

**2009 Epidemiologic Profiles  
of HIV, STD, and Hepatitis in Missouri**



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# 2009 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 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/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 2009 *Profiles* provides a comprehensive update of all five questions in the *Profiles* including the sociodemographic characteristics of Missourians; the epidemiology of HIV, STDs, hepatitis; care services utilization among persons living with HIV disease; and unmet primary medical care needs among individuals living with HIV through 2009. Please refer to the data sources used in the *Profiles* on page ii and the technical notes on page vi to develop a better understanding for interpreting the data presented. Additional sections of the profile 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 Community Planning Group (CPG) operates on a five year planning cycle. The current prevention plan runs from 2006-2010. In 2010, a new comprehensive HIV prevention plan will be developed for 2011-2015. To best serve the CPG planning process, updates to the epidemiologic profile are designed to coincide with the CPG'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 profile. The current *Profiles* represents a comprehensive update to all questions in the *Profiles*. For data from the previous comprehensive *Profiles*, please refer to the *2004 Epidemiologic Profile*, which can be accessed at [http://www.dhss.mo.gov/HIV\\_STD\\_AIDS/2004EpidemiologicProfile.pdf](http://www.dhss.mo.gov/HIV_STD_AIDS/2004EpidemiologicProfile.pdf).

## Data Sources

### 1. Population Data

#### **American Community Survey, U.S. Census Bureau**

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

#### **Migration Data Files, Internal Revenue Service (IRS)**

State- and county-level migration estimates can be derived from changes in the tax filer's mailing address on domestic and foreign tax return forms between filing years. The IRS produces data files that are freely available. Migration patterns can be assessed by changes in the total number of exemptions reported between two filing years. There are some limitations associated with using tax return information to estimate migration patterns. First, the migration data file only includes tax returns filed through the 39th week of the year, which account for approximately 95% to 98% of all filed individuals returns. Second, differences exist in the likelihood of filing a tax return among various populations. Often the elderly and poor are less likely to file returns, and therefore would not be accurately represented in the migration data files. Third, the mailing address reported on the tax return may not reflect the true address of residence. Migration data are not available by demographic characteristics such as sex, age, and race/ethnicity. For more information, visit <http://www.irs.gov/taxstats/article/0..id=212683.00.html>.

#### **Population Estimates, Missouri Department of Health (MDHSS), Bureau of Health Informatics 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 2000 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 these estimates, the most recent year's estimates are not available for use in the *Profiles*, and the previous year's 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 prior *Profiles* will not be comparable with the current *Profiles*.

#### **Small Area Health Insurance Estimates (SAHIE), U.S. Census Bureau**

SAHIE are model-based estimates of health insurance coverage for counties and states derived by combining a variety of data sources including: the Annual Social and Economic Supplement of the Current Population Survey, demographic population estimates, aggregated federal tax returns, participation records for the Supplemental Nutrition Assistance Program, county business patterns, Medicaid and Children's Health Insurance Program participation records, and the Census 2000. This is currently the only data source providing estimates of health insurance for all counties in the U.S. Due to the time it takes to develop the models based on the wide variety of data sources, estimates generally reflect a date a few years prior to the date the estimates are released. For example, health insurance estimates for 2006 were released in August 2009. For more information, visit <http://www.census.gov/did/www/sahie/>.

#### **Small Area Income and Poverty Estimates (SAIPE), U.S. Census Bureau**

SAIPE are model-based estimates of income and poverty provided annually for all states, counties, and school districts. The estimates are derived by combining survey data, population estimates, administrative records, and federal tax information. SAIPE represent the best source of consistent single-year poverty and income estimates for small geographic areas. However, the estimates by demographic characteristics such as race/ethnicity and sex are not available for this data source. For more information, visit <http://www.census.gov/did/www/saipe/>.

## 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 Missouri Department of Health and Senior Services (MDHSS), Bureau of HIV, STD, and Hepatitis (BHSH) is responsible for managing the HIV/AIDS surveillance data, stored in the evaluation 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

### Behavioral Risk Factor Surveillance System (BRFSS) Survey, CDC

The BRFSS survey is an annual population-based, random-digit-dialed, telephone survey of the state's civilian, non-institutionalized, adult population, 18 years of age and older. Interviewers ask questions related to health behaviors, health screening, quality of life, mental health, impairment, and access to health care and insurance. The results are weighted by demographic characteristics and by selection probability, and are used in planning, implementing, and evaluating health promotion and disease prevention programs. For participants 18 – 64 years of age, the interview includes questions regarding HIV/AIDS-related behaviors and testing. The BRFSS does not always contain the same questions from one year to the next. For more information, visit <http://www.cdc.gov/brfss/>.

### Counseling, Testing and Referral Program Data

CDC-funded prevention project areas, including Missouri, are required to collect information related to HIV tests performed at publicly funded HIV testing sites. The data collected include demographic information, behavioral risk information, previous testing history, along with many other elements. The data are only representative of people who seek HIV testing at publicly funded testing sites. The data are collected for each testing experience, and multiple tests conducted on the same individual cannot be differentiated. Beginning in September 2007, MHDSS was funded by CDC to conduct expanding HIV testing initiatives in the state. This initiative was implemented to provide HIV testing in select urban facilities (including hospital emergency departments, private clinics, and public health clinics) with the intent to test all persons seeking care. Sites were selected in Kansas City and St. Louis, and testing began in early 2008. The required data for this initiative include demographic information and test results. Data regarding previous testing history and behavioral risk are considered optional, and are missing for a majority of the records collected.

### 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, 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 BHSH 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.

### HIV in Correctional Facilities, Missouri Department of Corrections and the Bureau of Justice Statistics

All Missouri Department of Corrections inmates are required to be tested for HIV at entry, unless laboratory evidence of HIV infection subsequent to the time of trial is provided, and at exit from the system (Section 191.659 RSMo). The Department of Corrections maintains data on all inmates, including information regarding an inmate's HIV status. The data from the Department of Corrections do not include offenders in local jails, private facilities, or federal facilities. No information is available regarding the HIV status of offenders recently released from the facility. The Department of Corrections reports information regarding HIV infection in their facilities to the Bureau of Justice Statistics. This organization compiles reports for all states and from federal correctional facilities to produce a report regarding the prevalence of HIV infection in

correctional facilities. The reports can be accessed at <http://bjs.ojp.usdoj.gov/index.cfm>. The reported totals presented in the Bureau of Justice Statistic reports for Missouri may not match the totals provided by the Department of Corrections, as the datasets used to produce the figures could be based on the correctional population at slightly different times during the year. The Department of Corrections noted that the number of HIV-positive offenders reported to the Bureau of Justice Statistics in 2008 (461) was incorrect. Therefore, it is not appropriate to interpret trends including the 2008 time period from the Bureau of Justice Statistics reports.

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

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

### **Missouri Pregnancy Related Assessment and Monitoring System (MoPRA), MDHSS**

MDHSS conducted a population-based, maternal health survey in 2005 to assess maternal behaviors before, during, and after pregnancy. Data were collected from a stratified random sample of Missouri resident women who delivered a live birth within the state in 2005. The weighted response rate for the survey was 61%, which was below the CDC recommended response rate of at least 70%. As a result, caution should be taken when interpreting the MoPRA estimates. For more information, visit <http://www.dhss.mo.gov/PRAMS/>.

### **National HIV Behavioral Surveillance (NHBS)**

NHBS is a cross-sectional survey funded by the CDC in 25 cities in the U.S., including St. Louis. This survey collects behavioral information among populations at high risk for HIV infection. The three populations include men who have sex with men, injection drug users, and heterosexuals at high risk for HIV infection. Each year the survey rotates through one of the three population risk groups, so survey information is collected on a single risk group once every three years. In Missouri, currently data are only available from the survey in 2005 among injection drug users. The results of this analysis should be interpreted with some caution as the analysis presented was derived from the original dataset, and not the final dataset provided by CDC after data cleaning activities were completed.

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

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

### **National Survey on Drug Use and Health, SAMHSA**

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

### **School Health Profiles, CDC**

The School Health Profiles is derived from a sample survey of schools that serve students from sixth through twelfth grade in each state, territory, or city of interest. The survey is conducted in even years, and assesses school health policies and programs. Survey areas include school health education requirements, physical education requirements, health policies related to HIV/AIDS, tobacco-use prevention, nutrition, asthma management, and the coordination of school health with the family and community. In 2008, 47

states, 18 cities, and four territories collected data and were included in the analysis. Surveys are sent from the state, local or territorial education or health agency to the principal. The principal and the school's lead health education teacher complete the appropriate survey responses. Results from the principal and teacher surveys are weighted. For more information, visit <http://www.cdc.gov/healthyYouth/profiles/>.

#### **STD Surveillance Data, STD\*MIS**

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. The MDHSS BSHS is responsible for managing all reportable STD surveillance data, stored in the STD Management Information System (STD\*MIS) database. 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.

#### **Treatment Episode Data Set (TEDS), SAMHSA**

This data set collects national information regarding admissions to public and private providers of substance abuse treatment that receive public funding. At a minimum for all states, the data set includes demographic information, date of admission, number of prior treatment episodes, and information related to the substance abuse problem. TEDS does not include all admissions to substance abuse treatment; the completeness of client-level data included in the data set varies depending on state reporting practices and the availability of public funds. For more information, visit <http://www.oas.samhsa.gov/2k2/TEDS/TEDS.cfm>.

#### **Youth Risk Behavior Surveillance System (YRBSS) Survey, CDC**

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

## **4. HIV Care Services Data**

#### **HIV Case Management Data, FACTORS**

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 FACTORS 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, 2009.

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, 2010.

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.

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 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.

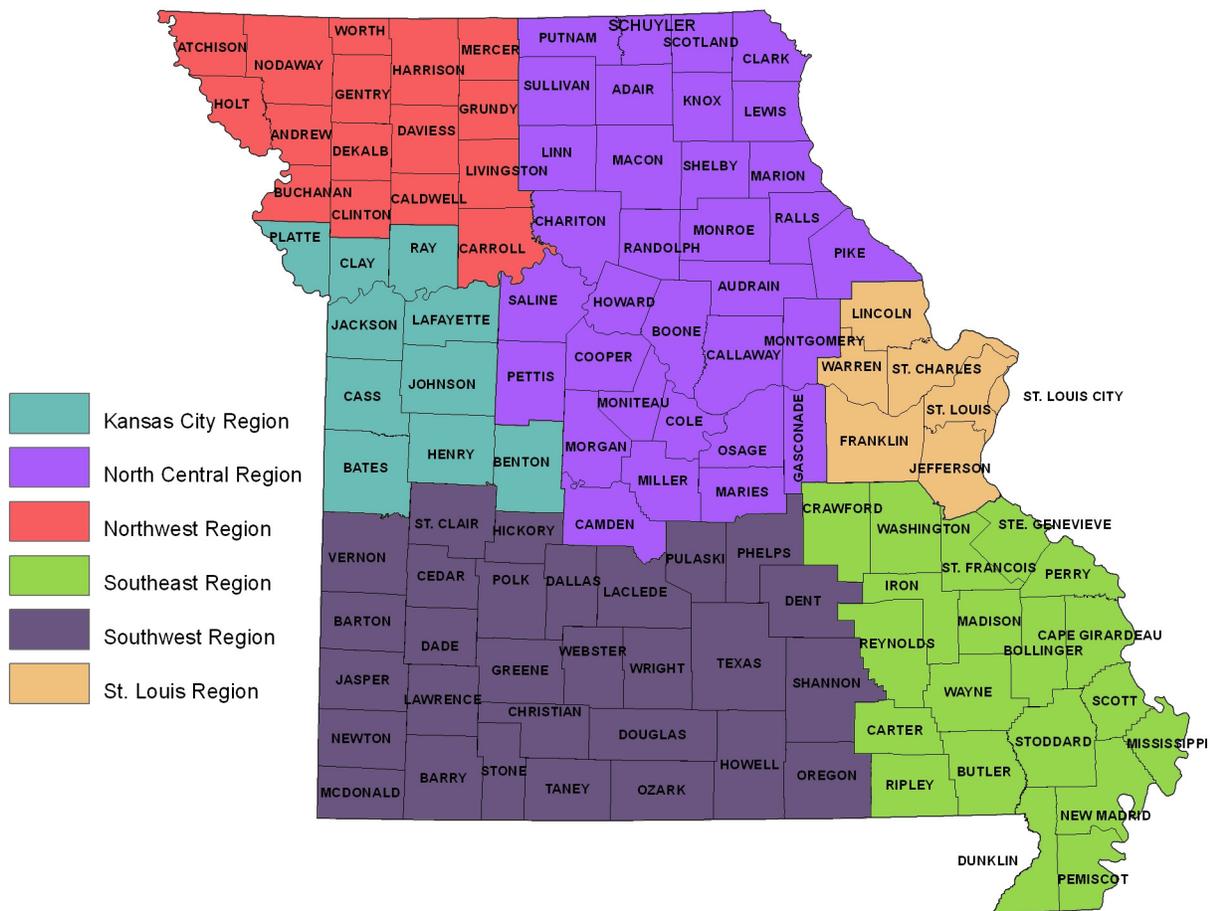
Glossary of Terms: A glossary of terms is located at the end of the profile. If the reader is unclear about any terms used in the *Profiles*, please feel free to contact MDHSS BSHS for additional information.

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" means Black, 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 below for the counties included when data are presented by HIV region.



## **Abbreviations**

AIDS=Acquired Immunodeficiency Syndrome

BHSH=Bureau of HIV, STD, and Hepatitis

BRFSS=Behavioral Risk Factor Surveillance System

CDC=Centers for Disease Control and Prevention

CPG=Community Planning Group

eHARS=evaluation HIV/AIDS Reporting System

HCV=Hepatitis C Virus

HIV=Human Immunodeficiency Virus

IDEP=Interstate Duplicate Evaluation Project

IDU=Injection drug use/Injection drug user

IRS=Internal Revenue Service

HRSA=Health Resources and Services Administration

MDHSS=Missouri Department of Health and Senior Services

MICA=Missouri Information for Community Assessment

MoPRA=Missouri Pregnancy Related Assessment and Monitoring System

MSA=Metropolitan statistical area

MSM=Men who have sex with men

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

NHBS=National HIV Behavioral Surveillance

NIR=No indicated risk

N-SSATS=National Survey of Substance Abuse Treatment Services

P&S=Primary and secondary

RIDR=Routine Interstate Duplicate Review

SAHIE=Small Area Health Insurance Estimates

SAIPE=Small Area Income and Poverty Estimates

SAMHSA=Substance Abuse and Mental Health Services Administration

STD=Sexually Transmitted Disease

STD\*MIS=Sexually Transmitted Disease Management Information System

TEDS=Treatment Episode Data Set

YRBSS=Youth Risk Behavioral Surveillance System

# MISSOURI STATE SUMMARY



**Population Estimates, by HIV Region, Missouri, 2008**

|  | St. Louis<br>Region | Kansas City<br>Region | Northwest<br>Region | North<br>Central<br>Region | Southwest<br>Region | Southeast<br>Region | Missouri<br>Total |
|--|---------------------|-----------------------|---------------------|----------------------------|---------------------|---------------------|-------------------|
| <b>Sex</b>                               |                     |                       |                     |                            |                     |                     |                   |
| Male                                     | 1,013,358           | 602,459               | 121,908             | 366,622                    | 544,447             | 239,113             | 2,887,907         |
| Female                                   | 1,084,806           | 631,967               | 122,626             | 373,932                    | 562,788             | 247,579             | 3,023,698         |
| Total                                    | 2,098,164           | 1,234,426             | 244,534             | 740,554                    | 1,107,235           | 486,692             | 5,911,605         |
| <b>Race/Ethnicity</b>                    |                     |                       |                     |                            |                     |                     |                   |
| White                                    | 1,566,385           | 945,867               | 227,123             | 663,805                    | 1,011,539           | 441,034             | 4,855,753         |
| Black                                    | 406,662             | 169,893               | 7,146               | 38,577                     | 19,807              | 28,104              | 670,189           |
| Hispanic                                 | 47,304              | 74,269                | 5,363               | 17,466                     | 37,819              | 7,479               | 189,700           |
| Asian/Pacific Islander                   | 47,418              | 18,768                | 1,322               | 8,538                      | 10,291              | 2,329               | 88,666            |
| American Indian/Alaskan<br>Native        | 5,115               | 5,737                 | 941                 | 2,716                      | 9,769               | 2,196               | 26,474            |
| Two or More Races                        | 25,280              | 19,892                | 2,639               | 9,452                      | 18,010              | 5,550               | 80,823            |
| Total                                    | 2,098,164           | 1,234,426             | 244,534             | 740,554                    | 1,107,235           | 486,692             | 5,911,605         |
| <b>Race/Ethnicity-Males</b>              |                     |                       |                     |                            |                     |                     |                   |
| White Male                               | 765,889             | 463,170               | 111,972             | 325,706                    | 494,380             | 215,812             | 2,376,929         |
| Black Male                               | 185,018             | 78,708                | 4,591               | 20,936                     | 11,173              | 14,143              | 314,569           |
| Hispanic Male                            | 24,686              | 38,891                | 2,837               | 9,474                      | 20,066              | 4,079               | 100,033           |
| Asian/Pacific Islander Male              | 22,904              | 8,998                 | 613                 | 4,310                      | 5,027               | 1,117               | 42,969            |
| American Indian/Alaskan<br>Native Male   | 2,534               | 2,881                 | 514                 | 1,387                      | 4,930               | 1,154               | 13,400            |
| Two or More Races Male                   | 12,327              | 9,811                 | 1,381               | 4,809                      | 8,871               | 2,808               | 40,007            |
| Total                                    | 1,013,358           | 602,459               | 121,908             | 366,622                    | 544,447             | 239,113             | 2,887,907         |
| <b>Race/Ethnicity-Females</b>            |                     |                       |                     |                            |                     |                     |                   |
| White Female                             | 800,496             | 482,697               | 115,151             | 338,099                    | 517,159             | 225,222             | 2,478,824         |
| Black Female                             | 221,644             | 91,185                | 2,555               | 17,641                     | 8,634               | 13,961              | 355,620           |
| Hispanic Female                          | 22,618              | 35,378                | 2,526               | 7,992                      | 17,753              | 3,400               | 89,667            |
| Asian/Pacific Islander Female            | 24,514              | 9,770                 | 709                 | 4,228                      | 5,264               | 1,212               | 45,697            |
| American Indian/Alaskan<br>Native Female | 2,581               | 2,856                 | 427                 | 1,329                      | 4,839               | 1,042               | 13,074            |
| Two or More Races Female                 | 12,953              | 10,081                | 1,258               | 4,643                      | 9,139               | 2,742               | 40,816            |
| Total                                    | 1,084,806           | 631,967               | 122,626             | 373,932                    | 562,788             | 247,579             | 3,023,698         |
| <b>Age</b>                               |                     |                       |                     |                            |                     |                     |                   |
| <2                                       | 56,131              | 37,009                | 6,424               | 19,776                     | 31,397              | 13,184              | 163,921           |
| 2-12                                     | 299,225             | 187,751               | 32,175              | 100,488                    | 159,653             | 67,847              | 847,139           |
| 13-18                                    | 181,773             | 101,904               | 19,468              | 58,950                     | 89,523              | 39,256              | 490,874           |
| 19-24                                    | 164,363             | 89,933                | 21,689              | 73,480                     | 94,815              | 35,718              | 479,998           |
| 25-44                                    | 544,827             | 340,480               | 62,936              | 195,022                    | 296,481             | 129,880             | 1,569,626         |
| 45-64                                    | 585,320             | 326,118               | 62,515              | 186,069                    | 270,538             | 124,252             | 1,554,812         |
| 65+                                      | 266,525             | 151,231               | 39,327              | 106,769                    | 164,828             | 76,555              | 805,235           |
| Total                                    | 2,098,164           | 1,234,426             | 244,534             | 740,554                    | 1,107,235           | 486,692             | 5,911,605         |

Source: MDHSS, Bureau of Health Informatics



## **Key Highlights: What are the sociodemographic characteristics of the general population of Missouri?**

### **General Trends**

- Missouri's population was estimated to be 5,911,605 in 2008.
- Overall, Missouri's population increased by an estimated 3% between 2004 and 2008.

### **Where**

- Thirty-six counties were classified as being part of a metropolitan statistical area in 2008. At least one metropolitan statistical area was located in each of the six HIV regions in 2008.
- Based on IRS tax filer information, the Southwest HIV region had the greatest number of counties with a net in-migration of 1% or more (5). The Northwest HIV region had the greatest number of counties with a net out-migration of 1% or more (4).
- Large increases of more than 20% in the black population between 2004 and 2008 were concentrated in counties located in the Southwest HIV region.
- Counties with the highest percentages of poverty were concentrated in the Southeast HIV region.

### **Who**

#### *Sex*

- In 2008, females represented 51% of Missouri's population.
- The distribution of highest educational attainment level was similar between males and females; approximately 85% of both males and females have completed high school or a high school equivalency or higher.
- Overall, unemployment rates were similar between males and females. However, females with their own children under six years of age had a higher unemployment rate compared to males.

#### *Race/Ethnicity*

- In 2008, whites comprised 82% of Missouri's population; blacks represented the second largest race/ethnicity category in Missouri (11%).
- The percent of population growth among race/ethnicity groups between 2004 and 2008 was greatest among Hispanics (24%); Asians/Pacific Islanders had the second greatest percent of population growth over the same time period (15%).
- The highest level of educational attainment tended to be lower for minorities compared to whites.
- Minorities under 65 years of age were less likely to report having health insurance than whites. Only 13% of whites less than 65 years of age reported no health insurance in 2006, compared to 20% of blacks, and 32% of Hispanics.
- Unemployment among persons sixteen years of age or older was higher for minorities compared to whites.

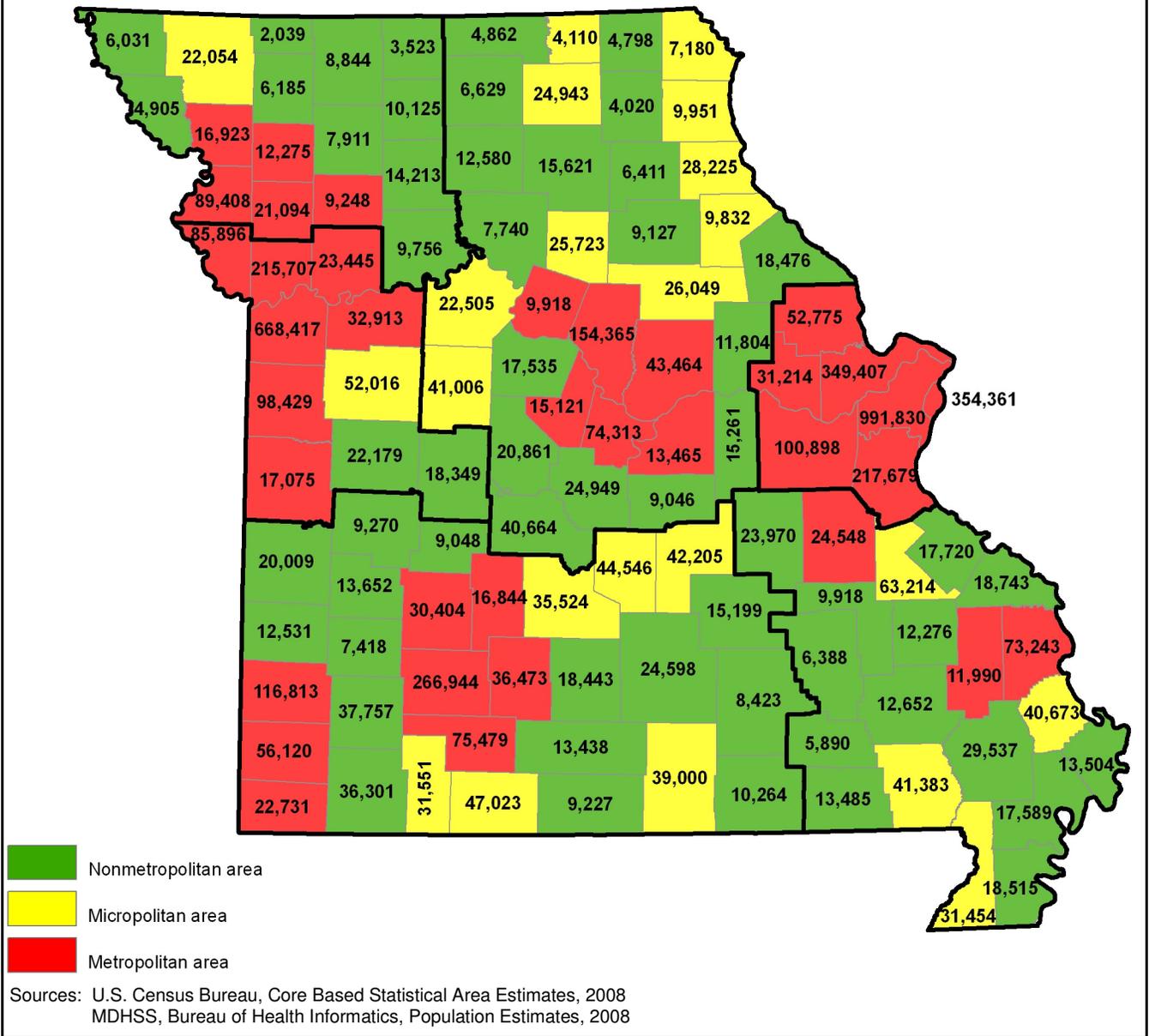
#### *Age*

- The median age in Missouri in 2008 was 37.5 years of age; Missouri's median age was slightly older than the U.S. median of 36.8 years old.
- Females in Missouri tended to be slightly older than males. The median age among females in Missouri in 2008 was 38.9 years old, compared to 36.1 years old among males.
- Unemployment rates between 2006 and 2008 tended to decrease with increasing age.

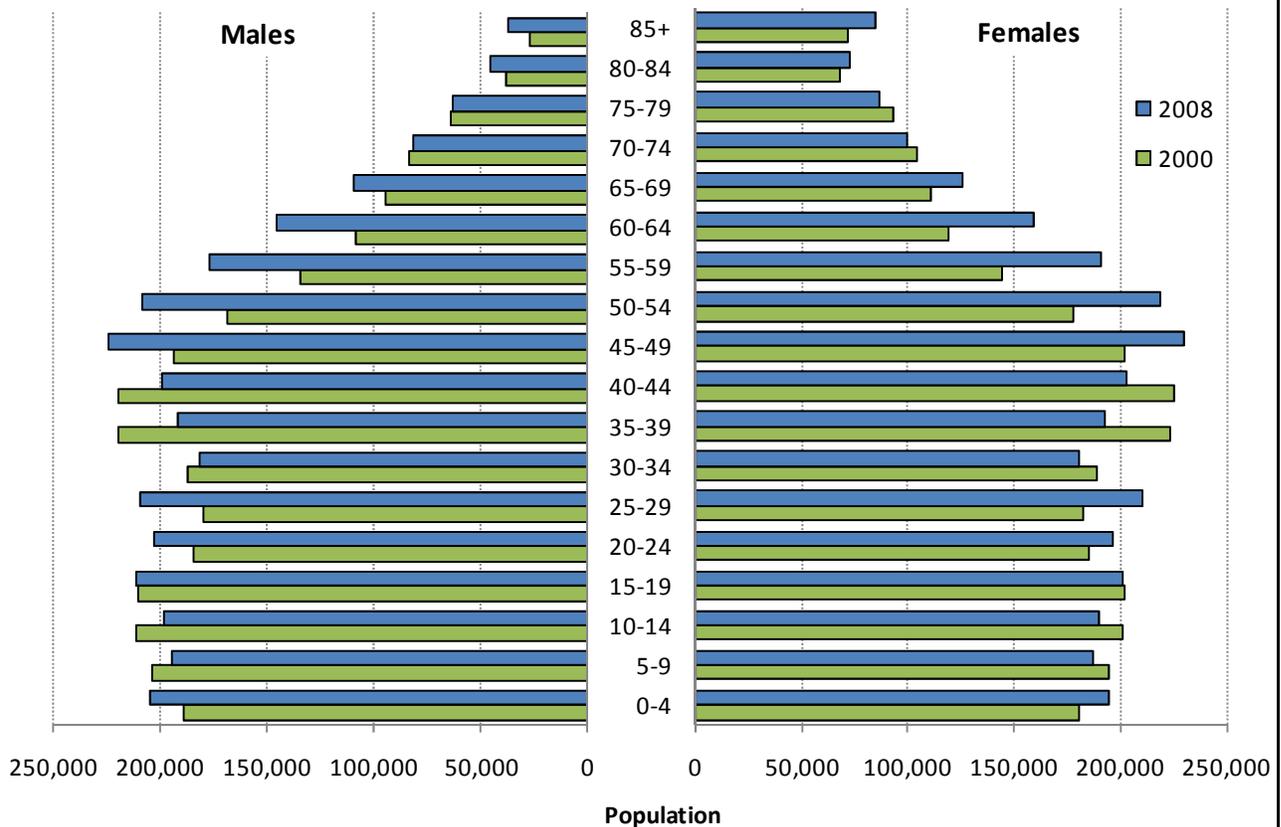
#### *Foreign Born Population and Primary Language*

- An estimated 4% of Missouri's population was born in a country outside of the U.S.
- Asia was the continent of birth for the largest number of foreign born Missouri residents. However, Mexico was the single country where the largest numbers of foreign born persons residing in Missouri were born.
- An estimated 94% of Missourians five years of age or older spoke only English at home. Following English, Spanish or Spanish Creole were the most common languages spoken at home (3%).
- An estimated 18% of persons of Hispanic origin reported speaking Spanish, and were not able to speak English well.

Figure 1. Population estimates and metropolitan statistical area classification, by county, Missouri, 2008



Missouri's population was estimated to be 5,911,605 in 2008 based on U.S. Census Bureau estimates. Missouri is comprised of 114 counties, plus the independent city of St. Louis. The U.S. Census Bureau defines groups of counties as metropolitan, micropolitan, or nonmetropolitan areas based on the population size of a core urban area. 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. 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. An area that does not meet the population requirements for the metropolitan or micropolitan area is referred to as a nonmetropolitan area. Figure 1 illustrates the classification of Missouri counties based on 2008 population estimates. In total, 36 counties were classified as part of a metropolitan statistical area in 2008; 22 counties were classified as part of a micropolitan statistical area; and 57 counties were classified as nonmetropolitan areas.

**Figure 2. Population by age and by sex, Missouri, 2000 and 2008**

Source: U.S. Census Bureau, Population Estimates, 2008

In 2008, the median age was 36.1 years old among Missouri males, and 38.9 years old among Missouri females. The median ages of males and females in Missouri were slightly higher than the median ages in the U.S. overall of 35.5 and 38.1 years of age for males and females, respectively. The distribution of the Missouri population by age among both males and females has shifted slightly between 2000 and 2008 (Figure 2). The number of both males and females between the ages of 45 and 69 was greater in 2008 compared to 2000. In both 2000 and 2008, there were a larger number of males between the ages of 0 and 19 compared to females. However, there tended to be a larger number of females 40 years of age or greater compared to males.

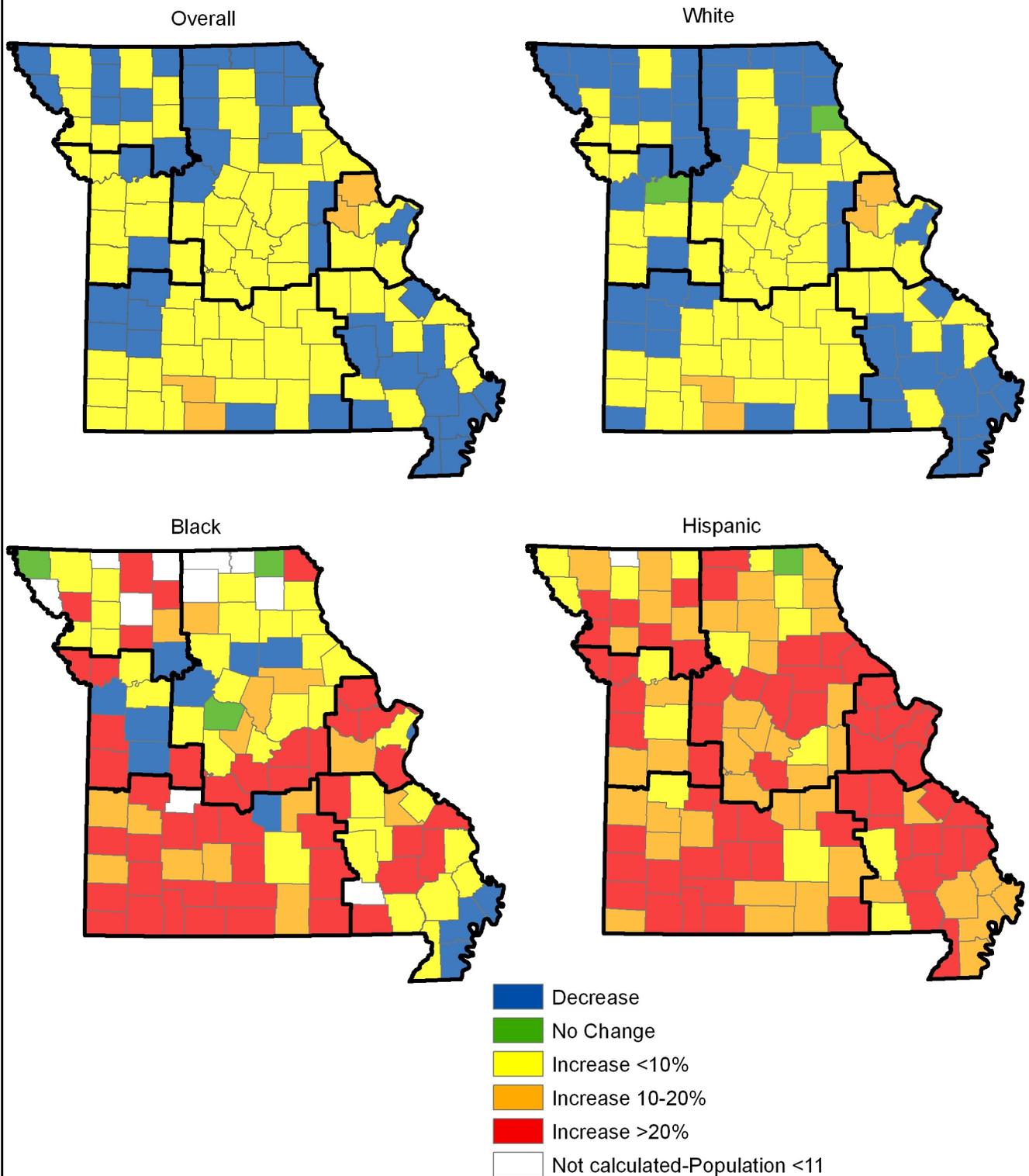
**Table 1. Population change by race/ethnicity, Missouri, 2004-2008**

| Race/Ethnicity                    | 2004             | 2005             | 2006             | 2007             | 2008             | % Change<br>2004-2008 |
|-----------------------------------|------------------|------------------|------------------|------------------|------------------|-----------------------|
| White                             | 4,764,943        | 4,787,323        | 4,813,322        | 4,839,132        | 4,855,753        | 1.9%                  |
| Black                             | 650,819          | 656,020          | 662,119          | 666,369          | 670,189          | 3.0%                  |
| Hispanic                          | 153,056          | 161,999          | 171,960          | 181,520          | 189,700          | 23.9%                 |
| Asian/Pacific Islander            | 77,363           | 80,471           | 83,579           | 86,353           | 88,666           | 14.6%                 |
| American Indian or Alaskan Native | 25,211           | 25,473           | 25,799           | 26,248           | 26,474           | 5.0%                  |
| Two or More Races in Combination  | 71,258           | 73,844           | 76,198           | 78,777           | 80,823           | 13.4%                 |
| <b>Total</b>                      | <b>5,742,650</b> | <b>5,785,130</b> | <b>5,832,977</b> | <b>5,878,399</b> | <b>5,911,605</b> | <b>2.9%</b>           |

Source: U.S. Census Bureau, Population Estimates, 2008

Whites represented the majority of the population in Missouri from 2004 to 2008. However, estimated population growth between 2004 and 2008 was greatest among Hispanics (Table 1). Asian/Pacific Islanders and persons of multiple races reported the second and third greatest percentage increase in population between 2004 and 2008, respectively. High rates of growth among particular populations may warrant attention when planning new disease prevention and outreach activities.

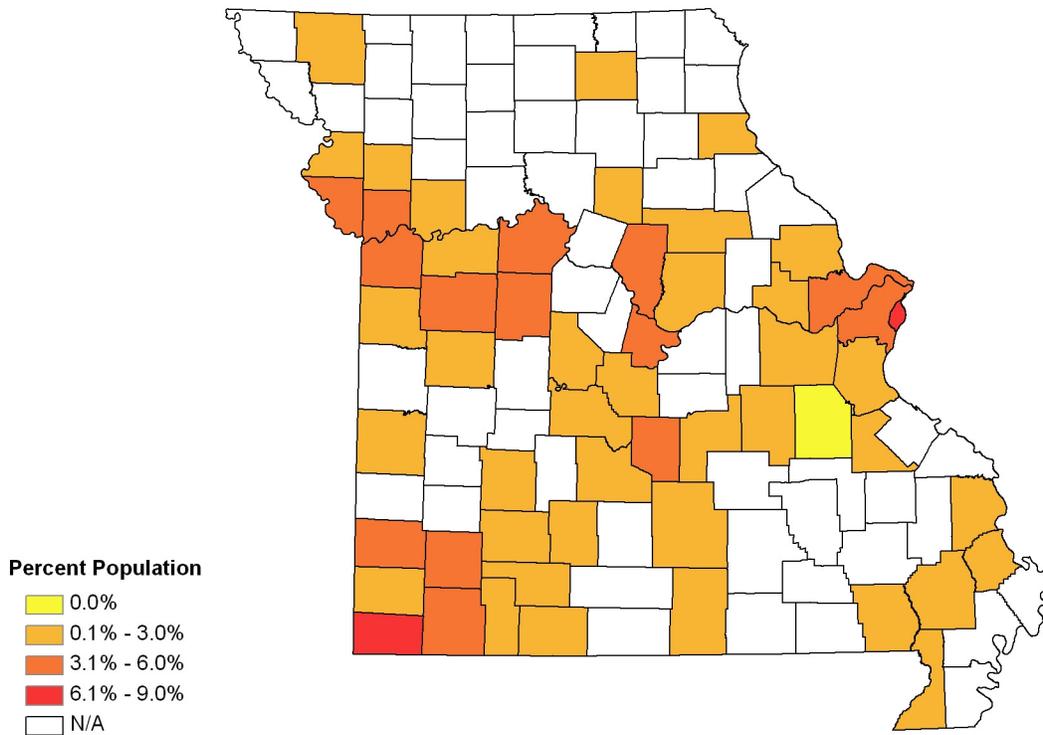
**Figure 3. Percent population change\* by county, overall and by race/ethnicity, Missouri, 2004-2008**



Source: U.S. Census Bureau, Population Estimates, 2008  
 \*Only calculated if the population was greater than 10 in both 2004 and 2008

There were four counties in which the overall population increased by 10% or more between 2004 and 2008 (Figure 3). Two counties were located in the St. Louis HIV region (Lincoln and Warren), and two were located in the Southwest HIV region (Christian and Taney). There were 43 counties where the overall estimated population decreased between 2004 and 2008. Population changes among whites tended to be similar to overall population changes. There were 44 counties where the black population was estimated to increase by more than 20% between 2004 and 2008. Many of the counties experiencing the large increase were located in the Southwest HIV region. Large increases in the Hispanic population were seen throughout the state.

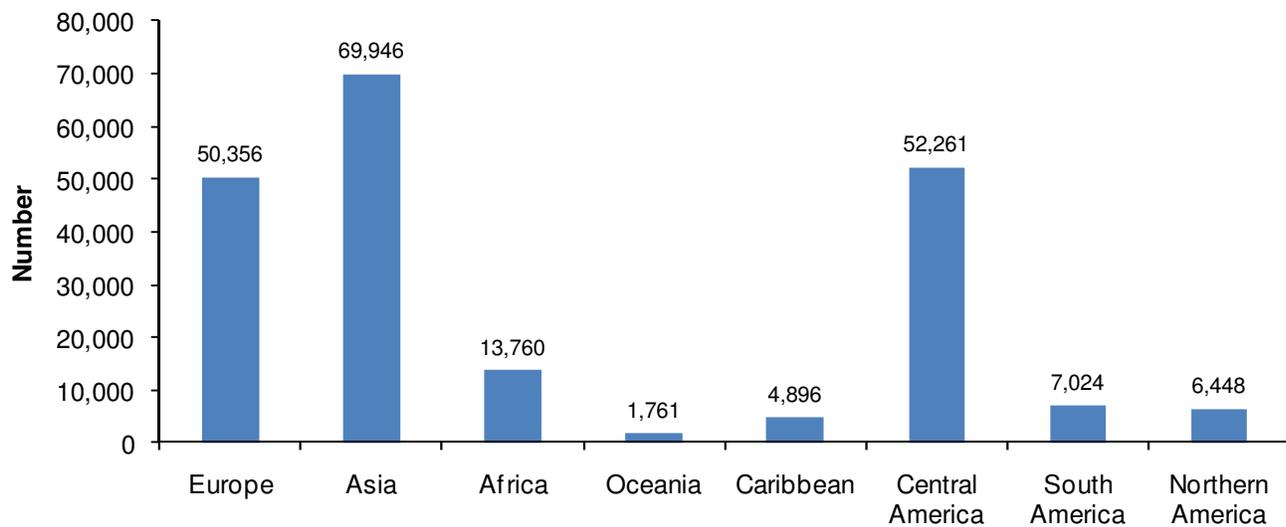
**Figure 4. Estimated percent population born outside of the U.S., by selected county, Missouri, 2006-2008**



Source: U.S. Census Bureau, American Community Survey, 2006-2008

Overall, 4% of Missouri’s population was born in a country outside of the U.S., according to 2006-2008 American Community Survey estimates. Estimates of the percent of the population born outside of the U.S. by county were available only for selected counties. Estimates ranged from 0% of the population born outside of the U.S. in Washington County to 8% in McDonald County (Figure 4).

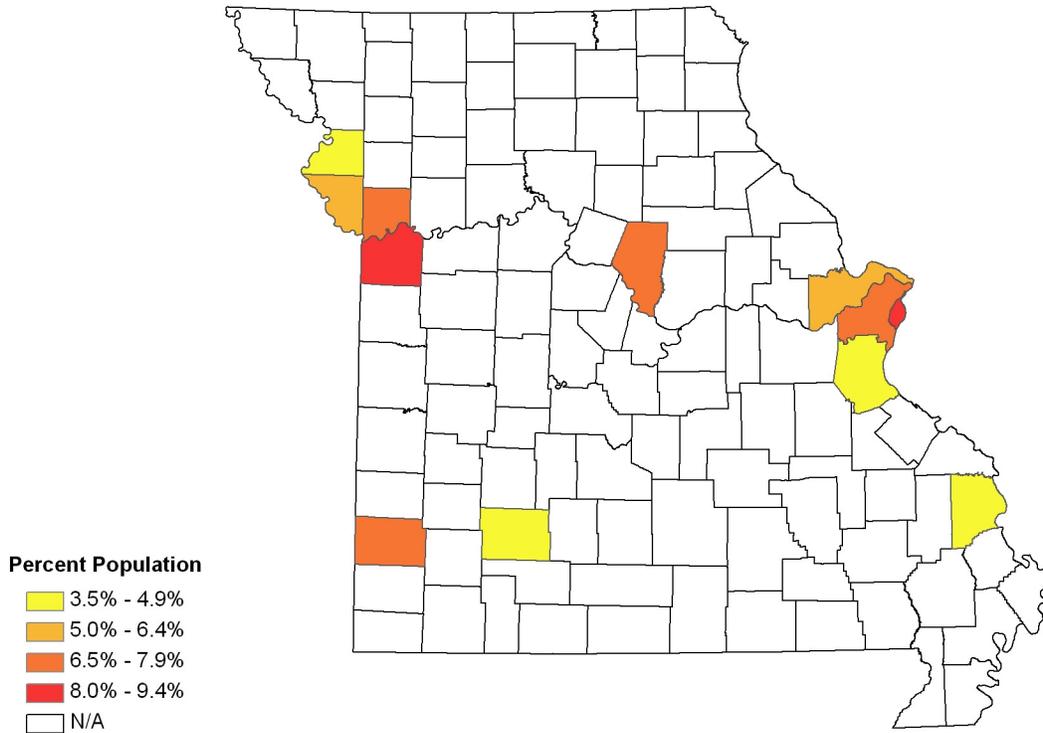
**Figure 5. Region of birth among persons born outside of the U.S., Missouri, 2006-2008**



Source: U.S. Census Bureau, American Community Survey, 2006-2008

Among persons born outside of the U.S. who now currently reside in Missouri, the largest numbers were born in Asia (Figure 5). The three countries representing the largest number of births among persons born in Asia included India (13,505), China (12,918), and Vietnam (9,377). Central America represented the second largest region of birth among persons residing in Missouri. The majority of these persons were born in Mexico (42,306).

**Figure 6. Estimated percent population five years of age or older speaking a language other than English at home, by selected county, Missouri, 2006-2008**



Source: U.S. Census Bureau, American Community Survey, 2006-2008

Among Missourians five years of age or older, an estimated 6% spoke a language other than English at home, according to 2006-2008 American Community Survey estimates. Estimates of the percent of the population speaking a language other than English at home by county were available only for a few selected counties. Estimates of persons five years of age or older speaking a language other than English ranged from 4% in Cape Girardeau County and Jefferson County to 9% in St. Louis City (Figure 6).

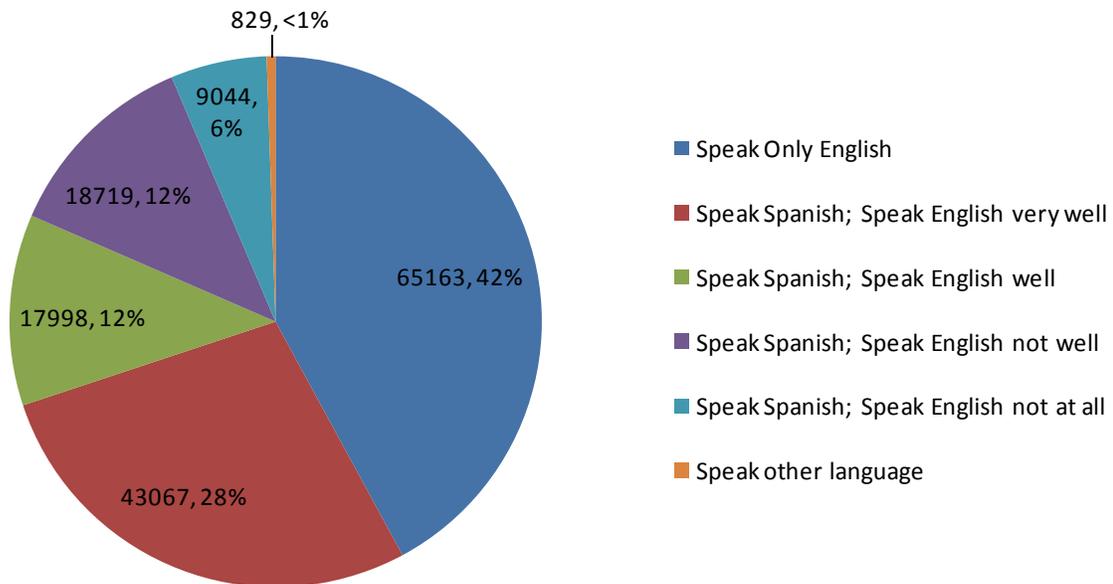
**Table 2. Estimated population five years of age or older by the language spoken at home, Missouri, 2006-2008**

| Language                                 | N                | %             |
|--|------------------|---------------|
| English Only                             | 5,169,463        | 94.3%         |
| Spanish or Spanish Creole                | 141,220          | 2.6%          |
| French (including Patois, Creole, Cajun) | 15,275           | 0.3%          |
| German or other West Germanic languages  | 29,806           | 0.5%          |
| Slavic languages                         | 24,822           | 0.5%          |
| Other Indo-European languages            | 28,169           | 0.5%          |
| Korean                                   | 7,321            | 0.1%          |
| Chinese                                  | 14,014           | 0.3%          |
| Vietnamese                               | 10,976           | 0.2%          |
| Tagalog                                  | 5,680            | 0.1%          |
| Other Asian or Pacific Island languages  | 16,294           | 0.3%          |
| Other and unspecified languages          | 17,819           | 0.3%          |
| <b>MISSOURI TOTAL 5+ years of age</b>    | <b>5,480,859</b> | <b>100.0%</b> |

Source: U.S. Census Bureau, American Community Survey, 2006-2008

The most common language spoken at home among Missourians five years of age or older, other than English, was Spanish or Spanish Creole (3%) (Table 2). Less than four percent of Missouri's population five years of age or older spoke a language other than English, Spanish, or Spanish Creole.

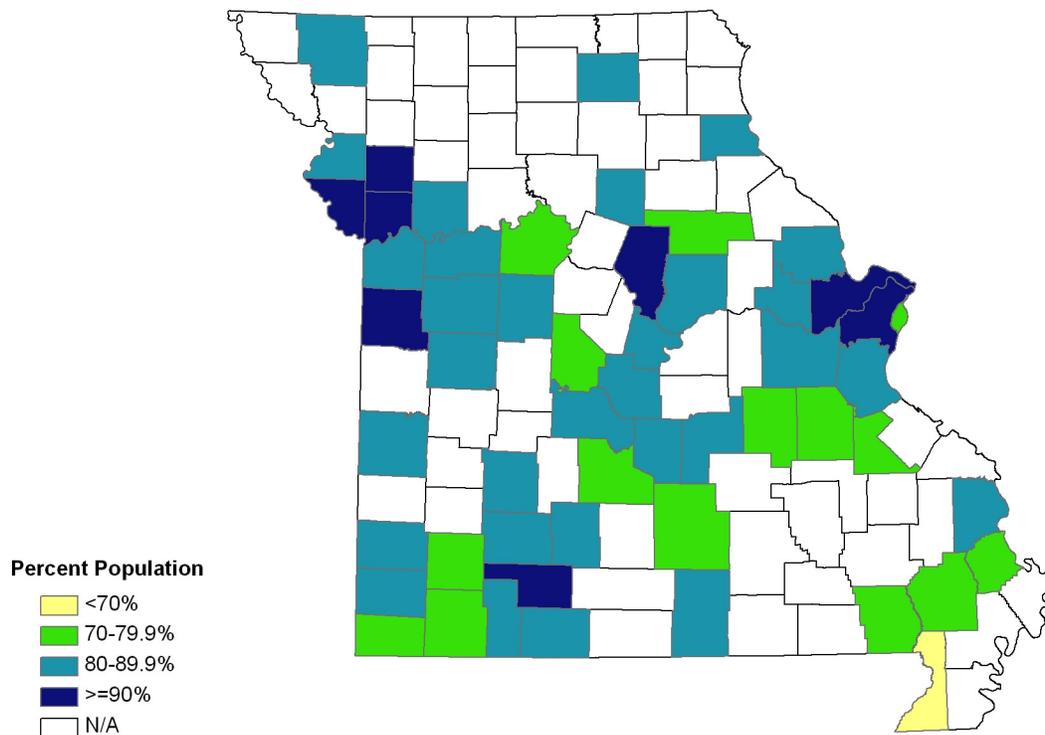
**Figure 7. Estimated percent of Hispanic population five years of age or older, by language spoken at home and ability to speak English, , Missouri, 2006-2008**



Source: U.S. Census Bureau, American Community Survey, 2006-2008

Among Missourians five years of age or older of Hispanic origin, an estimated 42% spoke only English at home; less than 1% spoke a language other than English or Spanish at home (Figure 7). Overall, an estimated 82% of persons of Hispanic origin identified being comfortable speaking English (i.e., spoke English well or better). An estimated 6% reported speaking Spanish at home, and were not able to speak English. An additional 12% spoke Spanish at home, and reported not being able to speak English well.

**Figure 8. Estimated percent of population 25 years of age or older completing high school, high school equivalency, or higher, by selected county, Missouri, 2006-2008**



Source: U.S. Census Bureau, American Community Survey, 2006-2008

An estimated 86% of Missourians 25 years of age or older have completed at least high school or a high school equivalency. Estimates by county were available only for selected counties. Estimates ranged from 69% of the population completing high school in Dunklin County to 95% in Platte County (Figure 8).

**Table 3. Estimated highest educational attainment level, by sex, by race/ethnicity, Missouri, 2006-2008**

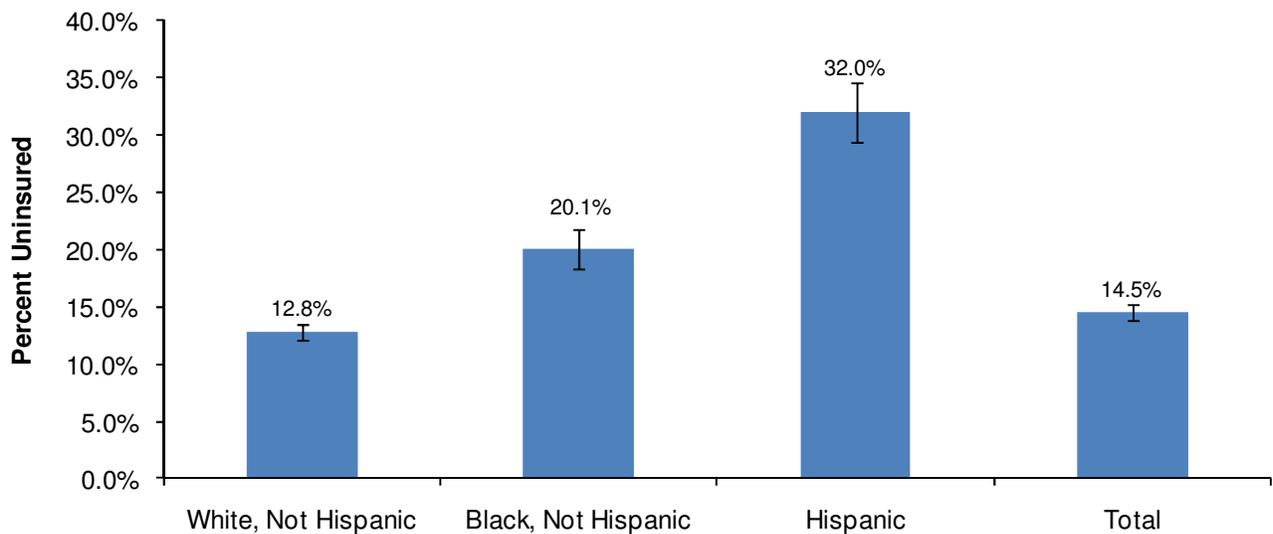
| Sex    | Race/Ethnicity | Highest Educational Attainment Level |   |                                    |                             |
|--------|----------------|--------------------------------------|---|------------------------------------|-----------------------------|
|        |                | Less than high school diploma        | High school graduate, GED, or alternative | Some college or associate's degree | Bachelor's degree or higher |
| Male   | Total          | 14.6%                                | 33.9%                                     | 26.5%                              | 25.1%                       |
|        | White*         | 13.6%                                | 33.8%                                     | 26.6%                              | 26.0%                       |
|        | Black*         | 21.5%                                | 37.5%                                     | 27.6%                              | 13.4%                       |
|        | Hispanic       | 35.0%                                | 28.4%                                     | 20.4%                              | 16.2%                       |
| Female | Total          | 14.2%                                | 32.4%                                     | 29.3%                              | 24.0%                       |
|        | White*         | 13.3%                                | 32.9%                                     | 29.0%                              | 24.9%                       |
|        | Black*         | 19.0%                                | 31.0%                                     | 34.1%                              | 15.9%                       |
|        | Hispanic       | 31.0%                                | 29.2%                                     | 22.4%                              | 17.5%                       |

Source: U.S. Census Bureau, American Community Survey, 2006-2008

\*Includes persons of Hispanic origin

The distribution of the highest level of education attainment varied by race/ethnicity (Table 3). Greater proportions of white males and females completed a bachelor's degree or higher compared to black males and females. The percentage of the population with less than a high school diploma was greatest among Hispanic males (35%) and lowest among white females (13%).

