

2013 Epidemiologic Profiles
of HIV, STD, and Hepatitis in Missouri



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Background

The Division of HIV/AIDS Prevention at the Centers for Disease Control and Prevention (CDC) and the Health Resources and Services Administration (HRSA) released the *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/acquired immunodeficiency syndrome (AIDS) epidemic in Missouri?

Describes the impact of the HIV/AIDS epidemic in Missouri.

Question 3: What are the indicators of HIV/AIDS 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 two key questions:

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

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

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

Assesses the unmet need of persons who know they are HIV positive, but are not in care. Describes their service needs and perception of care.

General Information:

The 2013 *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 2013 (Questions #2, #3, and #5). 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 2011-2015. 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* represents a selective update to all questions in the *Profiles*. For data from the most recent comprehensive *Profiles*, please refer to the *2009 Epidemiologic Profiles*, which can be accessed at <http://health.mo.gov/data/hivstdaids/pdf/MOHIVSTD2009.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 2012 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/AIDS Surveillance Data, eHARS

Missouri's communicable disease reporting rule, 19 CSR 20-20.020, established reporting of AIDS cases in 1983, named HIV cases in 1987, CD4 lymphocyte counts in 1991, and HIV viral load lab results in 2000. Demographic information, vital status, mode of exposure, laboratory results, and treatment and service referrals are collected on standardized case report forms and laboratory reports. The MDHSS, Bureau of Reportable Disease Informatics (BRDI) is responsible for managing the HIV/AIDS surveillance data, stored in the enhanced HIV/AIDS Reporting System (eHARS). Evaluations have shown a high level of completeness of the surveillance system. However, the surveillance system primarily collects information only on individuals diagnosed with HIV disease in Missouri. Some information regarding those currently living with HIV in Missouri is maintained in eHARS, but is not complete. Therefore, the *Profiles* only includes data on those whose most recent diagnosis (HIV or 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 Systems (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

HIV Disease, HIV case, 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 an **AIDS case** (if they are in the later stages of the disease process and have met the case definition for AIDS), or an **HIV case** (if they are in the earlier stages of the disease process and have not met the AIDS case definition). In this report, the sub-classification of HIV or AIDS is based on an individual's status of disease progression as of December 31, 2013.

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, 2014.

Place of Residence: Data are presented based on an individual's residence at time of most recent diagnosis of HIV or AIDS. Only cases whose most recent diagnosis was Missouri are included in the analyses presented in the *Profiles*. This 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 2013 *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/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

Epi Profiles Summary: Introduction

cases contact one another to compare patient profiles in order to determine the state to which the case belongs, based on residence during the earliest date of diagnosis. Because of this process, the cumulative number of cases within Missouri may change, but the process has increased the accuracy of Missouri's data by reducing the chance that a case has been counted more than once nationally.

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

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

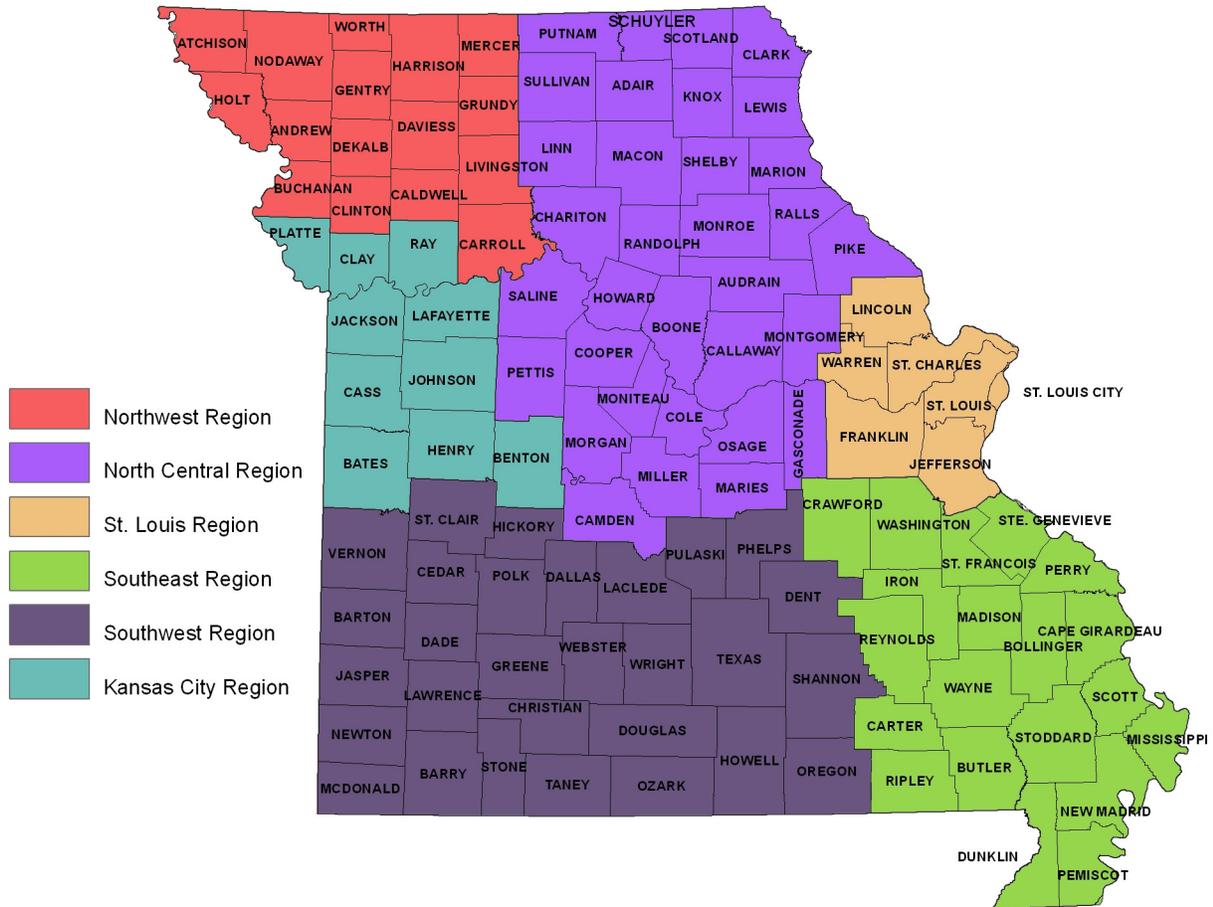
Race/Ethnicity: Race and ethnicity information has been collected under two different systems in the HIV/AIDS reporting system. Since many cases were reported under the old classification system, the use of the race and ethnicity categories from the old classification system will be maintained in this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

Diagnoses in Correctional Facilities: For persons living in Missouri correctional facilities (which include state, county, and local facilities) at the time of their HIV/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/AIDS data for the six HIV regions of the state. This 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 region.

Missouri HIV Regions



Abbreviations

AIDS=Acquired Immunodeficiency Syndrome

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

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 Region, Missouri, 2012

	St. Louis Region	Kansas City Region	Northwest Region	North Central Region	Southwest Region	Southeast Region	Missouri Total
Sex							
Male	1,010,848	617,414	124,271	379,290	571,052	248,161	2,951,036
Female	1,084,156	648,335	123,049	384,215	579,501	251,696	3,070,952
Total	2,095,004	1,265,749	247,320	763,505	1,150,553	499,857	6,021,988
Race/Ethnicity							
White	1,533,541	939,205	225,129	675,653	1,034,724	448,233	4,856,485
Black/African American	408,225	184,993	8,327	39,788	22,110	31,216	694,659
Hispanic	56,335	84,922	7,519	21,642	45,479	9,417	225,314
Asian/Pacific Islander	58,138	23,315	1,931	10,883	14,665	2,567	111,499
American Indian/Alaskan Native	4,333	5,384	956	2,519	9,768	1,848	24,808
Two or More Races/Other Race	34,432	27,930	3,458	13,020	23,807	6,576	109,223
Total	2,095,004	1,265,749	247,320	763,505	1,150,553	499,857	6,021,988
Race/Ethnicity-Males							
White Male	748,790	459,866	111,503	333,365	510,013	221,147	2,384,684
Black/African American Male	185,856	86,774	5,425	21,698	13,336	16,635	329,724
Hispanic Male	29,191	43,628	4,141	11,355	24,005	5,035	117,355
Asian/Pacific Islander Male	27,968	10,945	945	5,109	6,838	1,143	52,948
American Indian/Alaskan Native Male	2,157	2,683	483	1,291	4,930	918	12,462
Two or More Races/Other Race Male	16,886	13,518	1,774	6,472	11,930	3,283	53,863
Total	1,010,848	617,414	124,271	379,290	571,052	248,161	2,951,036
Race/Ethnicity-Females							
White Female	784,751	479,339	113,626	342,288	524,711	227,086	2,471,801
Black/African American Female	222,369	98,219	2,902	18,090	8,774	14,581	364,935
Hispanic Female	27,144	41,294	3,378	10,287	21,474	4,382	107,959
Asian/Pacific Islander Female	30,170	12,370	986	5,774	7,827	1,424	58,551
American Indian/Alaskan Native Female	2,176	2,701	473	1,228	4,838	930	12,346
Two or More Races/Other Race Female	17,546	14,412	1,684	6,548	11,877	3,293	55,360
Total	1,084,156	648,335	123,049	384,215	579,501	251,696	3,070,952
Age							
<2	51,007	33,248	5,870	17,781	28,473	12,019	148,398
2-12	295,035	189,477	34,189	104,204	164,040	71,030	857,975
13-18	169,238	100,090	19,064	58,616	91,506	38,765	477,279
19-24	161,376	99,378	23,255	81,459	107,942	39,939	513,349
25-44	546,027	338,636	58,535	182,983	276,250	120,090	1,522,521
45-64	581,746	335,939	65,785	201,839	297,774	136,202	1,619,285
65+	290,575	168,981	40,622	116,623	184,568	81,812	883,181
Total	2,095,004	1,265,749	247,320	763,505	1,150,553	499,857	6,021,988

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

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

Magnitude of the Problem and General Trends

- From 1982 to 2013, there have been a total of 19,380 persons diagnosed with HIV disease in Missouri and reported to MDHSS. Of these individuals, 13,190 (68%) were subcategorized as AIDS cases, and the remaining 6,190 (32%) were subcategorized as HIV cases. Of the cumulative number of persons diagnosed with HIV disease, 11,704 (60%) were presumed to be living at the end of 2013.
- The number of new diagnoses has fluctuated slightly between 2004 and 2013, with no sustained upward or downward trend in new HIV diagnoses over this time period. In 2013, there were 462 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 8,406 persons in 2004 to 11,704 persons in 2013. 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 2013 was highest in St. Louis City (25.1 per 100,000). The second highest rate was in Kansas City (16.4 per 100,000). The rate of persons newly diagnosed who were classified as AIDS cases at the end of 2013 was highest in St. Louis City (10.4 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 more than five times as high among males compared to females.

Race/Ethnicity

- HIV disease continues to disproportionately impact minorities. The rate of newly diagnosed HIV disease cases among blacks/African Americans was 9.3 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 65% 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 minority populations, social, economic, and cultural factors are associated with high rates of HIV risk behavior. These factors also may be barriers to receiving HIV prevention information or accessing HIV testing, diagnosis, and treatment.

Age

- The age of individuals living with HIV disease has increased over time. In 2004, the largest numbers of persons living with HIV disease were 40-44 years of age, whereas in 2013 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 2013, the largest numbers of persons newly diagnosed with HIV disease were between 19-24 years of age, compared to 2004 when the largest numbers of new diagnoses were 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 2013, there were two people less than 13 years of age diagnosed with HIV disease.

Figure 1. HIV disease cases (living and deceased), by current HIV vs. AIDS status, Missouri, 1982—2013

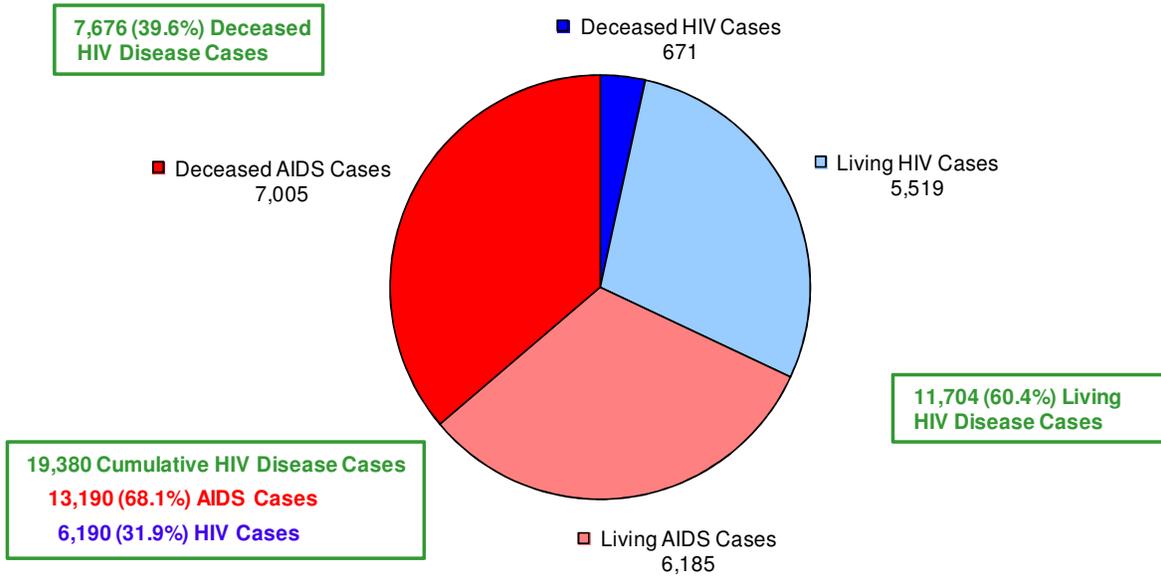
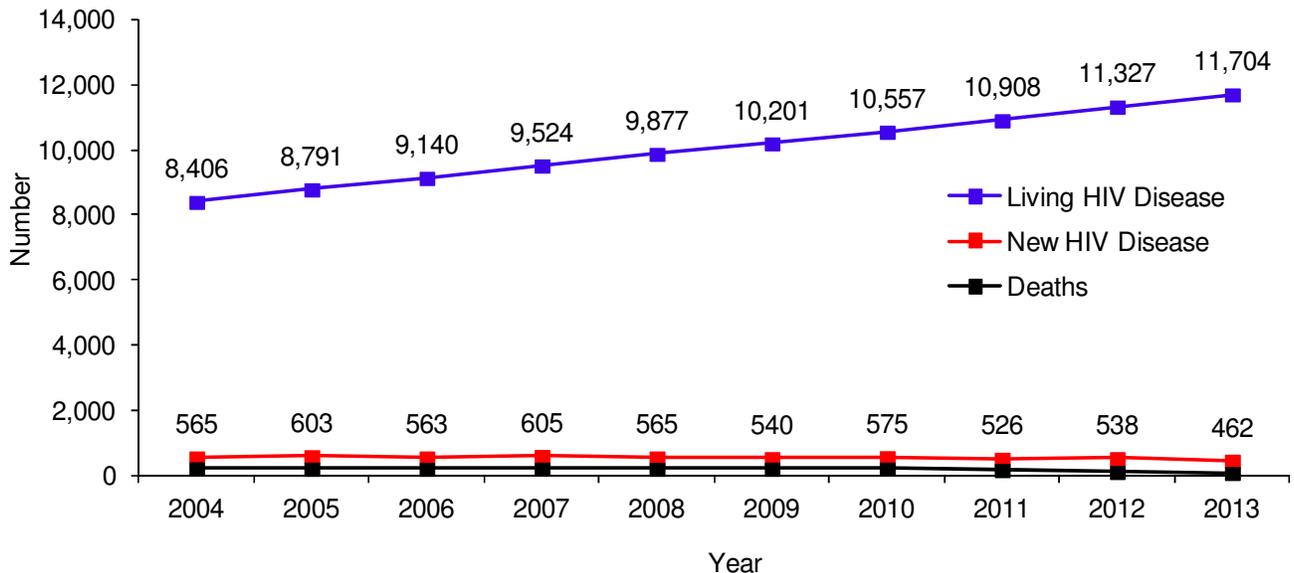


Figure 2. Living and new HIV disease cases and deaths by year*, Missouri, 2004—2013

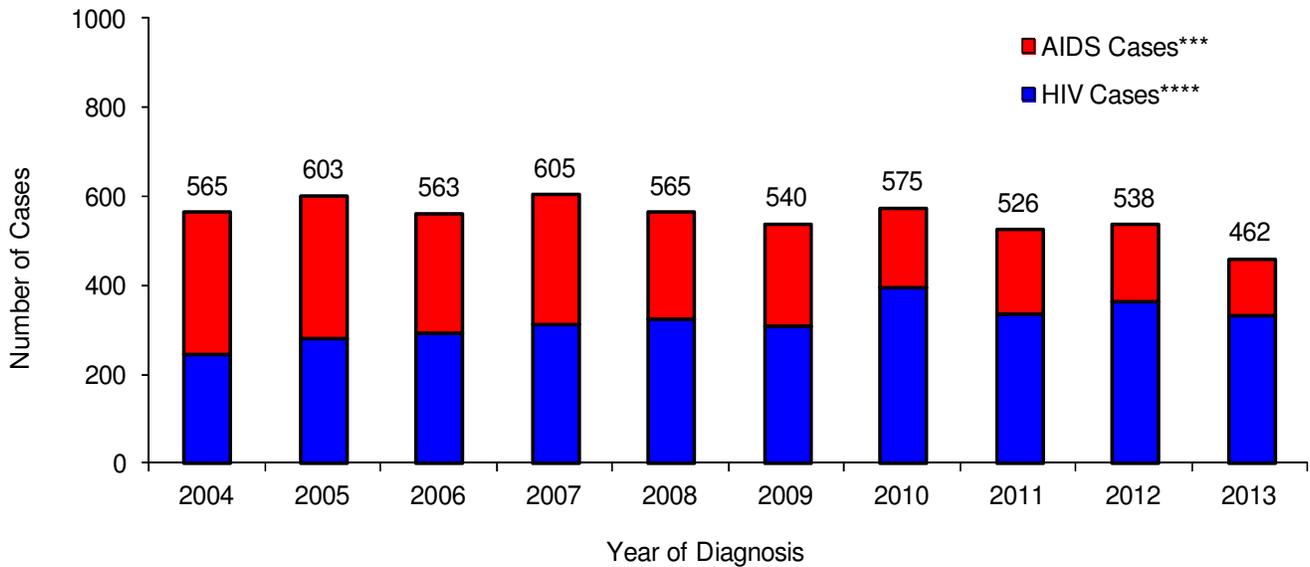


*For living HIV disease cases-the number of individuals living with HIV disease at the end of the year; For new HIV disease cases-the number of individuals newly diagnosed in the year; For HIV disease deaths-the number of individuals that died in the year.

From 1982 to 2013, there have been a total of 19,380 HIV disease cases diagnosed in Missouri and reported to MDHSS (Figure 1). Of the cumulative cases reported, 60% were still presumed to be living with HIV disease at the end of 2013. Among those living with HIV disease, 5,519 were classified as HIV cases at the end of 2013 and 6,185 were classified as AIDS cases.

At the end of 2013, there were 11,704 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 462 new HIV disease diagnoses in 2013. The number of new diagnoses from 2004 to 2013 has fluctuated; the number of new diagnoses ranged from 462 cases in 2013 to 605 cases in 2007. The number of deaths among persons with HIV disease each year has remained generally steady. The lower number of deaths in 2013 was likely due to delays in death reporting.

Figure 3. HIV disease cases, by current status* and year of diagnosis, Missouri, 2004-2013**



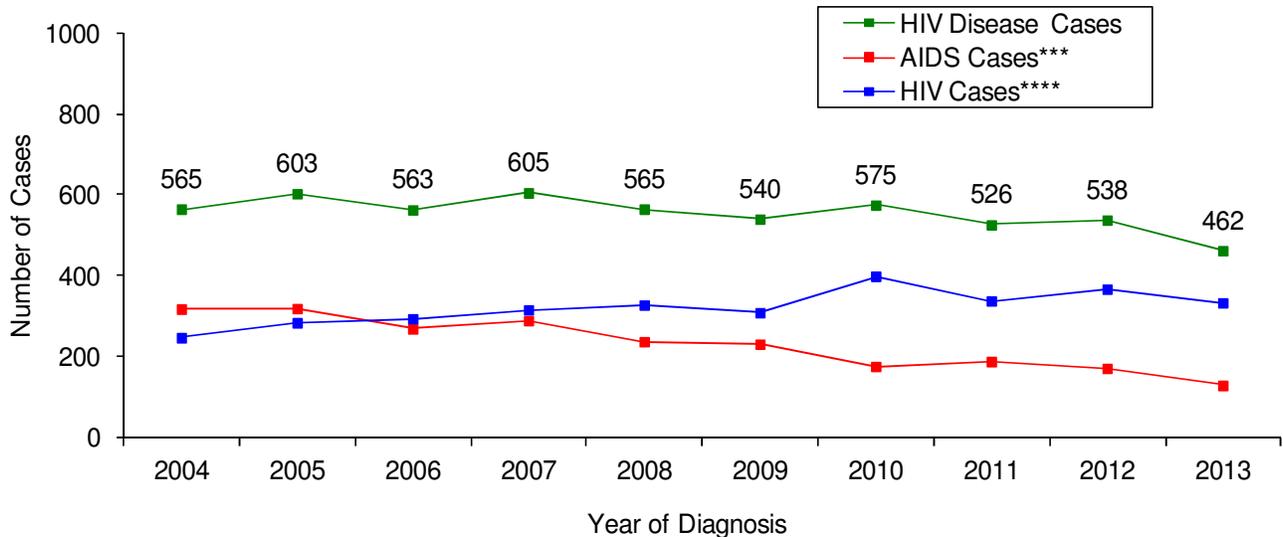
*HIV case vs. AIDS case

**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 AIDS case, was documented by the Department).

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

****These cases were initially reported as HIV cases and have remained HIV cases. They have not met the case definition for AIDS as of December 31, 2013.

Figure 4. Reported HIV disease cases, by current status* and year of diagnosis, Missouri, 2004-2013**



*HIV case vs. AIDS case

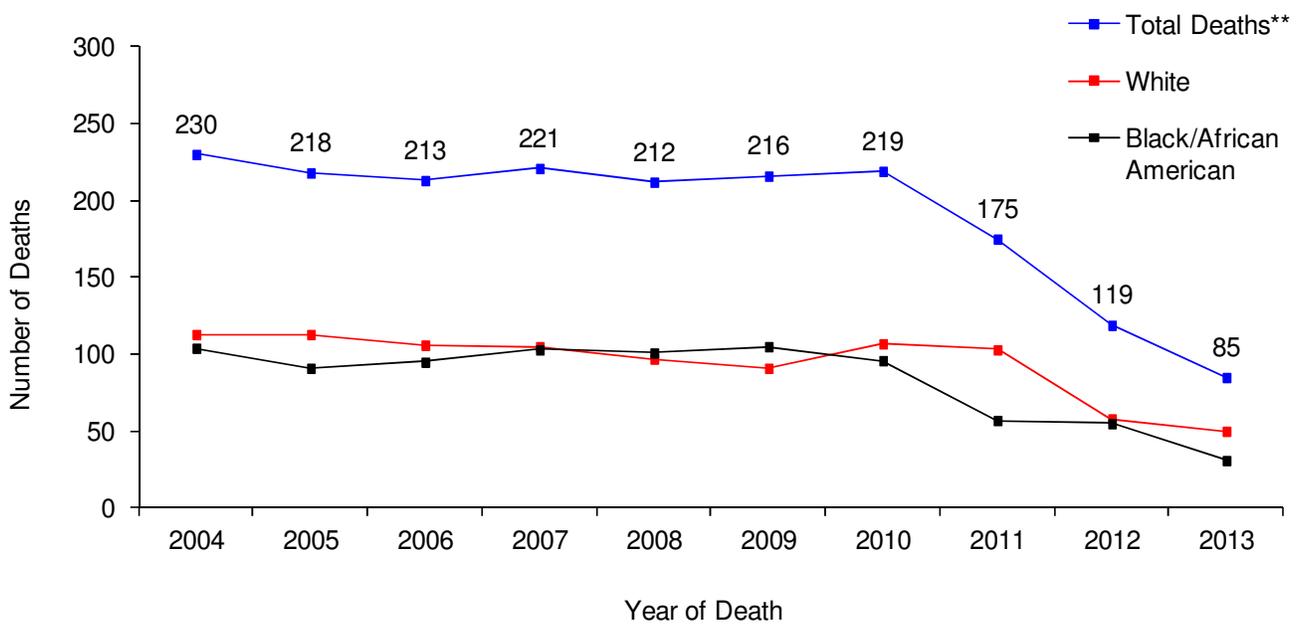
**Cases are indicated by year of initial diagnosis reported to MDHSS. (The year in which the first diagnosis of the person, whether as an HIV case or an AIDS case, was documented by the Department).

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

****These cases were initially reported as HIV cases and have remained HIV cases. They have not met the case definition for AIDS as of December 31, 2013.

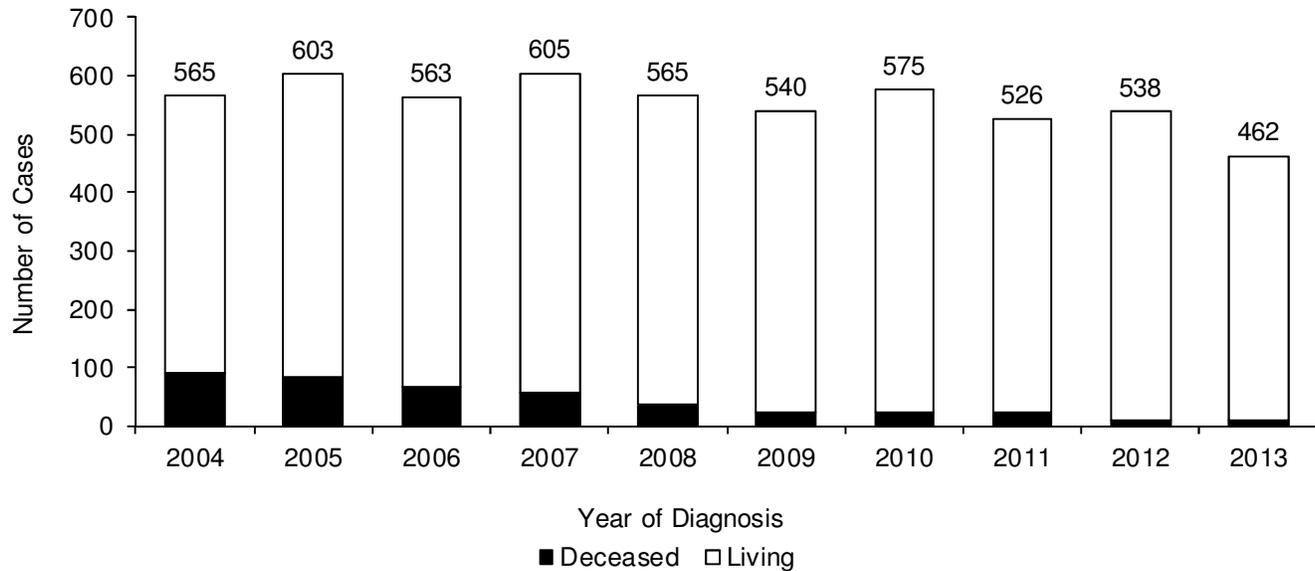
Between 2004 and 2013, the number of new HIV disease diagnoses has ranged from 462 cases in 2013, to 605 cases in 2007 (Figures 3 and 4). The number of new diagnoses has fluctuated slightly between 2004 and 2013, with no sustained upward or downward trend in new HIV diagnoses over this time period. Differences in the number of persons sub-classified as AIDS cases each year are due to the progression of the disease over time. For those diagnosed with HIV disease in 2004, a larger number are currently classified as AIDS cases compared to those diagnosed in 2013 because they have been living with the virus longer.

