MFH
Missouri Foundation for Health

Minority Health Disparities in Missouri

2009 African American Data Book

The mission of the Missouri Foundation for Health (MFH) is to empower the people of the communities it serves to achieve equal access to quality health services that promote prevention and encourage healthy behaviors. The Foundation works to identify and fill the gaps in public and private health care services available to the uninsured, underinsured, and underserved.

MFH is the largest health care foundation in the state and is among the largest of its kind in the country. It was created in 2000 to receive assets accumulated by Blue Cross Blue Shield of Missouri prior to its conversion from nonprofit to for-profit status. MFH distributes approximately $60 million in grants annually, supporting health-focused Missouri nonprofits. To date, MFH has provided more than $300 million in grants and awards to community organizations across the state.

To complement grantmaking efforts and address health issues from a systemic perspective, the MFH Health Policy staff provides timely research and information on health-related issues. Recent topics include options for covering the state's uninsured and the affordability of health coverage. Policymakers and community leaders can access a variety of timely publications and research on issues that affect the health of Missourians at www.mffh.org or www.covermissouri.org.

Preface

In an effort to document health disparities for racial and ethnic groups, the Missouri Foundation for Health (MFH) engaged the Bureau of Health Informatics at the Missouri Department of Health and Senior Services to assemble data on Missouri's African American population. A similar report, compiled in 2004, presented findings on health disparities between Missouri's African American and white populations based on key health indicators. The current publication provides an update to the 2004 baseline report. Where possible, the current report makes comparisons between the rates and ratios of today and those of five years ago to illustrate where progress has been made and what challenges may lie ahead.

Readers may also find a companion publication, *Minority Health Disparities in Missouri: 2009 Hispanic Data Book*, to be of interest. We hope these updated reports not only expand the understanding of health disparities in our state but also provide a sound basis for programs seeking to reduce health disparities in Missouri.

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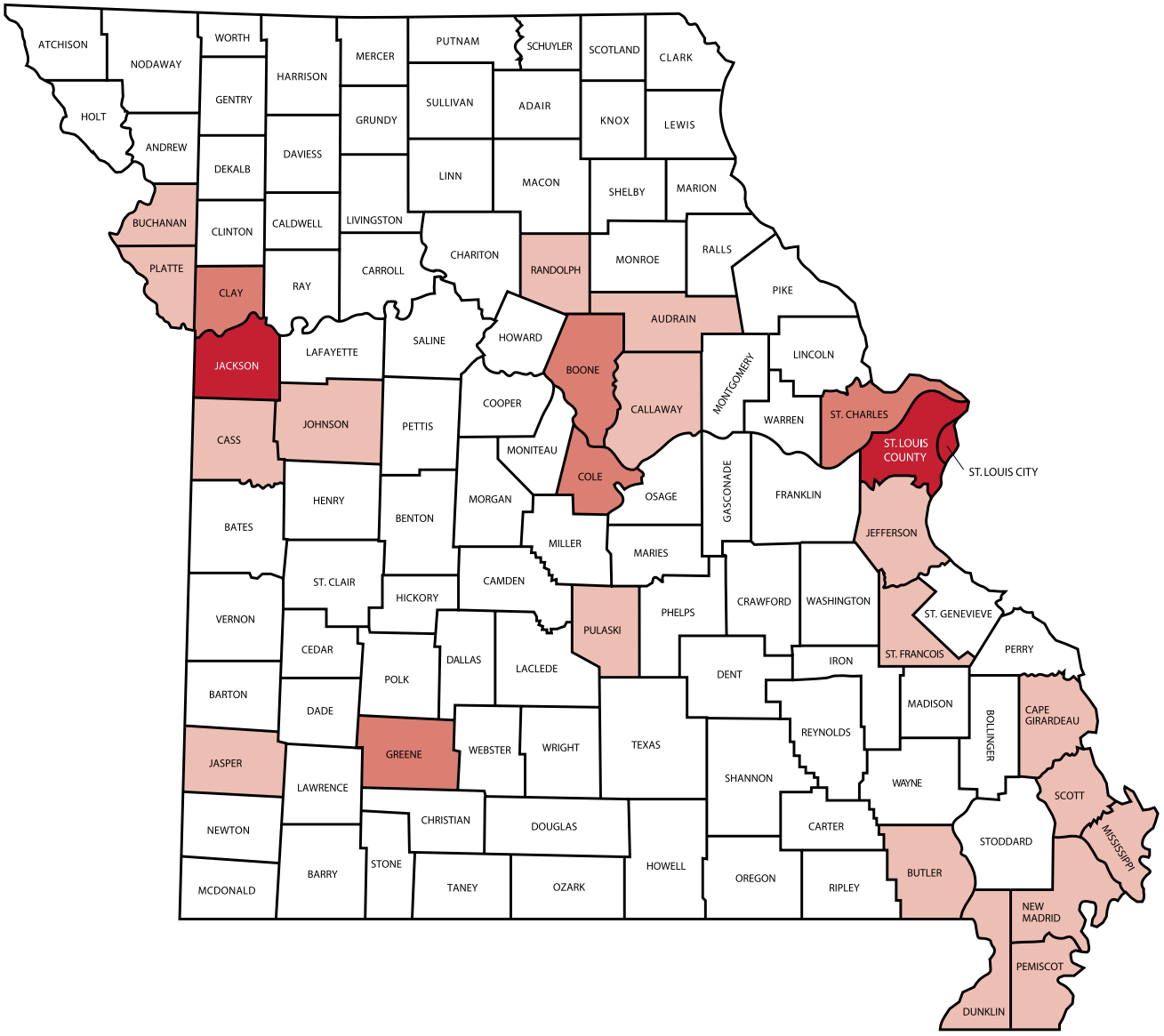
2006 African American Population Counts in Missouri*