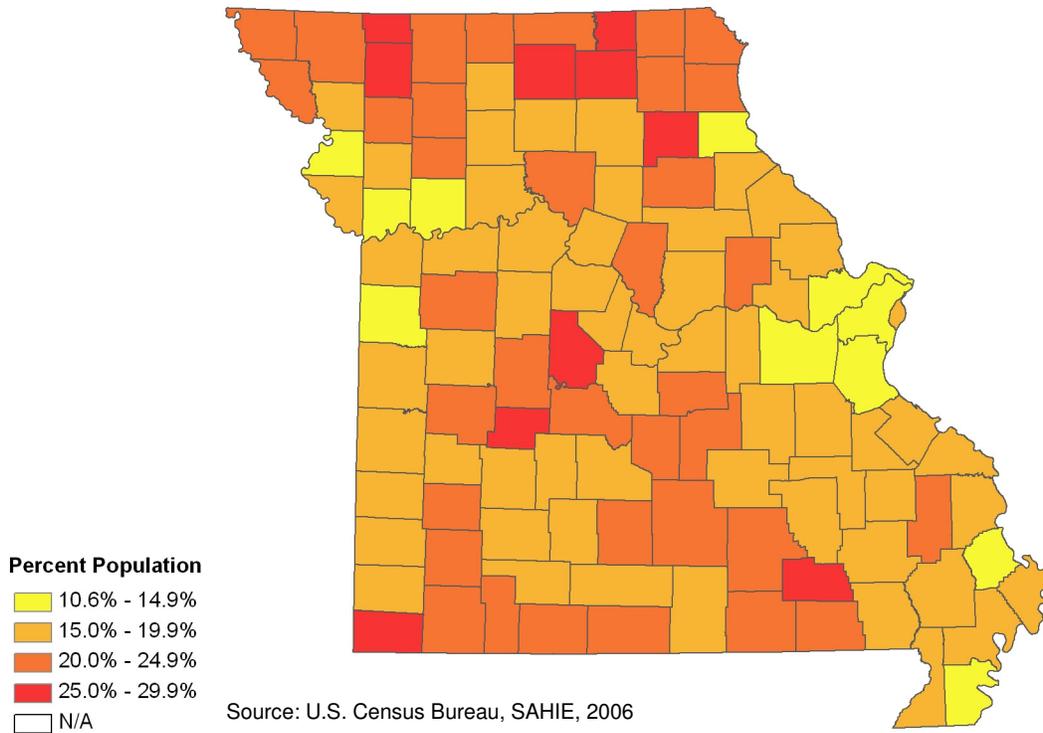
**Figure 9. Estimated percent of population less than 65 years of age with no health insurance, by race/ethnicity, Missouri, 2006**



Source: U.S. Census Bureau, Small Area Health Insurance Estimates, 2006

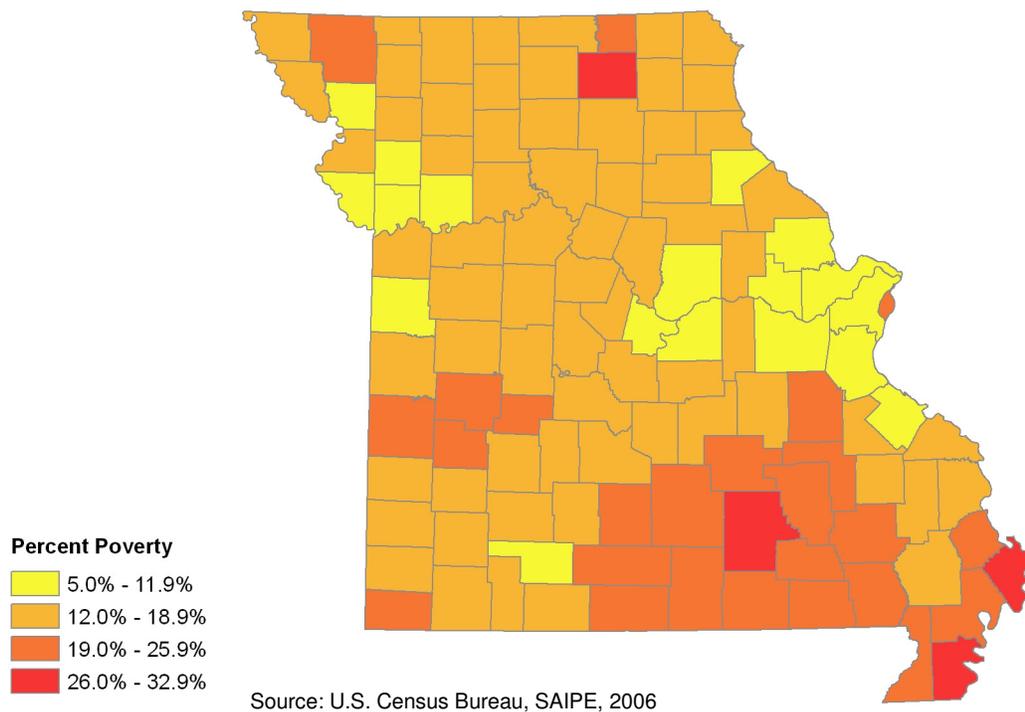
Overall, an estimated 15% of Missourians less than 65 years of age did not have health insurance in 2006 (Figure 9). The percentage of the population that was uninsured varied by race/ethnicity. The percentage of the population that was uninsured was greatest among Hispanics (32%), and lowest among whites (13%).

**Figure 10. Estimated percent of population 18-64 years of age with no health insurance, by county, Missouri, 2006**



An estimated 17% of Missourians ages 18 to 64 were without health insurance in 2006. Estimates of the percent of population 18-64 years of age with no health insurance ranged from 11% in St. Charles County to 29% in Worth County (Figure 10).

**Figure 11. Estimated percent of population living in poverty, by county, Missouri, 2008**



An estimated 14% of Missourians were living in poverty in 2008. Estimates of the percent of population living in poverty ranged from 5% in St. Charles County to 32% in Pemiscot County (Figure 11). Counties with the highest percentages of poverty were concentrated in the southeastern area of the state.

**Table 4. Estimated unemployment rate by age, by race/ethnicity, by sex, by educational attainment, Missouri, 2006-2008**

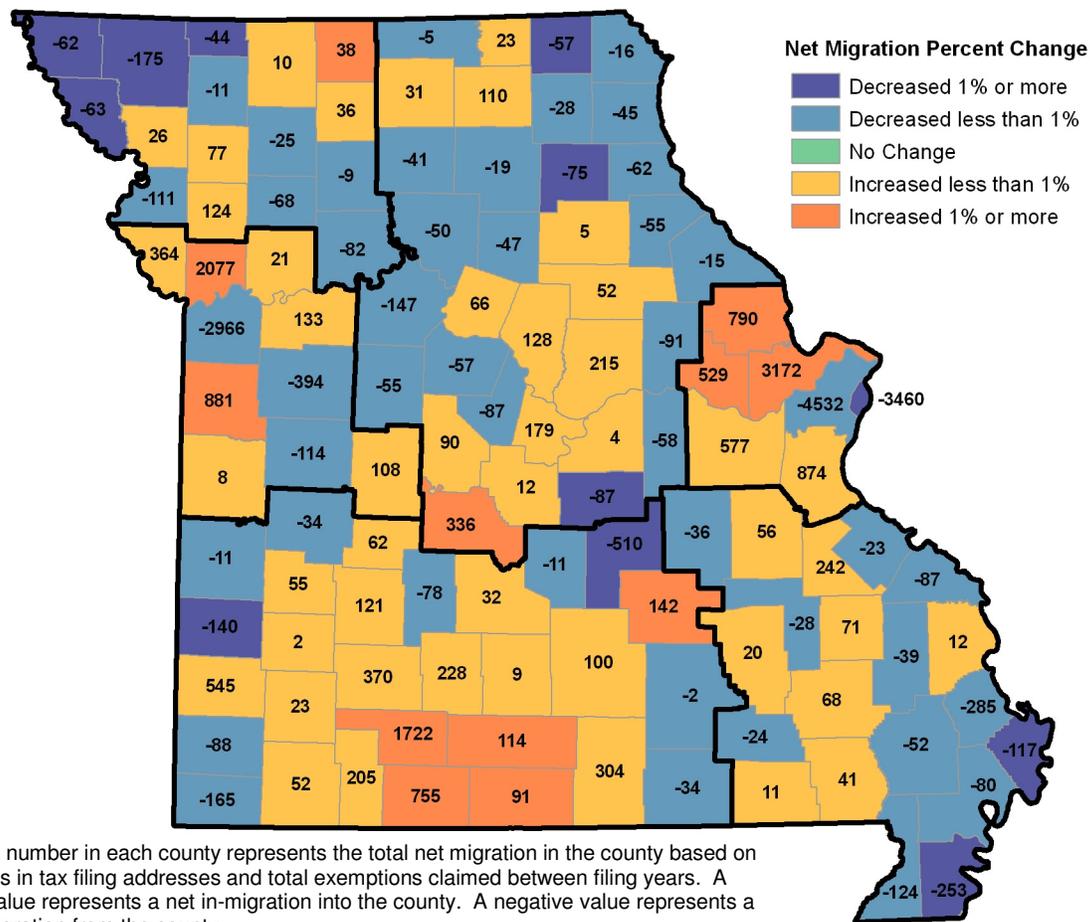
| <b>Ages Included in Measurement</b> | <b>Category</b>                         | <b>Unemployment rate</b> | <b>Margin of Error (+/-)</b> |
|-------------------------------------|---|--------------------------|------------------------------|
| <b>16+ years of age</b>             | <b>Total</b>                            | <b>6.3%</b>              | <b>0.1</b>                   |
|                                     | <b>Age</b>                              |                          |                              |
|                                     | 16 to 19 years                          | 20.1%                    | 1.0                          |
|                                     | 20 to 24 years                          | 10.3%                    | 0.5                          |
|                                     | 25 to 44 years                          | 5.5%                     | 0.2                          |
|                                     | 45 to 54 years                          | 4.6%                     | 0.2                          |
|                                     | 55 to 64 years                          | 3.5%                     | 0.3                          |
|                                     | 65 to 74 years                          | 3.6%                     | 0.4                          |
|                                     | 75 years and over                       | 3.5%                     | 0.9                          |
|                                     | <b>Race/Ethnicity</b>                   |                          |                              |
|                                     | White*                                  | 5.2%                     | 0.1                          |
| Black*                              | 14.2%                                   | 0.7                      |                              |
| Hispanic                            | 8.2%                                    | 0.8                      |                              |
| <b>20-64 years of age</b>           | <b>Total</b>                            | <b>5.5%</b>              | <b>0.1</b>                   |
|                                     | <b>Sex</b>                              |                          |                              |
|                                     | Male                                    | 5.7%                     | 0.2                          |
|                                     | Female                                  | 5.4%                     | 0.2                          |
|                                     | Females with own children under 6 years | 7.4%                     | 0.5                          |
| <b>25-64 years of age</b>           | <b>Total</b>                            | <b>4.9%</b>              | <b>0.1</b>                   |
|                                     | <b>Educational Attainment</b>           |                          |                              |
|                                     | Less than high school graduate          | 10.9%                    | 0.6                          |
|                                     | High school graduate (or equivalency)   | 6.1%                     | 0.3                          |
|                                     | Some college or associate's degree      | 4.6%                     | 0.2                          |
|                                     | Bachelor's degree or higher             | 2.2%                     | 0.2                          |

Source: U.S. Census Bureau, American Community Survey, 2006-2008

\*Includes persons of Hispanic origin

An estimated 6% of Missourians 16 years of age or older were unemployed, according to 2006-2008 American Community Survey estimates (Table 4). The unemployment rate generally decreased with increasing age. Among persons 20 to 64 years of age, the unemployment rate was similar between males and females. However, the unemployment rate was greater for females with their own children under the age of six. Unemployment rates decreased with increasing educational attainment among persons 25 to 64 years of age.

**Figure 12. Net migration and percent change in migration based on IRS tax returns, by county, Missouri, 2007-2008**



Source: IRS Migration Files, 2007-2008

Overall in Missouri, there was a net increase in migration into the state between 2007 and 2008 of 1,115 based on the number of exemptions filed on IRS returns. The increased in-migration into Missouri was due to a net in-migration of individuals from foreign counties between 2007 and 2008 (1,853). There was a net out-migration of Missouri residents to other U.S. states between 2007 and 2008 (-738).

Among the counties in Missouri, 12 experienced a net out-migration of the population of 1% or more; 45 had a net out-migration of less than 1%; 46 had a net in-migration of less than 1%; and 12 had a net in-migration of 1% or more (Figure 12). The Northwest HIV region had the greatest number of counties with a net out-migration of 1% or more (4). The Southwest HIV region had the greatest number of counties with a net in-migration of 1% or more (5).

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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 2009, there have been a total of 17,356 persons diagnosed with HIV disease in Missouri and reported to MDHSS. Of these individuals, 11,972 (69%) were subcategorized as AIDS cases, and the remaining 5,384 (31%) were subcategorized as HIV cases. Of the cumulative number of persons diagnosed with HIV disease, 11,122 (64%) were presumed to be living at the end of 2009.
- The number of new diagnoses has fluctuated slightly between 2000 and 2009, with no sustained upward or downward trend in new HIV diagnoses over this time period. In 2009, there were 536 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 7,466 persons in 2000 to 11,122 persons in 2009. 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, as well as the largest numbers of cases, were found in these two areas.
- The rate of persons newly diagnosed who remained classified as HIV cases at the end of 2009 was highest in St. Louis City (25.1 per 100,000). The second highest rate was in Kansas City (18.5 per 100,000). The rate of persons newly diagnosed who were classified as AIDS cases at the end of 2009 was highest in St. Louis City (10.7 per 100,000), and second highest in Kansas City (6.9 per 100,000).

### Who

#### *Sex*

- Males represented the majority of persons newly diagnosed (83%) and living with (83%) HIV disease. The rates of new diagnoses and persons living with HIV disease were more than five times greater among males than females.

#### *Race/Ethnicity*

- HIV disease continues to disproportionately impact minorities. The rate of newly diagnosed HIV disease cases was 9.8 times greater among blacks than whites, and 2.5 times greater among Hispanics than whites. The disparity was even greater among black females. While black females represented only 12% of Missouri's female population, black females accounted for 75% of new female HIV 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.

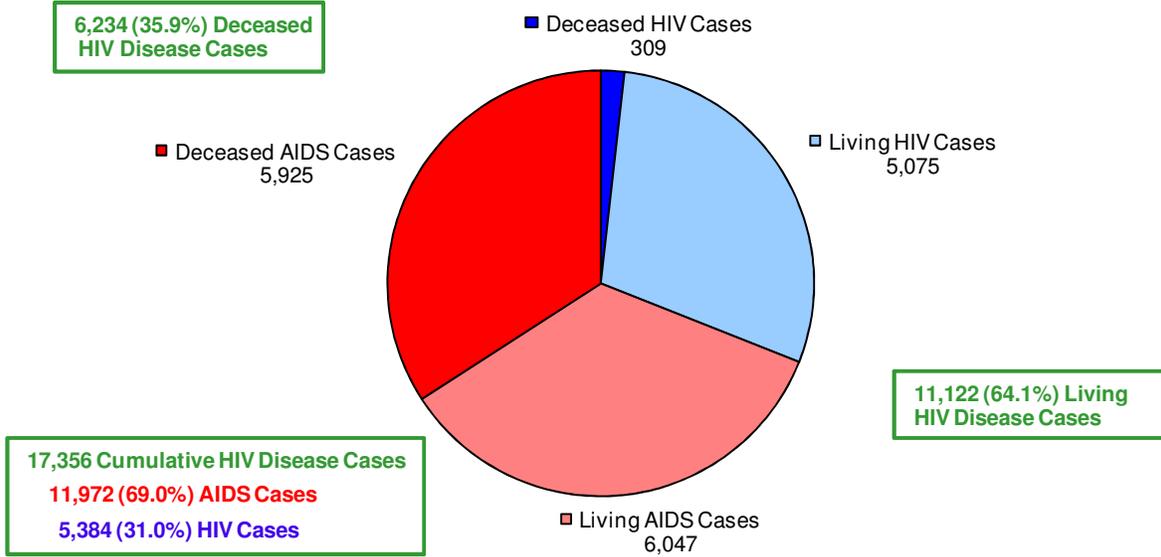
#### *Age*

- The age of individuals living with HIV disease has increased over time. In 2000, the largest numbers of persons living with HIV disease were 35-39 years of age, whereas in 2009 persons 45-49 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 2009, the largest numbers of persons newly diagnosed with HIV disease were between 19-24 years of age, compared to 2000 when the largest numbers of new diagnoses were 35-39 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.

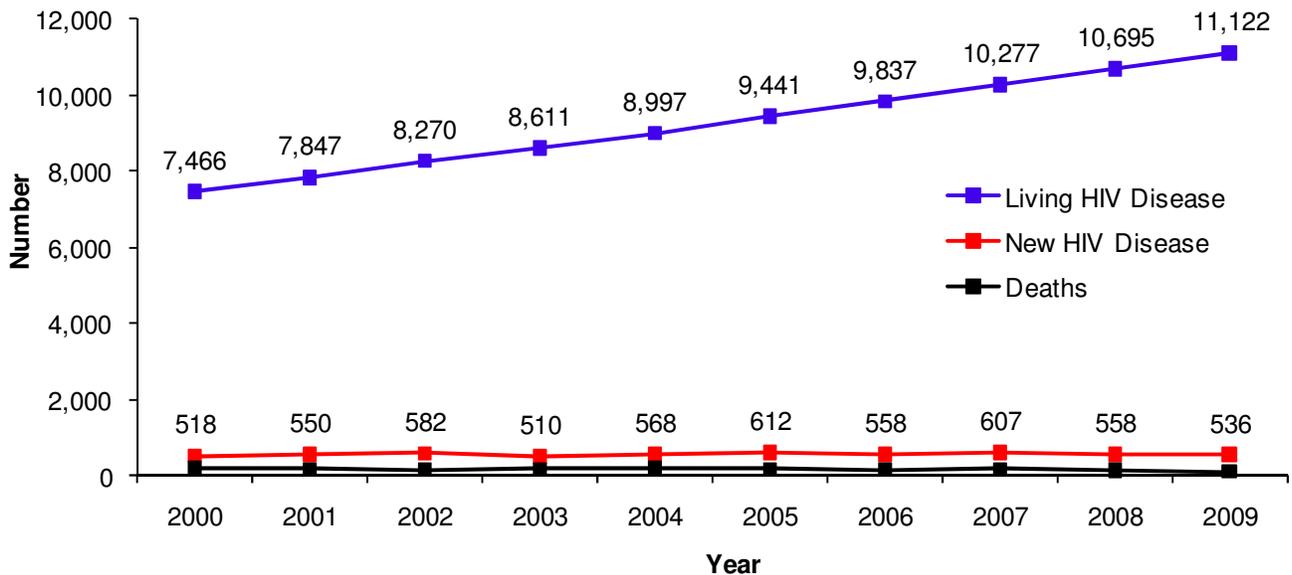
#### *Exposure Category*

- The majority of new diagnoses continue to be attributed to men who have sex with men. Among females, heterosexual contact was the primary mode of transmission. In 2009, there was one person less than 13 years of age diagnosed with HIV disease.

**Figure 13. HIV disease cases (living and deceased), by current HIV vs. AIDS status, Missouri, 1982—2009**



**Figure 14. Living and new HIV disease cases and deaths by year\*, Missouri, 2000—2009**

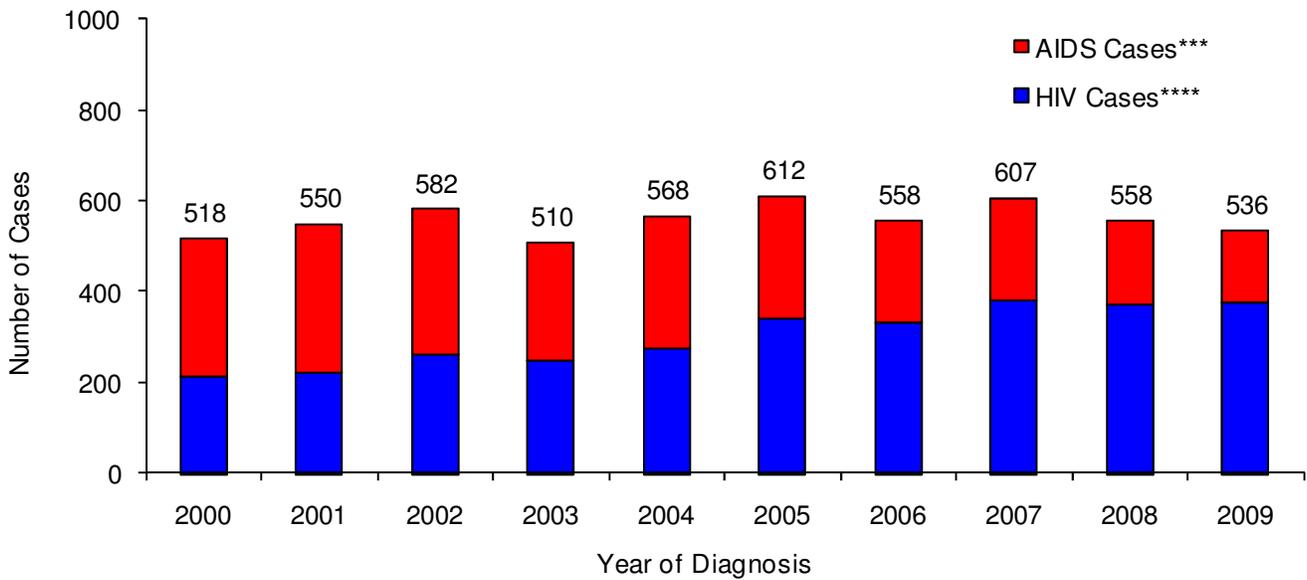


\*For living HIV disease cases-the number of individuals living with HIV disease at the end of the year; For new HIV disease cases-the number of individuals newly diagnosed in the year, For HIV disease deaths-the number of individuals that died in the year.

From 1982 to 2009, there have been a total of 17,356 HIV disease cases diagnosed in Missouri and reported to MDHSS (Figure 13). Of the cumulative cases reported, 64% were still presumed to be living with HIV disease at the end of 2009. Among those living with HIV disease, 5,075 were classified as HIV cases at the end of 2009 and 6,047 were classified as AIDS cases.

At the end of 2009, there were 11,122 persons living with HIV disease whose most recent diagnosis occurred in Missouri (Figure 14). The number of people living with HIV disease increased each year. There were 536 new HIV disease diagnoses in 2009. The number of new diagnoses from 2005 to 2009 has fluctuated. The lower number of diagnosed cases in 2009 should be interpreted with caution as the data have not been adjusted for reporting delays. The number of deaths among persons with HIV disease each year has remained generally steady. The lower number of deaths in 2009 was likely due to delays in death reporting.

**Figure 15. HIV disease cases, by current status\* and year of diagnosis\*\*, Missouri, 2000-2009**



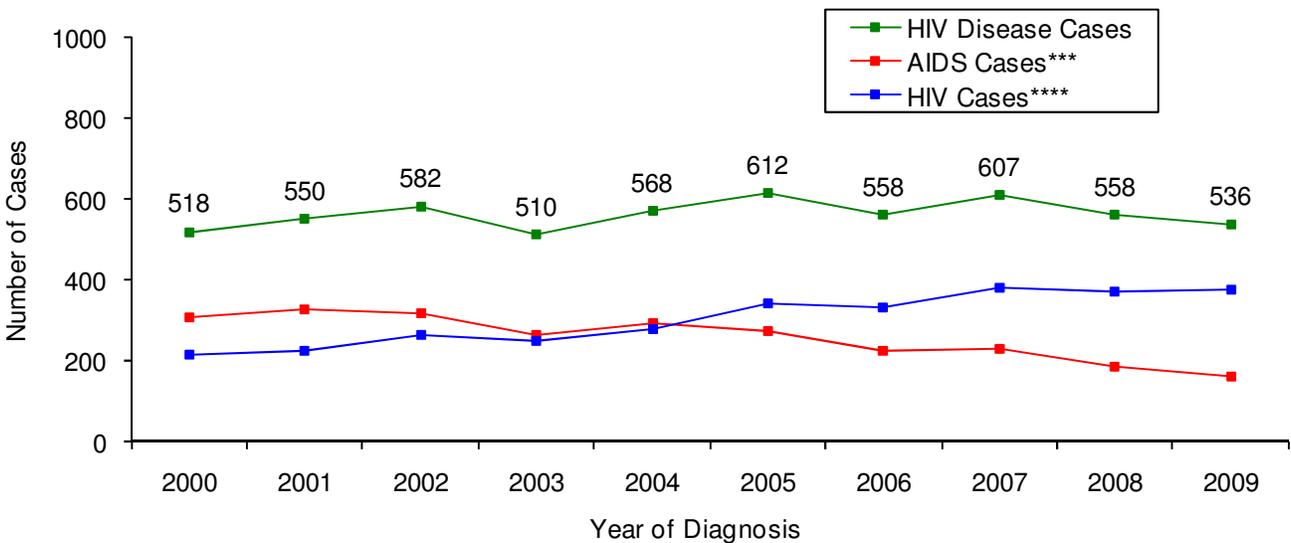
\*HIV case vs. AIDS case

\*\*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, 2009.

**Figure 16. Reported HIV disease cases, by current status\* and year of diagnosis\*\*, Missouri, 2000-2009**



\*HIV case vs. AIDS case

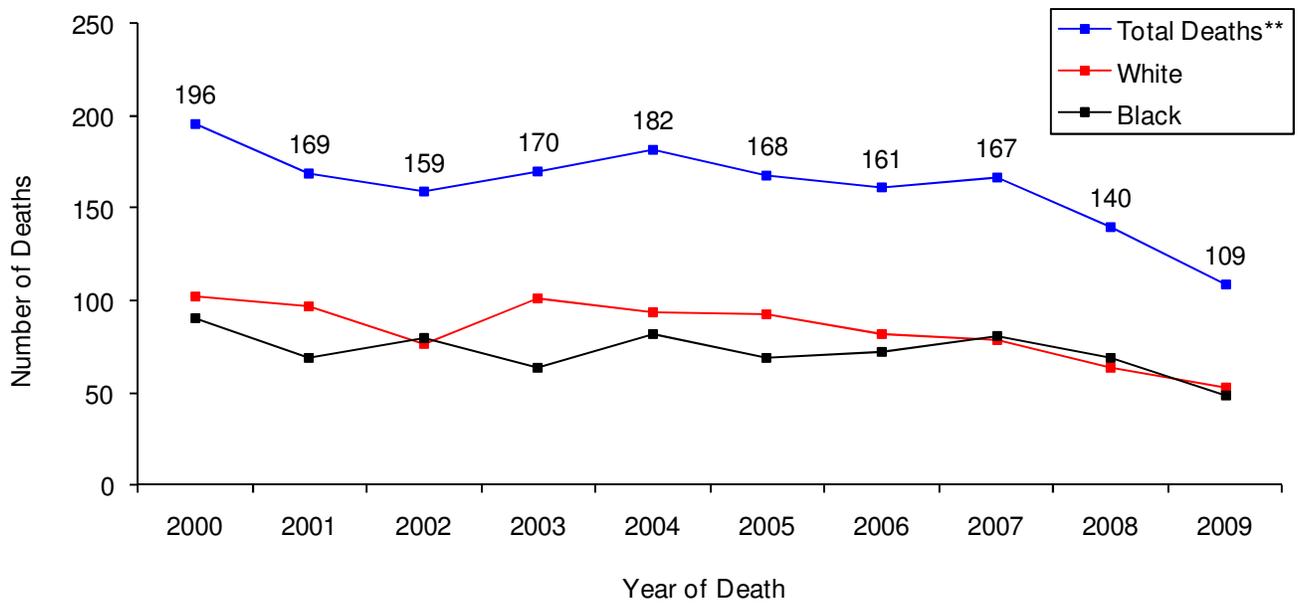
\*\*Cases are indicated by year of initial diagnosis reported to MDHSS. (The year in which the first diagnosis of the person, whether as an HIV case or an AIDS case, was documented by the Department).

\*\*\*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, 2009.

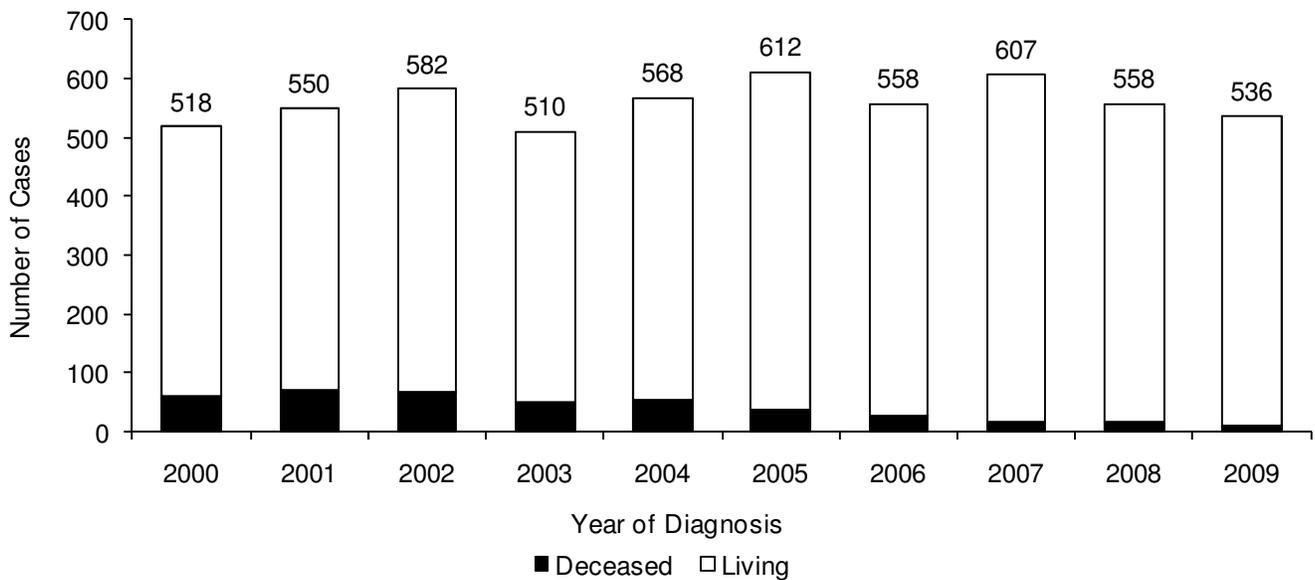
Between 2000 and 2009, the number of new HIV disease diagnoses has ranged from 510 cases in 2003, to 612 cases in 2005 (Figures 15 and 16). The number of new diagnoses has fluctuated slightly between 2000 and 2009, with no sustained upward or downward trend in new HIV diagnoses over this time period. 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 2000, a larger number are currently classified as AIDS cases compared to those diagnosed in 2008 because they have been living with the virus longer.

**Figure 17. HIV disease deaths\*, by selected race\*\*, by year of death, Missouri, 2000—2009**



\*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, 2009, and reported by February 28, 2010.

**Figure 18. Persons diagnosed with HIV disease by current vital status\* and year of diagnosis\*\*, Missouri, 2000—2009**



\*Vital status on December 31, 2009.  
 \*\*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 has generally decreased from 2004-2009 (Figure 17). The lower number of deaths in 2009 was likely due to delays in death reporting. The general decrease in the number of deaths over time is likely related to the use of highly active antiretroviral therapy (HAART).

Of the 518 persons diagnosed with HIV disease in 2000, 62 (12%) were deceased by the end of 2009 (Figure 18). Among the 536 cases first diagnosed in 2009, 9 (2%) were deceased at the end of 2009. 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 5. Living<sup>†</sup> HIV, AIDS, and HIV disease cases, by sex, by race/ethnicity, by race/ethnicity and sex, and by current age, Missouri, 2009**

|  | HIV*  |        |          | AIDS** |        |          | HIV Disease*** |        |          |
|--|-------|--------|----------|--------|--------|----------|----------------|--------|----------|
|  | Cases | %      | Rate**** | Cases  | %      | Rate**** | Cases          | %      | Rate**** |
| <b>Sex</b>   |       |        |          |        |        |          |                |        |          |
| Male   | 4,151 | 81.8%  | 143.7    | 5,121  | 84.7%  | 177.3    | 9,272          | 83.4%  | 321.1    |
| Female   | 924   | 18.2%  | 30.6     | 926    | 15.3%  | 30.6     | 1,850          | 16.6%  | 61.2     |
| Total  | 5,075 | 100.0% | 85.8     | 6,047  | 100.0% | 102.3    | 11,122         | 100.0% | 188.1    |
| <b>Race/Ethnicity</b>  |       |        |          |        |        |          |                |        |          |
| White  | 2,546 | 50.2%  | 52.4     | 3,140  | 51.9%  | 64.7     | 5,686          | 51.1%  | 117.1    |
| Black  | 2,257 | 44.5%  | 336.8    | 2,632  | 43.5%  | 392.7    | 4,889          | 44.0%  | 729.5    |
| Hispanic   | 194   | 3.8%   | 102.3    | 208    | 3.4%   | 109.6    | 402            | 3.6%   | 211.9    |
| Asian/Pacific Islander   | 31    | 0.6%   | 35.0     | 19     | 0.3%   | 21.4     | 50             | 0.4%   | 56.4     |
| American Indian/Alaskan Native   | 6     | 0.1%   | 22.7     | 13     | 0.2%   | 49.1     | 19             | 0.2%   | 71.8     |
| Two or More Races/Unknown  | 41    | 0.8%   | --       | 35     | 0.6%   | --       | 76             | 0.7%   | --       |
| Total  | 5,075 | 100.0% | 85.8     | 6,047  | 100.0% | 102.3    | 11,122         | 100.0% | 188.1    |
| <b>Race/Ethnicity-Males</b>  |       |        |          |        |        |          |                |        |          |
| White Male   | 2,221 | 53.5%  | 93.4     | 2,843  | 55.5%  | 119.6    | 5,064          | 54.6%  | 213.0    |
| Black Male   | 1,707 | 41.1%  | 542.6    | 2,043  | 39.9%  | 649.5    | 3,750          | 40.4%  | 1192.1   |
| Hispanic Male  | 158   | 3.8%   | 157.9    | 181    | 3.5%   | 180.9    | 339            | 3.7%   | 338.9    |
| Asian/Pacific Islander Male  | 25    | 0.6%   | 58.2     | 13     | 0.3%   | 30.3     | 38             | 0.4%   | 88.4     |
| American Indian/Alaskan Native Male  | 6     | 0.1%   | 44.8     | 12     | 0.2%   | 89.6     | 18             | 0.2%   | 134.3    |
| Two or More Races/Unknown Male   | 34    | 0.8%   | --       | 29     | 0.6%   | --       | 63             | 0.7%   | --       |
| Total  | 4,151 | 100.0% | 143.7    | 5,121  | 100.0% | 177.3    | 9,272          | 100.0% | 321.1    |
| <b>Race/Ethnicity-Females</b>  |       |        |          |        |        |          |                |        |          |
| White Female   | 325   | 35.2%  | 13.1     | 297    | 32.1%  | 12.0     | 622            | 33.6%  | 25.1     |
| Black Female   | 550   | 59.5%  | 154.7    | 589    | 63.6%  | 165.6    | 1,139          | 61.6%  | 320.3    |
| Hispanic Female  | 36    | 3.9%   | 40.1     | 27     | 2.9%   | 30.1     | 63             | 3.4%   | 70.3     |
| Asian/Pacific Islander Female  | 6     | 0.6%   | 13.1     | 6      | 0.6%   | 13.1     | 12             | 0.6%   | 26.3     |
| American Indian/Alaskan Native Female  | 0     | 0.0%   | 0.0      | 1      | 0.1%   | 7.6      | 1              | 0.1%   | 7.6      |
| Two or More Races/Unknown Female   | 7     | 0.8%   | --       | 6      | 0.6%   | --       | 13             | 0.7%   | --       |
| Total  | 924   | 100.0% | 30.6     | 926    | 100.0% | 30.6     | 1,850          | 100.0% | 61.2     |
| <b>Current Age<sup>‡</sup></b>   |       |        |          |        |        |          |                |        |          |
| <2   | 0     | 0.0%   | 0.0      | 0      | 0.0%   | 0.0      | 0              | 0.0%   | 0.0      |
| 2-12   | 32    | 0.6%   | 3.8      | 3      | 0.0%   | 0.4      | 35             | 0.3%   | 4.1      |
| 13-18  | 44    | 0.9%   | 9.0      | 16     | 0.3%   | 3.3      | 60             | 0.5%   | 12.2     |
| 19-24  | 342   | 6.7%   | 71.3     | 105    | 1.7%   | 21.9     | 447            | 4.0%   | 93.1     |
| 25-44  | 2,549 | 50.2%  | 162.4    | 2,382  | 39.4%  | 151.8    | 4,931          | 44.3%  | 314.2    |
| 45-64  | 1,959 | 38.6%  | 126.0    | 3,287  | 54.4%  | 211.4    | 5,246          | 47.2%  | 337.4    |
| 65+  | 149   | 2.9%   | 18.5     | 254    | 4.2%   | 31.5     | 403            | 3.6%   | 50.0     |
| Total  | 5,075 | 100.0% | 85.8     | 6,047  | 100.0% | 102.3    | 11,122         | 100.0% | 188.1    |
| <sup>†</sup> Includes persons diagnosed with HIV disease in Missouri who are currently living, regardless of current residence. Includes persons diagnosed in Missouri correctional facilities.<br>*Cases which remained HIV cases at the end of 2009.<br>**Cases classified as AIDS by December 31, 2009.<br>***The sum of HIV cases and AIDS cases.<br>****Per 100,000 population based on 2008 MDHSS estimates.<br><sup>‡</sup> Based on age as of December 31, 2009.<br>Note: Percentages may not total due to rounding. |       |        |          |        |        |          |                |        |          |

**Table 6. Diagnosed HIV, AIDS, and HIV disease cases, by sex, by race/ethnicity, by race/ethnicity and sex, and current age, Missouri, 2009**

|                                       | HIV*  |        |          | AIDS** |        |          | HIV Disease*** |        |          |
|---------------------------------------|-------|--------|----------|--------|--------|----------|----------------|--------|----------|
|                                       | Cases | %      | Rate**** | Cases  | %      | Rate**** | Cases          | %      | Rate**** |
| <b>Sex</b>                            |       |        |          |        |        |          |                |        |          |
| Male                                  | 315   | 84.0%  | 10.9     | 129    | 80.1%  | 4.5      | 444            | 82.8%  | 15.4     |
| Female                                | 60    | 16.0%  | 2.0      | 32     | 19.9%  | 1.1      | 92             | 17.2%  | 3.0      |
| Total                                 | 375   | 100.0% | 6.3      | 161    | 100.0% | 2.7      | 536            | 100.0% | 9.1      |
| <b>Race/Ethnicity</b>                 |       |        |          |        |        |          |                |        |          |
| White                                 | 153   | 40.8%  | 3.2      | 61     | 37.9%  | 1.3      | 214            | 39.9%  | 4.4      |
| Black                                 | 196   | 52.3%  | 29.2     | 92     | 57.1%  | 13.7     | 288            | 53.7%  | 43.0     |
| Hispanic                              | 15    | 4.0%   | 7.9      | 6      | 3.7%   | 3.2      | 21             | 3.9%   | 11.1     |
| Asian/Pacific Islander                | 2     | 0.5%   | 2.3      | 1      | 0.6%   | 1.1      | 3              | 0.6%   | 3.4      |
| American Indian/Alaskan Native        | 2     | 0.5%   | 7.6      | 0      | 0.0%   | 0.0      | 2              | 0.4%   | 7.6      |
| Two or More Races/Unknown             | 7     | 1.9%   | --       | 1      | 0.6%   | --       | 8              | 1.5%   | --       |
| Total                                 | 375   | 100.0% | 6.3      | 161    | 100.0% | 2.7      | 536            | 100.0% | 9.1      |
| <b>Race/Ethnicity-Males</b>           |       |        |          |        |        |          |                |        |          |
| White Male                            | 141   | 44.8%  | 5.9      | 54     | 41.9%  | 2.3      | 195            | 43.9%  | 8.2      |
| Black Male                            | 150   | 47.6%  | 47.7     | 69     | 53.5%  | 21.9     | 219            | 49.3%  | 69.6     |
| Hispanic Male                         | 13    | 4.1%   | 13.0     | 4      | 3.1%   | 4.0      | 17             | 3.8%   | 17.0     |
| Asian/Pacific Islander Male           | 2     | 0.6%   | 4.7      | 1      | 0.8%   | 2.3      | 3              | 0.7%   | 7.0      |
| American Indian/Alaskan Native Male   | 2     | 0.6%   | 14.9     | 0      | 0.0%   | 0.0      | 2              | 0.5%   | 14.9     |
| Two or More Races/Unknown Male        | 7     | 2.2%   | --       | 1      | 0.8%   | --       | 8              | 1.8%   | --       |
| Total                                 | 315   | 100.0% | 10.9     | 129    | 100.0% | 4.5      | 444            | 100.0% | 15.4     |
| <b>Race/Ethnicity-Females</b>         |       |        |          |        |        |          |                |        |          |
| White Female                          | 12    | 20.0%  | 0.5      | 7      | 21.9%  | 0.3      | 19             | 20.7%  | 0.8      |
| Black Female                          | 46    | 76.7%  | 12.9     | 23     | 71.9%  | 6.5      | 69             | 75.0%  | 19.4     |
| Hispanic Female                       | 2     | 3.3%   | 2.2      | 2      | 6.3%   | 2.2      | 4              | 4.3%   | 4.5      |
| Asian/Pacific Islander Female         | 0     | 0.0%   | 0.0      | 0      | 0.0%   | 0.0      | 0              | 0.0%   | 0.0      |
| American Indian/Alaskan Native Female | 0     | 0.0%   | 0.0      | 0      | 0.0%   | 0.0      | 0              | 0.0%   | 0.0      |
| Two or More Races/Unknown Female      | 0     | 0.0%   | --       | 0      | 0.0%   | --       | 0              | 0.0%   | --       |
| Total                                 | 60    | 100.0% | 2.0      | 32     | 100.0% | 1.1      | 92             | 100.0% | 3.0      |
| <b>Current Age<sup>†</sup></b>        |       |        |          |        |        |          |                |        |          |
| <2                                    | 0     | 0.0%   | 0.0      | 0      | 0.0%   | 0.0      | 0              | 0.0%   | 0.0      |
| 2-12                                  | 1     | 0.3%   | 0.1      | 0      | 0.0%   | 0.0      | 1              | 0.2%   | 0.1      |
| 13-18                                 | 20    | 5.3%   | 4.1      | 1      | 0.6%   | 0.2      | 21             | 3.9%   | 4.3      |
| 19-24                                 | 102   | 27.2%  | 21.3     | 18     | 11.2%  | 3.8      | 120            | 22.4%  | 25.0     |
| 25-44                                 | 209   | 55.7%  | 13.3     | 71     | 44.1%  | 4.5      | 280            | 52.2%  | 17.8     |
| 45-64                                 | 42    | 11.2%  | 2.7      | 63     | 39.1%  | 4.1      | 105            | 19.6%  | 6.8      |
| 65+                                   | 1     | 0.3%   | 0.1      | 8      | 5.0%   | 1.0      | 9              | 1.7%   | 1.1      |
| Total                                 | 375   | 100.0% | 6.3      | 161    | 100.0% | 2.7      | 536            | 100.0% | 9.1      |

\*HIV cases diagnosed during 2009 which remained HIV cases at the end of the year. Includes persons diagnosed in Missouri correctional facilities.

\*\*AIDS cases initially diagnosed in 2009.

\*\*\*The sum of newly diagnosed HIV cases and newly diagnosed AIDS cases. Does not include cases diagnosed prior to 2009 with HIV, which progressed to AIDS in 2009.

\*\*\*\*Per 100,000 population based on 2008 MDHSS estimates.

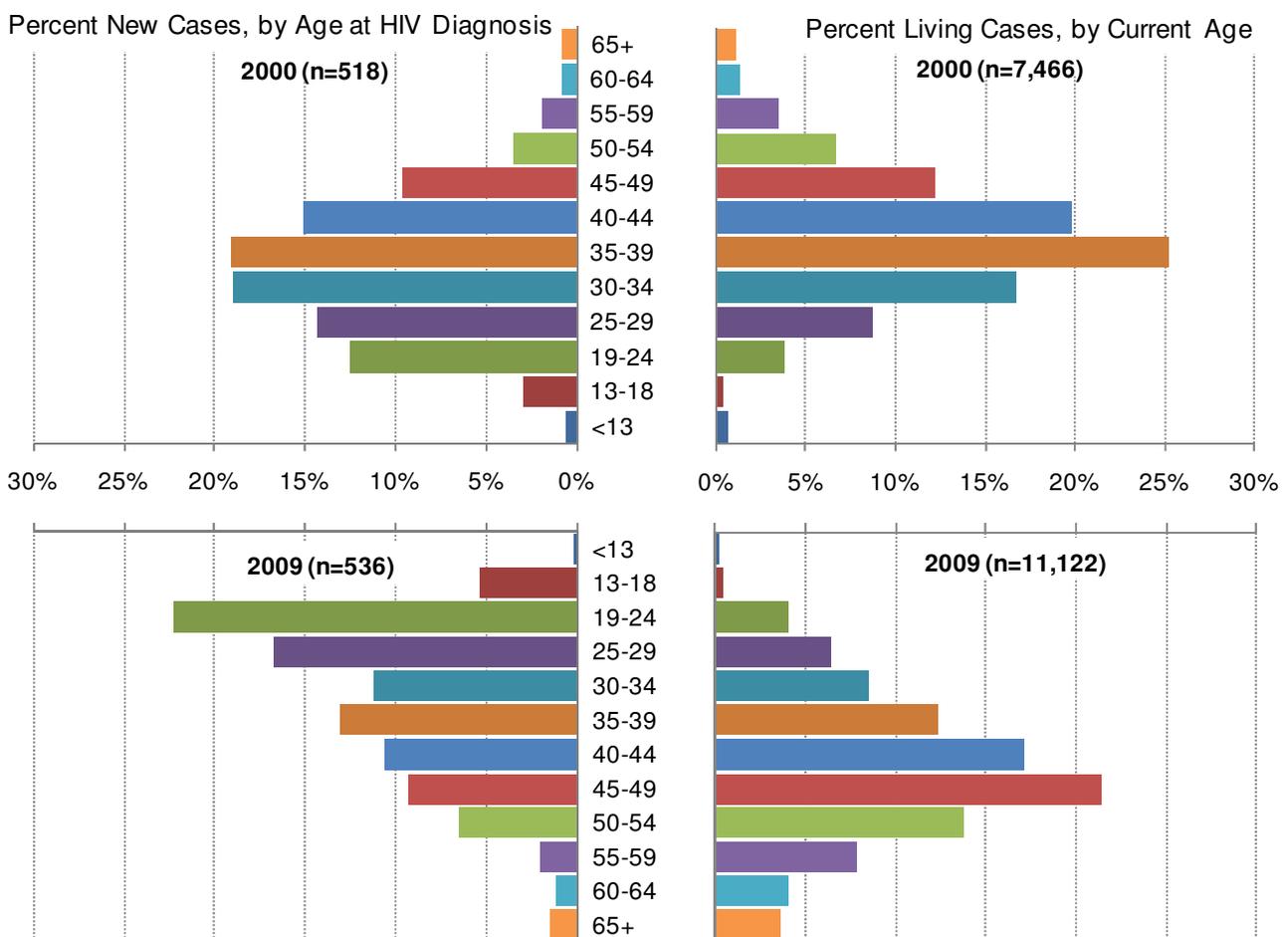
†Based on age as of December 31, 2009.

Note: Percentages may not total due to rounding.

Of the 11,122 persons living with HIV at the end of 2009, 83% were males (Table 5). The rate of those living with HIV disease was 5.2 times greater among males than females. Although whites represented the largest proportion of living HIV disease cases (51%), the rate of those living with HIV disease was 6.2 times greater among blacks than whites. The rate was 1.8 times greater among Hispanics than whites. Among males, the rate of living cases was 5.6 times greater for blacks than whites, and 1.6 times greater for Hispanics than whites. Among females, the rate of those living with HIV disease was 12.8 times greater among blacks than whites, and 2.8 times greater among Hispanics than whites.

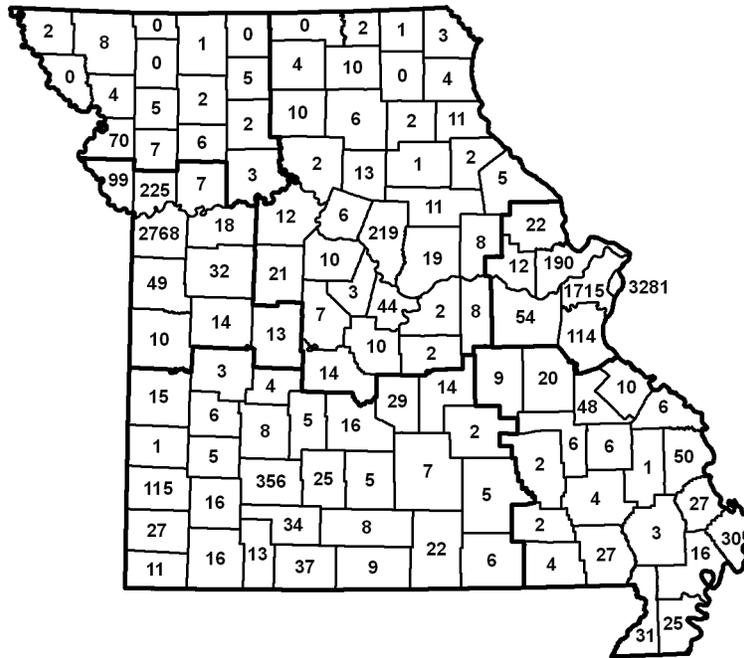
Of the 536 persons newly diagnosed with HIV disease in 2009, 30% were classified as AIDS cases by the end of 2009 (Table 6). The rate of new HIV disease diagnoses was 5.1 times greater among males than females. Females represented a greater proportion of the newly diagnosed AIDS cases (20%) compared to the newly diagnosed HIV cases (16%). A greater proportion of the new AIDS cases occurred among blacks compared to new HIV cases. The rate of new HIV disease cases was 9.8 times greater among blacks than whites, and 2.5 times greater in Hispanics than whites.

**Figure 19. Distribution of new HIV disease cases by age at diagnosis and living HIV disease cases by current age in selected year, Missouri, 2000 and 2009**



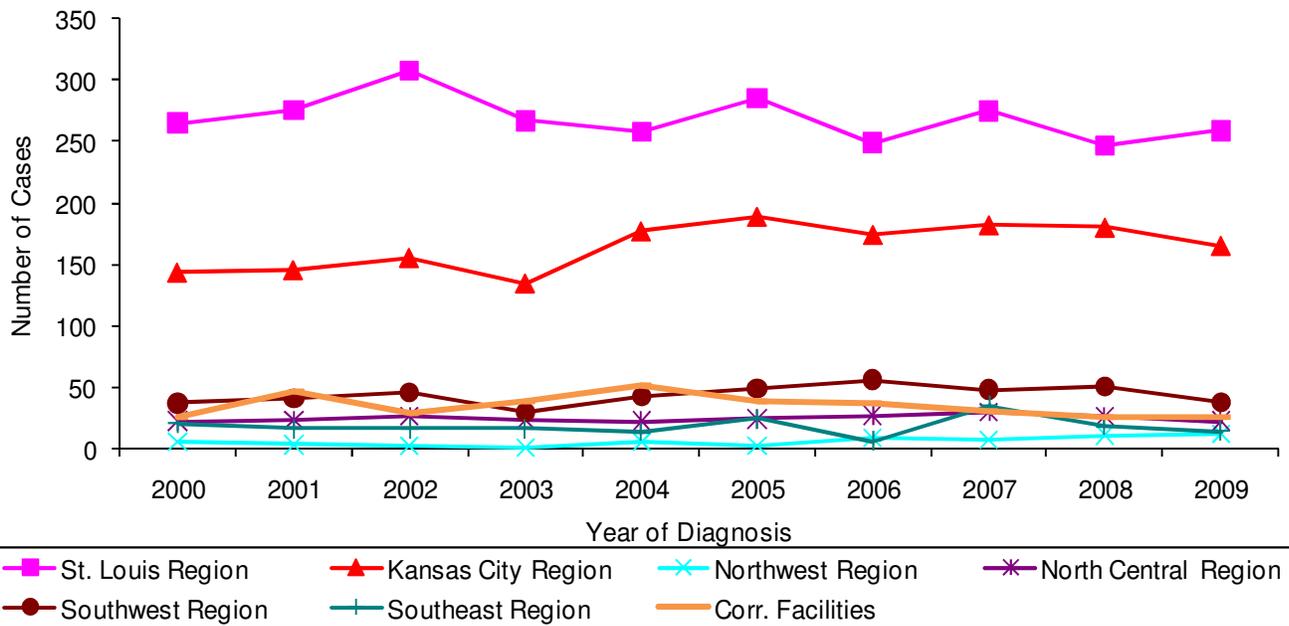
Changes have occurred in the distribution of the age at diagnosis among new HIV disease cases over time (Figure 19). In 2000, the greatest proportion of new diagnoses occurred among those ages 30-34 (19%) and 35-39 (19%). In 2009, the greatest proportion of new diagnoses occurred among those ages 19-24 (22%) and 25-29 (17%). Although the age of new diagnoses has decreased, the age of individuals living with HIV has increased over time. In 2000, the greatest proportion of living cases was between 35-39 years of age (25%). In 2009, the greatest proportion of living cases was between 45-49 years old (21%).

**Figure 20. Number of persons living with HIV disease by county of residence\* and HIV region at time of diagnosis, Missouri, 1982-2009**



\*Based on residence at time of most recent diagnosis of HIV or AIDS. Excludes persons diagnosed in Missouri correctional facilities (n=765).

**Figure 21. Persons diagnosed with HIV disease by HIV region at time of diagnosis, Missouri, 2000-2009**



The largest numbers of persons living with HIV disease in 2009 were most recently diagnosed in St. Louis City (3,281), Jackson County (2,768) and St. Louis County (1,715) (Figure 20). The St. Louis HIV region has represented the largest number of new HIV disease diagnoses in each year from 2000-2009 (Figure 21). The number of new diagnoses in the St. Louis, North Central, and Southeast HIV regions has remained generally steady, with slight fluctuations. The number of new HIV disease diagnoses each year from 2005 to 2009 has been higher than from 2000 to 2004 in the Kansas City HIV region. In the Southwest HIV region, the number of new diagnoses in each year between 2005 and 2008 was higher than in each year between 2000 and 2004. There was a decrease in the number of new diagnoses in 2009 in the Southwest HIV region. The number of new HIV diagnoses in the Northwest HIV region has been higher each year from 2006 to 2009 compared to new diagnoses between 2000 and 2005.