Figure 5. HIV disease deaths*, by selected race, by year of death, Missouri, 2004—2013†**



*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, 2013, and reported by February 28, 2014.

Figure 6. Persons diagnosed with HIV disease by current vital status* and year of diagnosis, Missouri, 2004—2013**



*Vital status on December 31, 2013.
 **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 AIDS case, was documented by the Department).

The number of deaths among persons with HIV disease was generally steady between 2004 and 2010 (Figure 5). The lower number of deaths in 2011 and 2013 is likely due to delays in death reporting. Of the 565 persons diagnosed with HIV disease in 2004, 92 (16%) were deceased by the end of 2013 (Figure 6). Among the 462 cases first diagnosed in 2013, 10 (2%) were deceased at the end of 2013. 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, AIDS, and HIV disease cases, by sex, by race/ethnicity, by race/ethnicity and sex, and by current age, Missouri, 2013

	HIV*			AIDS**			HIV Disease***		
	Cases	%	Rate****	Cases	%	Rate****	Cases	%	Rate****
Sex									
Male	4,506	81.6%	152.7	5,187	83.9%	175.8	9,693	82.8%	328.5
Female	1,013	18.4%	33.0	998	16.1%	32.5	2,011	17.2%	65.5
Total	5,519	100.0%	91.6	6,185	100.0%	102.7	11,704	100.0%	194.4
Race/Ethnicity									
White	2,707	49.0%	55.7	3,017	48.8%	62.1	5,724	48.9%	117.9
Black/African American	2,508	45.4%	361.0	2,812	45.5%	404.8	5,320	45.5%	765.8
Hispanic	220	4.0%	97.6	260	4.2%	115.4	480	4.1%	213.0
Asian/Pacific Islander	40	0.7%	35.9	30	0.5%	26.9	70	0.6%	62.8
American Indian/Alaskan Native	4	0.1%	16.1	7	0.1%	28.2	11	0.1%	44.3
Two or More Races/Unknown	40	0.7%	--	59	1.0%	--	99	0.8%	--
Total	5,519	100.0%	91.6	6,185	100.0%	102.7	11,704	100.0%	194.4
Race/Ethnicity-Males									
White Male	2,367	52.5%	99.3	2,720	52.4%	114.1	5,087	52.5%	213.3
Black/African American Male	1,896	42.1%	575.0	2,166	41.8%	656.9	4,062	41.9%	1231.9
Hispanic Male	179	4.0%	152.5	225	4.3%	191.7	404	4.2%	344.3
Asian/Pacific Islander Male	32	0.7%	60.4	23	0.4%	43.4	55	0.6%	103.9
American Indian/Alaskan Native Male	4	0.1%	32.1	7	0.1%	56.2	11	0.1%	88.3
Two or More Races/Unknown Male	28	0.6%	--	46	0.9%	--	74	0.8%	--
Total	4,506	100.0%	152.7	5,187	100.0%	175.8	9,693	100.0%	328.5
Race/Ethnicity-Females									
White Female	340	33.6%	13.8	297	29.8%	12.0	637	31.7%	25.8
Black/African American Female	612	60.4%	167.7	646	64.7%	177.0	1,258	62.6%	344.7
Hispanic Female	41	4.0%	38.0	35	3.5%	32.4	76	3.8%	70.4
Asian/Pacific Islander Female	8	0.8%	13.7	7	0.7%	12.0	15	0.7%	25.6
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	1.2%	--	13	1.3%	--	25	1.2%	--
Total	1,013	100.0%	33.0	998	100.0%	32.5	2,011	100.0%	65.5
Current Age[‡]									
<2	1	0.0%	0.7	0	0.0%	0.0	1	0.0%	0.7
2-12	32	0.6%	3.7	1	0.0%	0.1	33	0.3%	3.8
13-18	29	0.5%	6.1	6	0.1%	1.3	35	0.3%	7.3
19-24	442	8.0%	86.1	123	2.0%	24.0	565	4.8%	110.1
25-44	2,550	46.2%	167.5	2,046	33.1%	134.4	4,596	39.3%	301.9
45-64	2,268	41.1%	140.1	3,709	60.0%	229.1	5,977	51.1%	369.1
65+	197	3.6%	22.3	300	4.9%	34.0	497	4.2%	56.3
Total	5,519	100.0%	91.6	6,185	100.0%	102.7	11,704	100.0%	194.4

[†]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 2013.

**Cases classified as AIDS by December 31, 2013.

***The sum of HIV cases and AIDS cases.

****Per 100,000 population based on 2012 MDHSS estimates.

[‡]Based on age as of December 31, 2013.

Note: Percentages may not total due to rounding.

Table 2. Diagnosed HIV, AIDS, and HIV disease cases, by sex, by race/ethnicity, by race/ethnicity and sex, and current age, Missouri, 2013

	HIV*			AIDS**			HIV Disease***		
	Cases	%	Rate****	Cases	%	Rate****	Cases	%	Rate****
Sex									
Male	275	82.6%	9.3	111	86.0%	3.8	386	83.5%	13.1
Female	58	17.4%	1.9	18	14.0%	0.6	76	16.5%	2.5
Total	333	100.0%	5.5	129	100.0%	2.1	462	100.0%	7.7
Race/Ethnicity									
White	122	36.6%	2.5	64	49.6%	1.3	186	40.3%	3.8
Black/African American	189	56.8%	27.2	57	44.2%	8.2	246	53.2%	35.4
Hispanic	14	4.2%	6.2	4	3.1%	1.8	18	3.9%	8.0
Asian/Pacific Islander	5	1.5%	4.5	3	2.3%	2.7	8	1.7%	7.2
American Indian/Alaskan Native	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	0.0
Two or More Races/Unknown	3	0.9%	--	1	0.8%	--	4	0.9%	--
Total	333	100.0%	5.5	129	100.0%	2.1	462	100.0%	7.7
Race/Ethnicity-Males									
White Male	106	38.5%	4.4	58	52.3%	2.4	164	42.5%	6.9
Black/African American Male	152	55.3%	46.1	45	40.5%	13.6	197	51.0%	59.7
Hispanic Male	10	3.6%	8.5	4	3.6%	3.4	14	3.6%	11.9
Asian/Pacific Islander Male	4	1.5%	7.6	3	2.7%	5.7	7	1.8%	13.2
American Indian/Alaskan Native Male	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	0.0
Two or More Races/Unknown Male	3	1.1%	--	1	0.9%	--	4	1.0%	--
Total	275	100.0%	9.3	111	100.0%	3.8	386	100.0%	13.1
Race/Ethnicity-Females									
White Female	16	27.6%	0.6	6	33.3%	0.2	22	28.9%	0.9
Black/African American Female	37	63.8%	10.1	12	66.7%	3.3	49	64.5%	13.4
Hispanic Female	4	6.9%	3.7	0	0.0%	0.0	4	5.3%	3.7
Asian/Pacific Islander Female	1	1.7%	1.7	0	0.0%	0.0	1	1.3%	1.7
American Indian/Alaskan Native Female	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	0.0
Two or More Races/Unknown Female	0	0.0%	--	0	0.0%	--	0	0.0%	--
Total	58	100.0%	1.9	18	100.0%	0.6	76	100.0%	2.5
Current Age[†]									
<2	0	0.0%	0.0	0	0.0%	0.0	0	0.0%	0.0
2-12	2	0.6%	0.2	0	0.0%	0.0	2	0.4%	0.2
13-18	10	3.0%	2.1	0	0.0%	0.0	10	2.2%	2.1
19-24	102	30.6%	19.9	16	12.4%	3.1	118	25.5%	23.0
25-44	163	48.9%	10.7	66	51.2%	4.3	229	49.6%	15.0
45-64	55	16.5%	3.4	42	32.6%	2.6	97	21.0%	6.0
65+	1	0.3%	0.1	5	3.9%	0.6	6	1.3%	0.7
Total	333	100.0%	5.5	129	100.0%	2.1	462	100.0%	7.7

*HIV cases diagnosed during 2013 which remained HIV cases at the end of the year. Includes persons diagnosed in Missouri correctional facilities.

**AIDS cases initially diagnosed in 2013.

***The sum of newly diagnosed HIV cases and newly diagnosed AIDS cases. Does not include cases diagnosed prior to 2013 with HIV, which progressed to AIDS in 2013.

****Per 100,000 population based on 2012 MDHSS estimates.

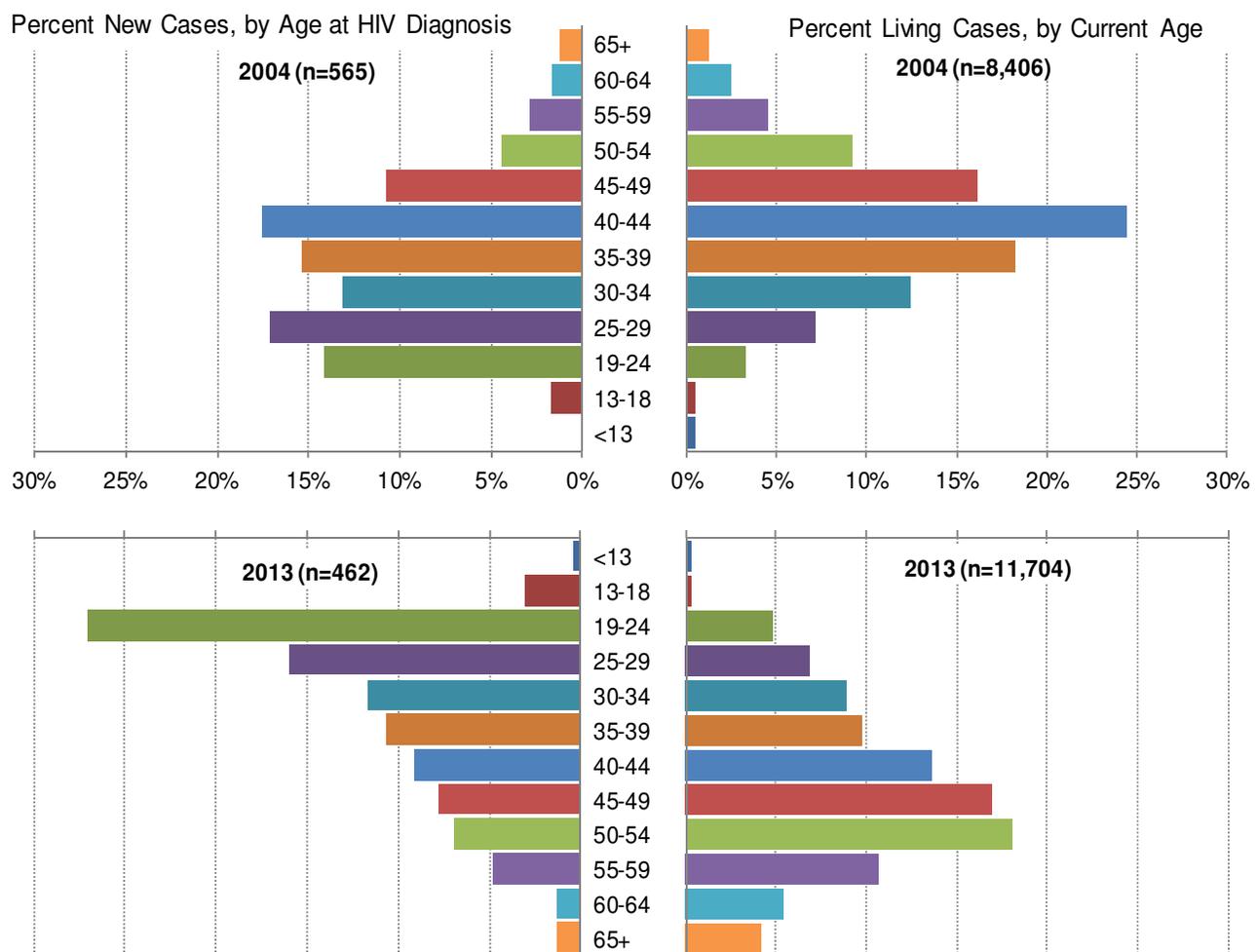
[†]Based on age as of December 31, 2013.

Note: Percentages may not total due to rounding.

Of the 11,704 persons living with HIV at the end of 2013, 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 (49%), the rate of those living with HIV disease was 6.5 times as high among blacks/African Americans compared to whites. The rate was 1.8 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 13.4 times as high as the rate among whites, and 2.7 times as high among Hispanics compared to whites.

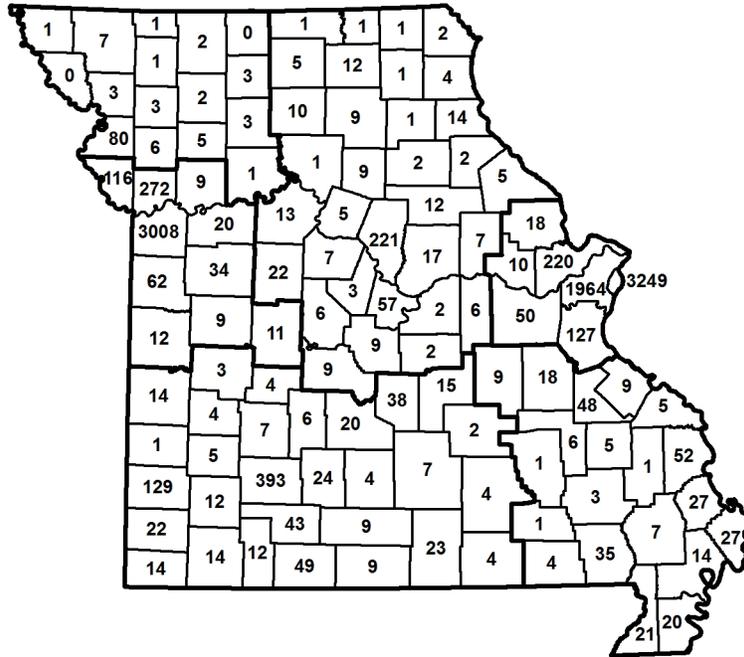
Of the 462 persons newly diagnosed with HIV disease in 2013, 28% were classified as AIDS cases by the end of 2013 (Table 2). The rate of new HIV disease diagnoses was 5.2 times as high among males compared to females. The rate of new HIV disease cases was 9.3 times as high among blacks/African Americans 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 2013 (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, 2004 and 2013



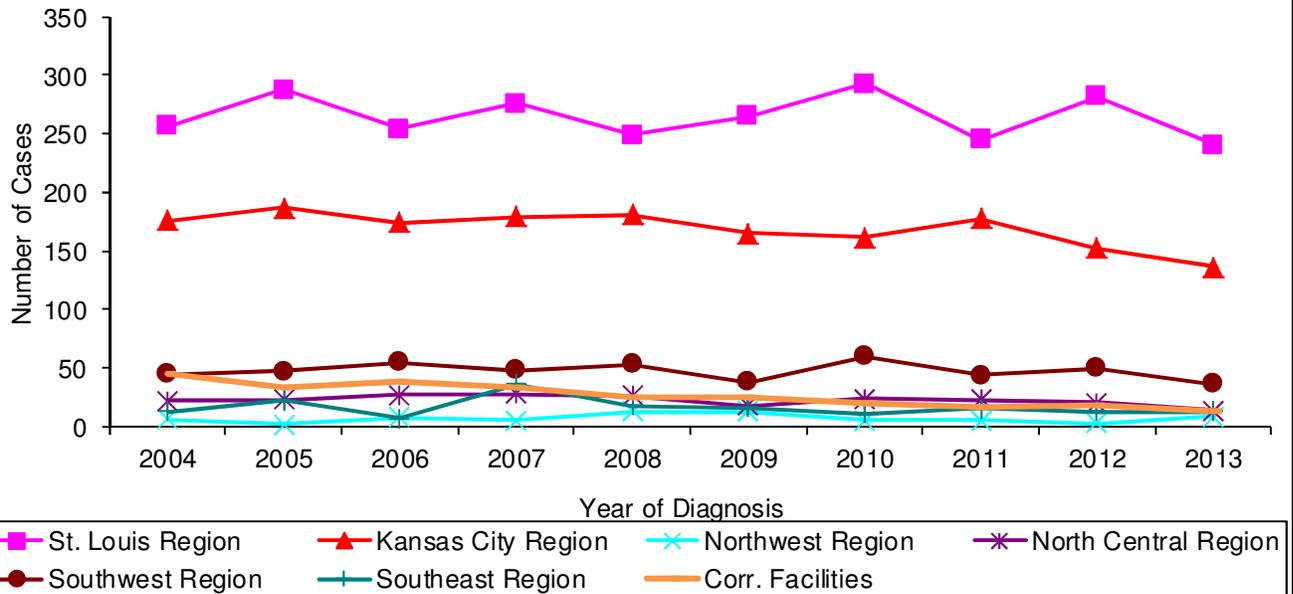
Changes have occurred in the distribution of the age at diagnosis among new HIV disease cases over time (Figure 7). In 2004, the greatest proportion of new diagnoses occurred among those ages 40-44 (18%) and 25-29 (17%). In 2013, the greatest proportion of new diagnoses occurred among those ages 19-24 (27%). Although the age of new diagnoses has decreased, the age of individuals living with HIV has increased over time. In 2004, the greatest proportion of living cases was among those ages 40-44 (24%). In 2013, 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 region at time of diagnosis, Missouri, 1982-2013



*Based on residence at time of most recent diagnosis of HIV or AIDS. Excludes persons diagnosed in Missouri correctional facilities (n=713).

Figure 9. Persons diagnosed with HIV disease by HIV region at time of diagnosis, Missouri, 2004-2013



The largest numbers of persons living with HIV disease in 2013 were most recently diagnosed in St. Louis City (3,249), Jackson County (3,008) and St. Louis County (1,964) (Figure 8). The St. Louis HIV Region has represented the largest number of new HIV disease diagnoses in each year from 2004-2013 (Figure 9). In the St. Louis HIV Region new diagnoses decreased from 282 cases in 2012 to 241 cases in 2013. The 2013 new case count in the St. Louis HIV Region represented the lowest number of new cases in a year since 1987.

The number of new diagnoses in the Kansas City Region, St. Louis Region, and the Southwest Region has been generally stable from 2004 to 2012 with a slight decrease in 2013. In the remainder of the HIV regions, the number of new diagnoses has been generally stable from 2004 to 2013, with slight fluctuations seen in select years.

Table 3. New and living HIV and AIDS cases and rates, by geographic area, and by HIV region, Missouri, 2013

Location	HIV Cases						AIDS Cases					
	Diagnosed 2013*			Living with HIV			Diagnosed 2013**			Living with AIDS		
	Cases	%	Rate***	Cases	%	Rate***	Cases	%	Rate***	Cases	%	Rate***
Geographic Area												
St. Louis City†	80	24.0%	25.1	1,557	28.2%	489.4	33	25.6%	10.4	1,692	27.4%	531.8
St. Louis County†	85	25.5%	8.5	1,003	18.2%	100.3	23	17.8%	2.3	961	15.5%	96.1
Kansas City†	76	22.8%	16.4	1,221	22.1%	263.0	27	20.9%	5.8	1,617	26.1%	348.3
Outstate†	81	24.3%	1.9	1,412	25.6%	33.3	44	34.1%	1.0	1,528	24.7%	36.0
Missouri Correctional Facilities††	11	3.3%	N/A	326	5.9%	N/A	2	1.6%	N/A	387	6.3%	N/A
Total	333	100.0%	5.5	5,519	100.0%	91.6	129	100.0%	2.1	6,185	100.0%	102.7
HIV Region												
St. Louis HIV Region†	180	54.1%	8.6	2,777	50.3%	132.6	61	47.3%	2.9	2,861	46.3%	136.6
Kansas City HIV Region†	92	27.6%	7.3	1,544	28.0%	122.0	44	34.1%	3.5	2,009	32.5%	158.7
Northwest HIV Region†	7	2.1%	2.8	52	0.9%	21.0	2	1.6%	0.8	66	1.1%	26.7
North Central HIV Region†	6	1.8%	0.8	231	4.2%	30.3	8	6.2%	1.0	247	4.0%	32.4
Southwest HIV Region†	27	8.1%	2.3	447	8.1%	38.9	9	7.0%	0.8	444	7.2%	38.6
Southeast HIV Region†	10	3.0%	2.0	142	2.6%	28.4	3	2.3%	0.6	171	2.8%	34.2
Missouri Correctional Facilities††	11	3.3%	N/A	326	5.9%	N/A	2	1.6%	N/A	387	6.3%	N/A
MISSOURI	333	100.0%	5.5	5,519	100.0%	91.6	129	100.0%	2.1	6,185	100.0%	102.7

*HIV cases diagnosed and reported to the Department during 2013 which remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2013 that progressed to AIDS in 2013.

***Per 100,000 population based on 2012 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 AIDS or progressed to AIDS at the end of 2013 by geographic area and HIV region (Table 3). In Outstate, 35% of newly diagnosed HIV disease cases progressed to AIDS at the end of 2013. In comparison, the proportion was 29%, 26%, 21%, and 15% for St. Louis City, Kansas City, St. Louis County, and Missouri correctional facilities, respectively. In the North Central HIV Region, 57% of newly diagnosed HIV disease cases progressed to AIDS at the end of 2013, whereas the proportion was 32%, 25%, 25%, 23%, 22%, and 15% for the HIV regions of Kansas City, Southwest, St. Louis, Southeast, Northwest, and Missouri correctional facilities, respectively. The variation in the proportion of newly diagnosed individuals that progressed to AIDS by the end of 2013 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 AIDS cases were greatest in St. Louis City (Table 3). The rate of new HIV case diagnoses in St. Louis City was 13.2 times as high as Outstate, and 8.6 times as high in Kansas City compared to Outstate. The rate of new AIDS case diagnoses was 10.4 times as high in St. Louis compared to Outstate and 5.8 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, 2013

Area	White			Black/African American			Hispanic			Total		
	Cases	%	Rate*	Cases	%	Rate*	Cases	%	Rate*	Cases**	%	Rate*
St. Louis City†	21	26.3%	15.4	53	66.3%	34.6	3	3.8%	25.9	80	100.0%	25.1
St. Louis County†	14	16.5%	2.0	65	76.5%	27.7	4	4.7%	15.1	85	100.0%	8.5
Kansas City†	25	32.9%	9.8	45	59.2%	33.3	4	5.3%	8.6	76	100.0%	16.4
Outstate Missouri†	58	71.6%	1.5	19	23.5%	11.0	3	3.7%	2.1	81	100.0%	1.9
Missouri Correctional Facilities††	4	36.4%	N/A	7	63.6%	N/A	0	0.0%	N/A	11	100.0%	N/A
MISSOURI TOTAL	122	36.6%	2.5	189	56.8%	27.2	14	4.2%	6.2	333	100.0%	5.5

*Per 100,000 population based on 2012 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 region, Missouri, 2013

Area	White			Black/African American			Hispanic			Total		
	Cases	%	Rate*	Cases	%	Rate*	Cases	%	Rate*	Cases**	%	Rate*
St. Louis HIV Region†	46	25.6%	3.0	122	67.8%	29.9	7	3.9%	12.4	180	100.0%	8.6
Kansas City HIV Region†	35	38.0%	3.7	50	54.3%	27.0	5	5.4%	5.9	92	100.0%	7.3
Northwest HIV Region†	6	85.7%	2.7	0	0.0%	0.0	1	14.3%	13.3	7	100.0%	2.8
North Central HIV Region†	4	66.7%	0.6	2	33.3%	5.0	0	0.0%	0.0	6	100.0%	0.8
Southwest HIV Region†	21	77.8%	2.0	5	18.5%	22.6	0	0.0%	0.0	27	100.0%	2.3
Southeast HIV Region†	6	60.0%	1.3	3	30.0%	9.6	1	10.0%	10.6	10	100.0%	2.0
Missouri Correctional Facilities††	4	36.4%	N/A	7	63.6%	N/A	0	0.0%	N/A	11	100.0%	N/A
MISSOURI TOTAL	122	36.6%	2.5	189	56.8%	27.2	14	4.2%	6.2	333	100.0%	5.5

*Per 100,000 population based on 2012 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 2013 by race/ethnicity varied by geographic area (Table 4). Whites comprised 72% of new HIV case diagnoses in 2013 in Outstate, but only 17% 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 7.3 times as high as the rate among whites, and 1.4 times as high among Hispanics compared to whites. In comparison, the rate of new HIV cases was 2.2 times as high in blacks/African Americans compared to whites, and the rate was only 1.7 times as high for Hispanics compared to whites in St. Louis City.

Similar patterns observed for the geographic areas were also present by HIV region (Table 5). In the Northwest HIV Region, whites represented 86% of new HIV case diagnoses, whereas blacks/African Americans represented the majority of cases in the St. Louis (68%), Missouri correctional facilities (64%), and Kansas City (54%) Regions.

Table 6. Newly diagnosed and living HIV and AIDS cases in men who have sex with men, by selected race/ethnicity, Missouri, 2013

Race/Ethnicity	HIV Cases*				AIDS Cases			
	Newly Diagnosed		Living		Newly Diagnosed**		Living	
	Cases	%	Cases	%	Cases	%	Cases	%
White	83	39.7%	1,868	54.9%	39	55.7%	2,118	55.3%
Black/African American	117	56.0%	1,346	39.6%	25	35.7%	1,500	39.2%
Hispanic	4	1.9%	141	4.1%	2	2.9%	147	3.8%
Other/Unknown	5	2.4%	48	1.4%	4	5.7%	62	1.6%
MISSOURI TOTAL ***	209	100.0%	3,403	100.0%	70	100.0%	3,827	100.0%

*Remained HIV cases at the end of the year.
**Does not include HIV cases diagnosed prior to 2013 that progressed to AIDS in 2013.
***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, 2013

Age Group	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%**
13-18	1	0.0%	9	0.3%	0	0.0%	10	0.1%
19-24	49	1.2%	325	11.4%	12	4.2%	398	5.5%
25-44	1,275	32.0%	1,298	45.6%	145	50.3%	2,773	38.4%
45-64	2,432	61.0%	1,157	40.7%	124	43.1%	3,753	51.9%
65+	229	5.7%	57	2.0%	7	2.4%	296	4.1%
MISSOURI TOTAL	3,986	100.0%	2,846	100.0%	288	100.0%	7,230	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 2013. These data are subject to change.

