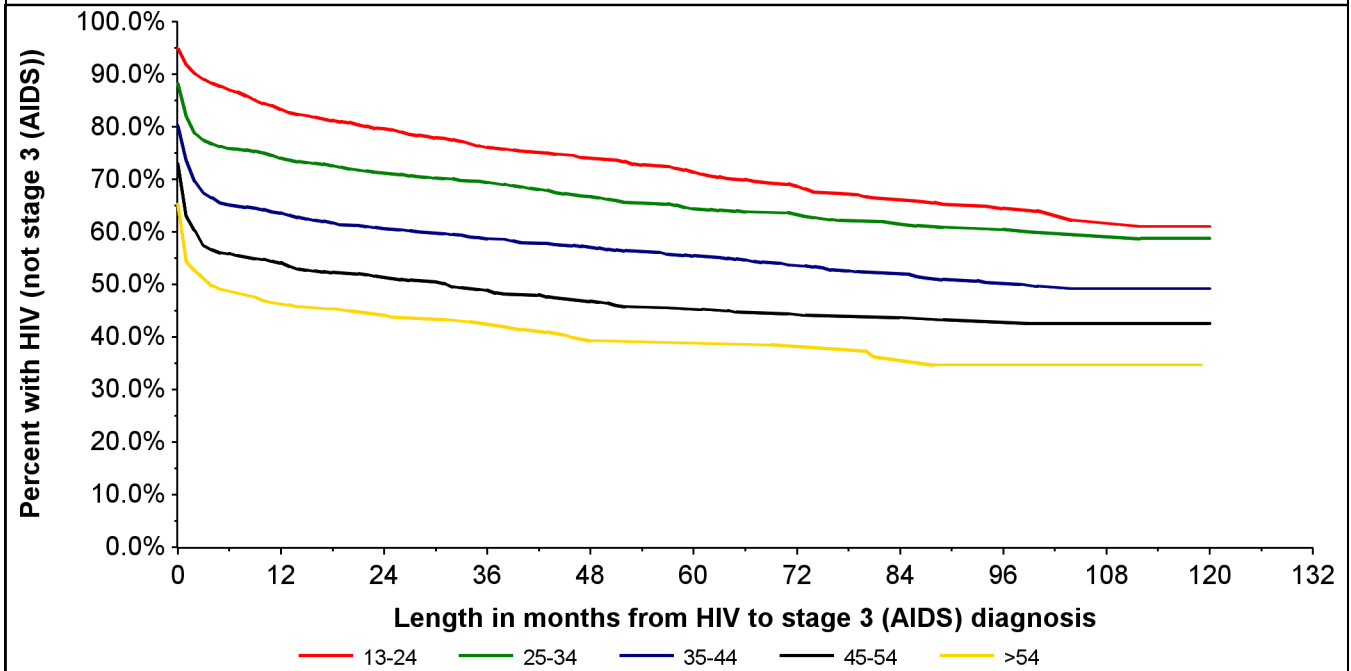


Figure 11. Length of time between HIV and stage 3 (AIDS) diagnosis, by age at diagnosis*, Missouri, 2006-2014



*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.

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, 2006-2014

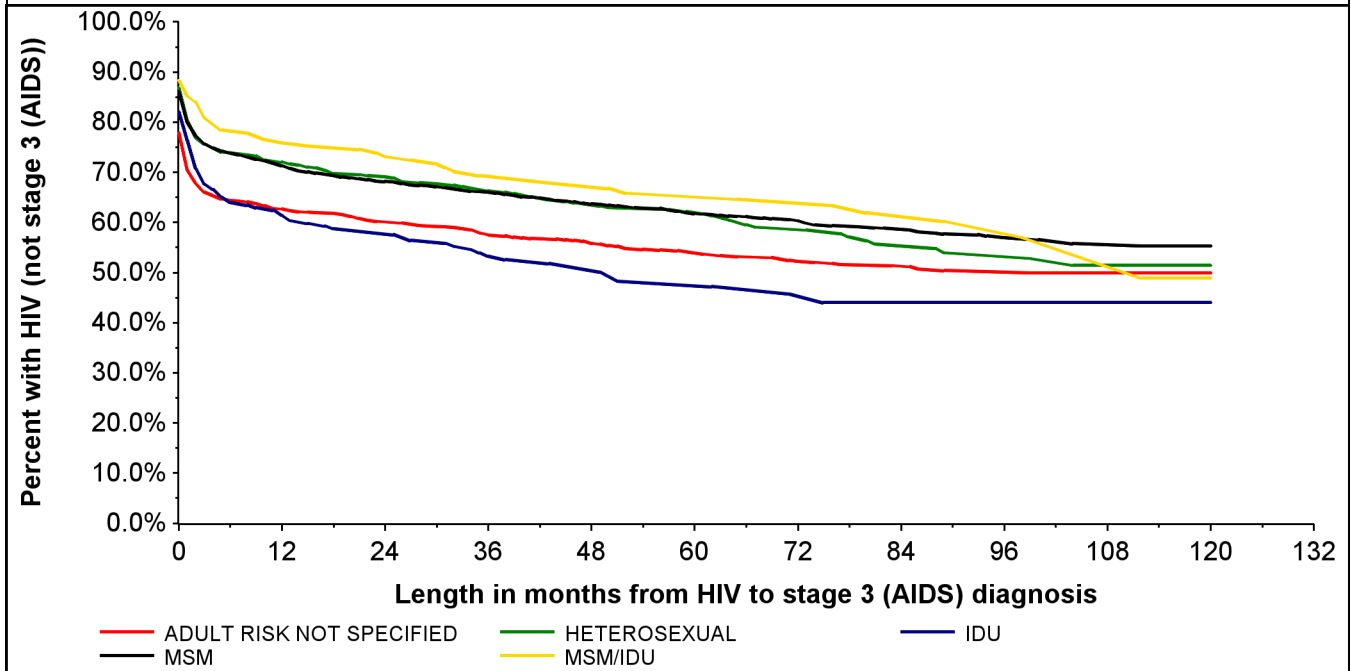
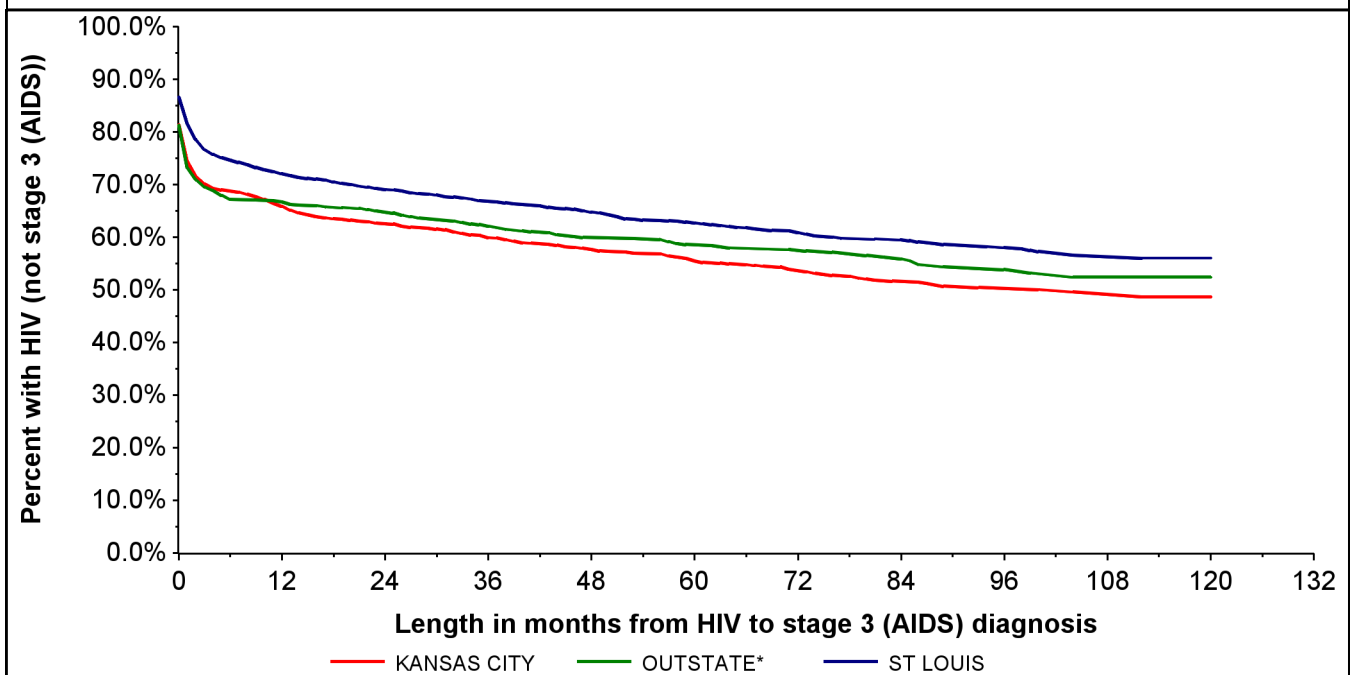


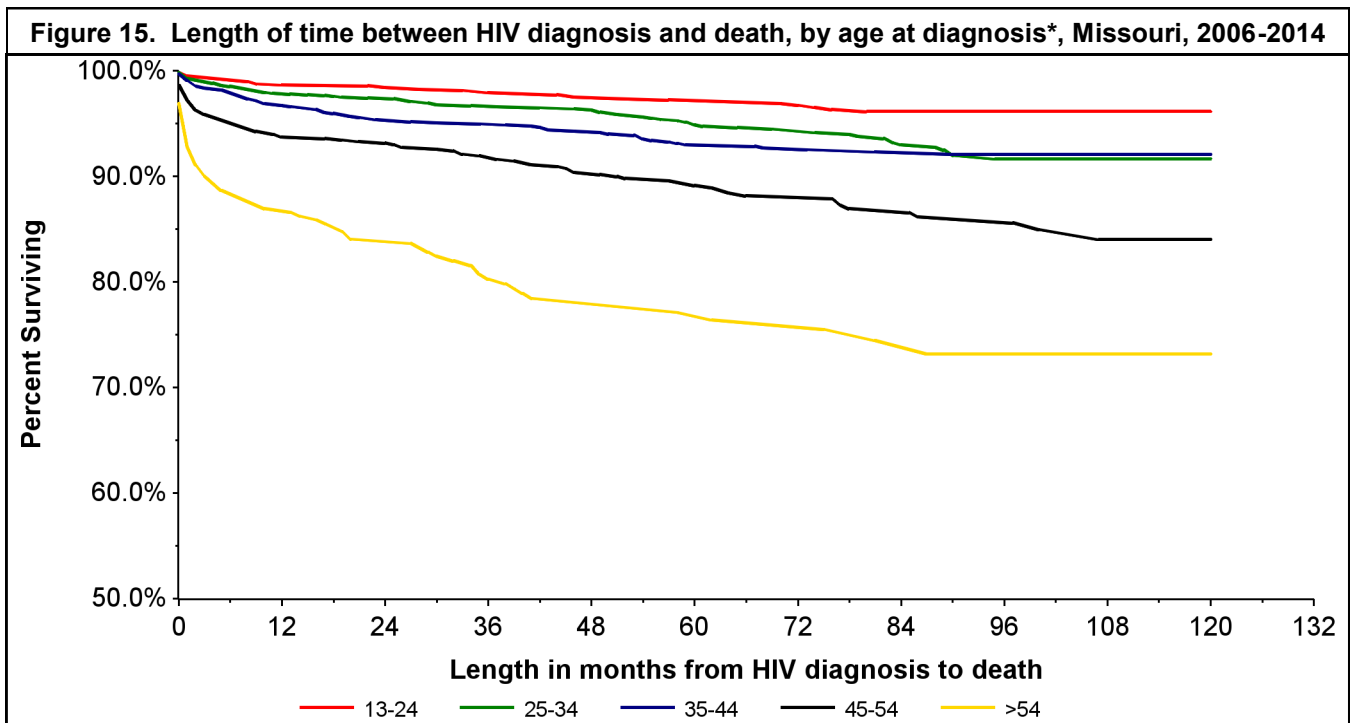
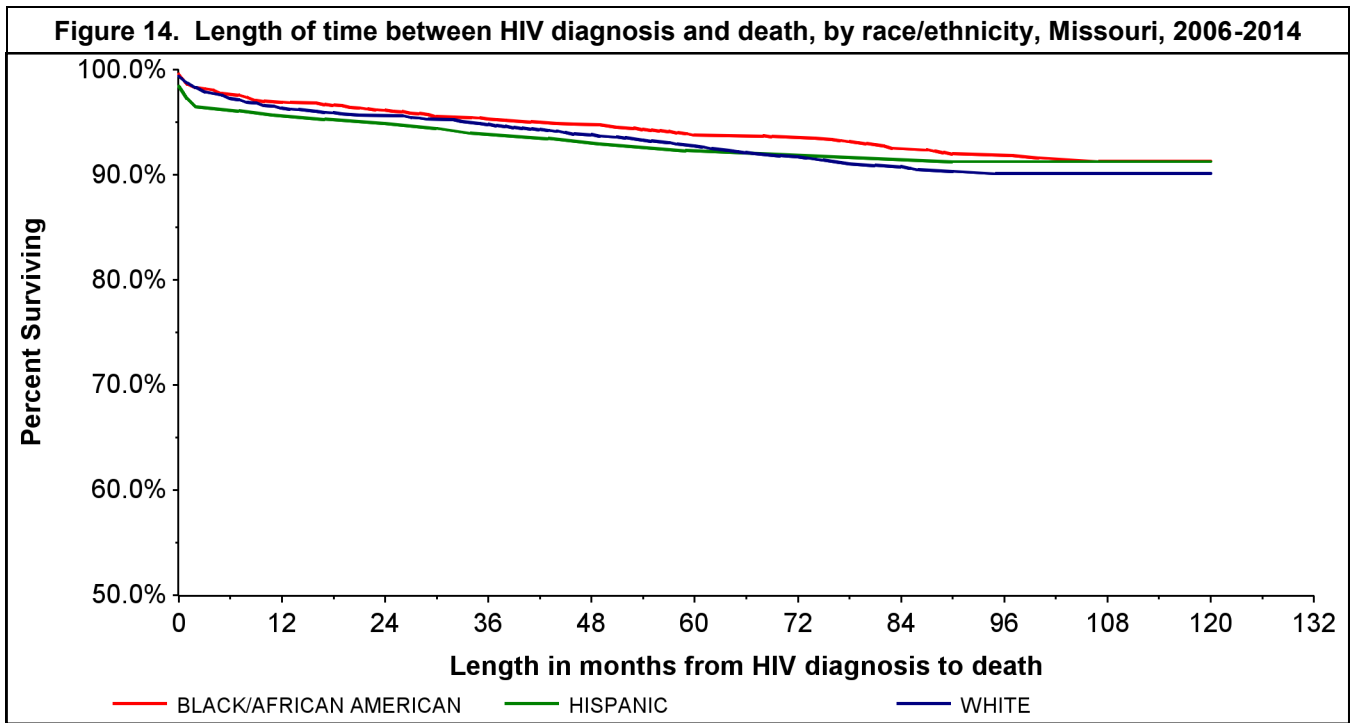
Figure 13. Length of time between HIV and stage 3 (AIDS) diagnosis, by HIV care region*, Missouri, 2006-2014



*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.