**Table 7. New and living HIV and AIDS cases and rates, by geographic area, and by HIV region, Missouri, 2009**

| Location                           | HIV Cases       |               |            |                 |               |             | AIDS Cases       |               |            |                  |               |              |
|------------------------------------|-----------------|---------------|------------|-----------------|---------------|-------------|------------------|---------------|------------|------------------|---------------|--------------|
|                                    | Diagnosed 2009* |               |            | Living with HIV |               |             | Diagnosed 2009** |               |            | Living with AIDS |               |              |
|                                    | Cases           | %             | Rate***    | Cases           | %             | Rate***     | Cases            | %             | Rate***    | Cases            | %             | Rate***      |
| <b>Geographic Area</b>             |                 |               |            |                 |               |             |                  |               |            |                  |               |              |
| St. Louis City†                    | 89              | 23.7%         | 25.1       | 1,530           | 30.1%         | 431.8       | 38               | 23.6%         | 10.7       | 1,751            | 29.0%         | 494.1        |
| St. Louis County†                  | 68              | 18.1%         | 6.9        | 814             | 16.0%         | 82.1        | 31               | 19.3%         | 3.1        | 901              | 14.9%         | 90.8         |
| Kansas City†                       | 89              | 23.7%         | 18.5       | 1,093           | 21.5%         | 227.5       | 33               | 20.5%         | 6.9        | 1,391            | 23.0%         | 289.5        |
| Outstate†                          | 107             | 28.5%         | 2.6        | 1,271           | 25.0%         | 31.1        | 55               | 34.2%         | 1.3        | 1,606            | 26.6%         | 39.3         |
| Missouri Correctional Facilities†† | 22              | 5.9%          | N/A        | 367             | 7.2%          | N/A         | 4                | 2.5%          | N/A        | 398              | 6.6%          | N/A          |
| <b>Total</b>                       | <b>375</b>      | <b>100.0%</b> | <b>6.3</b> | <b>5,075</b>    | <b>100.0%</b> | <b>85.8</b> | <b>161</b>       | <b>100.0%</b> | <b>2.7</b> | <b>6,047</b>     | <b>100.0%</b> | <b>102.3</b> |
| <b>HIV Region</b>                  |                 |               |            |                 |               |             |                  |               |            |                  |               |              |
| St. Louis HIV Region†              | 180             | 48.0%         | 8.6        | 2,532           | 49.9%         | 120.7       | 79               | 49.1%         | 3.8        | 2,856            | 47.2%         | 136.1        |
| Kansas City HIV Region†            | 114             | 30.4%         | 9.2        | 1,375           | 27.1%         | 111.4       | 51               | 31.7%         | 4.1        | 1,860            | 30.8%         | 150.7        |
| Northwest HIV Region†              | 9               | 2.4%          | 3.7        | 50              | 1.0%          | 20.4        | 3                | 1.9%          | 1.2        | 65               | 1.1%          | 26.6         |
| North Central HIV Region†          | 13              | 3.5%          | 1.8        | 208             | 4.1%          | 28.1        | 9                | 5.6%          | 1.2        | 264              | 4.4%          | 35.6         |
| Southwest HIV Region†              | 26              | 6.9%          | 2.3        | 394             | 7.8%          | 35.6        | 12               | 7.5%          | 1.1        | 426              | 7.0%          | 38.5         |
| Southeast HIV Region†              | 11              | 2.9%          | 2.3        | 149             | 2.9%          | 30.6        | 3                | 1.9%          | 0.6        | 178              | 2.9%          | 36.6         |
| Missouri Correctional Facilities†† | 22              | 5.9%          | N/A        | 367             | 7.2%          | N/A         | 4                | 2.5%          | N/A        | 398              | 6.6%          | N/A          |
| <b>MISSOURI</b>                    | <b>375</b>      | <b>100.0%</b> | <b>6.3</b> | <b>5,075</b>    | <b>100.0%</b> | <b>85.8</b> | <b>161</b>       | <b>100.0%</b> | <b>2.7</b> | <b>6,047</b>     | <b>100.0%</b> | <b>102.3</b> |

\*HIV cases diagnosed and reported to the Department during 2009 which remained HIV cases at the end of the year.

\*\*Does not include HIV cases diagnosed prior to 2009 that progressed to AIDS in 2009.

\*\*\*Per 100,000 population based on 2008 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 2009 by geographic area and HIV region (Table 7). In Outstate, 34% of newly diagnosed HIV disease cases progressed to AIDS at the end of 2009. In comparison, the proportion was 31%, 30%, 27%, and 15% for St. Louis County, St. Louis City, Kansas City, Missouri correctional facilities, respectively. Similar trends were also seen among the HIV regions. In the North Central HIV region, 41% of newly diagnosed HIV disease cases progressed to AIDS at the end of 2009. Whereas the proportion was 32%, 31%, 31%, 25%, 21%, and 15% for the HIV regions of Southwest, Kansas City, St. Louis, Northwest, Southeast, and Missouri correctional facilities, respectively. The variation in the proportion of newly diagnosed individuals that progressed to AIDS by the end of 2009 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 AIDS cases were greatest in St. Louis City (Table 7). The rate of new HIV case diagnoses was 9.7 times higher in St. Louis City compared to Outstate, and 7.1 times higher in Kansas City than Outstate. The rate of new AIDS case diagnoses was 8.2 times higher in St. Louis City compared to Outstate, and 5.3 times higher in Kansas City than Outstate. This demonstrates the disproportionate impact of HIV disease on the major metropolitan areas in Missouri.

**Table 8. Diagnosed HIV cases and rates, by selected race/ethnicity, by geographic area, Missouri, 2009**

| Area                               | White, Non-Hispanic |              |            | Black, Non-Hispanic |              |             | Hispanic  |             |            | Total      |               |            |
|------------------------------------|---------------------|--------------|------------|---------------------|--------------|-------------|-----------|-------------|------------|------------|---------------|------------|
|                                    | Cases               | %            | Rate*      | Cases               | %            | Rate*       | Cases     | %           | Rate*      | Cases**    | %             | Rate*      |
| St. Louis City†                    | 28                  | 31.5%        | 17.6       | 54                  | 60.7%        | 31.4        | 4         | 4.5%        | 38.9       | 89         | 100.0%        | 25.1       |
| St. Louis County†                  | 14                  | 20.6%        | 2.0        | 53                  | 77.9%        | 24.7        | 0         | 0.0%        | 0.0        | 68         | 100.0%        | 6.9        |
| Kansas City†                       | 29                  | 32.6%        | 10.5       | 51                  | 57.3%        | 37.9        | 5         | 5.6%        | 11.0       | 89         | 100.0%        | 18.5       |
| Outstate Missouri†                 | 75                  | 70.1%        | 2.0        | 24                  | 22.4%        | 16.1        | 5         | 4.7%        | 4.5        | 107        | 100.0%        | 2.6        |
| Missouri Correctional Facilities†† | 7                   | 31.8%        | N/A        | 14                  | 63.6%        | N/A         | 1         | 4.5%        | N/A        | 22         | 100.0%        | N/A        |
| <b>MISSOURI TOTAL</b>              | <b>153</b>          | <b>40.8%</b> | <b>3.2</b> | <b>196</b>          | <b>52.3%</b> | <b>29.2</b> | <b>15</b> | <b>4.0%</b> | <b>7.9</b> | <b>375</b> | <b>100.0%</b> | <b>6.3</b> |

\*Per 100,000 population based on 2008 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 9. Diagnosed HIV cases and rates, by selected race/ethnicity, by HIV region, Missouri, 2009**

| Area                               | White, Non-Hispanic |              |            | Black, Non-Hispanic |              |             | Hispanic  |             |            | Total      |               |            |
|------------------------------------|---------------------|--------------|------------|---------------------|--------------|-------------|-----------|-------------|------------|------------|---------------|------------|
|                                    | Cases               | %            | Rate*      | Cases               | %            | Rate*       | Cases     | %           | Rate*      | Cases**    | %             | Rate*      |
| St. Louis HIV Region†              | 58                  | 32.2%        | 3.7        | 112                 | 62.2%        | 27.5        | 5         | 2.8%        | 10.6       | 180        | 100.0%        | 8.6        |
| Kansas City HIV Region†            | 43                  | 37.7%        | 4.5        | 61                  | 53.5%        | 35.9        | 6         | 5.3%        | 8.1        | 114        | 100.0%        | 9.2        |
| Northwest HIV Region†              | 8                   | 88.9%        | 3.5        | 0                   | 0.0%         | 0.0         | 1         | 11.1%       | 18.6       | 9          | 100.0%        | 3.7        |
| North Central HIV Region†          | 9                   | 69.2%        | 1.4        | 4                   | 30.8%        | 10.4        | 0         | 0.0%        | 0.0        | 13         | 100.0%        | 1.8        |
| Southwest HIV Region†              | 21                  | 80.8%        | 2.1        | 1                   | 3.8%         | 5.0         | 2         | 7.7%        | 5.3        | 26         | 100.0%        | 2.3        |
| Southeast HIV Region†              | 7                   | 63.6%        | 1.6        | 4                   | 36.4%        | 14.2        | 0         | 0.0%        | 0.0        | 11         | 100.0%        | 2.3        |
| Missouri Correctional Facilities†† | 7                   | 31.8%        | N/A        | 14                  | 63.6%        | N/A         | 1         | 4.5%        | N/A        | 22         | 100.0%        | N/A        |
| <b>MISSOURI TOTAL</b>              | <b>153</b>          | <b>40.8%</b> | <b>3.2</b> | <b>196</b>          | <b>52.3%</b> | <b>29.2</b> | <b>15</b> | <b>4.0%</b> | <b>7.9</b> | <b>375</b> | <b>100.0%</b> | <b>6.3</b> |

\*Per 100,000 population based on 2008 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 2009 by race/ethnicity varied by geographic area (Table 8). Whites comprised 70% of new HIV case diagnoses in 2009 in Outstate, but only 21% of new HIV cases in St. Louis County. Differences in the general population distribution of each of these geographic areas likely explain 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 was 8.1 times greater in blacks than whites, and 2.3 times greater in Hispanics than whites. In comparison, the rate is only 1.8 times greater in blacks than whites, and 2.2 times greater in Hispanics than whites in St. Louis City.

Similar patterns observed for the geographic areas were also present by HIV region (Table 9). In the Northwest HIV region, whites represented 89% of new HIV case diagnoses. Whereas whites represented only 32% of new HIV cases in the St. Louis HIV region and Missouri correctional facilities. The rate of new HIV case diagnoses was only 2.4 times higher for blacks than whites in the Southwest HIV region. In all other regions, with new diagnoses reported among both race/ethnicity groups, the rate of new HIV cases diagnoses was between seven and nine times greater among blacks than whites.

**Table 10. Newly diagnosed and living HIV and AIDS cases in men who have sex with men, by selected race/ethnicity, Missouri, 2009**

| Race/Ethnicity           | HIV Cases*      |               |              |               | AIDS Cases        |               |              |               |
|--------------------------|-----------------|---------------|--------------|---------------|-------------------|---------------|--------------|---------------|
|                          | Newly Diagnosed |               | Living       |               | Newly Diagnosed** |               | Living       |               |
|                          | Cases           | %             | Cases        | %             | Cases             | %             | Cases        | %             |
| White                    | 95              | 44.4%         | 1648         | 57.2%         | 35                | 47.3%         | 2164         | 59.3%         |
| Black                    | 100             | 46.7%         | 1079         | 37.5%         | 34                | 45.9%         | 1326         | 36.4%         |
| Hispanic                 | 11              | 5.1%          | 116          | 4.0%          | 3                 | 4.1%          | 116          | 3.2%          |
| Other/Unknown            | 8               | 3.7%          | 38           | 1.3%          | 2                 | 2.7%          | 41           | 1.1%          |
| <b>MISSOURI TOTAL***</b> | <b>214</b>      | <b>100.0%</b> | <b>2,881</b> | <b>100.0%</b> | <b>74</b>         | <b>100.0%</b> | <b>3,647</b> | <b>100.0%</b> |

\*Remained HIV cases at the end of the year.  
\*\*Does not include HIV cases diagnosed prior to 2009 that progressed to AIDS in 2009.  
\*\*\*Totals include persons diagnosed in Missouri correctional facilities.  
Note: Percentages may not total due to rounding.

**Table 11. Living HIV disease cases in men who have sex with men, by selected race/ethnicity, by current age group, Missouri, 2009**

| Age Group             | White        |               | Black        |               | Hispanic   |               | Total*       |               |
|-----------------------|--------------|---------------|--------------|---------------|------------|---------------|--------------|---------------|
|                       | Cases        | %**           | Cases        | %**           | Cases      | %**           | Cases        | %**           |
| 13-18                 | 1            | 0.0%          | 15           | 0.6%          | 0          | 0.0%          | 16           | 0.2%          |
| 19-24                 | 59           | 1.5%          | 204          | 8.5%          | 8          | 3.4%          | 278          | 4.3%          |
| 25-44                 | 1430         | 37.5%         | 1188         | 49.4%         | 131        | 56.5%         | 2787         | 42.7%         |
| 45-64                 | 2148         | 56.3%         | 948          | 39.4%         | 87         | 37.5%         | 3214         | 49.2%         |
| 65+                   | 174          | 4.6%          | 50           | 2.1%          | 6          | 2.6%          | 233          | 3.6%          |
| <b>MISSOURI TOTAL</b> | <b>3,812</b> | <b>100.0%</b> | <b>2,405</b> | <b>100.0%</b> | <b>232</b> | <b>100.0%</b> | <b>6,528</b> | <b>100.0%</b> |

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

The data presented for each exposure category for Tables 10-23 have not been adjusted to redistribute individuals with missing exposure category information. Therefore these data only represent those individuals with an exposure category reported to MDHSS. The total number of individuals in each exposure category is likely underestimated, especially among those newly diagnosed in 2009. These data are subject to change.

There were a total of 288 new HIV disease diagnoses attributed to men who have sex with men (MSM) in 2009 (Table 10). Blacks and whites represented a nearly equal proportion of both new HIV and new AIDS cases among MSM. In contrast, whites represented a larger proportion of MSM living with both HIV and AIDS compared to blacks. Of the newly diagnosed cases among MSM, 26% progressed to AIDS by the end of 2009. There were not significant differences in the proportion of newly diagnosed cases that progressed to AIDS by race/ethnicity. Both blacks and Hispanics represented a greater proportion of new HIV and AIDS cases compared to the proportion they represented among living cases.

The distribution of living HIV disease cases by current age varied by race/ethnicity among MSM (Table 11). Among white MSM living with HIV disease, the majority (56%) were between 45-64 years of age at the end of 2009. In contrast, only 39% and 38% of living black and Hispanic MSM with HIV disease were between 45-64 years of age. The greatest numbers of black and Hispanic MSM living with HIV disease were between 25-44 years of age at the end of 2009. Black MSM represented the largest number of individuals living with HIV who were less than 25 years of age at the end of 2009 (219).

**Table 12. Living HIV disease cases in men who have sex with men, by selected race/ethnicity, by geographic area, by HIV region, Missouri, 2009**

| Geographic Area   | White        |              | Black        |              | Hispanic   |             | Total*       |               |
|---|--------------|--------------|--------------|--------------|------------|-------------|--------------|---------------|
|   | Cases        | %**          | Cases        | %**          | Cases      | %**         | Cases        | %***          |
| St. Louis City  | 1,035        | 50.5%        | 949          | 46.3%        | 36         | 1.8%        | 2,048        | 31.4%         |
| St. Louis County  | 529          | 50.4%        | 473          | 45.1%        | 38         | 3.6%        | 1,049        | 16.1%         |
| Kansas City   | 922          | 57.2%        | 571          | 35.4%        | 96         | 6.0%        | 1,611        | 24.7%         |
| Outstate  | 1,231        | 82.7%        | 184          | 12.4%        | 55         | 3.7%        | 1,489        | 22.8%         |
| Missouri Correctional Facilities  | 95           | 28.7%        | 228          | 68.9%        | 7          | 2.1%        | 331          | 5.1%          |
| <b>MISSOURI TOTAL</b>   | <b>3,812</b> | <b>58.4%</b> | <b>2,405</b> | <b>36.8%</b> | <b>232</b> | <b>3.6%</b> | <b>6,528</b> | <b>100.0%</b> |
| <b>HIV Region</b>   |              |              |              |              |            |             |              |               |
| St. Louis Region  | 1,737        | 52.6%        | 1,447        | 43.8%        | 77         | 2.3%        | 3,301        | 50.6%         |
| Kansas City Region  | 1,253        | 61.4%        | 641          | 31.4%        | 118        | 5.8%        | 2,040        | 31.3%         |
| Northwest Region  | 53           | 91.4%        | 4            | 6.9%         | 1          | 1.7%        | 58           | 0.9%          |
| North Central Region  | 186          | 76.5%        | 44           | 18.1%        | 11         | 4.5%        | 243          | 3.7%          |
| Southwest Region  | 377          | 89.1%        | 24           | 5.7%         | 15         | 3.5%        | 423          | 6.5%          |
| Southeast Region  | 111          | 84.1%        | 17           | 12.9%        | 3          | 2.3%        | 132          | 2.0%          |
| Missouri Correctional Facilities  | 95           | 28.7%        | 228          | 68.9%        | 7          | 2.1%        | 331          | 5.1%          |
| <b>MISSOURI TOTAL</b>   | <b>3,812</b> | <b>58.4%</b> | <b>2,405</b> | <b>36.8%</b> | <b>232</b> | <b>3.6%</b> | <b>6,528</b> | <b>100.0%</b> |
| *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 6,528 MSM living with HIV disease at the end of 2009, the largest proportion were diagnosed in St. Louis City (31%), followed by Kansas City (25%) (Table 12). There were differences in the proportion of living HIV disease cases among MSM diagnosed in each geographic area by race/ethnicity. In Outstate Missouri, 83% of persons living with HIV disease attributed to MSM were white. Whereas only 29% of MSM living with HIV disease who were diagnosed in Missouri correctional facilities were white. The differences were likely due to variations in the general population of the geographic areas.

Similar patterns were also seen for the HIV regions. The St. Louis HIV region represented 51% of all living cases among MSM and the Kansas City HIV region comprised 31%. The proportion of white living cases among MSM was highest in the Northwest HIV region and lowest in Missouri correctional facilities.

**Table 13. Newly diagnosed and living HIV and AIDS cases in men who have sex with men and inject drugs, by selected race/ethnicity, Missouri, 2009**

| Race/Ethnicity            | HIV Cases*      |               |            |               | AIDS Cases        |               |            |               |
|---------------------------|-----------------|---------------|------------|---------------|-------------------|---------------|------------|---------------|
|                           | Newly Diagnosed |               | Living     |               | Newly Diagnosed** |               | Living     |               |
|                           | Cases           | %             | Cases      | %             | Cases             | %             | Cases      | %             |
| White                     | 8               | 80.0%         | 143        | 65.6%         | 1                 | 50.0%         | 258        | 61.4%         |
| Black                     | 0               | 0.0%          | 64         | 29.4%         | 1                 | 50.0%         | 147        | 35.0%         |
| Hispanic                  | 1               | 10.0%         | 7          | 3.2%          | 0                 | 0.0%          | 12         | 2.9%          |
| Other/Unknown             | 1               | 10.0%         | 4          | 1.8%          | 0                 | 0.0%          | 3          | 0.7%          |
| <b>MISSOURI TOTAL ***</b> | <b>10</b>       | <b>100.0%</b> | <b>218</b> | <b>100.0%</b> | <b>2</b>          | <b>100.0%</b> | <b>420</b> | <b>100.0%</b> |

\*Remained HIV cases at the end of the year.  
\*\*Does not include HIV cases diagnosed prior to 2009 that progressed to AIDS in 2009.  
\*\*\*Totals include persons diagnosed in Missouri correctional facilities.  
Note: Percentages may not total due to rounding.

**Table 14. Living HIV disease cases in men who have sex with men and inject drugs, by selected race/ethnicity, by current age group, Missouri, 2009**

| Age Group             | White      |               | Black      |               | Hispanic  |               | Total*     |               |
|-----------------------|------------|---------------|------------|---------------|-----------|---------------|------------|---------------|
|                       | Cases      | %**           | Cases      | %**           | Cases     | %**           | Cases      | %**           |
| 13-18                 | 0          | 0.0%          | 0          | 0.0%          | 0         | 0.0%          | 0          | 0.0%          |
| 19-24                 | 6          | 1.5%          | 1          | 0.5%          | 1         | 5.3%          | 8          | 1.3%          |
| 25-44                 | 143        | 35.7%         | 71         | 33.6%         | 10        | 52.6%         | 226        | 35.4%         |
| 45-64                 | 244        | 60.8%         | 135        | 64.0%         | 8         | 42.1%         | 392        | 61.4%         |
| 65+                   | 8          | 2.0%          | 4          | 1.9%          | 0         | 0.0%          | 12         | 1.9%          |
| <b>MISSOURI TOTAL</b> | <b>401</b> | <b>100.0%</b> | <b>211</b> | <b>100.0%</b> | <b>19</b> | <b>100.0%</b> | <b>638</b> | <b>100.0%</b> |

\*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 2009 (Table 13). Whites represented the majority (80%) of new HIV cases among MSM/IDU. Of the newly diagnosed cases, 17% progressed to AIDS by the end of 2009. Whites represented the majority of living HIV and AIDS cases, 66% and 61%, respectively among MSM/IDU.

The distribution of living HIV disease cases by current age varied by race/ethnicity among MSM/IDU (Table 14). Among white and black MSM/IDU living with HIV disease, the majority, 61% and 64%, were between 45-64 years of age at the end of 2009. In contrast, only 42% of living Hispanic MSM/IDU with HIV disease were between 45-64 years of age. The majority of Hispanic MSM/IDU living with HIV disease were between 25-44 years of age at the end of 2009.

**Table 15. 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, 2009**

| Geographic Area                  | White      |              | Black      |              | Hispanic  |             | Total*     |               |
|----------------------------------|------------|--------------|------------|--------------|-----------|-------------|------------|---------------|
|                                  | Cases      | %**          | Cases      | %**          | Cases     | %**         | Cases      | %***          |
| St. Louis City                   | 53         | 41.7%        | 71         | 55.9%        | 2         | 1.6%        | 127        | 19.9%         |
| St. Louis County                 | 27         | 57.4%        | 20         | 42.6%        | 0         | 0.0%        | 47         | 7.4%          |
| Kansas City                      | 102        | 64.2%        | 41         | 25.8%        | 12        | 7.5%        | 159        | 24.9%         |
| Outstate                         | 176        | 86.3%        | 22         | 10.8%        | 5         | 2.5%        | 204        | 32.0%         |
| Missouri Correctional Facilities | 43         | 42.6%        | 57         | 56.4%        | 0         | 0.0%        | 101        | 15.8%         |
| <b>MISSOURI TOTAL</b>            | <b>401</b> | <b>62.9%</b> | <b>211</b> | <b>33.1%</b> | <b>19</b> | <b>3.0%</b> | <b>638</b> | <b>100.0%</b> |
| <b>HIV Region</b>                |            |              |            |              |           |             |            |               |
| St. Louis Region                 | 91         | 48.4%        | 93         | 49.5%        | 3         | 1.6%        | 188        | 29.5%         |
| Kansas City Region               | 144        | 68.6%        | 50         | 23.8%        | 12        | 5.7%        | 210        | 32.9%         |
| Northwest Region                 | 12         | 85.7%        | 1          | 7.1%         | 0         | 0.0%        | 14         | 2.2%          |
| North Central Region             | 23         | 85.2%        | 2          | 7.4%         | 2         | 7.4%        | 27         | 4.2%          |
| Southwest Region                 | 67         | 90.5%        | 5          | 6.8%         | 2         | 2.7%        | 74         | 11.6%         |
| Southeast Region                 | 21         | 87.5%        | 3          | 12.5%        | 0         | 0.0%        | 24         | 3.8%          |
| Missouri Correctional Facilities | 43         | 42.6%        | 57         | 56.4%        | 0         | 0.0%        | 101        | 15.8%         |
| <b>MISSOURI TOTAL</b>            | <b>401</b> | <b>62.9%</b> | <b>211</b> | <b>33.1%</b> | <b>19</b> | <b>3.0%</b> | <b>638</b> | <b>100.0%</b> |

\*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 638 MSM/IDU living with HIV disease at the end of 2009, the largest proportion was diagnosed in Outstate Missouri (32%), followed by Kansas City (25%) (Table 15). There were differences in the proportion of living HIV disease cases among MSM/IDU diagnosed in each geographic area by race/ethnicity. In Outstate Missouri, 86% of living cases attributed to MSM/IDU were white. Whereas only 42% of living cases diagnosed in St. Louis City among MSM/IDU were white. The differences were likely due to variations in the general population of the geographic areas.

The Kansas City HIV region represented 33% of all living cases among MSM/IDU, and the St. Louis HIV region comprised 30%. The proportion of white living cases among MSM/IDU was highest in the Southwest HIV region (91%) and lowest in Missouri correctional facilities (43%).

**Table 16. Newly diagnosed and living HIV and AIDS cases in injecting drug users, by selected race/ethnicity and sex, Missouri, 2009**

| Race/Ethnicity and Sex   | HIV Cases*      |               |            |               | AIDS Cases        |               |            |               |
|--------------------------|-----------------|---------------|------------|---------------|-------------------|---------------|------------|---------------|
|                          | Newly Diagnosed |               | Living     |               | Newly Diagnosed** |               | Living     |               |
|                          | Cases           | %             | Cases      | %             | Cases             | %             | Cases      | %             |
| White Male               | 3               | 50.0%         | 93         | 33.6%         | 0                 | 0.0%          | 125        | 28.6%         |
| Black Male               | 2               | 33.3%         | 85         | 30.7%         | 1                 | 33.3%         | 151        | 34.6%         |
| Hispanic Male            | 0               | 0.0%          | 5          | 1.8%          | 0                 | 0.0%          | 12         | 2.7%          |
| White Female             | 0               | 0.0%          | 55         | 19.9%         | 0                 | 0.0%          | 59         | 13.5%         |
| Black Female             | 0               | 0.0%          | 33         | 11.9%         | 1                 | 33.3%         | 79         | 18.1%         |
| Hispanic Female          | 1               | 16.7%         | 2          | 0.7%          | 1                 | 33.3%         | 7          | 1.6%          |
| <b>MISSOURI TOTAL***</b> | <b>6</b>        | <b>100.0%</b> | <b>277</b> | <b>100.0%</b> | <b>3</b>          | <b>100.0%</b> | <b>437</b> | <b>100.0%</b> |

\*Remained HIV cases at the end of the year.

\*\*Does not include HIV cases diagnosed prior to 2009 that progressed to AIDS in 2009.

\*\*\*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 17. Living HIV disease cases in injecting drug users, by selected race/ethnicity and sex, by current age group, Missouri, 2009**

| Age Group             | White Males |               | Black Males |               | White Females |               | Black Females |               | Total*     |               |
|-----------------------|-------------|---------------|-------------|---------------|---------------|---------------|---------------|---------------|------------|---------------|
|                       | Cases       | %**           | Cases       | %**           | Cases         | %**           | Cases         | %**           | Cases      | %**           |
| 13-18                 | 1           | 0.5%          | 0           | 0.0%          | 0             | 0.0%          | 0             | 0.0%          | 1          | 0.1%          |
| 19-24                 | 2           | 0.9%          | 1           | 0.4%          | 5             | 4.4%          | 0             | 0.0%          | 9          | 1.3%          |
| 25-44                 | 76          | 34.9%         | 61          | 25.8%         | 50            | 43.9%         | 41            | 36.6%         | 240        | 33.6%         |
| 45-64                 | 129         | 59.2%         | 164         | 69.5%         | 59            | 51.8%         | 66            | 58.9%         | 436        | 61.1%         |
| 65+                   | 10          | 4.6%          | 10          | 4.2%          | 0             | 0.0%          | 5             | 4.5%          | 28         | 3.9%          |
| <b>MISSOURI TOTAL</b> | <b>218</b>  | <b>100.0%</b> | <b>236</b>  | <b>100.0%</b> | <b>114</b>    | <b>100.0%</b> | <b>112</b>    | <b>100.0%</b> | <b>714</b> | <b>100.0%</b> |

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

\*\*Percentage of cases per age group.

Note: Percentages may not total due to rounding.

There were a total of 9 new HIV disease diagnoses attributed to persons who inject drugs (IDU) in 2009 (Table 16). The small number of new cases diagnosed among IDU make patterns by race/ethnicity and sex difficult to interpret. Although based on a small number of cases, 33% of newly diagnosed cases progressed to AIDS by the end of 2009. Males represented approximately 67% of all living HIV disease cases among IDU. There were not significant differences in the proportion of living cases among IDU attributed to males between individuals classified as HIV cases versus AIDS cases. 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. Among living IDU HIV cases, white males represented the largest proportion of cases (34%). In comparison, black 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 2009 (Table 17). The proportion of living HIV disease cases between the ages of 25 and 44 was greatest among white females.

**Table 18. Living HIV disease cases in injecting drug users, by selected race/ethnicity, by geographic area, by HIV region, Missouri, 2009**

| Geographic Area   | White      |              | Black      |              | Hispanic  |             | Total*     |               |
|---|------------|--------------|------------|--------------|-----------|-------------|------------|---------------|
|   | Cases      | %**          | Cases      | %**          | Cases     | %**         | Cases      | %***          |
| St. Louis City  | 28         | 17.0%        | 134        | 81.2%        | 2         | 1.2%        | 165        | 23.1%         |
| St. Louis County  | 22         | 40.7%        | 30         | 55.6%        | 1         | 1.9%        | 54         | 7.6%          |
| Kansas City   | 42         | 31.6%        | 75         | 56.4%        | 14        | 10.5%       | 133        | 18.6%         |
| Outstate  | 190        | 79.8%        | 42         | 17.6%        | 5         | 2.1%        | 238        | 33.3%         |
| Missouri Correctional Facilities  | 50         | 40.3%        | 67         | 54.0%        | 4         | 3.2%        | 124        | 17.4%         |
| <b>MISSOURI TOTAL</b>   | <b>332</b> | <b>46.5%</b> | <b>348</b> | <b>48.7%</b> | <b>26</b> | <b>3.6%</b> | <b>714</b> | <b>100.0%</b> |
| <b>HIV Region</b>   |            |              |            |              |           |             |            |               |
| St. Louis Region  | 81         | 32.3%        | 165        | 65.7%        | 3         | 1.2%        | 251        | 35.2%         |
| Kansas City Region  | 80         | 43.0%        | 88         | 47.3%        | 16        | 8.6%        | 186        | 26.1%         |
| Northwest Region  | 5          | 71.4%        | 2          | 28.6%        | 0         | 0.0%        | 7          | 1.0%          |
| North Central Region  | 24         | 68.6%        | 11         | 31.4%        | 0         | 0.0%        | 35         | 4.9%          |
| Southwest Region  | 69         | 85.2%        | 8          | 9.9%         | 3         | 3.7%        | 81         | 11.3%         |
| Southeast Region  | 23         | 76.7%        | 7          | 23.3%        | 0         | 0.0%        | 30         | 4.2%          |
| Missouri Correctional Facilities  | 50         | 40.3%        | 67         | 54.0%        | 4         | 3.2%        | 124        | 17.4%         |
| <b>MISSOURI TOTAL</b>   | <b>332</b> | <b>46.5%</b> | <b>348</b> | <b>48.7%</b> | <b>26</b> | <b>3.6%</b> | <b>714</b> | <b>100.0%</b> |
| *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 714 IDU living with HIV disease at the end of 2009, the largest proportion was diagnosed in Outstate Missouri (33%), followed by St. Louis City (23%) (Table 18). There were differences in the proportion of living HIV disease cases among IDU diagnosed in each geographic area by race/ethnicity. In Outstate Missouri, 80% of living cases attributed to IDU were white. Whereas only 17% of living cases diagnosed in St. Louis City among IDU were white. The differences are likely due to variations in the general population of the geographic areas. Blacks represented a larger proportion of living HIV disease cases among IDU (49%) compared to MSM (37%) and MSM/IDU (33%).

The St. Louis HIV region represented 35% of all living cases among IDU, and the Kansas City HIV region comprised 26%. The proportion of white living cases among IDU was highest in the Southwest HIV region (85%) and lowest in the St. Louis HIV region (32%).

**Table 19. Newly diagnosed and living HIV and AIDS cases in heterosexual contacts, by selected race/ethnicity and sex, Missouri, 2009**

| Race/Ethnicity and Sex    | HIV Cases*      |               |            |               | AIDS Cases        |               |            |               |
|---------------------------|-----------------|---------------|------------|---------------|-------------------|---------------|------------|---------------|
|                           | Newly Diagnosed |               | Living     |               | Newly Diagnosed** |               | Living     |               |
|                           | Cases           | %             | Cases      | %             | Cases             | %             | Cases      | %             |
| White Male                | 1               | 7.1%          | 57         | 8.0%          | 2                 | 25.0%         | 61         | 7.4%          |
| Black Male                | 0               | 0.0%          | 116        | 16.3%         | 1                 | 12.5%         | 160        | 19.5%         |
| Hispanic Male             | 0               | 0.0%          | 1          | 0.1%          | 0                 | 0.0%          | 8          | 1.0%          |
| White Female              | 2               | 14.3%         | 194        | 27.2%         | 1                 | 12.5%         | 190        | 23.2%         |
| Black Female              | 10              | 71.4%         | 318        | 44.7%         | 3                 | 37.5%         | 376        | 45.9%         |
| Hispanic Female           | 1               | 7.1%          | 16         | 2.2%          | 1                 | 12.5%         | 14         | 1.7%          |
| <b>MISSOURI TOTAL ***</b> | <b>14</b>       | <b>100.0%</b> | <b>712</b> | <b>100.0%</b> | <b>8</b>          | <b>100.0%</b> | <b>820</b> | <b>100.0%</b> |

\*Remained HIV cases at the end of the year.

\*\*Does not include HIV cases diagnosed prior to 2009 that progressed to AIDS in 2009.

\*\*\*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 20. Living HIV disease cases in heterosexual contacts, by selected race/ethnicity and sex, by current age group, Missouri, 2009**

| Age Group             | White Males |               | Black Males |               | White Females |               | Black Females |               | Total*       |               |
|-----------------------|-------------|---------------|-------------|---------------|---------------|---------------|---------------|---------------|--------------|---------------|
|                       | Cases       | %**           | Cases       | %**           | Cases         | %**           | Cases         | %**           | Cases        | %**           |
| 13-18                 | 0           | 0.0%          | 0           | 0.0%          | 0             | 0.0%          | 3             | 0.4%          | 3            | 0.2%          |
| 19-24                 | 0           | 0.0%          | 4           | 1.4%          | 4             | 1.0%          | 14            | 2.0%          | 23           | 1.5%          |
| 25-44                 | 34          | 28.8%         | 140         | 50.7%         | 203           | 52.9%         | 439           | 63.3%         | 856          | 55.9%         |
| 45-64                 | 67          | 56.8%         | 116         | 42.0%         | 157           | 40.9%         | 222           | 32.0%         | 579          | 37.8%         |
| 65+                   | 17          | 14.4%         | 16          | 5.8%          | 20            | 5.2%          | 16            | 2.3%          | 71           | 4.6%          |
| <b>MISSOURI TOTAL</b> | <b>118</b>  | <b>100.0%</b> | <b>276</b>  | <b>100.0%</b> | <b>384</b>    | <b>100.0%</b> | <b>694</b>    | <b>100.0%</b> | <b>1,532</b> | <b>100.0%</b> |

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

\*\*Percentage of cases per age group.

Note: Percentages may not total due to rounding.

There were a total of 22 new HIV disease diagnoses attributed to heterosexual contact in 2009 (Table 19). Black females represented the largest number of new HIV disease diagnoses among heterosexuals. The small number of newly diagnosed cases make patterns by race/ethnicity and sex difficult to interpret. Although based on a small number of cases, 36% of newly diagnosed cases progressed to AIDS by the end of 2009. Females represented 75% of living HIV cases and 72% of living AIDS cases among heterosexual contact cases. The distribution by race/ethnicity and sex among living heterosexual contact cases was similar between those classified as HIV cases and AIDS cases.

For all race/ethnicity and sex categories among heterosexual contact cases, except white males, the greatest proportion of living cases was between 25-44 years of age (Table 20). This was different than the distributions observed among the other exposure categories, where the majority of individuals were currently between 45-64 years of age. The difference was likely related to the fact that heterosexual contact cases were diagnosed more recently, on average, compared to persons in other exposure categories, and that persons who attributed their infection to heterosexual contact were generally younger at the time of diagnosis than persons in other exposure categories.

| Geographic Area   | White      |              | Black      |              | Hispanic  |             | Total*       |               |
|---|------------|--------------|------------|--------------|-----------|-------------|--------------|---------------|
|   | Cases      | %**          | Cases      | %**          | Cases     | %**         | Cases        | %***          |
| St. Louis City  | 74         | 14.6%        | 420        | 82.8%        | 9         | 1.8%        | 507          | 33.1%         |
| St. Louis County  | 68         | 24.5%        | 200        | 71.9%        | 5         | 1.8%        | 278          | 18.1%         |
| Kansas City   | 57         | 27.1%        | 138        | 65.7%        | 11        | 5.2%        | 210          | 13.7%         |
| Outstate  | 281        | 66.1%        | 123        | 28.9%        | 13        | 3.1%        | 425          | 27.7%         |
| Missouri Correctional Facilities  | 22         | 19.6%        | 89         | 79.5%        | 1         | 0.9%        | 112          | 7.3%          |
| <b>MISSOURI TOTAL</b>   | <b>502</b> | <b>32.8%</b> | <b>970</b> | <b>63.3%</b> | <b>39</b> | <b>2.5%</b> | <b>1,532</b> | <b>100.0%</b> |
| <b>HIV Region</b>   |            |              |            |              |           |             |              |               |
| St. Louis Region  | 185        | 22.0%        | 629        | 74.9%        | 16        | 1.9%        | 840          | 54.8%         |
| Kansas City Region  | 100        | 36.1%        | 158        | 57.0%        | 14        | 5.1%        | 277          | 18.1%         |
| Northwest Region  | 8          | 66.7%        | 4          | 33.3%        | 0         | 0.0%        | 12           | 0.8%          |
| North Central Region  | 57         | 63.3%        | 26         | 28.9%        | 3         | 3.3%        | 90           | 5.9%          |
| Southwest Region  | 92         | 74.2%        | 26         | 21.0%        | 4         | 3.2%        | 124          | 8.1%          |
| Southeast Region  | 38         | 49.4%        | 38         | 49.4%        | 1         | 1.3%        | 77           | 5.0%          |
| Missouri Correctional Facilities  | 22         | 19.6%        | 89         | 79.5%        | 1         | 0.9%        | 112          | 7.3%          |
| <b>MISSOURI TOTAL</b>   | <b>502</b> | <b>32.8%</b> | <b>970</b> | <b>63.3%</b> | <b>39</b> | <b>2.5%</b> | <b>1,532</b> | <b>100.0%</b> |
| *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 1,532 living cases among heterosexual contacts at the end of 2009, the largest proportion was diagnosed in St. Louis City (33%); the next highest was Outstate Missouri (28%) (Table 21). There were differences in the proportion of living HIV disease cases among heterosexuals diagnosed in each geographic area by race/ethnicity. In Outstate, 66% of living cases attributed to heterosexual contact were white. Whereas only 15% 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 represented a larger proportion of living HIV disease cases among heterosexual contact cases (63%) compared to all other exposure categories, primarily due to the large number of black females reporting heterosexual contact as their primary mode of exposure.

The St. Louis HIV region represented 55% of all living cases among heterosexuals, and the Kansas City HIV region comprised 18%. The proportion of white living cases among heterosexuals was highest in the Southwest HIV region (74%) and lowest in Missouri correctional facilities (20%).

**Table 22. Deaths\* among HIV cases, by mode of transmission, by selected race and sex, Missouri, 1982—2009**

| Mode of Transmission     | White Males |               | Black Males |               | White Females |               | Black Females |               | Total**    |               |
|--------------------------|-------------|---------------|-------------|---------------|---------------|---------------|---------------|---------------|------------|---------------|
|                          | Cases       | %             | Cases       | %             | Cases         | %             | Cases         | %             | Cases      | %             |
| MSM                      | 96          | 61.1%         | 50          | 50.5%         | 0             | 0.0%          | 0             | 0.0%          | 148        | 47.9%         |
| MSM/IDU                  | 27          | 17.2%         | 8           | 8.1%          | 0             | 0.0%          | 0             | 0.0%          | 36         | 11.7%         |
| IDU                      | 13          | 8.3%          | 11          | 11.1%         | 2             | 12.5%         | 13            | 44.8%         | 41         | 13.3%         |
| Heterosexual Contact     | 1           | 0.6%          | 11          | 11.1%         | 7             | 43.8%         | 9             | 31.0%         | 29         | 9.4%          |
| No Indicated Risk (NIR)  | 17          | 10.8%         | 18          | 18.2%         | 7             | 43.8%         | 6             | 20.7%         | 50         | 16.2%         |
| <b>MISSOURI TOTAL***</b> | <b>157</b>  | <b>100.0%</b> | <b>99</b>   | <b>100.0%</b> | <b>16</b>     | <b>100.0%</b> | <b>29</b>     | <b>100.0%</b> | <b>309</b> | <b>100.0%</b> |

\*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 5 cases (1.6%) 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 23. Deaths\* among AIDS cases, by mode of transmission, by selected race and sex, Missouri, 1982—2009**

| Mode of Transmission     | White Males  |               | Black Males  |               | White Females |               | Black Females |               | Total**      |               |
|--------------------------|--------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|--------------|---------------|
|                          | Cases        | %             | Cases        | %             | Cases         | %             | Cases         | %             | Cases        | %             |
| MSM                      | 2,922        | 79.0%         | 1,072        | 70.8%         | 0             | 0.0%          | 0             | 0.0%          | 4,099        | 69.2%         |
| MSM/IDU                  | 362          | 9.8%          | 159          | 10.5%         | 0             | 0.0%          | 0             | 0.0%          | 534          | 9.0%          |
| IDU                      | 137          | 3.7%          | 141          | 9.3%          | 66            | 27.8%         | 84            | 26.8%         | 448          | 7.6%          |
| Heterosexual Contact     | 54           | 1.5%          | 58           | 3.8%          | 123           | 51.9%         | 191           | 61.0%         | 434          | 7.3%          |
| No Indicated Risk (NIR)  | 81           | 2.2%          | 62           | 4.1%          | 21            | 8.9%          | 18            | 5.8%          | 195          | 3.3%          |
| <b>MISSOURI TOTAL***</b> | <b>3,697</b> | <b>100.0%</b> | <b>1,514</b> | <b>100.0%</b> | <b>237</b>    | <b>100.0%</b> | <b>313</b>    | <b>100.0%</b> | <b>5,925</b> | <b>100.0%</b> |

\*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 215 cases (3.6%) 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 (309) in comparison to the number of deaths among persons classified as AIDS (5,925) (Tables 22 and 23). The majority of deaths among HIV cases have occurred among white males (51%) (Table 22). 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 among HIV cases have been attributed to MSM. Among black female HIV cases, the largest number of deaths occurred among cases attributed to IDU. Among white females the number of deaths that occurred was equal for HIV cases attributed to heterosexual contact and to cases with no indicated risk. There was a large proportion of HIV cases among individuals with no indicated risk, especially among white females. Similar patterns were observed for deaths among male AIDS cases (Table 23). Among both white and black 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 among HIV cases, likely because there was more time to obtain exposure category information.

**Table 24. Newly diagnosed and living HIV and AIDS cases with exposure category assignments for Missouri, 2009**

| Exposure category                          | HIV cases  |               |                |               | AIDS cases |               |                |               |
|--|------------|---------------|----------------|---------------|------------|---------------|----------------|---------------|
|  | 2009*      |               | Living         |               | 2009**     |               | Living         |               |
| <b>Adult/Adolescent</b>                    |            |               |                |               |            |               |                |               |
| Men who have sex with men                  | 294        | 78.6%         | 3,408          | 67.9%         | 119        | 73.9%         | 4,008          | 66.6%         |
| Men who have sex with men and inject drugs | 13         | 3.5%          | 255            | 5.1%          | 3          | 1.9%          | 461            | 7.7%          |
| Injecting drug use                         | 8          | 2.1%          | 347            | 6.9%          | 9          | 5.6%          | 504            | 8.4%          |
| Heterosexual contact                       | 59         | 15.8%         | 986            | 19.6%         | 30         | 18.6%         | 989            | 16.4%         |
| Hemophilia/coagulation disorder            | 0          | 0.0%          | 18             | 0.4%          | 0          | 0.0%          | 46             | 0.8%          |
| Blood transfusion or tissue recipient      | 0          | 0.0%          | 2              | 0.0%          | 0          | 0.0%          | 9              | 0.1%          |
| No indicated risk (NIR)                    | -----      | -----         | -----          | -----         | -----      | -----         | -----          | -----         |
| <b>ADULT/ADOLESCENT SUBTOTAL</b>           | <b>374</b> | <b>100.0%</b> | <b>5,018 †</b> | <b>100.0%</b> | <b>161</b> | <b>100.0%</b> | <b>6,018 †</b> | <b>100.0%</b> |
| <b>Pediatric (&lt;13 years old)</b>        |            |               |                |               |            |               |                |               |
| <b>PEDIATRIC SUBTOTAL</b>                  | <b>1</b>   | <b>100.0%</b> | <b>57</b>      | <b>100.0%</b> | <b>0</b>   | <b>0.0%</b>   | <b>29</b>      | <b>100.0%</b> |
| <b>TOTAL</b>                               | <b>375</b> |               | <b>5,075</b>   |               | <b>161</b> |               | <b>6,047</b>   |               |

\*HIV cases reported during 2009 which remained HIV cases at the end of the year.  
\*\*Does not include HIV cases diagnosed prior to 2009 that progressed to AIDS in 2009.  
†Includes 2 cases with a confirmed "other" exposure category among persons living with HIV and 1 case among persons living with AIDS.  
Note: Percentages may not total due to rounding.

The data in Table 24 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 to the MSM category. There was one new HIV case diagnosed among a child less than 13 years of age in 2009.

The majority of HIV disease cases diagnosed in 2009 (93%) and those living with HIV disease (93%) were residents of a metropolitan area at the time of diagnosis (Table 25). For a list of counties that were classified as a metropolitan area refer to the Appendix. There were differences in the proportion of new and 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 84% 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 new and living HIV disease cases by race/ethnicity based on the population of the area of residence. For both new and living HIV disease cases, as the population of the area of residence became smaller, the proportion of cases that occurred among whites increased. For example, only 39% of new HIV disease diagnoses were among whites in metropolitan areas. But in nonmetropolitan areas whites comprised 65% of new diagnoses. There were also differences based on the population of area of residence in the distribution of new and living HIV disease cases by exposure category. As the population of the area of residence decreased, the proportion of cases attributed to MSM decreased. Among those living with HIV disease, the proportion of cases diagnosed between 25-44 years of age decreased as the population of the area of residence decreased. The proportion of living cases diagnosed between 45-64 years of age increased as the population of the area of residence decreased.

**Table 25. 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, 2009†**

|  | Newly Diagnosed     |        |                      |        |                          |        | Living              |        |                      |        |                          |        |
|--|---------------------|--------|----------------------|--------|--------------------------|--------|---------------------|--------|----------------------|--------|--------------------------|--------|
|  | Metropolitan Area** |        | Micropolitan Area*** |        | Nonmetropolitan Area**** |        | Metropolitan Area** |        | Micropolitan Area*** |        | Nonmetropolitan Area**** |        |
|  | Cases               | %      | Cases                | %      | Cases                    | %      | Cases               | %      | Cases                | %      | Cases                    | %      |
| <b>Sex</b>                                 |                     |        |                      |        |                          |        |                     |        |                      |        |                          |        |
| Male                                       | 397                 | 83.4%  | 8                    | 72.7%  | 14                       | 60.9%  | 8,038               | 83.7%  | 298                  | 75.8%  | 261                      | 71.9%  |
| Female                                     | 79                  | 16.6%  | 3                    | 27.3%  | 9                        | 39.1%  | 1,563               | 16.3%  | 95                   | 24.2%  | 102                      | 28.1%  |
| Total                                      | 476                 | 100.0% | 11                   | 100.0% | 23                       | 100.0% | 9,601               | 100.0% | 393                  | 100.0% | 363                      | 100.0% |
| <b>Race/Ethnicity</b>                      |                     |        |                      |        |                          |        |                     |        |                      |        |                          |        |
| White                                      | 185                 | 38.9%  | 7                    | 63.6%  | 15                       | 65.2%  | 4,872               | 50.7%  | 289                  | 73.5%  | 288                      | 79.3%  |
| Black                                      | 261                 | 54.8%  | 3                    | 27.3%  | 6                        | 26.1%  | 4,235               | 44.1%  | 87                   | 22.1%  | 59                       | 16.3%  |
| Hispanic                                   | 17                  | 3.6%   | 1                    | 9.1%   | 2                        | 8.7%   | 361                 | 3.8%   | 13                   | 3.3%   | 13                       | 3.6%   |
| Other/Unknown                              | 13                  | 2.7%   | 0                    | 0.0%   | 0                        | 0.0%   | 133                 | 1.4%   | 4                    | 1.0%   | 3                        | 0.8%   |
| Total                                      | 476                 | 100.0% | 11                   | 100.0% | 23                       | 100.0% | 9,601               | 100.0% | 393                  | 100.0% | 363                      | 100.0% |
| <b>Exposure Category</b>                   |                     |        |                      |        |                          |        |                     |        |                      |        |                          |        |
| Men who have sex with men                  | 267                 | 56.1%  | 3                    | 27.3%  | 5                        | 21.7%  | 5,876               | 61.2%  | 170                  | 43.3%  | 151                      | 41.6%  |
| Men who have sex with men and inject drugs | 7                   | 1.5%   | 2                    | 18.2%  | 1                        | 4.3%   | 481                 | 5.0%   | 33                   | 8.4%   | 23                       | 6.3%   |
| Injecting drug use                         | 6                   | 1.3%   | 0                    | 0.0%   | 0                        | 0.0%   | 521                 | 5.4%   | 34                   | 8.7%   | 35                       | 9.6%   |
| Heterosexual contact                       | 18                  | 3.8%   | 1                    | 9.1%   | 3                        | 13.0%  | 1,254               | 13.1%  | 83                   | 21.1%  | 83                       | 22.9%  |
| No Indicated Risk (NIR)                    | 177                 | 37.2%  | 5                    | 45.5%  | 14                       | 60.9%  | 1,342               | 14.0%  | 61                   | 15.5%  | 56                       | 15.4%  |
| Other                                      | 0                   | 0.0%   | 0                    | 0.0%   | 0                        | 0.0%   | 57                  | 0.6%   | 5                    | 1.3%   | 8                        | 2.2%   |
| Pediatric                                  | 1                   | 0.2%   | 0                    | 0.0%   | 0                        | 0.0%   | 70                  | 0.7%   | 7                    | 1.8%   | 7                        | 1.9%   |
| Total                                      | 476                 | 100.0% | 11                   | 100.0% | 23                       | 100.0% | 9,601               | 100.0% | 393                  | 100.0% | 363                      | 100.0% |
| <b>Age at Diagnosis</b>                    |                     |        |                      |        |                          |        |                     |        |                      |        |                          |        |
| <2   | 0                   | 0.0%   | 0                    | 0.0%   | 0                        | 0.0%   | 44                  | 0.5%   | 4                    | 1.0%   | 4                        | 1.1%   |
| 2-12                                       | 1                   | 0.2%   | 0                    | 0.0%   | 0                        | 0.0%   | 20                  | 0.2%   | 2                    | 0.5%   | 3                        | 0.8%   |
| 13-18                                      | 28                  | 5.9%   | 0                    | 0.0%   | 0                        | 0.0%   | 239                 | 2.5%   | 9                    | 2.3%   | 9                        | 2.5%   |
| 19-24                                      | 109                 | 22.9%  | 1                    | 9.1%   | 1                        | 4.3%   | 1,201               | 12.5%  | 41                   | 10.4%  | 33                       | 9.1%   |
| 25-44                                      | 244                 | 51.3%  | 6                    | 54.5%  | 11                       | 47.8%  | 6,550               | 68.2%  | 250                  | 63.6%  | 224                      | 61.7%  |
| 45-64                                      | 88                  | 18.5%  | 3                    | 27.3%  | 10                       | 43.5%  | 1,482               | 15.4%  | 86                   | 21.9%  | 84                       | 23.1%  |
| 65+  | 6                   | 1.3%   | 1                    | 9.1%   | 1                        | 4.3%   | 65                  | 0.7%   | 1                    | 0.3%   | 6                        | 1.7%   |
| Total                                      | 476                 | 100.0% | 11                   | 100.0% | 23                       | 100.0% | 9,601               | 100.0% | 393                  | 100.0% | 363                      | 100.0% |

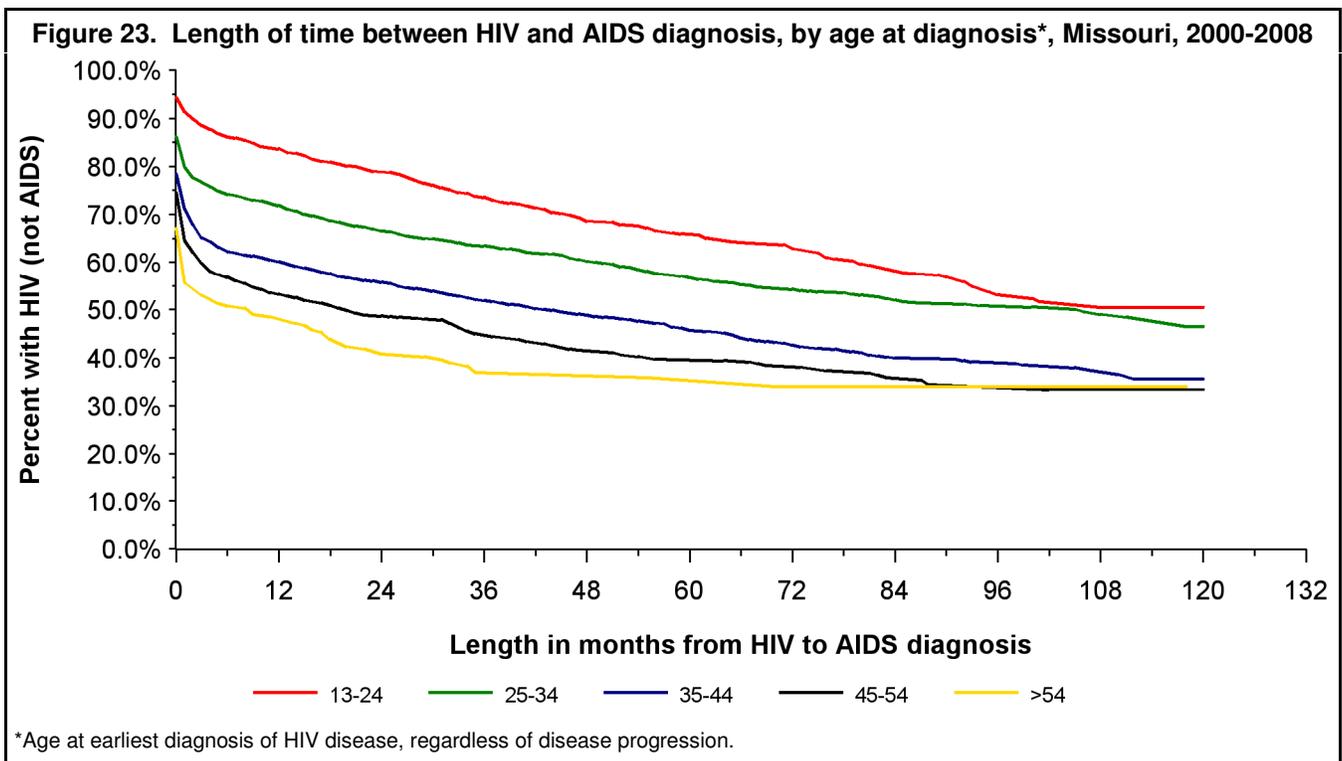
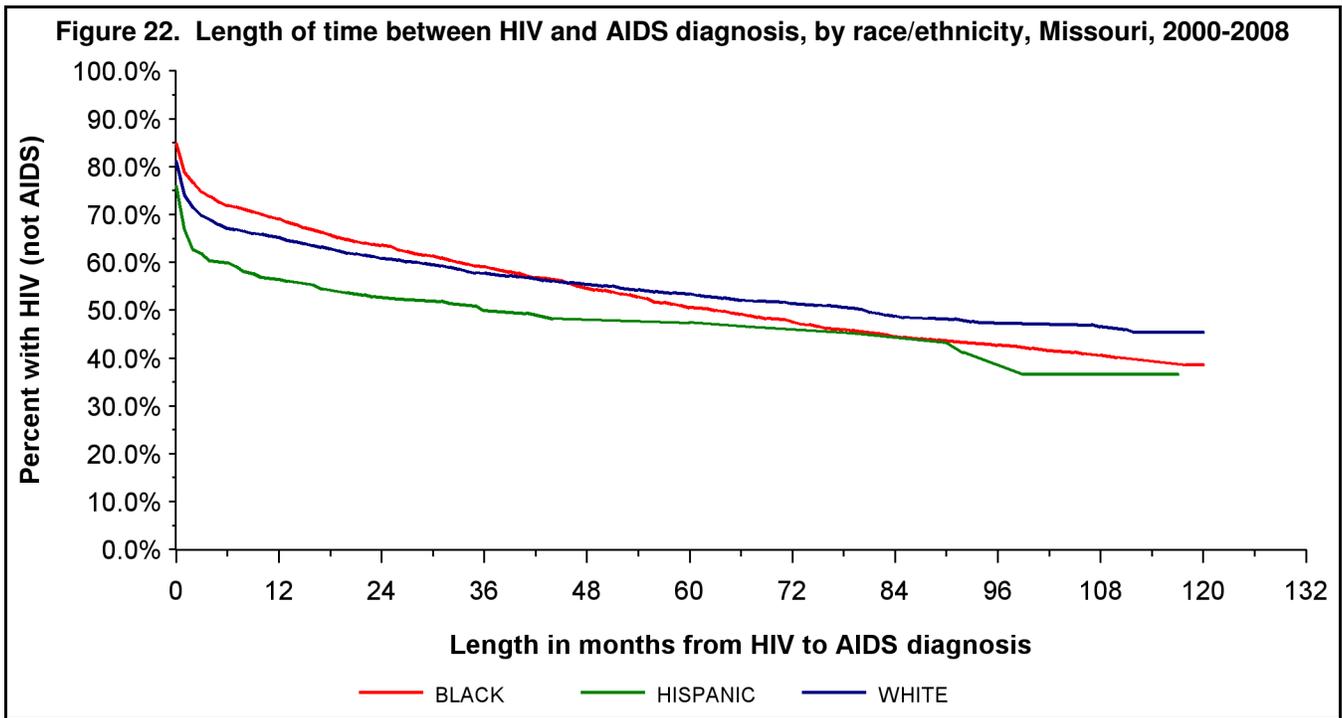
\*Includes all individuals diagnosed with the HIV virus, regardless of current status (i.e., HIV or AIDS)

†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 2008 US Census estimates. See Appendix for map of included counties.