There were a total of 279 new HIV disease diagnoses attributed to MSM in 2013 (Table 6). Although blacks/African Americans represented 1.4 times as many new HIV cases compared to whites, whites represented 1.6 times as many new AIDS cases compared to blacks/African Americans in 2013. Whites represented a larger proportion of MSM living with both HIV and AIDS compared to blacks/African Americans and Hispanics. Of the newly diagnosed cases among MSM, 25% progressed to AIDS by the end of 2013.

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 (61%) were between 45-64 years of age at the end of 2013. However, only 41% of living black/African American MSM and 43% 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 (334).

Table 8. Living HIV disease cases in men who have sex with men, by selected race/ethnicity, by geographic area, by HIV region, Missouri, 2013

Geographic Area	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%***
St. Louis City	1,033	48.6%	1,014	47.7%	43	2.0%	2,126	29.4%
St. Louis County	525	42.7%	648	52.7%	46	3.7%	1,230	17.0%
Kansas City	1,022	52.8%	758	39.1%	116	6.0%	1,937	26.8%
Outstate	1,308	81.0%	209	12.9%	75	4.6%	1,614	22.3%
Missouri Correctional Facilities	98	30.3%	217	67.2%	8	2.5%	323	4.5%
MISSOURI TOTAL	3,986	55.1%	2,846	39.4%	288	4.0%	7,230	100.0%
HIV Region								
St. Louis Region	1,775	49.1%	1,695	46.9%	92	2.5%	3,612	50.0%
Kansas City Region	1,338	56.8%	822	34.9%	147	6.2%	2,356	32.6%
Northwest Region	60	93.8%	3	4.7%	1	1.6%	64	0.9%
North Central Region	182	75.2%	45	18.6%	13	5.4%	242	3.3%
Southwest Region	422	86.1%	36	7.3%	24	4.9%	490	6.8%
Southeast Region	111	77.6%	28	19.6%	3	2.1%	143	2.0%
Missouri Correctional Facilities	98	30.3%	217	67.2%	8	2.5%	323	4.5%
MISSOURI TOTAL	3,986	55.1%	2,846	39.4%	288	4.0%	7,230	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 7,230 MSM living with HIV disease at the end of 2013, 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, 81% 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 regions. The St. Louis HIV Region represented 50% of all living cases among MSM and the Kansas City HIV Region comprised 33%. The proportion of living cases among white MSM was highest in the Northwest HIV Region and lowest in Missouri correctional facilities.

Table 9. Newly diagnosed and living HIV and AIDS cases in men who have sex with men and inject drugs, by selected race/ethnicity, Missouri, 2013

Race/Ethnicity	HIV Cases*				AIDS Cases			
	Newly Diagnosed		Living		Newly Diagnosed**		Living	
	Cases	%	Cases	%	Cases	%	Cases	%
White	6	85.7%	145	67.8%	3	60.0%	235	62.7%
Black/African American	1	14.3%	62	29.0%	1	20.0%	126	33.6%
Hispanic	0	0.0%	6	2.8%	1	20.0%	11	2.9%
Other/Unknown	0	0.0%	1	0.5%	0	0.0%	3	0.8%
MISSOURI TOTAL***	7	100.0%	214	100.0%	5	100.0%	375	100.0%

*Remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2013 that progressed to AIDS in 2013.

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

Note: Percentages may not total due to rounding.

Table 10. Living HIV disease cases in men who have sex with men and inject drugs, by selected race/ethnicity, by current age group, Missouri, 2013

Age Group	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%**
13-18	0	0.0%	0	0.0%	0	0.0%	0	0.0%
19-24	6	1.6%	4	2.1%	0	0.0%	10	1.7%
25-44	121	31.8%	47	25.0%	9	52.9%	179	30.4%
45-64	237	62.4%	130	69.1%	8	47.1%	377	64.0%
65+	16	4.2%	7	3.7%	0	0.0%	23	3.9%
MISSOURI TOTAL	380	100.0%	188	100.0%	17	100.0%	589	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 12 new HIV disease diagnoses attributed to men who have sex with men and inject drugs (MSM/IDU) in 2013 (Table 9). The small number of new cases diagnosed among MSM/IDU make patterns by race/ethnicity and sex difficult to interpret. Although based on a small number of cases, 42% of newly diagnosed cases progressed to AIDS by the end of 2013. Whites represented the majority (86%) of new HIV cases among MSM/IDU. Among living HIV and AIDS cases, whites represented the largest proportion of cases, 68% and 63%, 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, 62% and 69%, were between 45-64 years of age at the end of 2013. 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 2013.

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 region, Missouri, 2013

Geographic Area	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%***
St. Louis City	45	42.9%	57	54.3%	3	2.9%	105	17.8%
St. Louis County	24	50.0%	24	50.0%	0	0.0%	48	8.1%
Kansas City	100	63.7%	44	28.0%	9	5.7%	157	26.7%
Outstate	172	89.1%	16	8.3%	5	2.6%	193	32.8%
Missouri Correctional Facilities	39	45.3%	47	54.7%	0	0.0%	86	14.6%
MISSOURI TOTAL	380	64.5%	188	31.9%	17	2.9%	589	100.0%
HIV Region								
St. Louis Region	80	48.2%	82	49.4%	4	2.4%	166	28.2%
Kansas City Region	138	69.7%	47	23.7%	9	4.5%	198	33.6%
Northwest Region	9	100.0%	0	0.0%	0	0.0%	9	1.5%
North Central Region	26	81.3%	4	12.5%	2	6.3%	32	5.4%
Southwest Region	72	92.3%	4	5.1%	2	2.6%	78	13.2%
Southeast Region	16	80.0%	4	20.0%	0	0.0%	20	3.4%
Missouri Correctional Facilities	39	45.3%	47	54.7%	0	0.0%	86	14.6%
MISSOURI TOTAL	380	64.5%	188	31.9%	17	2.9%	589	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 589 MSM/IDU living with HIV disease at the end of 2013, the largest proportion was diagnosed in Outstate Missouri (33%), followed by Kansas City (27%) (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, 89% of living cases attributed to MSM/IDU were white, whereas only 43% of living cases diagnosed in St. Louis City among MSM/IDU were white.

The Kansas City HIV Region represented 34% of all living cases among MSM/IDU, and the St. Louis HIV Region comprised 28%. The proportion of white living cases among MSM/IDU was highest in the Northwest HIV Region (100%) and lowest in Missouri correctional facilities (45%).

Table 12. Newly diagnosed and living HIV and AIDS cases in injecting drug users, by selected race/ethnicity and sex, Missouri, 2013

Race/Ethnicity and Sex	HIV Cases*				AIDS Cases			
	Newly Diagnosed		Living		Newly Diagnosed**		Living	
	Cases	%	Cases	%	Cases	%	Cases	%
White Male	4	30.8%	79	31.2%	3	37.5%	108	27.1%
Black/African American Male	2	15.4%	72	28.5%	2	25.0%	141	35.4%
Hispanic Male	2	15.4%	6	2.4%	0	0.0%	13	3.3%
White Female	2	15.4%	56	22.1%	3	37.5%	55	13.8%
Black/African American Female	2	15.4%	36	14.2%	0	0.0%	69	17.3%
Hispanic Female	1	7.7%	2	0.8%	0	0.0%	8	2.0%
MISSOURI TOTAL ***	13	100.0%	253	100.0%	8	100.0%	398	100.0%

*Remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2013 that progressed to AIDS in 2013.

***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, 2013

Age Group	White Males		Black/African American Males		White Females		American Females		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%**	Cases	%**
	13-18	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0
19-24	2	1.1%	3	1.4%	3	2.7%	1	1.0%	9	1.4%
25-44	47	25.1%	43	20.2%	44	39.6%	35	33.3%	181	27.8%
45-64	131	70.1%	153	71.8%	63	56.8%	64	61.0%	429	65.9%
65+	7	3.7%	14	6.6%	1	0.9%	5	4.8%	32	4.9%
MISSOURI TOTAL	187	100.0%	213	100.0%	111	100.0%	105	100.0%	651	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 2013 (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, 38% progressed to AIDS by the end of 2013. Males represented approximately 65% 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 AIDS by the end of 2013 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 AIDS cases. For example, white males represented the largest proportion of living HIV cases (31%) while black/African American males represented the largest proportion (35%) of living 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 2013 (Table 13). The proportion of living HIV disease cases between the ages of 25 and 44 was greatest among white females.

Table 14. Living HIV disease cases in injecting drug users, by selected race/ethnicity, by geographic area, by HIV region, Missouri, 2013

Geographic Area	White		Black/African American		Hispanic		Total*	
	Cases	%**	Cases	%**	Cases	%**	Cases	%***
St. Louis City	20	15.2%	109	82.6%	2	1.5%	132	20.3%
St. Louis County	21	38.9%	31	57.4%	1	1.9%	54	8.3%
Kansas City	46	30.9%	89	59.7%	12	8.1%	149	22.9%
Outstate	162	80.6%	29	14.4%	10	5.0%	201	30.9%
Missouri Correctional Facilities	49	42.6%	60	52.2%	4	3.5%	115	17.7%
MISSOURI TOTAL	298	45.8%	318	48.8%	29	4.5%	651	100.0%
HIV Region								
St. Louis Region	69	32.2%	140	65.4%	3	1.4%	214	32.9%
Kansas City Region	83	43.0%	93	48.2%	15	7.8%	193	29.6%
Northwest Region	6	66.7%	2	22.2%	1	11.1%	9	1.4%
North Central Region	19	70.4%	7	25.9%	1	3.7%	27	4.1%
Southwest Region	59	81.9%	9	12.5%	4	5.6%	72	11.1%
Southeast Region	13	61.9%	7	33.3%	1	4.8%	21	3.2%
Missouri Correctional Facilities	49	42.6%	60	52.2%	4	3.5%	115	17.7%
MISSOURI TOTAL	298	45.8%	318	48.8%	29	4.5%	651	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 651 IDU living with HIV disease at the end of 2013, the largest proportion was diagnosed in Outstate Missouri (31%), followed by Kansas City (23%) (Table 14). There were differences in the proportion of living HIV disease cases among IDU diagnosed in each geographic area by race/ethnicity. In Outstate Missouri, 81% of living cases attributed to IDU were white, whereas only 15% 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 Region represented 33% of all living cases among IDU, and the Kansas City HIV Region comprised 30%. The proportion of white living cases among IDU was highest in the Southwest HIV Region (82%) and lowest in the St. Louis HIV Region (32%) while the reverse was true of black/African American living cases among IDU (13% and 65%). Though proportions of Hispanic living cases among IDU by HIV region are difficult to interpret due to small numbers of individuals in this population, the highest number of these cases are in the Kansas City Region (15).

Table 15. Newly diagnosed and living HIV and AIDS cases in heterosexual contacts, by selected race/ethnicity and sex, Missouri, 2013

Race/Ethnicity and Sex	HIV Cases*				AIDS Cases			
	Newly Diagnosed		Living		Newly Diagnosed**		Living	
	Cases	%	Cases	%	Cases	%	Cases	%
White Male	2	4.2%	57	7.5%	1	8.3%	52	6.0%
Black/African American Male	10	20.8%	106	13.9%	7	58.3%	173	20.1%
Hispanic Male	1	2.1%	2	0.3%	0	0.0%	11	1.3%
White Female	7	14.6%	208	27.3%	2	16.7%	196	22.8%
Black/African American Female	25	52.1%	355	46.5%	2	16.7%	394	45.8%
Hispanic Female	2	4.2%	22	2.9%	0	0.0%	19	2.2%
MISSOURI TOTAL ***	48	100.0%	763	100.0%	12	100.0%	861	100.0%

*Remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2013 that progressed to AIDS in 2013.

***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, 2013

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	0.4%	0	0.0%	1	0.1%	2
19-24	0	0.0%	12	4.3%	8	2.0%	26	3.5%	47	2.9%
25-44	20	18.3%	116	41.6%	168	41.6%	404	53.9%	755	46.5%
45-64	72	66.1%	138	49.5%	196	48.5%	300	40.1%	738	45.4%
65+	17	15.6%	12	4.3%	32	7.9%	18	2.4%	82	5.0%
MISSOURI TOTAL	109	100.0%	279	100.0%	404	100.0%	749	100.0%	1,624	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 60 new HIV disease diagnoses attributed to heterosexual contact in 2013 (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. White females were more likely to have progressed to AIDS by the end of 2013 than black/African American females (22% vs. 7%). Overall, 20% of newly diagnosed cases attributed to heterosexual contact progressed to AIDS by the end of 2013.

Females represented 78% of living HIV cases and 72% of living 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	69	14.3%	398	82.6%	12	2.5%	482	29.7%
St. Louis County	65	20.4%	235	73.9%	11	3.5%	318	19.6%
Kansas City	59	23.0%	181	70.4%	11	4.3%	257	15.8%
Outstate	300	65.2%	130	28.3%	19	4.1%	460	28.3%
Missouri Correctional Facilities	20	18.7%	84	78.5%	1	0.9%	107	6.6%
MISSOURI TOTAL	513	31.6%	1,028	63.3%	54	3.3%	1,624	100.0%
HIV Region								
St. Louis Region	176	20.5%	645	75.2%	25	2.9%	858	52.8%
Kansas City Region	111	33.5%	194	58.6%	19	5.7%	331	20.4%
Northwest Region	11	61.1%	7	38.9%	0	0.0%	18	1.1%
North Central Region	58	59.8%	32	33.0%	3	3.1%	97	6.0%
Southwest Region	94	71.8%	28	21.4%	5	3.8%	131	8.1%
Southeast Region	43	52.4%	38	46.3%	1	1.2%	82	5.0%
Missouri Correctional Facilities	20	18.7%	84	78.5%	1	0.9%	107	6.6%
MISSOURI TOTAL	513	31.6%	1,028	63.3%	54	3.3%	1,624	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 1,624 living cases among heterosexual contacts at the end of 2013, the largest proportion was diagnosed in St. Louis City (30%); 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 (63%) compared to all other exposure categories.

The St. Louis HIV Region represented 53% of all living cases among heterosexuals, and the Kansas City HIV Region comprised 20%. The proportion of white living cases among heterosexuals was highest in the Southwest HIV Region (72%) and lowest in Missouri correctional facilities (19%). The proportion of black/African American living cases was highest in Missouri correctional facilities (79%) and lowest in the Southwest Region (21%).

Table 18. Deaths* among HIV cases, by mode of transmission, by selected race and sex, Missouri, 1982—2013

Mode of Transmission	White Males		Black/African American Males		White Females		Black/African American Females		Total**	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
MSM	199	62.8%	129	56.3%	0	0.0%	0	0.0%	344	51.3%
MSM/IDU	42	13.2%	16	7.0%	0	0.0%	0	0.0%	62	9.2%
IDU	29	9.1%	28	12.2%	8	23.5%	17	32.1%	89	13.3%
Heterosexual Contact	7	2.2%	19	8.3%	16	47.1%	26	49.1%	71	10.6%
No Indicated Risk (NIR)	32	10.1%	36	15.7%	10	29.4%	9	17.0%	95	14.2%
MISSOURI TOTAL***	317	100.0%	229	100.0%	34	100.0%	53	100.0%	671	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 10 cases (1.5%) 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 AIDS cases, by mode of transmission, by selected race and sex, Missouri, 1982—2013

Mode of Transmission	White Males		Black/African American Males		White Females		Black/African American Females		Total**	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
MSM	3,250	78.1%	1,260	68.3%	0	0.0%	0	0.0%	4,707	67.2%
MSM/IDU	419	10.1%	196	10.6%	0	0.0%	0	0.0%	641	9.2%
IDU	169	4.1%	179	9.7%	79	28.1%	105	25.9%	567	8.1%
Heterosexual Contact	64	1.5%	87	4.7%	147	52.3%	246	60.6%	562	8.0%
No Indicated Risk (NIR)	109	2.6%	101	5.5%	27	9.6%	34	8.4%	297	4.2%
MISSOURI TOTAL***	4,162	100.0%	1,844	100.0%	281	100.0%	406	100.0%	7,005	100.0%

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

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

***Total (numbers and percentages) include 231 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 (671) in comparison to the number of deaths among persons classified as AIDS (7,005) (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 AIDS cases (Table 19). Among both white and black/African American female AIDS cases, cases attributed to heterosexual contact represented the majority of deaths. The proportion of deaths among those with no indicated risk among 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 AIDS cases with exposure category assignments for Missouri, 2013

Exposure category	HIV cases				AIDS cases			
	2013*		Living		2013**		Living	
Adult/Adolescent								
Men who have sex with men	242	73.1%	3,854	70.7%	88	68.2%	4,166	67.7%
Men who have sex with men and inject drugs	8	2.4%	240	4.4%	6	4.7%	407	6.6%
Injecting drug use	17	5.1%	307	5.6%	11	8.5%	461	7.5%
Heterosexual contact	64	19.3%	1,039	19.1%	24	18.6%	1,075	17.5%
Hemophilia/coagulation disorder	0	0.0%	9	0.2%	0	0.0%	36	0.6%
Blood transfusion or tissue recipient	0	0.0%	3	0.1%	0	0.0%	8	0.1%
No indicated risk (NIR)	----	-----	----	-----	----	-----	----	-----
ADULT/ADOLESCENT SUBTOTAL	331	100.0%	5,454	† 100.0%	129	100.0%	6,154	† 100.0%
Pediatric (<13 years old)								
PEDIATRIC SUBTOTAL	2	100.0%	65	100.0%	0	0.0%	31	100.0%

*HIV cases reported during 2013 which remained HIV cases at the end of the year.

**Does not include HIV cases diagnosed prior to 2013 that progressed to AIDS in 2013.

†Includes 2 cases with a confirmed "other" exposure category among persons living with HIV and one case among persons living with 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 AIDS cases, MSM represented the greatest proportion of cases. The proportion of MSM cases was greater for new HIV and 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 diagnosed among children less than 13 years of age in 2013.

The majority of HIV disease cases diagnosed in 2013 (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 48% of living HIV disease diagnoses were among whites in metropolitan areas compared to 79% in nonmetropolitan areas. There were also differences based on the population of area of residence in the distribution of living HIV disease cases by exposure category. As the population of the area of residence decreased, the proportion of cases attributed to MSM generally decreased. Among those living with HIV disease, the proportion of cases diagnosed between 45-64 years of age increased as the population of the area of residence decreased.

Table 21. Newly diagnosed and living HIV disease* cases, by population of area of residence at time of diagnosis, by sex, by race/ethnicity, by exposure category and age at diagnosis, Missouri, 2013†

	Newly Diagnosed						Living							
	Metropolitan Area**		Micropolitan Area***		Nonmetropolitan Area****		Metropolitan Area**		Micropolitan Area***		Nonmetropolitan Area****			
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%		
Sex														
Male	352	84.6%	19	73.1%	3	42.9%	8,512	83.2%	309	73.6%	248	71.7%		
Female	64	15.4%	7	26.9%	4	57.1%	1,713	16.8%	111	26.4%	98	28.3%		
Total	416	100.0%	26	100.0%	7	100.0%	10,225	100.0%	420	100.0%	346	100.0%		
Race/Ethnicity														
White	161	38.7%	17	65.4%	4	57.1%	4,923	48.1%	304	72.4%	272	78.6%		
Black/African American	226	54.3%	8	30.8%	3	42.9%	4,698	45.9%	95	22.6%	59	17.1%		
Hispanic	18	4.3%	0	0.0%	0	0.0%	436	4.3%	15	3.6%	14	4.0%		
Other/Unknown	11	2.6%	1	3.8%	0	0.0%	168	1.6%	6	1.4%	1	0.3%		
Total	416	100.0%	26	100.0%	7	100.0%	10,225	100.0%	420	100.0%	346	100.0%		
Exposure Category														
Men who have sex with men	263	63.2%	11	42.3%	2	28.6%	6,560	64.2%	190	45.2%	157	45.4%		
Men who have sex with men and inject drugs	10	2.4%	0	0.0%	0	0.0%	454	4.4%	29	6.9%	20	5.8%		
Injecting drug use	14	3.4%	2	7.7%	0	0.0%	479	4.7%	31	7.4%	26	7.5%		
Heterosexual contact	51	12.3%	6	23.1%	1	14.3%	1,336	13.1%	94	22.4%	87	25.1%		
No Indicated Risk (NIR)	77	18.5%	6	23.1%	4	57.1%	1,274	12.5%	64	15.2%	44	12.7%		
Other	0	0.0%	0	0.0%	0	0.0%	45	0.4%	3	0.7%	5	1.4%		
Pediatric	1	0.2%	1	3.8%	0	0.0%	77	0.8%	9	2.1%	7	2.0%		
Total	416	100.0%	26	100.0%	7	100.0%	10,225	100.0%	420	100.0%	346	100.0%		
Age at Diagnosis														
<2	0	0.0%	0	0.0%	0	0.0%	44	0.4%	5	1.2%	3	0.9%		
2-12	1	0.2%	1	3.8%	0	0.0%	24	0.2%	3	0.7%	3	0.9%		
13-18	13	3.1%	1	3.8%	0	0.0%	275	2.7%	10	2.4%	12	3.5%		
19-24	113	27.2%	8	30.8%	1	14.3%	1,524	14.9%	52	12.4%	31	9.0%		
25-44	194	46.6%	11	42.3%	4	57.1%	6,643	65.0%	269	64.0%	204	59.0%		
45-64	91	21.9%	3	11.5%	2	28.6%	1,662	16.3%	79	18.8%	91	26.3%		
65+	4	1.0%	2	7.7%	0	0.0%	53	0.5%	2	0.5%	2	0.6%		
Total	416	100.0%	26	100.0%	7	100.0%	10,225	100.0%	420	100.0%	346	100.0%		

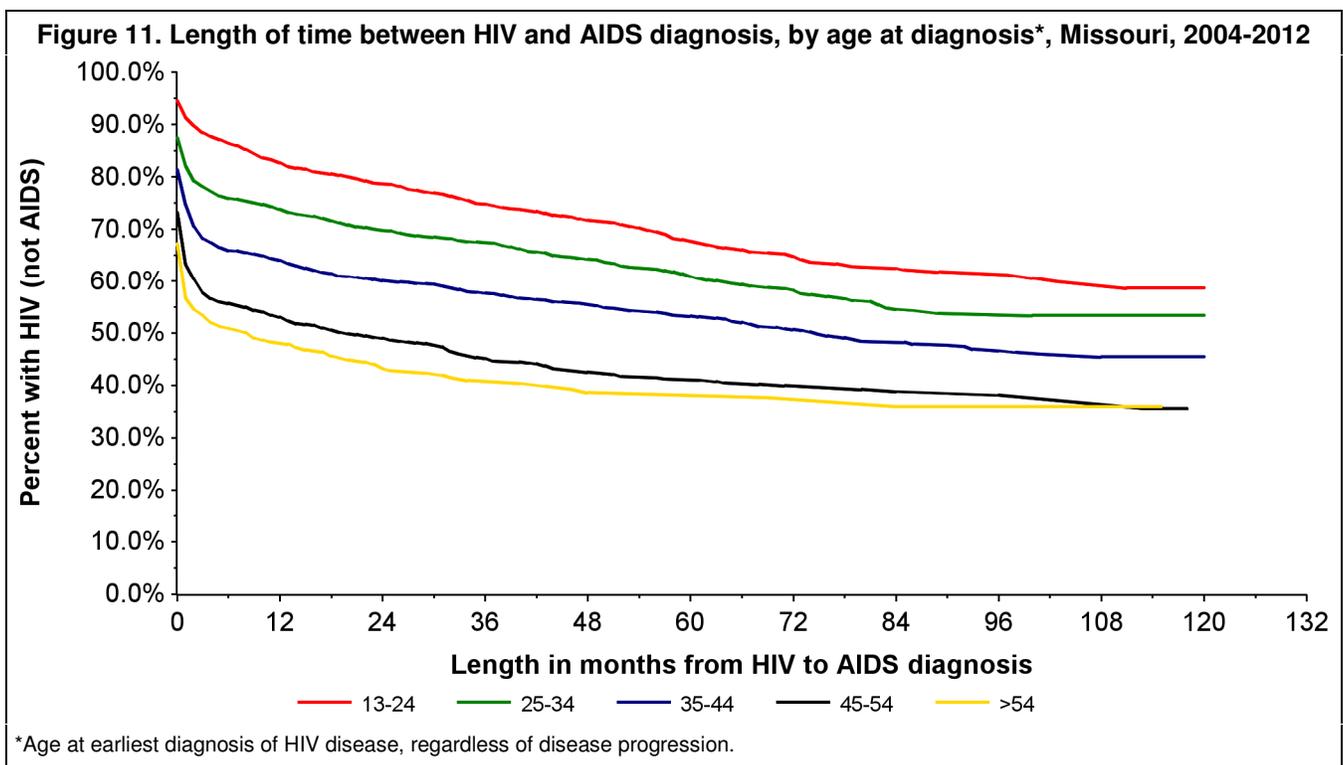
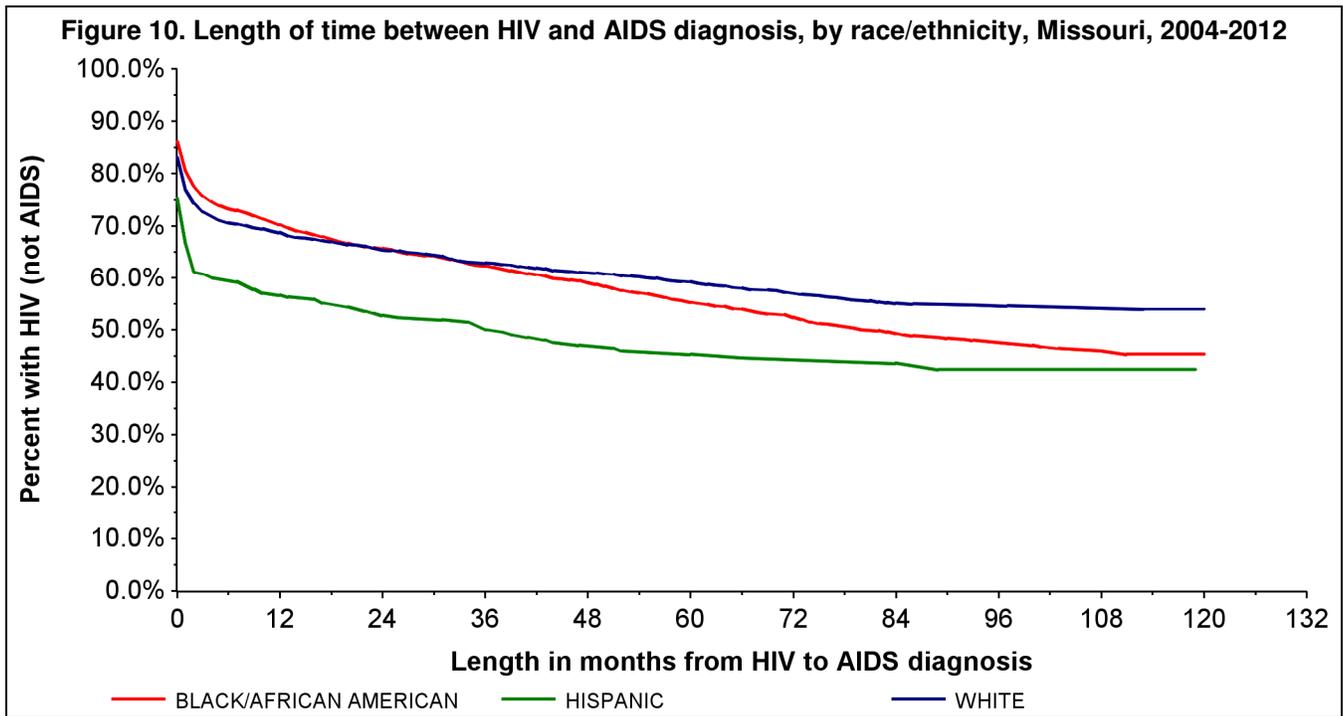
*Includes all individuals diagnosed with the HIV virus, regardless of current status (i.e., HIV or AIDS)

†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.