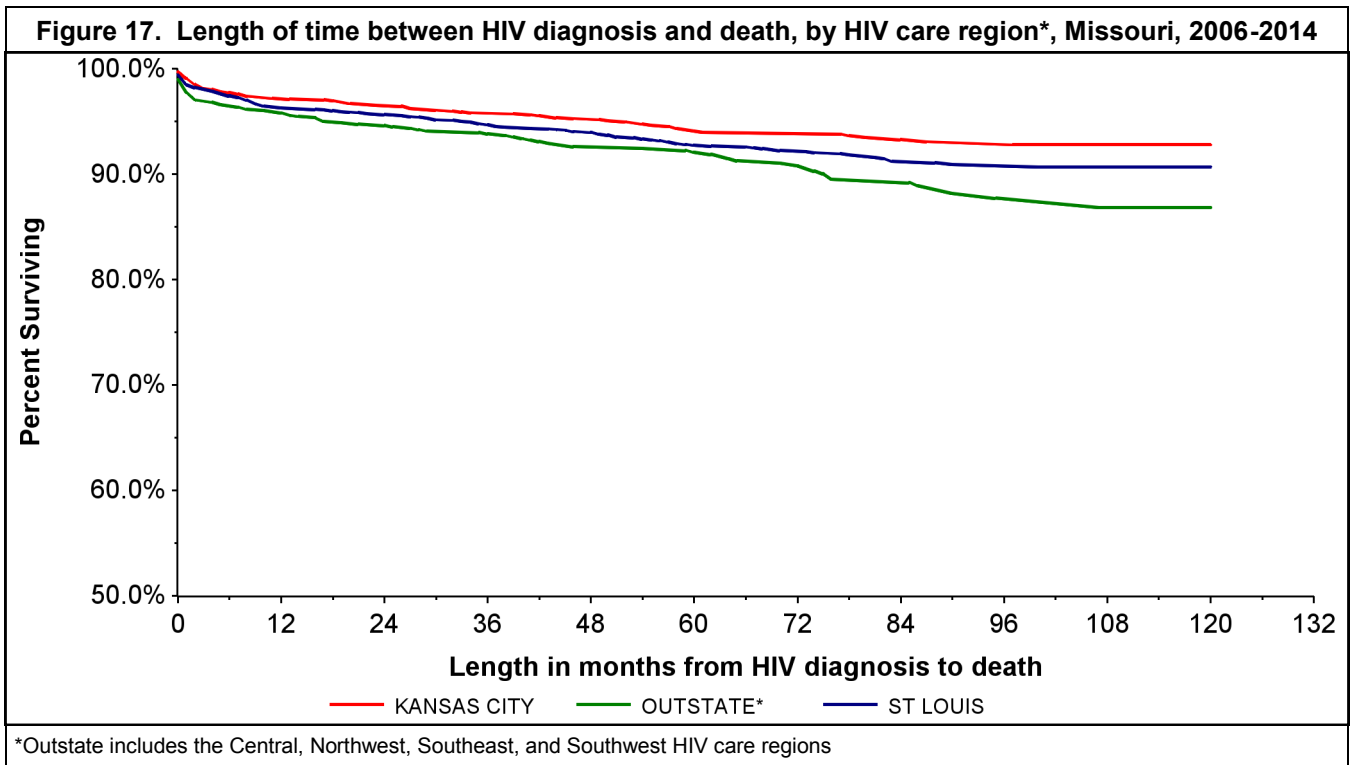
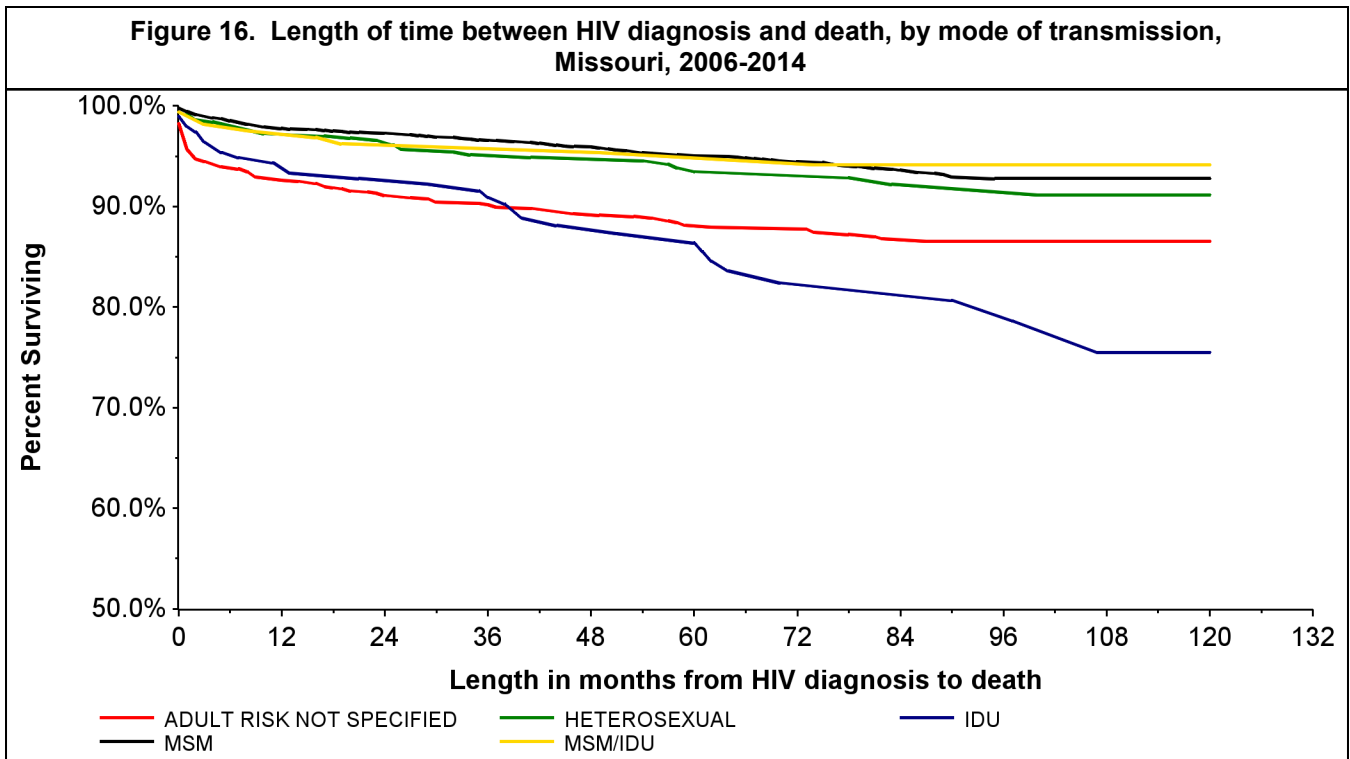
There were differences in the progression from HIV to stage 3 (AIDS) by HIV care region (Figure 13). The proportion of individuals that progressed to stage 3 (AIDS) over time was generally greater for the Kansas City HIV Care Region and all Outstate HIV Care Regions combined compared to the St. Louis 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, 97% of individuals diagnosed between 13-24 years of age were still living, compared to only 76% of individuals diagnosed at greater than 54 years of age.



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, 96% for the St. Louis HIV Care Region, and 95% for all other Outstate HIV Care Regions combined.

Table 22. Initial CD4 and viral load values[†] among adults and adolescents newly diagnosed with HIV disease, Missouri, 2013-2014

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	106	11.3%	7	0.7%	3	0.3%	8	0.9%	20	2.1%	144	15.4%
0-10,000	27	2.9%	18	1.9%	26	2.8%	37	4.0%	94	10.0%	202	21.6%
10,001-100,000	33	3.5%	61	6.5%	72	7.7%	60	6.4%	88	9.4%	314	33.5%
>100,000	15	1.6%	143	15.3%	50	5.3%	33	3.5%	35	3.7%	276	29.5%
Total	181	19.3%	229	24.5%	151	16.1%	138	14.7%	237	25.3%	936	100.0%

[†]Within 12 months of the initial HIV diagnosis

* % of table total

**% of column total

Of persons newly diagnosed with HIV disease between 2013 and 2014, 11% did not have a CD4 or a viral load laboratory result reported to MDHSS within 12 months of diagnosis (Table 22). Nearly 25% of persons diagnosed between 2013 and 2014 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, 2013-2014

	Number	% with CD4 within 12 months of HIV diagnosis	Median of initial CD4 counts (cells/ μ L)
HIV Status			
HIV (not stage 3 (AIDS))	653	74.0%	490
Concurrent HIV and stage 3 (AIDS) diagnosis	211	99.1%	68
Stage 3 (AIDS) >1 month after HIV diagnosis	72	87.5%	173
Sex			
Male	784	80.4%	359
Female	152	82.2%	326
Race/Ethnicity			
White	382	84.3%	343
Black/African American	487	77.4%	362
Hispanic	39	87.2%	377
Other/Unknown	28	78.6%	214
Exposure Category			
MSM	596	81.7%	365
MSM/IDU	31	87.1%	432
IDU	44	84.1%	273
HRH	137	79.6%	332
Other	0	--	--
NIR	128	74.2%	293
Age at HIV Diagnosis			
13-18	28	60.7%	513
19-24	252	74.6%	411
25-44	455	82.2%	335
45-64	188	87.2%	231
65+	13	92.3%	129

The percent of adults and adolescents receiving at least one CD4 within 12 months of their HIV diagnosis and the median initial CD4 count varied by sex, race/ethnicity, exposure category, and age at HIV diagnosis (Table 23). Of adults and adolescents newly diagnosed between 2013 and 2014, a greater proportion of females had a CD4 within 12 months of diagnosis (82%) compared to males (80%). The initial median CD4 count tended to be greater for males (359 cells/ μ L) compared to females (326 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 the highest proportion (87%). Among those with a CD4 count within 12 months of diagnosis, the initial median CD4 count tended to be lower among whites (343 cells/ μ L). Among exposure categories, MSM and heterosexual contact cases had a lower 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 IDU compared to all other exposure categories. The median initial CD4 count tended to decrease as the age at HIV diagnosis increased. These data may be beneficial when determining groups that should be targeted for new testing initiatives to identify individuals earlier in their disease progression.

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

Primary and Secondary (P&S) Syphilis

- The number of reported P&S syphilis cases decreased from 352 cases in 2014 to 307 cases in 2015. The decrease observed was due to decreases in the St. Louis, Kansas City, and Southwest HIV Care Regions.
- The rate of reported cases was highest in Jackson County (23 per 100,000).
- Blacks/African Americans were disproportionately impacted, with a case rate 8.1 times as high as the rate among whites.

Early Latent Syphilis

- The number of early latent syphilis cases increased from 2014 (240 cases) to 2015 (247 cases). Increases were seen in the St. Louis, Northwest, and Southwest HIV Care Regions.
- Among counties where rates are considered stable (counties with at least 20 reported cases), the rate of reported cases was highest in St. Louis City (20 per 100,000).
- Males represented the majority (77%) of reported early latent syphilis cases.
- The case rate was 6.2 times as high among blacks/African Americans compared to whites.

Gonorrhea

- The number of reported gonorrhea cases increased from 2014 (7,387 cases) to 2015 (8,942 cases). The number of reported gonorrhea cases was higher in 2015 compared to 2014 in all HIV care regions.
- St. Louis City had the highest rate of reported gonorrhea cases at 619 per 100,000 persons.
- A larger proportion of reported gonorrhea cases was diagnosed between 15 and 19 years of age among black/African American females (45%) compared to white females (16%), black/African American males (32%), and white males (7%).

Chlamydia

- The number of reported chlamydia cases increased from 27,981 in 2014 to 28,948 in 2015. Increases were observed in the St. Louis, Kansas City, Southwest, and Southeast HIV Care Regions from 2014 to 2015.
- St. Louis City had the highest chlamydia rate in 2015 (1,273 per 100,000). Jackson County reported the second highest case rate of chlamydia (769 per 100,000).
- A larger proportion of reported chlamydia cases was diagnosed between 15 and 19 years old among white females (41%) compared to black/African American females (36%), black/African American males (14%) and white males (9%).

Hepatitis B

- The number of reported hepatitis B cases in Missouri increased by 98 cases from 2014 (606) to 2015 (704).
- St. Louis County had the greatest number of reported hepatitis B cases with 166 cases.
- Among females, the largest numbers of cases were 30-39 years of age, while among males the largest numbers of cases were among persons 50-59 years of age.

Hepatitis C

- There were 7,803 hepatitis C cases reported in Missouri in 2015.
- St. Louis City had the greatest number of reported hepatitis C cases with 1,020 cases.
- Among both males and females, the largest numbers of cases were 50-59 years of age.

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

- There were 556 persons living with HIV who were reported with an STD in 2015.
- Of the 554 early syphilis cases reported in 2015, 26% were among individuals living with HIV. Only 3% of gonorrhea cases and less than 1% of chlamydia cases reported in 2015 were among individuals living with HIV.
- St. Louis residents represented 71% of all living HIV cases reported with multiple STD co-morbidities in 2015, 68% of those with a chlamydia co-morbidity, 45% of those with an early syphilis co-morbidity, and 69% of those with a gonorrhea co-morbidity.
- Although blacks/African Americans represented only 46% of living HIV disease cases, they represented 65% of individuals diagnosed with an STD co-morbidity.
- Of the 12,259 individuals living with HIV disease, 101 were reported with a hepatitis co-morbidity in 2015.
- Five percent of chronic hepatitis B cases and less than 1% of chronic hepatitis C cases reported in 2015 were among persons living with HIV disease.
- Of the 12,259 individuals living with HIV disease, none were reported with TB disease in 2015.

Table 24. Reported P&S syphilis cases and rates, by race*, by HIV care region, by sex, Missouri, 2015								
	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	106	41.9%	4.4	25	46.3%	1.0	131	2.7
Black/African American	125	49.4%	37.4	28	51.9%	7.6	153	21.8
Other/Unknown*	22	8.7%	--	1	1.9%	--	23	--
Total Cases	253	100.0%	8.5	54	100.0%	1.7	307	5.1
St. Louis HIV Care Region								
White	28	33.7%	3.7	4	30.8%	0.5	32	2.1
Black/African American	47	56.6%	25.2	9	69.2%	4.0	56	13.7
Other/Unknown*	8	9.6%	--	0	0.0%	--	8	--
Total Cases	83	100.0%	8.1	13	100.0%	1.2	96	4.5
Kansas City HIV Care Region								
White	53	39.0%	12.6	17	48.6%	3.9	70	8.1
Black/African American	71	52.2%	82.1	18	51.4%	18.4	89	48.3
Other/Unknown*	12	8.8%	--	0	0.0%	--	12	--
Total Cases	136	100.0%	23.5	35	100.0%	5.7	171	14.4
Northwest HIV Care Region								
White	3	100.0%	3.0	3	100.0%	2.9	6	3.0
Black/African American	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Other/Unknown*	0	0.0%	--	0	0.0%	--	0	--
Total Cases	3	100.0%	2.6	3	100.0%	2.7	6	2.7
Central HIV Care Region								
White	8	50.0%	2.1	1	33.3%	0.3	9	1.2
Black/African American	6	37.5%	24.9	1	33.3%	5.0	7	15.9
Other/Unknown*	2	12.5%	--	1	33.3%	--	3	--
Total Cases	16	100.0%	3.7	3	100.0%	0.7	19	2.2
Southwest HIV Care Region								
White	11	91.7%	2.2	0	--	0.0	11	1.1
Black/African American	1	8.3%	6.9	0	--	0.0	1	4.1
Other/Unknown*	0	0.0%	--	0	--	--	0	--
Total Cases	12	100.0%	2.1	0	--	0.0	12	1.0
Southeast HIV Care Region								
White	3	100.0%	1.4	0	--	0.0	3	0.7
Black/African American	0	0.0%	0.0	0	--	0.0	0	0.0
Other/Unknown*	0	0.0%	--	0	--	--	0	--
Total Cases	3	100.0%	1.2	0	--	0.0	3	0.6
*Includes cases identified with Hispanic ethnicity.								
**Per 100,000 population based on 2014 MDHSS population estimates.								

There were a total of 307 P&S syphilis cases reported in 2015 (Table 24). This number represented a decrease from the 352 P&S syphilis cases reported in 2014. The majority of cases (82%) were reported among males. The rate of P&S syphilis cases among males was highest in the Kansas City HIV Care Region (23.5), followed by the St. Louis HIV Care Region (8.1). Fifty-six percent (56%) of all P&S syphilis cases were reported in the Kansas City HIV Care Region and 31% were reported in the St. Louis HIV Care Region. The rate of reported P&S syphilis cases was higher for blacks/African Americans compared to whites in all regions that reported P&S syphilis cases among blacks/African Americans.