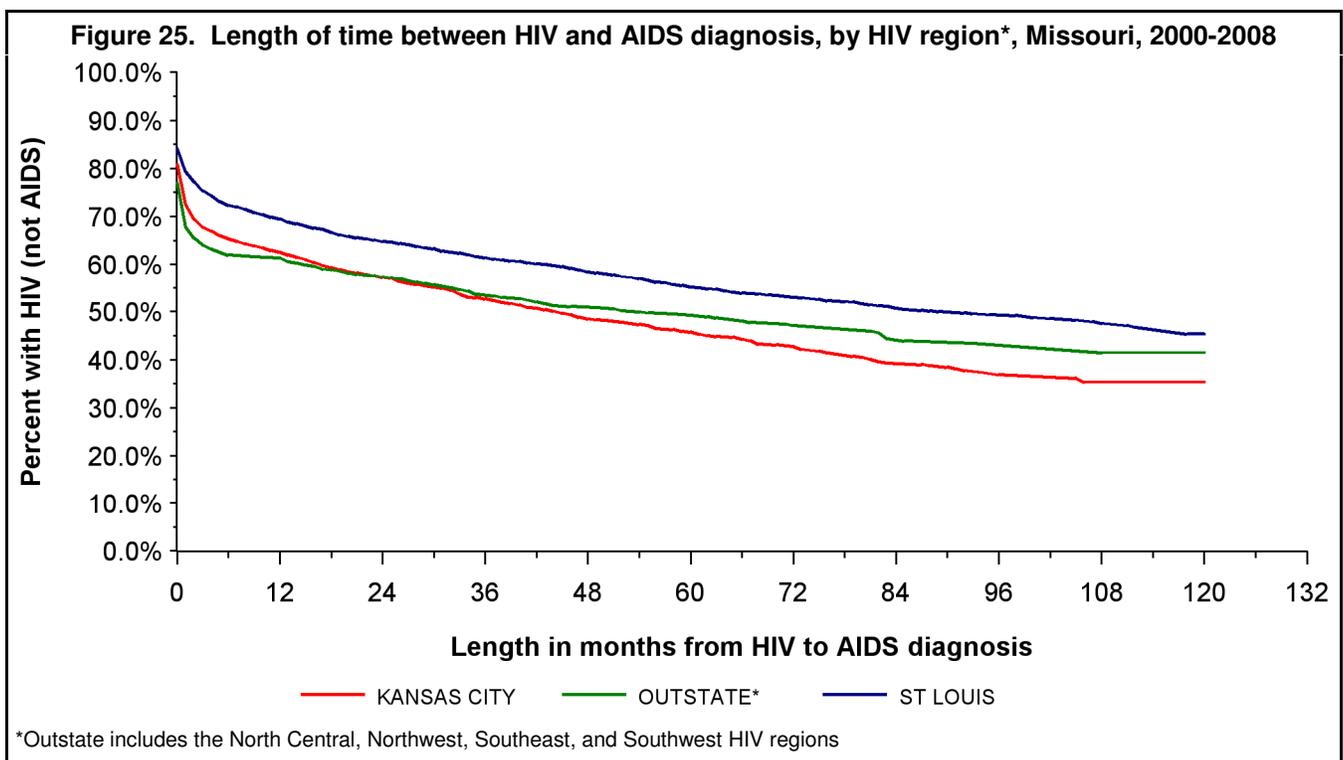
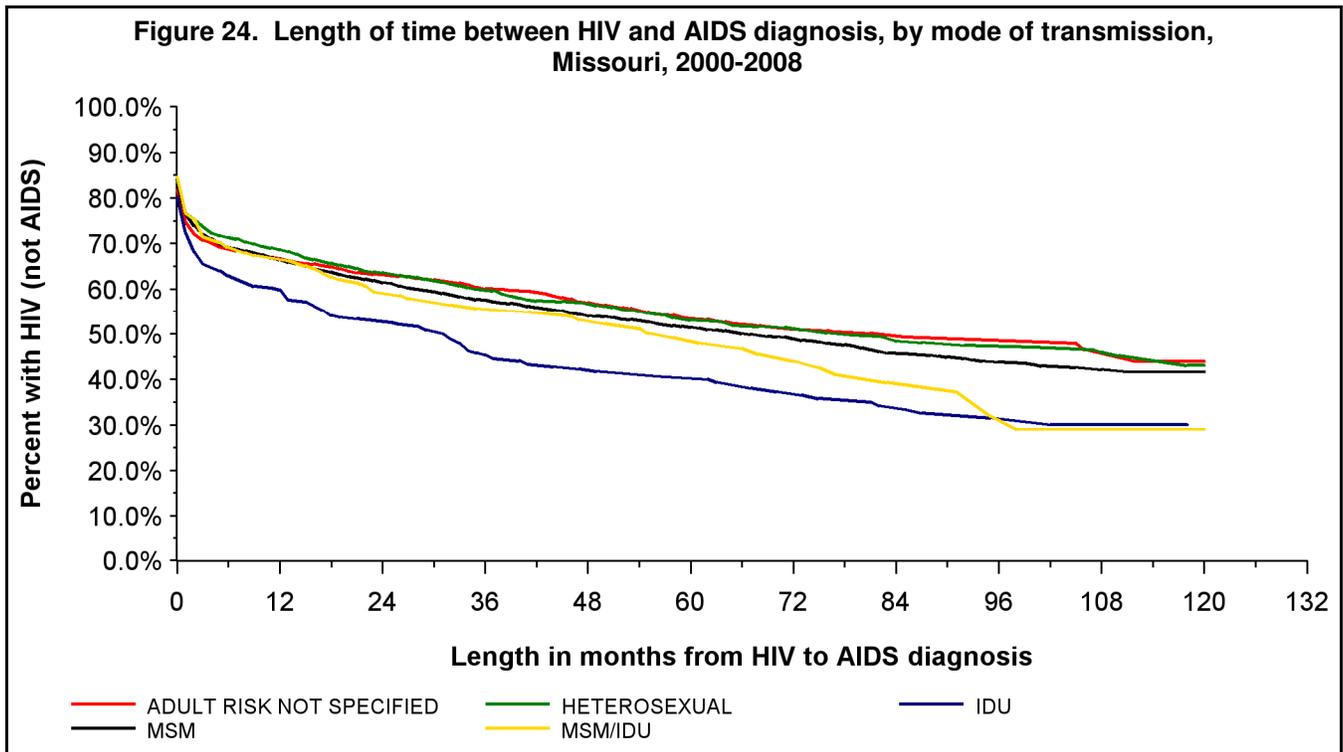
\*\*\*A micropolitan area contains a core urban area with a population between 10,000-49,999. It also includes adjacent counties that have a high degree of social and economic integration with the core urban area. Based on 2008 US Census estimates. See Appendix for map of included counties.

\*\*\*\*An area that does not meet the population requirements for the metropolitan or micropolitan area. Based on 2008 US Census estimates. See Appendix for map of included counties.



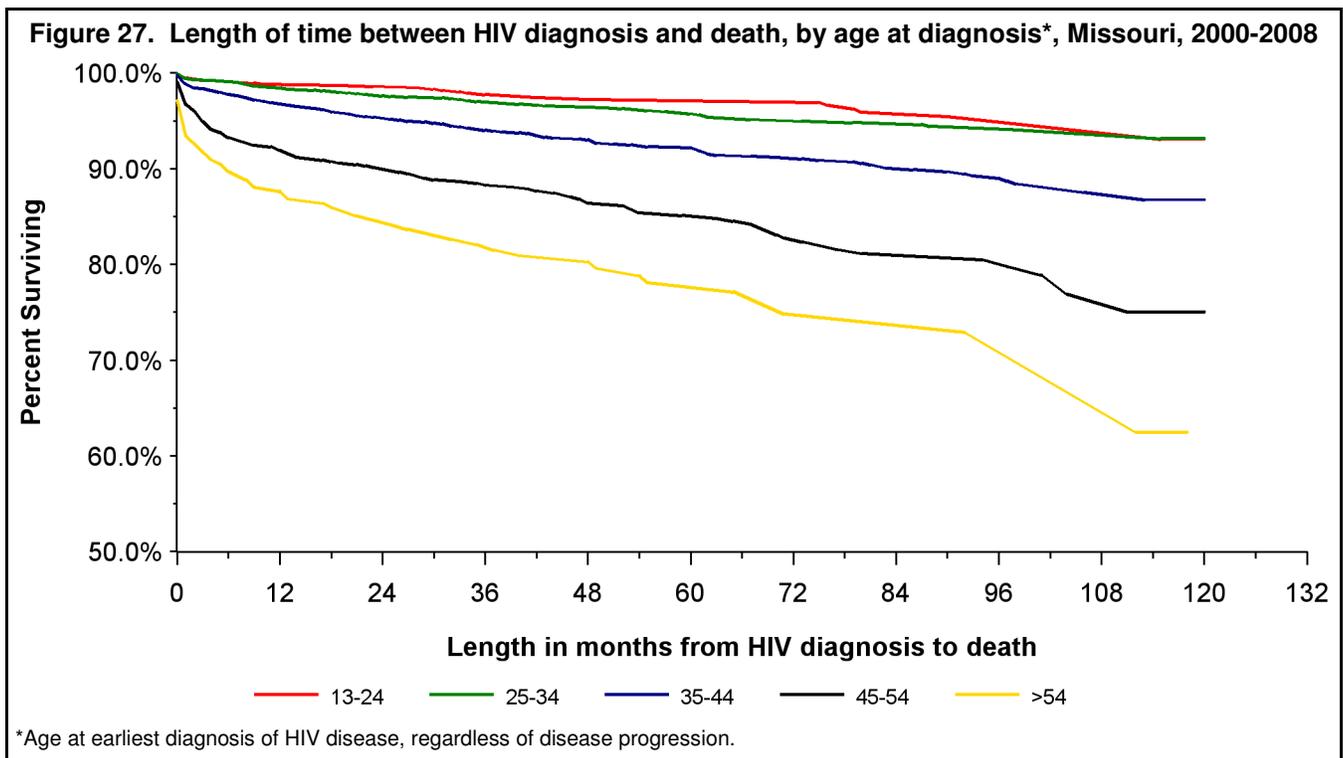
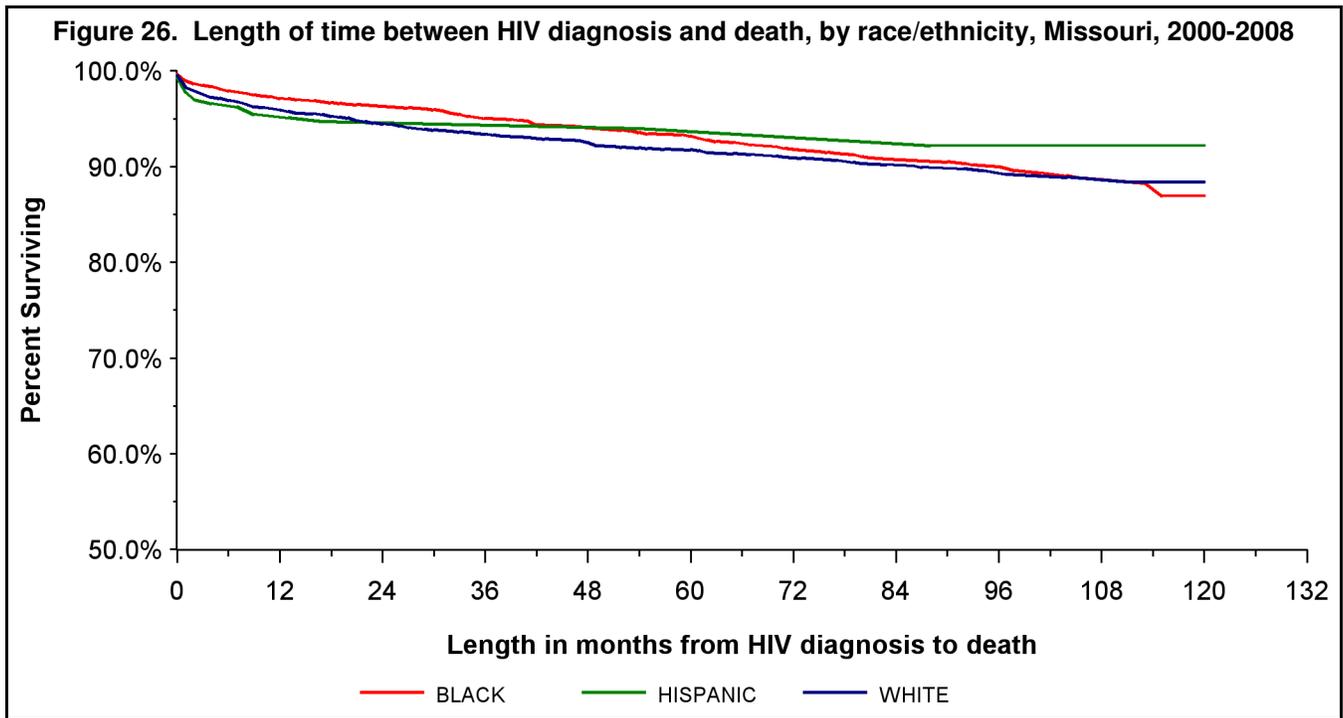
A greater proportion of Hispanics progressed from HIV to AIDS within 12 months of their HIV diagnosis compared to whites and blacks (Figure 22). Around 84 months after the initial HIV diagnosis, the proportion of cases that progressed to AIDS was similar by race/ethnicity. It is important to note that for all curves displayed, data in the later months should be interpreted with caution as they are based on small numbers.

There were differences in the progression from HIV to AIDS by the age at HIV diagnosis (Figure 23). Over time, the proportion of cases that progressed to AIDS remained higher as the age at initial HIV diagnosis increased.



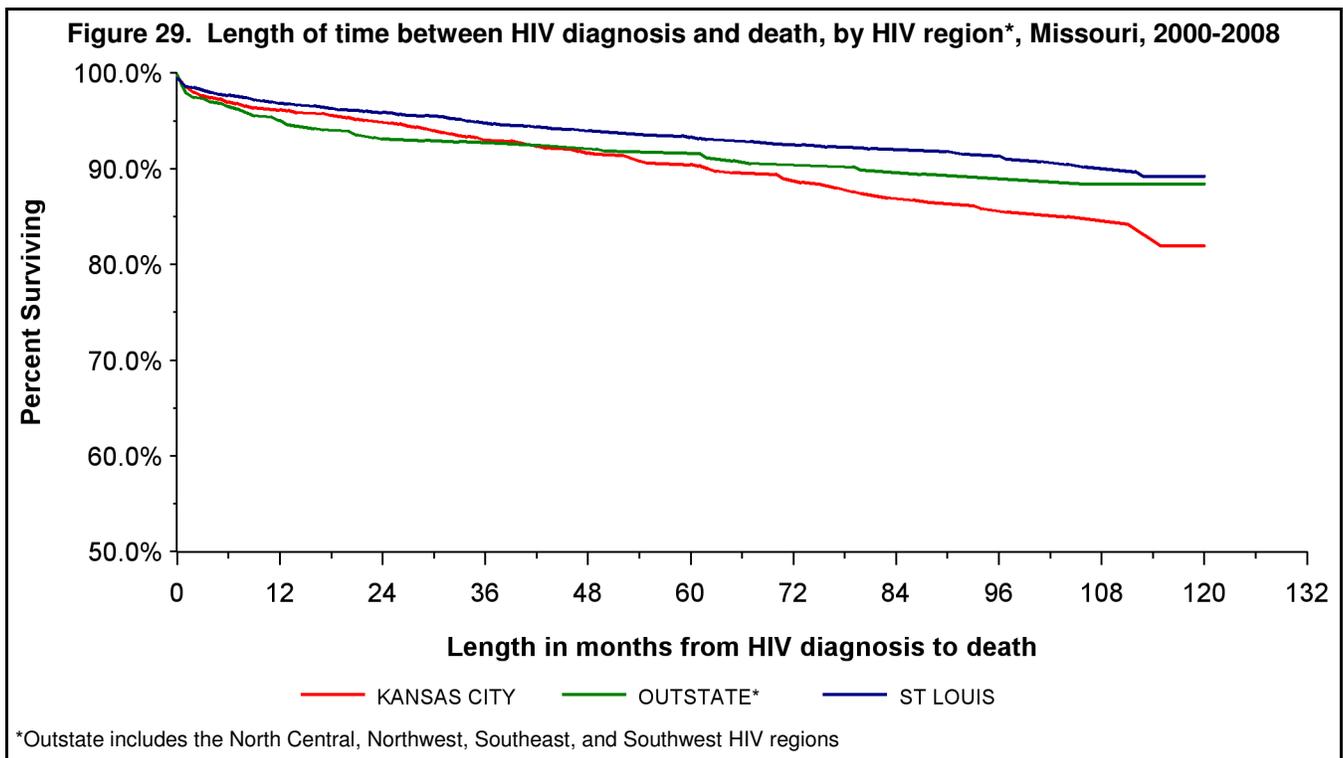
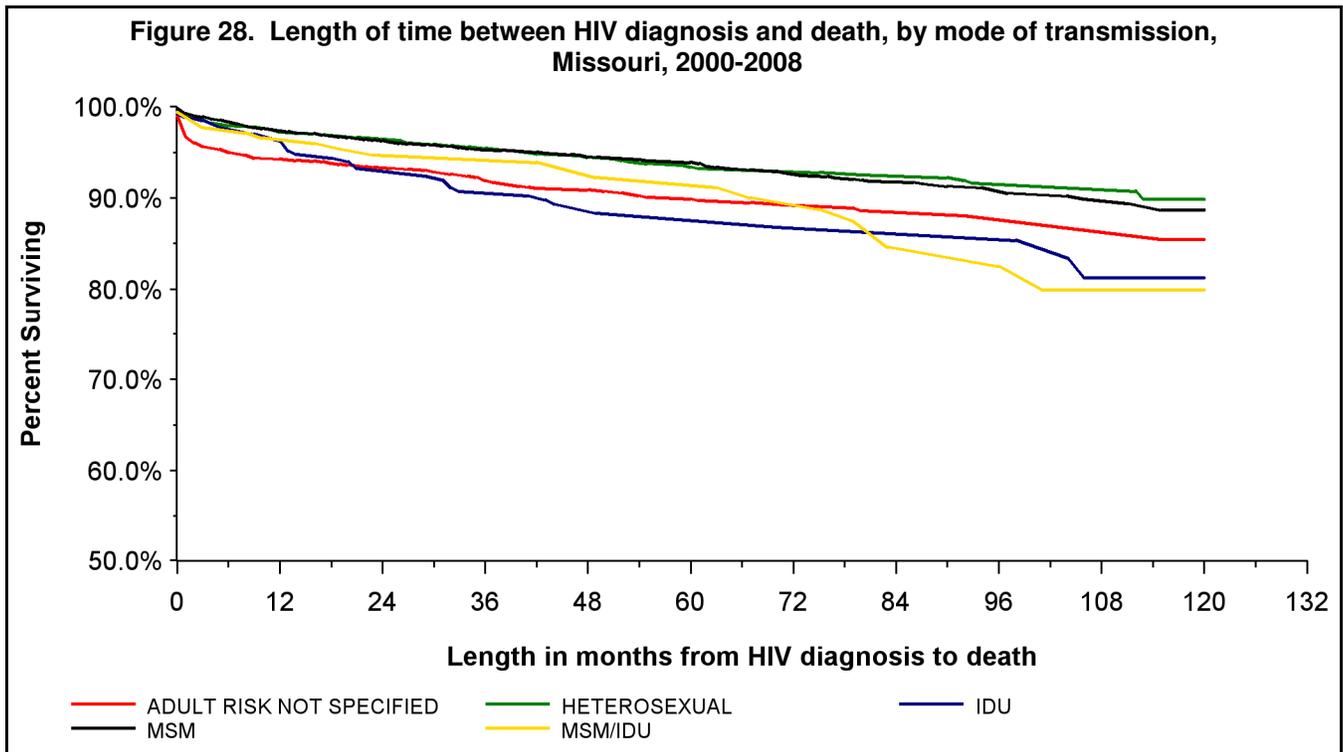
A greater proportion of IDU progressed from HIV to AIDS within 12 months of their HIV diagnosis compared to individuals from all other exposure categories (Figure 24). Around 96 months after the initial HIV diagnosis, the proportion of cases that progressed to AIDS was similar for IDU and MSM/IDU.

There were differences in the progression from HIV to AIDS by HIV region (Figure 25). The proportion of individuals that progressed to AIDS over time was 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 26). Five years following the initial HIV diagnosis, greater than 90% of all individuals were still living.

There were differences in the length of time between HIV diagnosis and death by the age at HIV diagnosis (Figure 27). Over time, the proportion of cases that were deceased was higher as the age at initial HIV diagnosis increased. For example, 72 months following the initial diagnosis 97% of individuals diagnosed between 13-24 years of age were still living, compared to only 75% of individuals diagnosed at greater than 54 years of age.



A greater proportion of IDU and those with no reported risk were deceased within 24 months of their HIV diagnosis compared to individuals from all other exposure categories (Figure 28). Differences in survival persisted over time.

There were slight differences in survival following HIV diagnosis by HIV region (Figure 29). At 24 months following the initial HIV diagnosis, the proportion still living was 96%, 95%, and 93% for the St. Louis HIV region, Kansas City HIV region, and all other Outstate HIV regions combined. Differences in survival among the regions increased over time.

**Table 26. Initial CD4 and viral load values<sup>†</sup> among adults and adolescents newly diagnosed with HIV disease, Missouri, 2007-2008**

| Viral Load<br>(copies/mL) | CD4 Count (cells/ $\mu$ L) |       |      |       |         |       |         |      |      |       |       |        |
|---------------------------|----------------------------|-------|------|-------|---------|-------|---------|------|------|-------|-------|--------|
|                           | No Test                    |       | <200 |       | 200-350 |       | 351-500 |      | >500 |       | Total |        |
|                           | N                          | %*    | N    | %*    | N       | %*    | N       | %*   | N    | %*    | N     | %**    |
| No Test                   | 263                        | 22.7% | 48   | 4.1%  | 15      | 1.3%  | 11      | 0.9% | 18   | 1.6%  | 355   | 30.6%  |
| 0-10,000                  | 90                         | 7.8%  | 103  | 8.9%  | 62      | 5.3%  | 47      | 4.1% | 115  | 9.9%  | 417   | 35.9%  |
| 10,001-100,000            | 58                         | 5.0%  | 58   | 5.0%  | 40      | 3.4%  | 41      | 3.5% | 48   | 4.1%  | 245   | 21.1%  |
| >100,000                  | 17                         | 1.5%  | 79   | 6.8%  | 21      | 1.8%  | 12      | 1.0% | 14   | 1.2%  | 143   | 12.3%  |
| Total                     | 428                        | 36.9% | 288  | 24.8% | 138     | 11.9% | 111     | 9.6% | 195  | 16.8% | 1160  | 100.0% |

<sup>†</sup>Within 12 months of the initial HIV diagnosis

\* % of table total

\*\*% of column total

Of persons newly diagnosed with HIV disease between 2007 and 2008, 23% did not have a CD4 or a viral load laboratory result reported to MDHSS within 12 months of diagnosis (Table 26). Nearly 25% of persons diagnosed between 2007 and 2008 had an initial CD4 count of less than 200 cells/ $\mu$ L. This indicates that a sizable proportion of individuals were being diagnosed at a later stage of disease progression, and likely were unaware of their infection for at least several years. This suggests greater emphasis is needed to establish routine HIV testing, so individuals are diagnosed within a shorter time period after becoming infected.

**Table 27. Percent of adults and adolescents receiving at least one CD4 within 12 months of their HIV diagnosis and the median initial CD4 count, Missouri, 2007-2008**

|                                   | Number | % with CD4 within 12 months<br>of HIV diagnosis | Median of initial CD4<br>counts (cells/ $\mu$ L) |
|-----------------------------------|--------|---|--|
| <b>HIV Status</b>                 |        |   |  |
| HIV (not AIDS)                    | 746    | 48.4%   | 504  |
| Concurrent HIV and AIDS diagnosis | 255    | 97.3%   | 61   |
| AIDS >1 month after HIV diagnosis | 159    | 77.4%   | 175  |
| <b>Sex</b>                        |        |   |  |
| Male                              | 946    | 62.5%   | 286  |
| Female                            | 214    | 65.9%   | 321  |
| <b>Race/Ethnicity</b>             |        |   |  |
| White                             | 482    | 72.4%   | 323  |
| Black                             | 591    | 54.8%   | 264  |
| Hispanic                          | 67     | 70.1%   | 210  |
| Other/Unknown                     | 20     | 60.0%   | 309  |
| <b>Exposure Category</b>          |        |   |  |
| MSM                               | 568    | 64.8%   | 322  |
| MSM/IDU                           | 43     | 76.7%   | 369  |
| IDU                               | 39     | 74.4%   | 197  |
| HRH                               | 75     | 70.7%   | 336  |
| Other                             | 0      | --  | --   |
| NIR                               | 435    | 57.2%   | 228  |
| <b>Age at HIV Diagnosis</b>       |        |   |  |
| 13-18                             | 51     | 58.8%   | 402  |
| 19-24                             | 236    | 52.5%   | 343  |
| 25-44                             | 627    | 64.6%   | 276  |
| 45-64                             | 231    | 71.9%   | 190  |
| 65+                               | 15     | 46.7%   | 75   |

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 27). Of adults and adolescents newly diagnosed between 2007 and 2008, a greater proportion of females had a CD4 within 12 months of diagnosis (66%) compared to males (63%). The initial median CD4 count tended to be greater for females (321 cells/  $\mu$ L) compared to males (286 cells/  $\mu$ L). A greater proportion of whites and Hispanics tended to have a CD4 count within 12 months of diagnosis compared to blacks and persons of another race or an unknown race. Among those with a CD4 count within 12 months of diagnosis, the initial CD4 count tended to be lower among Hispanics (210 cells/  $\mu$ L) and blacks (264 cells/  $\mu$ L) compared to whites (323 cells/  $\mu$ L) and persons of another race or an unknown race (309 cells/  $\mu$ L). This suggests that persons of Hispanic origin were not getting diagnosed until later in their disease progression compared to other race/ethnicities. A lower proportion of MSM had an initial CD4 within 12 months of diagnosis compared to persons with other known exposure categories. The initial median CD4 tended to be lower for IDU and 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 decreased from 224 cases in 2008 to 173 cases in 2009. The decrease observed was due to a decline in reported cases in all HIV regions except the North Central and Southwest HIV regions.
- The rate of reported cases was highest in St. Louis City (11 per 100,000).
- Blacks were disproportionately impacted, with a case rate 5.0 times greater than whites.

### **Early Latent Syphilis**

- The number of early latent syphilis cases increased by one case from 2008 (145 cases) to 2009 (146 cases). The increase was primarily driven by an increase in reported cases in the St. Louis HIV region from 2008 (60) to 2009 (77).
- The rate of reported cases in 2009 was highest in St. Louis City (16 per 100,000).
- Males represented the majority (82%) of reported early latent syphilis cases.
- The case rate was 9.7 times higher among blacks than whites.

### **Gonorrhea**

- The number of reported gonorrhea cases decreased from 2008 (8,014) to 2009 (6,488 cases). Similar trends were observed in all regions of the state, except for the Southwest and Northwest HIV regions. In the Southwest HIV region, the number of gonorrhea cases reported from 2008 to 2009 increased by 12% from 454 to 508 cases. The number of gonorrhea cases reported from 2008 to 2009 in the Northwest HIV region increased by 38% from 66 to 91 cases.
- St. Louis City had the highest rate of reported gonorrhea cases at 366 per 100,000 persons.
- A larger proportion of reported gonorrhea cases were diagnosed between 15 and 19 years of age among black females (41%) compared to white females (27%), black males (24%), and white males (12%).

### **Chlamydia**

- The number of reported chlamydia cases increased from 24,817 in 2008 to 25,868 in 2009. Similar trends were observed for all regions of the state.
- St. Louis City had the highest chlamydia rate in 2009 (1,239 per 100,000). Jackson County reported the second highest case rate of chlamydia (822 per 100,000).
- A larger proportion of reported chlamydia cases were diagnosed between 15 and 19 years old among black females (45%), compared to white females (38%), black males (31%), and white males (23%).

### **Hepatitis B**

- The number of reported Hepatitis B cases in Missouri decreased by 88 cases from 2008 (510) to 2009 (422).
- Kansas City had the greatest number of reported Hepatitis B cases with 86 cases.
- Among females, the largest numbers of cases were 20-29 years of age, while among males the largest numbers of cases were 40-49 years old.

### **Hepatitis C**

- The number of reported Hepatitis C cases in Missouri decreased by 82 cases from 2008 (4,923) to 2009 (4,841).
- Kansas City had the greatest number of reported Hepatitis C cases with 624 cases
- Among females, the largest numbers of cases were 40-49 years of age, while among males the largest numbers of cases were 50-59 years old.

### **HIV and STD Co-infections**

- There were 258 persons living with HIV who were reported with an STD in 2009.
- Of the 319 early syphilis cases reported in 2009, 30% were among individuals living with HIV. Only 2% of gonorrhea cases and less than 1% of chlamydia cases reported in 2009 were among individuals living with HIV.
- St. Louis residents represented 68% of all living HIV cases reported with chlamydia in 2009, 63% of those with gonorrhea, 64% of those with multiple STD co-morbidities, and 64% of those with early syphilis.
- Although blacks represented only 44% of living HIV disease cases, they represented 65% of individuals diagnosed with an STD co-morbidity.

### **HIV and STD Co-infections**

- Of the 11,122 individuals living with HIV disease, 69 were reported with a hepatitis co-morbidity in 2009.
- Six percent of chronic Hepatitis B cases and 1% of chronic Hepatitis C cases reported in 2009 were among persons living with HIV disease.

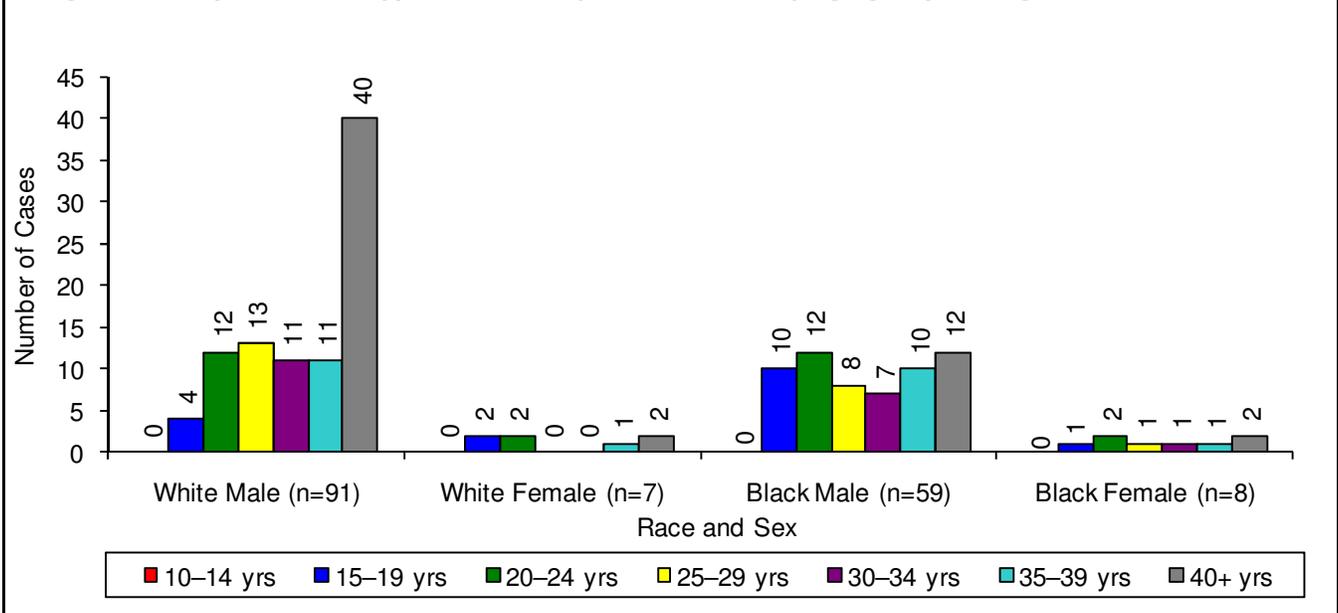
|                             | Male       |               |             | Female    |               |            | Total      |            |
|-----------------------------|------------|---------------|-------------|-----------|---------------|------------|------------|------------|
|                             | Cases      | %             | Rate**      | Cases     | %             | Rate**     | Cases      | Rate**     |
| <b>Missouri</b>             |            |               |             |           |               |            |            |            |
| White                       | 91         | 57.6%         | 3.8         | 7         | 46.7%         | 0.3        | 98         | 2.0        |
| Black                       | 59         | 37.3%         | 18.8        | 8         | 53.3%         | 2.2        | 67         | 10.0       |
| Other/Unknown*              | 8          | 5.1%          | --          | 0         | 0.0%          | --         | 8          | --         |
| <b>Total Cases</b>          | <b>158</b> | <b>100.0%</b> | <b>5.5</b>  | <b>15</b> | <b>100.0%</b> | <b>0.5</b> | <b>173</b> | <b>2.9</b> |
| <b>St. Louis Region</b>     |            |               |             |           |               |            |            |            |
| White                       | 23         | 35.4%         | 3.0         | 1         | 16.7%         | 0.1        | 24         | 1.5        |
| Black                       | 40         | 61.5%         | 21.6        | 5         | 83.3%         | 2.3        | 45         | 11.1       |
| Other/Unknown*              | 2          | 3.1%          | --          | 0         | 0.0%          | --         | 2          | --         |
| <b>Total Cases</b>          | <b>65</b>  | <b>100.0%</b> | <b>6.4</b>  | <b>6</b>  | <b>100.0%</b> | <b>0.6</b> | <b>71</b>  | <b>3.4</b> |
| <b>Kansas City Region</b>   |            |               |             |           |               |            |            |            |
| White                       | 38         | 61.3%         | 8.2         | 3         | 60.0%         | 0.6        | 41         | 4.3        |
| Black                       | 18         | 29.0%         | 22.9        | 2         | 40.0%         | 2.2        | 20         | 11.8       |
| Other/Unknown*              | 6          | 9.7%          | --          | 0         | 0.0%          | --         | 6          | --         |
| <b>Total Cases</b>          | <b>62</b>  | <b>100.0%</b> | <b>10.3</b> | <b>5</b>  | <b>100.0%</b> | <b>0.8</b> | <b>67</b>  | <b>5.4</b> |
| <b>Northwest Region</b>     |            |               |             |           |               |            |            |            |
| White                       | 3          | 100.0%        | 2.7         | 0         | --            | 0.0        | 3          | 1.3        |
| Black                       | 0          | 0.0%          | 0.0         | 0         | --            | 0.0        | 0          | 0.0        |
| Other/Unknown*              | 0          | 0.0%          | --          | 0         | --            | --         | 0          | --         |
| <b>Total Cases</b>          | <b>3</b>   | <b>100.0%</b> | <b>2.5</b>  | <b>0</b>  | <b>--</b>     | <b>0.0</b> | <b>3</b>   | <b>1.2</b> |
| <b>North Central Region</b> |            |               |             |           |               |            |            |            |
| White                       | 7          | 87.5%         | 2.1         | 1         | 50.0%         | 0.3        | 8          | 1.2        |
| Black                       | 1          | 12.5%         | 4.8         | 1         | 50.0%         | 5.7        | 2          | 5.2        |
| Other/Unknown*              | 0          | 0.0%          | --          | 0         | 0.0%          | --         | 0          | --         |
| <b>Total Cases</b>          | <b>8</b>   | <b>100.0%</b> | <b>2.2</b>  | <b>2</b>  | <b>100.0%</b> | <b>0.5</b> | <b>10</b>  | <b>1.4</b> |
| <b>Southwest Region</b>     |            |               |             |           |               |            |            |            |
| White                       | 20         | 100.0%        | 4.0         | 2         | 100.0%        | 0.4        | 22         | 2.2        |
| Black                       | 0          | 0.0%          | 0.0         | 0         | 0.0%          | 0.0        | 0          | 0.0        |
| Other/Unknown*              | 0          | 0.0%          | --          | 0         | 0.0%          | --         | 0          | --         |
| <b>Total Cases</b>          | <b>20</b>  | <b>100.0%</b> | <b>3.7</b>  | <b>2</b>  | <b>100.0%</b> | <b>0.4</b> | <b>22</b>  | <b>2.0</b> |
| <b>Southeast Region</b>     |            |               |             |           |               |            |            |            |
| White                       | 0          | --            | 0.0         | 0         | --            | 0.0        | 0          | 0.0        |
| Black                       | 0          | --            | 0.0         | 0         | --            | 0.0        | 0          | 0.0        |
| Other/Unknown*              | 0          | --            | --          | 0         | --            | --         | 0          | --         |
| <b>Total Cases</b>          | <b>0</b>   | <b>--</b>     | <b>0.0</b>  | <b>0</b>  | <b>--</b>     | <b>0.0</b> | <b>0</b>   | <b>0.0</b> |

\*Includes cases identified with Hispanic ethnicity.  
\*\*Per 100,000 population based on 2008 MDHSS population estimates.

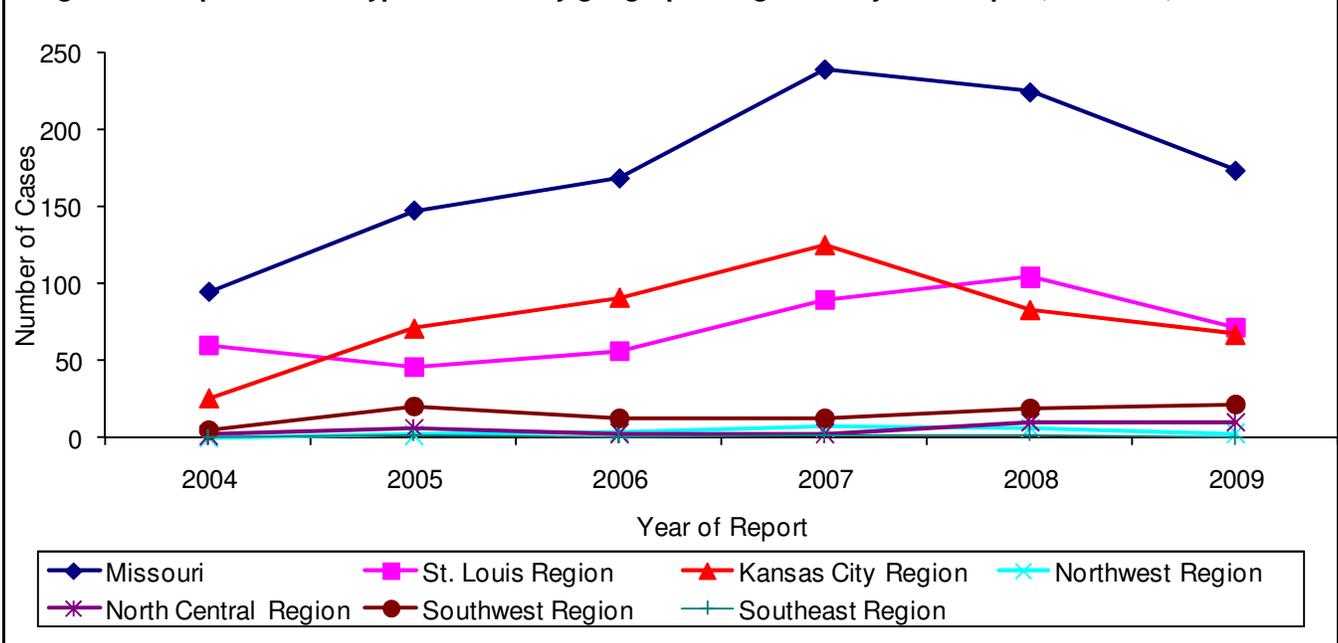
There were a total of 173 primary and secondary (P&S) syphilis cases reported in 2009 (Table 28). This represented a decrease from the 224 P&S syphilis cases reported in 2008. The majority of cases (91%) were reported among males. The rate of P&S syphilis cases among males was highest in the Kansas City HIV region (10.3), followed by the St. Louis HIV region (6.4). Forty-one percent of all P&S syphilis cases were reported in the St. Louis HIV region and 39% were reported in the Kansas City HIV region. The Southwest HIV region had the third largest number of P&S syphilis cases reported. The rate of reported P&S syphilis cases was higher for blacks compared to whites in all regions that reported P&S syphilis cases among blacks.



**Figure 31. Reported P&S syphilis cases, by race and sex, by age group at diagnosis, Missouri, 2009**



**Figure 32. Reported P&S syphilis cases by geographic region and year of report, Missouri, 2004-2009**



The largest numbers of P&S syphilis cases were reported among white males (91) and black males (59) (Figure 31). The number of reported cases decreased from 2008 to 2009 among all race/ethnicity and sex categories presented. There were differences in the distribution of reported cases by age at diagnosis among the race/ethnicity and sex categories. Among white males, the largest number of cases was reported among individuals 40 or more years of age at the time of diagnosis. Among black males reported cases were more evenly distributed among all age groups 15 years of age or greater.

The number of reported P&S syphilis cases in Missouri increased from 2004 to 2007 and then decreased through 2009 (Figure 32). The number of reported P&S syphilis cases was higher in 2009 (22) than 2008 (19) in the Southwest HIV region. The number of reported cases remained the same from 2008 to 2009 (10) in the North Central HIV region. The number of reported P&S syphilis cases decreased from 2008 to 2009 in the remaining HIV regions.

**Table 29. Reported early latent syphilis cases and rates, by race\*, by geographic region, by sex, Missouri, 2009**

|                             | Male       |               |            | Female    |               |            | Total      |            |
|-----------------------------|------------|---------------|------------|-----------|---------------|------------|------------|------------|
|                             | Cases      | %             | Rate**     | Cases     | %             | Rate**     | Cases      | Rate**     |
| <b>Missouri</b>             |            |               |            |           |               |            |            |            |
| White                       | 45         | 37.5%         | 1.9        | 12        | 46.2%         | 0.5        | 57         | 1.2        |
| Black                       | 67         | 55.8%         | 21.3       | 11        | 42.3%         | 3.1        | 78         | 11.6       |
| Other/Unknown*              | 8          | 6.7%          | --         | 3         | 11.5%         | --         | 11         | --         |
| <b>Total Cases</b>          | <b>120</b> | <b>100.0%</b> | <b>4.2</b> | <b>26</b> | <b>100.0%</b> | <b>0.9</b> | <b>146</b> | <b>2.5</b> |
| <b>St. Louis Region</b>     |            |               |            |           |               |            |            |            |
| White                       | 20         | 28.2%         | 2.6        | 1         | 16.7%         | 0.1        | 21         | 1.3        |
| Black                       | 48         | 67.6%         | 25.9       | 5         | 83.3%         | 2.3        | 53         | 13.0       |
| Other/Unknown*              | 3          | 4.2%          | --         | 0         | 0.0%          | --         | 3          | --         |
| <b>Total Cases</b>          | <b>71</b>  | <b>100.0%</b> | <b>7.0</b> | <b>6</b>  | <b>100.0%</b> | <b>0.6</b> | <b>77</b>  | <b>3.7</b> |
| <b>Kansas City Region</b>   |            |               |            |           |               |            |            |            |
| White                       | 8          | 26.7%         | 1.7        | 4         | 30.8%         | 0.8        | 12         | 1.3        |
| Black                       | 18         | 60.0%         | 22.9       | 6         | 46.2%         | 6.6        | 24         | 14.1       |
| Other/Unknown*              | 4          | 13.3%         | --         | 3         | 23.1%         | --         | 7          | --         |
| <b>Total Cases</b>          | <b>30</b>  | <b>100.0%</b> | <b>5.0</b> | <b>13</b> | <b>100.0%</b> | <b>2.1</b> | <b>43</b>  | <b>3.5</b> |
| <b>Northwest Region</b>     |            |               |            |           |               |            |            |            |
| White                       | 3          | 100.0%        | 2.7        | 0         | --            | 0.0        | 3          | 1.3        |
| Black                       | 0          | 0.0%          | 0.0        | 0         | --            | 0.0        | 0          | 0.0        |
| Other/Unknown*              | 0          | 0.0%          | --         | 0         | --            | --         | 0          | --         |
| <b>Total Cases</b>          | <b>3</b>   | <b>100.0%</b> | <b>2.5</b> | <b>0</b>  | <b>--</b>     | <b>0.0</b> | <b>3</b>   | <b>1.2</b> |
| <b>North Central Region</b> |            |               |            |           |               |            |            |            |
| White                       | 3          | 100.0%        | 0.9        | 0         | --            | 0.0        | 3          | 0.5        |
| Black                       | 0          | 0.0%          | 0.0        | 0         | --            | 0.0        | 0          | 0.0        |
| Other/Unknown*              | 0          | 0.0%          | --         | 0         | --            | --         | 0          | --         |
| <b>Total Cases</b>          | <b>3</b>   | <b>100.0%</b> | <b>0.8</b> | <b>0</b>  | <b>--</b>     | <b>0.0</b> | <b>3</b>   | <b>0.4</b> |
| <b>Southwest Region</b>     |            |               |            |           |               |            |            |            |
| White                       | 11         | 84.6%         | 2.2        | 6         | 100.0%        | 1.2        | 17         | 1.7        |
| Black                       | 1          | 7.7%          | 9.0        | 0         | 0.0%          | 0.0        | 1          | 5.0        |
| Other/Unknown*              | 1          | 7.7%          | --         | 0         | 0.0%          | --         | 1          | --         |
| <b>Total Cases</b>          | <b>13</b>  | <b>100.0%</b> | <b>2.4</b> | <b>6</b>  | <b>100.0%</b> | <b>1.1</b> | <b>19</b>  | <b>1.7</b> |
| <b>Southeast Region</b>     |            |               |            |           |               |            |            |            |
| White                       | 0          | --            | 0.0        | 1         | 100.0%        | 0.4        | 1          | 0.2        |
| Black                       | 0          | --            | 0.0        | 0         | 0.0%          | 0.0        | 0          | 0.0        |
| Other/Unknown*              | 0          | --            | --         | 0         | 0.0%          | --         | 0          | --         |
| <b>Total Cases</b>          | <b>0</b>   | <b>--</b>     | <b>0.0</b> | <b>1</b>  | <b>100.0%</b> | <b>0.4</b> | <b>1</b>   | <b>0.2</b> |

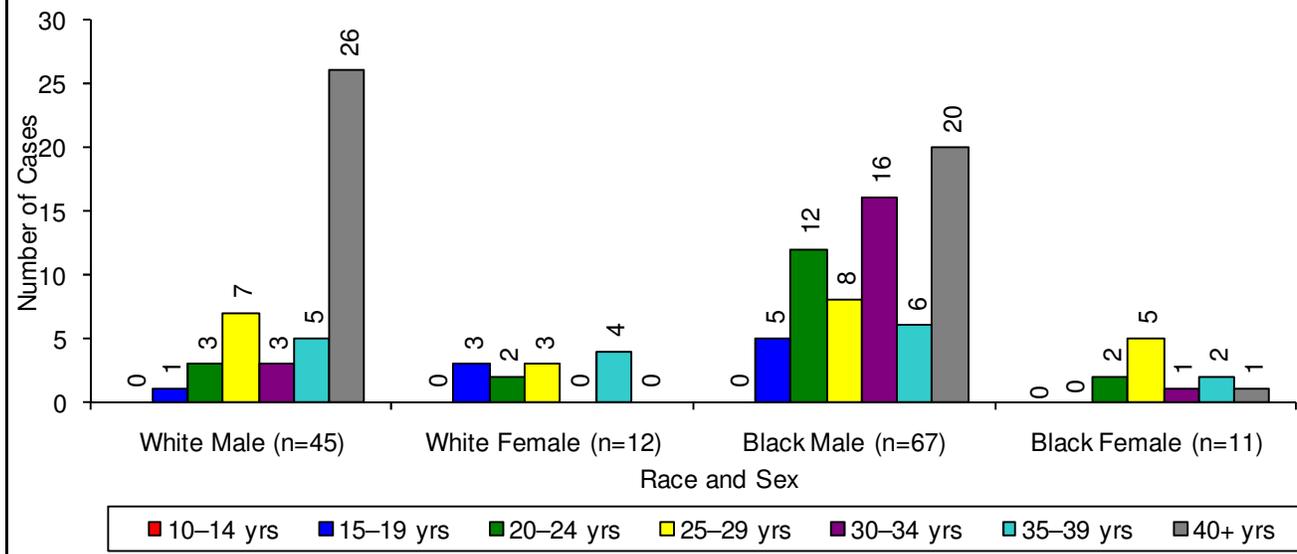
\*Includes cases identified with Hispanic ethnicity.

\*\*Per 100,000 population based on 2008 MDHSS population estimates.

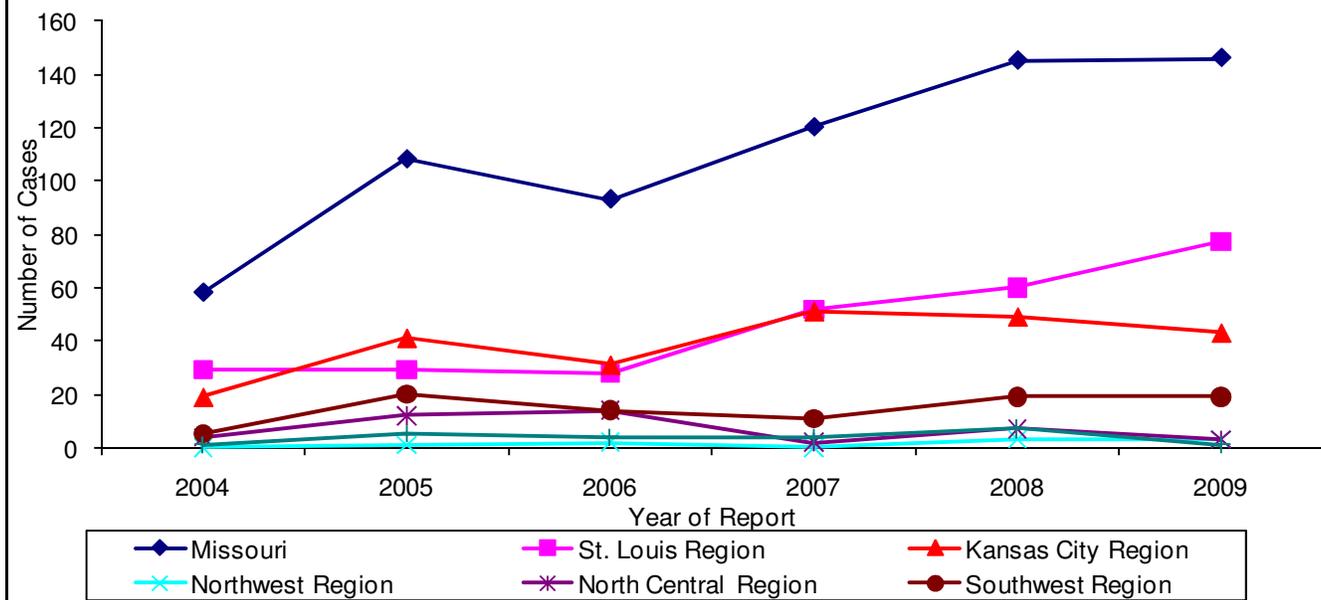
There were a total of 146 early latent syphilis cases reported in 2009, compared to 145 cases reported in 2008 (Table 29). The majority of cases (82%) were reported among males. Males represented a smaller proportion of the reported cases in the Kansas City HIV region (70%) than in the St. Louis HIV region (92%). The rate of early latent syphilis cases among all cases was highest in the St. Louis HIV region (3.7), followed by the Kansas City HIV region (3.5). Fifty-three percent of all early latent syphilis 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 early latent syphilis cases reported. The rate of reported early latent syphilis cases was higher for blacks compared to whites in all regions that reported cases among blacks.



**Figure 34. Reported early latent syphilis cases, by race and sex, by age group at diagnosis, Missouri, 2009**



**Figure 35. Reported early latent syphilis cases by geographic region and year of report, Missouri, 2004-2009**



The largest numbers of early latent syphilis cases were reported among black males (67) and white males (45) (Figure 34). The number of reported cases increased from 2008 to 2009 among black males (47 to 67), and decreased among all other race/ethnicity and sex categories presented. Among both white and black males, the largest number of cases was reported among individuals 40 or more years of age at the time of diagnosis. Among black females, the largest number of cases was between 25-29 years of age. The distribution of reported early latent syphilis cases by age at diagnosis was more evenly distributed among white females.

The number of reported early latent syphilis cases in Missouri generally increased from 2004 to 2009, with a slight decrease observed in 2006 (Figure 35). Similar trends were observed in the St. Louis HIV region. The number of reported early latent syphilis cases generally increased from 2004 to 2007 in the Kansas City and region, and then decreased through 2009. In the remaining HIV regions, the number of reported early latent syphilis cases fluctuated slightly between 2004 and 2009.