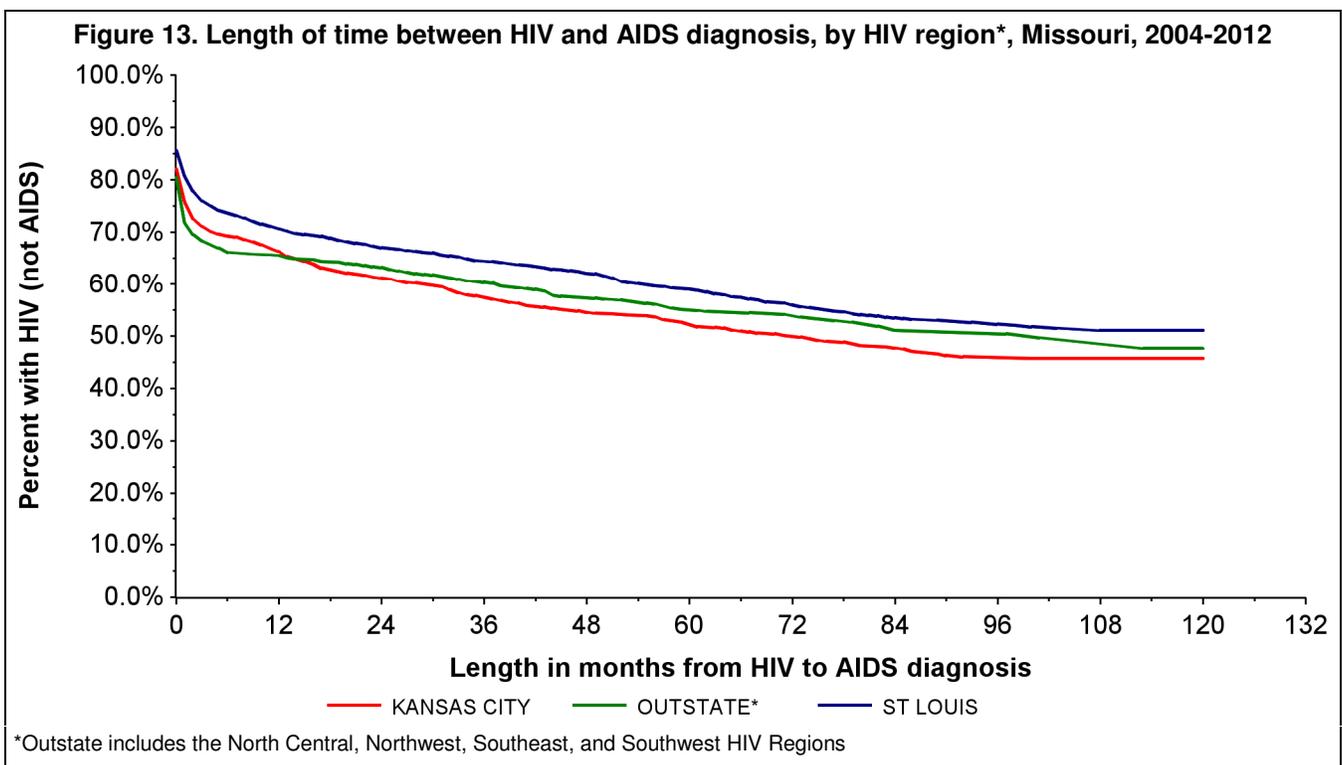
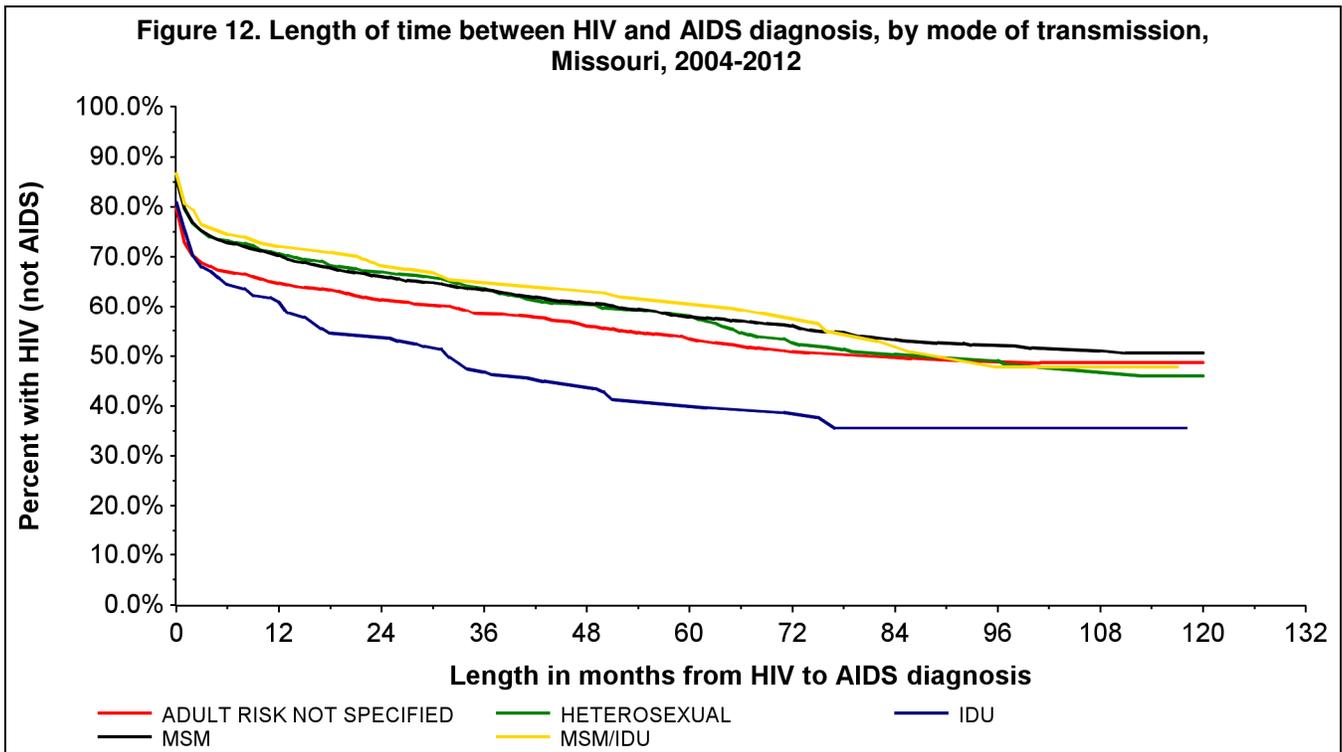
***A micropolitan area contains a core urban area with a population between 10,000-49,999. It also includes adjacent counties that have a high degree of social and economic integration with the core urban area. Based on 2013 US Census estimates. See Appendix for map of included counties.

****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.



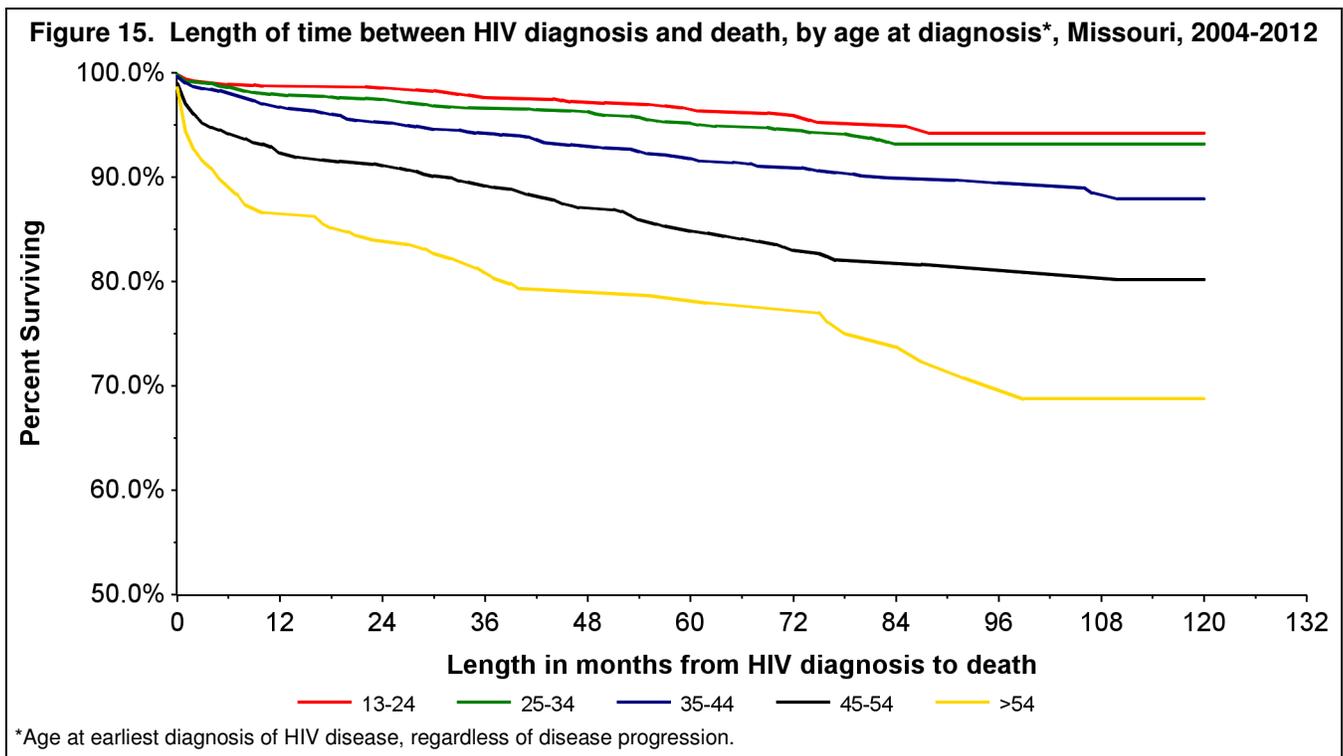
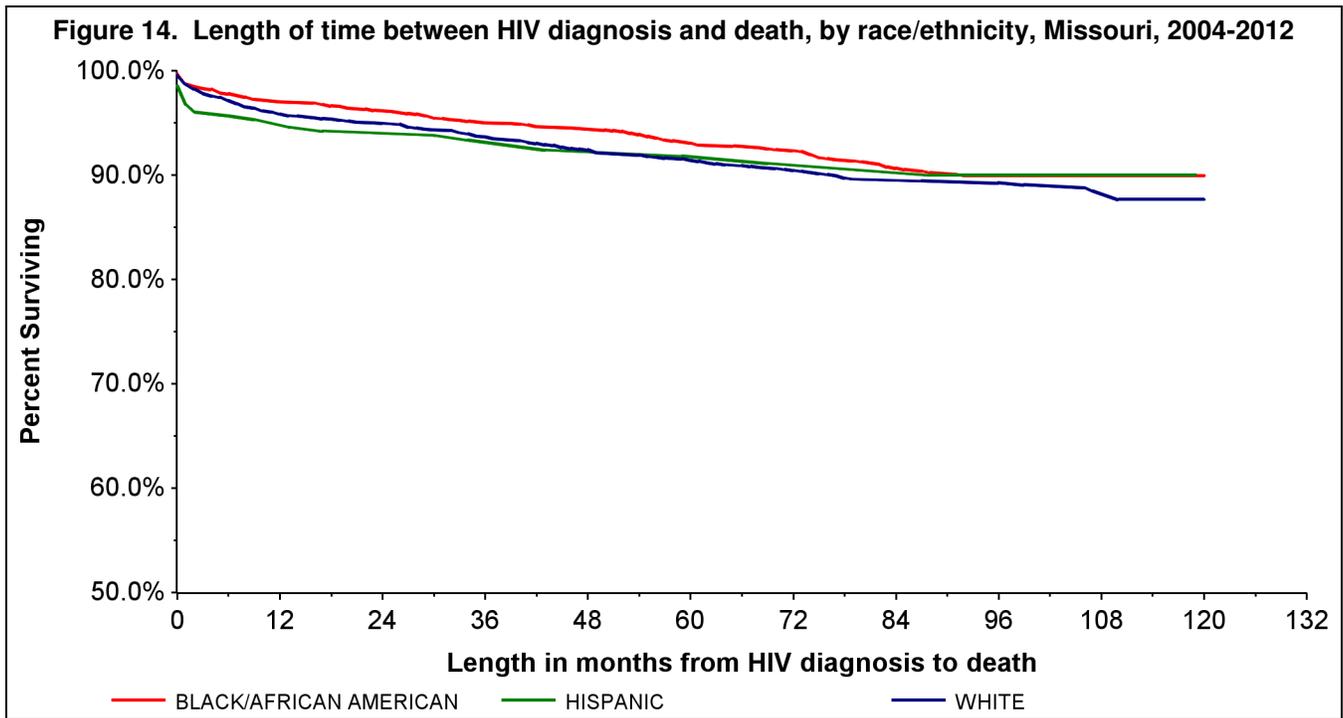
A greater proportion of Hispanics progressed from HIV to AIDS within 12 months of their HIV diagnosis compared to whites and blacks/African Americans (Figure 10). It is important to note that for all curves displayed, data in the later months should be interpreted with caution as they are based on small numbers.

Younger age was associated with slower progression from HIV to AIDS; the proportion of individuals progressing to AIDS increased as age at diagnosis increased (Figure 11). Over time, the proportion of cases that progressed to AIDS remained higher as the age at initial HIV diagnosis increased.



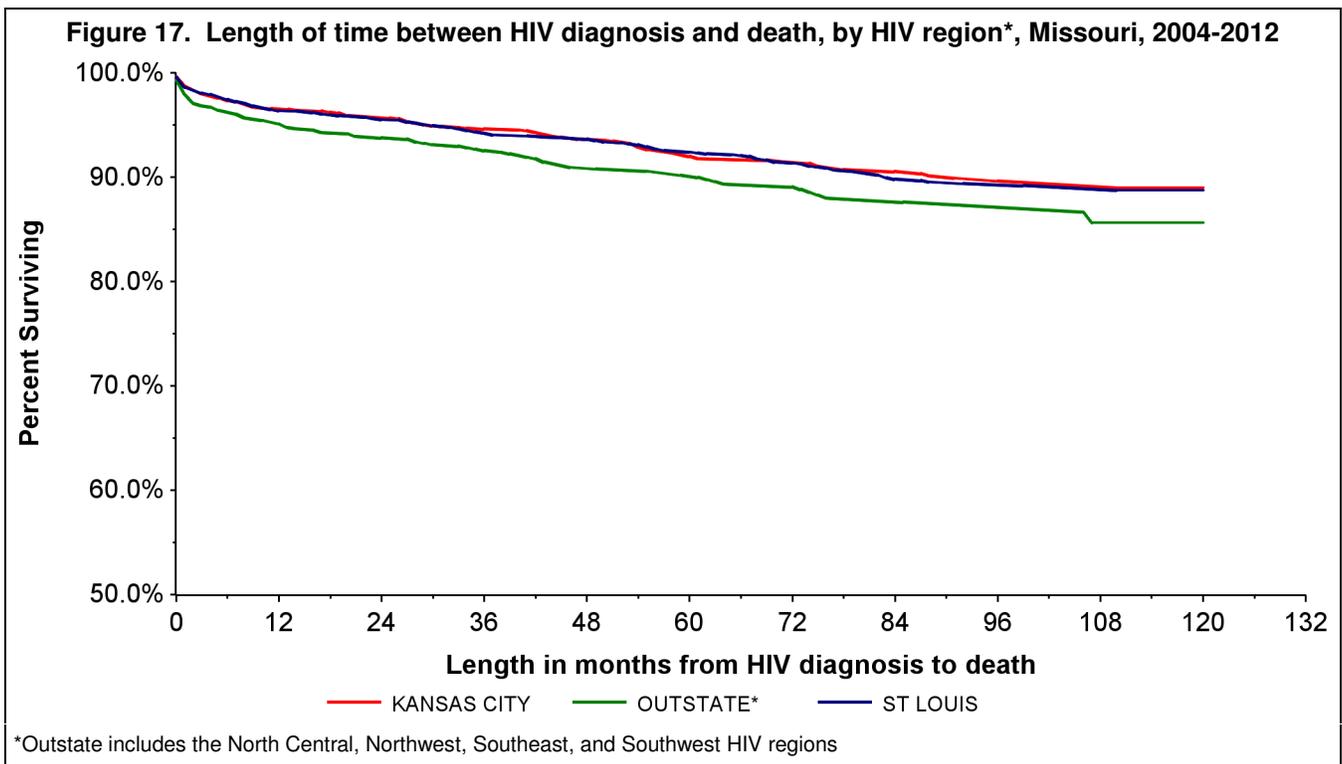
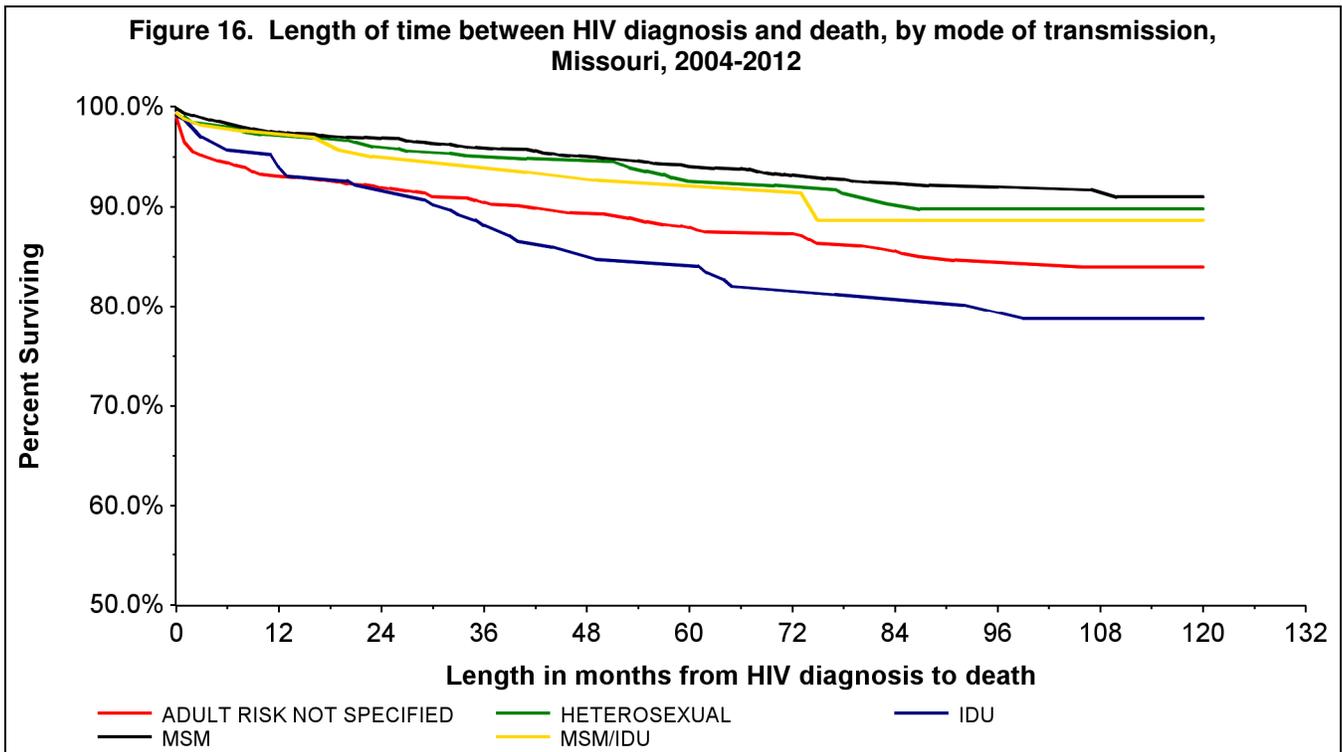
A greater proportion of IDU progressed from HIV to AIDS within 12 months of their HIV diagnosis compared to individuals from all other exposure categories (Figure 12). At 96 months after the initial HIV diagnosis, the proportion of cases that progressed to AIDS remained higher for IDU compared with other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

There were differences in the progression from HIV to AIDS by HIV region (Figure 13). The proportion of individuals that progressed to AIDS over time was generally greater for the Kansas City HIV Region and all Outstate HIV Regions combined compared to the St. Louis HIV 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.



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, 92% of all individuals were still living.

Over time, the proportion of cases that were deceased was higher as the age at initial HIV diagnosis increased (Figure 15). For example, 72 months following the initial diagnosis, 96% of individuals diagnosed between 13-24 years of age were still living, compared to only 78% 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 region (Figure 17). At 24 months following the initial HIV diagnosis, the proportion still living was 96% for both the St. Louis HIV Region and the Kansas City HIV Region, and 94% for all other Outstate HIV Regions combined.

Table 22. Initial CD4 and viral load values[†] among adults and adolescents newly diagnosed with HIV disease, Missouri, 2011-2012

Viral Load (copies/mL)	CD4 Count (cells/μL)											
	No Test		<200		200-350		351-500		>500		Total	
	N	%*	N	%*	N	%*	N	%*	N	%*	N	%**
No Test	112	10.6%	15	1.4%	7	0.7%	5	0.5%	12	1.1%	151	14.3%
0-10,000	37	3.5%	45	4.3%	42	4.0%	46	4.3%	85	8.0%	255	24.1%
10,001-100,000	52	4.9%	70	6.6%	69	6.5%	72	6.8%	82	7.8%	345	32.6%
>100,000	24	2.3%	160	15.1%	39	3.7%	42	4.0%	42	4.0%	307	29.0%
Total	225	21.3%	290	27.4%	157	14.8%	165	15.6%	221	20.9%	1,058	100.0%

[†]Within 12 months of the initial HIV diagnosis

* % of table total

**% of column total

Of persons newly diagnosed with HIV disease between 2011 and 2012, 11% did not have a CD4 or a viral load laboratory result reported to MDHSS within 12 months of diagnosis (Table 22). Nearly 27% of persons diagnosed between 2011 and 2012 had an initial CD4 count of less than 200 cells/μL. 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, 2011-2012

	Number	% with CD4 within 12 months of HIV diagnosis	Median of initial CD4 counts (cells/ μL)
HIV Status			
HIV (not AIDS)	699	69.8%	476
Concurrent HIV and AIDS diagnosis	251	99.6%	86
AIDS >1 month after HIV diagnosis	108	88.0%	153
Sex			
Male	899	78.1%	316
Female	159	82.4%	367
Race/Ethnicity			
White	433	83.1%	341
Black/African American	551	73.9%	327
Hispanic	58	87.9%	291
Other/Unknown	16	93.8%	239
Exposure Category			
MSM	690	77.0%	337
MSM/IDU	28	85.7%	408
IDU	38	86.8%	343
HRH	106	83.0%	350
Other	0	--	--
NIR	196	80.1%	248
Age at HIV Diagnosis			
13-18	43	72.1%	444
19-24	261	72.4%	408
25-44	507	79.3%	324
45-64	233	85.8%	192
65+	14	78.6%	170

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 2011 and 2012, a greater proportion of females had a CD4 within 12 months of diagnosis (82%) compared to males (78%). The initial median CD4 count tended to be greater for females (367 cells/ μ L) compared to males (316 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 (88%). Among those with a CD4 count within 12 months of diagnosis, the initial median CD4 count tended to be lower among Hispanics (291 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 for persons with no indicated risk compared to all other exposure categories. The median initial CD4 count tended to decrease as the age at HIV diagnosis increased. These data may be beneficial when determining groups that should be targeted for new testing initiatives to identify individuals earlier in their disease progression.

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

Primary and Secondary (P&S) Syphilis

- The number of reported P&S syphilis cases increased from 157 cases in 2012 to 251 cases in 2013. The increase observed was due to increases in the St. Louis, Kansas City, Northwest, and Southeast HIV Regions.
- The rate of reported cases was highest in St. Louis City (19 per 100,000).
- Blacks/African Americans were disproportionately impacted, with a case rate 9.2 times as high as the rate among whites.

Early Latent Syphilis

- The number of early latent syphilis cases increased from 2012 (135 cases) to 2013 (220 cases). The increase was seen in all HIV regions except for the Northwest Region.
- The number of reported cases in 2013 was highest in St. Louis City (70).
- Males represented the majority (89%) of reported early latent syphilis cases.
- The case rate was 10.5 times as high among blacks/African Americans compared to whites.

Gonorrhea

- The number of reported gonorrhea cases decreased from 2012 (7,889 cases) to 2013 (7,546 cases). The number of reported gonorrhea cases was lower in 2013 compared to 2012 in all HIV regions except the Southeast HIV Region.
- St. Louis City had the highest rate of reported gonorrhea cases at 551 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 (32%) compared to white females (22%), black/African American males (20%), and white males (10%).

Chlamydia

- The number of reported chlamydia cases decreased from 27,835 in 2012 to 27,328 in 2013. Similar trends were observed in the Kansas City, Northwest, and Southwest HIV Regions, while all other regions showed an increase.
- St. Louis City had the highest chlamydia rate in 2013 (1,297 per 100,000). Jackson County reported the second highest case rate of chlamydia (750 per 100,000).
- A larger proportion of reported chlamydia cases was diagnosed between 15 and 19 years old among black/African American females (39%) compared to white females (35%), black/African American males (27%) and white males (17%).

Hepatitis B

- The number of reported hepatitis B cases in Missouri increased by 60 cases from 2012 (537) to 2013 (597).
- St. Louis County had the greatest number of reported hepatitis B cases with 111 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 40-49 years of age.

Hepatitis C

- There were 4,881 hepatitis C cases reported in Missouri in 2013.
- St. Louis City had the greatest number of reported hepatitis C cases with 774 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 514 persons living with HIV who were reported with an STD in 2013.
- Of the 471 early syphilis cases reported in 2013, 44% were among individuals living with HIV. Only 3% of gonorrhea cases and less than 1% of chlamydia cases reported in 2013 were among individuals living with HIV.
- St. Louis residents represented 70% of all living HIV cases reported with multiple STD co-morbidities in 2013, 70% of those with a chlamydia co-morbidity, 48% of those with an early syphilis co-morbidity, and 76% of those with a gonorrhea co-morbidity.
- Although blacks/African Americans represented only 45% of living HIV disease cases, they represented 66% of individuals diagnosed with an STD co-morbidity.
- Of the 11,704 individuals living with HIV disease, 71 were reported with a hepatitis co-morbidity in 2013.
- Five percent of chronic hepatitis B cases and 1% of chronic hepatitis C cases reported in 2013 were among persons living with HIV disease.
- Of the 11,704 individuals living with HIV disease, two were reported with TB disease in 2013.