Figure 19. Reported P&S syphilis cases, by race and sex, by age group at diagnosis, Missouri, 2015

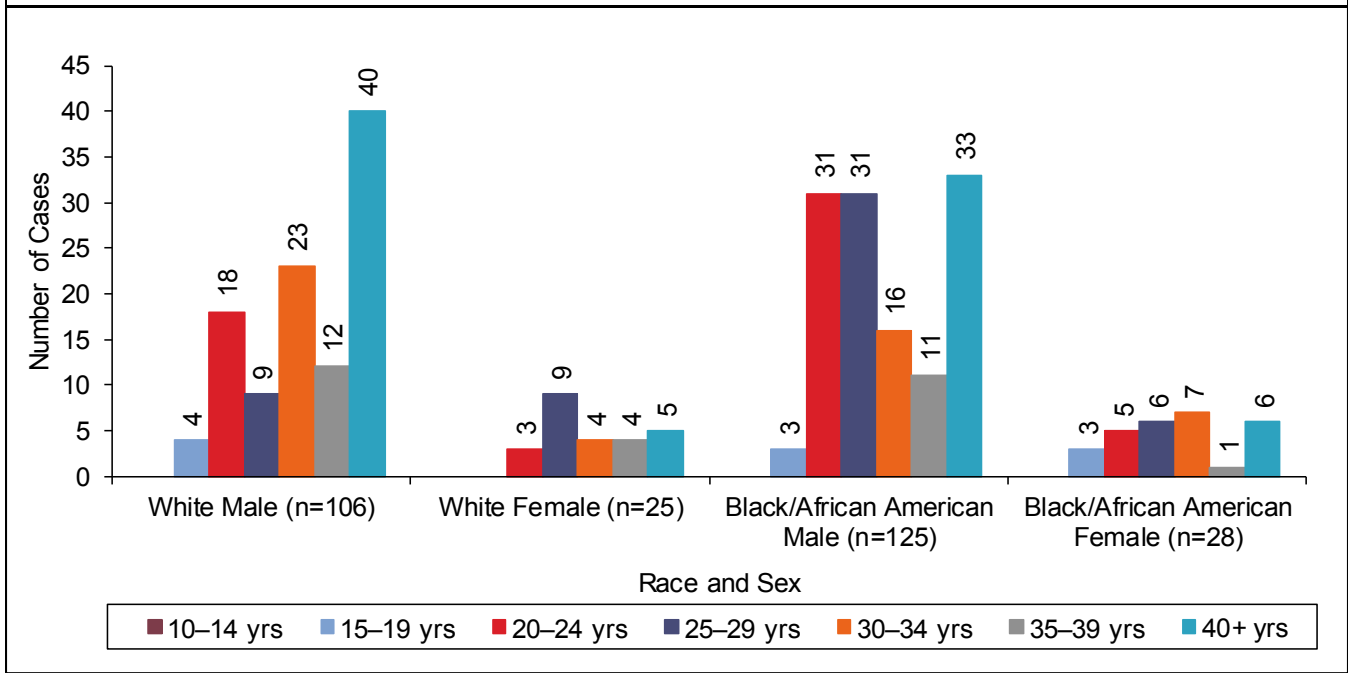
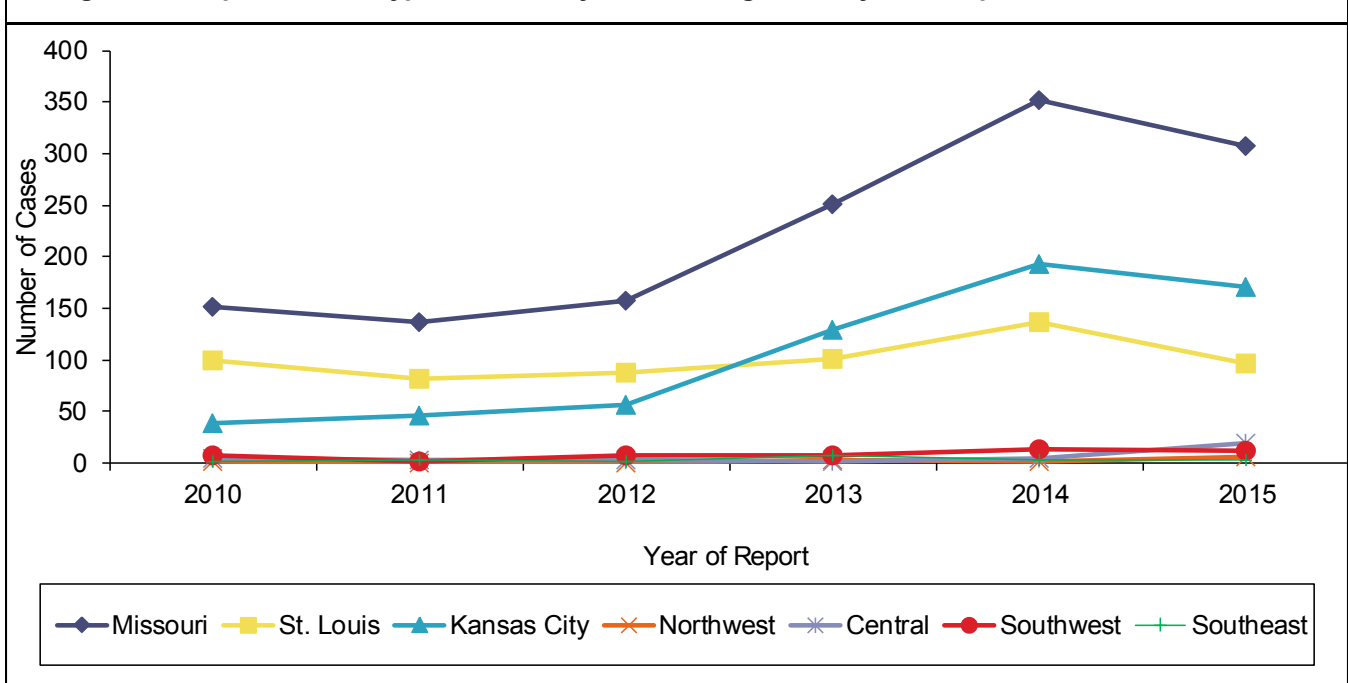


Figure 20. Reported P&S syphilis cases by HIV care region and year of report, Missouri, 2010-2015



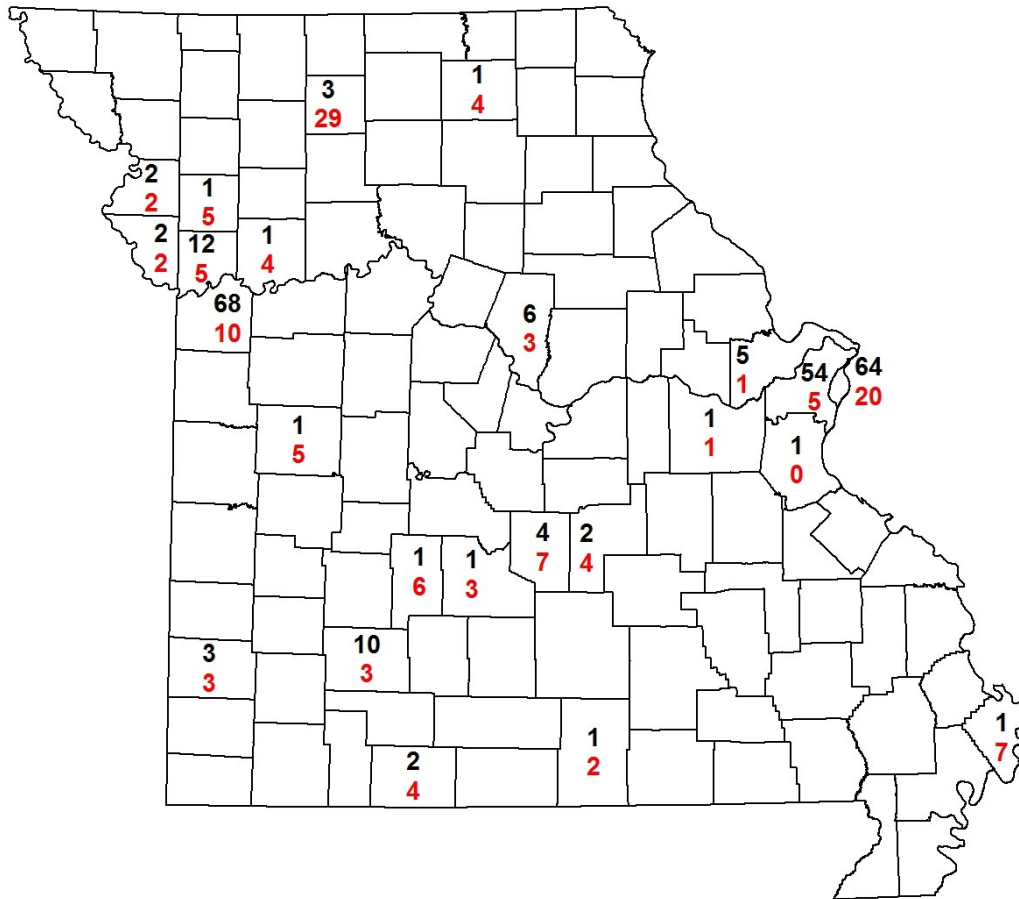
The largest numbers of P&S syphilis cases were reported among black/African American males (125) and white males (106) (Figure 19). The number of reported cases decreased from 2014 to 2015 among white males and black/African American males and increased among white and black/African American females. There were differences in the distribution of reported cases by age at diagnosis among the race/ethnicity and sex categories. Among white and black/African American males, the largest number of cases were reported among individuals 40 or more years of age at the time of diagnosis. Among white females and black/African American females, cases were greatest among those 25-29 years of age and those 30-34 years of age, respectively.

The trend in the number of reported P&S syphilis cases in Missouri has varied from 2010 to 2015, with decreases seen from 2010 to 2011 and 2014 to 2015 and increases seen from 2012 to 2014 (Figure 20). The number of reported P&S syphilis cases decreased from 2014 to 2015 in the St. Louis HIV Care Region (136 to 96), the Kansas City HIV Care Region (193 to 171), and the Southwest HIV Care Region (13 to 12). The number of reported P&S syphilis cases increased or remained the same from 2014 to 2015 in the remaining HIV care regions.

Table 25. Reported early latent syphilis cases and rates, by race*, by HIV care region, by sex, Missouri, 2015								
	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	94	49.5%	3.9	25	43.9%	1.0	119	2.4
Black/African American	75	39.5%	22.5	29	50.9%	7.9	104	14.8
Other/Unknown*	21	11.1%	--	3	5.3%	--	24	--
Total Cases	190	100.0%	6.4	57	100.0%	1.8	247	4.1
St. Louis HIV Care Region								
White	38	38.8%	5.1	10	37.0%	1.3	48	3.1
Black/African American	53	54.1%	28.4	15	55.6%	6.7	68	16.6
Other/Unknown*	7	7.1%	--	2	7.4%	--	9	--
Total Cases	98	100.0%	9.6	27	100.0%	2.5	125	5.9
Kansas City HIV Care Region								
White	33	55.0%	7.8	9	37.5%	2.0	42	4.9
Black/African American	17	28.3%	19.7	14	58.3%	14.3	31	16.8
Other/Unknown*	10	16.7%	--	1	4.2%	--	11	--
Total Cases	60	100.0%	10.4	24	100.0%	3.9	84	7.1
Northwest HIV Care Region								
White	2	66.7%	2.0	2	100.0%	1.9	4	2.0
Black/African American	1	33.3%	18.2	0	0.0%	0.0	1	12.0
Other/Unknown*	0	0.0%	--	0	0.0%	--	0	--
Total Cases	3	100.0%	2.6	2	100.0%	1.8	5	2.2
Central HIV Care Region								
White	3	42.9%	0.8	1	100.0%	0.3	4	0.5
Black/African American	3	42.9%	12.4	0	0.0%	0.0	3	6.8
Other/Unknown*	1	14.3%	--	0	0.0%	--	1	--
Total Cases	7	100.0%	1.6	1	100.0%	0.2	8	0.9
Southwest HIV Care Region								
White	18	85.7%	3.5	3	100.0%	0.6	21	2.0
Black/African American	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Other/Unknown*	3	14.3%	--	0	0.0%	--	3	--
Total Cases	21	100.0%	3.6	3	100.0%	0.5	24	2.1
Southeast HIV Care Region								
White	0	0.0%	0.0	0	--	0.0	0	0.0
Black/African American	1	100.0%	5.9	0	--	0.0	1	3.2
Other/Unknown*	0	0.0%	--	0	--	--	0	--
Total Cases	1	100.0%	0.4	0	--	0.0	1	0.2
*Includes cases identified with Hispanic ethnicity.								
**Per 100,000 population based on 2014 MDHSS population estimates.								

There were a total of 247 early latent syphilis cases reported in 2015, compared to 240 cases reported in 2014 (Table 25). The majority of cases (77%) were reported among males. The rate of early latent syphilis cases among all cases was highest in the Kansas City HIV Care Region (7.1), followed by the St. Louis HIV Care Region (5.9). Fifty-one percent (51%) of all early latent syphilis cases were reported in the St. Louis HIV Care Region and 34% were reported in the Kansas City HIV Care Region. The Southwest HIV Care Region had the third largest number of early latent syphilis cases reported. The rate of reported early latent syphilis cases was higher for blacks/African Americans compared to whites in all regions that reported cases among blacks/African Americans.

Figure 21. Reported early latent syphilis cases* and rates**, by county, Missouri, 2015



*Case counts are in black.

**Case rates are in red, per 100,000 population based on 2014 MDHSS population estimates.

Early latent syphilis cases were concentrated in metropolitan areas (Figure 21). There were 91 counties that did not report any early latent syphilis cases in 2015. Jackson County had the highest number of reported early latent syphilis cases (68). Among counties where rates are considered stable (counties with at least 20 reported cases), the rate of reported cases was highest in St. Louis City (20 per 100,000).

Figure 22. Reported early latent syphilis cases, by race and sex, by age group at diagnosis, Missouri, 2015

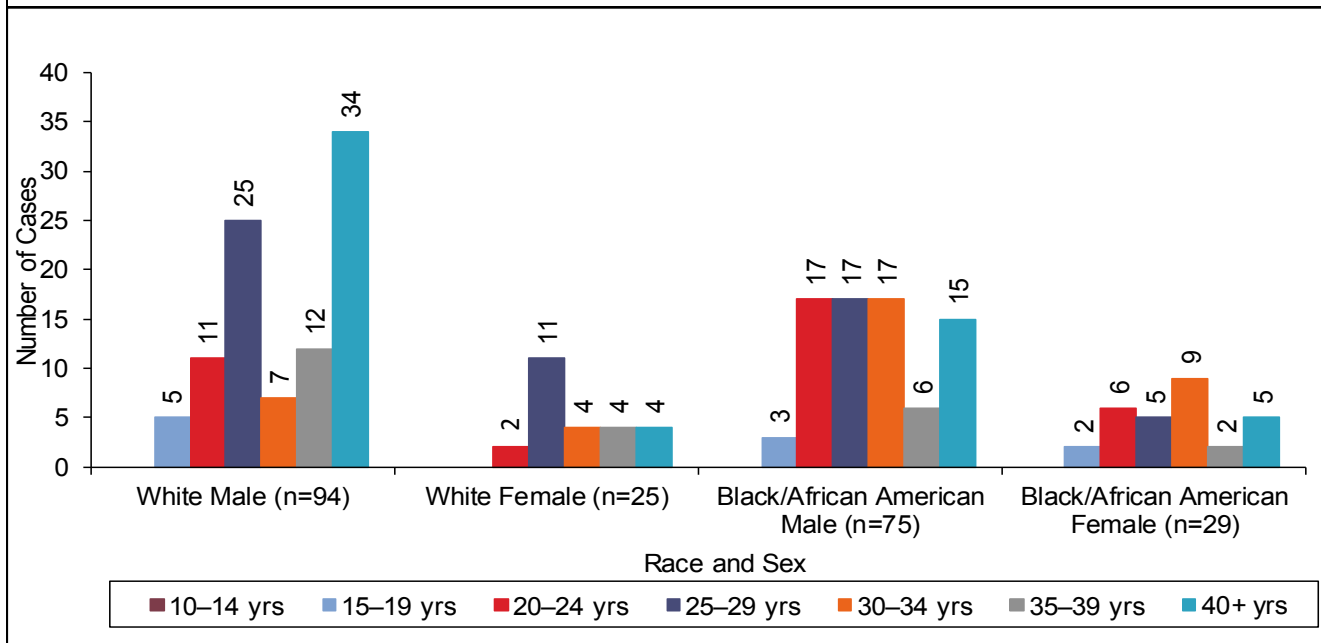
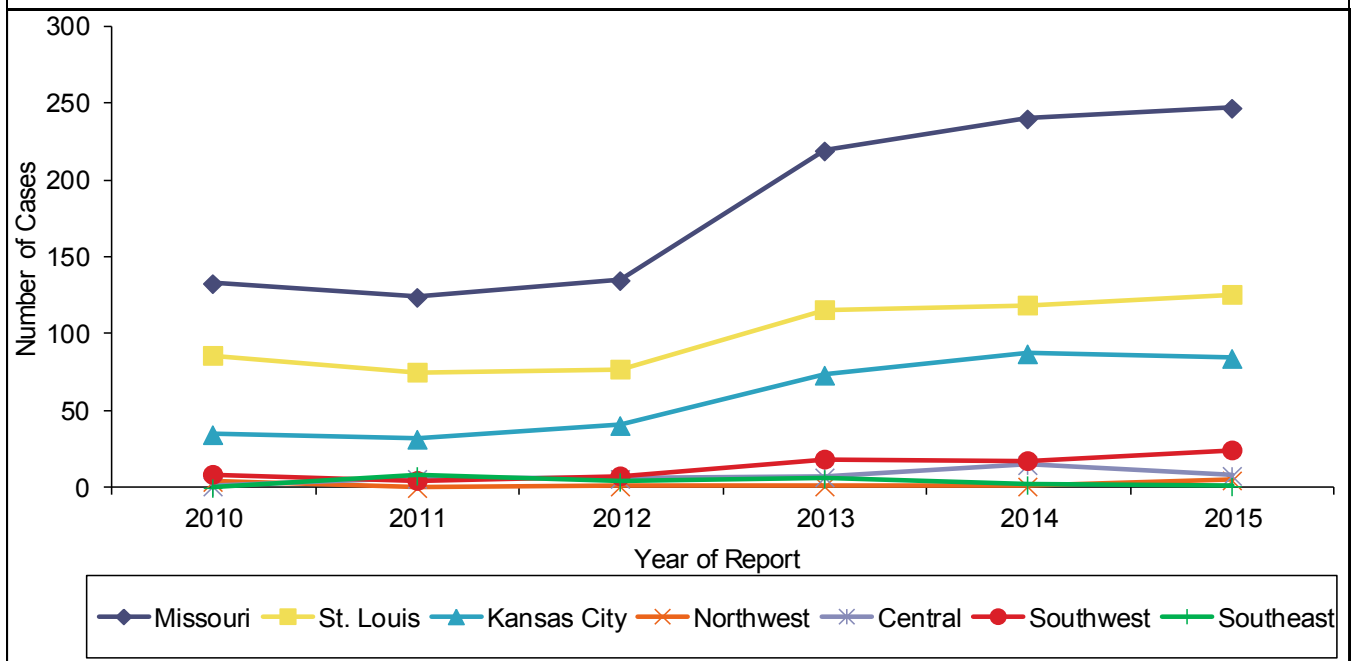


Figure 23. Reported early latent syphilis cases by HIV care region and year of report, Missouri, 2010-2015