*National Center for Health Statistics, Post-censual estimates of the resident population of the United States for July 1, 2000-July 1, 2006, by year, county, age, bridged race, Hispanic origin, and sex (Vintage 2006). Prepared under a collaborative arrangement with the U.S. Census Bureau (Aug 16, 2007).
http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm

Missouri Foundation for Health

Minority Health Disparities in Missouri

2009 African American Data Book

According to 2006 Census estimates, Missouri's population exceeds 5.8 million persons. African Americans make up almost 12 percent of the total population in the state (654,000). This percentage is very similar to the nation as a whole. As the following report conveys, the African American population in Missouri lags behind the white population for many important health indicators. Understanding where African Americans reside throughout the state can help to clarify why certain indicators are higher, given that urban and rural populations often face different hurdles in achieving high health standards.

The African American population is not distributed evenly throughout the state. In Missouri, African Americans are concentrated in the two largest metropolitan areas. Just over 80 percent of the African American population is located in St. Louis City, St. Louis County, and Jackson County (Kansas City). The next largest African American populations are found in the suburban areas surrounding the principal cities of St. Louis and Kansas City and also in the next largest layer of cities (i.e., Columbia, Springfield, and Jefferson City). The largest rural cluster of African Americans is found in the southeast corner of the state in the 'Bootheel' region (i.e., Scott, Mississippi, New Madrid, Pemiscot, and Dunklin counties).

Five counties have African American populations that are higher than 20 percent of their total population. Just over half of the population of St. Louis City is African American. This ratio of 50 percent is by far the highest in the state. The other four counties (i.e., St. Louis County, Jackson, Pemiscot and Mississippi) have the next highest percentages of African Americans, ranging from 21 to 25 percent. Two other geographic regions, the central region around the Columbia/Jefferson City area and the 'Bootheel' region in southeast Missouri, have populations exceeding the state average. Aside from these areas, the ratio of African American population to total population is relatively higher along the I-70 corridor between St. Louis and

Data From:
Missouri Department of Health and Senior Services, Bureau of Health Informatics

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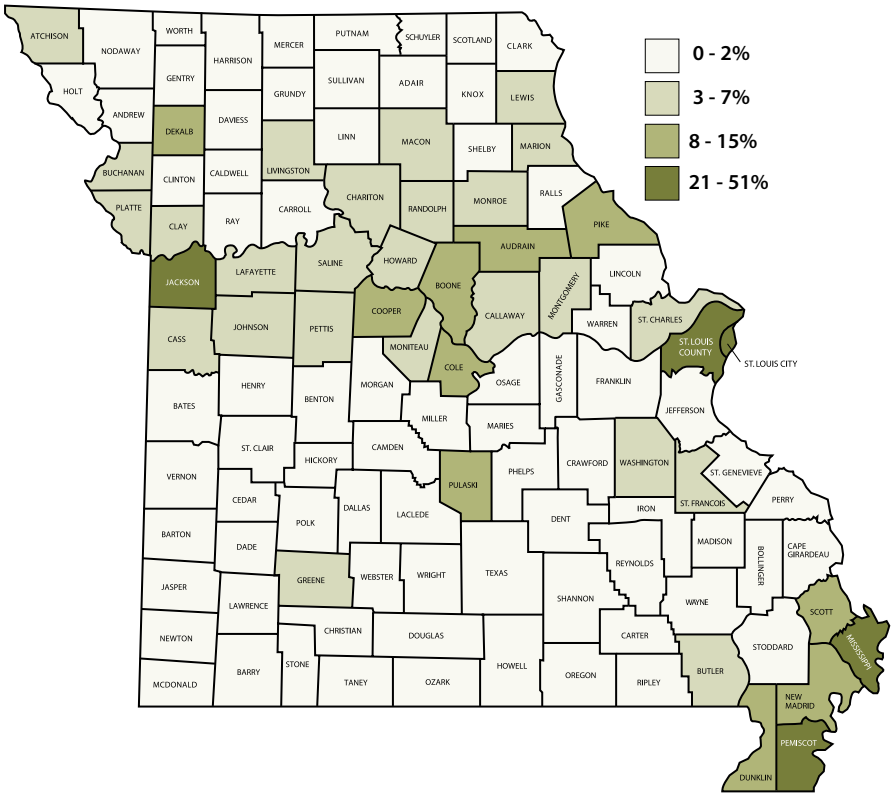
Kansas City and areas to the immediate north. In general, the northern and north central parts of the state have a higher percent of African Americans than do areas in the southern part of the state, excluding the 'Bootheel' region. Springfield/Greene County, the largest city/county in the southern part of the state, has a relatively small African American population. Only 3 percent of Greene County's population is African American. This is less than half the state average and well below the percentages for most of the larger cities in Missouri.