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	94	40.5%	3.9	3	15.8%	0.1	97	2.0
Black/African American	117	50.4%	35.5	11	57.9%	3.0	128	18.4
Other/Unknown*	21	9.1%	--	5	26.3%	--	26	--
Total Cases	232	100.0%	7.9	19	100.0%	0.6	251	4.2
St. Louis Region								
White	28	29.5%	3.7	0	0.0%	0.0	28	1.8
Black/African American	59	62.1%	31.7	5	83.3%	2.2	64	15.7
Other/Unknown*	8	8.4%	--	1	16.7%	--	9	--
Total Cases	95	100.0%	9.4	6	100.0%	0.6	101	4.8
Kansas City Region								
White	52	43.3%	11.3	2	20.0%	0.4	54	5.7
Black/African American	56	46.7%	64.5	5	50.0%	5.1	61	33.0
Other/Unknown*	12	10.0%	--	3	30.0%	--	15	--
Total Cases	120	100.0%	19.4	10	100.0%	1.5	130	10.3
Northwest Region								
White	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Black/African American	0	0.0%	0.0	1	50.0%	34.5	1	12.0
Other/Unknown*	1	100.0%	--	1	50.0%	--	2	--
Total Cases	1	100.0%	0.8	2	100.0%	1.6	3	1.2
North Central Region								
White	2	100.0%	0.6	0	--	0.0	2	0.3
Black/African American	0	0.0%	0.0	0	--	0.0	0	0.0
Other/Unknown*	0	0.0%	--	0	--	--	0	--
Total Cases	2	100.0%	0.5	0	--	0.0	2	0.3
Southwest Region								
White	7	100.0%	1.4	0	--	0.0	7	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	7	100.0%	1.2	0	--	0.0	7	0.6
Southeast Region								
White	5	71.4%	2.3	1	100.0%	0.4	6	1.3
Black/African American	2	28.6%	12.0	0	0.0%	0.0	2	6.4
Other/Unknown*	0	0.0%	--	0	0.0%	--	0	--
Total Cases	7	100.0%	2.8	1	100.0%	0.4	8	1.6

*Includes cases identified with Hispanic ethnicity.
**Per 100,000 population based on 2012 MDHSS population estimates.

There were a total of 251 P&S syphilis cases reported in 2013 (Table 24). This number represented an increase from the 157 P&S syphilis cases reported in 2012. The majority of cases (92%) were reported among males. The rate of P&S syphilis cases among males was highest in the Kansas City HIV Region (19.4), followed by the St. Louis HIV Region (9.4). Fifty-two percent of all P&S syphilis cases were reported in the Kansas City HIV Region and 40% were reported in the St. Louis HIV 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. Between 2012 and 2013, the number of reported P&S syphilis cases increased from 88 to 101 in the St. Louis HIV Region, from 57 to 130 in the Kansas City HIV Region, from 0 to 3 in the Northwest HIV Region, and from 1 to 8 in the Southeast HIV Region. In all other HIV regions the number of reported P&S syphilis cases decreased or remained the same from 2012 to 2013.

Figure 19. Reported P&S syphilis cases, by race and sex, by age group at diagnosis, Missouri, 2013

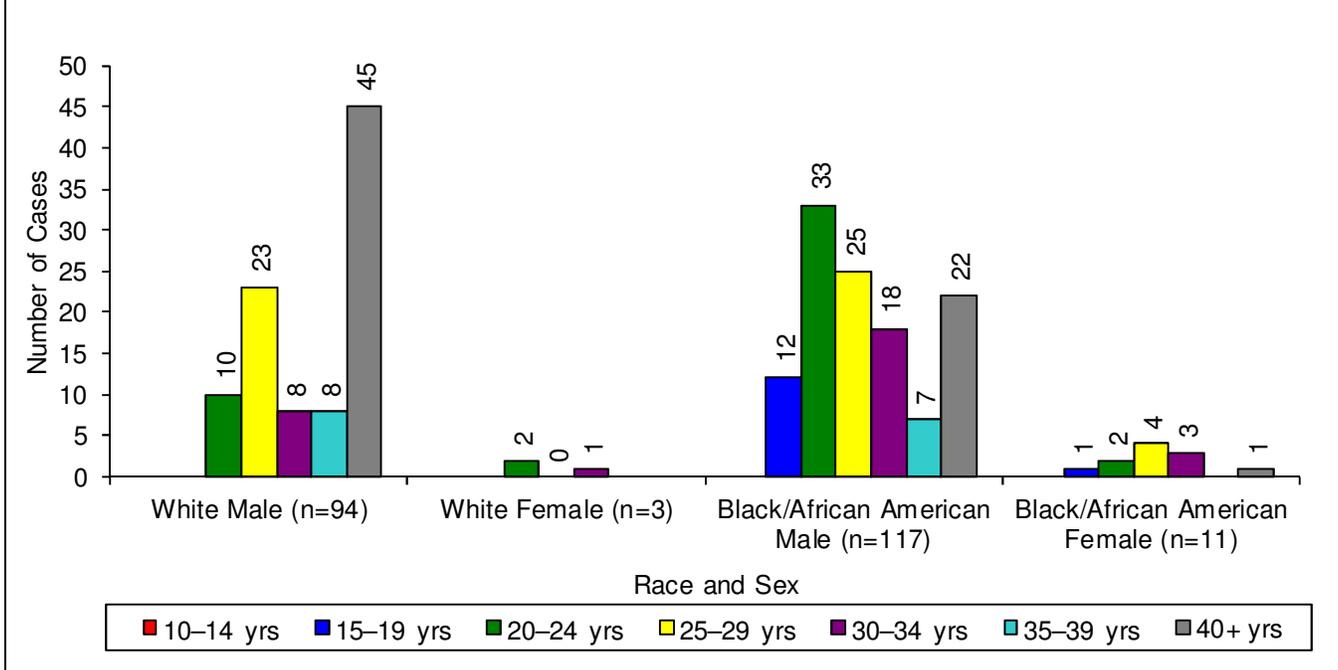
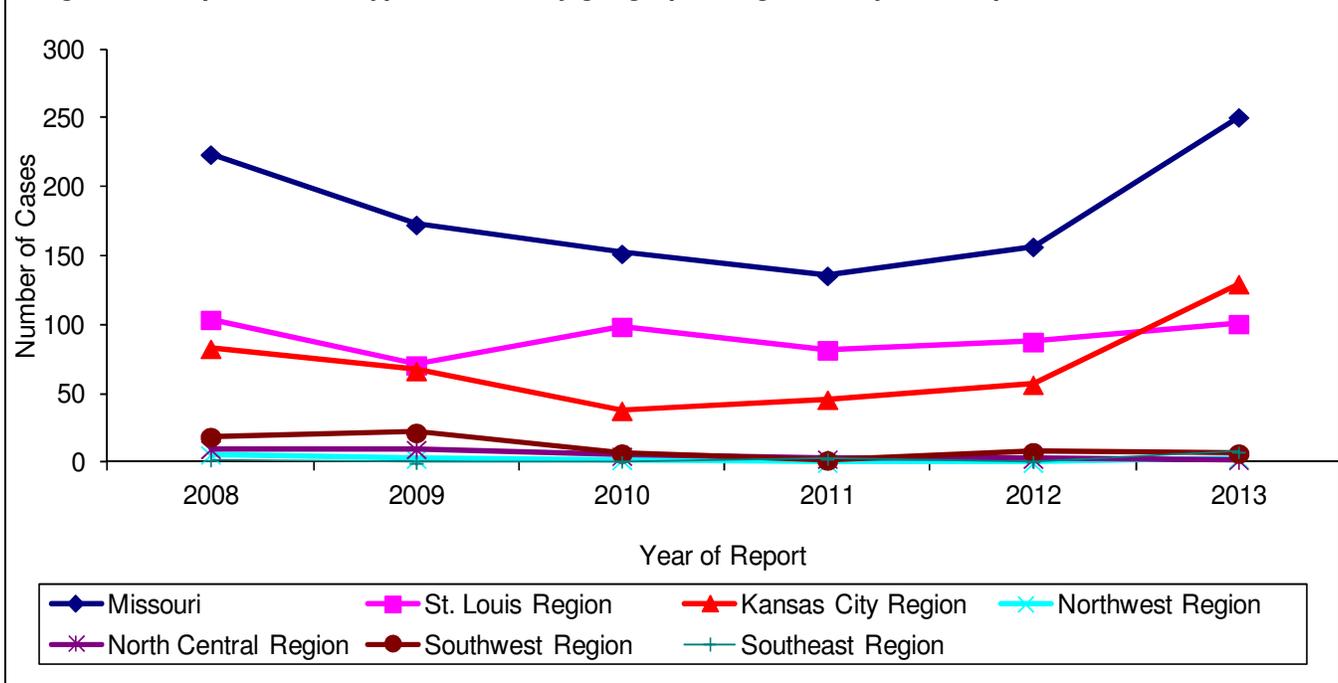


Figure 20. Reported P&S syphilis cases by geographic region and year of report, Missouri, 2008-2013



The largest numbers of P&S syphilis cases were reported among black/African American males (117) and white males (94) (Figure 19). The number of reported cases increased from 2012 to 2013 among all other race/ethnicity and sex categories presented except white females which decreased from four cases in 2012 to three cases in 2013. There were differences in the distribution of reported cases by age at diagnosis among the race/ethnicity and sex categories. 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 20-24 years of age.

The number of reported P&S syphilis cases in Missouri decreased from 2007 to 2011 and then increased through 2013 (Figure 20). The number of reported P&S syphilis cases increased from 2012 to 2013 in the St. Louis HIV Region (88 to 101), the Kansas City HIV Region (57 to 130), the Northwest HIV Region (0 to 3), and the Southeast HIV Region (1 to 8). The number of reported P&S syphilis cases decreased from 2012 to 2013 in the remaining HIV regions.

Table 25. Reported early latent syphilis cases and rates, by race*, by geographic region, by sex, Missouri, 2013								
	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	77	39.3%	3.2	6	25.0%	0.2	83	1.7
Black/African American	108	55.1%	32.8	16	66.7%	4.4	124	17.9
Other/Unknown*	11	5.6%	--	2	8.3%	--	13	--
Total Cases	196	100.0%	6.6	24	100.0%	0.8	220	3.7
St. Louis Region								
White	30	29.1%	4.0	0	0.0%	0.0	30	2.0
Black/African American	68	66.0%	36.6	11	91.7%	4.9	79	19.4
Other/Unknown*	5	4.9%	--	1	8.3%	--	6	--
Total Cases	103	100.0%	10.2	12	100.0%	1.1	115	5.5
Kansas City Region								
White	24	36.9%	5.2	3	37.5%	0.6	27	2.9
Black/African American	36	55.4%	41.5	4	50.0%	4.1	40	21.6
Other/Unknown*	5	7.7%	--	1	12.5%	--	6	--
Total Cases	65	100.0%	10.5	8	100.0%	1.2	73	5.8
Northwest Region								
White	1	100.0%	0.9	0	--	0.0	1	0.4
Black/African American	0	0.0%	0.0	0	--	0.0	0	0.0
Other/Unknown*	0	0.0%	--	0	--	--	0	--
Total Cases	1	100.0%	0.8	0	--	0.0	1	0.4
North Central Region								
White	5	83.3%	1.5	0	0.0%	0.0	5	0.7
Black/African American	1	16.7%	4.6	1	100.0%	5.5	2	5.0
Other/Unknown*	0	0.0%	--	0	0.0%	--	0	--
Total Cases	6	100.0%	1.6	1	100.0%	0.3	7	0.9
Southwest Region								
White	13	86.7%	2.5	3	100.0%	0.6	16	1.5
Black/African American	2	13.3%	15.0	0	0.0%	0.0	2	9.0
Other/Unknown*	0	0.0%	--	0	0.0%	--	0	--
Total Cases	15	100.0%	2.6	3	100.0%	0.5	18	1.6
Southeast Region								
White	4	66.7%	1.8	0	--	0.0	4	0.9
Black/African American	1	16.7%	6.0	0	--	0.0	1	3.2
Other/Unknown*	1	16.7%	--	0	--	--	1	--
Total Cases	6	100.0%	2.4	0	--	0.0	6	1.2
*Includes cases identified with Hispanic ethnicity.								
**Per 100,000 population based on 2012 MDHSS population estimates.								

There were a total of 220 early latent syphilis cases reported in 2013, compared to 135 cases reported in 2012 (Table 25). The majority of cases (89%) were reported among males. The rate of early latent syphilis cases among all cases was highest in the Kansas City HIV Region (5.8), followed by the St. Louis HIV Region (5.5). Fifty-two percent (52%) of all early latent syphilis cases were reported in the St. Louis HIV Region and 33% were reported in the Kansas City HIV Region. The Southwest HIV 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 22. Reported early latent syphilis cases, by race and sex, by age group at diagnosis, Missouri, 2013

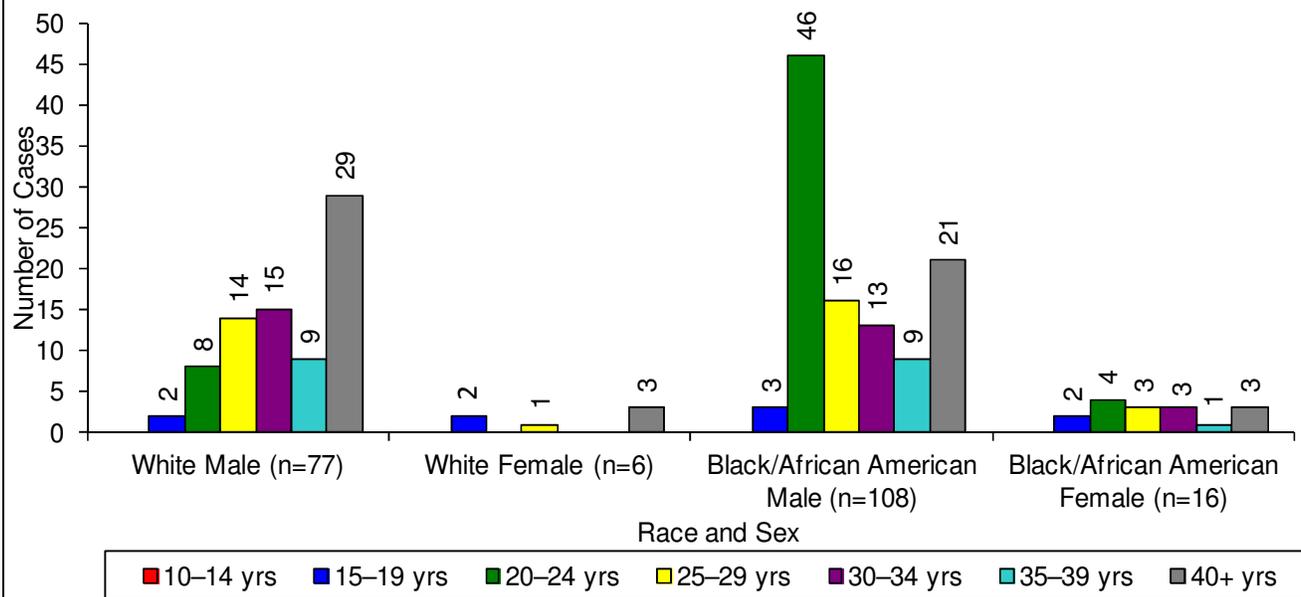
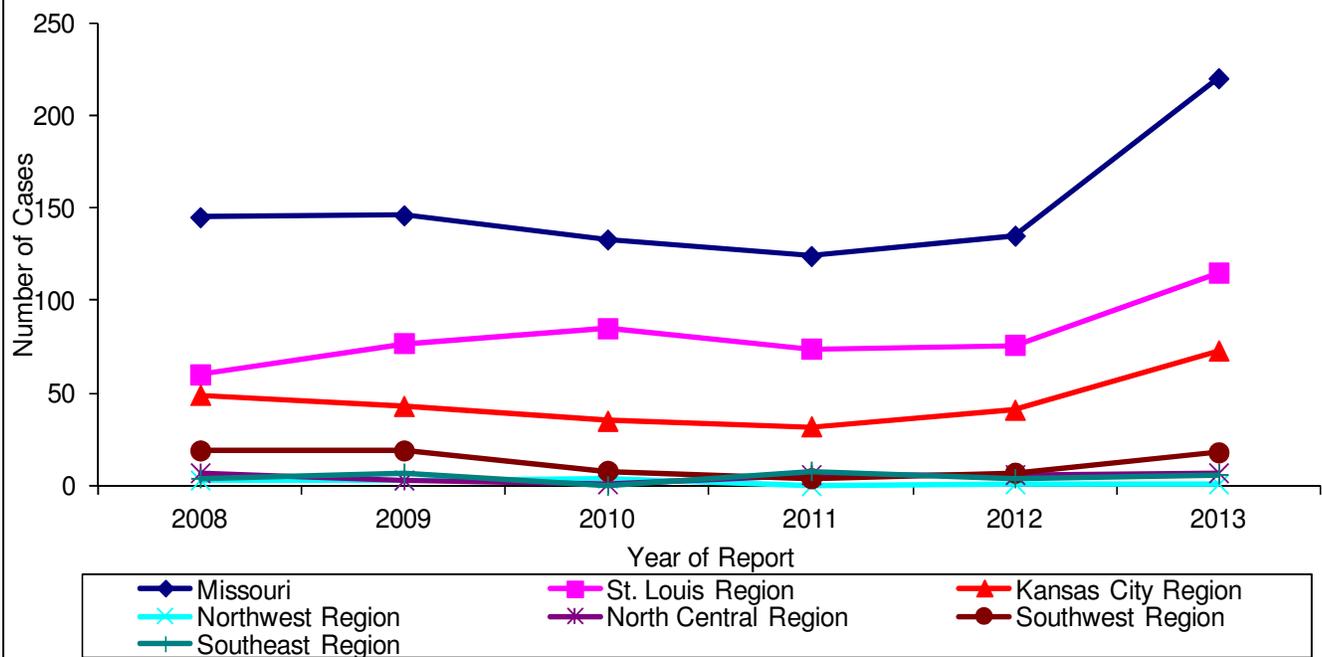


Figure 23. Reported early latent syphilis cases by geographic region and year of report, Missouri, 2008-2013



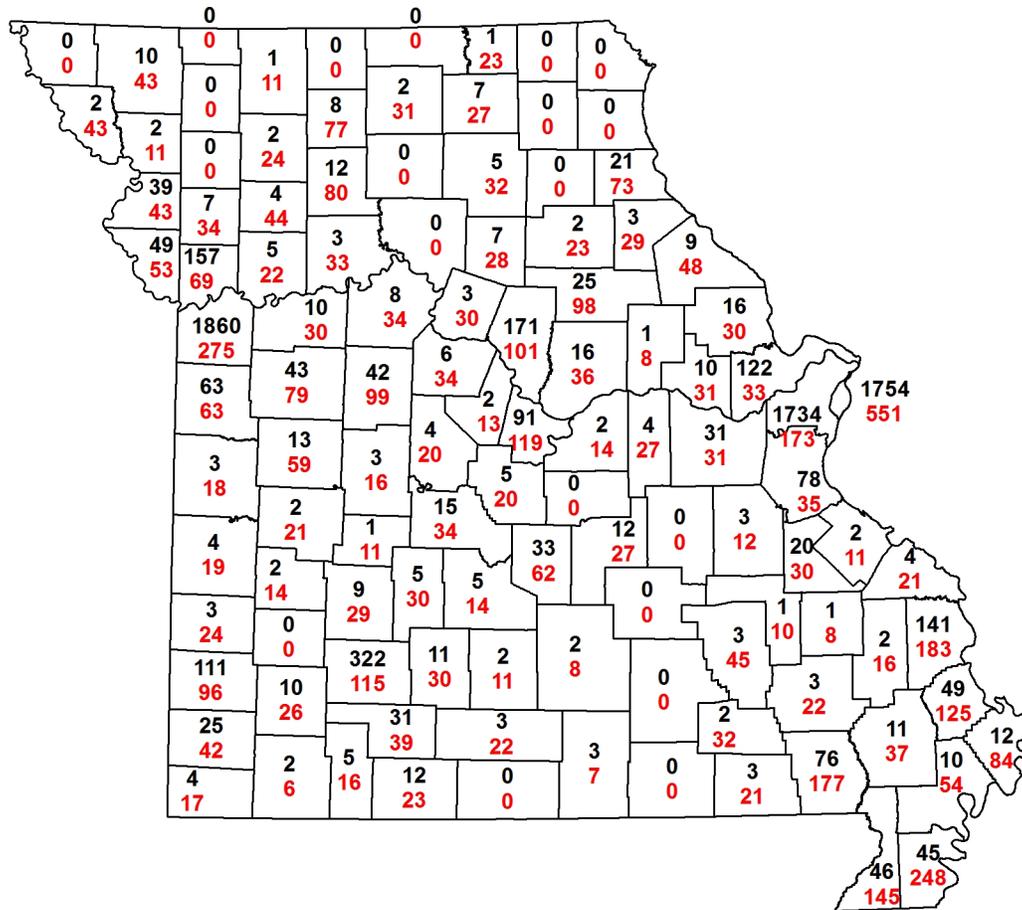
The largest numbers of early latent syphilis cases were reported among black/African American males (108) and white males (77) (Figure 22). The number of reported cases increased among all race/ethnicity and sex categories presented. From 2012 to 2013 the number of early latent syphilis cases among black/African American males increased from 67 to 108 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 20-24 years of age.

The number of reported early latent syphilis cases in Missouri fluctuated from 2008 to 2013 (Figure 23). The number of reported early latent syphilis cases generally increased from 2007 to 2010, decreased through 2011, and then increased through 2013 in the St. Louis HIV Region. In the Kansas City HIV Region, reported early latent syphilis cases decreased from 2008 to 2011, then increased through 2013. The number of reported early latent syphilis cases increased or remained the same from 2012 to 2013 in all regions.

Table 26. Reported gonorrhea cases and rates, by race*, by geographic region, by sex, Missouri, 2013								
	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	776	21.5%	32.5	1,095	27.8%	44.3	1,871	38.5
Black/African American	2,351	65.3%	713.0	2,341	59.4%	641.5	4,692	675.4
Other/Unknown*	475	13.2%	--	508	12.9%	--	983	--
Total Cases	3,602	100.0%	122.1	3,944	100.0%	128.4	7,546	125.3
St. Louis Region								
White	214	11.5%	28.6	209	11.1%	26.6	423	27.6
Black/African American	1,401	75.1%	753.8	1,393	74.1%	626.4	2,794	684.4
Other/Unknown*	250	13.4%	--	278	14.8%	--	528	--
Total Cases	1,865	100.0%	184.5	1,880	100.0%	173.4	3,745	178.8
Kansas City Region								
White	260	24.6%	56.5	333	29.0%	69.5	593	63.1
Black/African American	671	63.4%	773.3	705	61.5%	717.8	1,376	743.8
Other/Unknown*	128	12.1%	--	109	9.5%	--	237	--
Total Cases	1,059	100.0%	171.5	1,147	100.0%	176.9	2,206	174.3
Northwest Region								
White	23	69.7%	20.6	39	68.4%	34.3	62	27.5
Black/African American	7	21.2%	129.0	11	19.3%	379.0	18	216.2
Other/Unknown*	3	9.1%	--	7	12.3%	--	10	--
Total Cases	33	100.0%	26.6	57	100.0%	46.3	90	36.4
North Central Region								
White	70	39.3%	21.0	138	50.4%	40.3	208	30.8
Black/African American	86	48.3%	396.3	99	36.1%	547.3	185	465.0
Other/Unknown*	22	12.4%	--	37	13.5%	--	59	--
Total Cases	178	100.0%	46.9	274	100.0%	71.3	452	59.2
Southwest Region								
White	167	57.6%	32.7	250	76.0%	47.6	417	40.3
Black/African American	78	26.9%	584.9	27	8.2%	307.7	105	474.9
Other/Unknown*	45	15.5%	--	52	15.8%	--	97	--
Total Cases	290	100.0%	50.8	329	100.0%	56.8	619	53.8
Southeast Region								
White	42	23.7%	19.0	126	49.0%	55.5	168	37.5
Black/African American	108	61.0%	649.2	106	41.2%	727.0	214	685.5
Other/Unknown*	27	15.3%	--	25	9.7%	--	52	--
Total Cases	177	100.0%	71.3	257	100.0%	102.1	434	86.8
*Includes cases identified with Hispanic ethnicity.								
**Per 100,000 population based on 2012 MDHSS population estimates.								

There were a total of 7,546 gonorrhea cases reported in 2013 (Table 26). This represented a 4% decrease in the number of reported cases compared to 2012. The majority of cases (52%) were reported among females. The proportion of gonorrhea cases reported among females varied by HIV region. The St. Louis HIV Region reported the lowest proportion of female cases (50%), followed by the Kansas City (52%), Southwest (53%), Southeast (59%), North Central (61%) and Northwest (63%) HIV Regions. The rate of gonorrhea cases among females was highest in the Kansas City HIV Region (176.9), followed by the St. Louis HIV Region (173.4). Fifty percent (50%) of all gonorrhea cases were reported in the St. Louis HIV Region and 29% were reported in the Kansas City HIV Region. The Southwest HIV 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, 2013

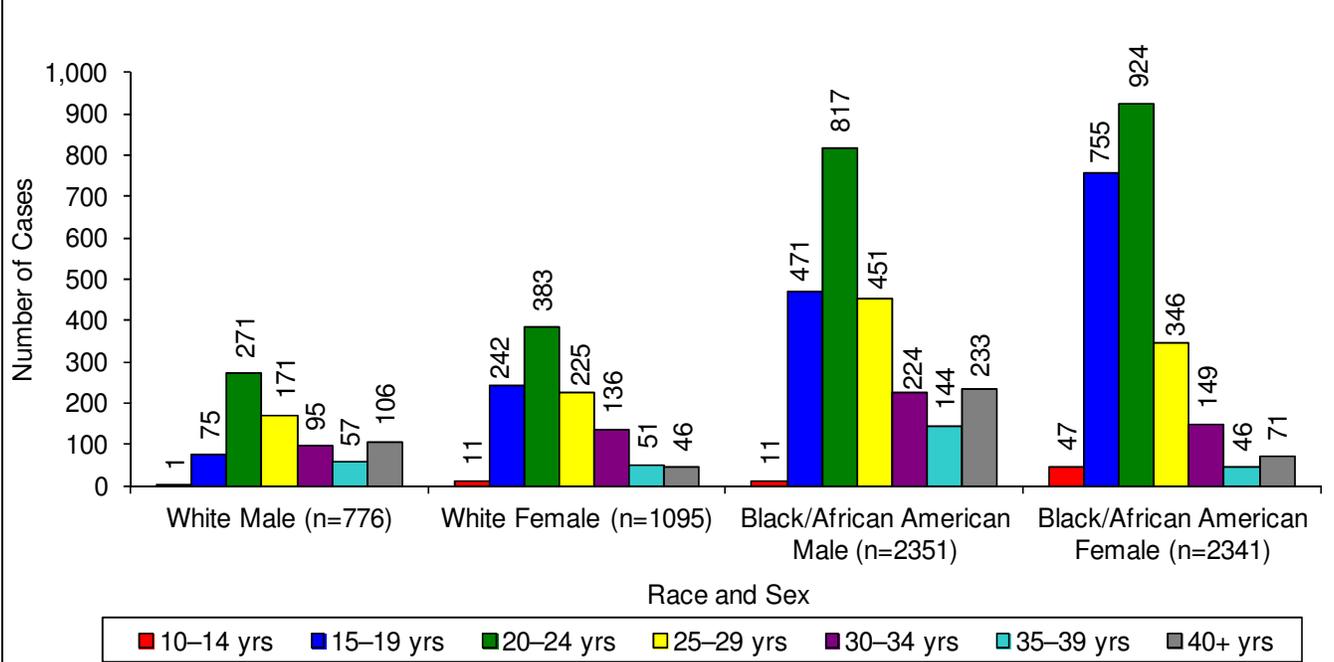


*Case counts are in black.