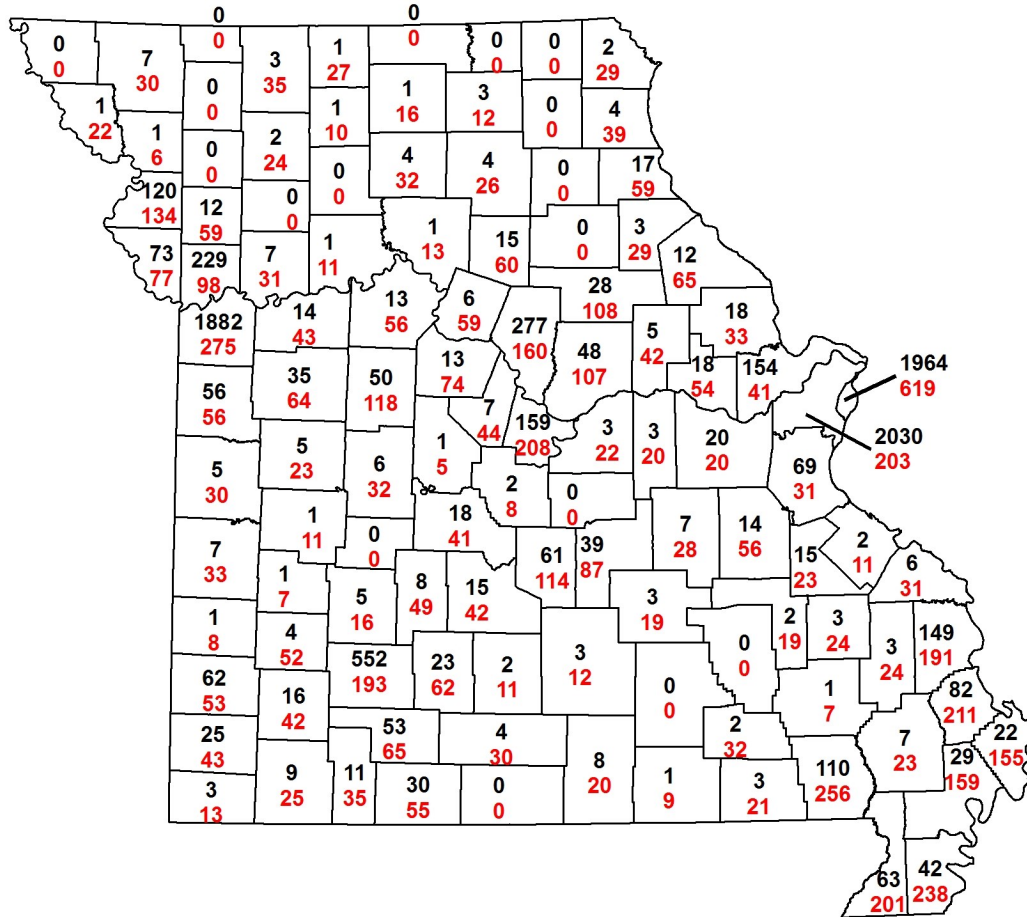
The largest numbers of early latent syphilis cases were reported among white males (94) and black/African American males (75) (Figure 22). The number of reported cases increased among all race/ethnicity and sex categories presented, except among black/African American males. From 2014 to 2015 the number of early latent syphilis cases among black/African American males decreased from 99 to 75 cases. Among white males, the largest number of cases was reported among individuals 40 or more years of age at the time of diagnosis. Among black/African American males, cases were greatest among those 20-34 years of age.

The number of reported early latent syphilis cases in Missouri fluctuated from 2010 to 2015 (Figure 23). In the St. Louis HIV Care Region, the number of reported early latent syphilis cases decreased from 2010 to 2011, then increased through 2015. In the Kansas City HIV Care Region, reported early latent syphilis cases slightly decreased from 2010 to 2011, then increased through 2014. The number of reported early latent syphilis cases increased from 2014 to 2015 in the St. Louis, Northwest, and Southwest HIV Care Regions, and decreased in the remaining regions.

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	1,286	27.0%	53.9	1,317	31.5%	53.3	2,603	53.6
Black/African American	2,805	59.0%	839.7	2,263	54.0%	614.6	5,068	721.7
Other/Unknown*	664	14.0%	--	607	14.5%	--	1,271	--
Total Cases	4,755	100.0%	159.9	4,187	100.0%	135.5	8,942	147.5
St. Louis HIV Care Region								
White	256	10.8%	34.0	196	10.3%	24.9	452	29.4
Black/African American	1,785	75.3%	957.5	1,423	74.8%	637.8	3,208	783.4
Other/Unknown*	330	13.9%	--	283	14.9%	--	613	--
Total Cases	2,371	100.0%	232.6	1,902	100.0%	174.2	4,273	202.4
Kansas City HIV Care Region								
White	372	32.0%	88.4	361	32.5%	82.1	733	85.2
Black/African American	637	54.8%	736.5	603	54.3%	616.1	1,240	672.6
Other/Unknown*	154	13.2%	--	146	13.2%	--	300	--
Total Cases	1,163	100.0%	200.9	1,110	100.0%	182.1	2,273	191.3
Northwest HIV Care Region								
White	43	74.1%	42.8	66	83.5%	64.3	109	53.7
Black/African American	7	12.1%	127.2	11	13.9%	386.4	18	215.6
Other/Unknown*	8	13.8%	--	2	2.5%	--	10	--
Total Cases	58	100.0%	51.2	79	100.0%	70.5	137	60.8
Central HIV Care Region								
White	164	44.4%	42.7	232	60.9%	59.2	396	51.0
Black/African American	153	41.5%	634.6	89	23.4%	445.7	242	549.0
Other/Unknown*	52	14.1%	--	60	15.7%	--	112	--
Total Cases	369	100.0%	84.2	381	100.0%	86.3	750	85.2
Southwest HIV Care Region								
White	362	66.9%	70.9	309	76.1%	59.0	671	64.9
Black/African American	106	19.6%	729.5	39	9.6%	402.4	145	598.6
Other/Unknown*	73	13.5%	--	58	14.3%	--	131	--
Total Cases	541	100.0%	93.9	406	100.0%	69.6	947	81.7
Southeast HIV Care Region								
White	89	35.2%	40.5	153	49.5%	67.9	242	54.4
Black/African American	117	46.2%	688.9	98	31.7%	664.2	215	677.4
Other/Unknown*	47	18.6%	--	58	18.8%	--	105	--
Total Cases	253	100.0%	101.9	309	100.0%	123.1	562	112.5
*Includes cases identified with Hispanic ethnicity.								
**Per 100,000 population based on 2014 MDHSS population estimates.								

There were a total of 8,942 gonorrhea cases reported in 2015 (Table 26). This represented a 21% increase in the number of reported cases compared to 2014. The majority of cases (53%) were reported among males. The proportion of gonorrhea cases reported among females varied by HIV care region. The Southwest HIV Care Region reported the lowest proportion of female cases (43%), followed by the St. Louis (45%), Kansas City (49%), Central (51%), Southeast (55%) and Northwest (58%) HIV Care Regions. The rate of gonorrhea cases among females was highest in the Kansas City HIV Care Region (182.1), followed by the St. Louis HIV Care Region (174.2). Forty-eight percent (48%) of all gonorrhea cases were reported in the St. Louis HIV Care Region and 25% 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.

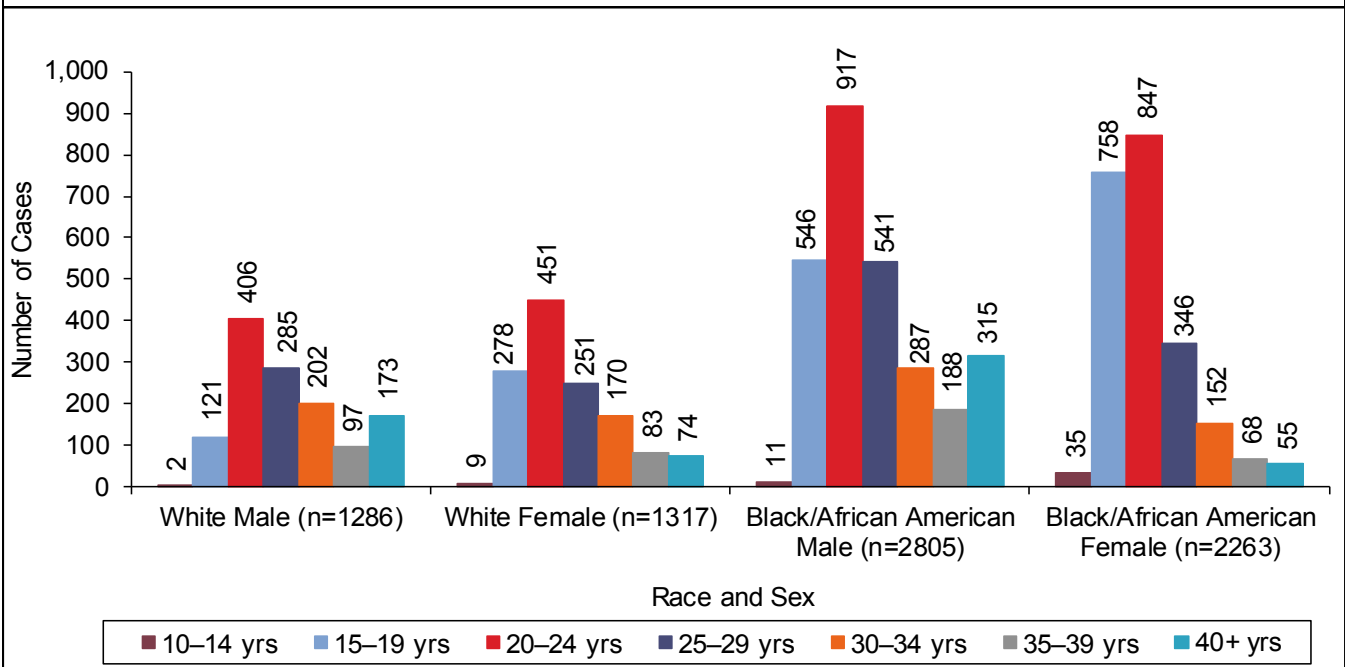
Figure 24. Reported gonorrhea cases* and rates**, by county, Missouri, 2015



*Case counts are in black.
 **Case rates are in red, per 100,000 population based on 2014 MDHSS population estimates.

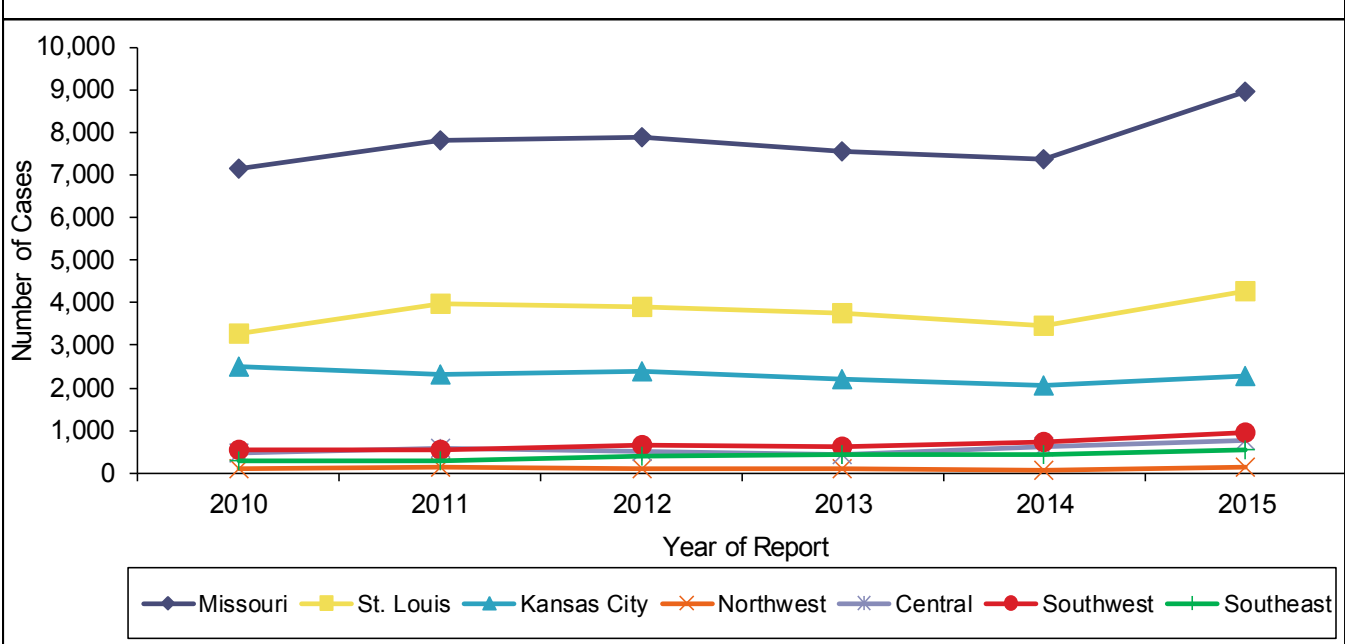
Gonorrhea cases reported in St. Louis City, St. Louis County, and Jackson County represented 66% of all reported cases in 2015 (Figure 24). There were 17 counties that did not report any gonorrhea cases in 2015. St. Louis City had the highest rate of reported gonorrhea cases at 619 per 100,000 persons. This means that for every 100,000 persons living in St. Louis City, there were 619 reported with gonorrhea in 2015.

Figure 25. Reported gonorrhea cases, by race and sex, by age group at diagnosis, Missouri, 2015



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, 2010-2015



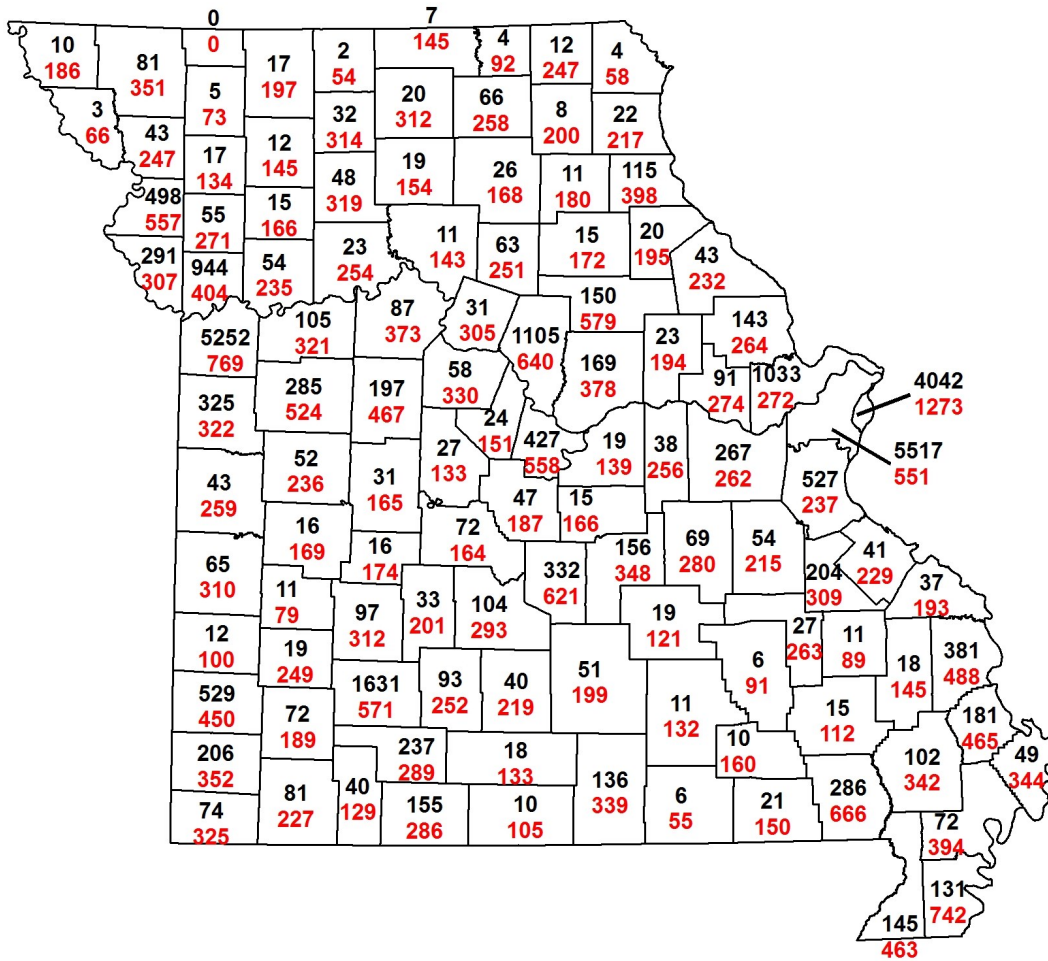
The largest numbers of gonorrhea cases were reported among black/African American males (2,805) and black/African American females (2,263) (Figure 25). The number of reported cases increased from 2014 to 2015 among all race/ethnicity and sex categories presented. Among all race/ethnicity and sex categories presented, the largest number of cases was reported among individuals 20-24 years of age at the time of diagnosis. A greater proportion of gonorrhea cases among white (13%) and black/African American (11%) males was diagnosed among individuals 40 or more years of age compared to female cases presented.