Another demographic factor of interest is the high rate of natural increase (births minus deaths) among African Americans. Since the 2000 Census, the African American population is estimated to have increased by 7 percent, which is twice the rate of the white population in the state. Overall, the state increase is estimated at 4.4 percent and is largely due to a younger population. Migration is not a major factor in population growth for African Americans

Percent Change: African American Population 2000-2006



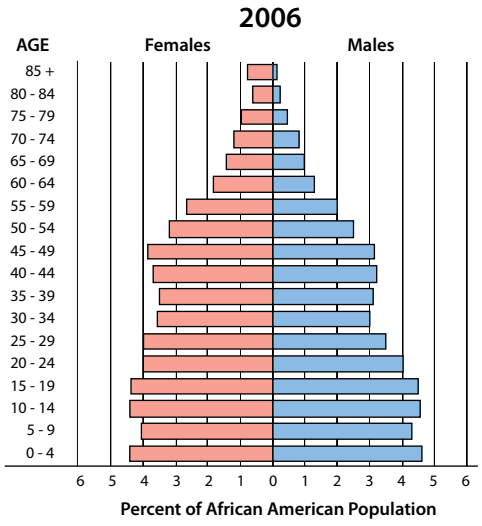
Minority Health Disparities in Missouri

in Missouri. Only about a quarter of the total population increase results from net migration into the state. The rest of the increase can be attributed to a high rate of natural increase. The age pyramids for the two race groups highlight the younger African American population. While the African American pyramid is wider at the bottom, representing the younger population, the white pyramid is wider in the middle, reflecting the middle age Baby Boomer population. Persons aged 65 and over make up only 8.2 percent of the African American population but make up 14.2 percent of the white population. When making comparisons in this report, the indicators are age-adjusted to compensate for the differences in age structure between the two race groups.

African Americans have long had higher fertility rates; however, the difference in fertility rates between the two groups has changed dramatically over the past 20 years. In 1990, African Americans had a fertility rate about 30 births higher per 1,000 females aged 15 to 44. That difference has shrunk by two-thirds in 2006 to about 10 per 1,000 women.

The African American population also differs from the white population in terms of life expectancy. Life expectancy at birth was 77.7 years for white residents of Missouri in 2006 and only 71.9

Age-Gender Distribution of Missouri African American Population



Age-Gender Distribution of Missouri White Population

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for African Americans. This disparity of 5.8 years is slightly larger than the difference in life expectancy between males and females in the state regardless of race.

African American Health Disparities

While these demographic factors provide a background to the comparisons made throughout this report, they do not offer reasons for the wide disparities between the African American and white population in Missouri. The higher rates of diseases and health conditions among African Americans are often attributed, at least in part, to lower incomes; higher rates of poverty; and less insurance coverage. These factors impact health status by making it more difficult to access timely, high quality care. Lifestyle and behavior, negative attitudes of some providers, and many other factors, some of which are not well understood, also contribute to the disparities between African Americans and whites.

The purpose of this report, however, is to highlight some of the key health indicators and risk factors where the disparities between the two major race groups are the greatest in Missouri. In many instances, the report also compares the key indicators of today to indicators highlighted in a 2004 report[1] on the same topic (see Appendix for 2004 ratios).

Using the DHSS Community Data Profile Website

The health data represented in this report may be accessed on the Missouri Department of Health and Senior Services (DHSS) Community Data Profiles Website. A user can easily create different types of graphs and charts pertaining to minority indicators.

The following step-by-step guide offers detailed instructions on accessing the health disparities data on the DHSS Community Data Profiles Website.

1. Go to the DHSS Website home page: *http://www.dhss.mo.gov/MICA/*

2. On the left side of the screen, click on "Community Profiles." Only certain Profiles currently have been updated with minority health data. From the pull-down menu, select a Profile from one of these categories. Then choose whether to view these data by city, county, or at the state level (Note: Health disparities data are only available for the counties with significant minority populations). Hit the submit button.

3. Once the submit button has been entered, the requested data will appear. Near the top of the screen, there will be a link labeled "By Race." Click on this link to access the health data for this Profile according to race.

4. The last two right-hand columns on this screen provide links to the available graphs and charts. Users can create a graph showing a three-year moving average of African American and white rates. In addition, users can create a bar chart showing the white/African American rates for a specific indicator for selected counties.

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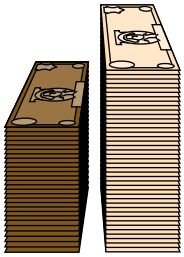
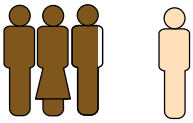
Ratios of African Americans to Whites: Selected Socio-Economic Indicators*