**Case rates are in red, per 100,000 population based on 2012 MDHSS population estimates.

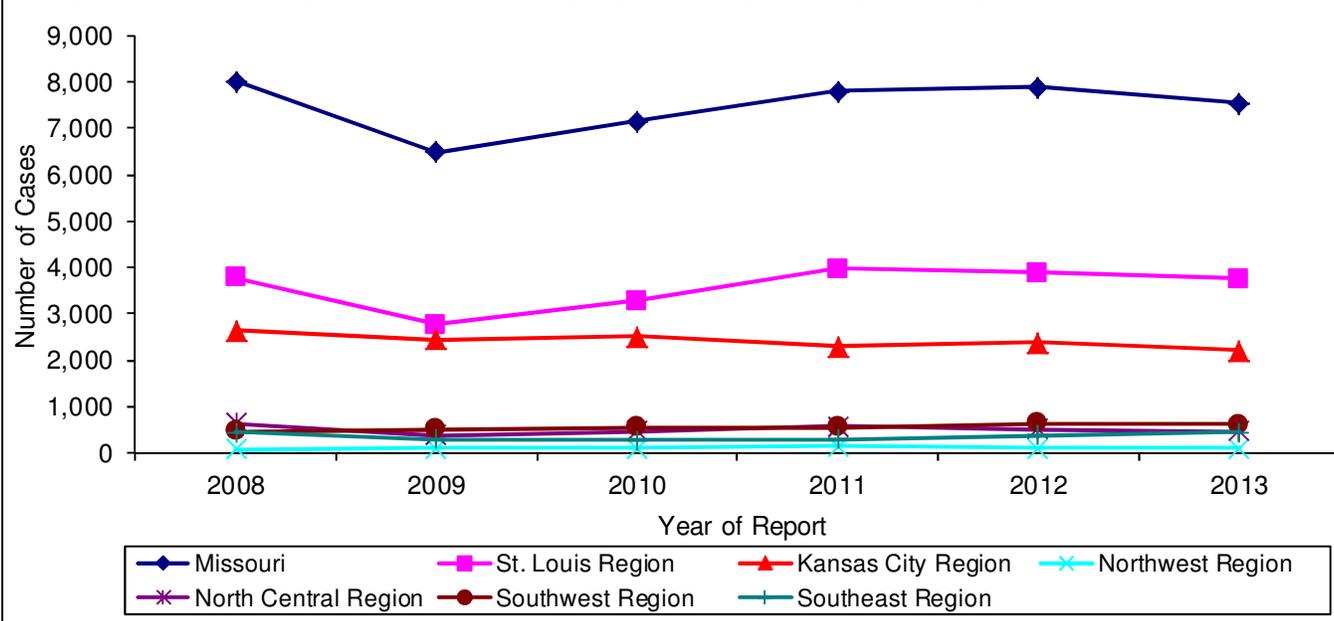
Gonorrhea cases reported in St. Louis City, St. Louis County, and Jackson County represented 71% of all reported cases in 2013 (Figure 24). There were 20 counties that did not report any gonorrhea cases in 2013. St. Louis City had the highest rate of reported gonorrhea cases at 551 per 100,000 persons. This means that for every 100,000 persons living in St. Louis City, there were 551 reported with gonorrhea in 2013.

Figure 25. Reported gonorrhea cases, by race and sex, by age group at diagnosis, Missouri, 2013



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

Figure 26. Reported gonorrhea cases by geographic region and year of report, Missouri, 2008-2013



The largest numbers of gonorrhea cases were reported among black/African American females (2,341) and black/African American males (2,351) (Figure 25). The number of reported cases decreased from 2012 to 2013 among all race/ethnicity and sex categories presented except for white males which increased from 672 to 776 cases. Among all race/ethnicity and sex categories presented, the largest number of cases was reported among individuals 20-24 years of age at the time of diagnosis. A greater proportion of gonorrhea cases among white (14%) and black/African American (10%) males was diagnosed among individuals 40 or more years of age compared to female cases presented.

The number of reported gonorrhea cases in Missouri decreased from 2008 to 2009, increased through 2012, and decreased in 2013 (Figure 26). The numbers of reported gonorrhea cases were lower in 2013 than 2012 in all HIV regions except the Southeast HIV Region. The number of reported gonorrhea cases was lower in 2013 compared to 2008 in all HIV regions, except for the Northwest and Southwest Regions.

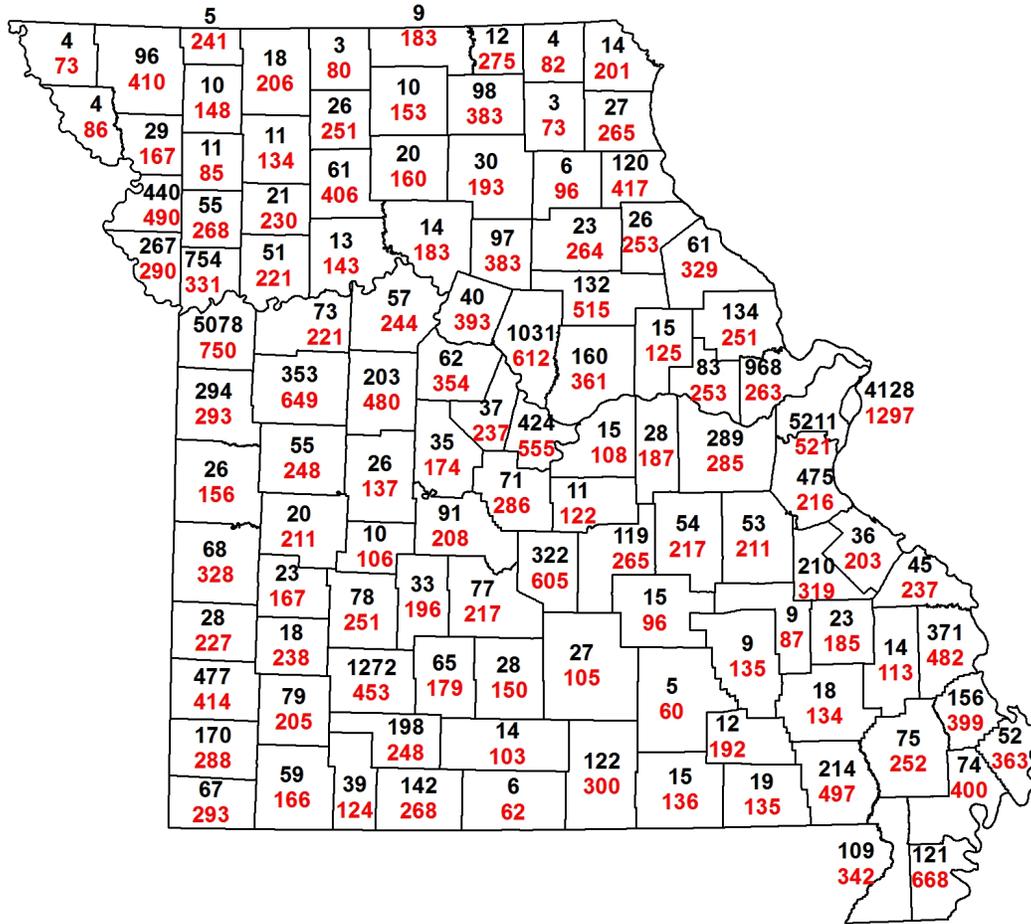
Table 27. Reported chlamydia cases and rates, by race*, by geographic region, by sex, Missouri, 2013								
	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	2,590	32.3%	108.6	7,758	40.2%	313.9	10,348	213.1
Black/African American	3,956	49.3%	1199.8	7,436	38.5%	2037.6	11,392	1639.9
Other/Unknown*	1,479	18.4%	--	4,109	21.3%	--	5,588	--
Total Cases	8,025	100.0%	271.9	19,303	100.0%	628.6	27,328	453.8
St. Louis Region								
White	583	16.7%	77.9	1,564	20.1%	199.3	2,147	140.0
Black/African American	2,264	64.8%	1218.1	4,338	55.7%	1950.8	6,602	1617.2
Other/Unknown*	648	18.5%	--	1,891	24.3%	--	2,539	--
Total Cases	3,495	100.0%	345.7	7,793	100.0%	718.8	11,288	538.8
Kansas City Region								
White	588	27.3%	127.9	1,698	35.2%	354.2	2,286	243.4
Black/African American	1,147	53.3%	1321.8	2,193	45.5%	2232.8	3,340	1805.5
Other/Unknown*	417	19.4%	--	934	19.4%	--	1,351	--
Total Cases	2,152	100.0%	348.6	4,825	100.0%	744.2	6,977	551.2
Northwest Region								
White	131	68.2%	117.5	460	74.8%	404.8	591	262.5
Black/African American	30	15.6%	553.0	58	9.4%	1998.6	88	1056.8
Other/Unknown*	31	16.1%	--	97	15.8%	--	128	--
Total Cases	192	100.0%	154.5	615	100.0%	499.8	807	326.3
North Central Region								
White	424	53.7%	127.2	1,415	64.4%	413.4	1,839	272.2
Black/African American	239	30.3%	1101.5	394	17.9%	2178.0	633	1590.9
Other/Unknown*	126	16.0%	--	388	17.7%	--	514	--
Total Cases	789	100.0%	208.0	2,197	100.0%	571.8	2,986	391.1
Southwest Region								
White	681	66.6%	133.5	1,872	72.8%	356.8	2,553	246.7
Black/African American	153	15.0%	1147.3	136	5.3%	1550.0	289	1307.1
Other/Unknown*	189	18.5%	--	565	22.0%	--	754	--
Total Cases	1,023	100.0%	179.1	2,573	100.0%	444.0	3,596	312.5
Southeast Region								
White	183	48.9%	82.8	749	57.6%	329.8	932	207.9
Black/African American	123	32.9%	739.4	317	24.4%	2174.1	440	1409.5
Other/Unknown*	68	18.2%	--	234	18.0%	--	302	--
Total Cases	374	100.0%	150.7	1,300	100.0%	516.5	1,674	334.9

*Includes cases identified with Hispanic ethnicity.

**Per 100,000 population based on 2012 MDHSS population estimates.

There were a total of 27,328 chlamydia cases reported in 2013 (Table 27). The majority of cases (71%) were reported among females. The proportion of chlamydia cases reported among females varied by HIV region. The Southeast HIV Region reported the highest proportion of female cases (78%), followed by the Northwest (76%), North Central (74%), Southwest (72%), and both Kansas City (69%) and St. Louis (69%) HIV Regions. The rate of chlamydia cases among females was highest in the Kansas City HIV Region (744.2), followed by the St. Louis HIV Region (718.8). Forty-one percent (41%) of all chlamydia cases were reported in the St. Louis HIV Region and 26% were reported in the Kansas City HIV 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.

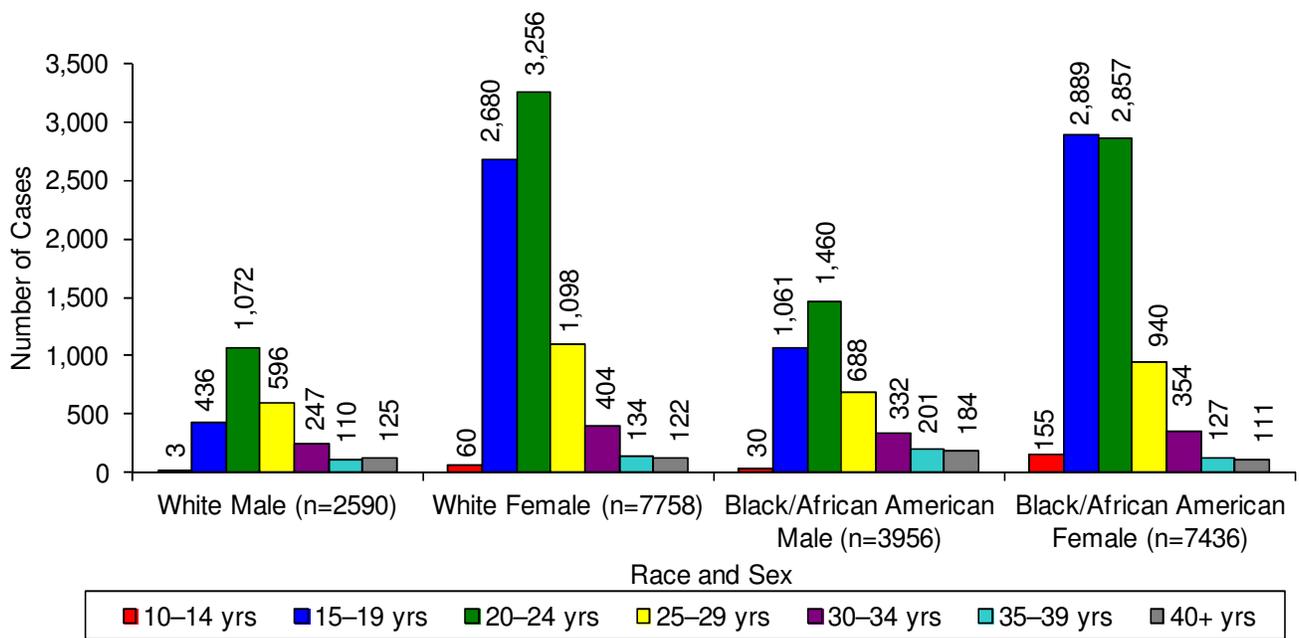
Figure 27. Reported chlamydia cases* and rates**, by county, Missouri, 2013



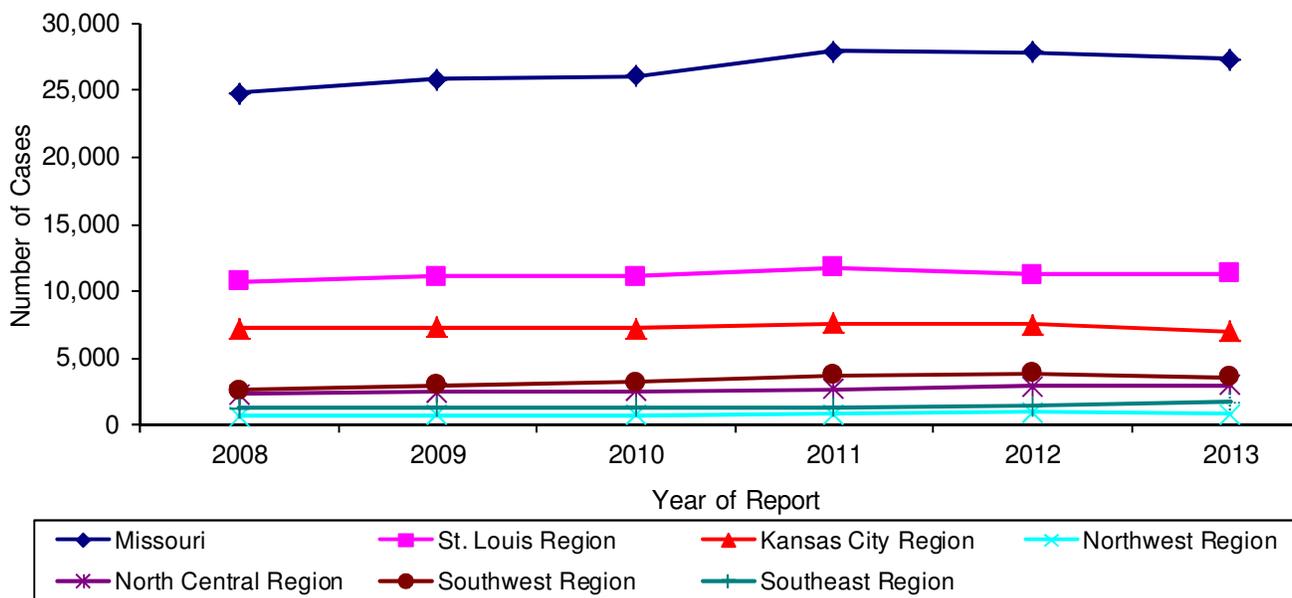
*Case counts are in black.

**Case rates are in red, per 100,000 population based on 2012 MDHSS population estimates.

Chlamydia cases reported in St. Louis City, St. Louis County, and Jackson County represented 53% of all reported cases in 2013 (Figure 27), although these areas represent only 33% of Missouri’s general population. All counties reported more than one chlamydia case in 2013. St. Louis City had the highest rate of reported chlamydia cases at 1,297 per 100,000 persons. This means that for every 100,000 persons living in St. Louis City, there were 1,297 reported with chlamydia in 2013.

Figure 28. Reported chlamydia cases, by race and sex, by age group at diagnosis, Missouri, 2013

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

Figure 29. Reported chlamydia cases by geographic region and year of report, Missouri, 2008-2013

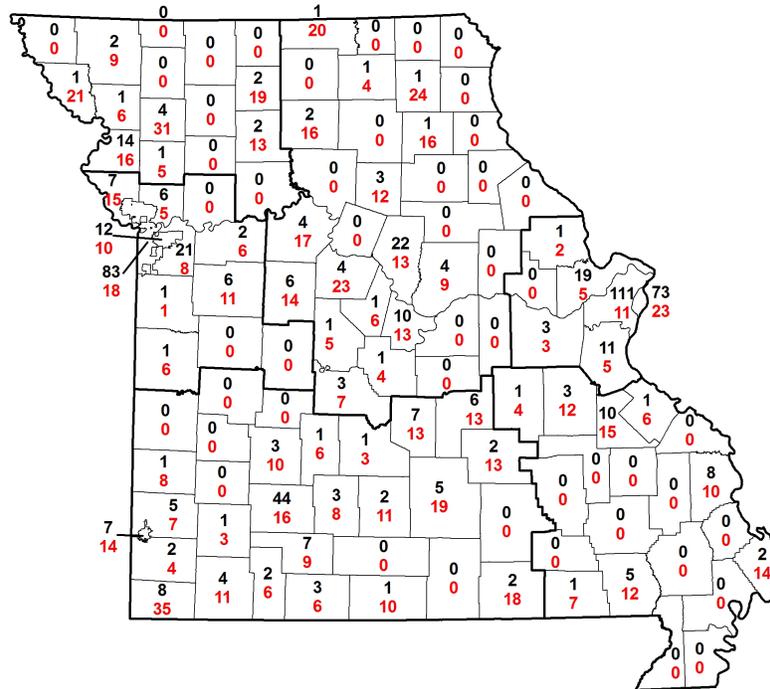
The largest numbers of chlamydia cases were reported among black/African American females (7,436) and white females (7,758) (Figure 28). The number of reported cases decreased from 2012 to 2013 among all race/ethnicity and sex categories presented except white males which increased from 2,565 to 2,590. The total number of reported chlamydia cases in Missouri decreased slightly from 2012 to 2013. Among males and white females, the largest number of cases was reported among individuals 20-24 years of age at the time of diagnosis. Among black/African American females, the largest number of cases was reported among 15-19 year olds.

The number of reported chlamydia cases in Missouri increased from 2008 to 2011, then decreased slightly through 2013 (Figure 29). The number of reported chlamydia cases decreased from 2012 to 2013 in the Kansas City, Northwest, and Southwest HIV Regions. The St. Louis, North Central, and Southeast HIV Regions reported an increased number of chlamydia cases from 2012 to 2013.

	Male			Female			Total	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	106	38.8%	4.4	70	21.6%	2.8	176	3.6
Black	46	16.8%	14.0	51	15.7%	14.0	97	14.0
Other/Unknown*	121	44.3%	--	203	62.7%	--	324	--
Total Cases	273	100.0%	9.3	324	100.0%	10.6	597	9.9
St. Louis Region								
White	17	18.5%	2.3	24	19.0%	3.1	41	2.7
Black	26	28.3%	14.0	26	20.6%	11.7	52	12.7
Other/Unknown*	49	53.3%	--	76	60.3%	--	125	--
Total Cases	92	100.0%	9.1	126	100.0%	11.6	218	10.4
Kansas City Region								
White	13	25.5%	2.8	9	10.2%	1.9	22	2.3
Black	13	25.5%	15.0	18	20.5%	18.3	31	16.8
Other/Unknown*	25	49.0%	--	61	69.3%	--	86	--
Total Cases	51	100.0%	8.3	88	100.0%	13.6	139	11.0
Northwest Region								
White	12	75.0%	10.8	6	54.5%	5.3	18	8.0
Black	0	0.0%	0.0	0	0.0%	0.0	0	0.0
Other/Unknown*	4	25.0%	--	5	45.5%	--	9	--
Total Cases	16	100.0%	12.9	11	100.0%	8.9	27	10.9
North Central Region								
White	18	48.6%	5.4	7	25.0%	2.0	25	3.7
Black	4	10.8%	18.4	5	17.9%	27.6	9	22.6
Other/Unknown*	15	40.5%	--	16	57.1%	--	31	--
Total Cases	37	100.0%	9.8	28	100.0%	7.3	65	8.5
Southwest Region								
White	38	61.3%	7.5	16	29.1%	3.0	54	5.2
Black	1	1.6%	7.5	0	0.0%	0.0	1	4.5
Other/Unknown*	23	37.1%	--	39	70.9%	--	62	--
Total Cases	62	100.0%	10.9	55	100.0%	9.5	117	10.2
Southeast Region								
White	8	53.3%	3.6	8	50.0%	3.5	16	3.6
Black	2	13.3%	12.0	2	12.5%	13.7	4	12.8
Other/Unknown*	5	33.3%	--	6	37.5%	--	11	--
Total Cases	15	100.0%	6.0	16	100.0%	6.4	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 597 hepatitis B cases reported in 2013, 61 were reported with acute hepatitis B, 391 with chronic hepatitis B, 145 with prenatal hepatitis B. The number of reported hepatitis B cases in Missouri increased by 60 cases from 2012 (537) to 2013 (597) (Table 28). The number of persons reported with hepatitis B increased from 2012 to 2013 in all HIV regions except the North Central and Southeast HIV Regions. Overall, the rate of reported hepatitis B cases was highest in the Kansas City HIV Regions (11.0 per 100,000). Overall, 54% of reported cases were females, although variation in the ratio of male to female cases existed among the HIV regions. The large proportion of cases with unknown race/ethnicity information makes it difficult to interpret differences in reported infections by race/ethnicity.

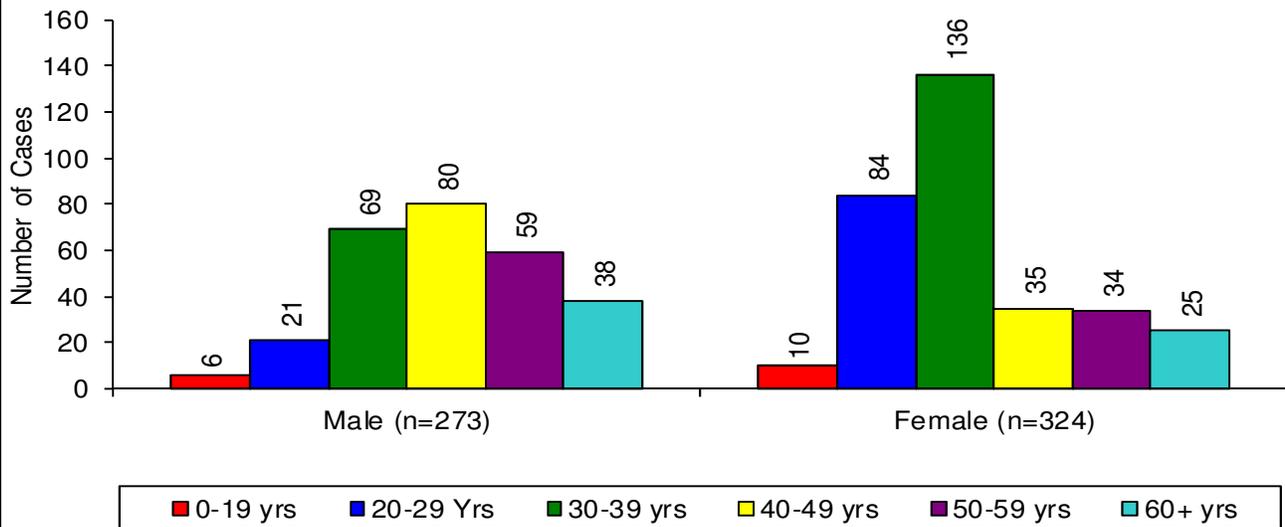
Figure 30. Reported hepatitis B cases* and rates, by jurisdiction, Missouri, 2013**



*Case counts are in black.

**Case rates are in red, per 100,000 population based on 2012 MDHSS population estimates.

Figure 31. Reported hepatitis B cases, by sex and by age group at diagnosis, Missouri, 2013



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

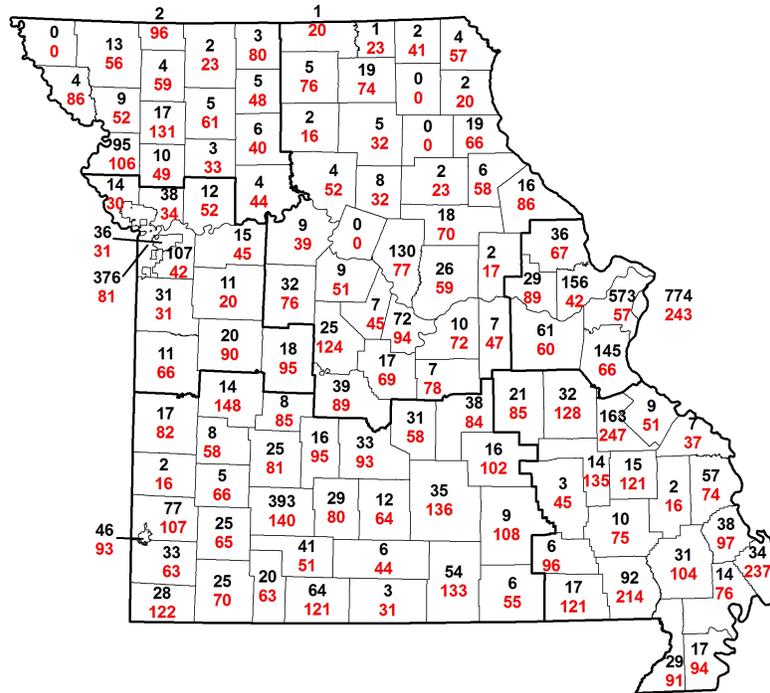
St. Louis County had the greatest number of reported hepatitis B cases (111), followed by Kansas City (83) (Figure 30). There were 49 jurisdictions that did not report any hepatitis B cases in 2013.