The number of reported gonorrhea cases in Missouri increased from 2010 to 2012, decreased through 2014, and then increased again in 2015 (Figure 26). The number of reported gonorrhea cases was higher in 2015 than 2014 in all HIV care regions. The number of reported gonorrhea cases was higher in 2015 compared to 2010 in all HIV care regions, except for the Kansas City HIV Care Region.

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	3,267	36.2%	136.8	8,413	42.2%	340.6	11,680	240.4
Black/African American	3,988	44.2%	1193.9	7,125	35.8%	1934.9	11,113	1582.4
Other/Unknown*	1,767	19.6%	--	4,388	22.0%	--	6,155	--
Total Cases	9,022	100.0%	303.3	19,926	100.0%	645.0	28,948	477.4
St. Louis HIV Care Region								
White	780	20.7%	103.7	1,679	21.4%	213.5	2,459	159.8
Black/African American	2,229	59.1%	1195.7	4,241	54.0%	1900.9	6,470	1579.9
Other/Unknown*	760	20.2%	--	1,931	24.6%	--	2,691	--
Total Cases	3,769	100.0%	369.8	7,851	100.0%	719.1	11,620	550.4
Kansas City HIV Care Region								
White	656	29.9%	155.9	1,770	36.7%	402.6	2,426	281.9
Black/African American	1,032	47.0%	1193.2	2,017	41.8%	2060.9	3,049	1653.8
Other/Unknown*	509	23.2%	--	1,042	21.6%	--	1,551	--
Total Cases	2,197	100.0%	379.5	4,829	100.0%	792.2	7,026	591.2
Northwest HIV Care Region								
White	153	66.2%	152.3	452	78.6%	440.4	605	297.9
Black/African American	39	16.9%	709.0	43	7.5%	1510.4	82	982.3
Other/Unknown*	39	16.9%	--	80	13.9%	--	119	--
Total Cases	231	100.0%	203.8	575	100.0%	513.1	806	357.6
Central HIV Care Region								
White	522	52.5%	135.9	1,508	63.6%	384.8	2,030	261.6
Black/African American	280	28.1%	1161.3	406	17.1%	2033.3	686	1556.3
Other/Unknown*	193	19.4%	--	457	19.3%	--	650	--
Total Cases	995	100.0%	227.0	2,371	100.0%	536.9	3,366	382.5
Southwest HIV Care Region								
White	915	68.7%	179.3	2,245	76.4%	428.4	3,160	305.5
Black/African American	224	16.8%	1541.5	139	4.7%	1434.2	363	1498.6
Other/Unknown*	192	14.4%	--	555	18.9%	--	747	--
Total Cases	1,331	100.0%	231.0	2,939	100.0%	504.0	4,270	368.3
Southeast HIV Care Region								
White	241	48.3%	109.6	759	55.8%	336.9	1,000	224.6
Black/African American	184	36.9%	1083.4	279	20.5%	1891.0	463	1458.9
Other/Unknown*	74	14.8%	--	323	23.7%	--	397	--
Total Cases	499	100.0%	201.0	1,361	100.0%	542.0	1,860	372.5
*Includes cases identified with Hispanic ethnicity.								
**Per 100,000 population based on 2014 MDHSS population estimates.								

There were a total of 28,948 chlamydia cases reported in 2015 (Table 27). The majority of cases (69%) were reported among females. The proportion of chlamydia cases reported among females varied by HIV care region. The Southeast HIV Care Region reported the highest proportion of female cases (73%), followed by the Northwest (71%), Central (70%), Southwest (69%), Kansas City (69%), and St. Louis (68%) HIV Care Regions. The rate of chlamydia cases among females was highest in the Kansas City HIV Care Region (792.2), followed by the St. Louis HIV Care Region (719.1). Forty percent (40%) of all chlamydia cases were reported in the St. Louis HIV Care Region and 24% were reported in the Kansas City HIV Care Region. The Southwest HIV 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, 2015

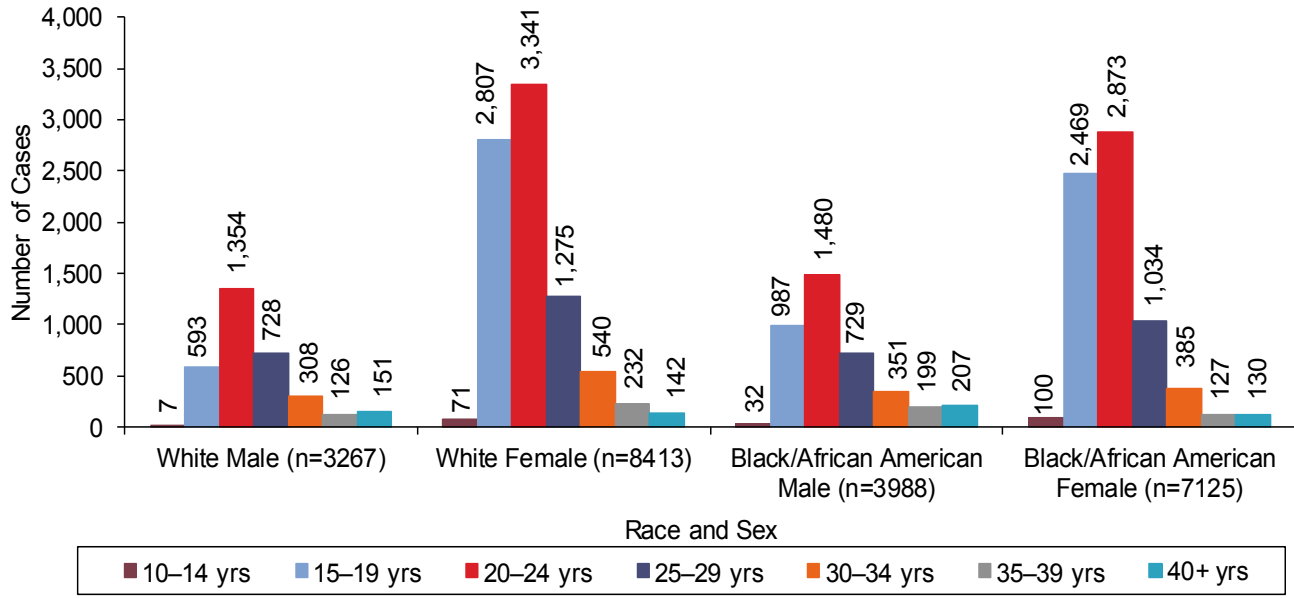


*Case counts are in black.

**Case rates are in red, per 100,000 population based on 2014 MDHSS population estimates.

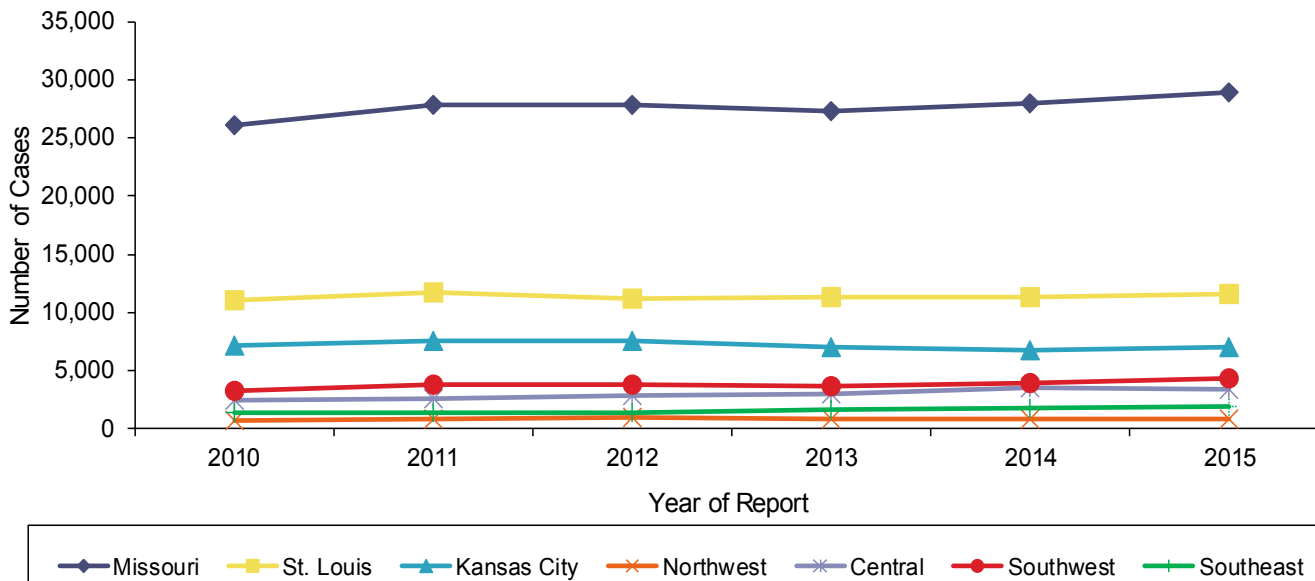
Chlamydia cases reported in St. Louis City, St. Louis County, and Jackson County represented 51% of all reported cases in 2015 (Figure 27), although these areas represent only 33% of Missouri's general population. All counties with one exception, Worth County, reported more than one chlamydia case in 2015. St. Louis City had the highest rate of reported chlamydia cases at 1,273 per 100,000 persons. This means that for every 100,000 persons living in St. Louis City, there were 1,273 reported with chlamydia in 2015.

Figure 28. Reported chlamydia cases, by race and sex, by age group at diagnosis, Missouri, 2015



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

Figure 29. Reported chlamydia cases by HIV care region and year of report, Missouri, 2010-2015



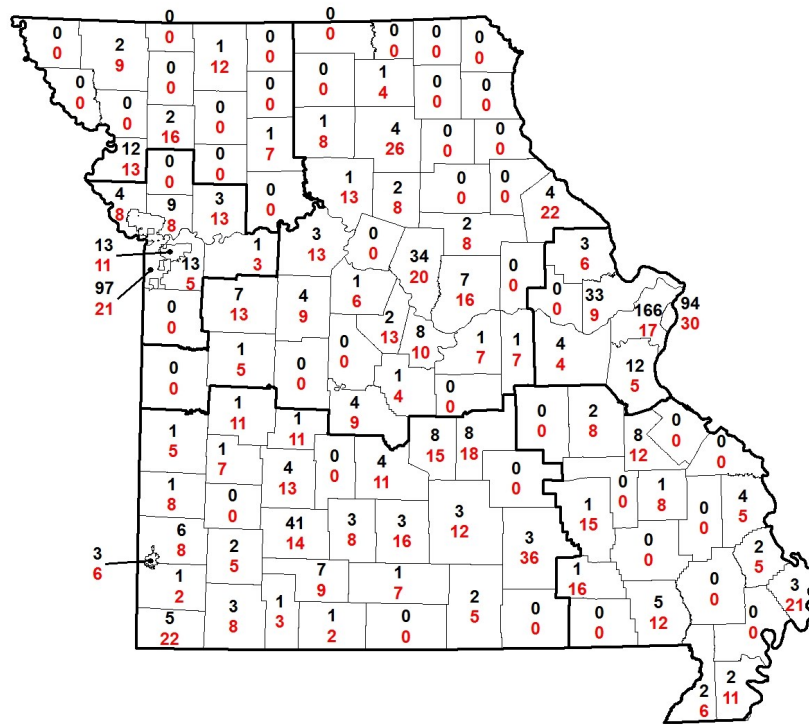
The largest numbers of chlamydia cases were reported among white females (8,413) and black/African American females (7,125) (Figure 28). The number of reported cases increased from 2014 to 2015 among all race/ethnicity and sex categories presented except black/African American females which decreased from 7,191 to 7,125. The total number of reported chlamydia cases in Missouri increased from 2014 to 2015. Among all race/ethnicity and sex categories presented, the largest number of cases was reported among individuals 20-24 years of age at the time of diagnosis.

The number of reported chlamydia cases in Missouri increased from 2010 to 2011, decreased slightly through 2013, and then increased through 2015 (Figure 29). The number of reported chlamydia cases increased from 2014 to 2015 in the St. Louis, Kansas City, Southwest, and Southeast HIV Care Regions. The Northwest and Central HIV Care Regions reported a decreased number of chlamydia cases from 2014 to 2015.

Table 28. Reported hepatitis B[†] cases and rates, by race*, by HIV care region, by sex, Missouri, 2015								
	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	108	31.5%	4.5	67	18.6%	2.7	175	3.6
Black	53	15.5%	15.9	53	14.7%	14.4	106	15.1
Other/Unknown*	182	53.1%	--	241	66.8%	--	423	--
Total Cases	343	100.0%	11.5	361	100.0%	11.7	704	11.6
St. Louis HIV Care Region								
White	24	16.3%	3.2	21	12.7%	2.7	45	2.9
Black	36	24.5%	19.3	33	20.0%	14.8	69	16.8
Other/Unknown*	87	59.2%	--	111	67.3%	--	198	--
Total Cases	147	100.0%	14.4	165	100.0%	15.1	312	14.8
Kansas City HIV Care Region								
White	9	16.1%	2.1	13	15.5%	3.0	22	2.6
Black	7	12.5%	8.1	11	13.1%	11.2	18	9.8
Other/Unknown*	40	71.4%	--	60	71.4%	--	100	--
Total Cases	56	100.0%	9.7	84	100.0%	13.8	140	11.8
Northwest HIV Care Region								
White	9	60.0%	9.0	0	0.0%	0.0	9	4.4
Black	1	6.7%	18.2	0	0.0%	0.0	1	12.0
Other/Unknown*	5	33.3%	--	3	100.0%	--	8	--
Total Cases	15	100.0%	13.2	3	100.0%	2.7	18	8.0
Central HIV Care Region								
White	25	55.6%	6.5	8	18.2%	2.0	33	4.3
Black	4	8.9%	16.6	5	11.4%	25.0	9	20.4
Other/Unknown*	16	35.6%	--	31	70.5%	--	47	--
Total Cases	45	100.0%	10.3	44	100.0%	10.0	89	10.1
Southwest HIV Care Region								
White	30	52.6%	5.9	21	36.8%	4.0	51	4.9
Black	3	5.3%	20.6	4	7.0%	41.3	7	28.9
Other/Unknown*	24	42.1%	--	32	56.1%	--	56	--
Total Cases	57	100.0%	9.9	57	100.0%	9.8	114	9.8
Southeast HIV Care Region								
White	11	47.8%	5.0	4	50.0%	1.8	15	3.4
Black	2	8.7%	11.8	0	0.0%	0.0	2	6.3
Other/Unknown*	10	43.5%	--	4	50.0%	--	14	--
Total Cases	23	100.0%	9.3	8	100.0%	3.2	31	6.2
†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 2012 MDHSS population estimates.								

Of the 704 hepatitis B cases reported in 2015, 35 were reported with acute hepatitis B, 520 with chronic hepatitis B, 149 with prenatal hepatitis B. The number of reported hepatitis B cases in Missouri increased by 98 cases from 2014 (606) to 2015 (704) (Table 28). The number of persons reported with hepatitis B increased from 2014 to 2015 in the St. Louis, Central, and Southwest HIV Care Regions. The number of hepatitis B cases decreased or remained the same from 2014 to 2015 in the remaining regions. Overall, the rate of reported hepatitis B cases was highest in the St. Louis HIV Care Region (14.8 per 100,000). Overall, 51% of reported cases were females, although variation 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.

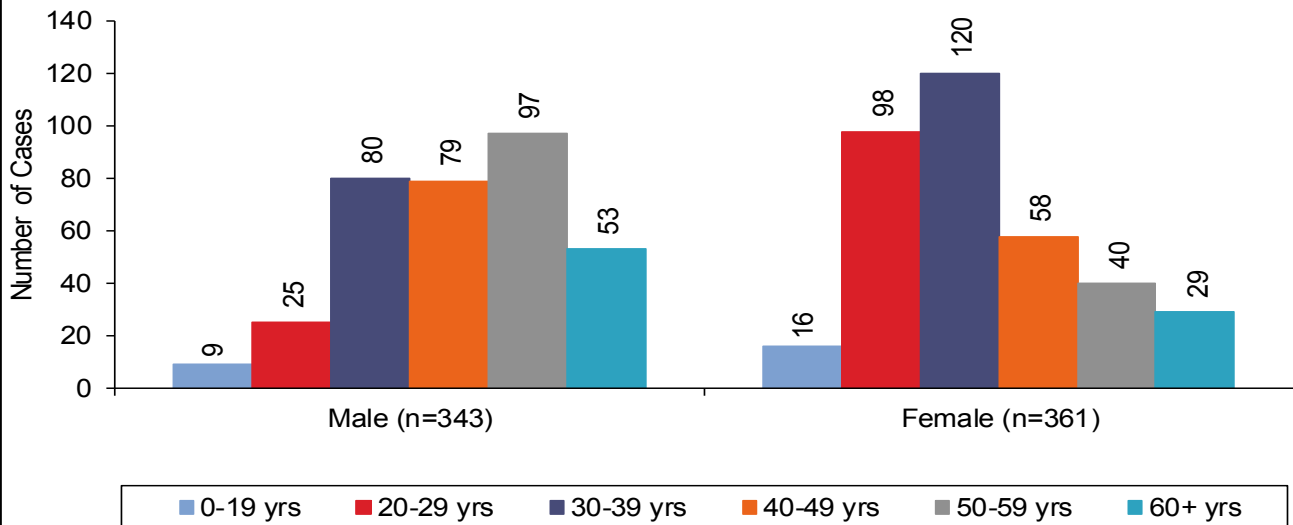
Figure 30. Reported hepatitis B cases* and rates, by jurisdiction, Missouri, 2015**



*Case counts are in black.