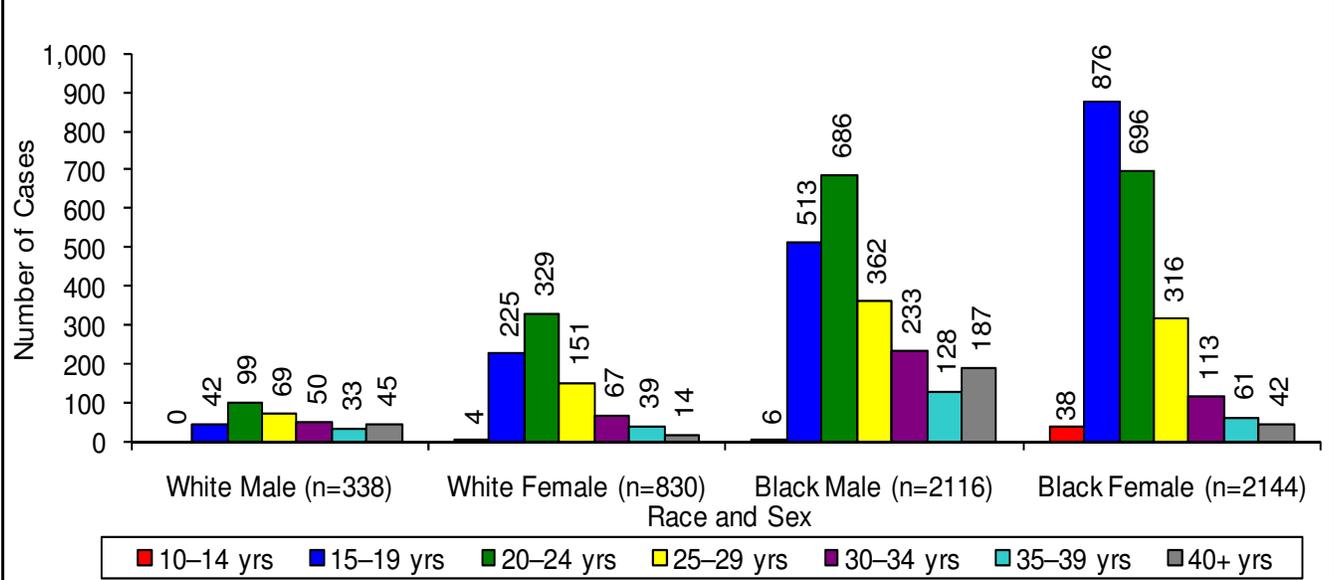
|                             | Male         |               |              | Female       |               |              | Total        |              |
|-----------------------------|--------------|---------------|--------------|--------------|---------------|--------------|--------------|--------------|
|                             | Cases        | %             | Rate**       | Cases        | %             | Rate**       | Cases        | Rate**       |
| <b>Missouri</b>             |              |               |              |              |               |              |              |              |
| White                       | 338          | 11.6%         | 14.2         | 830          | 23.2%         | 33.5         | 1,168        | 24.1         |
| Black                       | 2,116        | 72.9%         | 672.7        | 2,144        | 59.8%         | 602.9        | 4,260        | 635.6        |
| Other/Unknown*              | 449          | 15.5%         | --           | 611          | 17.0%         | --           | 1,060        | --           |
| <b>Total Cases</b>          | <b>2,903</b> | <b>100.0%</b> | <b>100.5</b> | <b>3,585</b> | <b>100.0%</b> | <b>118.6</b> | <b>6,488</b> | <b>109.8</b> |
| <b>St. Louis Region</b>     |              |               |              |              |               |              |              |              |
| White                       | 79           | 5.8%          | 10.3         | 92           | 6.6%          | 11.5         | 171          | 10.9         |
| Black                       | 996          | 73.3%         | 538.3        | 987          | 70.4%         | 445.3        | 1,983        | 487.6        |
| Other/Unknown*              | 283          | 20.8%         | --           | 322          | 23.0%         | --           | 605          | --           |
| <b>Total Cases</b>          | <b>1,358</b> | <b>100.0%</b> | <b>134.0</b> | <b>1,401</b> | <b>100.0%</b> | <b>129.1</b> | <b>2,759</b> | <b>131.5</b> |
| <b>Kansas City Region</b>   |              |               |              |              |               |              |              |              |
| White                       | 113          | 10.4%         | 24.4         | 282          | 20.7%         | 58.4         | 395          | 41.8         |
| Black                       | 872          | 80.1%         | 1107.9       | 934          | 68.6%         | 1024.3       | 1,806        | 1063.0       |
| Other/Unknown*              | 104          | 9.6%          | --           | 146          | 10.7%         | --           | 250          | --           |
| <b>Total Cases</b>          | <b>1,089</b> | <b>100.0%</b> | <b>180.8</b> | <b>1,362</b> | <b>100.0%</b> | <b>215.5</b> | <b>2,451</b> | <b>198.6</b> |
| <b>Northwest Region</b>     |              |               |              |              |               |              |              |              |
| White                       | 12           | 32.4%         | 10.7         | 38           | 70.4%         | 33.0         | 50           | 22.0         |
| Black                       | 21           | 56.8%         | 457.4        | 9            | 16.7%         | 352.3        | 30           | 419.8        |
| Other/Unknown*              | 4            | 10.8%         | --           | 7            | 13.0%         | --           | 11           | --           |
| <b>Total Cases</b>          | <b>37</b>    | <b>100.0%</b> | <b>30.4</b>  | <b>54</b>    | <b>100.0%</b> | <b>44.0</b>  | <b>91</b>    | <b>37.2</b>  |
| <b>North Central Region</b> |              |               |              |              |               |              |              |              |
| White                       | 29           | 24.0%         | 8.9          | 138          | 52.3%         | 40.8         | 167          | 25.2         |
| Black                       | 79           | 65.3%         | 377.3        | 96           | 36.4%         | 544.2        | 175          | 453.6        |
| Other/Unknown*              | 13           | 10.7%         | --           | 30           | 11.4%         | --           | 43           | --           |
| <b>Total Cases</b>          | <b>121</b>   | <b>100.0%</b> | <b>33.0</b>  | <b>264</b>   | <b>100.0%</b> | <b>70.6</b>  | <b>385</b>   | <b>52.0</b>  |
| <b>Southwest Region</b>     |              |               |              |              |               |              |              |              |
| White                       | 82           | 44.8%         | 16.6         | 215          | 66.2%         | 41.6         | 297          | 29.4         |
| Black                       | 76           | 41.5%         | 680.2        | 39           | 12.0%         | 451.7        | 115          | 580.6        |
| Other/Unknown*              | 25           | 13.7%         | --           | 71           | 21.8%         | --           | 96           | --           |
| <b>Total Cases</b>          | <b>183</b>   | <b>100.0%</b> | <b>33.6</b>  | <b>325</b>   | <b>100.0%</b> | <b>57.7</b>  | <b>508</b>   | <b>45.9</b>  |
| <b>Southeast Region</b>     |              |               |              |              |               |              |              |              |
| White                       | 23           | 20.0%         | 10.7         | 65           | 36.3%         | 28.9         | 88           | 20.0         |
| Black                       | 72           | 62.6%         | 509.1        | 79           | 44.1%         | 565.9        | 151          | 537.3        |
| Other/Unknown*              | 20           | 17.4%         | --           | 35           | 19.6%         | --           | 55           | --           |
| <b>Total Cases</b>          | <b>115</b>   | <b>100.0%</b> | <b>48.1</b>  | <b>179</b>   | <b>100.0%</b> | <b>72.3</b>  | <b>294</b>   | <b>60.4</b>  |

\*Includes cases identified with Hispanic ethnicity.  
\*\*Per 100,000 population based on 2008 MDHSS population estimates.

There were a total of 6,488 gonorrhea cases reported in 2009 (Table 30). This represented a 19% decrease in the number of reported cases compared to 2008. The decrease observed may be due to the increased use of injectable antibiotics in recent years, which ensures patients receive treatment. The change to a new class of antibiotics, to which gonorrhea is not known to be resistant, may also explain the observed decrease. The majority of cases (55%) 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 (51%), followed by the Kansas City (56%), Northwest (59%), Southeast (61%), Southwest (64%) and North Central (69%) HIV regions. The rate of gonorrhea cases among females was highest in the Kansas City HIV region (215.5), followed by the St. Louis HIV region (129.1). Forty-three percent of all gonorrhea cases were reported in the St. Louis HIV region and 38% 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 compared to whites in all regions.

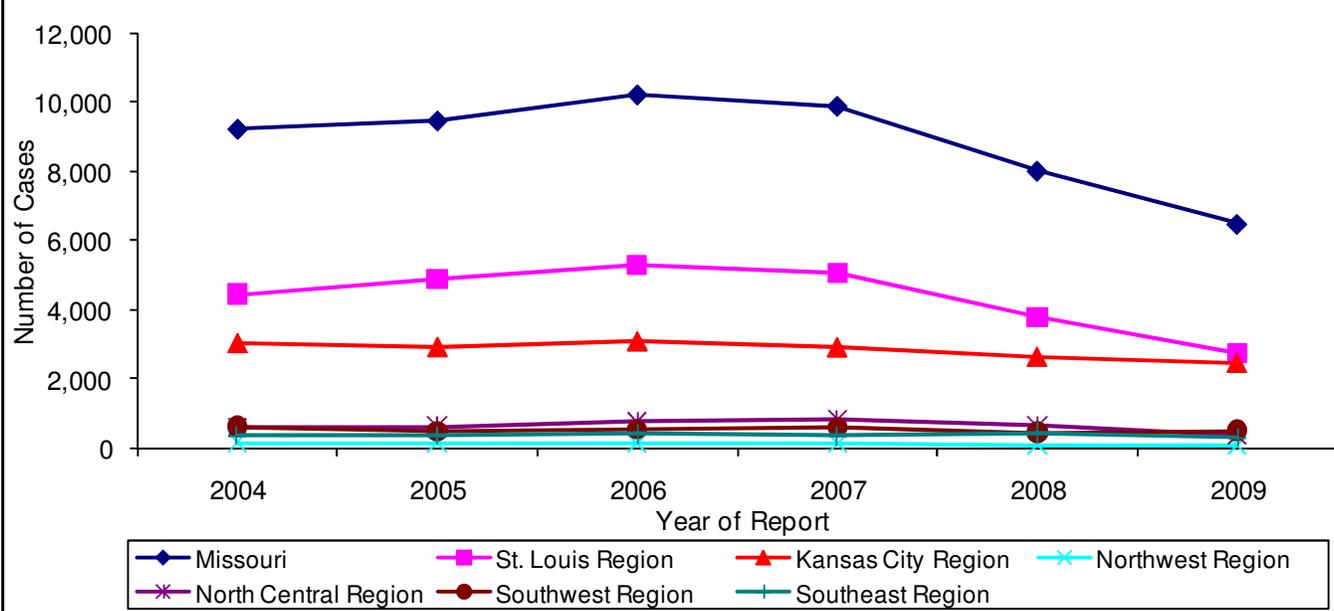


**Figure 37. Reported gonorrhea cases, by race and sex, by age group at diagnosis, Missouri, 2009**



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

**Figure 38. Reported gonorrhea cases by geographic region and year of report, Missouri, 2004-2009**



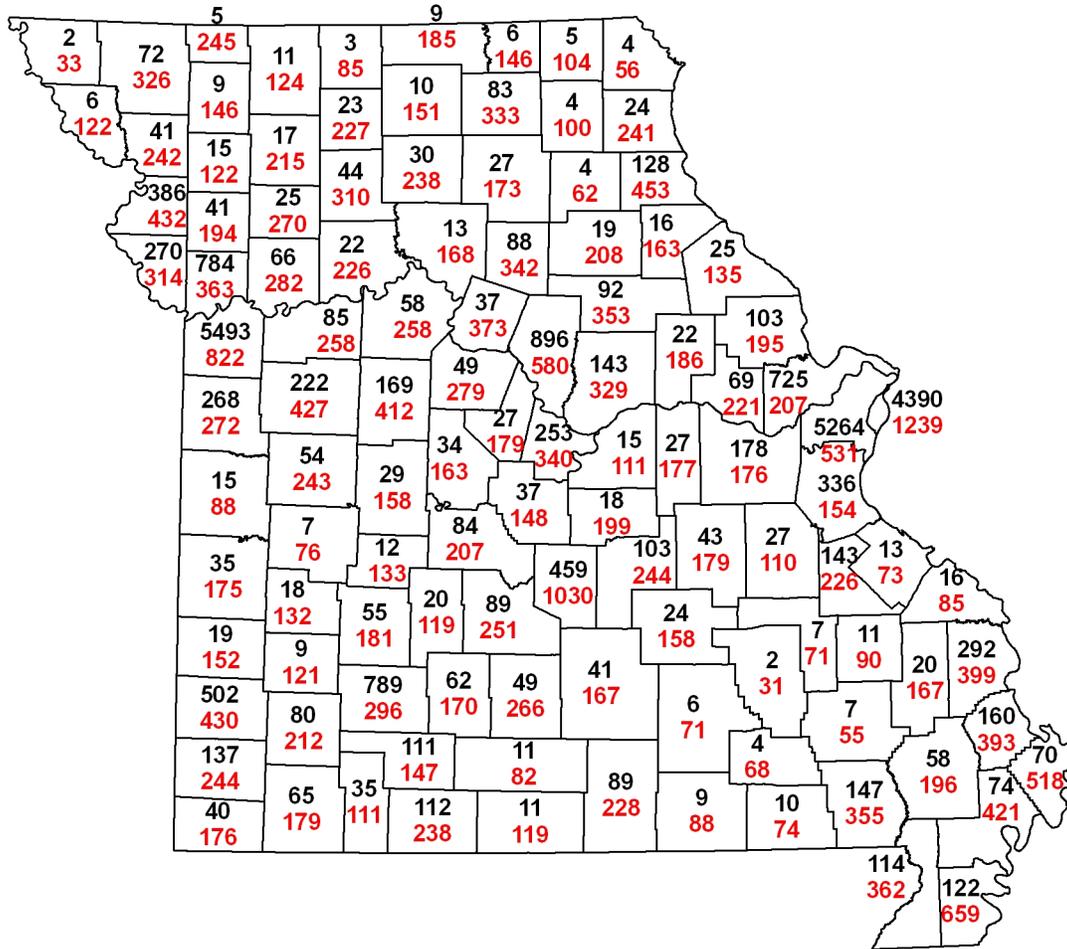
The largest numbers of gonorrhea cases were reported among black females (2,144) and black males (2,116) (Figure 37). The number of reported cases decreased from 2008 to 2009 among all race/ethnicity and sex categories presented. Among white and black males and white females, the largest number of cases was reported among individuals 20-24 years of age at the time of diagnosis. Among black females, the largest number of cases was reported among 15-19 year olds, and was followed by 20-24 year olds. A greater proportion of gonorrhea cases among white males was diagnosed among individuals 40 or more years of age (13%) compared to the other race/ethnicity and sex categories presented.

The number of reported gonorrhea cases in Missouri increased from 2004 to 2006 and then decreased through 2009 (Figure 38). The decrease observed may be due to the increased use of injectable antibiotics in recent years, which ensures patients receive treatment. The change to a new class of antibiotics, to which gonorrhea is not known to be resistant, may also explain the observed decrease. The number of reported gonorrhea cases was lower in 2009 compared to 2004 in all HIV regions. In the Southwest HIV region the number of reported gonorrhea cases increased from 454 in 2008 to 508 in 2009. In the Northwest HIV region the number of reported gonorrhea cases increased from 66 to 91 between 2008 and 2009. In all other HIV regions the number of reported gonorrhea cases decreased from 2008 to 2009.

|  | Male         |               |              | Female        |               |              | Total         |              |
|--|--------------|---------------|--------------|---------------|---------------|--------------|---------------|--------------|
|  | Cases        | %             | Rate**       | Cases         | %             | Rate**       | Cases         | Rate**       |
| <b>Missouri</b>  |              |               |              |               |               |              |               |              |
| White  | 1,559        | 22.1%         | 65.6         | 5,834         | 31.0%         | 235.4        | 7,393         | 152.3        |
| Black  | 3,847        | 54.6%         | 1222.9       | 7,715         | 41.0%         | 2169.5       | 11,562        | 1725.2       |
| Other/Unknown*   | 1,637        | 23.2%         | --           | 5,276         | 28.0%         | --           | 6,913         | --           |
| <b>Total Cases</b>   | <b>7,043</b> | <b>100.0%</b> | <b>243.9</b> | <b>18,825</b> | <b>100.0%</b> | <b>622.6</b> | <b>25,868</b> | <b>437.6</b> |
| <b>St. Louis Region</b>  |              |               |              |               |               |              |               |              |
| White  | 364          | 11.3%         | 47.5         | 975           | 12.4%         | 121.8        | 1,339         | 85.5         |
| Black  | 2,049        | 63.7%         | 1107.5       | 4,284         | 54.6%         | 1932.8       | 6,333         | 1557.3       |
| Other/Unknown*   | 802          | 24.9%         | --           | 2,591         | 33.0%         | --           | 3,393         | --           |
| <b>Total Cases</b>   | <b>3,215</b> | <b>100.0%</b> | <b>317.3</b> | <b>7,850</b>  | <b>100.0%</b> | <b>723.6</b> | <b>11,065</b> | <b>527.4</b> |
| <b>Kansas City Region</b>  |              |               |              |               |               |              |               |              |
| White  | 373          | 17.8%         | 80.5         | 1,390         | 26.8%         | 288.0        | 1,763         | 186.4        |
| Black  | 1,290        | 61.6%         | 1639.0       | 2,513         | 48.4%         | 2755.9       | 3,803         | 2238.5       |
| Other/Unknown*   | 432          | 20.6%         | --           | 1,288         | 24.8%         | --           | 1,720         | --           |
| <b>Total Cases</b>   | <b>2,095</b> | <b>100.0%</b> | <b>347.7</b> | <b>5,191</b>  | <b>100.0%</b> | <b>821.4</b> | <b>7,286</b>  | <b>590.2</b> |
| <b>Northwest Region</b>  |              |               |              |               |               |              |               |              |
| White  | 96           | 57.5%         | 85.7         | 383           | 69.0%         | 332.6        | 479           | 210.9        |
| Black  | 35           | 21.0%         | 762.4        | 50            | 9.0%          | 1956.9       | 85            | 1189.5       |
| Other/Unknown*   | 36           | 21.6%         | --           | 122           | 22.0%         | --           | 158           | --           |
| <b>Total Cases</b>   | <b>167</b>   | <b>100.0%</b> | <b>137.0</b> | <b>555</b>    | <b>100.0%</b> | <b>452.6</b> | <b>722</b>    | <b>295.3</b> |
| <b>North Central Region</b>  |              |               |              |               |               |              |               |              |
| White  | 238          | 40.0%         | 73.1         | 1,073         | 57.7%         | 317.4        | 1,311         | 197.5        |
| Black  | 240          | 40.3%         | 1146.4       | 435           | 23.4%         | 2465.8       | 675           | 1749.7       |
| Other/Unknown*   | 117          | 19.7%         | --           | 353           | 19.0%         | --           | 470           | --           |
| <b>Total Cases</b>   | <b>595</b>   | <b>100.0%</b> | <b>162.3</b> | <b>1,861</b>  | <b>100.0%</b> | <b>497.7</b> | <b>2,456</b>  | <b>331.6</b> |
| <b>Southwest Region</b>  |              |               |              |               |               |              |               |              |
| White  | 373          | 56.2%         | 75.4         | 1,514         | 64.8%         | 292.8        | 1,887         | 186.5        |
| Black  | 106          | 16.0%         | 948.7        | 154           | 6.6%          | 1783.6       | 260           | 1312.7       |
| Other/Unknown*   | 185          | 27.9%         | --           | 667           | 28.6%         | --           | 852           | --           |
| <b>Total Cases</b>   | <b>664</b>   | <b>100.0%</b> | <b>122.0</b> | <b>2,335</b>  | <b>100.0%</b> | <b>414.9</b> | <b>2,999</b>  | <b>270.9</b> |
| <b>Southeast Region</b>  |              |               |              |               |               |              |               |              |
| White  | 115          | 37.5%         | 53.3         | 499           | 48.3%         | 221.6        | 614           | 139.2        |
| Black  | 127          | 41.4%         | 898.0        | 279           | 27.0%         | 1998.4       | 406           | 1444.6       |
| Other/Unknown*   | 65           | 21.2%         | --           | 255           | 24.7%         | --           | 320           | --           |
| <b>Total Cases</b>   | <b>307</b>   | <b>100.0%</b> | <b>128.4</b> | <b>1,033</b>  | <b>100.0%</b> | <b>417.2</b> | <b>1,340</b>  | <b>275.3</b> |
| *Includes cases identified with Hispanic ethnicity.                |              |               |              |               |               |              |               |              |
| **Per 100,000 population based on 2008 MDHSS population estimates. |              |               |              |               |               |              |               |              |

There were a total of 25,868 chlamydia cases reported in 2009 (Table 31). The majority of cases (73%) were reported among females. The proportion of chlamydia cases reported among females varied by HIV region. The Southwest HIV region reported the highest proportion of female cases (78%), followed by the Northwest and Southeast (77%), North Central (76%), and Kansas City and St. Louis (71%) HIV regions. The rate of chlamydia cases among females was highest in the Kansas City HIV region (821.4), followed by the St. Louis HIV region (723.6). Forty-three percent of all chlamydia cases were reported in the St. Louis HIV region and 28% 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 compared to whites in all regions.

Figure 39. Reported chlamydia cases\* and rates\*\*, by county, Missouri, 2009

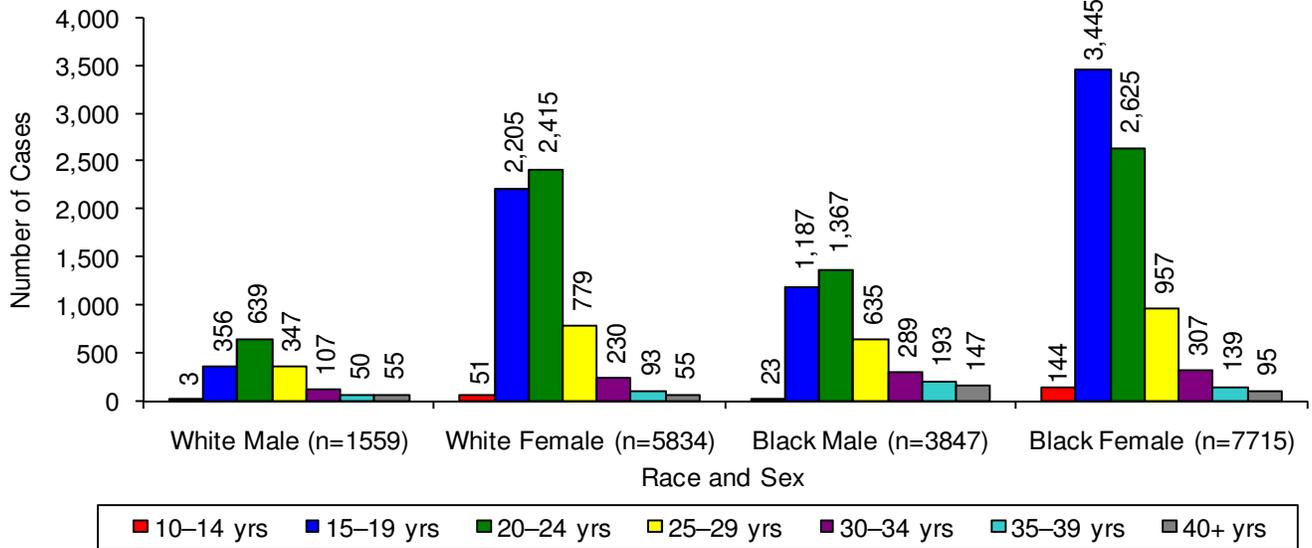


\*Case counts are in black.

\*\*Case rates are in red, per 100,000 population based on 2008 MDHSS population estimates.

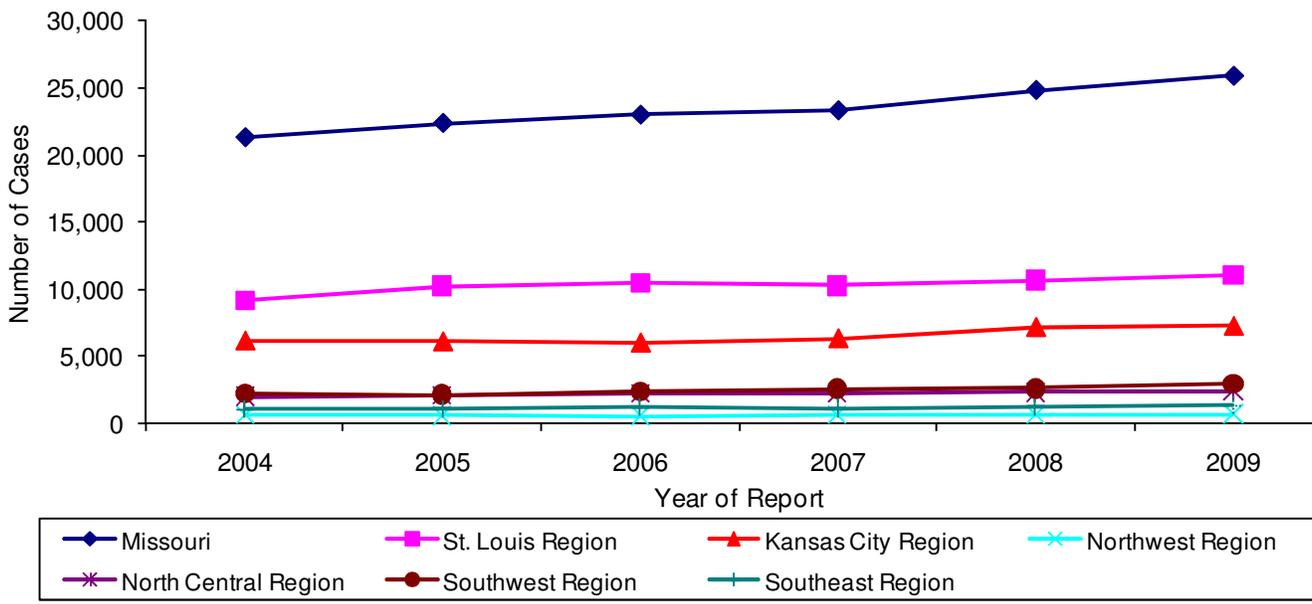
Chlamydia cases reported in St. Louis City, St. Louis County, and Jackson County represented 59% of all reported cases in 2009 (Figure 39), although these areas represent only 34% of Missouri’s general population. All counties reported at least two chlamydia cases in 2009. St. Louis City had the highest rate of reported chlamydia cases at 1,239 per 100,000 persons. This means that for every 100,000 persons living in St. Louis City, there were 1,239 reported with chlamydia in 2009.

**Figure 40. Reported chlamydia cases, by race and sex, by age group at diagnosis, Missouri, 2009**



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

**Figure 41. Reported chlamydia cases by geographic region and year of report, Missouri, 2004-2009**



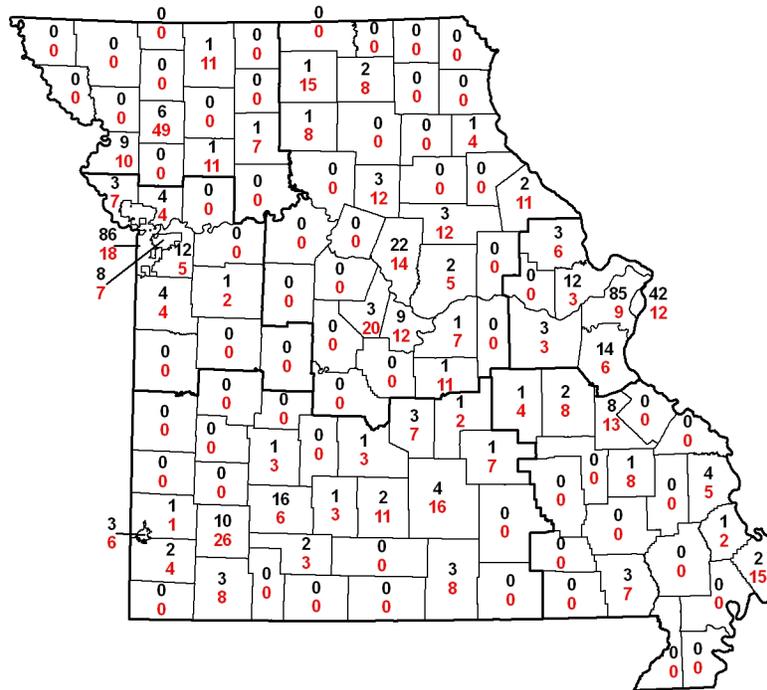
The largest numbers of chlamydia cases were reported among black females (7,715) and white females (5,834) (Figure 40). The number of reported cases increased from 2008 to 2009 among all race/ethnicity and sex categories presented. The number of cases increased from 1,357 to 1,559 among white males, from 5,593 to 5,834 among white females, from 3,801 to 3,847 among black males, and from 7,272 to 7,715 among black females. Among white and black 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 females, the largest number of cases was reported among 15-19 year olds.

The number of reported chlamydia cases in Missouri increased from 2004 to 2009 (Figure 41). Similar trends were observed for all HIV regions.

|   | Male       |               |            | Female     |               |             | Total      |            |
|---|------------|---------------|------------|------------|---------------|-------------|------------|------------|
|   | Cases      | %             | Rate**     | Cases      | %             | Rate**      | Cases      | Rate**     |
| <b>Missouri</b>   |            |               |            |            |               |             |            |            |
| White   | 52         | 31.1%         | 2.2        | 41         | 16.1%         | 1.7         | 93         | 1.9        |
| Black   | 21         | 12.6%         | 6.7        | 47         | 18.4%         | 13.2        | 68         | 10.1       |
| Other/Unknown*  | 94         | 56.3%         | --         | 167        | 65.5%         | --          | 261        | --         |
| <b>Total Cases***</b>   | <b>167</b> | <b>100.0%</b> | <b>5.8</b> | <b>255</b> | <b>100.0%</b> | <b>8.4</b>  | <b>422</b> | <b>7.1</b> |
| <b>St. Louis Region</b>   |            |               |            |            |               |             |            |            |
| White   | 15         | 22.7%         | 2.0        | 9          | 9.7%          | 1.1         | 24         | 1.5        |
| Black   | 7          | 10.6%         | 3.8        | 20         | 21.5%         | 9.0         | 27         | 6.6        |
| Other/Unknown*  | 44         | 66.7%         | --         | 64         | 68.8%         | --          | 108        | --         |
| <b>Total Cases</b>  | <b>66</b>  | <b>100.0%</b> | <b>6.5</b> | <b>93</b>  | <b>100.0%</b> | <b>8.6</b>  | <b>159</b> | <b>7.6</b> |
| <b>Kansas City Region</b>   |            |               |            |            |               |             |            |            |
| White   | 9          | 25.7%         | 1.9        | 13         | 15.7%         | 2.7         | 22         | 2.3        |
| Black   | 9          | 25.7%         | 11.4       | 18         | 21.7%         | 19.7        | 27         | 15.9       |
| Other/Unknown*  | 17         | 48.6%         | --         | 52         | 62.7%         | --          | 69         | --         |
| <b>Total Cases</b>  | <b>35</b>  | <b>100.0%</b> | <b>5.8</b> | <b>83</b>  | <b>100.0%</b> | <b>13.1</b> | <b>118</b> | <b>9.6</b> |
| <b>Northwest Region</b>   |            |               |            |            |               |             |            |            |
| White   | 4          | 33.3%         | 3.6        | 1          | 16.7%         | 0.9         | 5          | 2.2        |
| Black   | 0          | 0.0%          | 0.0        | 0          | 0.0%          | 0.0         | 0          | 0.0        |
| Other/Unknown*  | 8          | 66.7%         | --         | 5          | 83.3%         | --          | 13         | --         |
| <b>Total Cases</b>  | <b>12</b>  | <b>100.0%</b> | <b>9.8</b> | <b>6</b>   | <b>100.0%</b> | <b>4.9</b>  | <b>18</b>  | <b>7.4</b> |
| <b>North Central Region</b>   |            |               |            |            |               |             |            |            |
| White   | 4          | 20.0%         | 1.2        | 2          | 6.5%          | 0.6         | 6          | 0.9        |
| Black   | 3          | 15.0%         | 14.3       | 8          | 25.8%         | 45.3        | 11         | 28.5       |
| Other/Unknown*  | 13         | 65.0%         | --         | 21         | 67.7%         | --          | 34         | --         |
| <b>Total Cases</b>  | <b>20</b>  | <b>100.0%</b> | <b>5.5</b> | <b>31</b>  | <b>100.0%</b> | <b>8.3</b>  | <b>51</b>  | <b>6.9</b> |
| <b>Southwest Region</b>   |            |               |            |            |               |             |            |            |
| White   | 15         | 71.4%         | 3.0        | 13         | 39.4%         | 2.5         | 28         | 2.8        |
| Black   | 1          | 4.8%          | 9.0        | 0          | 0.0%          | 0.0         | 1          | 5.0        |
| Other/Unknown*  | 5          | 23.8%         | --         | 20         | 60.6%         | --          | 25         | --         |
| <b>Total Cases</b>  | <b>21</b>  | <b>100.0%</b> | <b>3.9</b> | <b>33</b>  | <b>100.0%</b> | <b>5.9</b>  | <b>54</b>  | <b>4.9</b> |
| <b>Southeast Region</b>   |            |               |            |            |               |             |            |            |
| White   | 5          | 38.5%         | 2.3        | 3          | 33.3%         | 1.3         | 8          | 1.8        |
| Black   | 1          | 7.7%          | 7.1        | 1          | 11.1%         | 7.2         | 2          | 7.1        |
| Other/Unknown*  | 7          | 53.8%         | --         | 5          | 55.6%         | --          | 12         | --         |
| <b>Total Cases</b>  | <b>13</b>  | <b>100.0%</b> | <b>5.4</b> | <b>9</b>   | <b>100.0%</b> | <b>3.6</b>  | <b>22</b>  | <b>4.5</b> |
| <sup>†</sup> Includes confirmed and probable case classifications of Hepatitis B Acute, Hepatitis B Chronic, and Hepatitis B Prenatal.<br>*Includes cases identified with Hispanic ethnicity.<br>**Per 100,000 population based on 2008 MDHSS population estimates.<br>***One additional Hepatitis B prenatal case was reported to CDC, but was later determined not to meet residency requirements. Therefore the Hepatitis B total published in this document will not match the total reported by CDC. |            |               |            |            |               |             |            |            |

Of the 422 Hepatitis B cases reported in 2009, 47 were reported with acute Hepatitis B, 239 with chronic Hepatitis B, and 136 with prenatal Hepatitis B. The number of reported Hepatitis B cases in Missouri decreased by 88 cases from 2008 (510) to 2009 (422) (Table 32). The decrease observed was likely attributed, at least in part, to expanded data quality initiatives in 2009. The number of persons reported with Hepatitis B decreased from 2008 to 2009 in all HIV regions. Overall, the rate of reported Hepatitis B cases was highest in the Kansas City HIV region (9.6 per 100,000). Overall, 60% 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.

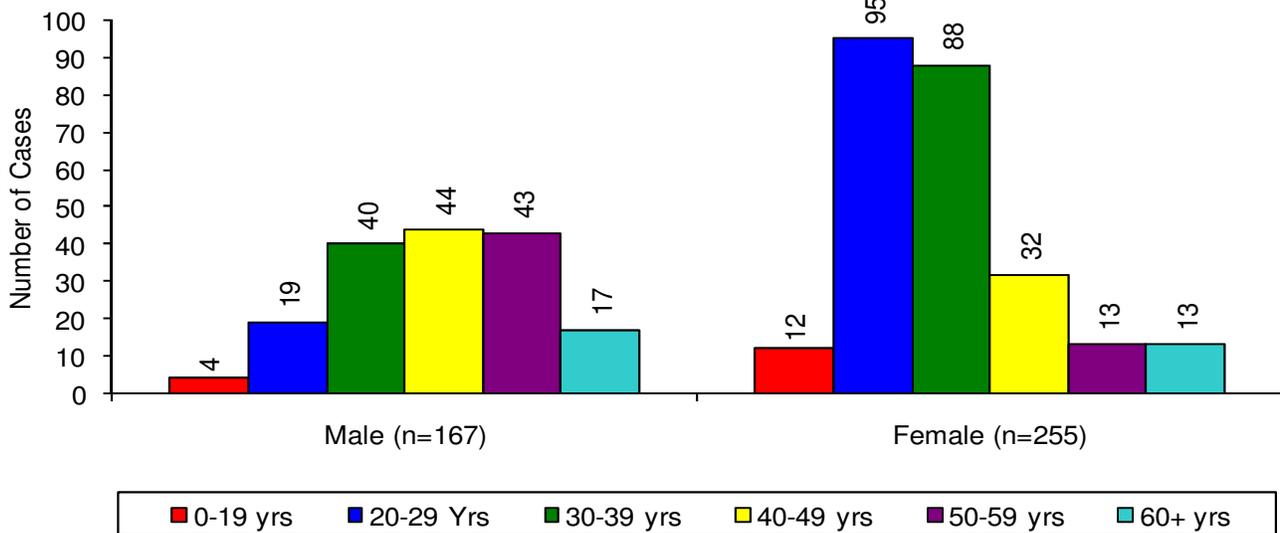
**Figure 42. Reported Hepatitis B cases\* and rates\*\*, by jurisdiction, Missouri, 2009**



\*Case counts are in black.

\*\*Case rates are in red, per 100,000 population based on 2008 MDHSS population estimates.

**Figure 43. Reported Hepatitis B cases, by sex and by age group at diagnosis, Missouri, 2009**



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

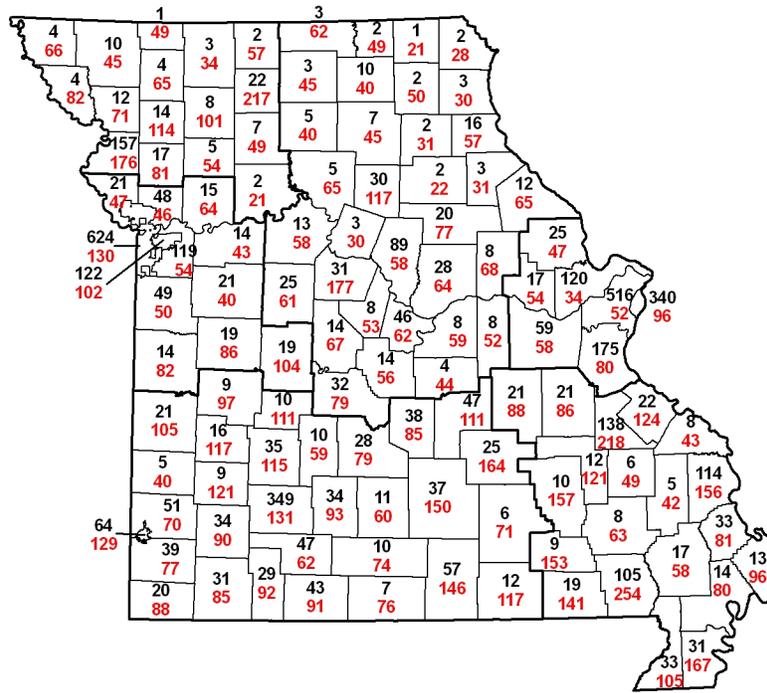
Kansas City had the greatest number of reported Hepatitis B cases (86), followed by St. Louis County (85) (Figure 42). There were 63 jurisdictions that did not report any Hepatitis B cases in 2009.

There were differences in the age distribution of reported Hepatitis B cases by sex (Figure 43). Among males, the largest numbers of reported cases were between 40-49 years of age. The largest numbers of cases were 20-29 years of age at diagnosis among females.

|  | Male         |               |              | Female       |               |             | Total <sup>‡</sup> |              |
|--|--------------|---------------|--------------|--------------|---------------|-------------|--------------------|--------------|
|  | Cases        | %             | Rate**       | Cases        | %             | Rate**      | Cases              | Rate**       |
| <b>Missouri</b>  |              |               |              |              |               |             |                    |              |
| White  | 1,132        | 37.6%         | 47.6         | 798          | 43.7%         | 32.2        | 1,930              | 39.7         |
| Black  | 263          | 8.7%          | 83.6         | 119          | 6.5%          | 33.5        | 382                | 57.0         |
| Other/Unknown*   | 1,619        | 53.7%         | --           | 910          | 49.8%         | --          | 2,529              | --           |
| <b>Total Cases</b>   | <b>3,014</b> | <b>100.0%</b> | <b>104.4</b> | <b>1,827</b> | <b>100.0%</b> | <b>60.4</b> | <b>4,841</b>       | <b>81.9</b>  |
| <b>St. Louis Region</b>  |              |               |              |              |               |             |                    |              |
| White  | 166          | 21.0%         | 21.7         | 114          | 24.7%         | 14.2        | 280                | 17.9         |
| Black  | 113          | 14.3%         | 61.1         | 52           | 11.3%         | 23.5        | 165                | 40.6         |
| Other/Unknown*   | 512          | 64.7%         | --           | 295          | 64.0%         | --          | 807                | --           |
| <b>Total Cases</b>   | <b>791</b>   | <b>100.0%</b> | <b>78.1</b>  | <b>461</b>   | <b>100.0%</b> | <b>42.5</b> | <b>1,252</b>       | <b>59.7</b>  |
| <b>Kansas City Region</b>  |              |               |              |              |               |             |                    |              |
| White  | 222          | 31.2%         | 47.9         | 111          | 29.7%         | 23.0        | 333                | 35.2         |
| Black  | 97           | 13.6%         | 123.2        | 51           | 13.6%         | 55.9        | 148                | 87.1         |
| Other/Unknown*   | 392          | 55.1%         | --           | 212          | 56.7%         | --          | 604                | --           |
| <b>Total Cases</b>   | <b>711</b>   | <b>100.0%</b> | <b>118.0</b> | <b>374</b>   | <b>100.0%</b> | <b>59.2</b> | <b>1,085</b>       | <b>87.9</b>  |
| <b>Northwest Region</b>  |              |               |              |              |               |             |                    |              |
| White  | 67           | 38.5%         | 59.8         | 52           | 53.1%         | 45.2        | 119                | 52.4         |
| Black  | 7            | 4.0%          | 152.5        | 0            | 0.0%          | 0.0         | 7                  | 98.0         |
| Other/Unknown*   | 100          | 57.5%         | --           | 46           | 46.9%         | --          | 146                | --           |
| <b>Total Cases</b>   | <b>174</b>   | <b>100.0%</b> | <b>142.7</b> | <b>98</b>    | <b>100.0%</b> | <b>79.9</b> | <b>272</b>         | <b>111.2</b> |
| <b>North Central Region</b>  |              |               |              |              |               |             |                    |              |
| White  | 140          | 47.5%         | 43.0         | 106          | 64.6%         | 31.4        | 246                | 37.1         |
| Black  | 25           | 8.5%          | 119.4        | 8            | 4.9%          | 45.3        | 33                 | 85.5         |
| Other/Unknown*   | 130          | 44.1%         | --           | 50           | 30.5%         | --          | 180                | --           |
| <b>Total Cases</b>   | <b>295</b>   | <b>100.0%</b> | <b>80.5</b>  | <b>164</b>   | <b>100.0%</b> | <b>43.9</b> | <b>459</b>         | <b>62.0</b>  |
| <b>Southwest Region</b>  |              |               |              |              |               |             |                    |              |
| White  | 384          | 60.5%         | 77.7         | 320          | 64.1%         | 61.9        | 704                | 69.6         |
| Black  | 10           | 1.6%          | 89.5         | 2            | 0.4%          | 23.2        | 12                 | 60.6         |
| Other/Unknown*   | 241          | 38.0%         | --           | 177          | 35.5%         | --          | 418                | --           |
| <b>Total Cases</b>   | <b>635</b>   | <b>100.0%</b> | <b>116.6</b> | <b>499</b>   | <b>100.0%</b> | <b>88.7</b> | <b>1,134</b>       | <b>102.4</b> |
| <b>Southeast Region</b>  |              |               |              |              |               |             |                    |              |
| White  | 153          | 37.5%         | 70.9         | 95           | 41.1%         | 42.2        | 248                | 56.2         |
| Black  | 11           | 2.7%          | 77.8         | 6            | 2.6%          | 43.0        | 17                 | 60.5         |
| Other/Unknown*   | 244          | 59.8%         | --           | 130          | 56.3%         | --          | 374                | --           |
| <b>Total Cases</b>   | <b>408</b>   | <b>100.0%</b> | <b>170.6</b> | <b>231</b>   | <b>100.0%</b> | <b>93.3</b> | <b>639</b>         | <b>131.3</b> |
| <sup>†</sup> Includes confirmed and probable case classifications of Hepatitis C Acute and Hepatitis C Chronic.<br><sup>*</sup> Includes cases identified with Hispanic ethnicity.<br><sup>‡</sup> Includes persons with unknown or other sex.<br><sup>**</sup> Per 100,000 population based on 2008 MDHSS population estimates.<br><sup>***</sup> Seven additional chronic Hepatitis C cases were reported to CDC, but were later determined not to meet residency requirements. Therefore the Hepatitis C total published in this document will not match the total reported by CDC. |              |               |              |              |               |             |                    |              |

All of the 4,841 Hepatitis C cases reported in 2009 were chronic cases. The number of reported Hepatitis C cases in Missouri decreased by 82 cases from 2008 (4,923) to 2009 (4,841) (Table 33). Among the HIV regions, the number of persons reported with Hepatitis C decreased from 2008 to 2009 in the St. Louis (1,415 to 1,252), Northwest (296 to 272), North Central (498 to 459) and Southwest (1,156 to 1,134) HIV regions, but increased in the Kansas City (999 to 1,085), and Southeast (559 to 639) HIV regions. Overall, the rate of reported Hepatitis C cases was highest in the Northwest HIV region (111.2 per 100,000). In Missouri overall, 62% of the reported cases were males. The large proportion of cases with unknown race/ethnicity information makes it difficult to interpret differences in reported infections by race/ethnicity.

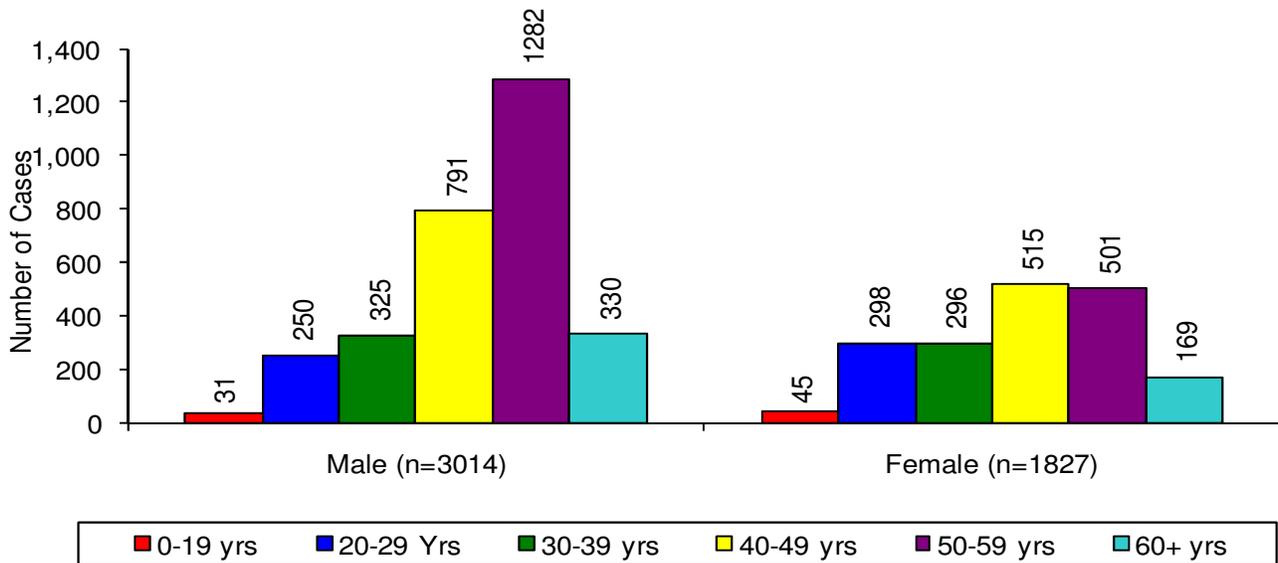
**Figure 44. Reported Hepatitis C cases\* and rates\*\*, by jurisdiction, Missouri, 2009**



\*Case counts are in black.

\*\*Case rates are in red, per 100,000 population based on 2008 MDHSS population estimates.

**Figure 45. Reported Hepatitis C cases, by sex and by age group at diagnosis, Missouri, 2009**



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

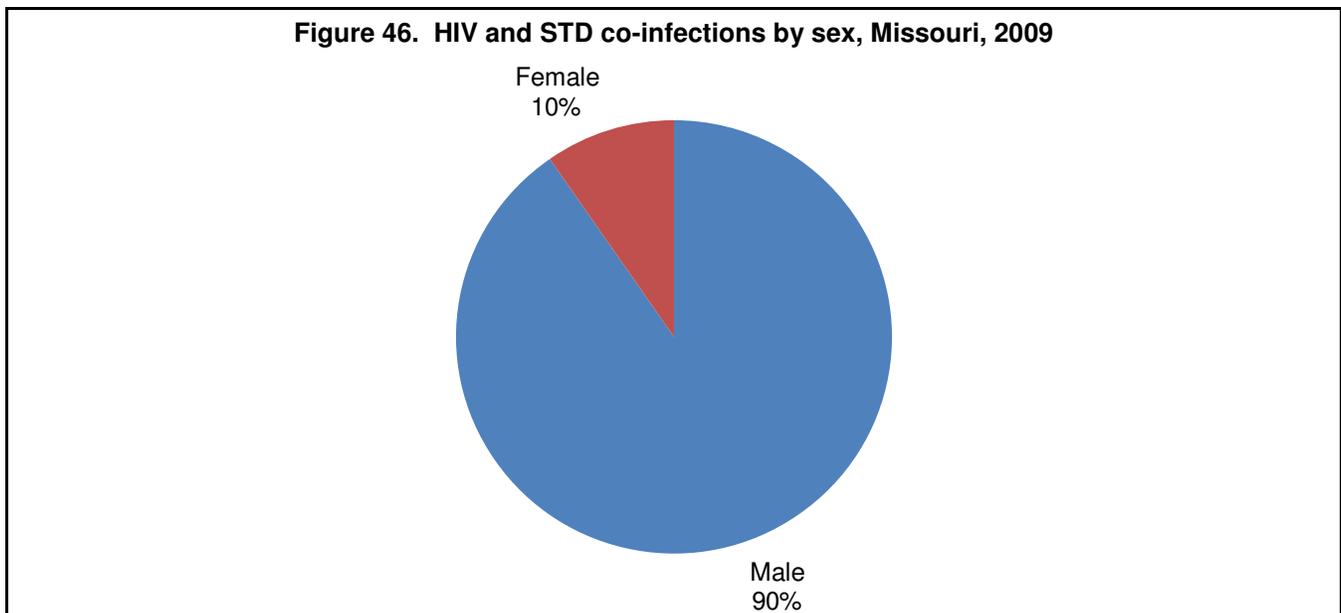
Kansas City had the greatest number of reported Hepatitis C cases with 624 cases (Figure 44). The second largest number of Hepatitis C cases occurred in St. Louis County (516). All jurisdictions reported at least one Hepatitis C case in 2009.

There were differences in the age distribution of reported Hepatitis C cases by sex (Figure 45). Among males, the largest numbers of reported cases were between 50-59 years of age. The largest numbers of cases were 40-49 years of age at diagnosis among females.

**Table 34. HIV and STD co-infections, Missouri, 2009**

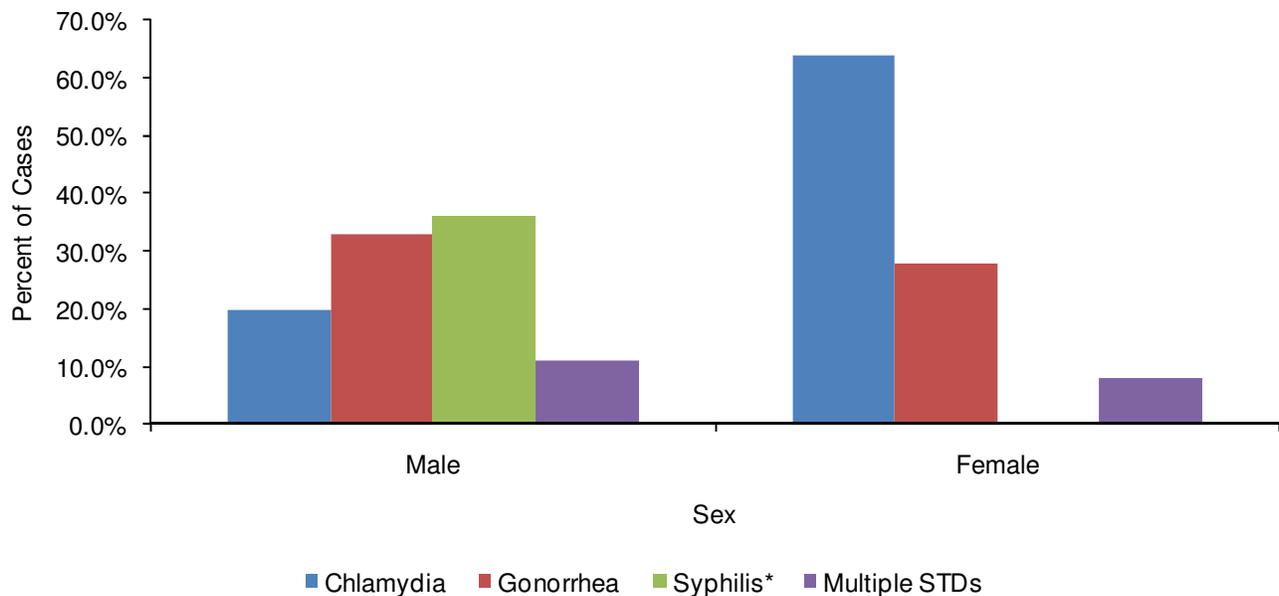
| Co-infection                        | Diagnosed with HIV Prior to 2009 |               | Diagnosed with HIV in 2009 |               | Total      |               |
|-------------------------------------|----------------------------------|---------------|----------------------------|---------------|------------|---------------|
|                                     | N                                | %             | N                          | %             | N          | %             |
| Chlamydia                           | 48                               | 24.2%         | 14                         | 23.3%         | 62         | 24.0%         |
| Gonorrhea                           | 64                               | 32.3%         | 20                         | 33.3%         | 84         | 32.6%         |
| Syphilis*                           | 65                               | 32.8%         | 19                         | 31.7%         | 84         | 32.6%         |
| Chlamydia and Gonorrhea             | 11                               | 5.6%          | 5                          | 8.3%          | 16         | 6.2%          |
| Chlamydia and Syphilis*             | 3                                | 1.5%          | 0                          | 0.0%          | 3          | 1.2%          |
| Gonorrhea and Syphilis*             | 5                                | 2.5%          | 2                          | 3.3%          | 7          | 2.7%          |
| Chlamydia, Gonorrhea, and Syphilis* | 2                                | 1.0%          | 0                          | 0.0%          | 2          | 0.8%          |
| <b>Total</b>                        | <b>198</b>                       | <b>100.0%</b> | <b>60</b>                  | <b>100.0%</b> | <b>258</b> | <b>100.0%</b> |

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

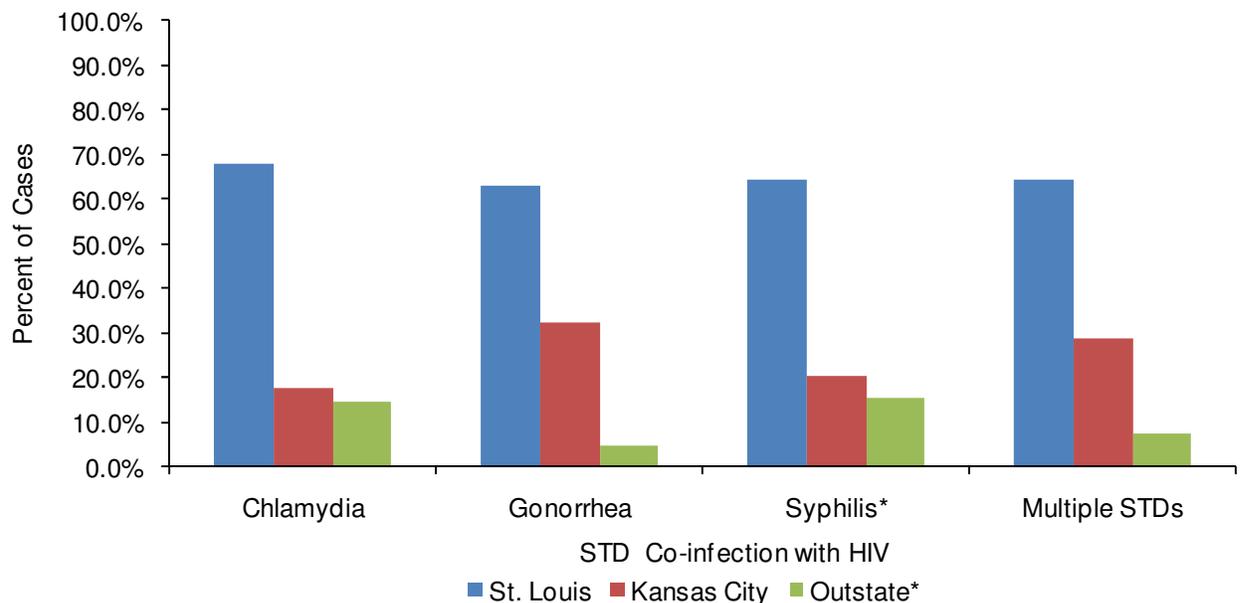


Of the 11,122 individuals living with HIV disease, 258 were reported with an STD co-morbidity in 2009 (Table 34). The majority of those reported with an STD co-morbidity were diagnosed with HIV prior to 2009 (77%). However, the proportion of newly diagnosed cases with an STD diagnosed in the same year was greater (11%) than the proportion of living cases diagnosed with an STD in 2009 (2%). 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. The proportion of reported STD infections in 2009 that were living with HIV varied by infection type. Of the 319 early syphilis cases reported in 2009, 30% were among individuals living with HIV. Only 2% of gonorrhea cases and less than 1% of chlamydia cases reported in 2009 were among individuals living with HIV.