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 40-49 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 geographic region, by sex, Missouri, 2013								
	Male			Female			Total[‡]	
	Cases	%	Rate**	Cases	%	Rate**	Cases	Rate**
Missouri								
White	957	32.4%	40.1	785	40.7%	31.8	1,742	35.9
Black	308	10.4%	93.4	138	7.2%	37.8	446	64.2
Other/Unknown*	1,689	57.2%	--	1,004	52.1%	--	2,693	--
Total Cases	2,954	100.0%	100.1	1,927	100.0%	62.7	4,881	81.1
St. Louis Region								
White	262	24.3%	35.0	206	29.6%	26.3	468	30.5
Black	210	19.5%	113.0	106	15.2%	47.7	316	77.4
Other/Unknown*	606	56.2%	--	384	55.2%	--	990	--
Total Cases	1,078	100.0%	106.6	696	100.0%	64.2	1,774	84.7
Kansas City Region								
White	120	27.1%	26.1	72	29.1%	15.0	192	20.4
Black	47	10.6%	54.2	18	7.3%	18.3	65	35.1
Other/Unknown*	275	62.2%	--	157	63.6%	--	432	--
Total Cases	442	100.0%	71.6	247	100.0%	38.1	689	54.4
Northwest Region								
White	53	46.5%	47.5	34	50.0%	29.9	87	38.6
Black	4	3.5%	73.7	3	4.4%	103.4	7	84.1
Other/Unknown*	57	50.0%	--	31	45.6%	--	88	--
Total Cases	114	100.0%	91.7	68	100.0%	55.3	182	73.6
North Central Region								
White	101	33.9%	30.3	99	47.6%	28.9	200	29.6
Black	16	5.4%	73.7	9	4.3%	49.8	25	62.8
Other/Unknown*	181	60.7%	--	100	48.1%	--	281	--
Total Cases	298	100.0%	78.6	208	100.0%	54.1	506	66.3
Southwest Region								
White	291	44.7%	57.1	260	55.6%	49.6	551	53.3
Black	14	2.2%	105.0	1	0.2%	11.4	15	67.8
Other/Unknown*	346	53.1%	--	207	44.2%	--	553	--
Total Cases	651	100.0%	114.0	468	100.0%	80.8	1,119	97.3
Southeast Region								
White	130	35.0%	58.8	114	47.5%	50.2	244	54.4
Black	17	4.6%	102.2	1	0.4%	6.9	18	57.7
Other/Unknown*	224	60.4%	--	125	52.1%	--	349	--
Total Cases	371	100.0%	149.5	240	100.0%	95.4	611	122.2
[†] 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 2012 MDHSS population estimates.								

Of the 4,881 hepatitis C cases reported in 2013, six were reported with acute hepatitis C and 4,875 with chronic hepatitis C. The number of reported hepatitis C cases in Missouri increased by 155 cases from 2012 (4,726) to 2013 (4,881) (Table 29). The number of persons reported with hepatitis C increased from 2012 to 2013 in all HIV regions except the Kansas City and Southwest HIV Regions. Overall, the rate of reported hepatitis C cases was highest in the Southeast HIV Region (122.2 per 100,000). In Missouri overall, 61% of the reported cases were males. The large proportion of cases with unknown race/ethnicity information makes it difficult to analyze.

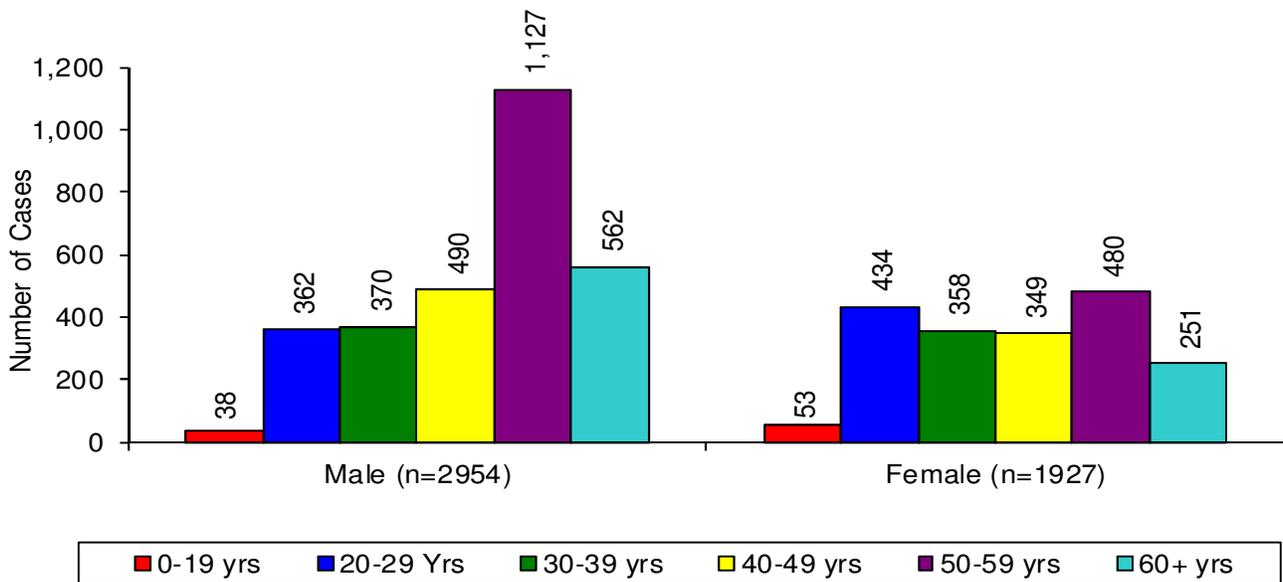
Figure 32. Reported hepatitis C cases* and rates, by jurisdiction, Missouri, 2013**



*Case counts are in black.

**Case rates are in red, per 100,000 population based on 2012 MDHSS population estimates.

Figure 33. Reported hepatitis C cases, by sex and by age group at diagnosis, Missouri, 2013



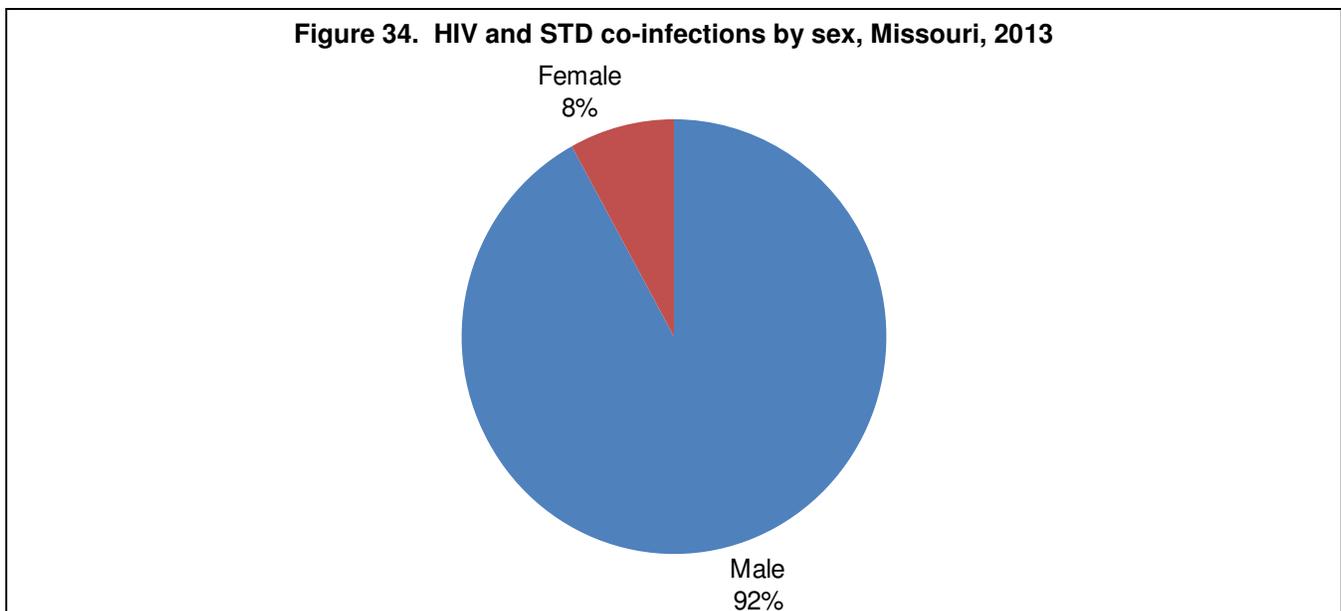
Note: Totals include persons whose age at diagnosis is unknown.

St. Louis City had the greatest number of reported hepatitis C cases with 774 cases (Figure 32). The second largest number of hepatitis C cases occurred in St. Louis County (573). There were four jurisdictions which did not report a hepatitis C case in 2013.

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

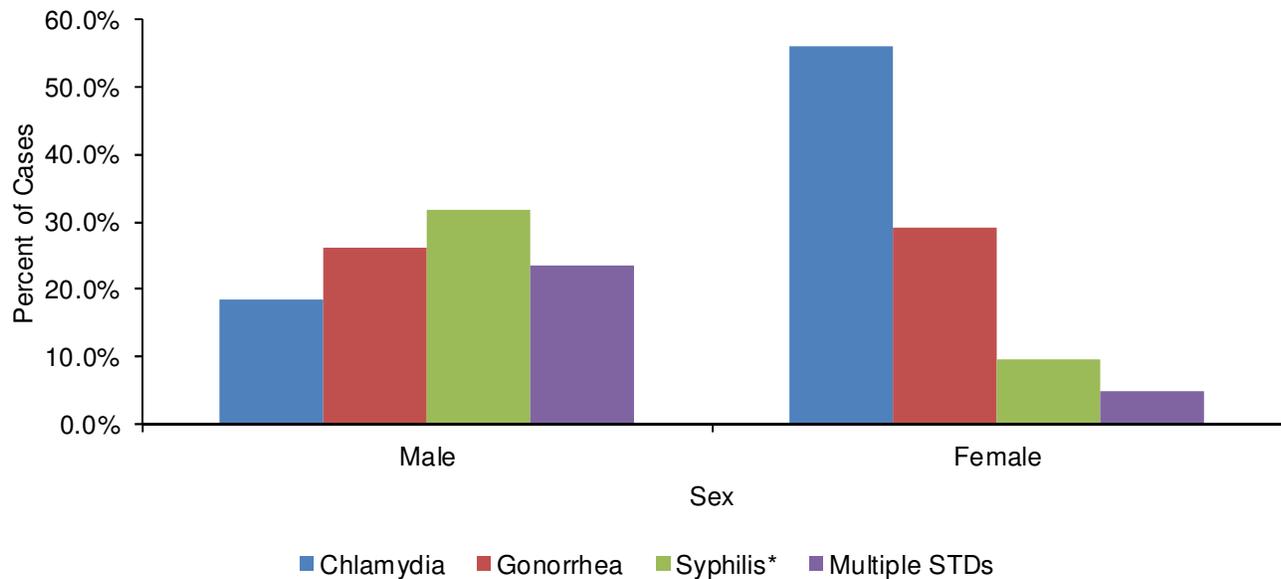
Co-infection	Diagnosed with HIV Prior to 2013		Diagnosed with HIV in 2013		Total	
	N	%	N	%	N	%
Chlamydia	90	22.4%	20	17.7%	110	21.4%
Gonorrhea	109	27.2%	27	23.9%	136	26.5%
Syphilis*	123	30.7%	32	28.3%	155	30.2%
Chlamydia and Gonorrhea	45	11.2%	17	15.0%	62	12.1%
Chlamydia and Syphilis*	17	4.2%	7	6.2%	24	4.7%
Gonorrhea and Syphilis*	9	2.2%	7	6.2%	16	3.1%
Chlamydia, Gonorrhea, and Syphilis*	8	2.0%	3	2.7%	11	2.1%
Total	401	100.0%	113	100.0%	514	100.0%

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

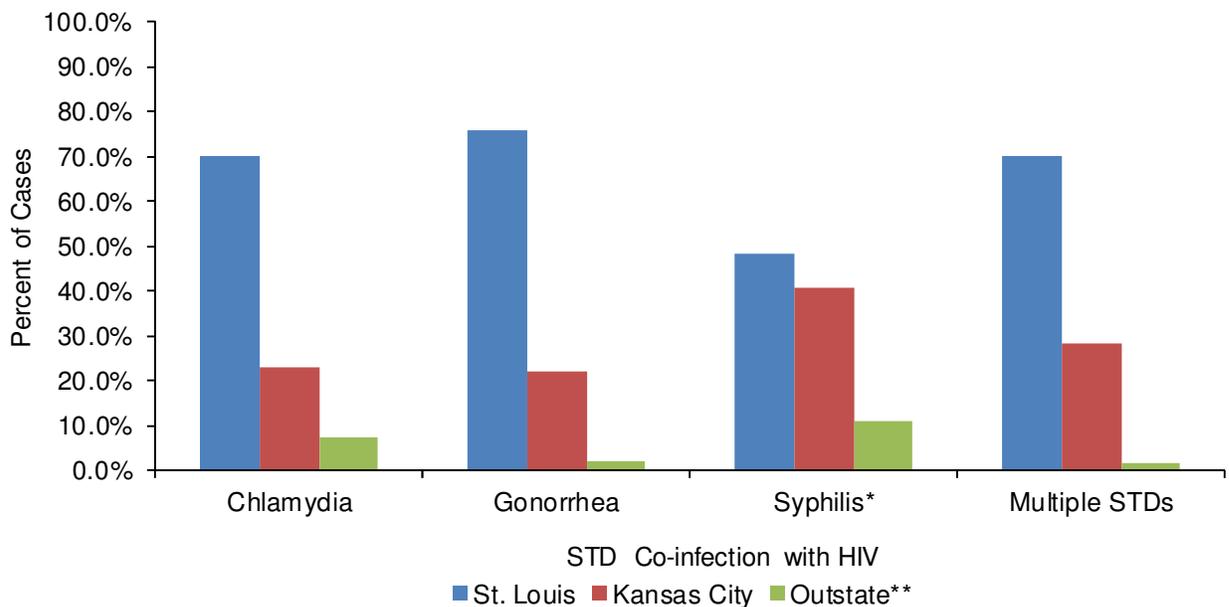


Of the 11,704 individuals living with HIV disease, 514 were reported with an STD co-morbidity in 2013 (Table 30). The majority of those reported with an STD co-morbidity were diagnosed with HIV prior to 2013 (78%). There were not significant differences in the type of STD co-morbidity diagnosed based on when the individual was diagnosed with HIV. The largest numbers of HIV co-morbidities were with early syphilis and gonorrhea alone. The proportion of reported STD infections in 2013 that were living with HIV varied by infection type. Of the 471 early syphilis cases reported in 2013, 44% were among individuals living with HIV. Only 3% of gonorrhea cases and less than 1% of chlamydia cases reported in 2013 were among individuals living with HIV.

Of the 514 reported STD co-morbidity cases, 92% were among males (Figure 34). Males represented a higher proportion of the STD co-morbidity cases (92%) compared to all males living with HIV disease (83%).

Figure 35. HIV and STD co-infections by sex and type of co-infection, Missouri, 2013

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

Figure 36. HIV and STD co-infections by geographic region of STD diagnosis, Missouri, 2013

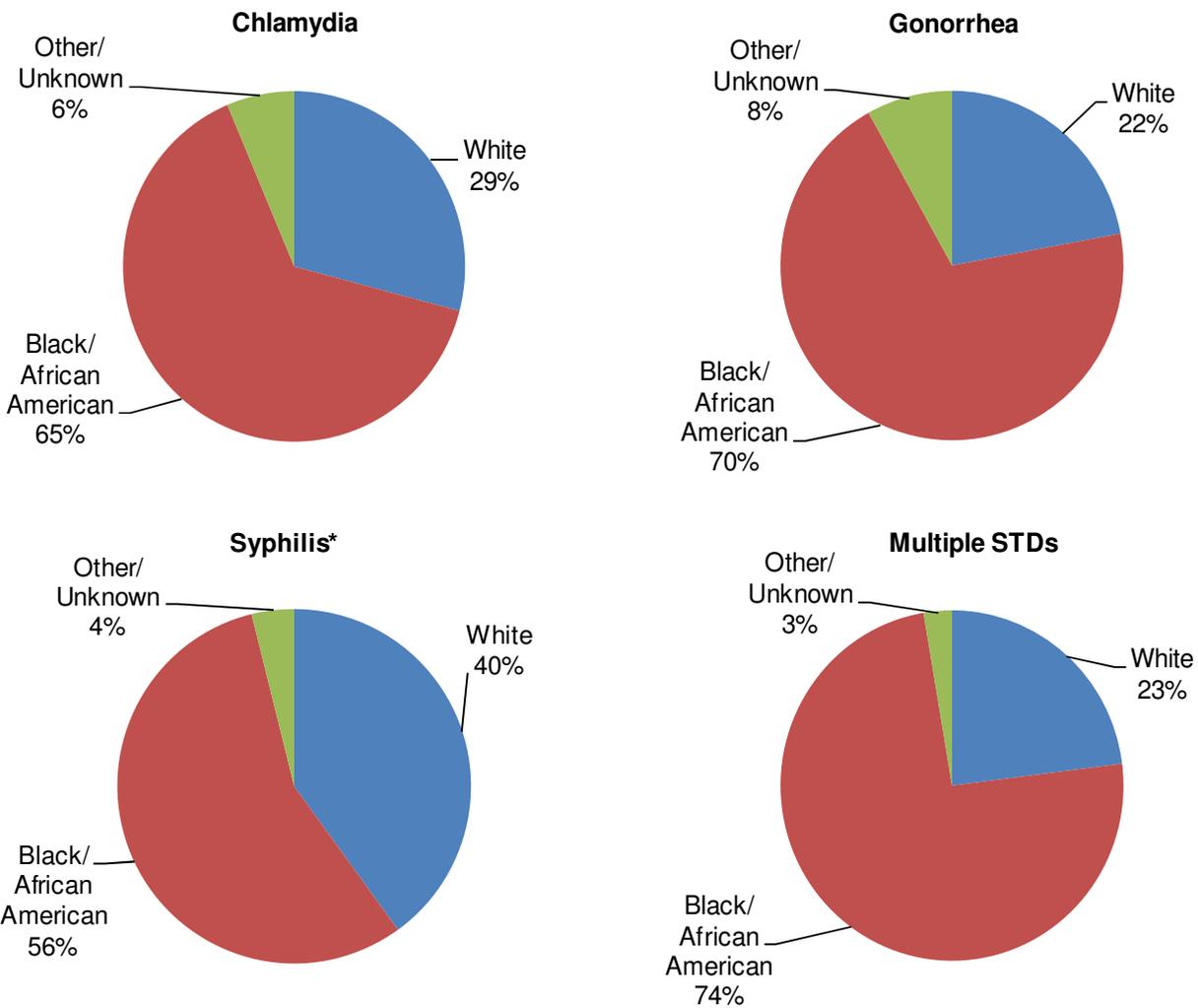
*Only includes diagnoses of primary, secondary, and early latent syphilis.

**Includes those diagnosed in the North Central, Northwest, Southeast, and Southwest 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 2013, 56% were co-infected with chlamydia, 29% with gonorrhea, 5% with multiple STDs, and 10% with early syphilis. In contrast, among males living with HIV reported with an STD co-morbidity in 2013, only 18% were co-infected with chlamydia, 26% with gonorrhea, 24% with multiple STDs, and 32% with early syphilis.

Among all HIV and STD co-morbidity types, the greatest proportion of cases was diagnosed in the St. Louis HIV Region (Figure 36). Among those living with HIV that were reported with chlamydia in 2013, 70% were residents of the St. Louis HIV Region when diagnosed with chlamydia. The St. Louis HIV Region represented 76% of all living HIV cases reported with gonorrhea in 2013, 48% of those with early syphilis, and 70% 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, 2013

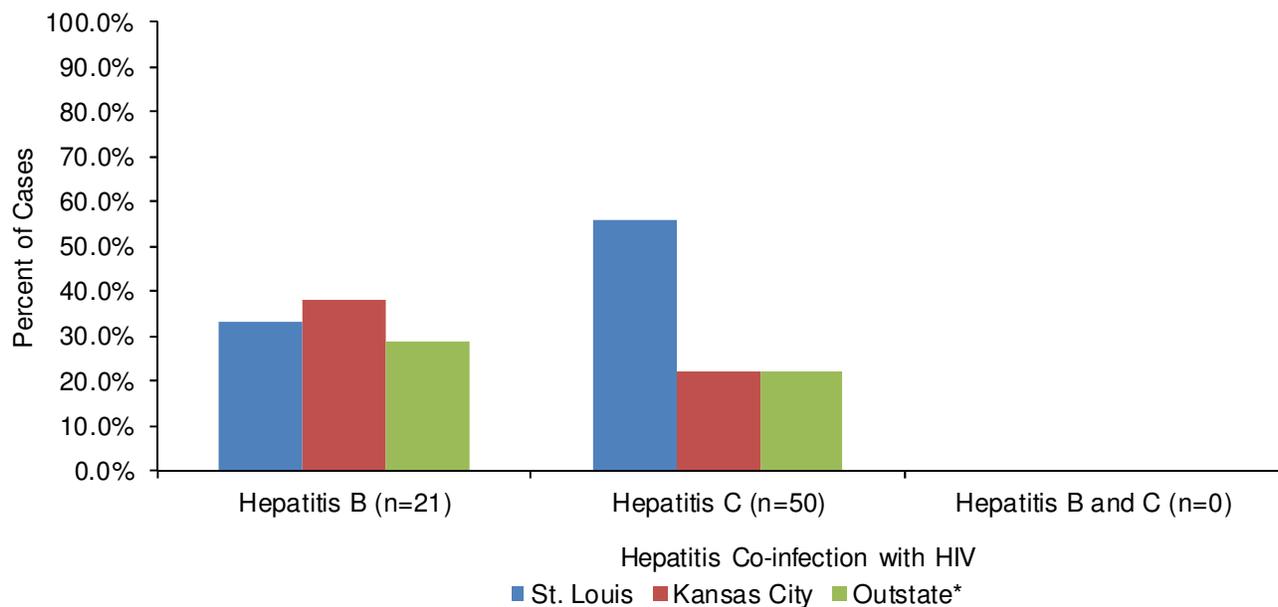


*Only includes diagnoses of primary, secondary, and early latent syphilis.

There were differences in the distribution of race/ethnicity among HIV and STD co-morbidities depending on the type of STD diagnosed (Figure 37). The proportion of co-morbidity cases attributed to blacks/African Americans was highest among those co-infected with multiple STDs (74%), followed by those co-infected with gonorrhea (70%). In all instances, minorities were disproportionately represented in the proportion of co-morbidities that were reported. Although blacks/African Americans represented only 45% of living HIV disease cases, they represented 66% of individuals diagnosed with an STD co-morbidity.

Table 31. Reported hepatitis B and C infections among persons living with HIV disease, Missouri, 2013

Co-infection	Diagnosed with HIV	Diagnosed with HIV in	Total Co-infections
	Prior to 2013	2013	
	N	N	N
Acute Hepatitis B	1	0	1
Chronic Hepatitis B	16	4	20
Prenatal Hepatitis B	0	0	0
Perinatal Hepatitis B	0	0	0
Acute Hepatitis C	0	0	0
Chronic Hepatitis C	41	9	50
Chronic Hepatitis B & C	0	0	0
Total	58	13	71

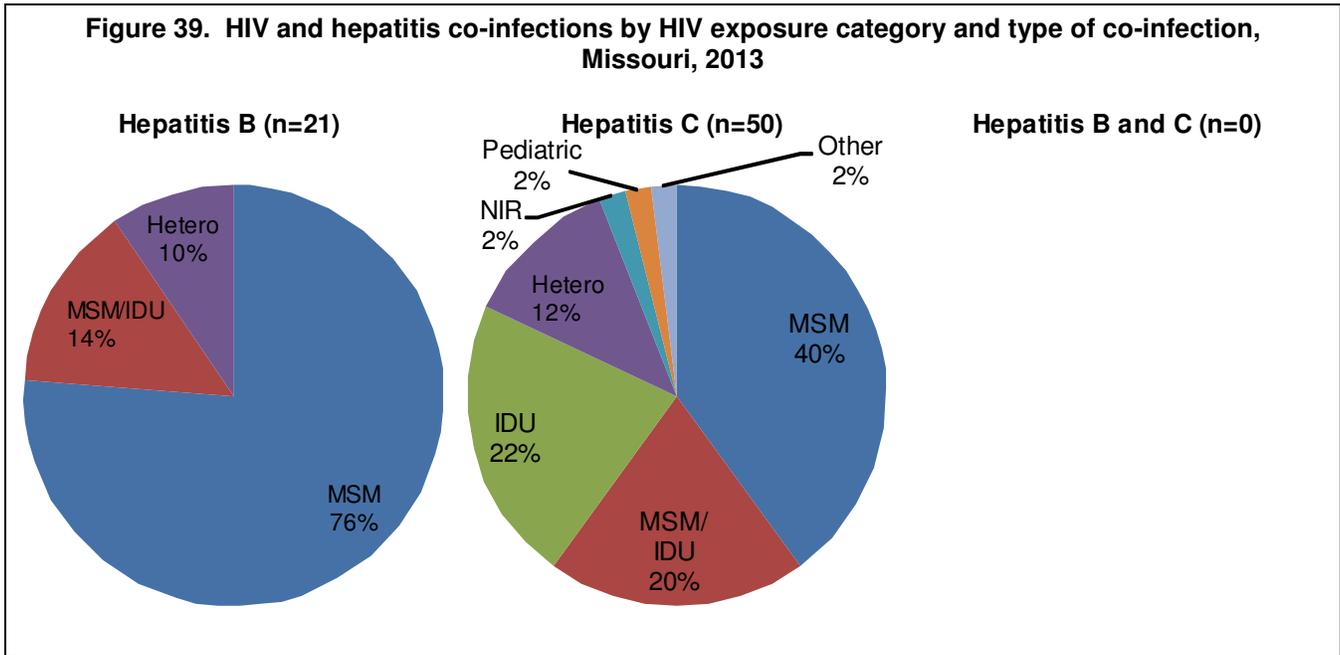
Figure 38. HIV and hepatitis co-infections by geographic region of hepatitis diagnosis, Missouri, 2013

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

Of the 11,704 individuals living with HIV disease, 71 were reported with a hepatitis co-morbidity in 2013 (Table 31). The majority of those reported with a hepatitis co-morbidity were diagnosed with HIV prior to 2013 (82%). The largest number of HIV co-morbidities was with chronic hepatitis C. The proportion of reported hepatitis infections in 2013 that were living with HIV varied by infection type. Of the 391 chronic hepatitis B cases reported in 2013, 5% were among individuals living with HIV. Only 1% of chronic hepatitis C cases reported in 2013 were among individuals living with HIV.