**Case rates are in red, per 100,000 population based on 2014 MDHSS population estimates.

Figure 31. Reported hepatitis B cases, by sex and by age group at diagnosis, Missouri, 2015



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

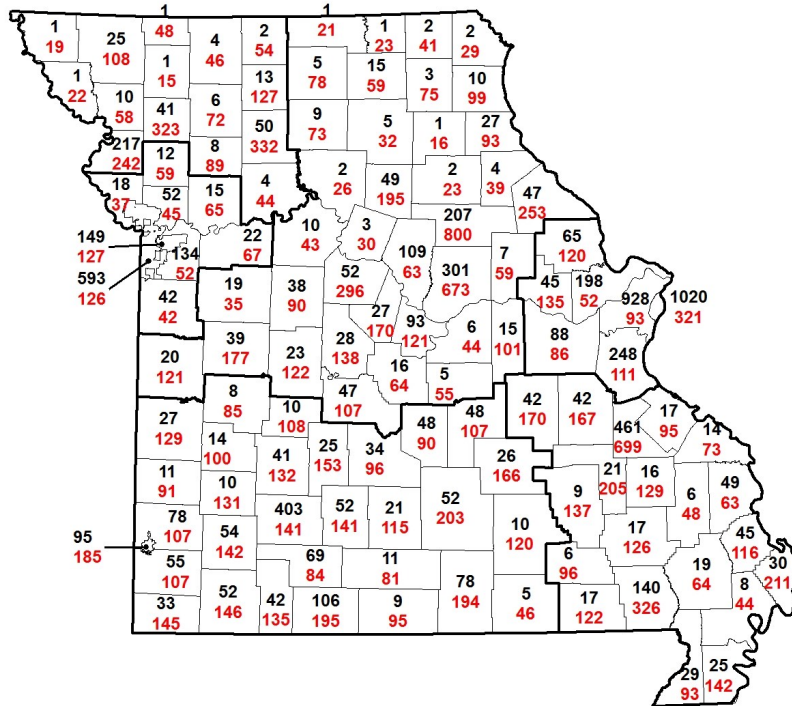
St. Louis County had the greatest number of reported hepatitis B cases (166), followed by Kansas City (97) (Figure 30). There were 44 jurisdictions that did not report any hepatitis B cases in 2015.

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 persons 50-59 years of age. The largest numbers of cases were 30-39 years of age at diagnosis among females.

Table 29. Reported hepatitis C[†] cases and rates, by race*, by HIV care region, by sex, Missouri, 2015								
	Male			Female			Total[‡]	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	2,178	44.1%	91.2	1,366	47.7%	55.3	3,544	73.0
Black	709	14.4%	212.3	260	9.1%	70.6	969	138.0
Other/Unknown*	2,050	41.5%	--	1,240	43.3%	--	3,290	--
Total Cases	4,937	100.0%	166.0	2,866	100.0%	92.8	7,803	128.7
St. Louis HIV Care Region								
White	418	25.9%	55.6	352	36.1%	44.8	770	50.0
Black	483	29.9%	259.1	204	20.9%	91.4	687	167.8
Other/Unknown*	715	44.2%	--	420	43.0%	--	1135	--
Total Cases	1,616	100.0%	158.5	976	100.0%	89.4	2,592	122.8
Kansas City HIV Care Region								
White	180	27.6%	42.8	112	29.1%	25.5	292	33.9
Black	67	10.3%	77.5	29	7.5%	29.6	96	52.1
Other/Unknown*	405	62.1%	--	244	63.4%	--	649	--
Total Cases	652	100.0%	112.6	385	100.0%	63.2	1,037	87.3
Northwest HIV Care Region								
White	163	61.7%	162.3	77	64.2%	75.0	240	118.2
Black	14	5.3%	254.5	0	0.0%	0.0	14	167.7
Other/Unknown*	87	33.0%	--	43	35.8%	--	130	--
Total Cases	264	100.0%	232.9	120	100.0%	107.1	384	170.4
Central HIV Care Region								
White	498	61.9%	129.6	297	66.7%	75.8	795	102.4
Black	56	7.0%	232.3	16	3.6%	80.1	72	163.3
Other/Unknown*	251	31.2%	--	132	29.7%	--	383	--
Total Cases	805	100.0%	183.7	445	100.0%	100.8	1,250	142.1
Southwest HIV Care Region								
White	533	60.4%	104.4	391	60.6%	74.6	924	89.3
Black	12	1.4%	82.6	5	0.8%	51.6	17	70.2
Other/Unknown*	337	38.2%	--	249	38.6%	--	586	--
Total Cases	882	100.0%	153.1	645	100.0%	110.6	1,527	131.7
Southeast HIV Care Region								
White	386	53.8%	175.5	137	46.4%	60.8	523	117.5
Black	77	10.7%	453.4	6	2.0%	40.7	83	261.5
Other/Unknown*	255	35.5%	--	152	51.5%	--	407	--
Total Cases	718	100.0%	289.2	295	100.0%	117.5	1,013	202.9
[†] 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 2014 MDHSS population estimates.								

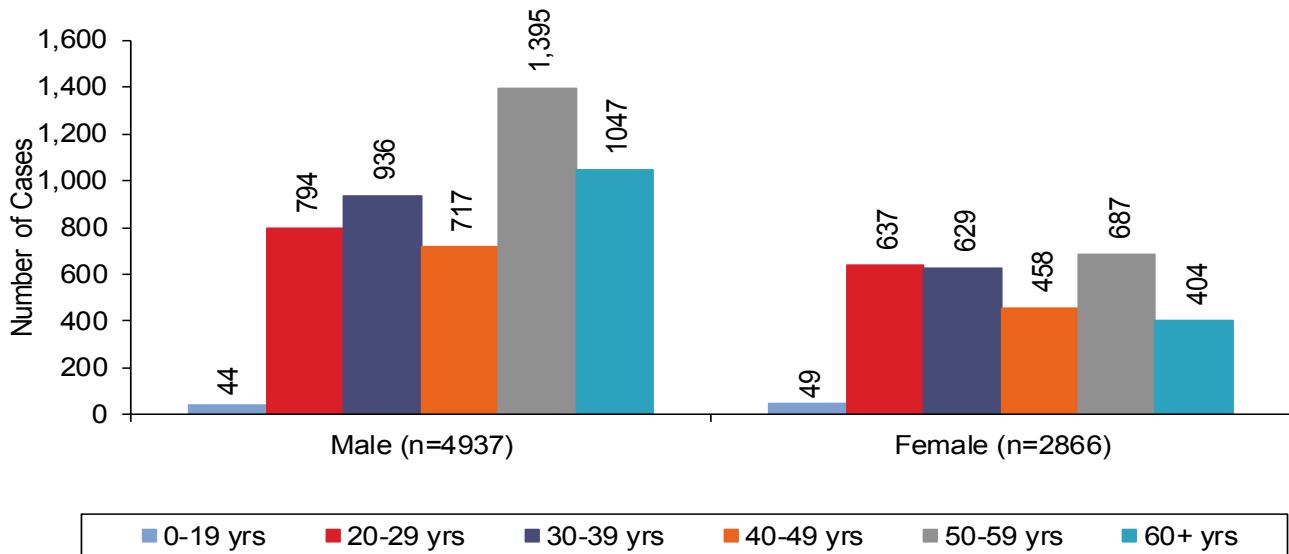
Of the 7,803 hepatitis C cases reported in 2015, eight were reported with acute hepatitis C and 7,795 with chronic hepatitis C. The number of reported hepatitis C cases in Missouri increased by 1,519 cases from 2014 (6,284) to 2015 (7,803) (Table 29). The number of persons reported with hepatitis C increased from 2014 to 2015 in all HIV care regions. Overall, the rate of reported hepatitis C cases was highest in the Southeast HIV Care Region (202.9 per 100,000). In Missouri overall, 63% of the reported cases were males. The large proportion of cases with unknown race/ethnicity information makes it difficult to analyze.

Figure 32. Reported hepatitis C cases* and rates, by jurisdiction, Missouri, 2015**



*Case counts are in black.
 **Case rates are in red, per 100,000 population based on 2014 MDHSS population estimates.

Figure 33. Reported hepatitis C cases, by sex and by age group at diagnosis, Missouri, 2015



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

St. Louis City had the greatest number of reported hepatitis C cases with 1,020 cases (Figure 32). The second largest number of hepatitis C cases occurred in St. Louis County (928). All counties reported at least one hepatitis C case in 2015.

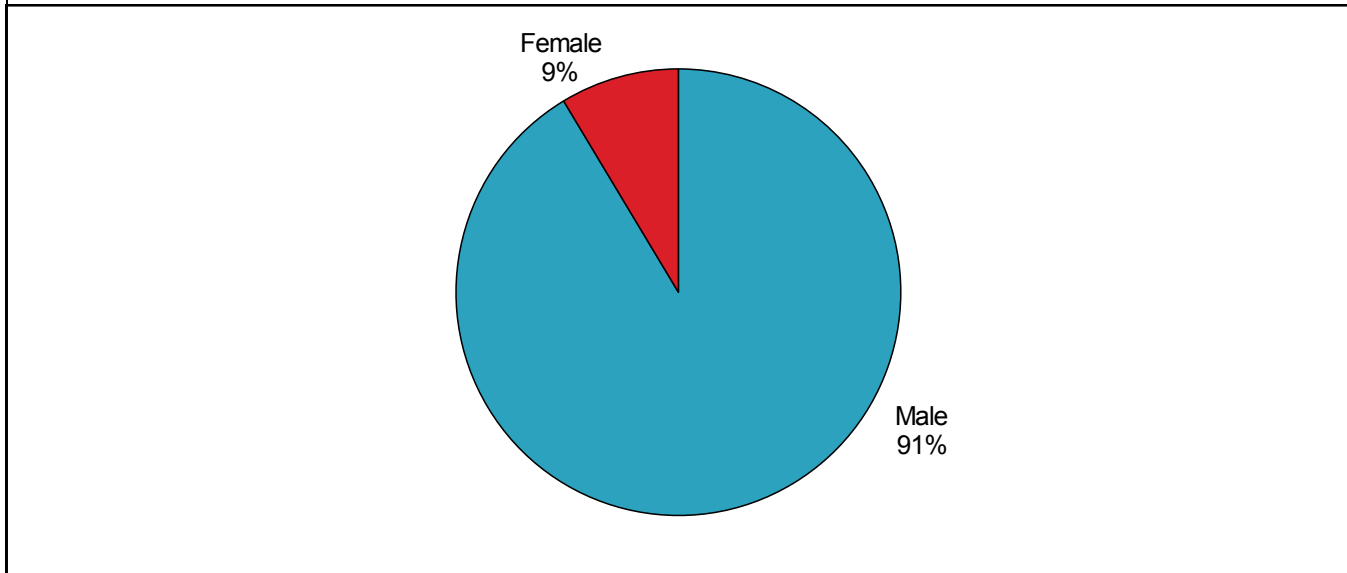
Among both males and females, the largest numbers of reported hepatitis C cases were between 50-59 years (Figure 33).

Table 30. HIV and STD co-infections, Missouri, 2015

Co-infection	Diagnosed with HIV Prior to 2015		Diagnosed with HIV in 2015		Total	
	N	%	N	%	N	%
Chlamydia	118	25.7%	24	25.0%	142	25.5%
Gonorrhea	152	33.0%	31	32.3%	183	32.9%
Syphilis*	89	19.3%	12	12.5%	101	18.2%
Chlamydia and Gonorrhea	65	14.1%	22	22.9%	87	15.6%
Chlamydia and Syphilis*	15	3.3%	3	3.1%	18	3.2%
Gonorrhea and Syphilis*	15	3.3%	4	4.2%	19	3.4%
Chlamydia, Gonorrhea, and Syphilis*	6	1.3%	0	0.0%	6	1.1%
Total	460	100.0%	96	100.0%	556	100.0%

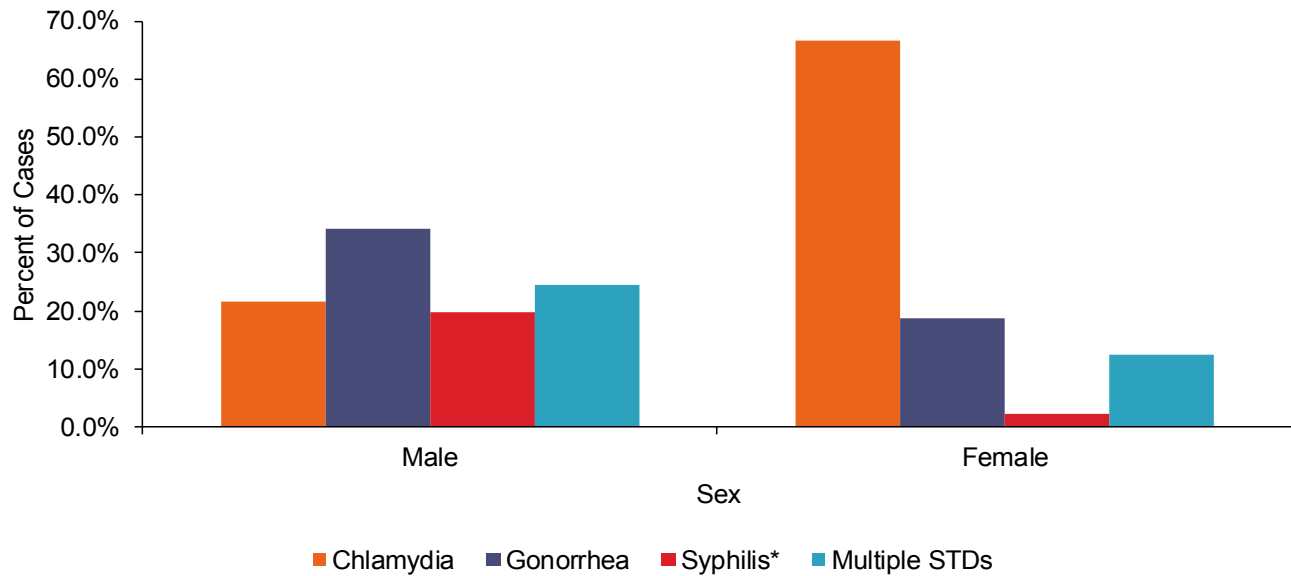
*Only includes diagnoses of primary, secondary, and early latent syphilis.

Figure 34. HIV and STD co-infections by sex, Missouri, 2015

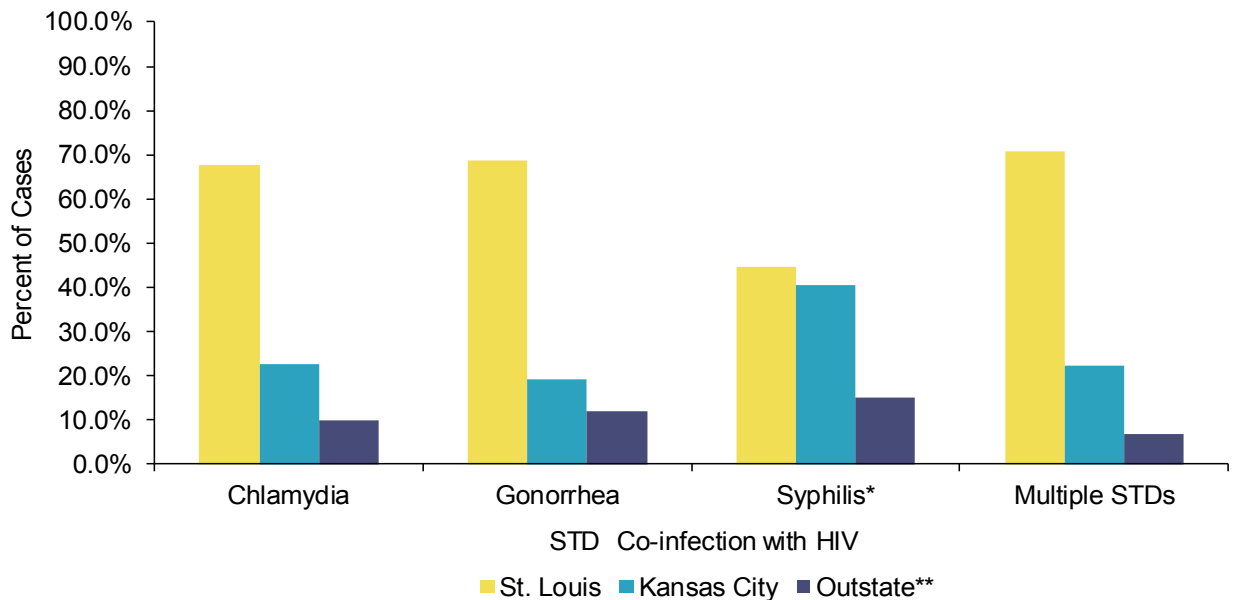


Of the 12,259 individuals living with HIV disease, 556 were reported with an STD co-morbidity in 2015 (Table 30). The majority of those reported with an STD co-morbidity were diagnosed with HIV prior to 2015 (83%). There were not significant differences in the type of STD co-morbidity diagnosed based on when the individual was diagnosed with HIV. The largest numbers of HIV co-morbidities were with gonorrhea and chlamydia alone. The proportion of reported STD infections in 2015 that were living with HIV varied by infection type. Only 3% of gonorrhea cases and less than 1% of chlamydia cases reported in 2015 were among individuals living with HIV. Of the 554 early syphilis cases reported in 2015, 26% were among individuals living with HIV.