Of the 258 reported STD co-morbidity cases, 90% were among males (Figure 46). Males represented a slightly higher proportion of the STD co-morbidity cases (90%) compared to all males living with HIV disease (83%).

**Figure 47. HIV and STD co-infections by sex and type of co-infection, Missouri, 2009**

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

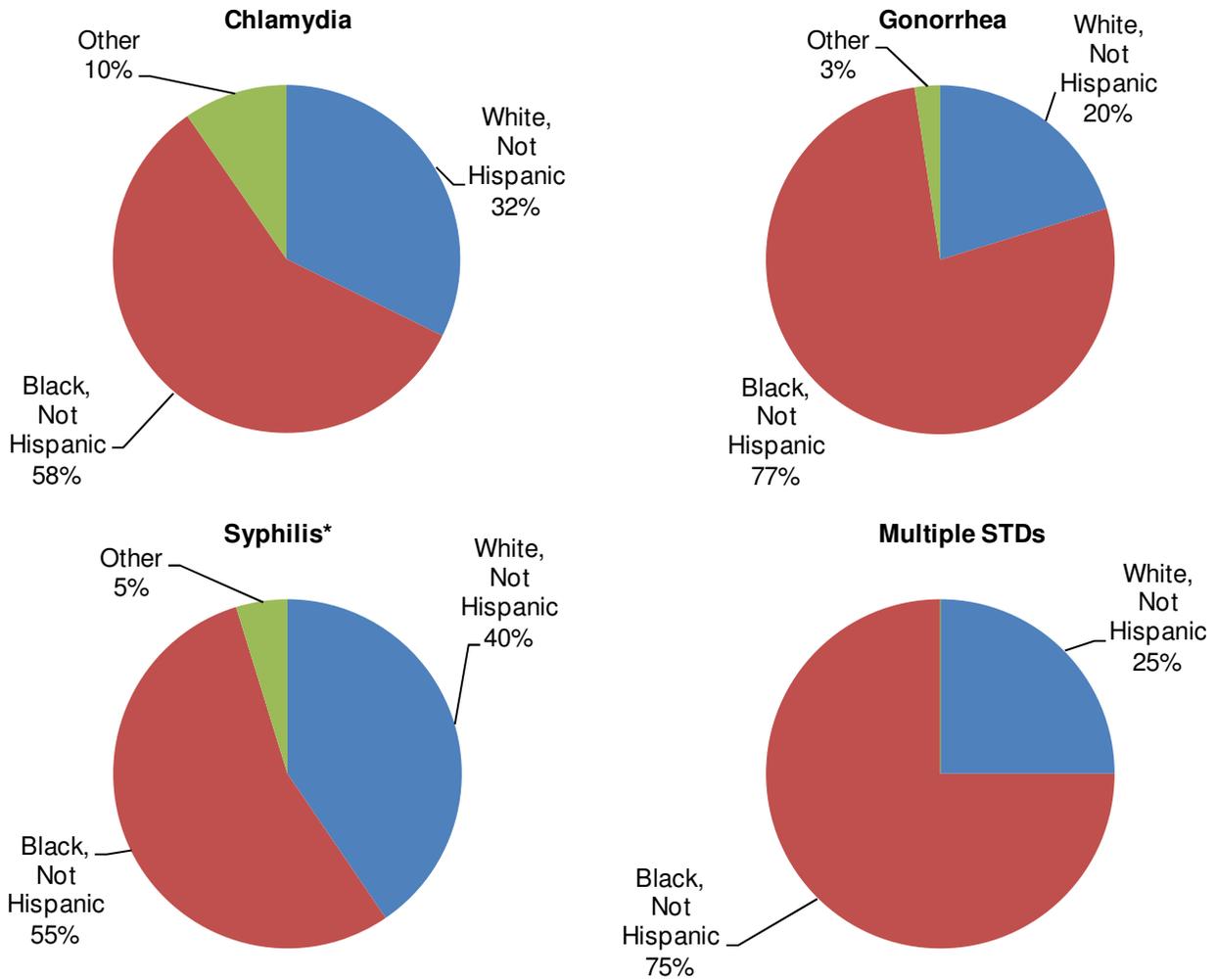
**Figure 48. HIV and STD co-infections by geographic region of STD diagnosis, Missouri, 2009**

\*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 47). Among females living with HIV that were reported with a STD co-morbidity in 2009, 64% were co-infected with chlamydia, 28% with gonorrhea, and 8% with multiple STDs. In contrast, among males living with HIV reported with a STD co-morbidity in 2009, only 20% were co-infected with chlamydia, 33% with gonorrhea, 11% with multiple STDs, and 36% 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 48). Among those living with HIV that were reported with chlamydia in 2009, 68% were residents of the St. Louis HIV region when diagnosed with chlamydia. The St. Louis HIV region represented 63% of all living HIV cases reported with gonorrhea in 2009, 64% of those with early syphilis, and 64% of those with multiple STD co-morbidities. There were differences in the distribution of cases by region for the different co-morbidity types. For example, a greater proportion of gonorrhea co-morbidity cases were diagnosed in the Kansas City HIV region (32%) compared to other co-morbidity types diagnosed in this region. A greater proportion of early syphilis co-morbidity cases were diagnosed in Outstate (16%).

**Figure 49. HIV and STD co-infections by race/ethnicity and type of co-infection, Missouri, 2009**

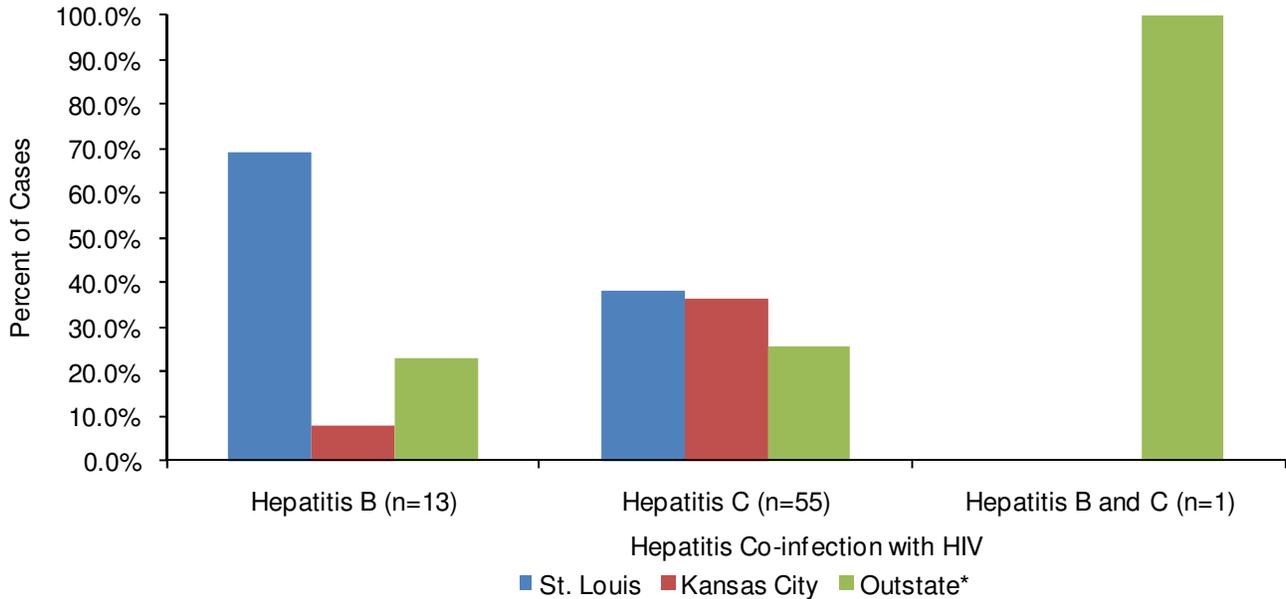


\*Only includes diagnoses of primary, secondary, and early latent syphilis.

There were differences in the distribution of race/ethnicity among HIV and STD co-morbidities depending on the type of STD diagnosed (Figure 49). The proportion of co-morbidity cases attributed to blacks was highest among those co-infected with gonorrhea (77%), followed by those with multiple co-infections (75%). In all instances minorities were disproportionately represented in the proportion of co-morbidities that were reported. Although blacks represented only 44% of living HIV disease cases, they represented 65% of individuals diagnosed with an STD co-morbidity.

**Table 35. Reported hepatitis B and C infections among persons living with HIV disease, Missouri, 2009**

| Co-infection            | Diagnosed with HIV | Diagnosed with HIV in | Total Co-infections |
|-------------------------|--------------------|-----------------------|---------------------|
|                         | Prior to 2009      | 2009                  |                     |
|                         | N                  | N                     | N                   |
| Acute Hepatitis B       | 0                  | 0                     | 0                   |
| Chronic Hepatitis B     | 13                 | 0                     | 13                  |
| Prenatal Hepatitis B    | 0                  | 0                     | 0                   |
| Acute Hepatitis C       | 0                  | 0                     | 0                   |
| Chronic Hepatitis C     | 46                 | 9                     | 55                  |
| Chronic Hepatitis B & C | 0                  | 1                     | 1                   |

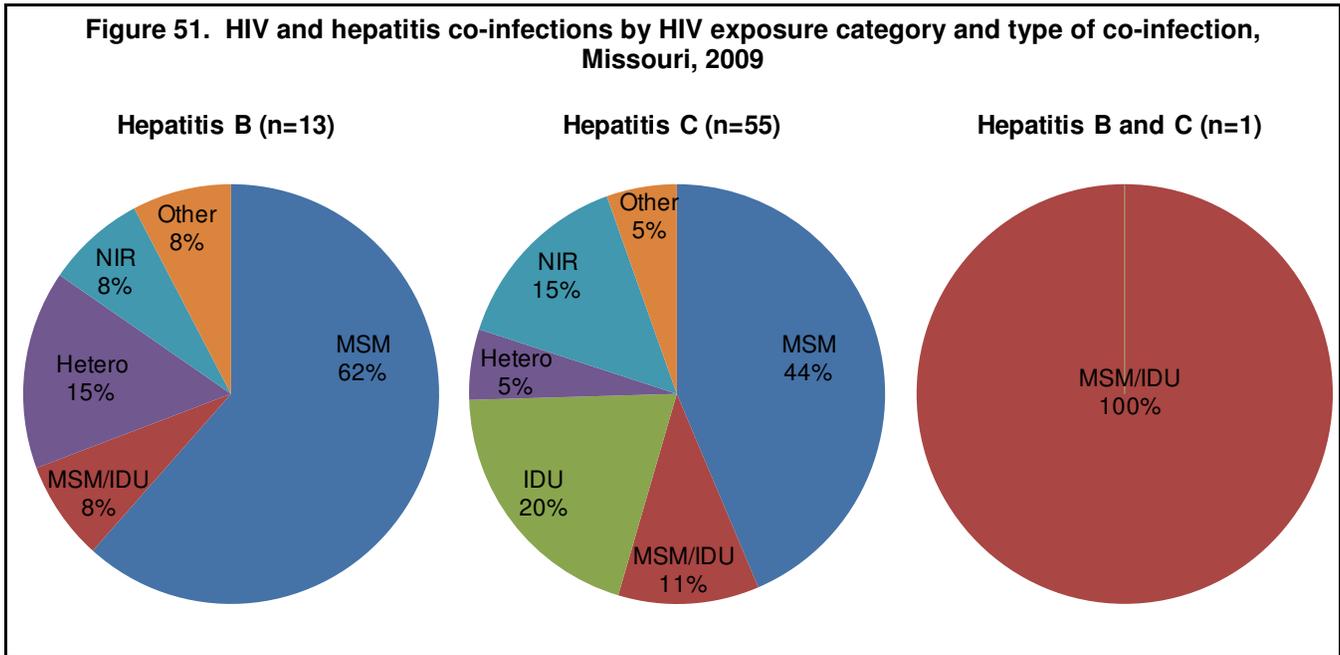
**Figure 50. HIV and hepatitis co-infections by geographic region of hepatitis diagnosis, Missouri, 2009**

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

Of the 11,122 individuals living with HIV disease, 69 were reported with a hepatitis co-morbidity in 2009 (Table 35). The majority of those reported with a hepatitis co-morbidity were diagnosed with HIV prior to 2009 (86%). The largest numbers of HIV co-morbidities were with chronic Hepatitis C. The proportion of reported hepatitis infections in 2009 that were living with HIV varied by infection type. Of the 239 chronic Hepatitis B cases reported in 2009, 6% were among individuals living with HIV. Only 1% of chronic hepatitis C cases reported in 2009 were among individuals living with HIV.

There were differences in the distributions of hepatitis cases by region for the different co-morbidity types. Among persons living with HIV disease that were reported with a Hepatitis B infection in 2009, the majority were residing in the St. Louis HIV region (69%) at the time of the hepatitis diagnosis (Figure 50). Among HIV-positive persons reported with a Hepatitis C infection in 2009, the proportion of infections diagnosed in the St. Louis HIV region (38%) was similar to the proportion diagnosed in the Kansas City HIV region (36%).

**Figure 51. HIV and hepatitis co-infections by HIV exposure category and type of co-infection, Missouri, 2009**

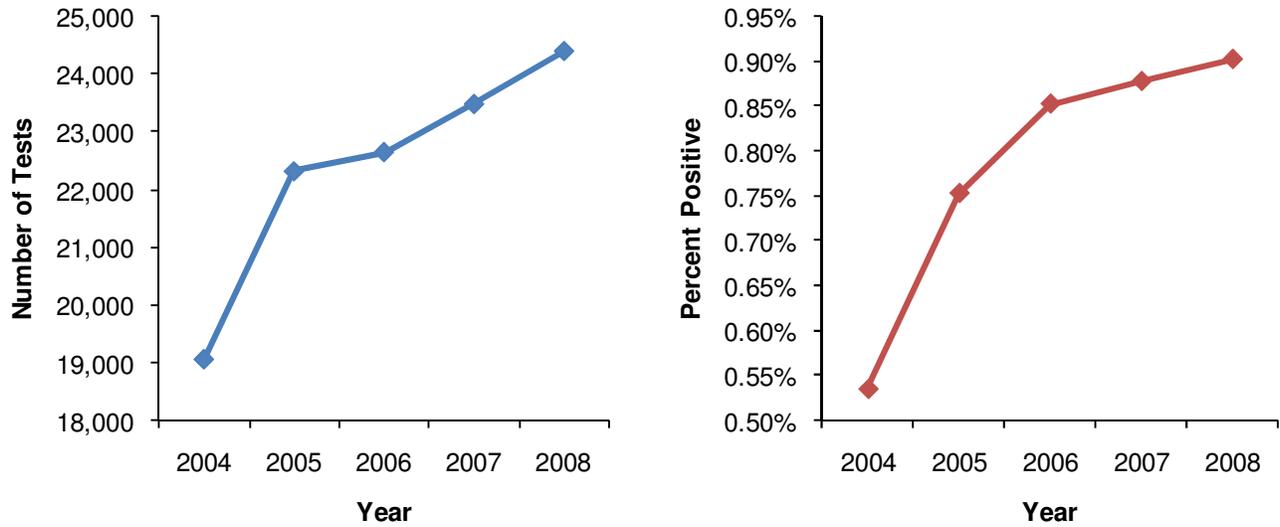


Among persons living with HIV disease and reported with a Hepatitis B infection in 2009, 70% were among males who reported having sex with other males (Figure 51). Among Hepatitis C co-morbidity cases 20% were attributed to IDU, and 11% were attributed to both IDU and MSM.

| <b>Table 36. Number of HIV tests* and positive tests among counseling, testing and referral program sites, by current gender, race/ethnicity, age, exposure category, and test method, Missouri, 2008</b>      |                    |  |                       |          |
|--|--------------------|--|-----------------------|----------|
|  | <b>Total Tests</b> |  | <b>Positive Tests</b> |          |
|  | <b>N</b>           |  | <b>N</b>              | <b>%</b> |
| <b>Total</b>   | 24,402             |  | 220                   | 0.9%     |
| <b>Current Gender</b>  |                    |  |                       |          |
| Male   | 12,965             |  | 188                   | 1.5%     |
| Female   | 11,391             |  | 31                    | 0.3%     |
| Transgender  | 13                 |  | 1                     | 7.7%     |
| Unknown  | 33                 |  | 0                     | 0.0%     |
| <b>Race/Ethnicity</b>  |                    |  |                       |          |
| White  | 8,175              |  | 77                    | 0.9%     |
| Black  | 14,666             |  | 128                   | 0.9%     |
| Hispanic   | 911                |  | 8                     | 0.9%     |
| Other/Unknown  | 650                |  | 7                     | 1.1%     |
| <b>Age at Test</b>   |                    |  |                       |          |
| <13  | 23                 |  | 0                     | 0.0%     |
| 13-18  | 2,363              |  | 9                     | 0.4%     |
| 19-24  | 7,683              |  | 62                    | 0.8%     |
| 25-44  | 10,835             |  | 114                   | 1.1%     |
| 45-64  | 3,256              |  | 35                    | 1.1%     |
| 65+  | 189                |  | 0                     | 0.0%     |
| Unknown  | 53                 |  | 0                     | 0.0%     |
| <b>Exposure Category</b>   |                    |  |                       |          |
| MSM  | 2,685              |  | 130                   | 4.8%     |
| MSM/IDU  | 80                 |  | 5                     | 6.3%     |
| IDU  | 553                |  | 1                     | 0.2%     |
| Heterosexual Contact**   | 580                |  | 8                     | 1.4%     |
| Presumed Heterosexual Contact***   | 8,513              |  | 19                    | 0.2%     |
| Unknown  | 11,991             |  | 57                    | 0.5%     |
| <b>Test Method</b>   |                    |  |                       |          |
| Rapid  | 8,886              |  | 129                   | 1.5%     |
| Conventional   | 15,503             |  | 91                    | 0.6%     |
| Unknown  | 13                 |  | 0                     | 0.0%     |
| *Includes only tests where a result was available and where the individual did not self-report a previously positive HIV test.   |                    |  |                       |          |
| **Includes males and females who reported no injection drug use and reported high risk heterosexual behaviors with the opposite gender; corresponds with the CDC definition of high risk heterosexual contact. |                    |  |                       |          |
| ***Includes females who reported no history of injection drug use and reported sex with males without additional risk behaviors.   |                    |  |                       |          |
| Source: Missouri Counseling and Testing data   |                    |  |                       |          |

There were a total of 24,483 HIV tests performed at Missouri Counseling, Testing and Referral Program sites in 2008. However, 56 tests were performed among individuals indicating that they had previously tested positive for HIV disease, and an additional 25 tests performed did not have results available. Table 36 presents testing characteristics only among those tests where the results were available and for tests where the individual did not report a previously positive HIV test; there were 24,402 tests that met these criteria. Overall, less than one percent of tests were positive for HIV disease. The percent of positive tests tended to be greater for males (2%) compared to females (<1%). The high positivity among transgendered persons (8%) should be interpreted with caution due to the small number of tests performed among this group. The percent of positive tests tended to be greater for persons identifying MSM and MSM/IDU behaviors.

**Figure 52. Number of HIV tests and percent positive results at Missouri counseling and testing sites, 2004-2008**



Source: Missouri Counseling and Testing data

Both the number of tests and the percent of tests that were positive increased in Missouri between 2004 and 2008 (Figure 52). The number of tests in 2004 was incomplete, as some testing data from the Kansas City area was not entered in the MDHSS counseling and testing dataset. There are several possible explanations for the reason the percent positivity of HIV tests increased from 2004 to 2008. First, more targeted testing of high risk groups may explain the increase observed. Second, it is possible that the level of HIV disease in the community has actually increased. Third, it is possible that more individuals in recent years with a positive test result returned to sites multiple times to be tested.

**Table 37. Number of HIV tests and positive tests at expanded testing sites, by test method, by location, Missouri, 2008**

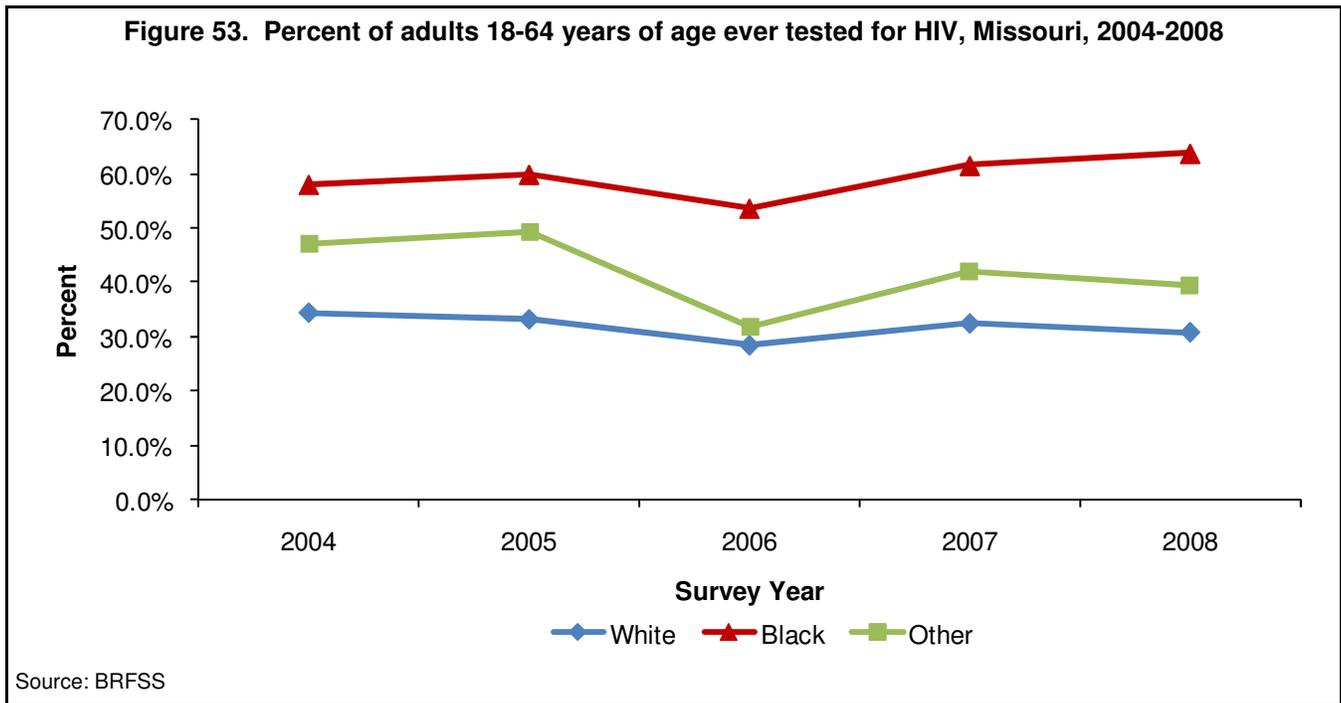
| Test Method  | Kansas City      |                     |        | St. Louis        |                     |       | Total            |                     |       |
|--------------|------------------|---------------------|--------|------------------|---------------------|-------|------------------|---------------------|-------|
|              | Total Tests<br>N | Positive Tests<br>N | %      | Total Tests<br>N | Positive Tests<br>N | %     | Total Tests<br>N | Positive Tests<br>N | %     |
| Rapid        | 1,907            | 21                  | 1.1%   | 1,733            | 16                  | 0.9%  | 3,640            | 37                  | 1.0%  |
| Conventional | 1                | 1                   | 100.0% | 17               | 2                   | 11.8% | 18               | 3                   | 16.7% |
| Total        | 1,908            | 22                  | 1.2%   | 1,750            | 18                  | 1.0%  | 3,658            | 40                  | 1.1%  |

The expanded testing initiative was designed to provide testing in a routine healthcare setting, with a specific focus on populations at high risk for infection. In 2008, there were a total of 3,658 tests performed as part of the expanding testing initiative (Table 37). Of all tests, 52% were performed at sites in Kansas City. Overall, 1% of all tests were positive for HIV. This was slightly higher than the percent positivity at all testing sites in Missouri in 2008 (<1%). Nearly all tests performed as part of the expanded testing initiative were rapid tests.

|  | N     | %     | Crude Prevalence |              |
|--|-------|-------|------------------|--------------|
|  |       |       | 95% Lower CI     | 95% Upper CI |
| <b>Total</b>                               | 3,353 | 34.1% | 31.8%            | 36.5%        |
| <b>Sex</b>                                 |       |       |                  |              |
| Male                                       | 1,292 | 32.0% | 28.5%            | 35.5%        |
| Female                                     | 2,061 | 36.2% | 33.2%            | 39.3%        |
| <b>Race/Ethnicity</b>                      |       |       |                  |              |
| White                                      | 2,826 | 30.8% | 28.3%            | 33.3%        |
| Black                                      | 331   | 63.7% | 56.4%            | 71.1%        |
| Other                                      | 181   | 39.4% | 29.7%            | 49.2%        |
| <b>Age</b>                                 |       |       |                  |              |
| 18-24                                      | 179   | 29.8% | 21.5%            | 38.1%        |
| 25-44                                      | 1,148 | 47.0% | 43.3%            | 50.7%        |
| 45-64                                      | 2,026 | 21.9% | 19.5%            | 24.3%        |
| <b>Income</b>                              |       |       |                  |              |
| <\$15,000                                  | 290   | 56.2% | 47.7%            | 64.7%        |
| \$15-24,999                                | 449   | 44.6% | 37.4%            | 51.8%        |
| \$25-34,999                                | 386   | 40.3% | 32.8%            | 47.7%        |
| \$35-49,999                                | 585   | 27.6% | 22.4%            | 32.9%        |
| \$50,000+                                  | 1,366 | 32.3% | 29.0%            | 35.6%        |
| <b>Highest Education</b>                   |       |       |                  |              |
| Did not graduate High School               | 253   | 37.6% | 27.5%            | 47.6%        |
| Graduated High School                      | 1,140 | 29.1% | 25.1%            | 33.0%        |
| Attended College or Technical School       | 927   | 37.9% | 33.4%            | 42.4%        |
| Graduated from College or Technical School | 1,031 | 35.2% | 31.2%            | 39.2%        |

Source: BRFSS

An estimated 34% of Missouri adults between the ages of 18 and 64 years old have ever been tested for HIV by 2008 (Table 38). There was not a significant difference in the percent of adults ever tested for HIV by sex. A significantly greater percent of blacks reported ever being tested for HIV (64%) compared to whites (31%) and persons of another race/ethnicity (39%). Persons 25 to 44 years of age were significantly more likely to have ever been tested for HIV (47%) compared to persons 18 to 24 years of age (30%) and persons 45 to 64 years of age (22%). The percent of adults ever tested for HIV disease was greatest among person reporting an income of less than \$15,000 (56%). The percent ever tested for HIV generally tended to decrease with increasing income, but was similar for persons reporting incomes between \$35,000-\$49,000 and persons reporting incomes of \$50,000 or more. There was not a significant difference in the percent of adults ever tested for HIV by educational attainment.



The percent of adults that were ever tested for HIV has remained generally steady between 2004 and 2008 for persons of all race/ethnicities (Figure 53). There was a slight decrease in the percent of adults ever tested for HIV in 2006 among all race/ethnicities, but this decrease appears to be related to uncertainty associated with survey estimates, and not a true decrease in testing rates. These data indicate that more work is needed to achieve the CDC recommendation that all adults 18 to 64 years of age receive routine HIV testing, especially among white adults.

**Table 39. Percent of adults 18-64 years of age tested for HIV in the past year\* who received a rapid test at their last HIV test, by sex, by race/ethnicity, by age, Missouri, 2008**

|                       | N   | %     | Crude Prevalence |              |
|-----------------------|-----|-------|------------------|--------------|
|                       |     |       | 95% Lower CI     | 95% Upper CI |
| <b>Total</b>          | 228 | 19.5% | 11.6%            | 27.5%        |
| <b>Sex</b>            |     |       |                  |              |
| Male                  | 86  | 21.8% | 10.6%            | 33.1%        |
| Female                | 142 | 17.8% | 6.6%             | 29.1%        |
| <b>Race/Ethnicity</b> |     |       |                  |              |
| White                 | 126 | 19.7% | 7.8%             | 31.6%        |
| Black                 | 88  | 17.6% | 6.9%             | 28.3%        |
| Other                 | --  | --    | --               | --           |
| <b>Age</b>            |     |       |                  |              |
| 18-24                 | --  | --    | --               | --           |
| 25-44                 | 121 | 14.3% | 6.7%             | 21.9%        |
| 45-64                 | 70  | 19.9% | 10.0%            | 29.8%        |

\*2007 or 2008  
 -- Number of responses less than 50 and not sufficient to report  
 Source: BRFSS

Among Missouri adults 18 to 64 years of age who were tested for HIV in 2007 or 2008, 20% reported receiving a rapid HIV test at their most recent testing experience (Table 39). The small number of respondents answering the survey question regarding rapid testing makes it difficult to assess differences in rapid test usage based upon various demographic characteristics.

**Table 40. Mean length of time since last HIV test among adults 18-64 who have ever been tested for HIV, by sex, by race/ethnicity, by age, by income, by educational attainment, Missouri, 2008**

|  | N   | Years | Mean         |              |
|--|-----|-------|--------------|--------------|
|  |     |       | 95% Lower CI | 95% Upper CI |
| <b>Total</b>                               | 927 | 4.9   | 4.5          | 5.3          |
| <b>Sex</b>                                 |     |       |              |              |
| Male                                       | 334 | 5.2   | 4.5          | 5.9          |
| Female                                     | 593 | 4.7   | 4.2          | 5.2          |
| <b>Race/Ethnicity</b>                      |     |       |              |              |
| White                                      | 697 | 5.7   | 5.1          | 6.2          |
| Black                                      | 172 | 2.0   | 1.4          | 2.5          |
| Other                                      | 55  | 3.7   | 2.2          | 5.2          |
| <b>Age</b>                                 |     |       |              |              |
| 18-24                                      | 60  | 1.6   | 0.9          | 2.4          |
| 25-44                                      | 494 | 4.8   | 4.3          | 5.3          |
| 45-64                                      | 373 | 7.1   | 6.2          | 8.0          |
| <b>Income</b>                              |     |       |              |              |
| <\$15,000                                  | 129 | 3.7   | 2.5          | 4.8          |
| \$15-24,999                                | 160 | 3.5   | 2.8          | 4.2          |
| \$25-34,999                                | 106 | 3.7   | 2.6          | 4.9          |
| \$35-49,999                                | 142 | 5.7   | 4.6          | 6.7          |
| \$50,000+                                  | 346 | 6.0   | 5.3          | 6.7          |
| <b>Highest Education</b>                   |     |       |              |              |
| Did not graduate High School               | 76  | 4.0   | 2.8          | 5.3          |
| Graduated High School                      | 260 | 4.0   | 3.3          | 4.7          |
| Attended College or Technical School       | 288 | 5.1   | 4.3          | 5.9          |
| Graduated from College or Technical School | 303 | 5.9   | 5.0          | 6.7          |

Source: BRFSS

Among Missouri adults 18 to 64 years of age who had ever been tested for HIV, the length of time between their last HIV test and the survey was calculated. The length of time since last HIV test does **not** represent the interval length between HIV testing episodes, but the length of time since an individual's last HIV test to a given point in time. Overall among individuals ever tested for HIV, it had been an average of 4.9 years since their last HIV test (Table 40). There was not a significant difference in the mean length since an individual's last HIV test by sex. Blacks tended to report a more recent HIV test (2.0 years ago) compared to whites (5.7 years ago). The average length of time since the last HIV test increased significantly with increasing age; among adults 18 to 24 years of age the average length since last HIV testing was 1.6 years, compared to 7.1 years of adults 45 to 64 years of age. The average length since the last HIV test was greater for persons reporting an income of \$50,000 or more compared to persons reporting an income of \$34,999 or less. Persons who graduated from college or technical school had a longer interval since their last HIV test compared to persons who graduated from high school, but did not attend college or technical school.

|  | <b>Private Doctor<br/>or HMO</b><br>% (95% CI) | <b>Hospital</b><br>% (95% CI) | <b>Clinic</b><br>% (95% CI)  | <b>Counseling<br/>and Testing<br/>Site</b><br>% (95% CI) | <b>Correctional<br/>Facility</b><br>% (95% CI) | <b>Other</b><br>% (95% CI)   |
|--|--|-------------------------------|------------------------------|--|--|------------------------------|
| <b>Total</b>   | <b>42.0%</b><br>(37.9-46.2%)                   | <b>17.8%</b><br>(14.7-20.8%)  | <b>20.6%</b><br>(17.0-24.2%) | <b>2.3%</b><br>(1.0-3.7%)                                | <b>5.0%</b><br>(2.5-7.5%)                      | <b>12.2%</b><br>(9.5-15.0%)  |
| <b>Sex</b>   |  |                               |                              |  |  |                              |
| Male   | <b>32.0%</b><br>(25.9-38.1%)                   | <b>16.7%</b><br>(12.2-21.2%)  | <b>22.0%</b><br>(16.2-27.8%) | <b>3.4%</b><br>(0.7-6.0%)                                | <b>8.8%</b><br>(4.1-13.4%)                     | <b>17.2%</b><br>(12.0-22.4%) |
| Female   | <b>50.7%</b><br>(45.3-56.1%)                   | <b>18.7%</b><br>(14.5-22.9%)  | <b>19.4%</b><br>(14.9-23.8%) | <b>1.5%</b><br>(0.5-2.5%)                                | <b>1.8%</b><br>(0.0-4.0%)                      | <b>8.0%</b><br>(5.6-10.3%)   |
| <b>Race/Ethnicity</b>  |  |                               |                              |  |  |                              |
| White  | <b>43.1%</b><br>(38.3-47.8%)                   | <b>16.9%</b><br>(13.5-20.3%)  | <b>21.3%</b><br>(17.0-25.6%) | <b>2.1%</b><br>(0.7-3.4%)                                | <b>4.0%</b><br>(1.5-6.4%)                      | <b>12.7%</b><br>(9.4-16.0%)  |
| Black  | <b>42.2%</b><br>(32.0-52.3%)                   | <b>17.0%</b><br>(9.1-24.9%)   | <b>20.7%</b><br>(13.1-28.4%) | <b>0.9%</b><br>(0.0-1.7%)                                | <b>9.7%</b><br>(0.8-18.5%)                     | <b>9.6%</b><br>(4.8-14.5%)   |
| Other  | <b>31.8%</b><br>(15.9-47.8%)                   | <b>25.9%</b><br>(13.1-38.7%)  | <b>13.1%</b><br>(3.7-22.5%)  | <b>9.3%</b><br>(0.0-21.3%)                               | <b>5.9%</b><br>(0.0-17.1%)                     | <b>13.9%</b><br>(3.3-24.5%)  |
| <b>Age</b>   |  |                               |                              |  |  |                              |
| 18-24  | <b>33.6%</b><br>(18.8-48.3%)                   | <b>9.8%</b><br>(0.0-20.2%)    | <b>42.2%</b><br>(26.6-57.8%) | <b>0.7%</b><br>(0.0-2.2%)                                | --<br>(--)                                     | <b>13.7%</b><br>(1.8-25.5%)  |
| 25-44  | <b>44.7%</b><br>(39.3-50.1%)                   | <b>17.2%</b><br>(13.3-21.2%)  | <b>18.2%</b><br>(13.9-22.5%) | <b>2.7%</b><br>(0.7-4.6%)                                | <b>7.2%</b><br>(3.2-11.2%)                     | <b>10.0%</b><br>(6.9-13.1%)  |
| 45-64  | <b>40.1%</b><br>(34.0-46.2%)                   | <b>23.1%</b><br>(18.1-28.1%)  | <b>15.1%</b><br>(10.9-19.4%) | <b>2.4%</b><br>(0.0-4.8%)                                | <b>2.4%</b><br>(0.8-4.1%)                      | <b>16.9%</b><br>(12.2-21.5%) |
| <b>Income</b>  |  |                               |                              |  |  |                              |
| <\$15,000  | <b>29.5%</b><br>(18.6-40.3%)                   | <b>34.3%</b><br>(20.6-48.1%)  | <b>17.2%</b><br>(10.0-24.5%) | <b>1.2%</b><br>(0.0-2.6%)                                | <b>10.3%</b><br>(0.0-22.0%)                    | <b>7.5%</b><br>(3.1-12.0%)   |
| \$15-24,999  | <b>29.9%</b><br>(20.4-39.4%)                   | <b>6.6%</b><br>(3.1-10.1%)    | <b>31.0%</b><br>(19.9-42.1%) | <b>2.6%</b><br>(0.0-5.2%)                                | <b>14.1%</b><br>(4.6-23.7%)                    | <b>15.8%</b><br>(7.7-23.9%)  |
| \$25-34,999  | <b>41.9%</b><br>(28.6-55.2%)                   | <b>20.2%</b><br>(9.9-30.6%)   | <b>21.0%</b><br>(10.9-31.1%) | <b>1.1%</b><br>(0.0-2.7%)                                | <b>7.4%</b><br>(0.0-16.4%)                     | <b>8.5%</b><br>(3.6-13.3%)   |
| \$35-49,999  | <b>50.4%</b><br>(39.5-61.3%)                   | <b>19.5%</b><br>(11.0-28.0%)  | <b>13.8%</b><br>(6.2-21.4%)  | <b>2.3%</b><br>(0.0-6.3%)                                | <b>3.3%</b><br>(0.0-8.7%)                      | <b>10.8%</b><br>(1.8-19.8%)  |
| \$50,000+  | <b>49.3%</b><br>(43.0-55.7%)                   | <b>16.3%</b><br>(12.1-20.6%)  | <b>17.3%</b><br>(12.3-22.4%) | <b>2.9%</b><br>(0.3-5.5%)                                | <b>0.4%</b><br>(0.0-1.0%)                      | <b>13.7%</b><br>(9.5-17.8%)  |
| <b>Highest Education</b>   |  |                               |                              |  |  |                              |
| Did not graduate High School                                     | <b>26.4%</b><br>(13.0-39.9%)                   | <b>12.8%</b><br>(4.0-21.7%)   | <b>25.1%</b><br>(10.5-39.8%) | <b>0.7%</b><br>(0.0-2.0%)                                | <b>22.4%</b><br>(5.9-39.0%)                    | <b>12.5%</b><br>(0.3-24.8%)  |
| Graduated High School  | <b>39.5%</b><br>(31.7-47.3%)                   | <b>15.2%</b><br>(9.4-21.1%)   | <b>23.0%</b><br>(16.6-29.4%) | <b>2.6%</b><br>(0.2-4.9%)                                | <b>6.5%</b><br>(0.9-12.1%)                     | <b>13.2%</b><br>(7.5-18.9%)  |
| Attended College or Technical School                             | <b>43.5%</b><br>(35.9-51.0%)                   | <b>17.4%</b><br>(12.3-22.5%)  | <b>18.9%</b><br>(12.3-25.6%) | <b>2.8%</b><br>(0.0-6.0%)                                | <b>3.3%</b><br>(0.5-6.2%)                      | <b>14.0%</b><br>(9.1-19.0%)  |
| College or Technical School                                      | <b>47.3%</b><br>(40.4-54.3%)                   | <b>21.8%</b><br>(15.9-27.6%)  | <b>18.8%</b><br>(12.8-24.8%) | <b>2.2%</b><br>(0.1-4.2%)                                | <b>0.4%</b><br>(0.0-0.8%)                      | <b>9.6%</b><br>(6.0-13.2%)   |
| -- Number of responses less than 50 and not sufficient to report |  |                               |                              |  |  |                              |
| Source: BRFSS  |  |                               |                              |  |  |                              |

Among Missouri adults 18 to 64 years of age ever tested for HIV, the most common location of last HIV testing was a private doctor or HMO (42%, Table 41). A greater percent of males tended to test at a correctional facility (9%) compared to females (2%). A greater percent of persons 18 to 24 years of age were last tested at a clinic (42%) compared to persons 25 to 44 years of age (18%) and persons 45 to 64 years of age (15%).

**Table 42. Table. Percent of adults 18-64 years of age reporting intravenous drug use, an STD, giving or receiving money or drugs in exchange for sex, or anal sex without a condom in the past year, by sex, by race/ethnicity, by age, by income, by educational attainment, Missouri, 2008**

|  | N     | %    | Crude Prevalence |              |
|--|-------|------|------------------|--------------|
|  |       |      | 95% Lower CI     | 95% Upper CI |
| <b>Total</b>                               | 3,415 | 3.1% | 2.2%             | 4.0%         |
| <b>Sex</b>                                 |       |      |                  |              |
| Male                                       | 1,316 | 3.2% | 1.7%             | 4.7%         |
| Female                                     | 2,099 | 3.0% | 2.0%             | 4.0%         |
| <b>Race/Ethnicity</b>                      |       |      |                  |              |
| White                                      | 2,882 | 2.5% | 1.6%             | 3.4%         |
| Black                                      | 332   | 6.7% | 2.1%             | 11.2%        |
| Other                                      | 185   | 6.6% | 1.6%             | 11.6%        |
| <b>Age</b>                                 |       |      |                  |              |
| 18-24                                      | 178   | 6.0% | 2.4%             | 9.6%         |
| 25-44                                      | 1,176 | 3.6% | 2.0%             | 5.1%         |
| 45-64                                      | 2,061 | 1.5% | 0.9%             | 2.2%         |
| <b>Income</b>                              |       |      |                  |              |
| <\$15,000                                  | 297   | 3.0% | 1.0%             | 5.0%         |
| \$15-24,999                                | 459   | 7.8% | 3.8%             | 11.7%        |
| \$25-34,999                                | 392   | 3.6% | 0.2%             | 7.0%         |
| \$35-49,999                                | 597   | 2.7% | 1.2%             | 4.2%         |
| \$50,000+                                  | 1,385 | 1.4% | 0.4%             | 2.4%         |
| <b>Highest Education</b>                   |       |      |                  |              |
| Did not graduate High School               | 259   | 9.6% | 3.0%             | 16.1%        |
| Graduated High School                      | 1,157 | 3.0% | 1.7%             | 4.4%         |
| Attended College or Technical School       | 945   | 3.5% | 1.7%             | 5.3%         |
| Graduated from College or Technical School | 1,052 | 1.0% | 0.5%             | 1.6%         |

Source: BRFSS

An estimated 3% of Missouri adults between the age of 18 and 64 engaged in risk behaviors associated with HIV, including intravenous drug use, diagnosis with an STD, giving or receiving money or drugs in exchange for sex, or anal sex without a condom (Table 42). Although the estimated percent of adults engaging in HIV-related risk behavior tended to be higher for minorities, the difference between minorities and whites was not significant. The estimated percent of the population engaging in HIV-related risk behaviors tended to generally decrease with increasing age.

| <b>Table 43. Percent of adults who reported binge drinking* in the past 30 days, by sex, by race/ethnicity, by age, by income, by educational attainment, Missouri, 2008</b> |       |       |                  |              |
|--|-------|-------|------------------|--------------|
|  | N     | %     | Crude Prevalence |              |
|  |       |       | 95% Lower CI     | 95% Upper CI |
| <b>Total</b>   | 5,077 | 15.3% | 13.7%            | 16.9%        |
| <b>Sex</b>   |       |       |                  |              |
| Male   | 1,891 | 20.7% | 18.1%            | 23.4%        |
| Female   | 3,186 | 10.3% | 8.4%             | 12.2%        |
| <b>Race/Ethnicity</b>  |       |       |                  |              |
| White  | 4,319 | 15.4% | 13.6%            | 17.1%        |
| Black  | 443   | 13.4% | 8.4%             | 18.4%        |
| Other  | 273   | 17.4% | 10.6%            | 24.2%        |
| <b>Age</b>   |       |       |                  |              |
| 18-24  | 180   | 24.2% | 16.1%            | 32.2%        |
| 25-44  | 1,189 | 20.8% | 17.9%            | 23.8%        |
| 45-64  | 2,097 | 12.5% | 10.5%            | 14.5%        |
| 65+  | 1,578 | 3.5%  | 2.4%             | 4.5%         |
| <b>Income</b>  |       |       |                  |              |
| <\$15,000  | 524   | 12.0% | 7.7%             | 16.2%        |
| \$15-24,999  | 847   | 15.0% | 10.5%            | 19.6%        |
| \$25-34,999  | 660   | 11.8% | 7.7%             | 15.8%        |
| \$35-49,999  | 798   | 18.8% | 14.4%            | 23.3%        |
| \$50,000+  | 1,630 | 16.6% | 14.1%            | 19.0%        |
| <b>Highest Education</b>   |       |       |                  |              |
| Did not graduate High School   | 545   | 13.4% | 7.7%             | 19.2%        |
| Graduated High School  | 1,837 | 16.1% | 13.3%            | 18.9%        |
| Attended College or Technical School   | 1,316 | 14.9% | 12.1%            | 17.8%        |
| Graduated from College or Technical School   | 1,374 | 15.4% | 12.3%            | 18.5%        |
| *Measured as five or more drinks on one occasion for males and as four or more drinks on one occasion for females.<br>Source: BRFSS  |       |       |                  |              |

Based on BRFSS survey data, an estimated 15% of Missouri adults engaged in binge drinking of alcohol in 2008 (Table 43). Binge drinking was measured as five or more drinks on one occasion for males and as four or more drinks on one occasion for females. Males were significantly more likely to report binge drinking (21%) compared to females (10%). There was not a significant difference in the percent of adults reporting binge drinking by race/ethnicity. The percent of adults engaging in binge drinking tended to decrease with increasing age; among adults 18 to 24 years of age 24% reported binge drinking, compared to 13% of adults 45 to 64 years of age. The percent of adults engaging in binge drinking did not vary significantly by income level or by educational attainment.

| <b>Table 44. Percent of pregnant women who reported NOT having a discussion about HIV testing with their health provider, by age, by education level, by race/ethnicity, by marital status, by residence, and by prenatal payer source, Missouri, 2005</b> |             |               |             |
|--|-------------|---------------|-------------|
| <b>Maternal Characteristic</b>   | <b>%</b>    | <b>95% CI</b> |             |
| <b>Total</b>   | <b>25.1</b> | <b>22.3</b>   | <b>28.0</b> |
| <b>Age</b>   |             |               |             |
| <20  | 24.3        | 15.4          | 33.2        |
| 20-29  | 25.3        | 21.5          | 29.2        |
| 30+  | 25.1        | 20.3          | 29.9        |
| <b>Education Level</b>   |             |               |             |
| Less than High School  | 21.7        | 14.4          | 29.1        |
| High School or Higher  | 25.7        | 22.7          | 28.8        |
| <b>Race/Ethnicity</b>  |             |               |             |
| White  | 27.4        | 24.3          | 30.6        |
| Black  | 13.6        | 5.4           | 21.8        |
| Hispanic   | 13.6        | 2.6           | 24.5        |
| Other  | 37.5        | 14.2          | 60.8        |
| <b>Marital Status</b>  |             |               |             |
| Married  | 28.4        | 25.0          | 31.8        |
| Unmarried  | 20.1        | 15.2          | 25.0        |
| <b>Residence</b>   |             |               |             |
| Urban  | 23.6        | 20.2          | 27.1        |
| Rural  | 29.4        | 24.5          | 34.4        |
| <b>Prenatal Care Payer</b>   |             |               |             |
| Private Insurance  | 26.6        | 22.7          | 30.5        |
| Medicaid   | 22.9        | 18.7          | 27.1        |
| Self Pay or Other  | 35.5        | 18.0          | 53.0        |
| Source: MoPRA  |             |               |             |

Overall, an estimated 25% of pregnant women did not discuss HIV testing with their healthcare provider during pregnancy (Table 44). There were not significant differences in the percent of pregnant women that did not discuss HIV testing with the healthcare provider by age, education level, residence, or prenatal care payer source. A slightly greater percentage of married pregnant women did not discuss HIV testing with their healthcare provider (28%) compared to unmarried pregnant women (20%). White pregnant women were significantly less likely to talk to their healthcare provider about HIV testing compared to black and Hispanic pregnant women. Over 27% of white women did not talk to their healthcare provider about HIV testing.

**Table 45. Number of individuals in Missouri correctional facilities\* living with HIV disease and the percent of the population living with HIV disease, by race, by sex, Missouri, 2006-2009**

| Sex    | Year | Race    |      |         |      |               |      | Total |      |
|--------|------|---------|------|---------|------|---------------|------|-------|------|
|        |      | White** |      | Black** |      | Other/Unknown |      | N     | %    |
|        |      | N       | %    | N       | %    | N             | %    | N     | %    |
| Male   | 2006 | 83      | 0.5% | 198     | 1.7% | 0             | 0.0% | 281   | 1.0% |
|        | 2007 | 79      | 0.5% | 190     | 1.6% | 1             | 0.6% | 270   | 1.0% |
|        | 2008 | 81      | 0.5% | 213     | 1.8% | 1             | 0.6% | 295   | 1.1% |
|        | 2009 | 91      | 0.6% | 211     | 1.8% | 1             | 0.6% | 303   | 1.1% |
| Female | 2006 | 7       | 0.4% | 7       | 0.9% | 0             | 0.0% | 14    | 0.5% |
|        | 2007 | 12      | 0.7% | 8       | 1.1% | 0             | 0.0% | 20    | 0.8% |
|        | 2008 | 10      | 0.6% | 8       | 1.2% | 0             | 0.0% | 18    | 0.7% |
|        | 2009 | 5       | 0.3% | 8       | 1.3% | 0             | 0.0% | 13    | 0.5% |
| Total  | 2006 | 90      | 0.5% | 205     | 1.6% | 0             | 0.0% | 295   | 1.0% |
|        | 2007 | 91      | 0.5% | 198     | 1.6% | 1             | 0.5% | 290   | 0.9% |
|        | 2008 | 91      | 0.5% | 221     | 1.8% | 1             | 0.5% | 313   | 1.0% |
|        | 2009 | 96      | 0.5% | 219     | 1.8% | 1             | 0.5% | 316   | 1.0% |

\*Includes only offenders in the custody of Missouri Department of Corrections. Does not include offenders in local jails, private facilities, or federal facilities.

\*\*Includes persons of Hispanic origin.

Source: Missouri Department of Corrections

The percent of offenders living with HIV disease in Missouri correctional facilities overseen by the Department of Corrections has remained generally stable from 2006 to 2009 (Table 45). The prevalence of HIV disease was greatest among black males; in 2009, 2% of all black male offenders, including individuals of Hispanic origin, were living with HIV disease. The prevalence of HIV disease within Missouri Department of Corrections facilities tended to be slightly lower than national estimates among state prison inmates. Nationally, an estimated 2% of male state prison inmates and 2% of female state prison inmates were living with HIV disease in 2008.

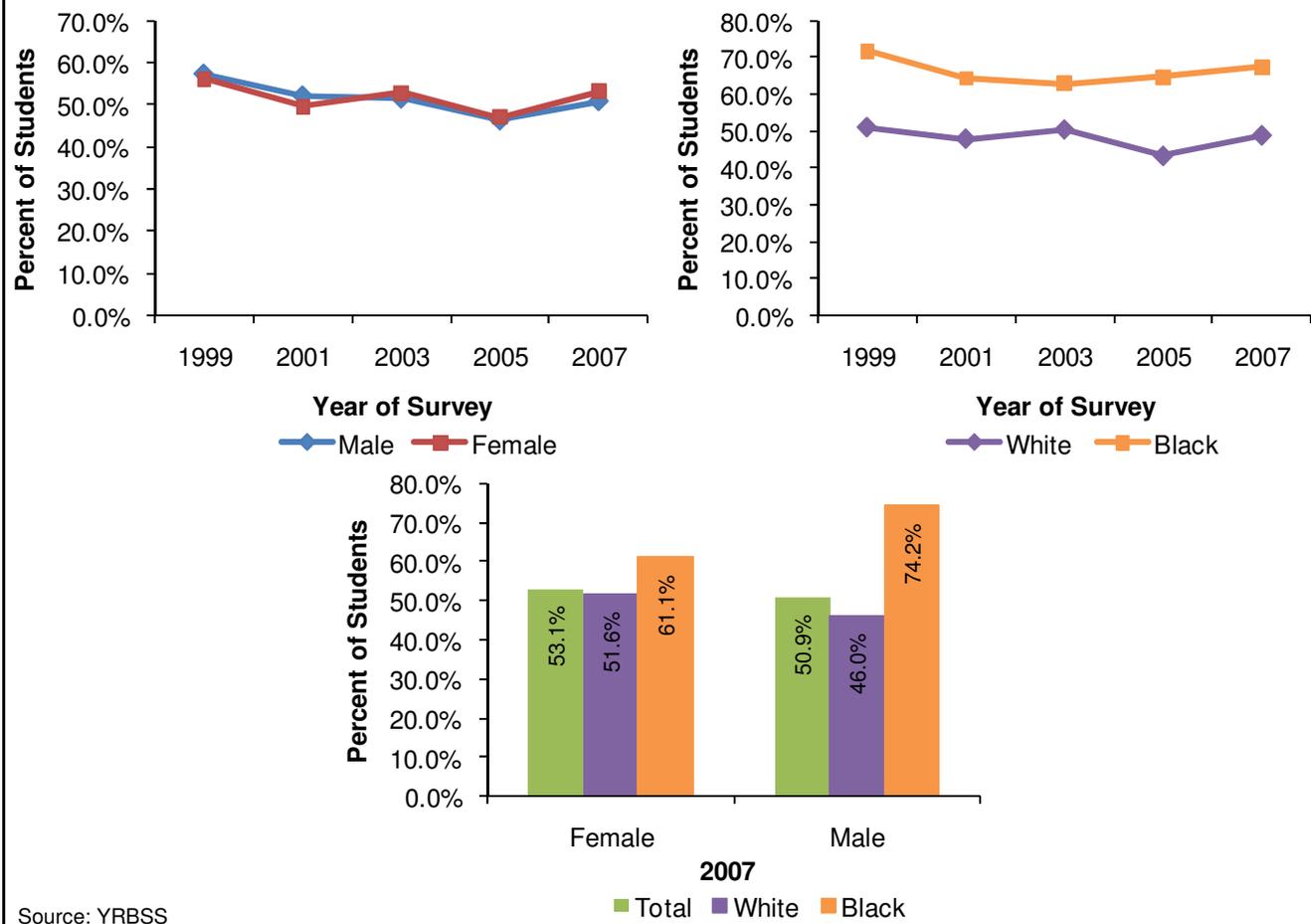
**Table 46. AIDS-related deaths among state prison inmates reported to the Deaths in Custody Reporting Program, 2007**

| Jurisdiction | All deaths | AIDS-related deaths |                          |
|--------------|------------|---------------------|--------------------------|
|              |            | Number              | Rate per 100,000 inmates |
| Missouri     | 78         | 2                   | 7                        |
| Midwest*     | 589        | 18                  | 7                        |
| U.S.         | 3,388      | 120                 | 9                        |

\*Includes: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin  
Source: Bureau of Justice Statistics

Nationwide there were 120 AIDS-related deaths among state prison inmates reported to the Deaths in Custody Reporting Program in 2007 (Table 46). This means for every 100,000 state prison inmates in the nation, 9 died due to AIDS-related causes in 2007. In Missouri and the Midwest, an estimated 7 out of every 100,000 state prison inmates died due to AIDS-related causes. For additional information regarding HIV disease in the correctional population refer to the Bureau of Justice Statistics reports on HIV in prisons and jails at <http://bjs.ojp.usdoj.gov/index.cfm?ty=pbse&sid=7>.