Missouri, 2006



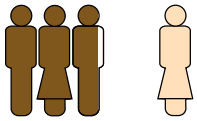
0.6 to 1

Median Household Income



2.9 to 1

Families with Children Under 18 Years Old Below Poverty Level



2.9 to 1

Population Below Poverty Level

*American Community Survey, U.S. Census

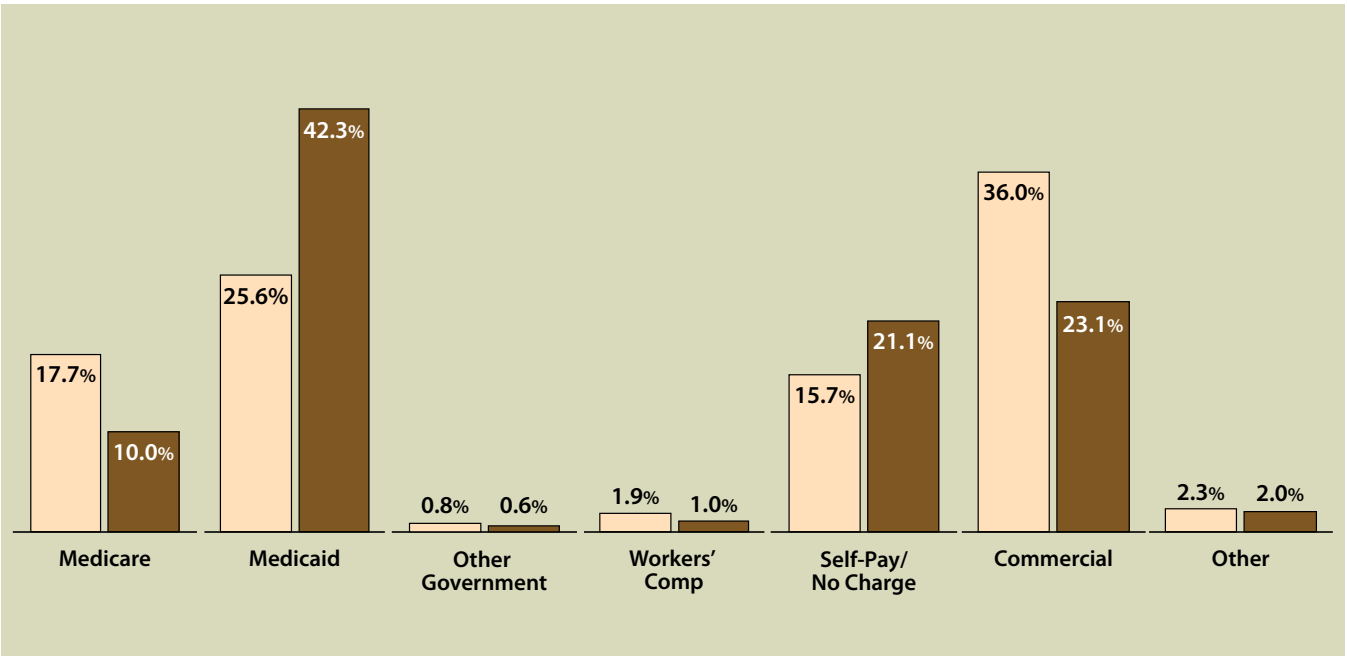
African American
White

Expected Pay Source for Emergency Room Visits

Compared to whites, African Americans are over-represented in the Self-Pay/No Charge and Medicaid pay source groups and under-represented in the Commercial Insurance group. This is consistent with the 2006 U.S. Census report that nationally, 20.5 percent of African Americans lack insurance compared to 10.8 percent of whites.[2] As many sources have indicated, lack of insurance translates to less access to care and poorer health.

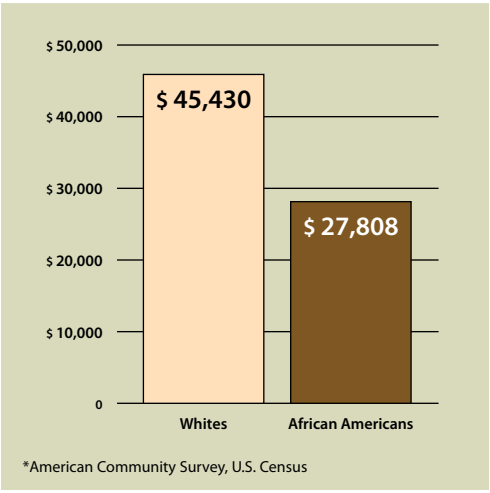
Expected Pay Source for Emergency Room Visits

Missouri, 2006



Expected Pay Source for Emergency Room Visits *– The primary source of payment for the patient's hospital or emergency room stay is based on information supplied at the time of admission.*

Median Household Income*
Missouri, 2006



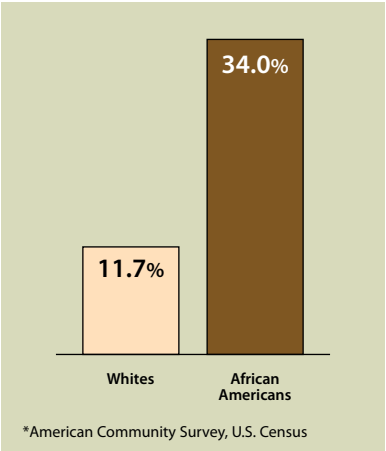
*American Community Survey, U.S. Census

In 2006, the median household income of white Missouri residents was 63 percent higher than that of African Americans. This disparity represents an increase from 2000 when the difference was measured at 45 percent. Low household income may create barriers to good health, such as poor diet and limited access to preventive services.