Of the 556 reported STD co-morbidity cases, 91% were among males (Figure 34). Males represented a higher proportion of the STD co-morbidity cases (91%) compared to all males living with HIV disease (83%).

Figure 35. HIV and STD co-infections by sex and type of co-infection, Missouri, 2015

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

Figure 36. HIV and STD co-infections by HIV care region of STD diagnosis, Missouri, 2015

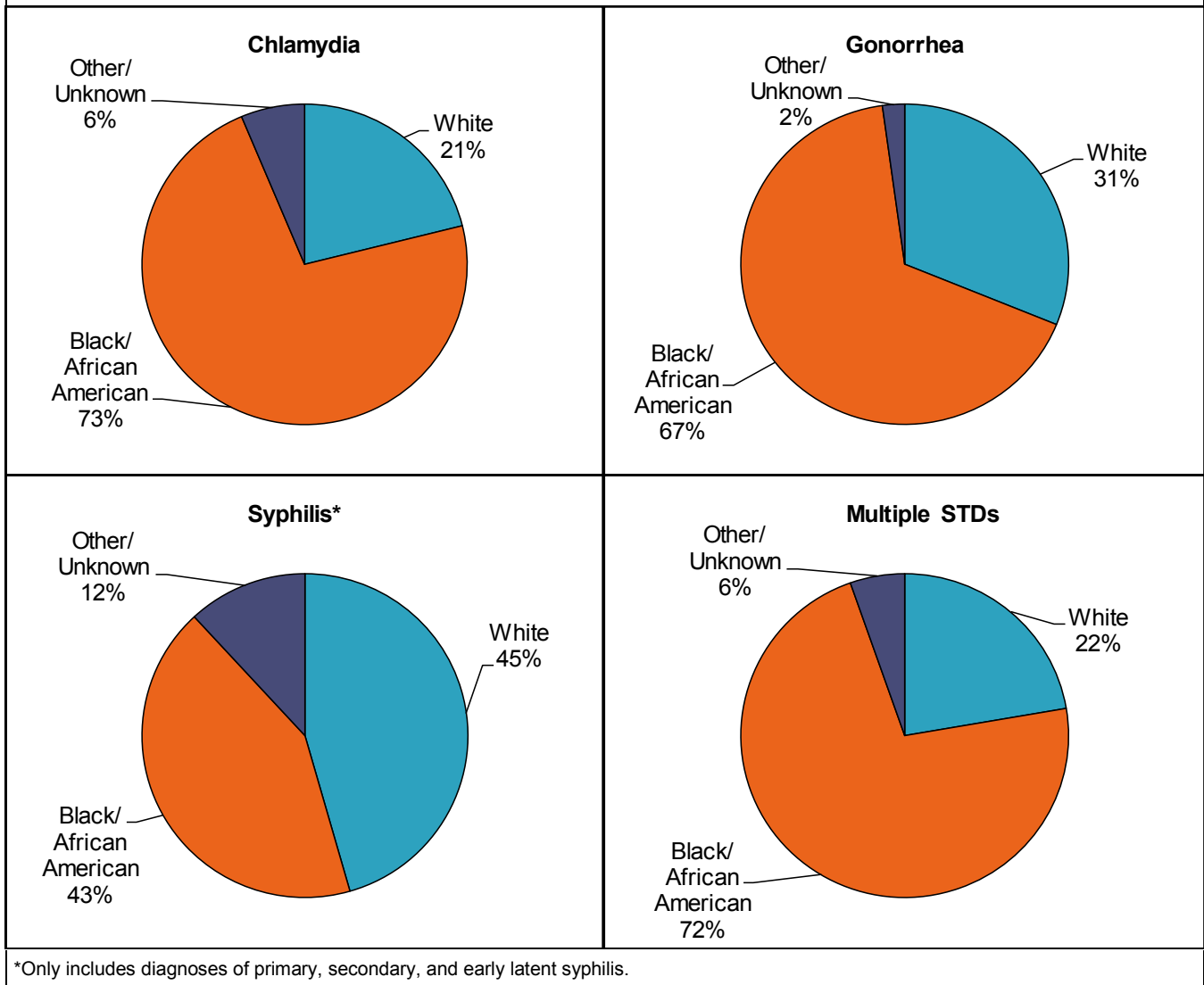
*Only includes diagnoses of primary, secondary, and early latent syphilis.

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

There were differences in the distribution of STD co-morbidity types by sex (Figure 35). Among females living with HIV that were reported with an STD co-morbidity in 2015, 67% were co-infected with chlamydia, 19% with gonorrhea, 13% with multiple STDs, and 2% with early syphilis. In contrast, among males living with HIV reported with an STD co-morbidity in 2015, only 22% were co-infected with chlamydia, 34% with gonorrhea, 24% with multiple STDs, and 20% with early syphilis.

Among all HIV and STD co-morbidity types, the greatest proportion of cases was diagnosed in the St. Louis HIV Care Region (Figure 36). Among those living with HIV that were reported with chlamydia in 2015, 68% were residents of the St. Louis HIV Care Region when diagnosed with chlamydia. The St. Louis HIV Care Region represented 69% of all living HIV cases reported with gonorrhea in 2015, 45% of those with early syphilis, and 71% of those with multiple STD co-morbidities. In St. Louis, STD co-morbidity with HIV was highest for gonorrhea, while in Kansas City and Outstate, STD co-morbidity with HIV was highest for early syphilis.

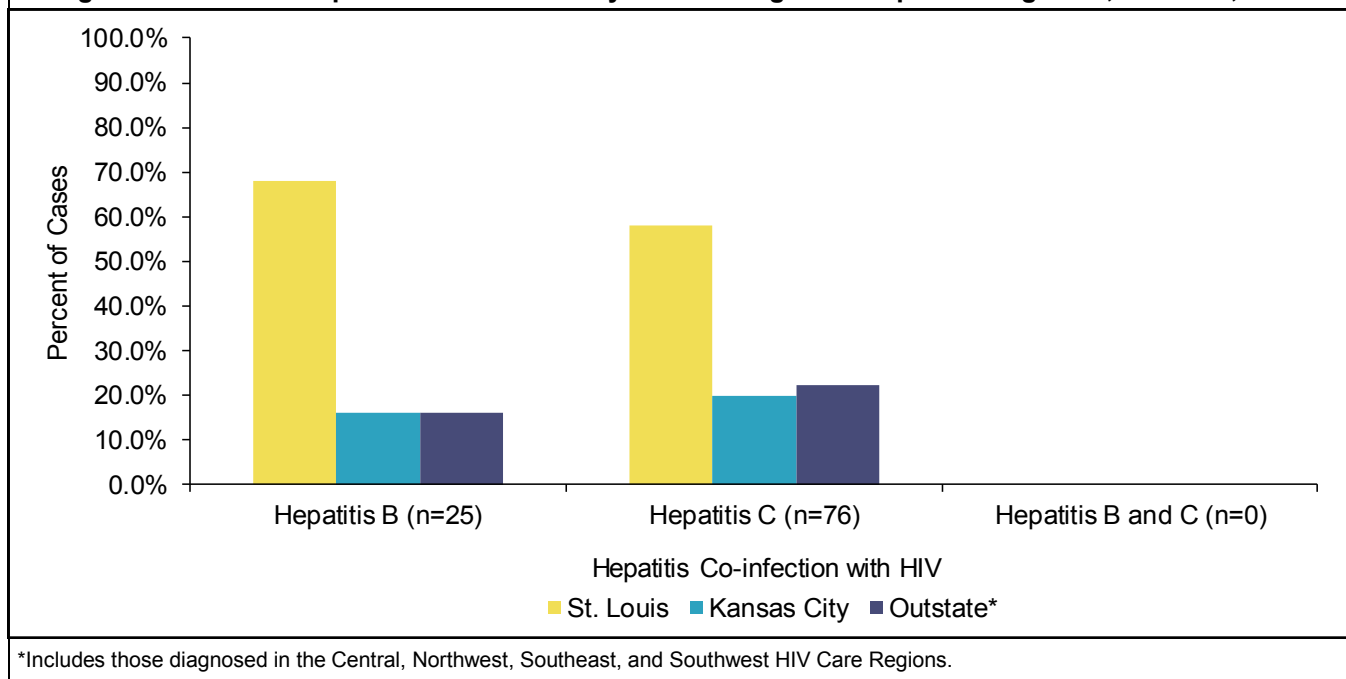
Figure 37. HIV and STD co-infections by race/ethnicity and type of co-infection, Missouri, 2015



There were differences in the distribution of race/ethnicity among HIV and STD co-morbidities depending on the type of STD diagnosed (Figure 37). The proportion of co-morbidity cases attributed to blacks/African Americans was highest among those co-infected with chlamydia (73%), followed by those co-infected with multiple STDs (72%). In all instances, people of color were disproportionately represented in the proportion of co-morbidities that were reported. Although blacks/African Americans represented only 46% of living HIV disease cases, they represented 65% of individuals diagnosed with an STD co-morbidity.

Table 31. Reported hepatitis B and C infections among persons living with HIV disease, Missouri, 2015

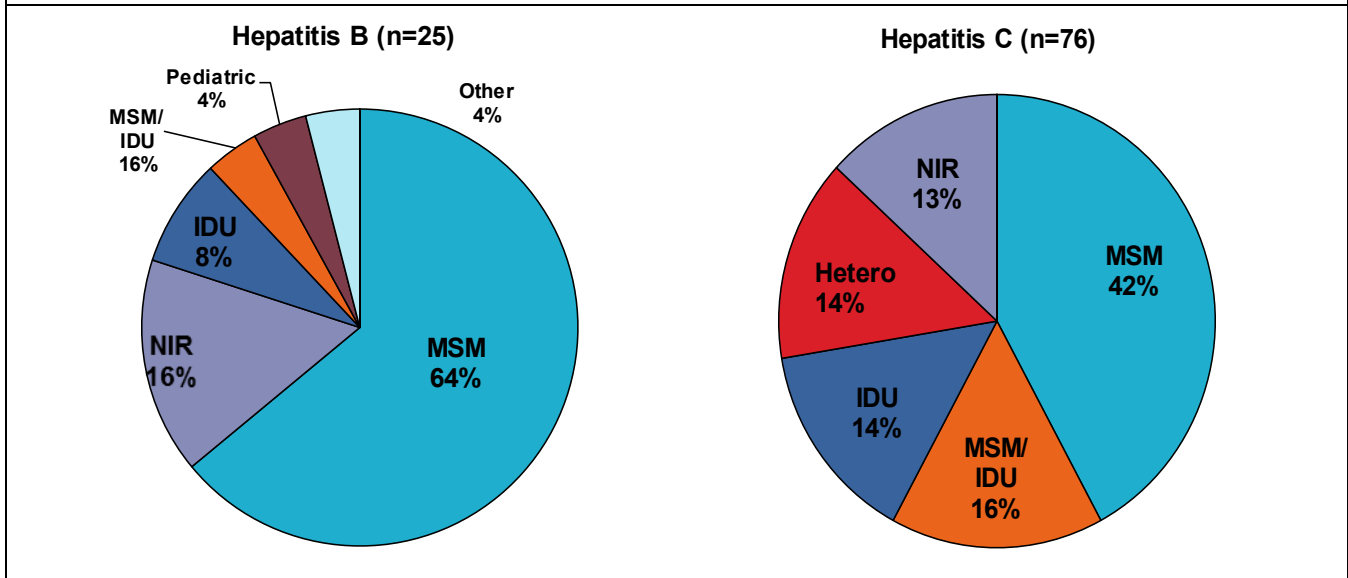
Co-infection	Diagnosed with HIV Prior	Diagnosed with HIV in	Total Co-infections
	to 2015	2015	
	N	N	N
Acute Hepatitis B	0	1	1
Chronic Hepatitis B	21	3	24
Prenatal Hepatitis B	0	0	0
Perinatal Hepatitis B	0	0	0
Acute Hepatitis C	0	0	0
Chronic Hepatitis C	69	7	76
Chronic Hepatitis B & C	0	0	0
Total	90	11	101

Figure 38. HIV and hepatitis co-infections by HIV care region of hepatitis diagnosis, Missouri, 2015

Of the 12,259 individuals living with HIV disease, 101 were reported with a hepatitis co-morbidity in 2015 (Table 31). The majority of those reported with a hepatitis co-morbidity were diagnosed with HIV prior to 2015 (89%). The largest number of HIV co-morbidities was with chronic hepatitis C. The proportion of reported hepatitis infections in 2015 that were living with HIV varied by infection type. Of the 520 chronic hepatitis B cases reported in 2015, 5% were among individuals living with HIV. Only 1% of chronic hepatitis C cases reported in 2015 were among individuals living with HIV.

Among persons living with HIV disease that were reported with only a hepatitis B infection in 2015, the greatest proportion were residing in the St. Louis HIV Care Region (68%) at the time of the hepatitis diagnosis (Figure 38). Among HIV-positive persons reported with only a hepatitis C infection in 2015, the greatest proportion were residing in the St. Louis HIV Care Region (58%) at the time of the hepatitis diagnosis.

Figure 39. HIV and hepatitis co-infections by HIV exposure category and type of co-infection, Missouri, 2015



Among persons living with HIV disease and reported with only a hepatitis B infection in 2015, 64% were among MSM (Figure 39). Among hepatitis C co-morbidity cases, 42% were attributed to MSM, and 16% were attributed to both IDU and MSM. There were no (n=0) Hepatitis B and C co-infections among persons living with HIV disease in 2015.

HIV and TB disease co-infections, Missouri, 2015

Among the 12,259 persons living with HIV disease, there were no cases reported to be diagnosed with TB disease in 2015.

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

Magnitude of the Problem

- Overall, 68% 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 2015).
- Persons enrolled in HIV medical case management were significantly more likely to have their primary care medical needs met. Of the 12,259 persons living with HIV disease in Missouri, 5,185 (42%) were enrolled in medical case management at some point in 2015. Ninety-six percent (96%) of individuals in case management had their primary care medical needs met in 2015.
- Persons living with HIV who were subcategorized as stage 3 (AIDS) cases in 2015 were more likely to have their medical needs met (74%) compared to persons subcategorized as HIV cases (60%). 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 Southwest HIV Care Region (71%), and lowest in the Central HIV Care Region (51%).
- Among those enrolled in HIV medical case management, the proportion with a met need ranged from 82% in the Central HIV Care Region to 97% in the Southwest HIV Care Region.
- For those not enrolled in HIV medical case management, the proportion with a met need ranged from 27% in the Central HIV Care Region to 55% in the Northwest HIV Care Region.

Who

Sex

- Overall, there were no 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 2012-2014, the likelihood of entering care was lower for blacks/African Americans than other races.

Age

- There were differences in unmet need by current age among individuals enrolled in HIV medical case management. Unmet need was greatest among individuals 19-24 years of age (11%).
- There were differences in unmet need by current age among individuals not enrolled in HIV medical case management. Unmet need was greatest among individuals 13-18 years of age (62%).