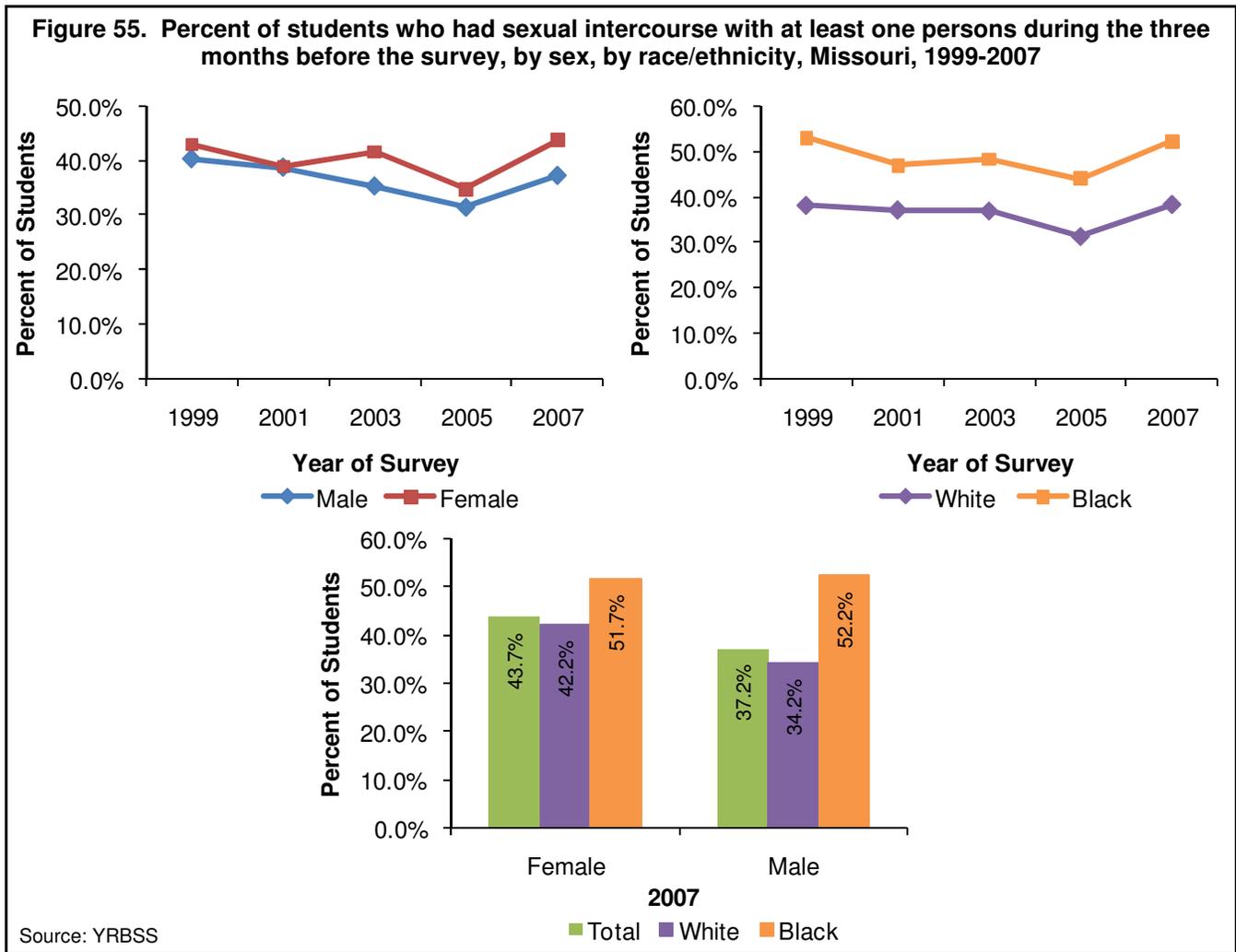
**Figure 54. Percent of students who ever had sexual intercourse, by sex, by race/ethnicity, Missouri, 1999-2007**



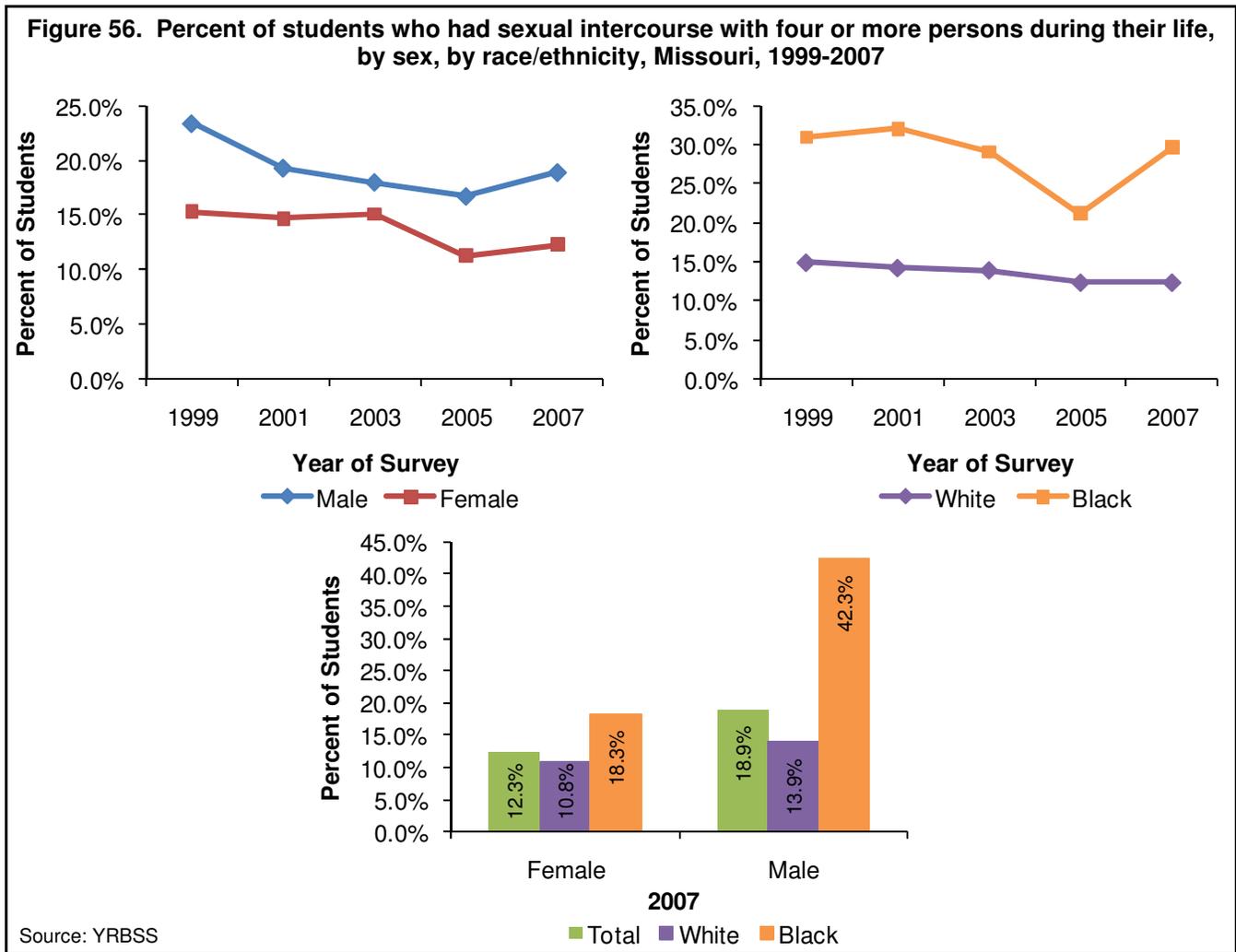
Source: YRBSS

Data presented based on results from the YRBSS survey represent the estimated prevalence of a certain behavior in the high school population. These point estimates are subject to some uncertainty since they were derived from a probability sample of public and private school students, and not from the entire population of high school students. As a result, although the point estimates presented in the figures may appear to be different, refer to the text for details as to whether the observed point estimates are in fact different based on the comparison of statistical confidence intervals, or whether the observed point estimates only appear to be different due to uncertainty associated with the estimates.

The percent of Missouri high school students who reported ever having sex in their lifetime remained generally steady between the survey periods of 1999 and 2007 (Figure 54). In 2007, 52% of all Missouri high school students reported ever having sex in their lifetime. There was not a difference in the percent of students reporting ever having sex between males or females. A greater percentage of black students reported ever having sex compared to whites in all study periods between 1999 and 2007. In 2007, there were not significant differences in the percent of students who reported ever having sex between white females compared to black females, or among white females compared to white males, or among black females compared to black males. A significantly lower percent of white males reported ever having sex compared to black males in 2007.

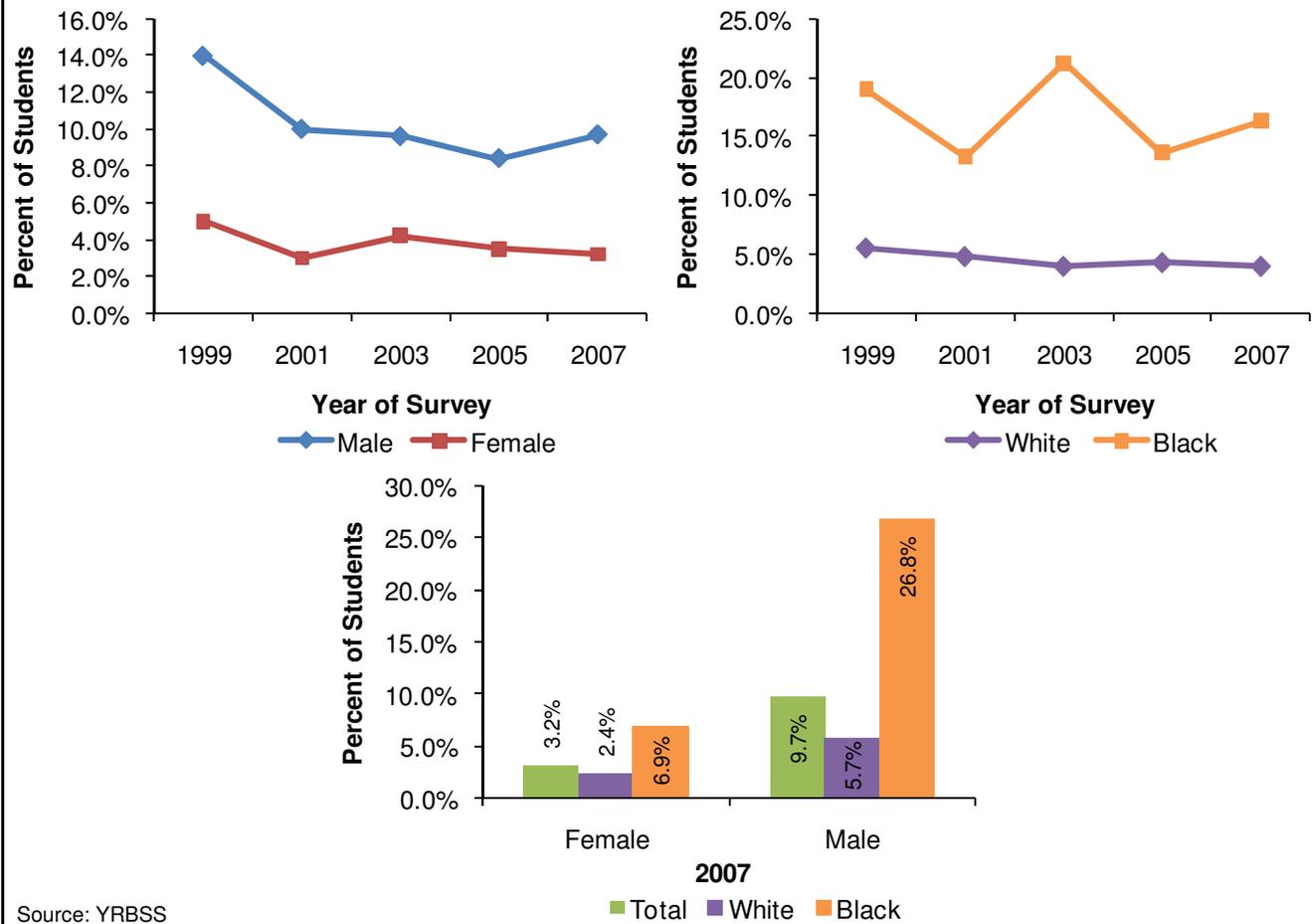


The percent of Missouri high school students reporting sexual intercourse with at least one person within three months of the survey (i.e., recent sexual activity) remained generally steady between the 1999 and 2007 survey periods among both males and females (Figure 55). There were not significant differences in the percent of students reporting recent sexual activity between males and females over the survey periods from 1999 to 2007. The percent of black students reporting recent sexual activity tended to be higher than white students over the survey periods from 1999 to 2007, although the differences were not statistically significant in 2003 and 2007. In 2007, there were not significant differences in the percent of students reporting recent sexual activity by race or by sex.



The percent of Missouri high school students reporting four or more sexual partners during their life remained generally steady among both males and females over the survey periods from 1999 to 2007 (Figure 56). Although the point estimate of the percent of students reporting four or more sexual partners tended to be higher for males than females in all survey periods from 1999 to 2007, the differences were not statistically significant. A greater percentage of blacks reported four or more lifetime sexual partners compared to whites in each survey year from 1999 to 2007. The decrease in the point estimate of the percentage of blacks reporting four or more sexual partners during the 2005 survey should be interpreted with caution as the lower estimate may solely be due to chance alone. In 2007, there were not differences in the percent of student reporting four or more lifetime sexual partner between white females and white males, or between black females and black males, or between white females and black females. A significantly greater percentage of black males reported four or more lifetime sexual partners compared to white males.

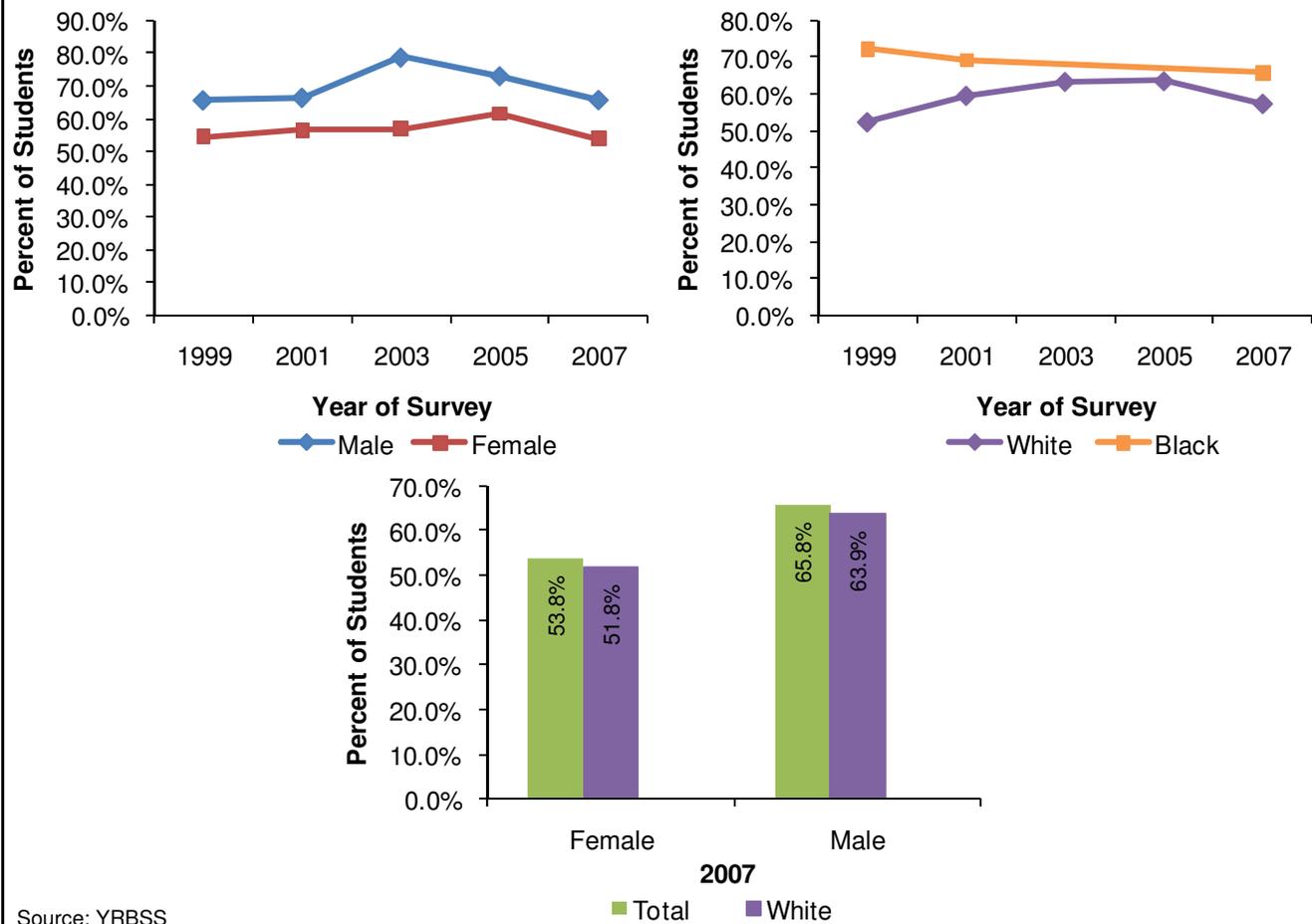
**Figure 57. Percent of students who had sexual intercourse before age 13 years, by sex, by race/ethnicity, Missouri, 1999-2007**



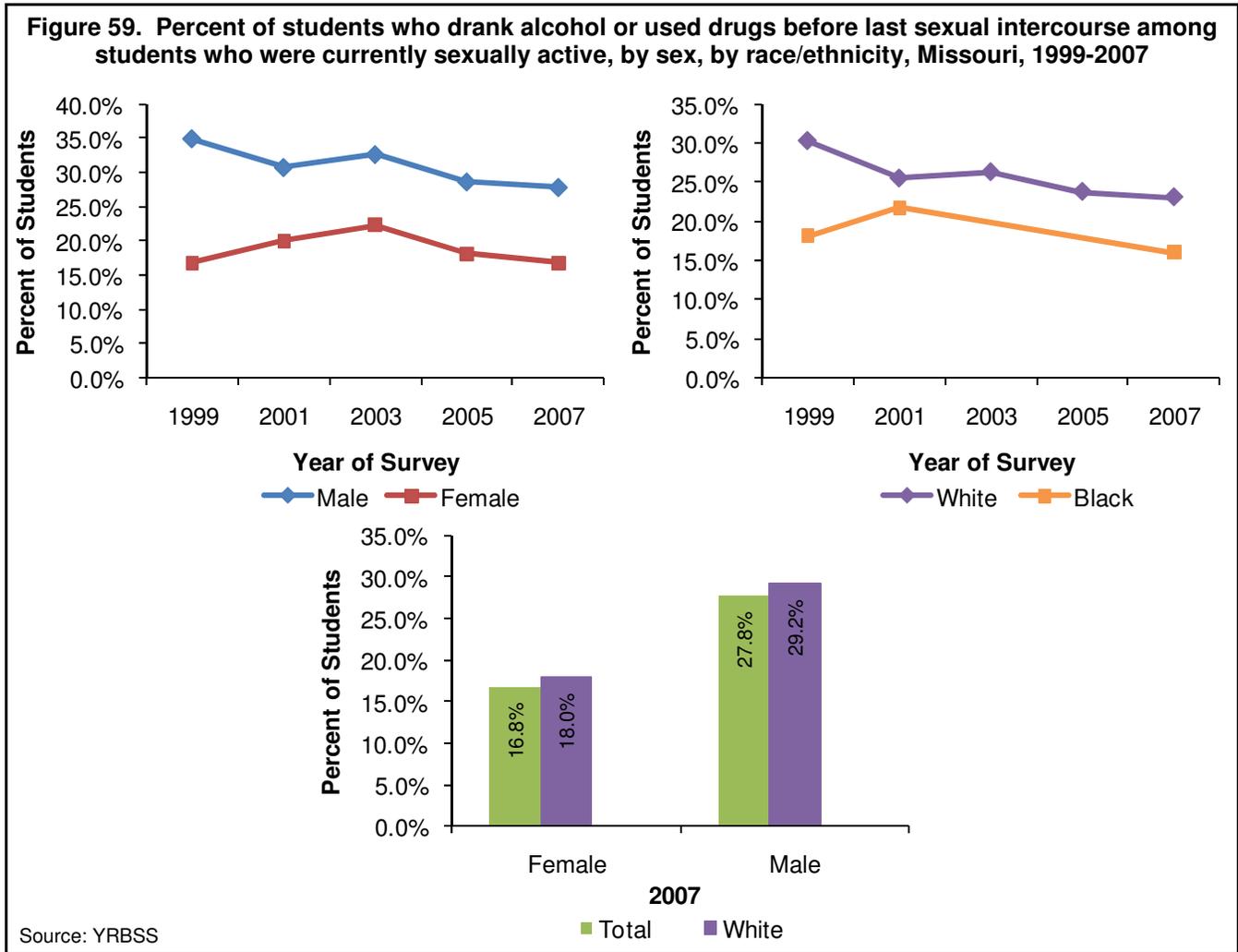
Source: YRBSS

The percent of Missouri high school students who had sexual intercourse before 13 years of age was generally steady over the surveys conducted between 1999 and 2007 (Figure 57). A greater percentage of males tended to reported first having sex before 13 years of age compared to all females, although the difference was not significant in the 2005 survey. A significantly greater percentage of blacks reported first having sex before 13 years of age compared to whites in all survey years between 1999 and 2007. The fluctuation in the percent of blacks reporting first having sex before 13 years of age over the survey years of 1999 to 2007 should be interpreted with caution, as the differences may solely be due to chance alone. In 2007, a significantly greater percentage of black males reported first having sex before 13 years of age compared to black females and compared to white males. There were not differences in the percent of students first having sex before 13 years of age between white females and black females, and between white females and white males.

**Figure 58. Percent of students who reported either they or their partner used a condom during last sexual intercourse among students who were currently sexually active, by sex, by race/ethnicity, Missouri, 1999-2007**



Among Missouri high school students who were currently sexually active at the time of the survey, the percent that reported using a condom during their most recent sexual intercourse remained generally stable over the surveys from 1999 to 2007 (Figure 58). Although the estimated percent of sexually active students that used a condom tended to be higher for males compared to females, the differences were generally not significant in each of the survey years from 1999 to 2007. Due to the small sample size of black high school students who were currently sexually active, estimates of condom use among black students were not produced for the surveys in 2003 and 2005. In the remaining survey years, there were not significant differences in condom use at last sexual intercourse between whites and blacks. Overall in 2007, 59% of currently sexually active high school students used a condom during their last sexual intercourse. Estimates of condom use among black males and females in 2007 were not available due to small sample sizes. Although the estimate of the percent of currently active total males and white males using a condom at last sexual intercourse tended to be greater than the percent among total females and white females, respectively, the differences were not significant.



The percent of currently sexually active Missouri high school students who drank alcohol or used drugs before their last sexual intercourse remained generally stable over the survey periods from 1999 to 2007 (Figure 59). A greater percentage of sexually active males tended to report substance use prior to sexual intercourse compared to females, although the differences were not significant in 2003 or 2007. Due to the small sample size of black high school students who were currently sexually active, estimates of alcohol and drug use before last sexual intercourse among black students were not produced for the surveys in 2003 and 2005. In 1999, a significantly greater percentage of whites used alcohol or drugs before sexual intercourse compared to blacks. However, in the other survey years where estimates were available for both whites and blacks, the differences were not significant between whites and blacks. Overall in 2007, 22% of currently sexually active Missouri high school students used alcohol or drugs prior to their last sexual intercourse. Estimates of alcohol and drug use before last sexual intercourse were not available for black males or females in 2007 due to the small sample size. Although the estimate of the percent of currently sexually active total males and white males who used alcohol or drugs before their last sexual intercourse tended to be greater than the percent among total females and white females, respectively, the differences were not significant.

**Table 47. Percent of schools with policy and curriculum regarding HIV, STD, and pregnancy prevention, Missouri and 47 U.S. states, 2007-2008 school year**

| Grades Levels    | Topic taught in a required course   | % Missouri Schools | Median % among Schools in 47 States |
|------------------|---|--------------------|-------------------------------------|
| 6, 7, or 8       | The differences between HIV and AIDS  | 82.8               | 82.8                                |
|                  | How HIV and other STDs are transmitted  | 85.0               | 84.8                                |
|                  | How HIV and other STDs are diagnosed and treated  | 79.9               | 77.2                                |
|                  | The health consequences of HIV, other STDs, and pregnancy   | 83.2               | 82.8                                |
|                  | Compassion for persons living with HIV or AIDS  | 64.4               | 63.6                                |
|                  | <b><i>The benefits of being sexually abstinent</i></b>  | <b>81.1</b>        | <b>81.6</b>                         |
|                  | <b><i>How to prevent HIV, other STDs and pregnancy</i></b>  | <b>79.5</b>        | <b>82.9</b>                         |
|                  | <b><i>How to access valid and reliable information, products, and services related to HIV, other STDs, and pregnancy</i></b>        | <b>71.5</b>        | <b>69.0</b>                         |
|                  | <b><i>The influences of media, family, and social and cultural norms on sexual behavior</i></b>                                     | <b>76.4</b>        | <b>75.4</b>                         |
|                  | <b><i>Communication and negotiation skills related to eliminating or reducing risk for HIV, other STDs, and pregnancy</i></b>       | <b>73.2</b>        | <b>72.7</b>                         |
|                  | <b><i>Goal-setting and decision-making skills related to eliminating or reducing risk for HIV, other STDs, and pregnancy</i></b>    | <b>75.0</b>        | <b>74.8</b>                         |
|                  | All 11 HIV, STD, and pregnancy prevention topics  | 56.6               | 51.8                                |
| 9, 10, 11, or 12 | The relationship among HIV, other STDs and pregnancy  | 94.1               | 94.1                                |
|                  | The relationship between alcohol and other drug use and risk for HIV, other STDs, and pregnancy                                     | 92.8               | 94.8                                |
|                  | Efficacy of condoms   | 71.8               | 81.4                                |
|                  | Importance of using condoms consistently and correctly  | 61.3               | 72.9                                |
|                  | How to obtain condoms   | 47.5               | 62.9                                |
|                  | <b><i>The benefits of being sexually abstinent</i></b>  | <b>94.0</b>        | <b>94.8</b>                         |
|                  | <b><i>How to prevent HIV, other STDs, and pregnancy</i></b>   | <b>94.8</b>        | <b>94.8</b>                         |
|                  | <b><i>How to access valid and reliable health information, products, and services related to HIV, other STDs, and pregnancy</i></b> | <b>87.4</b>        | <b>90.6</b>                         |
|                  | <b><i>The influences of media, family, and social and cultural norms on sexual behavior</i></b>                                     | <b>91.0</b>        | <b>91.2</b>                         |
|                  | <b><i>Communication and negotiation skills related to eliminating or reducing risk for HIV, other STDs, and pregnancy</i></b>       | <b>91.8</b>        | <b>90.3</b>                         |
|                  | <b><i>Goal-setting and decision-making skills related to eliminating or reducing risk for HIV, other STDs, and pregnancy</i></b>    | <b>88.3</b>        | <b>90.9</b>                         |
|                  | All 11 HIV, STD, and pregnancy prevention topics  | 40.6               | 57.0                                |

Topics in bold italics represent the topics that were assessed in both grade level divisions  
Source: School Health Profiles

Among sixth, seventh, and eighth graders, a slightly greater percentage of schools in Missouri covered all eleven HIV, STD, and pregnancy prevention topics (57%) compared to the median estimates for schools in all 47 states surveyed (52%) (Table 47). When assessing individual topics taught in sixth, seventh, and eighth grades, the percent of schools teaching the topics in Missouri was similar to the median percent of all 47 states surveyed.

The percent of Missouri schools teaching all eleven HIV, STD, and pregnancy prevention topics to ninth, tenth, eleventh, and twelfth graders was lower (41%) than the median percent among all 47 states surveyed (57%). Among the topics assessed at the high school level, teaching topics related to condom use, availability, and efficacy tended to be lower among Missouri schools compared to the survey median. The percent of Missouri schools teaching the other individual health topics at the high school level tended to be similar to the median percent of all 47 states surveyed.

Of topics reviewed in both grade level divisions (i.e. sixth, seventh, or eighth grade versus ninth, tenth, eleventh, or twelfth grade), a greater percent of Missouri schools addressed each of the topics at the higher grade levels compared to the lower grade levels.

**Table 48. Substance abuse treatment admissions by primary substance of abuse, by sex, by age at admission, by race, and by ethnicity, Missouri, 2008**

|  | PRIMARY SUBSTANCE |               |                             |                  |                       |               |              |               |            |               |              |                  |               |           |           |                |
|--|-------------------|---------------|-----------------------------|------------------|-----------------------|---------------|--------------|---------------|------------|---------------|--------------|------------------|---------------|-----------|-----------|----------------|
|  | Total             | Alcohol only  | Alcohol with secondary drug | Cocaine (smoked) | Cocaine (other route) | Marijuana     | Heroin       | Other opiates | PCP        | Hallucinogens | Amphetamines | Other stimulants | Tranquilizers | Sedatives | Inhalants | Other/ Unknown |
| <b>Total</b>                                       | <b>No. 48,597</b> | <b>10,732</b> | <b>8,384</b>                | <b>5,101</b>     | <b>1,057</b>          | <b>12,560</b> | <b>2,991</b> | <b>2,031</b>  | <b>249</b> | <b>46</b>     | <b>4,491</b> | <b>13</b>        | <b>409</b>    | <b>55</b> | <b>64</b> | <b>414</b>     |
|  | %                 | 100.0         | 22.1                        | 17.3             | 10.5                  | 2.2           | 25.8         | 6.2           | 4.2        | 0.5           | 9.2          | 0                | 0.8           | 0.1       | 0.1       | 0.9            |
| <b>Sex</b>   |                   |               |                             |                  |                       |               |              |               |            |               |              |                  |               |           |           |                |
| Male   | %                 | 69.7          | 78.3                        | 76.5             | 58.6                  | 67.9          | 74.8         | 55.7          | 48.6       | 75.1          | 57.9         | 46.2             | 37.4          | 32.7      | 60.9      | 62.3           |
| Female   | %                 | 30.3          | 21.7                        | 23.5             | 41.4                  | 32.1          | 25.2         | 44.3          | 51.4       | 24.9          | 42.1         | 53.8             | 62.6          | 67.3      | 39.1      | 37.7           |
| Total  | %                 | 100           | 100                         | 100              | 100                   | 100           | 100          | 100           | 100        | 100           | 100          | 100              | 100           | 100       | 100       | 100            |
| <b>Age at Admission</b>                            |                   |               |                             |                  |                       |               |              |               |            |               |              |                  |               |           |           |                |
| 0-11 years   | %                 | 0             | 0                           | 0                | 0                     | 0             | 0            | 0             | 0          | 0             | 0            | 0                | 0             | 0         | 0         | 0              |
| 12-17 years  | %                 | 6.1           | 1.1                         | 3.3              | 0.3                   | 2.3           | 18.2         | 1.2           | 3.0        | 0.4           | 23.9         | 1.5              | 38.5          | 7.3       | 5.5       | 40.6           |
| 18-20 years  | %                 | 5.9           | 2.9                         | 5.0              | 1.2                   | 4.1           | 11.3         | 6.1           | 6.4        | 5.2           | 15.2         | 5.2              | 7.3           | 5.5       | 6.3       | 5.8            |
| 21-25 years  | %                 | 16.6          | 9.8                         | 15.7             | 5.8                   | 16.2          | 24.6         | 22.9          | 23.0       | 22.9          | 34.8         | 16.8             | 19.1          | 10.9      | 3.1       | 17.6           |
| 26-30 years  | %                 | 16.4          | 11.9                        | 15.3             | 8.8                   | 18.6          | 17.7         | 27.1          | 24.2       | 27.7          | 19.6         | 22.2             | 15.4          | 21.5      | 18.2      | 16.7           |
| 31-35 years  | %                 | 11.8          | 10.2                        | 11.5             | 11.4                  | 12.3          | 10.2         | 14.9          | 14.4       | 19.3          | 0            | 17.8             | 15.4          | 11.5      | 12.7      | 11.6           |
| 36-40 years  | %                 | 11.8          | 13.4                        | 12.8             | 17.6                  | 13.2          | 6.9          | 9.7           | 9.9        | 14.5          | 4.3          | 15.6             | 0             | 9.3       | 29.1      | 7.8            |
| 41-45 years  | %                 | 12.6          | 17.3                        | 15.2             | 23.6                  | 13.5          | 5.4          | 6.9           | 6.9        | 5.6           | 0            | 11.8             | 7.7           | 9.5       | 5.5       | 12.5           |
| 46-50 years  | %                 | 10.6          | 16.5                        | 13.0             | 19.8                  | 13.3          | 3.6          | 4.8           | 6.7        | 3.2           | 2.2          | 6.2              | 23.1          | 9.3       | 9.1       | 1.6            |
| 51-55 years  | %                 | 5.2           | 9.6                         | 5.9              | 7.7                   | 4.7           | 1.5          | 4.1           | 3.4        | 0.8           | 0            | 2.4              | 0             | 4.2       | 1.8       | 1.6            |
| 56-60 years  | %                 | 1.9           | 4.6                         | 1.8              | 2.6                   | 1.3           | 0.3          | 1.8           | 1.5        | 0.4           | 0            | 0.4              | 0             | 0.5       | 0         | 1.0            |
| 61-65 years  | %                 | 0.7           | 1.9                         | 0.5              | 0.9                   | 0.3           | 0.1          | 0.3           | 0.4        | 0             | 0            | 0.1              | 0             | 0         | 1.8       | 0              |
| 66 years and over                                  | %                 | 0.2           | 0.8                         | 0.1              | 0.1                   | 0.1           | 0            | 0.2           | 0          | 0             | 0            | 0                | 0             | 0.5       | 0         | 0              |
| Total  | %                 | 100           | 100                         | 100              | 100                   | 100           | 100          | 100           | 100        | 100           | 100          | 100              | 100           | 100       | 100       | 100            |
| <b>Race</b>  |                   |               |                             |                  |                       |               |              |               |            |               |              |                  |               |           |           |                |
| White  | %                 | 71.4          | 84.6                        | 76.8             | 32.2                  | 57.1          | 65.4         | 58.3          | 92.1       | 5.6           | 71.7         | 95.4             | 92.3          | 95.4      | 96.4      | 95.3           |
| Black  | %                 | 25.1          | 11.5                        | 19.7             | 65.0                  | 37.1          | 30.6         | 38.7          | 4.9        | 94.0          | 19.6         | 1.8              | 0             | 2.9       | 3.6       | 3.1            |
| American Indian or Alaskan Native                  | %                 | 0.3           | 0.4                         | 0.4              | 0.4                   | 0.1           | 0.1          | 0             | 0.2        | 0             | 0            | 0.2              | 0             | 0.2       | 0         | 0.2            |
| Asian or Native Hawaiian or Other Pacific Islander | %                 | 0.1           | 0.2                         | 0.1              | 0.2                   | 0.3           | 0.1          | 0.1           | 0.1        | 0             | 2.2          | 0.1              | 0             | 0.5       | 0         | 0              |
| Other  | %                 | 1.2           | 1.6                         | 0.9              | 0.6                   | 2.6           | 1.4          | 0.8           | 0.8        | 0             | 0            | 0.8              | 0             | 0.2       | 0         | 1.6            |
| Unknown  | %                 | 2.0           | 1.7                         | 2.0              | 1.6                   | 2.8           | 2.3          | 2.0           | 1.8        | 0.4           | 6.5          | 1.8              | 7.7           | 0.7       | 0         | 1.4            |
| Total  | %                 | 100           | 100                         | 100              | 100                   | 100           | 100          | 100           | 100        | 100           | 100          | 100              | 100           | 100       | 100       | 100            |
| <b>Ethnicity</b>                                   |                   |               |                             |                  |                       |               |              |               |            |               |              |                  |               |           |           |                |
| Hispanic   | %                 | 1.9           | 2.4                         | 1.6              | 1.2                   | 3.4           | 1.9          | 1.2           | 1.8        | 0.8           | 2.2          | 2.0              | 7.7           | 0.5       | 0         | 1.7            |
| Not Hispanic                                       | %                 | 98.1          | 97.6                        | 98.4             | 98.8                  | 96.6          | 98.1         | 98.8          | 98.2       | 99.2          | 97.8         | 98.0             | 92.3          | 99.5      | 100.0     | 98.3           |
| Total  | %                 | 100           | 100                         | 100              | 100                   | 100           | 100          | 100           | 100        | 100           | 100          | 100              | 100           | 100       | 100       | 100            |

Source: TEDS

In 2008, 48,597 admissions to substance abuse treatment centers in Missouri receiving public funding were recorded (Table 48). The most common primary substance of abuse among treatment center admissions was marijuana (26%); alcohol use only was the second most common primary substance of abuse (22%). The majority of the total admissions were among males (70%). Females represented a greater proportion of admissions compared to males among persons admitted with a primary substance of abuse of other opiates, other stimulants, tranquilizers, or sedatives. Although persons 21 to 25 years of age comprised 17% of the total admissions, this age group comprised 35% of the admissions where hallucinogens were the primary substance of abuse. Although persons 21 to 25 and persons 26 to 30 years of age comprised 17% and 16% of the total admissions, these age groups represented 23% and 27% of the admissions where heroin was the primary substance of abuse, respectively. Persons 36 to 50 years of age disproportionately represented treatment admissions related to smoked cocaine use. Whites represented the majority of total treatment admissions (71%). However, blacks, of any ethnicity, represented the majority of treatment admissions among persons admitted for smoked cocaine use and PCP use.

|   | N          | %         |
|---|------------|-----------|
| <b>Total Facilities</b>                               | <b>257</b> | <b>--</b> |
| Methadone Therapy                                     | 13         | 5.1       |
| HIV testing   | 47         | 18.3      |
| TB screening  | 34         | 13.2      |
| Hepatitis B screening                                 | 74         | 28.8      |
| Hepatitis C screening                                 | 39         | 15.2      |
| STD testing   | 44         | 17.1      |
| HIV/AIDS education, counseling, or support            | 118        | 45.9      |
| Early intervention for HIV                            | 30         | 11.7      |
| Program specifically for persons living with HIV/AIDS | 6          | 2.3       |

Source: SAMSHA, National Survey of Substance Abuse Treatment Services

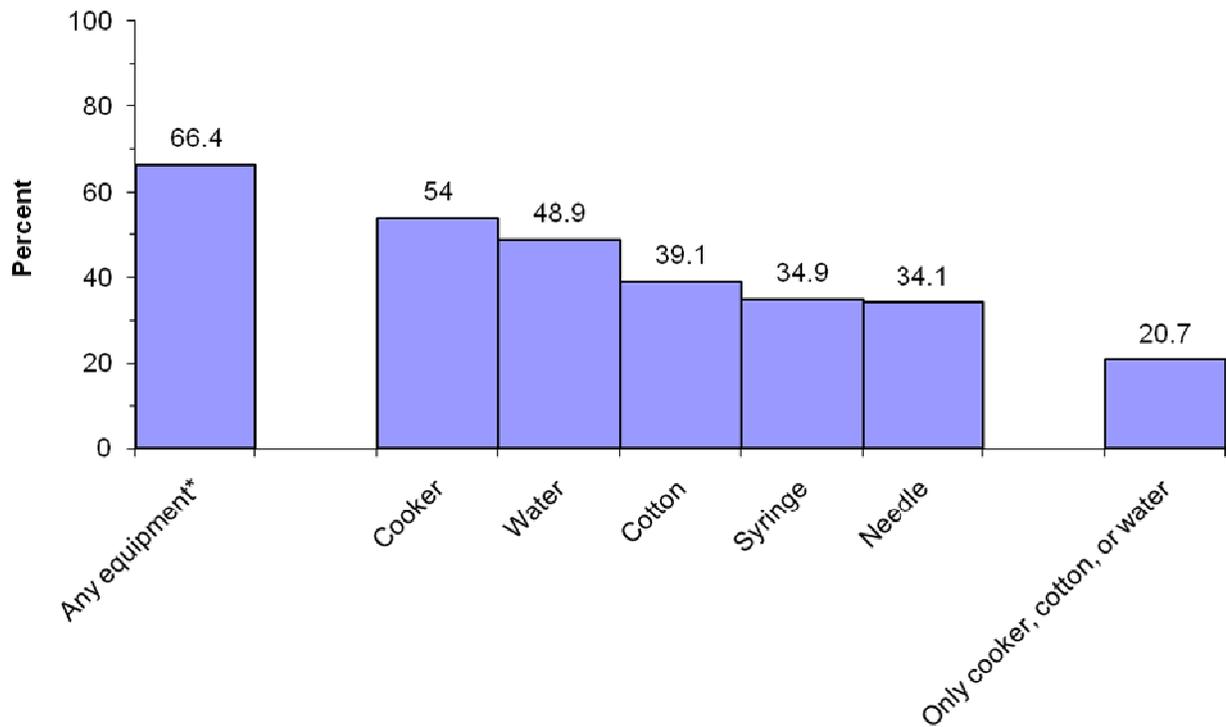
There were 257 substance abuse treatment facilities in Missouri that responded to the National Survey of Substance Abuse Treatment Services (N-SSATS) in 2008 (Table 49). Of responding facilities, only 13% offered TB screening; 15% offered Hepatitis C screening; 17% offered STD testing; 18% offered HIV testing; and 29% offered Hepatitis B screening. Although testing for HIV was not common among the facilities (18%), 46% of facilities offered HIV/AIDS education, counseling or support. However, only 2% of facilities had a program designed specifically for persons living with HIV/AIDS. Given the strong body of evidence linking substance abuse with risky sexual behaviors, more widespread screening of STDs, Hepatitis B and C, and HIV may be an important recommendation to substance abuse treatment facilities.

**Table 50. Select drug and alcohol use, by age, Missouri, 2006-2007**

| Measure  | 12-17 |      | Age<br>18-25 |      | 26+   |      |
|--|-------|------|--------------|------|-------|------|
|  | N     | %*   | N            | %*   | N     | %*   |
| <b>Illicit Drugs</b>   |       |      |              |      |       |      |
| Past Month Illicit Drug Use <sup>1</sup>   | 47    | 9.5  | 119          | 18.8 | 220   | 5.9  |
| Past Year Marijuana Use  | 61    | 12.4 | 157          | 24.7 | 263   | 7.1  |
| Past Month Marijuana Use   | 32    | 6.4  | 90           | 14.2 | 145   | 3.9  |
| Past Month Use of Illicit Drugs Other Than Marijuana <sup>1</sup>  | 26    | 5.2  | 62           | 9.7  | 113   | 3.1  |
| Past Year Cocaine Use  | 8     | 1.6  | 38           | 6.0  | 60    | 1.6  |
| Past Year Nonmedical Pain Reliever Use   | 36    | 7.3  | 79           | 12.5 | 129   | 3.5  |
| <b>Alcohol</b>   |       |      |              |      |       |      |
| Past Month Alcohol Use   | 80    | 16.3 | 402          | 63.4 | 1,949 | 52.7 |
| Past Month Binge Alcohol Use <sup>2</sup>  | 51    | 10.3 | 282          | 44.6 | 839   | 22.7 |
| Perception of Great Risk of Drinking Five or More Drinks Once or Twice a Week  | 175   | 35.5 | 170          | 26.9 | 1,559 | 42.1 |
| <b>Past Year Dependence, Abuse and Treatment</b>   |       |      |              |      |       |      |
| Illicit Drug Dependence <sup>1</sup>   | 12    | 2.5  | 31           | 4.8  | 42    | 1.1  |
| Illicit Drug Dependence or Abuse <sup>1</sup>  | 22    | 4.4  | 50           | 7.9  | 63    | 1.7  |
| Alcohol Dependence   | 11    | 2.1  | 48           | 7.6  | 112   | 3.0  |
| Alcohol Dependence or Abuse  | 29    | 5.8  | 122          | 19.2 | 237   | 6.4  |
| Alcohol or Illicit Drug Dependence or Abuse <sup>1</sup>   | 40    | 8.2  | 146          | 23.1 | 277   | 7.5  |
| Needing But Not Receiving Treatment for Illicit Drug Use <sup>1,3</sup>  | 20    | 4.0  | 47           | 7.4  | 56    | 1.5  |
| Needing But Not Receiving Treatment for Alcohol Use <sup>4</sup>   | 27    | 5.5  | 114          | 18.0 | 225   | 6.1  |
| Serious Psychological Distress <sup>5</sup>  | --    | --   | 121          | 19.1 | 443   | 12.0 |
| Having at least one major depressive episode <sup>6</sup>  | 45    | 9.1  | 61           | 9.7  | 310   | 8.4  |
| *Percent of population within the age group with the measure of interest   |       |      |              |      |       |      |
| <sup>1</sup> Includes marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics not used for medical reasons.  |       |      |              |      |       |      |
| <sup>2</sup> Drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days.   |       |      |              |      |       |      |
| <sup>3</sup> Respondents classified as needing treatment for illicit drugs, but not receiving treatment for an illicit drug problem at a specialty facility (i.e., drug and alcohol rehabilitation facilities [inpatient or outpatient], hospitals [inpatient only], and mental health centers).                   |       |      |              |      |       |      |
| <sup>4</sup> Respondents classified as needing treatment for alcohol, but not receiving treatment for an alcohol problem at a specialty facility (i.e., drug and alcohol rehabilitation facilities [inpatient or outpatient], hospitals [inpatient only], and mental health centers).                              |       |      |              |      |       |      |
| <sup>5</sup> Serious psychological distress (SPD) is defined as having a score of 13 or higher on the K6 scale.  |       |      |              |      |       |      |
| <sup>6</sup> Defined as in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), which specifies a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of specified depression symptoms. |       |      |              |      |       |      |
| Source: SAMHSA, National Survey on Drug Use and Health   |       |      |              |      |       |      |

A greater proportion of the population 18 to 25 years of age reported various illicit drug use and alcohol use compared to persons 12 to 17 years of age and persons 26 years of age or older (Table 50). Past year dependence and abuse of illicit drugs and alcohol was also greater among persons 18 to 25 years of age compared to the other age groups. The percent of persons 12 to 17 years of age using various illicit drugs tended to be higher than the percent among persons 26 years of age or older. These findings suggest that prevention efforts regarding the relationship between substance use and risky sexual behaviors should target persons 18 to 25 years of age. The greatest numbers of new HIV diagnoses in recent years have been among persons in this age range.

**Figure 60. Percent of injection drug users sharing injection equipment in the past year, St. Louis MSA, 2005**



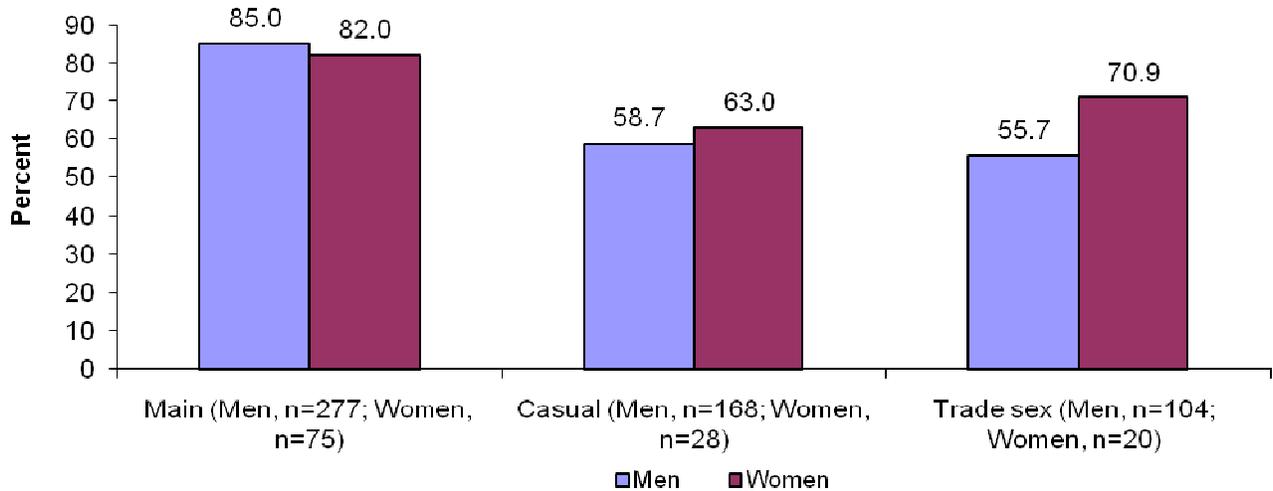
Source: NHBS, IDU Cycle, 2005  
 Analysis by Dr. Mei Lin, MDHSS, Division of Community and Public Health

In 2005, 515 IDU from the St. Louis MSA, selected using respondent driven sampling, completed a survey regarding HIV-related risk behaviors, HIV testing, and access to HIV prevention services. The results from the survey can be applied to IDU in the St. Louis MSA. However, these data are not able to be generalized to IDU in the state of Missouri overall.

Among survey participants, 71% were male, 94% were black, and 36% were 50 years of age or more. An estimated 68% of IDU first began injecting drugs before the age of 25. The most commonly injected drug was heroin, with 98% of survey participants reporting injecting heroin in the past year. Daily injection drug use was common, with 75% of participants reporting injecting drugs at least once a day. Most IDU (81%) reported using non-injection drugs, that were not medically prescribed, in the past year in addition to injection drugs. Marijuana was the most commonly reported non-injection drug used (65%).

Among IDU, 66% reported sharing any type of injection equipment in the past year (Figure 60). The cooker was the most frequently reported piece of injection equipment that was shared in the past year. An estimated 34% of IDU reported sharing a needle in the past year.

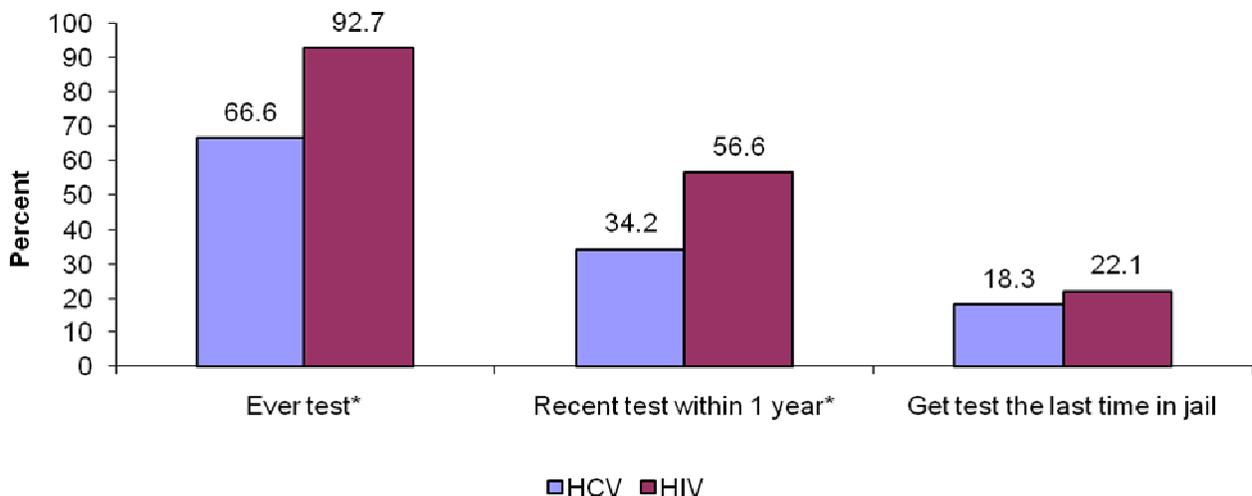
**Figure 61. Percent of injection drug users reporting unprotected sex at last heterosexual sexual activity, by partner type, St. Louis MSA, 2005**



Source: NHBS, IDU Cycle, 2005  
 Analysis by Dr. Mei Lin, MDHSS, Division of Community and Public Health

Among survey participants, 94% considered themselves to be heterosexual, 5% considered themselves to be bisexual, and less than one percent considered themselves to be homosexual. The percent of IDU that reported unprotected sex at last heterosexual sexual activity varied by partner type (Figure 61). Unprotected sex was most frequently reported at last sexual activity with a main partner (85% males, 82% females). However, even at last sexual activity with a casual partner or when trading sex for money, drugs, or other gifts, the majority reported having unprotected sex. Females tended to be slightly more likely to report unprotected sex compared to males, both among casual partners and when exchanging sex for money, drugs, or other gifts. These findings highlight the need for continued education among IDU regarding the importance of safer sexual practices to prevent disease transmission.

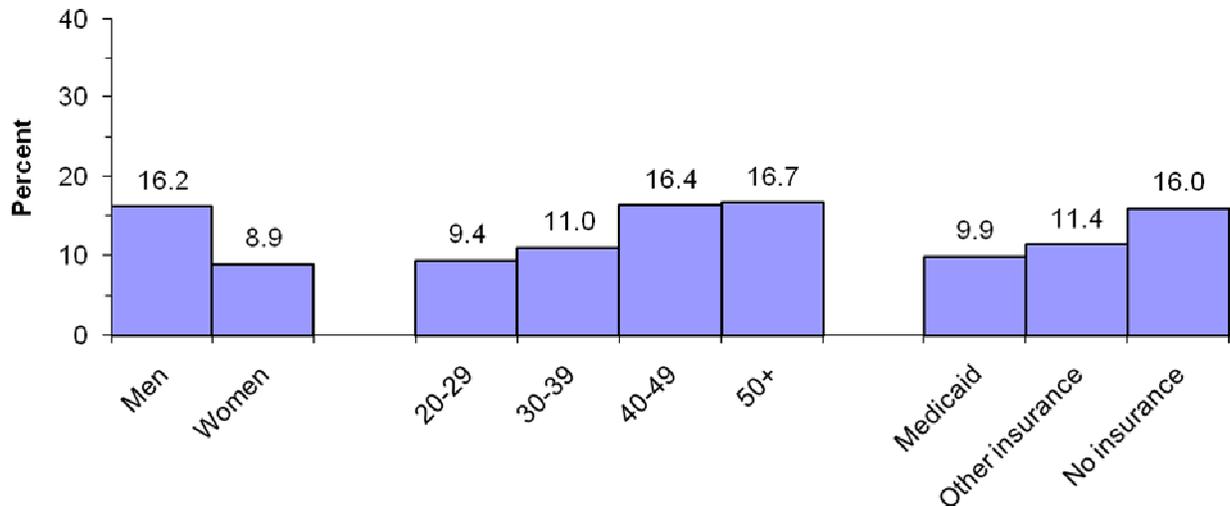
**Figure 62. Percent of injection drug users tested for HIV and Hepatitis C (HCV), St. Louis MSA, 2005**



Source: NHBS, IDU Cycle, 2005  
 Analysis by Dr. Mei Lin, MDHSS, Division of Community and Public Health

Most IDU have been tested for HIV at least once in their lifetime (93%), and over half (57%) have been tested in the past year (Figure 62). The percent of IDU ever tested for hepatitis C and tested within the past year was lower than the percent of IDU tested for HIV. Over half (67%) of IDU had ever been tested for hepatitis C, and 34% had been tested in the past year. Of IDU that had been incarcerated, 22% reported receiving an HIV test the last time they were incarcerated, and 18% reported receiving a test for hepatitis C.

**Figure 63. Percent of injection drug users who attended HIV prevention activities in the past year, by sex, by age, by health insurance, St. Louis MSA, 2005**



Source: NHBS, IDU Cycle, 2005

Analysis by Dr. Mei Lin, MDHSS, Division of Community and Public Health

Only 14% of IDU participated in an individual or group level HIV prevention activity in the past year. The likelihood of participation varied slightly by sex, age, and health insurance coverage type (Figure 63). Males were more likely to have participated in an HIV prevention activity in the past year (16%) compared to females (9%). Participation tended to be higher among persons 40 years of age or older compared to younger individuals. Participation in an HIV prevention activity was slightly higher among IDU with no health insurance (16%) compared to those with Medicaid (10%) and IDU with another type of health insurance (11%). Awareness of many local organizations offering HIV prevention activities was low. Although nearly all IDU reported having heard that HIV prevention services could be obtained from the Red Cross (98%), only 22%, 20%, and 17% of IDU had heard of HIV prevention services at Reach St. Louis, St. Louis Effort for AIDS, and Project Ark, respectively. This finding suggests that additional efforts to promote HIV prevention organizations to IDU in the St. Louis area may be warranted.