Median Household Income

Median Household Income – *When household incomes are put in rank order, the median is the income at the midpoint of that ranking.*

Percent of Families with Children Less Than 18 Years Old Below Poverty Level*
Missouri, 2006



*American Community Survey, U.S. Census

The disparity in poverty between whites and African Americans is greatest when looking at families with children. African American families with children were nearly three times as likely to fall below the poverty level. High rates of children living in poverty have important implications for the long-term future at the individual and societal levels. Children living in poverty are more likely to have inadequate nutrition and health care and are less likely to have success in the classroom. These all negatively impact their future ability to break out of the cycle of poverty.

Families with Children Below Poverty Level

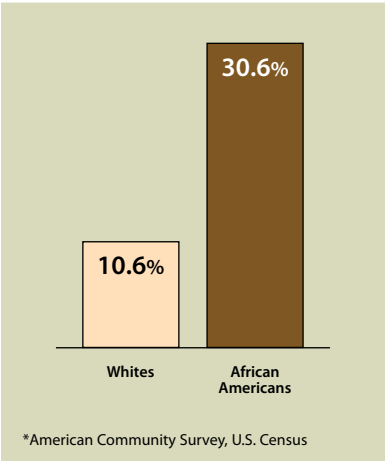
Percent of Families with Children Less Than 18 Years Old Below Poverty Threshold – *The percent of families whose total income, based on earnings, unemployment compensation, workers' compensation, Social Security, Supplemental Security Income, public assistance, pension, interest dividends, etc. (excluding non-cash benefits such as food stamps) before taxes fall below the poverty income threshold for a family of a given size and age distribution. There are 48 possible poverty thresholds.*

Population Below Poverty Level

Percent of Population Below Poverty Threshold – *The percent of individuals whose total income, based on earnings, unemployment compensation, workers' compensation, Social Security, Supplemental Security Income, public assistance, pension, interest dividends, etc. (excluding non-cash benefits such as food stamps) before taxes fall below the poverty income threshold. Members of a family have the poverty level of the family; individuals not in families have their income compared to the appropriate threshold. It is not possible to determine the poverty status of individuals under 15 not living in families nor of persons residing in prisons, nursing homes, military barracks, or unconventional housing situations that are not shelters.*

In Missouri, African Americans are nearly three times as likely as whites to fall below the poverty level. In 2006, the Census Bureau estimated that 30.6 percent of African Americans fell below the federal poverty level standards, while 10.6 percent of whites fell below this level. The large gulf between the two races in regards to poverty does not appear to be shrinking. Between 2000 and 2006, the white population below poverty is estimated to have increased by 1 percent, while the African American population below poverty increased by more than 5 percent.

Percent of Population Below Poverty Level*
Missouri, 2006



*American Community Survey, U.S. Census

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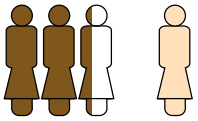
- County Chart 17

Sudden Infant Death Syndrome (SIDS)
- Comparison Chart 18
- County Chart 18

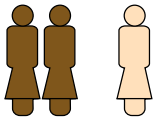
Ratios of African American to White Rates for Selected Maternal and Child Health Indicators

Missouri, Selected Years



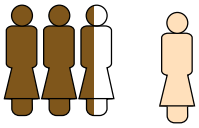
2.3 to 1

Inadequate Prenatal Care (2006)



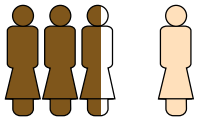
2.0 to 1

Low Birth Weight (2002-2006)



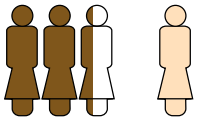
2.4 to 1

Births to Unmarried Women (2006)



2.6 to 1

Infant Deaths (1997-2006)



2.3 to 1

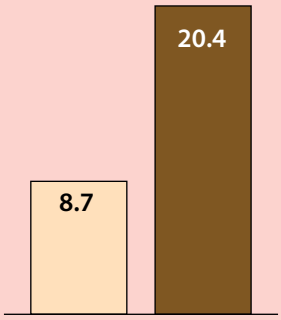
Sudden Infant Death Syndrome (1997-2006)

African American
White

Inadequate Prenatal Care

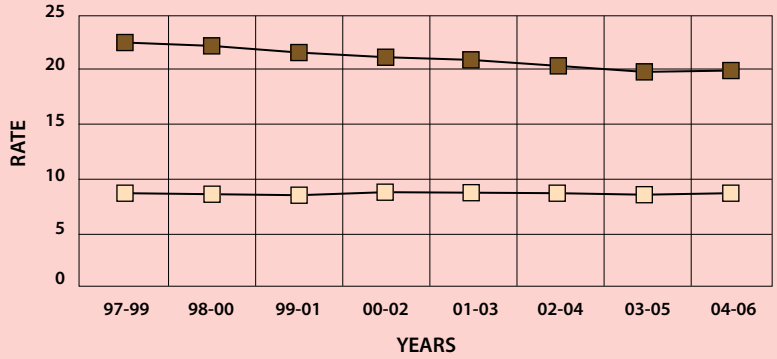
Over the last decade the African American rate of inadequate prenatal care averaged about two and a half times the white rate. Statistically significant decreases were observed for both the African American and white rates during the latter part of the 1990s; since 2000 the rates for both races have stayed about the same. There are a multitude of reasons why women do not receive adequate prenatal care. These include lack of transportation, lack of child care, local physicians not accepting Medicaid, overly busy physicians, not seeing a need for the care, having other priorities, and pregnancy denial.