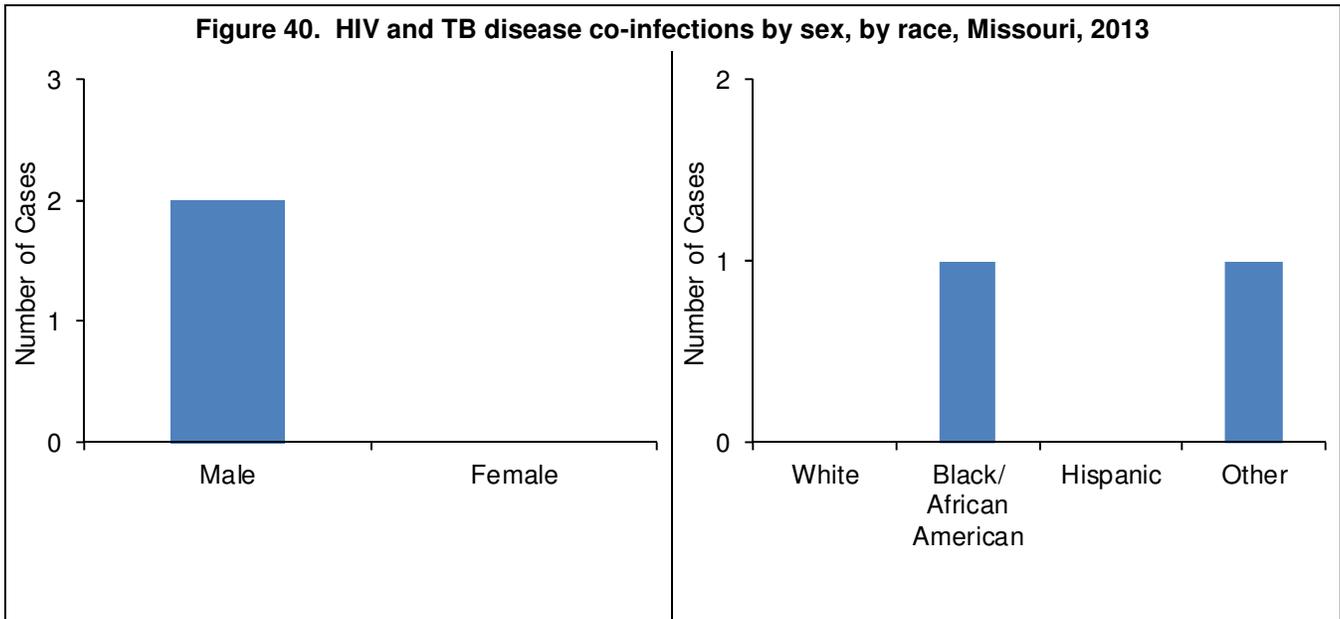
Among persons living with HIV disease that were reported with only a hepatitis B infection in 2013, the greatest proportion were residing in the Kansas City HIV Region (38%) at the time of the hepatitis diagnosis (Figure 38). Among HIV-positive persons reported with only a hepatitis C infection in 2013, the greatest proportion were residing in the St. Louis HIV Region (56%) at the time of the hepatitis diagnosis.

Figure 39. HIV and hepatitis co-infections by HIV exposure category and type of co-infection, Missouri, 2013



Among persons living with HIV disease and reported with only a hepatitis B infection in 2013, 76% were among MSM (Figure 39). Among hepatitis C co-morbidity cases, 22% were attributed to IDU, and 20% were attributed to both IDU and MSM.

Figure 40. HIV and TB disease co-infections by sex, by race, Missouri, 2013



Among the 11,704 persons living with HIV disease, two were reported to be diagnosed with TB disease in 2013. Of those co-infected with TB disease in 2013, both of the co-infections were among persons diagnosed with HIV disease during 2013. Co-infections were reported among persons 35-44 years of age at the end of 2013. Both of the co-infections were among males, and one of the co-infections was among blacks/African Americans (Figure 40).

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

Magnitude of the Problem

- Overall, 67% 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 2013).
- Persons enrolled in HIV medical case management were significantly more likely to have their primary care medical needs met. Of the 11,704 persons living with HIV disease in Missouri, 4,865 (42%) were enrolled in medical case management at some point in 2013. Ninety-six percent (96%) of individuals in case management had their primary care medical needs met in 2013.
- Persons living with HIV who were subcategorized as AIDS cases in 2013 were more likely to have their medical needs met (75%) compared to persons subcategorized as HIV cases (59%). 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 AIDS) were important factors influencing unmet need.

Where

- Overall, the proportion of individuals with a met need was greatest in the Southwest HIV Region (70%), and lowest in the Southeast HIV Region (66%).
- Among those enrolled in HIV medical case management, the proportion with a met need ranged from 91% in the Northwest HIV Region to 98% in the North Central and Southwest HIV Regions.
- For those not enrolled in HIV medical case management, the proportion with a met need ranged from 41% in the Southwest HIV Region to 55% in the Northwest HIV 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 AIDS).

Race/Ethnicity

- Unmet need tended to be greater among minority populations, although factors such as case management and diagnostic status influenced the relationship between race and unmet need.
- Among persons diagnosed in 2010-2012, 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 (8%).
- There were differences in unmet need by current age among individuals not enrolled in HIV medical case management. Unmet need was greatest among individuals 19-24 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 region* and race/ethnicity among individuals living with HIV disease as of December 31, 2013						
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	1,518 (65.3%)	806 (34.7%)	679 (96.4%)	25 (3.6%)	839 (51.8%)	781 (48.2%)
Black/African American	2,119 (68.8%)	962 (31.2%)	1,464 (94.9%)	79 (5.1%)	655 (42.6%)	883 (57.4%)
Hispanic	92 (60.1%)	61 (39.9%)	65 (98.5%)	1 (1.5%)	27 (31.0%)	60 (69.0%)
Other/Unk.	55 (68.8%)	25 (31.3%)	37 (97.4%)	1 (2.6%)	18 (42.9%)	24 (57.1%)
Total	3,784 (67.1%)	1,854 (32.9%)	2,245 (95.5%)	106 (4.5%)	1,539 (46.8%)	1,748 (53.2%)
Kansas City Region						
White	1,202 (66.0%)	619 (34.0%)	560 (97.4%)	15 (2.6%)	642 (51.5%)	604 (48.5%)
Black/African American	979 (68.4%)	453 (31.6%)	679 (95.9%)	29 (4.1%)	300 (41.4%)	424 (58.6%)
Hispanic	131 (57.7%)	96 (42.3%)	76 (93.8%)	5 (6.2%)	55 (37.7%)	91 (62.3%)
Other/Unk.	57 (78.1%)	16 (21.9%)	23 (95.8%)	1 (4.2%)	34 (69.4%)	15 (30.6%)
Total	2,369 (66.7%)	1,184 (33.3%)	1,338 (96.4%)	50 (3.6%)	1,031 (47.6%)	1,134 (52.4%)
Northwest Region						
White	69 (73.4%)	25 (26.6%)	34 (91.9%)	3 (8.1%)	35 (61.4%)	22 (38.6%)
Black/African American	10 (52.6%)	9 (47.4%)	4 (80.0%)	1 (20.0%)	6 (42.9%)	8 (57.1%)
Hispanic	1 (20.0%)	4 (80.0%)	1 (100.0%)	0 (0.0%)	0 (0.0%)	4 (100.0%)
Other/Unk.	0 (N/A)	0 (N/A)	0 (N/A)	0 (N/A)	0 (N/A)	0 (N/A)
Total	80 (67.8%)	38 (32.2%)	39 (90.7%)	4 (9.3%)	41 (54.7%)	34 (45.3%)
North Central Region						
White	231 (72.6%)	87 (27.4%)	136 (97.8%)	3 (2.2%)	95 (53.1%)	84 (46.9%)
Black/African American	75 (59.5%)	51 (40.5%)	45 (95.7%)	2 (4.3%)	30 (38.0%)	49 (62.0%)
Hispanic	17 (60.7%)	11 (39.3%)	15 (100.0%)	0 (0.0%)	2 (15.4%)	11 (84.6%)
Other/Unk.	4 (66.7%)	2 (33.3%)	4 (100.0%)	0 (0.0%)	0 (0.0%)	2 (100.0%)
Total	327 (68.4%)	151 (31.6%)	200 (97.6%)	5 (2.4%)	127 (46.5%)	146 (53.5%)
Southwest Region						
White	534 (73.2%)	196 (26.8%)	378 (98.2%)	7 (1.8%)	156 (45.2%)	189 (54.8%)
Black/African American	48 (48.5%)	51 (51.5%)	38 (95.0%)	2 (5.0%)	10 (16.9%)	49 (83.1%)
Hispanic	32 (68.1%)	15 (31.9%)	23 (95.8%)	1 (4.2%)	9 (39.1%)	14 (60.9%)
Other/Unk.	8 (53.3%)	7 (46.7%)	5 (83.3%)	1 (16.7%)	3 (33.3%)	6 (66.7%)
Total	622 (69.8%)	269 (30.2%)	444 (97.6%)	11 (2.4%)	178 (40.8%)	258 (59.2%)
Southeast Region						
White	149 (70.3%)	63 (29.7%)	100 (95.2%)	5 (4.8%)	49 (45.8%)	58 (54.2%)
Black/African American	54 (56.8%)	41 (43.2%)	30 (90.9%)	3 (9.1%)	24 (38.7%)	38 (61.3%)
Hispanic	3 (60.0%)	2 (40.0%)	2 (100.0%)	0 (0.0%)	1 (33.3%)	2 (66.7%)
Other/Unk.	1 (100.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)	0 (N/A)	0 (N/A)
Total	207 (66.1%)	106 (33.9%)	133 (94.3%)	8 (5.7%)	74 (43.0%)	98 (57.0%)
Statewide (MO)****						
White	3,863 (67.5%)	1,861 (32.5%)	1,969 (97.0%)	60 (3.0%)	1,894 (51.3%)	1,801 (48.7%)
Black/African American	3,620 (68.0%)	1,700 (32.0%)	2,442 (95.1%)	126 (4.9%)	1,178 (42.8%)	1,574 (57.2%)
Hispanic	282 (58.8%)	198 (41.3%)	185 (96.4%)	7 (3.6%)	97 (33.7%)	191 (66.3%)
Other/Unk.	128 (71.1%)	52 (28.9%)	72 (94.7%)	4 (5.3%)	56 (53.8%)	48 (46.2%)
Total	7,893 (67.4%)	3,811 (32.6%)	4,668 (96.0%)	197 (4.0%)	3,225 (47.2%)	3,614 (52.8%)

*Includes all individuals still living whose most recent diagnosis (i.e., HIV or 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.

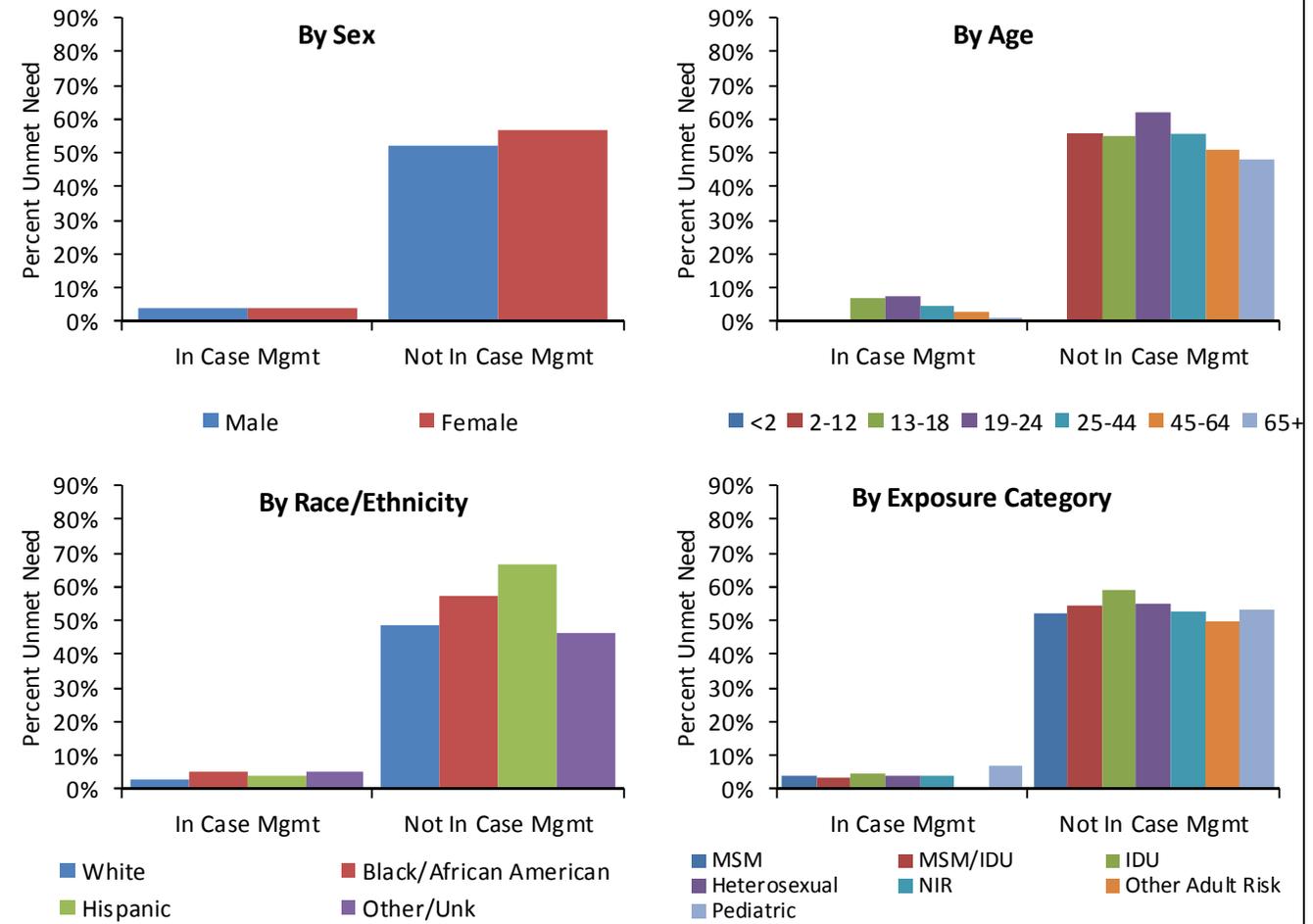
Note: Percentages may not total to 100% due to rounding.

Of the 11,704 persons living with HIV at the end of 2013, 67% had evidence of met primary care medical needs (i.e., met need) in 2013 (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 2013 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 2013. A significantly greater proportion of those enrolled in HIV medical case management had a met need (96%) in 2013 compared to those not enrolled (47%). 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 region. It is important to note that data presented by HIV region represent those who currently have a met need that were most recently diagnosed with HIV or AIDS in the selected HIV 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 Region (70%), and lowest in the Southeast HIV Regions (66%). 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 41% in the Southwest HIV Region to 55% in the Northwest HIV Region.

There were differences in the proportion of persons with a met need by race/ethnicity. Overall statewide, met need was lower among Hispanics (59%) 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 regions compared to whites, and the proportion of Hispanics with a met need was lower in all HIV regions compared to whites.

Figure 41. Percent of individuals living with HIV having an unmet* primary medical care need in 2013 by enrollment in HIV case management and selected characteristics



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

Figure 41 examines the proportion of cases with unmet need depending on whether the individuals were enrolled in HIV medical case management for selected characteristics. There were 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 19-24 years of age (62%). Those currently 65 or more 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 (8%). 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 (66%) and lowest among those of other or unknown race (46%). Among those enrolled in case management, unmet need was greatest among those of other or unknown race (5%). 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 AIDS) and selected characteristics. Overall, the proportion of those with an unmet need was greater for those classified as HIV cases compared to 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 2013 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)	AIDS Cases with Unmet Need* % (N)	HIV Cases with Unmet Need* % (N)	AIDS Cases with Unmet Need* % (N)	HIV Cases with Unmet Need* % (N)	AIDS Cases with Unmet Need* % (N)
Sex						
Male	42.1% (1,895)	25.6% (1,327)	5.4% (85)	3.0% (68)	61.6% (1,810)	42.9% (1,259)
Female	36.8% (373)	21.6% (216)	5.2% (25)	3.4% (19)	65.7% (348)	45.4% (197)
Race/Ethnicity						
White	39.0% (1,055)	26.7% (806)	4.0% (35)	2.2% (25)	55.5% (1,020)	42.1% (781)
Black/African American	42.7% (1,071)	22.4% (629)	6.3% (68)	3.9% (58)	69.9% (1,003)	43.3% (571)
Hispanic	47.3% (104)	36.2% (94)	4.8% (4)	2.8% (3)	73.0% (100)	60.3% (91)
Other/Unknown	45.2% (38)	14.6% (14)	11.5% (3)	2.0% (1)	60.3% (35)	28.3% (13)
Current Age†						
<2	0.0% (0)	-- (0)	-- (0)	-- (0)	0.0% (0)	-- (0)
2-12	43.8% (14)	100.0% (1)	0.0% (0)	-- (0)	53.8% (14)	100.0% (1)
13-18	37.9% (11)	16.7% (1)	7.1% (1)	0.0% (0)	66.7% (10)	20.0% (1)
19-24	29.6% (131)	17.1% (21)	8.6% (24)	4.7% (4)	65.2% (107)	45.9% (17)
25-44	38.8% (990)	24.1% (494)	5.7% (62)	3.8% (39)	63.6% (928)	44.3% (455)
45-64	45.1% (1,022)	25.2% (933)	3.4% (22)	2.7% (44)	61.3% (1,000)	42.8% (889)
65+	50.8% (100)	31.0% (93)	4.3% (1)	0.0% (0)	56.9% (99)	41.5% (93)
Exposure Category						
Men who have sex with men	40.2% (1,369)	25.7% (982)	5.5% (69)	3.1% (52)	60.7% (1,300)	43.2% (930)
Men who have sex with men and inject drugs	36.4% (78)	25.9% (97)	6.1% (6)	1.6% (3)	62.1% (72)	50.0% (94)
Injecting drug use	47.4% (120)	24.6% (98)	9.7% (9)	1.9% (4)	69.4% (111)	49.7% (94)
Heterosexual contact	38.7% (295)	23.1% (199)	4.1% (14)	4.1% (18)	66.7% (281)	42.7% (181)
No indicated risk (NIR)	45.7% (370)	22.5% (146)	4.6% (11)	3.2% (9)	62.9% (359)	37.3% (137)
Other Adult Risk	66.7% (8)	27.9% (12)	0.0% (0)	0.0% (0)	80.0% (8)	40.0% (12)
Pediatric	43.1% (28)	29.0% (9)	5.6% (1)	8.3% (1)	57.4% (27)	42.1% (8)
Total	41.1% (2,268)	24.9% (1,543)	5.4% (110)	3.1% (87)	62.2% (2,158)	43.2% (1,456)

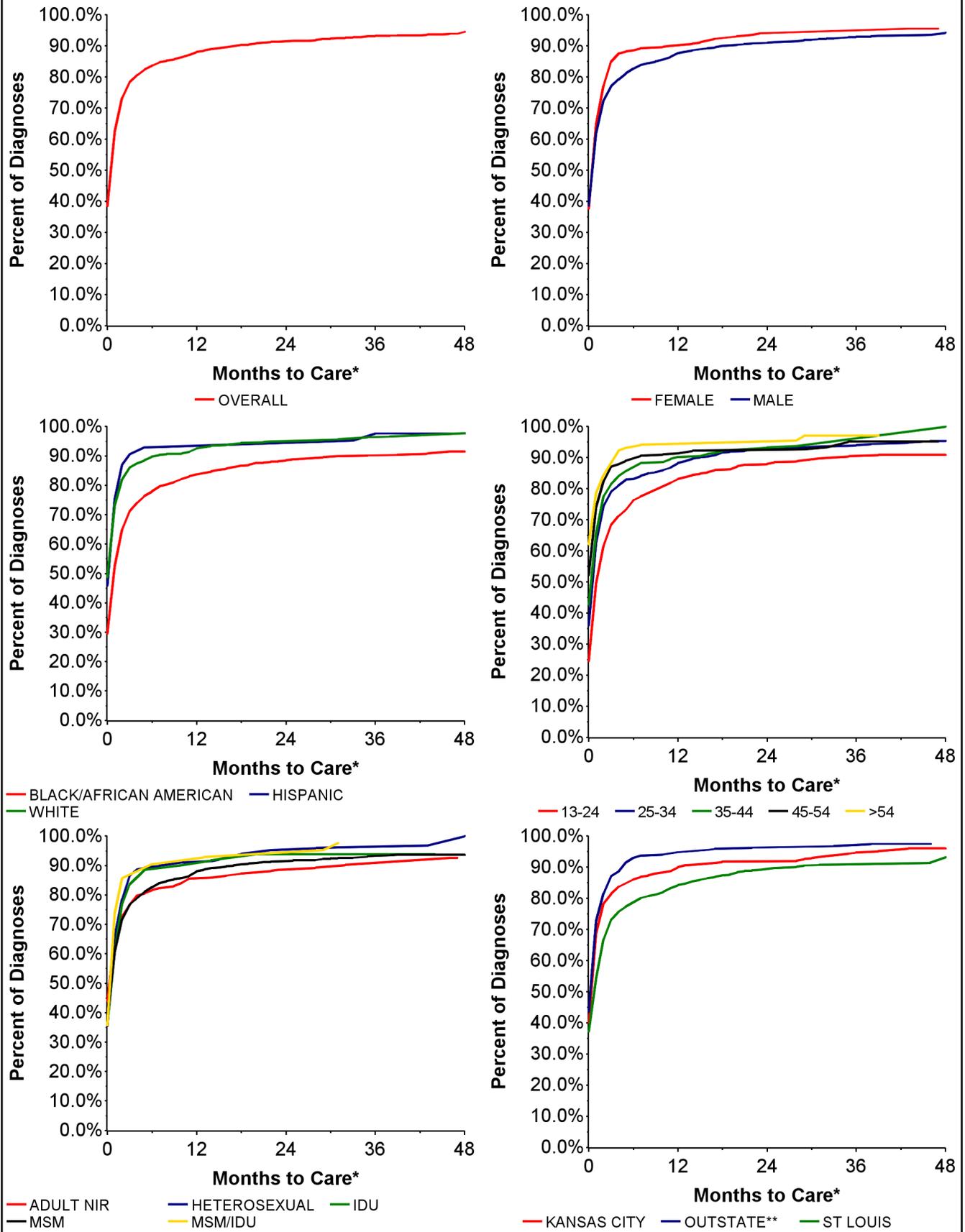
*No evidence of a CD4+ T-lymphocyte or viral load laboratory test result or diagnosis with an opportunistic infection in the current year.

**HIV case vs. AIDS case.

†Based on age as of December 31, 2013

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

Figure 42. Length of time in months to enter care* after initial HIV diagnosis among persons diagnosed between 2010 and 2012, by selected characteristics, Missouri



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

Figure 42 examines the length of time until first entry into care among persons newly diagnosed with HIV disease between 2010 and 2012. Entry into care was measured as the receipt of a CD4 lymphocyte or viral load laboratory result by MDHSS. Overall, 88% 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 84% of blacks/African Americans had entered care, compared to 93% of Hispanics and 93% 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 83% entered care within one year of diagnosis, compared to 94% 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. Persons diagnosed in the St. Louis HIV Region were significantly less likely to enter into care over time. At one year after diagnosis, 90% of persons diagnosed in the Kansas City HIV Region, 95% of persons diagnosed in Outstate, and 84% of persons diagnosed in the St. Louis HIV Region entered care. Entry into care remained lower among those recently diagnosed in the St. Louis HIV 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

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).

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 AIDS

All HIV-infected people who have fewer than 200 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.

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, 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 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 AIDS cases.

Incidence

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

Incidence rate

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

Modes of transmission

Also referred to as **exposure categories**, this term refers to the way in which an individual acquired the HIV virus. The most common modes of transmission are: men who have sex with men (MSM), heterosexual contact,

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

Point prevalence

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

Prevalence rate

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

Sexually Transmitted Infections

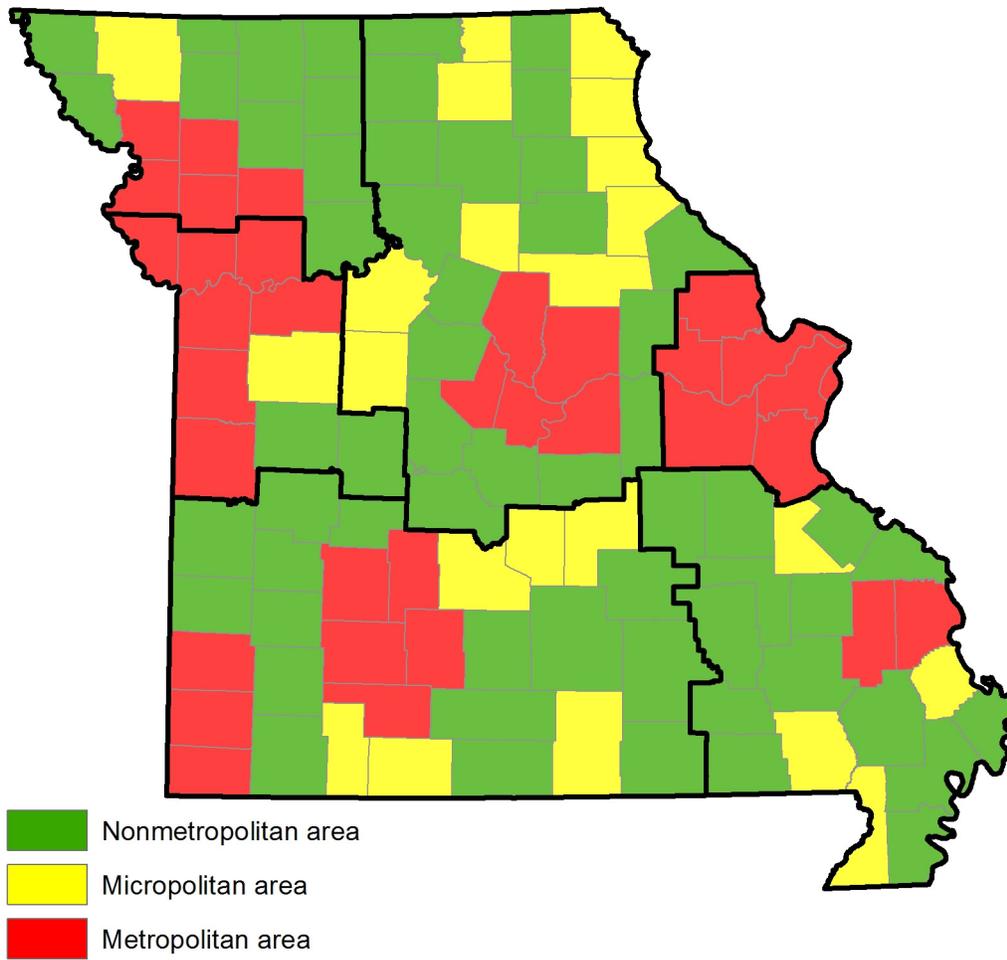
Sexually transmitted infections (STIs), commonly called **sexually transmitted diseases (STDs)** and once called venereal diseases, are among the most common infectious diseases in the United States today. They are a group of infections that are predominantly transmitted through sexual activity.

Sexually Transmitted Infections and the Organisms Responsible

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

Appendix

Metropolitan, Micropolitan, and Nonmetropolitan Areas by County



Source: Missouri Census Data Center, MABLE/Geocorr12. 2013 Metropolitan Divisions.