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

### **Magnitude of the Problem**

- There were 5,501 Missourians enrolled in HIV medical case management, and 3,359 Missourians enrolled in ADAP in 2009.
- HIV medical case management was the Ryan White funded service utilized by the largest number of clients in the state; mean service utilization was also greatest for HIV medical case management.
- Among Missourians whose primary reason for hospitalization in 2007 was related to HIV, 65% of the hospitalizations were paid for by Medicare or Medicaid.
- Among persons recently diagnosed with HIV, 77% entered medical care, as measured by the receipt of a CD4 lymphocyte or viral load laboratory result at MDHSS, within one year of diagnosis, and 90% had entered medical care within four years of diagnosis.

### **Where**

- The mean number of HIV medical case management visits in 2009 was greatest in the St. Louis HIV region; on average persons in the St. Louis HIV region utilized case management 16 times in 2009.
- The mean number of primary care visits in 2009 among clients utilizing Ryan White funds was greatest in the Southwest HIV region; on average persons in the Southwest HIV region received primary medical care over six times in 2009.
- Persons recently diagnosed with HIV in the St. Louis HIV region were less likely to enter medical care, as measured by the receipt of a CD4 lymphocyte or viral load laboratory result at MDHSS, within four years of their diagnosis compared to persons diagnosed with HIV in other HIV regions.

### **Who**

#### *Sex*

- A greater proportion of persons enrolled in case management and ADAP were females compared to the proportion among persons living with HIV disease.
- Among persons hospitalized in 2007 related to HIV, the average number of days of hospitalization per discharge and the average charges per day hospitalized were greater for females than males.
- Females recently diagnosed with HIV disease were more likely to enter medical care, as measured by the receipt of a CD4 lymphocyte or viral load laboratory result at MDHSS, within 12 months of diagnosis compared to males.

#### *Race/Ethnicity*

- Minorities represented a greater proportion of persons enrolled in case management and ADAP in 2009 compared to the proportion of minorities among persons living with HIV disease in Missouri.
- Blacks represented a greater proportion of clients utilizing Ryan White funded transportation services compared to the proportion they represented among other service categories.
- Hispanics tended to have a greater mean number of primary medical care visits than persons of another race/ethnicity.
- Blacks recently diagnosed with HIV disease were less likely to enter medical care, as measured by the receipt of a CD4 lymphocyte or viral load laboratory result at MDHSS, within four years compared to whites and Hispanics.

#### *Age*

- Persons 25-44 years of age represented a greater proportion of persons enrolled in case management and ADAP in 2009 compared to the proportion of persons 25-44 years old living with HIV disease in Missouri.
- Among individuals recently diagnosed, as the age at the time of diagnosis increased, the probability of entering medical care within four years of diagnosis also increased.

#### *Exposure Category*

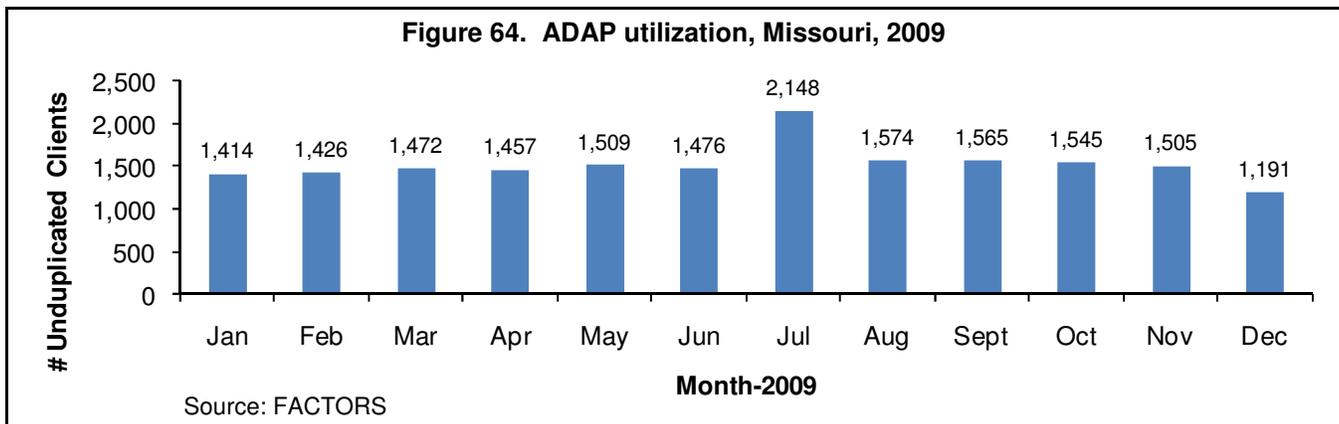
- MSM and persons with no indicated risk recently diagnosed with HIV disease were less likely to enter medical care, as measured by the receipt of a CD4 lymphocyte or viral load laboratory result at MDHSS, within four years compared to adults with other known risk factors.

**Table 51. Demographic characteristics of persons enrolled in HIV medical case management, persons enrolled in ADAP, and persons living with HIV disease, Missouri, 2009**

|                                | <u>Enrolled in Case Management</u> |        | <u>Enrolled in ADAP*</u> |        | <u>Living HIV Disease</u> |        |
|--------------------------------|------------------------------------|--------|--------------------------|--------|---------------------------|--------|
|                                | N                                  | %      | N                        | %      | N                         | %      |
| <b>Current Gender</b>          |                                    |        |                          |        |                           |        |
| Male                           | 4,323                              | 78.6%  | 2,696                    | 80.3%  | 9,253                     | 83.2%  |
| Female                         | 1,130                              | 20.5%  | 634                      | 18.9%  | 1,843                     | 16.6%  |
| Transgender                    | 47                                 | 0.9%   | 28                       | 0.8%   | 26                        | 0.2%   |
| Unknown                        | 1                                  | <0.1%  | 1                        | <0.1%  | 0                         | 0.0%   |
| Total                          | 5,501                              | 100.0% | 3,359                    | 100.0% | 11,122                    | 100.0% |
| <b>Race/Ethnicity</b>          |                                    |        |                          |        |                           |        |
| White                          | 2,654                              | 48.2%  | 1,536                    | 45.7%  | 5,686                     | 51.1%  |
| Black                          | 2,540                              | 46.2%  | 1,586                    | 47.2%  | 4,889                     | 44.0%  |
| Hispanic                       | 238                                | 4.3%   | 193                      | 5.7%   | 402                       | 3.6%   |
| Asian/Pacific Islander         | 22                                 | 0.4%   | 19                       | 0.6%   | 50                        | 0.4%   |
| American Indian/Alaskan Native | 30                                 | 0.5%   | 15                       | 0.4%   | 19                        | 0.2%   |
| Two or More Races/Unknown      | 17                                 | 0.3%   | 10                       | 0.3%   | 76                        | 0.7%   |
| Total                          | 5,501                              | 100.0% | 3,359                    | 100.0% | 11,122                    | 100.0% |
| <b>Current Age<sup>‡</sup></b> |                                    |        |                          |        |                           |        |
| <13                            | 25                                 | 0.5%   | 4                        | 0.1%   | 35                        | 0.3%   |
| 13-18                          | 42                                 | 0.8%   | 10                       | 0.3%   | 60                        | 0.5%   |
| 19-24                          | 301                                | 5.5%   | 230                      | 6.8%   | 447                       | 4.0%   |
| 25-44                          | 2,633                              | 47.9%  | 1,838                    | 54.7%  | 4,931                     | 44.3%  |
| 45-64                          | 2,381                              | 43.3%  | 1,228                    | 36.6%  | 5,246                     | 47.2%  |
| 65+                            | 117                                | 2.1%   | 48                       | 1.4%   | 403                       | 3.6%   |
| Unknown                        | 2                                  | <0.1%  | 1                        | <0.1%  | 0                         | 0.0%   |
| Total                          | 5,501                              | 100.0% | 3,359                    | 100.0% | 11,122                    | 100.0% |

\*ADAP=AIDS Drug Assistance Program  
 ‡As of December 31, 2009  
 Source: FACTORS and eHARS

There were slight variations in the distributions of case management enrollment, ADAP enrollment, and persons living with HIV disease by current gender (Table 51). Differences in demographic information may exist because data regarding persons living with HIV disease were obtained from a different source (eHARS) than information on persons enrolled in case management or ADAP (FACTORS). Females represented a slightly greater proportion of persons enrolled in case management and ADAP compared to persons living with HIV disease. Minorities tended to represent a slightly greater proportion of persons enrolled in case management and ADAP compared to persons living with HIV disease. Persons 25-44 years of age represented a greater proportion of persons enrolled in case management and ADAP compared to persons living with HIV disease.



Utilization of ADAP services in 2009 remained generally steady from January through June, and from August through November (Figure 64). Utilization of ADAP services increased markedly in July, and was lower in December compared to all other months.

**Table 52. Number of unduplicated Missouri clients receiving services through Ryan White funding and the mean number of times the service was utilized, by HIV region, by race/ethnicity, 2009**

|                      | <u>Primary Medical Care</u> |        | <u>Dental</u> |        | <u>Mental Health</u> |        | <u>Transportation Services</u> |        | <u>Case Management</u> |        |
|----------------------|-----------------------------|--------|---------------|--------|----------------------|--------|--------------------------------|--------|------------------------|--------|
|                      | N*                          | Mean** | N*            | Mean** | N*                   | Mean** | N*                             | Mean** | N*                     | Mean** |
| <b>St. Louis</b>     |                             |        |               |        |                      |        |                                |        |                        |        |
| White                | 375                         | 5.9    | 323           | 3.1    | 67                   | 5.9    | 108                            | 3.4    | 929                    | 12.3   |
| Black                | 746                         | 5.5    | 411           | 2.9    | 102                  | 4.0    | 443                            | 5.0    | 1,624                  | 18.6   |
| Hispanic             | 37                          | 6.1    | 22            | 3.3    | 3                    | 2.0    | 7                              | 2.4    | 64                     | 11.6   |
| Other                | 27                          | 5.4    | 8             | 3.8    | 3                    | 8.7    | 7                              | 4.7    | 28                     | 14.8   |
| Total                | 1,185                       | 5.7    | 764           | 3.0    | 175                  | 4.8    | 565                            | 4.7    | 2,645                  | 16.2   |
| <b>Kansas City</b>   |                             |        |               |        |                      |        |                                |        |                        |        |
| White                | 294                         | 4.4    | 124           | 2.4    | 29                   | 4.1    | 12                             | 2.5    | 678                    | 12.5   |
| Black                | 363                         | 4.4    | 123           | 2.4    | 11                   | 5.5    | 3                              | 1.7    | 737                    | 15.9   |
| Hispanic             | 70                          | 5.6    | 18            | 1.5    | 1                    | 1.0    | 1                              | 2.0    | 111                    | 11.1   |
| Other                | 17                          | 3.1    | 2             | 3.5    | 0                    | --     | 0                              | --     | 29                     | 12.3   |
| Total                | 744                         | 4.5    | 267           | 2.4    | 41                   | 4.4    | 16                             | 2.3    | 1,555                  | 14.0   |
| <b>Northwest</b>     |                             |        |               |        |                      |        |                                |        |                        |        |
| White                | 37                          | 2.4    | 6             | 1.8    | 2                    | 4.0    | 0                              | --     | 54                     | 9.0    |
| Black                | 10                          | 2.9    | 0             | --     | 0                    | --     | 0                              | --     | 17                     | 10.4   |
| Hispanic             | 0                           | --     | 0             | --     | 0                    | --     | 0                              | --     | 1                      | 5.0    |
| Other                | 1                           | 1.0    | 0             | --     | 0                    | --     | 0                              | --     | 2                      | 3.0    |
| Total                | 48                          | 2.5    | 6             | 1.8    | 2                    | 4.0    | 0                              | --     | 74                     | 9.1    |
| <b>North Central</b> |                             |        |               |        |                      |        |                                |        |                        |        |
| White                | 66                          | 5.7    | 44            | 2.2    | 10                   | 3.6    | 33                             | 2.8    | 179                    | 15.3   |
| Black                | 30                          | 5.6    | 13            | 2.2    | 3                    | 2.7    | 13                             | 2.9    | 105                    | 14.1   |
| Hispanic             | 9                           | 7.0    | 2             | 1.5    | 0                    | --     | 1                              | 2.0    | 16                     | 15.3   |
| Other                | 1                           | 4.0    | 0             | --     | 0                    | --     | 2                              | 1.5    | 4                      | 8.0    |
| Total                | 106                         | 5.8    | 59            | 2.2    | 13                   | 3.4    | 49                             | 2.8    | 304                    | 14.8   |
| <b>Southwest</b>     |                             |        |               |        |                      |        |                                |        |                        |        |
| White                | 278                         | 6.4    | 166           | 2.5    | 61                   | 2.4    | 211                            | 5.0    | 535                    | 12.1   |
| Black                | 35                          | 6.4    | 14            | 2.4    | 6                    | 2.3    | 20                             | 3.4    | 62                     | 11.8   |
| Hispanic             | 27                          | 6.7    | 5             | 3.8    | 1                    | 2.0    | 12                             | 4.1    | 35                     | 8.7    |
| Other                | 5                           | 5.0    | 1             | 2.0    | 0                    | --     | 4                              | 3.5    | 11                     | 9.5    |
| Total                | 345                         | 6.4    | 186           | 2.5    | 68                   | 2.4    | 247                            | 4.8    | 643                    | 11.8   |
| <b>Southeast</b>     |                             |        |               |        |                      |        |                                |        |                        |        |
| White                | 55                          | 5.9    | 37            | 2.7    | 2                    | 4.0    | 65                             | 4.4    | 171                    | 7.6    |
| Black                | 17                          | 4.4    | 4             | 1.5    | 0                    | --     | 20                             | 3.1    | 69                     | 7.3    |
| Hispanic             | 1                           | 4.0    | 1             | 3.0    | 0                    | --     | 1                              | 4.0    | 2                      | 10.5   |
| Other                | 0                           | --     | 0             | --     | 0                    | --     | 1                              | 4.0    | 3                      | 8.7    |
| Total                | 73                          | 5.5    | 42            | 2.6    | 2                    | 4.0    | 87                             | 4.1    | 245                    | 7.5    |

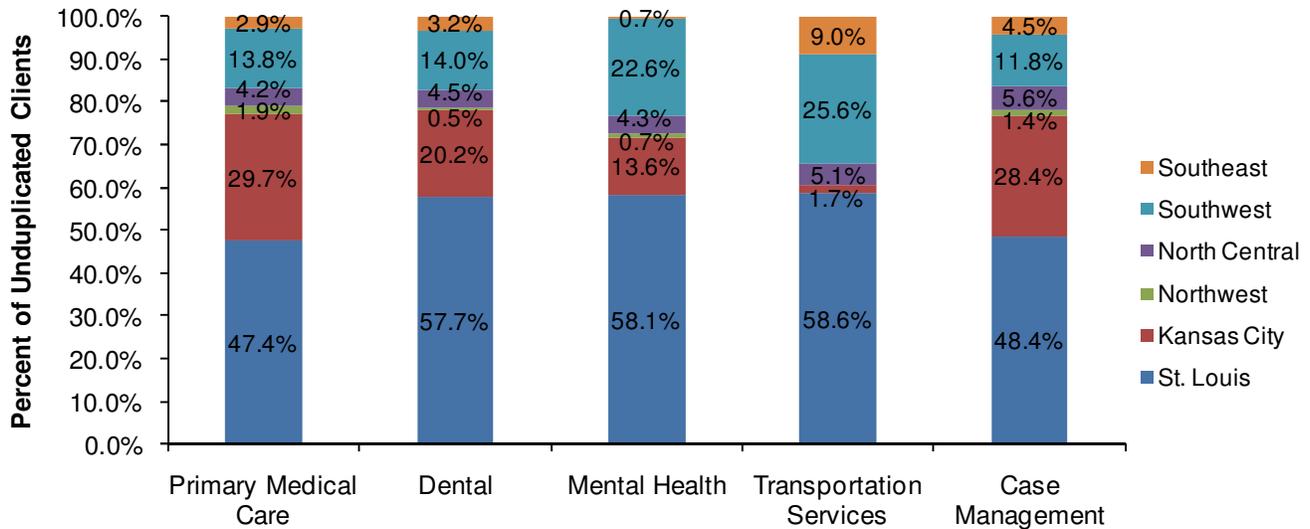
\*Number of unique clients that utilized the service during the year.

\*\*Mean number of times the service was utilized.

Source: FACTORS

Case management represented the service utilized by the largest number of clients in all HIV regions (Table 52). Case management also was associated with a greater mean number of visits per client compared to other services in each HIV region. Primary medical care tended to be the services utilized by the second largest number of clients in all HIV regions. The mean number of primary medical care visits per clients tended to be slightly higher for Hispanics compared to other race/ethnicity groups in all regions except the Northwest and Southeast HIV regions. Transportation services were not utilized among clients in the Northwest HIV region, and utilization of transportation services was low in the Kansas City HIV region.

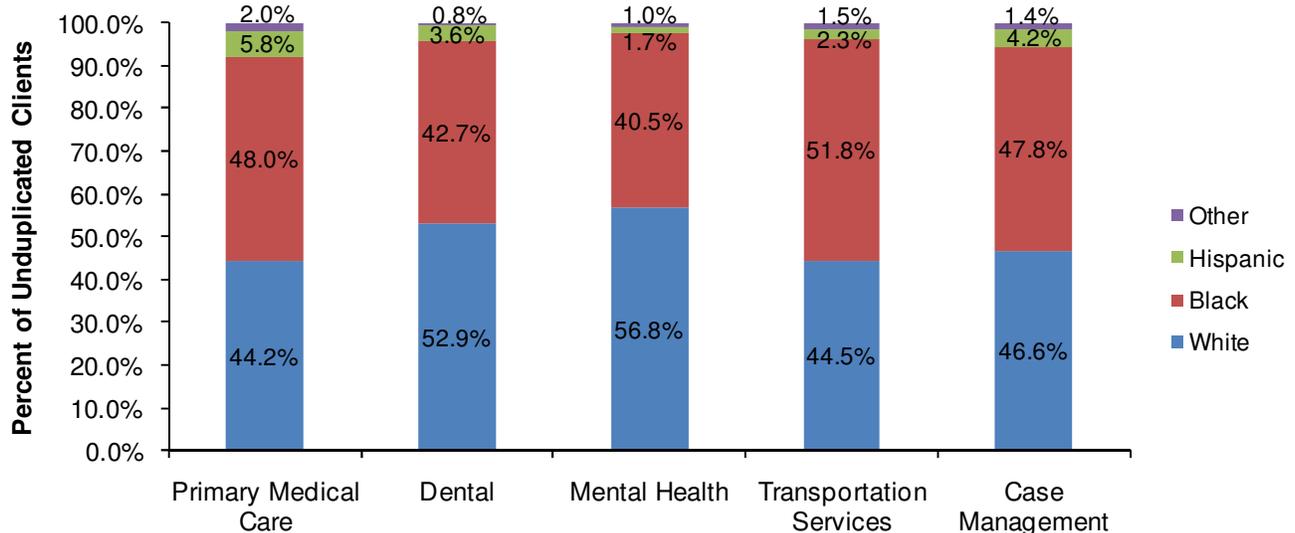
**Figure 65. Percent of Missouri clients utilizing Ryan White funded services, by HIV region, by type of service, 2009**



Source: FACTORS

There were differences in the distribution of clients utilizing selected Ryan White funded services by HIV region (Figure 65). St. Louis and Southwest HIV region residents represented a greater proportion of clients receiving mental health and transportation services compared to other services. A greater proportion of clients utilizing transportation services were residents of the Southeast HIV region compared to other service categories. Kansas City HIV region residents represented a greater proportion of clients receiving primary medical care and case management services compared to other service categories. The distribution of service utilization was similar in all service categories for residents in the North Central and Northwest HIV regions. The differences in service utilization may reflect differing service needs by geographic area.

**Figure 66. Percent of Missouri clients utilizing Ryan White funded services, by race/ethnicity, by type of service, 2009**



Source: FACTORS

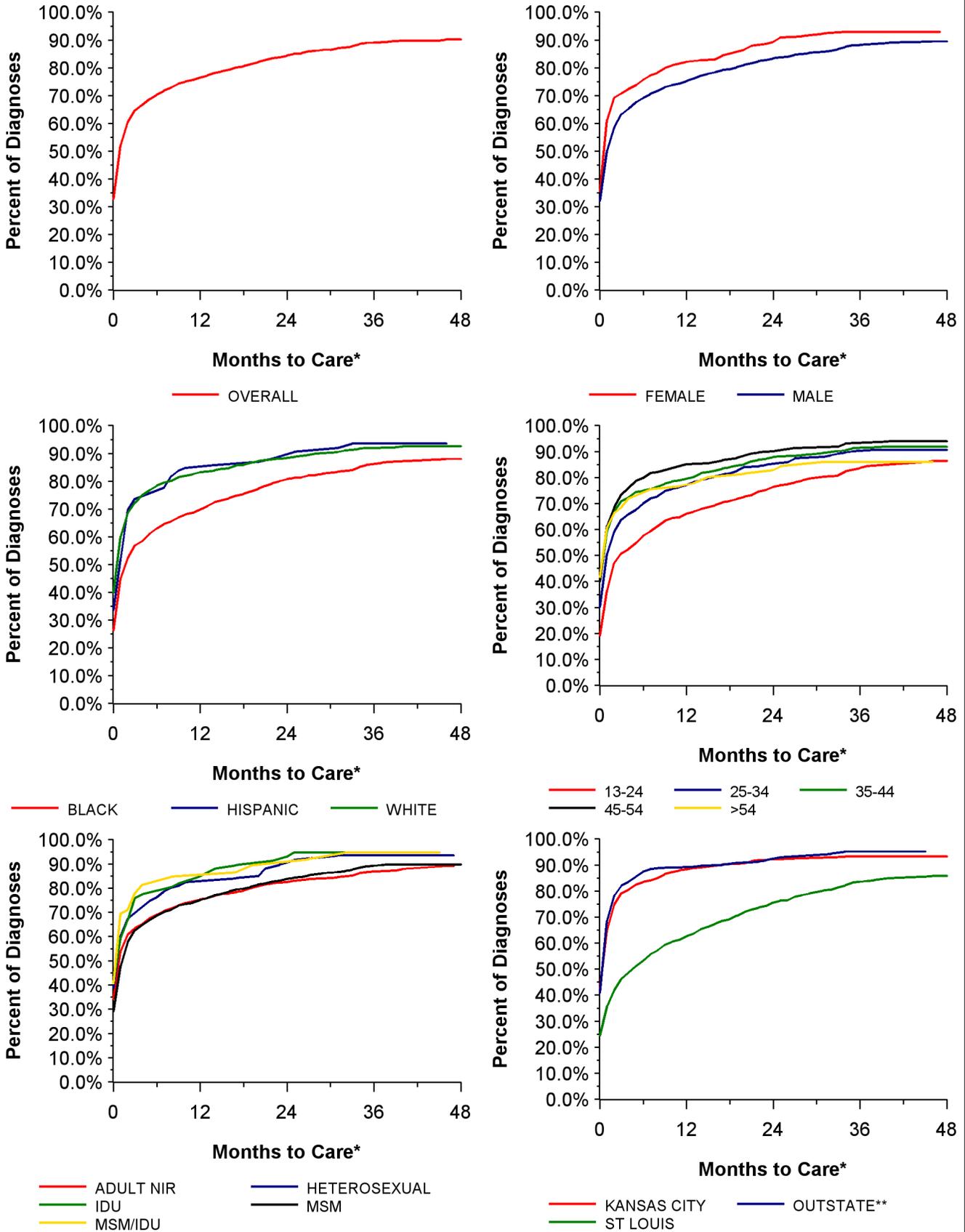
There were differences in the distribution of clients utilizing selected Ryan White funded services by race/ethnicity (Figure 66). Whites represented a greater proportion of clients receiving mental health services compared to other services. Blacks represented a greater proportion of clients utilizing transportation services compared to other service categories. A greater proportion of clients receiving primary medical care services were Hispanic compared to other service categories. The differences in the distribution of services utilized by race/ethnicity may indicate areas of differing need among clients based on underlying social and economic differences associated with each demographic group.

|                       | Number of Discharges |            |                             | Hospital Days of Care<br>Total (Per Discharge) |              |                             | Hospital Charges<br>Total (Per Day Hospitalized) |                     |                          |
|-----------------------|----------------------|------------|-----------------------------|--|--------------|-----------------------------|--|---------------------|--------------------------|
|                       | HIV<br>Infection     | Hepatitis  | Other<br>Viral<br>Infection | HIV<br>Infection                               | Hepatitis    | Other<br>Viral<br>Infection | HIV Infection                                    | Hepatitis           | Other Viral<br>Infection |
| <b>Total</b>          | <b>648</b>           | <b>534</b> | <b>1,981</b>                | <b>5,145</b>                                   | <b>2,434</b> | <b>6,943</b>                | <b>\$25,491,695</b>                              | <b>\$13,477,198</b> | <b>\$28,277,536</b>      |
|                       |                      |            |                             | (7.9)  | (4.6)        | (3.5)                       | (\$4,955)  | (\$5,537)           | (\$4,073)                |
| <b>Sex</b>            |                      |            |                             |  |              |                             |  |                     |                          |
| Male                  | 500                  | 255        | 893                         | 3,790  | 1,167        | 3,103                       | \$18,270,830                                     | \$8,110,223         | \$13,359,632             |
|                       |                      |            |                             | (7.6)  | (4.6)        | (3.5)                       | (\$4,821)  | (\$6,950)           | (\$4,305)                |
| Female                | 148                  | 279        | 1,088                       | 1,355  | 1,267        | 3,840                       | \$7,220,865                                      | \$5,366,975         | \$14,917,904             |
|                       |                      |            |                             | (9.2)  | (4.5)        | (3.5)                       | (\$5,329)  | (\$4,236)           | (\$3,885)                |
| <b>Race*</b>          |                      |            |                             |  |              |                             |  |                     |                          |
| White                 | 234                  | 411        | 1,660                       | 1,845  | 1,803        | 5,799                       | \$8,615,088                                      | \$9,480,610         | \$23,654,041             |
|                       |                      |            |                             | (7.9)  | (4.4)        | (3.5)                       | (\$4,669)  | (\$5,258)           | (\$4,079)                |
| Black                 | 383                  | 103        | 222                         | 3,032  | 523          | 810                         | \$15,652,244                                     | \$3,404,960         | \$3,398,283              |
|                       |                      |            |                             | (7.9)  | (5.1)        | (3.6)                       | (\$5,162)  | (\$6,510)           | (\$4,195)                |
| <b>Pay Source</b>     |                      |            |                             |  |              |                             |  |                     |                          |
| Medicare              | 207                  | 168        | 555                         | 1,484  | 824          | 2,618                       | \$7,514,199                                      | \$4,857,581         | \$10,919,640             |
|                       |                      |            |                             | (7.2)  | (4.9)        | (4.7)                       | (\$5,063)  | (\$5,895)           | (\$4,171)                |
| Medicaid              | 212                  | 135        | 395                         | 2,011  | 629          | 1,154                       | \$10,435,317                                     | \$2,662,144         | \$4,356,470              |
|                       |                      |            |                             | (9.5)  | (4.7)        | (2.9)                       | (\$5,189)  | (\$4,232)           | (\$3,775)                |
| Other<br>Government   | 2                    | 5          | 20                          | 26   | 19           | 49                          | \$158,703  | \$100,390           | \$186,392                |
|                       |                      |            |                             | (13.0)   | (3.8)        | (2.5)                       | (\$6,104)  | (\$5,284)           | (\$3,804)                |
| Self pay/No<br>Charge | 68                   | 71         | 116                         | 420  | 253          | 332                         | \$2,081,669                                      | \$912,522           | \$1,268,978              |
|                       |                      |            |                             | (6.2)  | (3.6)        | (2.9)                       | (\$4,956)  | (\$3,607)           | (\$3,822)                |
| Commercial            | 147                  | 143        | 870                         | 1,145  | 625          | 2,728                       | \$5,195,632                                      | \$4,866,807         | \$11,454,373             |
|                       |                      |            |                             | (7.8)  | (4.4)        | (3.1)                       | (\$4,538)  | (\$7,787)           | (\$4,199)                |
| Other                 | 5                    | 8          | 15                          | 14   | 26           | 34                          | \$54,043   | \$71,235            | \$84,450                 |
|                       |                      |            |                             | (2.8)  | (3.3)        | (2.3)                       | (\$3,860)  | (\$2,740)           | (\$2,484)                |
| Unknown               | 7                    | 4          | 10                          | 45   | 58           | 28                          | \$52,132   | \$6,519             | \$7,233                  |
|                       |                      |            |                             | (6.4)  | (14.5)       | (2.8)                       | (\$1,158)  | (\$112)             | (\$258)                  |

\*Includes persons of Hispanic origin  
Source: DHSS MICA

Data regarding hospital discharges, days of care, and hospital charges billed in 2007 among Missouri residents whose primary reason for admission was related to a viral infection are displayed in Table 53. Viral infections other than HIV and hepatitis comprised the majority of all hospitalizations (63%). Among persons whose primary reason for admission was related to HIV infection, 65% of the hospitalizations were paid for by Medicare or Medicaid, compared to 57% and 48% of the hospitalizations among persons whose admissions were primarily related to hepatitis and other viral infections, respectively. Although hospital admissions related to HIV infection represented only 20% of all discharges among persons with viral infections, 35% of all days of hospitalization were attributed to HIV infection related admissions. Data regarding the length of hospitalization per discharge should be interpreted with some caution as the data were not adjusted for outliers. Among persons admitted for HIV infection, the length of hospitalization per discharge tended to be slightly longer for females compared to males. This difference between males and females was not observed among persons admitted for hepatitis and other viral infections. The total hospital charges billed was greatest among patients admitted for viral infections other than HIV and hepatitis, primarily because this category represented the greatest number of admissions. Assessing the hospitalization charges per day hospitalized should be interpreted with some caution as the data were not adjusted for outliers. Overall, the billed hospitalization cost per day of hospitalization was greatest for persons admitted for hepatitis (\$5,537). However, among females, the hospitalization cost per day tended to be slightly higher among women with HIV infection as the primary reason for admission (\$5,329) compared to women whose admission were related to hepatitis (\$4,236).

**Figure 67. Length of time in months to enter care\* after initial HIV diagnosis among persons diagnosed between 2006 and 2008, 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 67 examines the length of time until first entry into care among persons newly diagnosed with HIV disease between 2006 and 2008. Entry into care was measured as the receipt of a CD4 lymphocyte or viral load laboratory result by MDHSS. Overall by one year after diagnosis, 77% of persons recently diagnosed had entered care. Within four years of initial diagnosis, 90% had entered care. There were differences in the proportion of new diagnoses entering care between males and females. Over time the proportion of females who entered care remained higher than the proportion of males entering care. There were also difference in the proportion of new diagnoses entering care by race/ethnicity. Over time, a significantly lower proportion of blacks entered care compared to whites and Hispanics. At one year after diagnosis, only 70% of blacks had entered care, compared to 83% of whites and 85% of Hispanics. As the age of the individual at the time of diagnosis increased, the probability of entering care over time also increased. Of persons diagnosed between the ages of 13 and 24, only 66% entered care within one year of diagnosis, compared to 77% of persons greater than 54 years of age at the time of diagnosis. Differences in the likelihood of entering care also existed by disease exposure category. MSM and persons with no indicated risk were less likely to enter care over time. At one year after diagnosis, only 75% of MSM and persons with no indicated risk had entered care. 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, 88% of persons diagnosed in Kansas City, 89% of persons diagnosed in Outstate, and 63% 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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## **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, 60% 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 2009).
- Persons enrolled in HIV medical case management were significantly more likely to have their primary care medical needs met. Of the 11,122 persons living with HIV disease in Missouri, 3,978 (36%) were enrolled in medical case management. Ninety-seven percent of individuals in case management had their primary care medical needs met in 2009.
- Persons living with HIV who were subcategorized as AIDS cases in 2009 were more likely to have their medical needs met (68%) compared to persons subcategorized as HIV cases (50%). 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 (66%), and lowest in the St. Louis HIV region (56%).
- Among those enrolled in HIV medical case management, the proportion with a met need ranged from 96% in the St. Louis HIV region to 99% in the Southwest HIV region.
- For those not enrolled in HIV medical case management, the proportion with a met need ranged from 27% in the Southeast HIV region to 47% in the Kansas City HIV region.

### **Who**

#### *Sex*

- Overall, there were not significant 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*

- Among individuals not enrolled in HIV medical case management, there were differences in the proportion of persons with an unmet primary medical care need by race/ethnicity. Regardless of current diagnostic status, unmet need was greater for blacks than whites.
- Among persons enrolled in HIV medical case management, unmet need was greatest among blacks.

#### *Age*

- There were not differences in unmet need by current age among individuals enrolled in HIV medical case management, regardless of diagnostic status.
- There were differences in unmet need by current age among individuals not enrolled in HIV medical case management. Trends were similar among persons classified as HIV and AIDS cases. Among persons currently 19 years of age or greater, unmet need increased with increasing age.

#### *Exposure Category*

- There were not significant differences in unmet need by exposure category among individuals enrolled in HIV medical case management, regardless of diagnostic status. Among individuals in HIV medical case management, MSM represented the largest number of persons with unmet need (78). However, this group also represented the largest number of individuals enrolled in case management (2,263).
- There were differences in unmet need by exposure category among individuals not enrolled in HIV medical case management. Different trends in unmet need were observed based on the current diagnostic status of the individual. However, among both persons classified as HIV and AIDS cases, unmet need was highest among injection drug users. Among persons classified as HIV cases, unmet need was second greatest among adults whose infection was attributed to heterosexual contact. Among HIV cases, unmet need was lowest among persons infected at less than 13 years of age. Among persons classified as AIDS cases, unmet need was second greatest among persons with a risk attributed to the receipt of clotting factors, contaminated blood products, or occupational exposures.

| Region                      | Total HIV Population |                        | Enrolled in Case Management |                        | Not Enrolled in Case Management |                        |
|-----------------------------|----------------------|------------------------|-----------------------------|------------------------|---------------------------------|------------------------|
|                             | Met Need**<br>N (%)  | Unmet Need***<br>N (%) | Met Need**<br>N (%)         | Unmet Need***<br>N (%) | Met Need**<br>N (%)             | Unmet Need***<br>N (%) |
| <b>St. Louis Region</b>     |                      |                        |                             |                        |                                 |                        |
| White                       | 1,288 (54.7%)        | 1,065 (45.3%)          | 662 (96.6%)                 | 23 (3.4%)              | 626 (37.5%)                     | 1,042 (62.5%)          |
| Black                       | 1,615 (56.9%)        | 1,224 (43.1%)          | 1,060 (94.8%)               | 58 (5.2%)              | 555 (32.2%)                     | 1,166 (67.8%)          |
| Hispanic                    | 63 (50.8%)           | 61 (49.2%)             | 44 (95.7%)                  | 2 (4.3%)               | 19 (24.4%)                      | 59 (75.6%)             |
| Other/Unk.                  | 38 (52.8%)           | 34 (47.2%)             | 21 (100.0%)                 | 0 (0.0%)               | 17 (33.3%)                      | 34 (66.7%)             |
| <b>Total</b>                | <b>3,004 (55.8%)</b> | <b>2,384 (44.2%)</b>   | <b>1,787 (95.6%)</b>        | <b>83 (4.4%)</b>       | <b>1,217 (34.6%)</b>            | <b>2,301 (65.4%)</b>   |
| <b>Kansas City Region</b>   |                      |                        |                             |                        |                                 |                        |
| White                       | 1,140 (64.6%)        | 624 (35.4%)            | 512 (97.5%)                 | 13 (2.5%)              | 628 (50.7%)                     | 611 (49.3%)            |
| Black                       | 808 (65.8%)          | 420 (34.2%)            | 501 (97.7%)                 | 12 (2.3%)              | 307 (42.9%)                     | 408 (57.1%)            |
| Hispanic                    | 108 (54.8%)          | 89 (45.2%)             | 63 (98.4%)                  | 1 (1.6%)               | 45 (33.8%)                      | 88 (66.2%)             |
| Other/Unk.                  | 32 (69.6%)           | 14 (30.4%)             | 17 (100.0%)                 | 0 (0.0%)               | 15 (51.7%)                      | 14 (48.3%)             |
| <b>Total</b>                | <b>2,088 (64.5%)</b> | <b>1,147 (35.5%)</b>   | <b>1,093 (97.7%)</b>        | <b>26 (2.3%)</b>       | <b>995 (47.0%)</b>              | <b>1,121 (53.0%)</b>   |
| <b>Northwest Region</b>     |                      |                        |                             |                        |                                 |                        |
| White                       | 59 (64.1%)           | 33 (35.9%)             | 29 (96.7%)                  | 1 (3.3%)               | 30 (48.4%)                      | 32 (51.6%)             |
| Black                       | 11 (64.7%)           | 6 (35.3%)              | 6 (100.0%)                  | 0 (0.0%)               | 5 (45.5%)                       | 6 (54.5%)              |
| Hispanic                    | 1 (25.0%)            | 3 (75.0%)              | 0 (N/A)                     | 0 (N/A)                | 1 (25.0%)                       | 3 (75.0%)              |
| Other/Unk.                  | 1 (50.0%)            | 1 (50.0%)              | 0 (N/A)                     | 0 (N/A)                | 1 (50.0%)                       | 1 (50.0%)              |
| <b>Total</b>                | <b>72 (62.6%)</b>    | <b>43 (37.4%)</b>      | <b>35 (97.2%)</b>           | <b>1 (2.8%)</b>        | <b>37 (46.8%)</b>               | <b>42 (53.2%)</b>      |
| <b>North Central Region</b> |                      |                        |                             |                        |                                 |                        |
| White                       | 204 (63.0%)          | 120 (37.0%)            | 112 (98.2%)                 | 2 (1.8%)               | 92 (43.8%)                      | 118 (56.2%)            |
| Black                       | 62 (52.1%)           | 57 (47.9%)             | 35 (94.6%)                  | 2 (5.4%)               | 27 (32.9%)                      | 55 (67.1%)             |
| Hispanic                    | 15 (65.2%)           | 8 (34.8%)              | 10 (100.0%)                 | 0 (0.0%)               | 5 (38.5%)                       | 8 (61.5%)              |
| Other/Unk.                  | 4 (66.7%)            | 2 (33.3%)              | 3 (100.0%)                  | 0 (0.0%)               | 1 (33.3%)                       | 2 (66.7%)              |
| <b>Total</b>                | <b>285 (60.4%)</b>   | <b>187 (39.6%)</b>     | <b>160 (97.6%)</b>          | <b>4 (2.4%)</b>        | <b>125 (40.6%)</b>              | <b>183 (59.4%)</b>     |
| <b>Southwest Region</b>     |                      |                        |                             |                        |                                 |                        |
| White                       | 465 (67.6%)          | 223 (32.4%)            | 326 (99.1%)                 | 3 (0.9%)               | 139 (38.7%)                     | 220 (61.3%)            |
| Black                       | 47 (54.7%)           | 39 (45.3%)             | 31 (100.0%)                 | 0 (0.0%)               | 16 (29.1%)                      | 39 (70.9%)             |
| Hispanic                    | 23 (67.6%)           | 11 (32.4%)             | 20 (95.2%)                  | 1 (4.8%)               | 3 (23.1%)                       | 10 (76.9%)             |
| Other/Unk.                  | 7 (58.3%)            | 5 (41.7%)              | 5 (100.0%)                  | 0 (0.0%)               | 2 (28.6%)                       | 5 (71.4%)              |
| <b>Total</b>                | <b>542 (66.1%)</b>   | <b>278 (33.9%)</b>     | <b>382 (99.0%)</b>          | <b>4 (1.0%)</b>        | <b>160 (36.9%)</b>              | <b>274 (63.1%)</b>     |
| <b>Southeast Region</b>     |                      |                        |                             |                        |                                 |                        |
| White                       | 138 (60.5%)          | 90 (39.5%)             | 104 (96.3%)                 | 4 (3.7%)               | 34 (28.3%)                      | 86 (71.7%)             |
| Black                       | 54 (58.7%)           | 38 (41.3%)             | 42 (97.7%)                  | 1 (2.3%)               | 12 (24.5%)                      | 37 (75.5%)             |
| Hispanic                    | 3 (60.0%)            | 2 (40.0%)              | 2 (100.0%)                  | 0 (0.0%)               | 1 (33.3%)                       | 2 (66.7%)              |
| Other/Unk.                  | 1 (50.0%)            | 1 (50.0%)              | 1 (100.0%)                  | 0 (0.0%)               | 0 (0.0%)                        | 1 (100.0%)             |
| <b>Total</b>                | <b>196 (59.9%)</b>   | <b>131 (40.1%)</b>     | <b>149 (96.8%)</b>          | <b>5 (3.2%)</b>        | <b>47 (27.2%)</b>               | <b>126 (72.8%)</b>     |
| <b>Statewide (MO)****</b>   |                      |                        |                             |                        |                                 |                        |
| White                       | 3,443 (60.6%)        | 2,243 (39.4%)          | 1,813 (97.4%)               | 48 (2.6%)              | 1,630 (42.6%)                   | 2,195 (57.4%)          |
| Black                       | 2,916 (59.6%)        | 1,973 (40.4%)          | 1,841 (95.9%)               | 79 (4.1%)              | 1,075 (36.2%)                   | 1,894 (63.8%)          |
| Hispanic                    | 220 (54.7%)          | 182 (45.3%)            | 143 (97.3%)                 | 4 (2.7%)               | 77 (30.2%)                      | 178 (69.8%)            |
| Other/Unk.                  | 87 (60.0%)           | 58 (40.0%)             | 50 (100.0%)                 | 0 (0.0%)               | 37 (38.9%)                      | 58 (61.1%)             |
| <b>Total</b>                | <b>6,666 (59.9%)</b> | <b>4,456 (40.1%)</b>   | <b>3,847 (96.7%)</b>        | <b>131 (3.3%)</b>      | <b>2,819 (39.5%)</b>            | <b>4,325 (60.5%)</b>   |

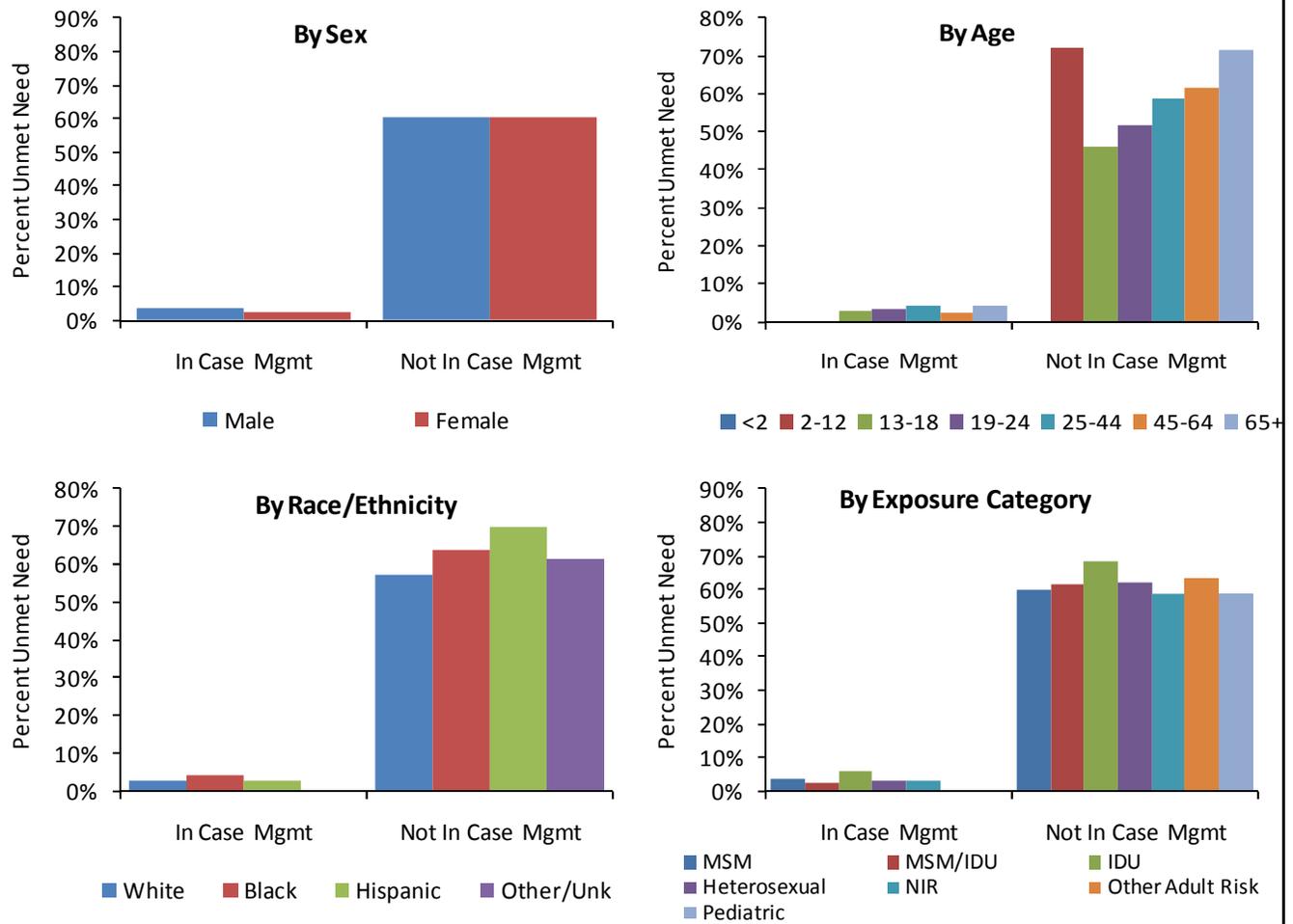
\*Includes all individual still living whose most recent diagnosis (i.e., HIV or AIDS) occurred in the region. Does not reflect the number of individuals currently living in the region.  
\*\*Evidence of a CD4+ T-lymphocyte or viral load laboratory test result or diagnosis with an opportunistic infection 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 includes living individuals whose most recent diagnosis occurred in a correctional facility or is unknown.

Of the 11,122 persons living with HIV at the end of 2009, 60% had evidence of met primary care medical needs (i.e., met need) in 2009 (Table 54). 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 2009 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 2009. A significantly greater proportion of those enrolled in HIV medical case management had a met need (97%) in 2009 compared to those not enrolled (40%). 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 is 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 (66%), and lowest in the St. Louis HIV region (56%). The pattern was slightly different between the regions depending on whether individuals were enrolled in HIV medical case management. For those not enrolled in HIV medical case management, the proportion with a met need ranged from 27% in the Southeast HIV region to 47% in the Kansas City HIV region.

There were differences in the proportion of persons with a met need by race/ethnicity. Overall statewide, met need was lowest among Hispanics (55%) and similar for all other race/ethnicity categories 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 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, except in the Southeast HIV region where the number of Hispanic individuals was very small.

**Figure 68. Percent of individuals living with HIV having an unmet\* primary medical care need in 2009 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 68 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 not 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 persons greater than 65 or more years of age and children 2-12 years of age (72%). Those currently 13-18 years of age had the lowest proportion of unmet need. There were not differences in the proportion of individuals with unmet needs by current age among those enrolled in case management. 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 (70%) and lowest among whites (57%). Among those enrolled in case management, unmet need was greatest among blacks (4%). There were differences in the proportion of individuals with unmet need by exposure category among those not in case management, but there were not differences among those enrolled in case management. For individuals not enrolled in case management, unmet need was greatest among IDU (68%) and lowest among pediatric cases (59%), and those with no indicated risk (NIR) (59%). The lower proportion of unmet need among those with no indicated risk may be related to the fact that these cases were more recently diagnosed. It is recommended that new diagnoses have a CD4 lymphocyte and viral load test completed, which indicates a met need, but those newly diagnosed may not feel comfortable reporting risk information to their new provider, or medical providers may not have had as many opportunities to obtain this information.

Table 55 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 55. Percent of individuals living with HIV having an unmet\* primary medical care need in 2009 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) |
| <b>Sex</b>                                 |                                  |                                   |                                  |                                   |                                  |                                   |
| Male                                       | 51.5% (2,139)                    | 33.0% (1,689)                     | 4.0% (45)                        | 3.2% (64)                         | 69.1% (2,094)                    | 52.3% (1,625)                     |
| Female                                     | 43.1% (398)                      | 24.8% (230)                       | 3.3% (12)                        | 2.1% (10)                         | 69.3% (386)                      | 49.2% (220)                       |
| <b>Race/Ethnicity</b>                      |                                  |                                   |                                  |                                   |                                  |                                   |
| White                                      | 47.3% (1,205)                    | 33.1% (1,038)                     | 3.4% (24)                        | 2.1% (24)                         | 64.3% (1,181)                    | 51.0% (1,014)                     |
| Black                                      | 52.5% (1,186)                    | 29.9% (787)                       | 4.5% (31)                        | 3.9% (48)                         | 74.0% (1,155)                    | 52.5% (739)                       |
| Hispanic                                   | 53.1% (103)                      | 38.0% (79)                        | 3.3% (2)                         | 2.3% (2)                          | 75.4% (101)                      | 63.6% (77)                        |
| Other/Unknown                              | 55.1% (43)                       | 22.4% (15)                        | 0.0% (0)                         | 0.0% (0)                          | 76.8% (43)                       | 38.5% (15)                        |
| <b>Current Age†</b>                        |                                  |                                   |                                  |                                   |                                  |                                   |
| <2   | -- (0)                           | -- (0)                            | -- (0)                           | -- (0)                            | -- (0)                           | -- (0)                            |
| 2-12                                       | 50.0% (16)                       | 66.7% (2)                         | 0.0% (0)                         | 0.0% (0)                          | 69.6% (16)                       | 100.0% (2)                        |
| 13-18                                      | 25.0% (11)                       | 12.5% (2)                         | 4.2% (1)                         | 0.0% (0)                          | 50.0% (10)                       | 33.3% (2)                         |
| 19-24                                      | 34.2% (117)                      | 7.6% (8)                          | 4.0% (6)                         | 1.5% (1)                          | 58.1% (111)                      | 18.4% (7)                         |
| 25-44                                      | 47.3% (1,205)                    | 28.0% (668)                       | 4.3% (34)                        | 4.0% (43)                         | 66.9% (1,171)                    | 48.2% (625)                       |
| 45-64                                      | 55.3% (1,083)                    | 33.5% (1,101)                     | 3.1% (15)                        | 2.2% (28)                         | 72.6% (1,068)                    | 53.4% (1,073)                     |
| 65+  | 70.5% (105)                      | 54.3% (138)                       | 5.9% (1)                         | 3.9% (2)                          | 78.8% (104)                      | 67.0% (136)                       |
| <b>Exposure Category</b>                   |                                  |                                   |                                  |                                   |                                  |                                   |
| Men who have sex with men                  | 49.7% (1,432)                    | 32.7% (1,193)                     | 3.7% (30)                        | 3.3% (48)                         | 67.9% (1,402)                    | 52.0% (1,145)                     |
| Men who have sex with men and inject drugs | 41.7% (91)                       | 34.5% (145)                       | 3.3% (3)                         | 1.7% (3)                          | 68.8% (88)                       | 58.0% (142)                       |
| Injecting drug use                         | 57.4% (159)                      | 38.7% (169)                       | 8.1% (6)                         | 4.9% (9)                          | 75.4% (153)                      | 63.0% (160)                       |
| Heterosexual contact                       | 49.0% (349)                      | 27.6% (226)                       | 3.6% (9)                         | 2.3% (9)                          | 73.4% (340)                      | 50.0% (217)                       |
| No indicated risk (NIR)                    | 51.8% (471)                      | 24.1% (155)                       | 3.9% (9)                         | 1.8% (5)                          | 68.2% (462)                      | 40.9% (150)                       |
| Other Adult Risk                           | 55.0% (11)                       | 48.1% (25)                        | 0.0% (0)                         | 0.0% (0)                          | 68.8% (11)                       | 61.0% (25)                        |
| Pediatric                                  | 42.1% (24)                       | 20.7% (6)                         | 0.0% (0)                         | 0.0% (0)                          | 64.9% (24)                       | 42.9% (6)                         |
| <b>Total</b>                               | <b>50.0% (2,537)</b>             | <b>31.7% (1,919)</b>              | <b>3.8% (57)</b>                 | <b>3.0% (74)</b>                  | <b>69.1% (2,480)</b>             | <b>51.9% (1,845)</b>              |

\*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, 2009

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

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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 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<sup>+</sup> 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 31<sup>st</sup>, 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

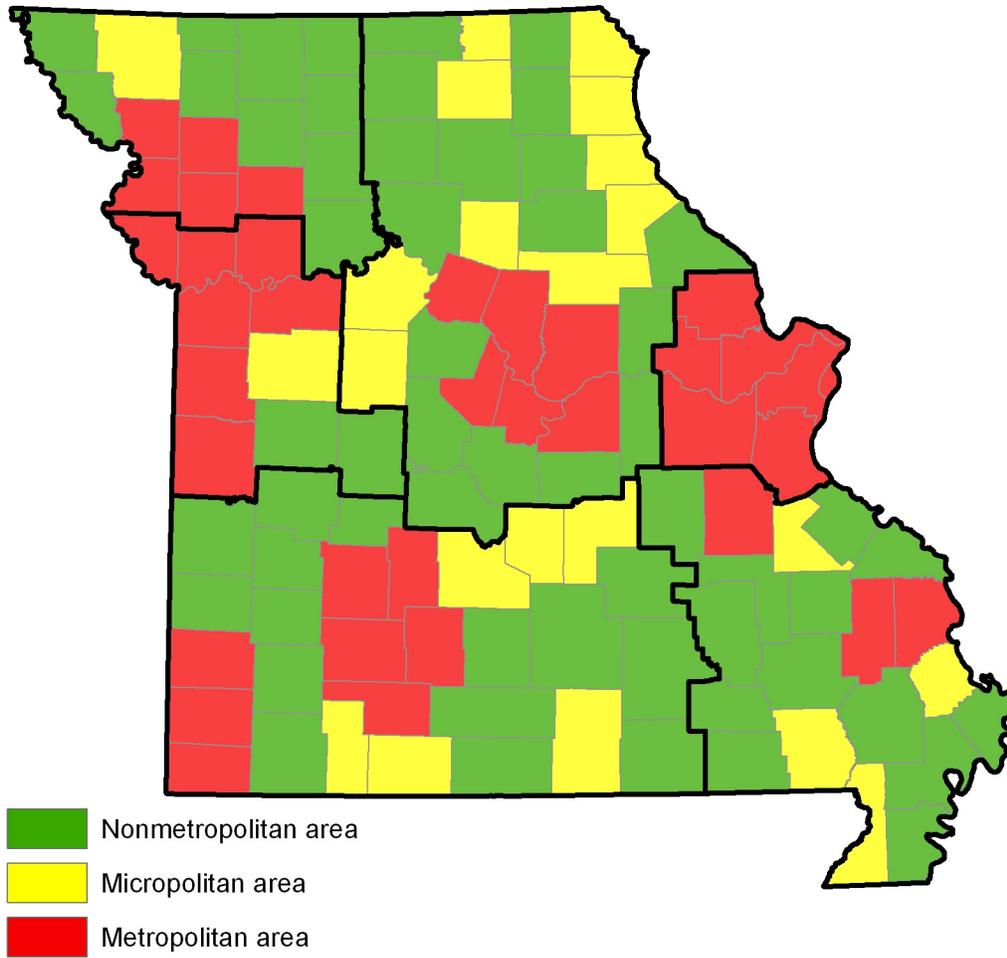
Sexually transmitted infections (STIs), commonly called **sexually transmitted diseases (STDs)** and once called venereal diseases, are among the most common infectious diseases in the United States today. They are a group of infections that are predominantly transmitted through sexual activity.

#### 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/Geocorr2K. 2008 Metropolitan Divisions.