Inadequate Prenatal Care Rates*
Missouri, 2006



*Rates per 100 Live Births where adequacy of prenatal care is known.

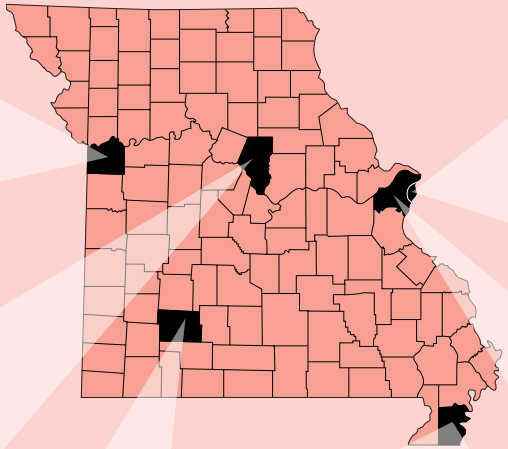
Inadequate Prenatal Care Rates*
Missouri, 1997-2006

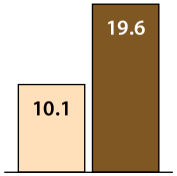


*Three-Year Moving Average Rates per 100 Live Births where adequacy of prenatal care is known.

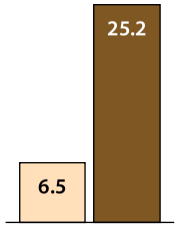
Inadequate Prenatal Care – *Live births to resident mothers who had inadequate prenatal care and the percent this number is of total live births with known adequacy of care for the same time period. Inadequate prenatal care is defined as fewer than five prenatal visits for pregnancies less than 37 weeks, fewer than eight visits for pregnancies 37 weeks or longer, or care beginning after the first four months of pregnancy. If adequacy of prenatal care could be determined even if month care began or visits were unknown, then these records were included.*

Inadequate Prenatal Care Rates* Missouri, 2002 - 2006 (Selected Counties)

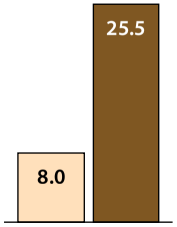




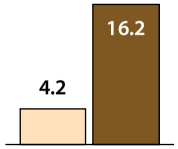
Jackson County



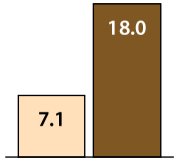
St. Louis City



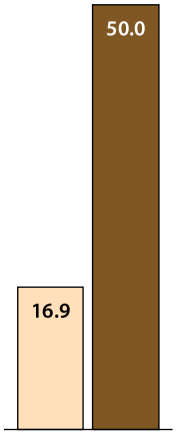
Boone County



St. Louis County



Greene County



Pemiscot County

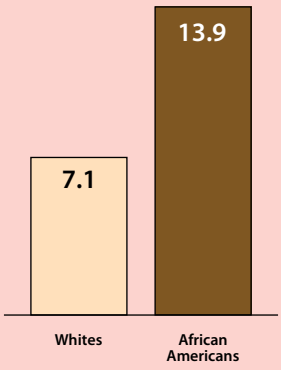
*Rates per 100 Live Births where adequacy of prenatal care is known.

Low Birth Weight

Over the last decade the African American low-birth-weight (LBW) rate has been twice the corresponding rate for white newborns. During this period the white LBW rate has increased while the African American rate has remained rather constant. LBW occurs as a result of one or both of two processes: preterm birth and intrauterine growth restriction (IUGR). The risk factors for IUGR include smoking, illegal drug and alcohol use, poor nutrition, pre-eclampsia, short spacing between births, underweight before pregnancy, and inadequate prenatal care. For preterm births, the risk factors include multi-fetal pregnancies (e.g., twins or triplets), urinary infections, vaginal infections, sexually transmitted infections, having a previous preterm birth, certain uterine or cervical abnormalities, and stress. The increase in LBW/preterm births over the last decade is partly a result of increases in multi-fetal pregnancies, Cesarean sections, and induced labor being performed at earlier gestational ages.

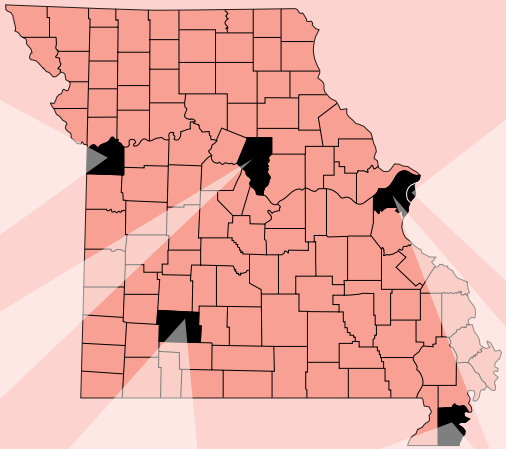
Low Birth Weight *– Number of infants born alive to resident mothers and weighing less than 2,500 grams (5.5 pounds) and the percent this number is of total live births for the time period.*