Exposure Category

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

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, 2015

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	1,630 (68.2%)	759 (31.8%)	680 (95.9%)	29 (4.1%)	950 (56.5%)	730 (43.5%)
Black/African American	2,343 (71.6%)	928 (28.4%)	1,620 (95.5%)	76 (4.5%)	723 (45.9%)	852 (54.1%)
Hispanic	92 (57.1%)	69 (42.9%)	58 (95.1%)	3 (4.9%)	34 (34.0%)	66 (66.0%)
Other/Unk.	65 (71.4%)	26 (28.6%)	45 (95.7%)	2 (4.3%)	20 (45.5%)	24 (54.5%)
Total	4,130 (69.9%)	1,782 (30.1%)	2,403 (95.6%)	110 (4.4%)	1,727 (50.8%)	1,672 (49.2%)
Kansas City Region						
White	1,183 (64.6%)	648 (35.4%)	573 (94.4%)	34 (5.6%)	610 (49.8%)	614 (50.2%)
Black/African American	981 (66.2%)	500 (33.8%)	690 (94.3%)	42 (5.7%)	291 (38.9%)	458 (61.1%)
Hispanic	131 (54.1%)	111 (45.9%)	90 (98.9%)	1 (1.1%)	41 (27.2%)	110 (72.8%)
Other/Unk.	62 (71.3%)	25 (28.7%)	27 (93.1%)	2 (6.9%)	35 (60.3%)	23 (39.7%)
Total	2,357 (64.7%)	1,284 (35.3%)	1,380 (94.6%)	79 (5.4%)	977 (44.8%)	1,205 (55.2%)
Northwest Region						
White	65 (73.9%)	23 (26.1%)	33 (94.3%)	2 (5.7%)	32 (60.4%)	21 (39.6%)
Black/African American	12 (60.0%)	8 (40.0%)	6 (100.0%)	0 (0.0%)	6 (42.9%)	8 (57.1%)
Hispanic	1 (25.0%)	3 (75.0%)	0 (N/A)	0 (N/A)	1 (25.0%)	3 (75.0%)
Other/Unk.	0 (N/A)	0 (N/A)	0 (N/A)	0 (N/A)	0 (N/A)	0 (N/A)
Total	78 (69.6%)	34 (30.4%)	39 (95.1%)	2 (4.9%)	39 (54.9%)	32 (45.1%)
Central Region						
White	213 (54.1%)	181 (45.9%)	148 (84.6%)	27 (15.4%)	65 (29.7%)	154 (70.3%)
Black/African American	74 (47.1%)	83 (52.9%)	53 (81.5%)	12 (18.5%)	21 (22.8%)	71 (77.2%)
Hispanic	13 (40.6%)	19 (59.4%)	10 (66.7%)	5 (33.3%)	3 (17.6%)	14 (82.4%)
Other/Unk.	2 (25.0%)	6 (75.0%)	1 (33.3%)	2 (66.7%)	1 (20.0%)	4 (80.0%)
Total	302 (51.1%)	289 (48.9%)	212 (82.2%)	46 (17.8%)	90 (27.0%)	243 (73.0%)
Southwest Region						
White	565 (73.9%)	200 (26.1%)	376 (97.7%)	9 (2.3%)	189 (49.7%)	191 (50.3%)
Black/African American	57 (55.3%)	46 (44.7%)	36 (97.3%)	1 (2.7%)	21 (31.8%)	45 (68.2%)
Hispanic	32 (61.5%)	20 (38.5%)	25 (100.0%)	0 (0.0%)	7 (25.9%)	20 (74.1%)
Other/Unk.	15 (62.5%)	9 (37.5%)	9 (75.0%)	3 (25.0%)	6 (50.0%)	6 (50.0%)
Total	669 (70.9%)	275 (29.1%)	446 (97.2%)	13 (2.8%)	223 (46.0%)	262 (54.0%)
Southeast Region						
White	165 (73.7%)	59 (26.3%)	106 (94.6%)	6 (5.4%)	59 (52.7%)	53 (47.3%)
Black/African American	68 (63.0%)	40 (37.0%)	42 (91.3%)	4 (8.7%)	26 (41.9%)	36 (58.1%)
Hispanic	2 (40.0%)	3 (60.0%)	1 (100.0%)	0 (0.0%)	1 (25.0%)	3 (75.0%)
Other/Unk.	2 (66.7%)	1 (33.3%)	1 (100.0%)	0 (0.0%)	1 (50.0%)	1 (50.0%)
Total	237 (69.7%)	103 (30.3%)	150 (93.8%)	10 (6.3%)	87 (48.3%)	93 (51.7%)
Statewide (MO)****						
White	3,980 (67.2%)	1,942 (32.8%)	2,001 (94.7%)	111 (5.3%)	1,979 (51.9%)	1,831 (48.1%)
Black/African American	3,881 (69.2%)	1,728 (30.8%)	2,636 (94.8%)	146 (5.2%)	1,245 (44.0%)	1,582 (56.0%)
Hispanic	277 (54.2%)	234 (45.8%)	186 (95.4%)	9 (4.6%)	91 (28.8%)	225 (71.2%)
Other/Unk.	149 (68.7%)	68 (31.3%)	86 (89.6%)	10 (10.4%)	63 (52.1%)	58 (47.9%)
Total	8,287 (67.6%)	3,972 (32.4%)	4,909 (94.7%)	276 (5.3%)	3,378 (47.8%)	3,696 (52.2%)

*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 12,259 persons living with HIV at the end of 2015, 68% had evidence of met primary care medical needs (i.e., met need) in 2015 (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 2015 that was reported to MDHSS. There were differences in the proportion of individuals with met needs depending on whether the individual was enrolled in HIV medical case management in 2015. A significantly greater proportion of those enrolled in HIV medical case management had a met need (95%) in 2015 compared to those not enrolled (48%). 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 MDHSS. 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 Southwest HIV Care Region (71%), and lowest in the Central HIV Care Region (51%). The pattern was slightly different between 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 27% in the Central HIV Care Region to 55% in the Northwest HIV Care Region.

There were differences in the proportion of persons with a met need by race/ethnicity. Overall statewide, met need was lower among Hispanics (54%) 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 in all HIV care regions compared to whites.

Figure 40. Percent of individuals living with HIV having an unmet* primary medical care need in 2015 by enrollment in HIV case management and selected characteristics

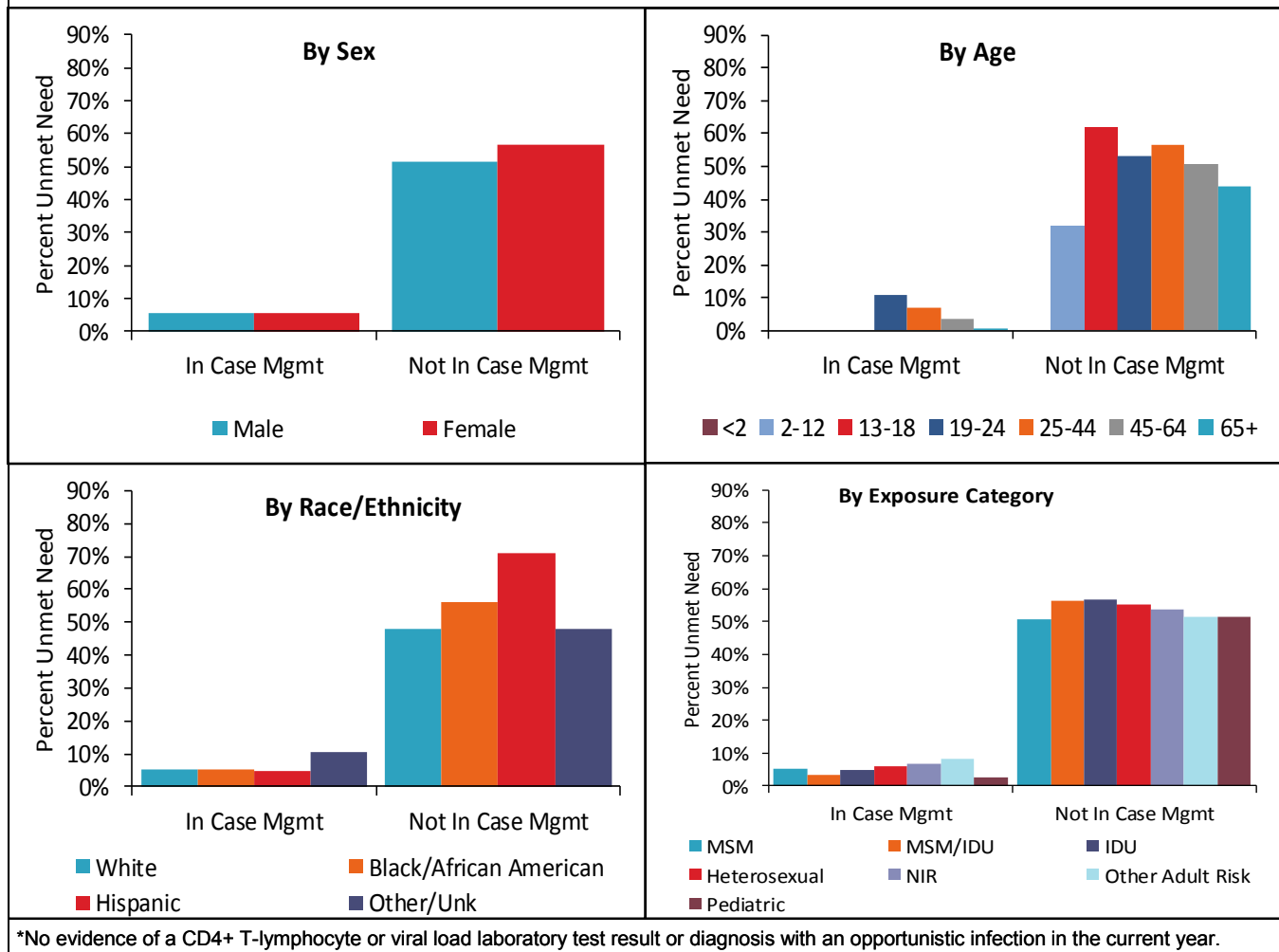


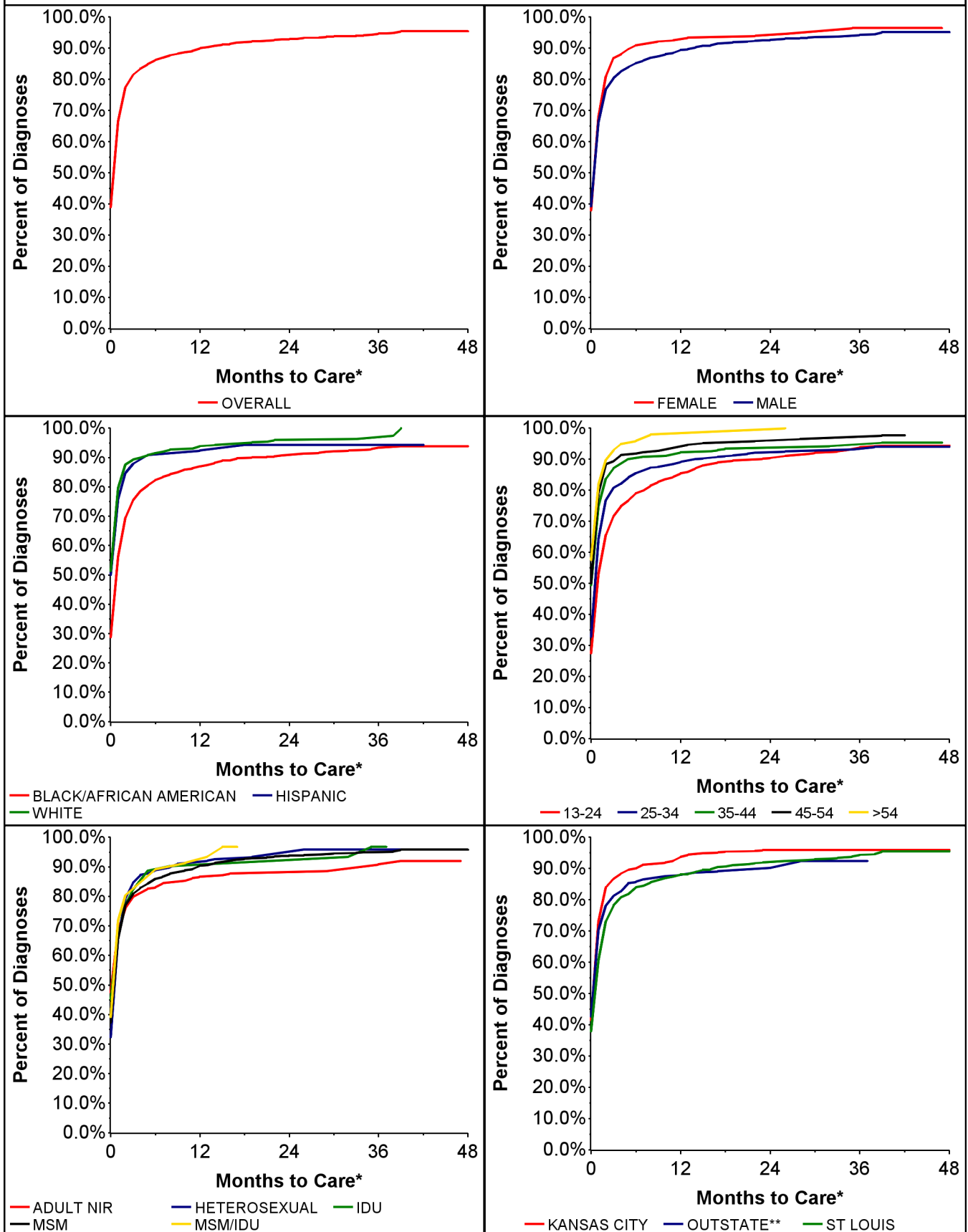
Figure 40 examines the proportion of cases with unmet need depending on whether the individuals were enrolled in HIV medical case management for selected characteristics. There were no differences in the proportion of individuals with unmet needs between the sexes, regardless of whether enrolled in HIV 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 13-18 years of age (62%). Those 2-12 years of age had the lowest proportion of unmet need. There were differences in the proportion of individuals with unmet needs by current age among those enrolled in case management. Unmet need was greatest among 19-24 year olds (11%). 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 (71%) and lowest among whites (48%) and those of other or unknown race (48%). Among those enrolled in case management, unmet need was greatest among those of other or unknown race (10%). There were not significant differences in the proportion of individuals with unmet need by exposure category regardless of whether enrolled in HIV medical case management.

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 in 2015 by current status**, enrollment in HIV case management, and selected characteristics						
	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	40.1% (1,939)	26.2% (1,389)	7.9% (139)	3.3% (77)	58.8% (1,800)	44.0% (1,312)
Female	36.6% (392)	24.0% (252)	6.3% (32)	4.8% (28)	64.3% (360)	47.8% (224)
Race/Ethnicity						
White	38.4% (1,101)	27.5% (841)	7.6% (72)	3.3% (39)	53.5% (1,029)	42.5% (802)
Black/African American	39.5% (1,060)	22.8% (668)	7.3% (88)	3.7% (58)	66.1% (972)	45.0% (610)
Hispanic	50.0% (122)	41.9% (112)	5.8% (5)	3.7% (4)	74.1% (117)	68.4% (108)
Other/Unknown	45.7% (48)	17.9% (20)	16.2% (6)	6.8% (4)	61.8% (42)	30.2% (16)
Current Age[†]						
<2	-- (0)	0.0% (0)	-- (0)	0.0% (0)	-- (0)	-- (0)
2-12	24.1% (7)	100.0% (1)	0.0% (0)	-- (0)	29.2% (7)	100.0% (1)
13-18	42.1% (16)	28.6% (2)	0.0% (0)	0.0% (0)	66.7% (16)	40.0% (2)
19-24	28.2% (116)	12.6% (13)	13.1% (35)	3.9% (3)	56.3% (81)	37.0% (10)
25-44	36.8% (1,007)	25.9% (483)	7.6% (96)	5.9% (57)	61.9% (911)	47.8% (426)
45-64	43.4% (1,058)	26.1% (1,039)	5.6% (39)	2.6% (45)	58.6% (1,019)	44.7% (994)
65+	50.6% (127)	25.5% (103)	2.9% (1)	0.0% (0)	58.3% (126)	33.7% (103)
Exposure Category						
Men who have sex with men	38.0% (1,404)	26.2% (1,036)	7.4% (106)	3.3% (58)	57.2% (1,298)	44.1% (978)
Men who have sex with men and inject drugs	36.1% (87)	25.4% (94)	6.8% (8)	1.1% (2)	64.2% (79)	51.1% (92)
Injecting drug use	46.9% (121)	25.3% (102)	9.4% (8)	2.9% (6)	65.3% (113)	49.0% (96)
Heterosexual contact	38.0% (316)	24.4% (221)	7.2% (28)	4.7% (22)	64.9% (288)	45.3% (199)
No indicated risk (NIR)	46.3% (365)	25.4% (167)	8.3% (20)	5.7% (16)	63.2% (345)	40.3% (151)
Other Adult Risk	66.7% (8)	33.3% (13)	0.0% (0)	9.1% (1)	72.7% (8)	42.9% (12)
Pediatric	40.5% (30)	23.5% (8)	5.0% (1)	0.0% (0)	53.7% (29)	44.4% (8)
Total	39.5% (2,331)	25.8% (1,641)	7.5% (171)	3.6% (105)	59.7% (2,160)	44.5% (1,536)

*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, 2015
 Note: Rows with the percent marked '- ' indicates that there were no living persons in the selected category.

Figure 41. Length of time in months to enter care* after initial HIV diagnosis among persons diagnosed between 2012 and 2014, by selected characteristics, Missouri



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

Epi Profiles Summary: Missouri

Figure 41 examines the length of time until first entry into care among persons newly diagnosed with HIV disease between 2012 and 2014. Entry into care was measured as the receipt of a CD4 lymphocyte or viral load laboratory result by MDHSS. Overall, 89% of persons recently diagnosed had entered care by one year after diagnosis. Within four years of initial diagnosis, 95% had entered care. There was not a significant difference in the proportion of new diagnoses entering care between males and females. There were differences in the proportion of new diagnoses entering care by race/ethnicity. Over time, a significantly lower proportion of blacks/African Americans entered care compared to whites and Hispanics. At one year after diagnosis, only 87% 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 85% entered care within one year of diagnosis, compared to 98% of persons 55 years of age or older at the time of diagnosis. There were not significant differences over time in likelihood to enter care by exposure category. Differences in entry to care following diagnosis varied by HIV region of diagnosis. At one year after diagnosis, 94% of persons diagnosed in the Kansas City HIV Care Region, 88% 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 Outstate 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.

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Glossary

Case rate

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

Case definition for stage 3 (AIDS)

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

CD4+ T cells

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

Cumulative number of cases

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

Date of diagnosis

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

Epidemic

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

Highly active antiretroviral therapy (HAART)

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

HIV case

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

HIV disease case

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

Incidence

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

Incidence rate

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

Modes of transmission

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

Sexually Transmitted Infections

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

Sexually Transmitted Infections and the Organisms Responsible

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

Stage 3 (AIDS) case

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

Appendix