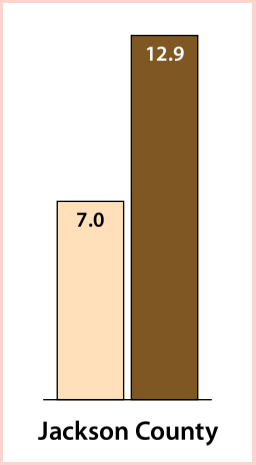
Low-Birth-Weight Rates*
Missouri, 2002 - 2006

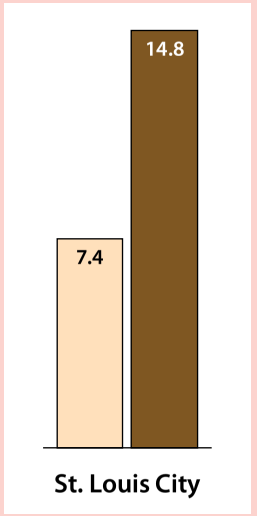


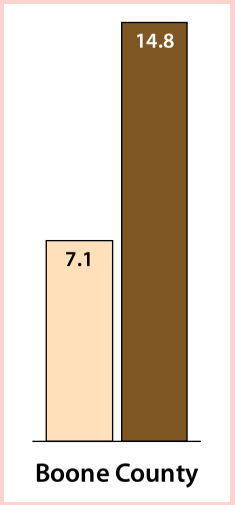
*Rates per 100 Live Births

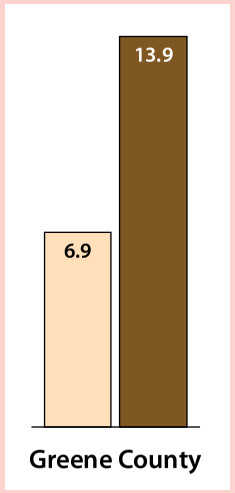
Low-Birth-Weight Rates* Missouri, 2002 - 2006 (Selected Counties)

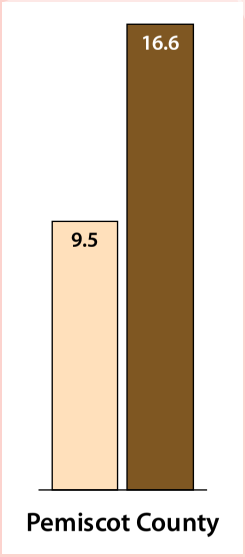


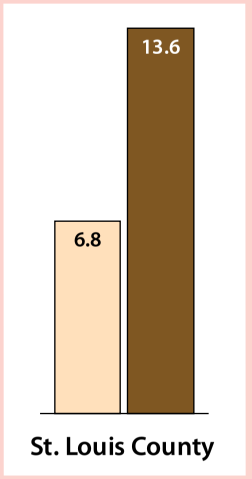










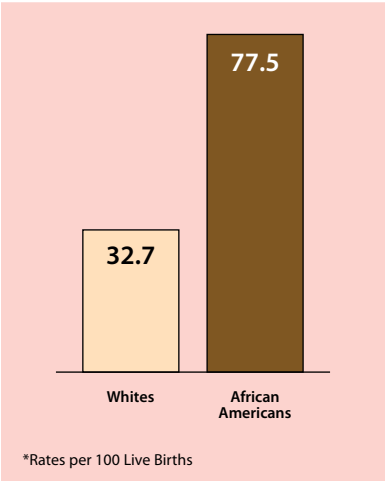


*Rates per 100 Live Births

Births to Unmarried Mothers

Over the last decade, the white rate of births to unmarried mothers has shown a statistically significant increase of 5 percent, while the corresponding rate for African Americans has remained around 75-77 percent. The causes of births to unmarried mothers are very complex and include values, lack of economic and educational opportunities, home environment, peer and media influences, and lack of access to contraceptive services. Infants born to unmarried mothers are more likely to be born into poverty and be at risk for the numerous associated health problems.

Rates of Births to Unmarried Mothers*
Missouri, 2006



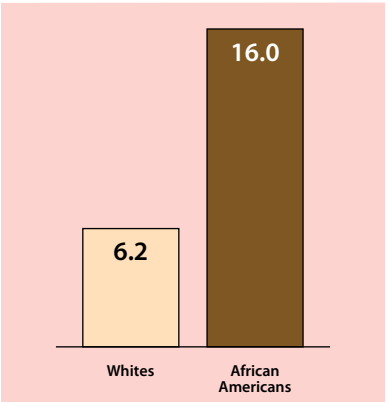
*Rates per 100 Live Births

Births to Unmarried Mothers – *Children born to mothers who are not married at the time of the births.*

Infant Deaths

The African American infant death rate has been twice the white rate over the last decade. The major reason for this disparity in infant mortality is that African American mothers are two times as likely as white mothers to have very low-birth-weight infants (VLBW) (i.e., less than 1500 grams or 3.3 pounds) which have about a 30 percent chance of death during infancy. The major risk factors for VLBW are basically the same as noted for LBW-preterm. These include multi-fetal pregnancies (e.g., twins or triplets), urinary infections, vaginal infections, sexually transmitted infections, having a previous preterm birth, certain uterine or cervical abnormalities, and stress. Other causes adding to the racial disparity in infant mortality include infections, injuries, and Sudden Infant Death Syndrome (SIDS).

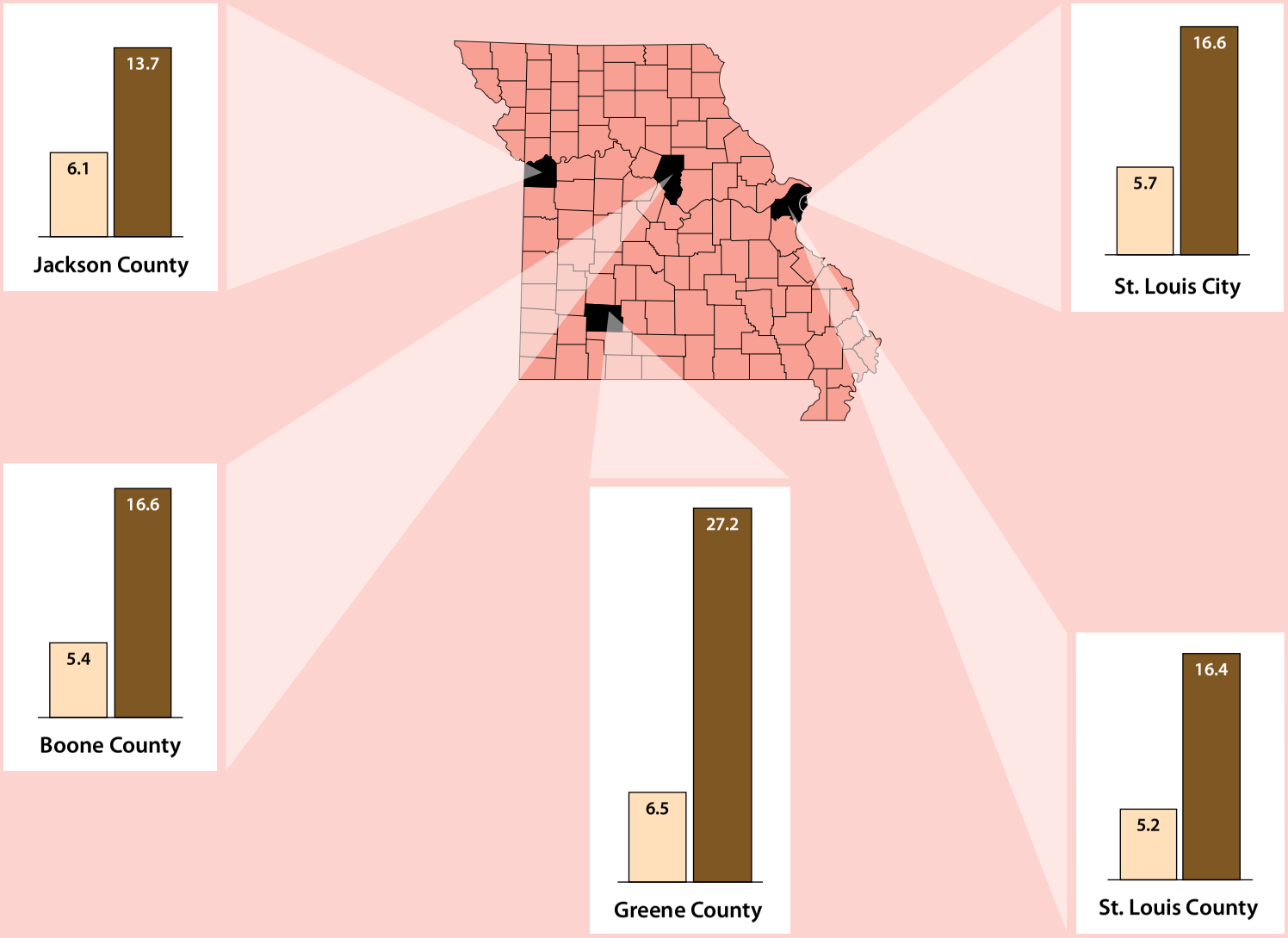
Infant Death Rates*
Missouri, 1997-2006



*Rates per 1,000 Live Births

Infant Deaths – *Deaths to resident babies born alive and dying before their first birthday. Rate is per 1,000 live births during the time period.*

Infant Death Rates* Missouri, 1997-2006 (Selected Counties**)



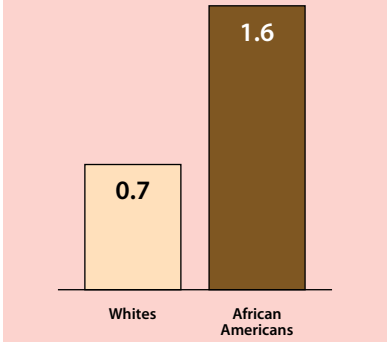
*Rates per 1,000 Live Births
**The number of Infant Deaths in Pemiscot County was too low to calculate reliable rates.

Sudden Infant Death Syndrome

Sudden Infant Death Syndrome (SIDS) *– The diagnosis given for the sudden death of an infant under one year of age that remains unexplained after a complete investigation, which includes an autopsy, an examination of the death scene, a review of the symptoms or illnesses the infant had prior to dying, and any other pertinent medical history. A SIDS death occurs quickly in seemingly healthy infants and is often associated with sleep, with no signs of suffering. Because most cases of SIDS occur when a baby is sleeping in a crib, SIDS is also commonly known as crib death. For data through 1998, the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9) code is 798.0. For data years 1999 forward, the ICD-10 code is R95.*

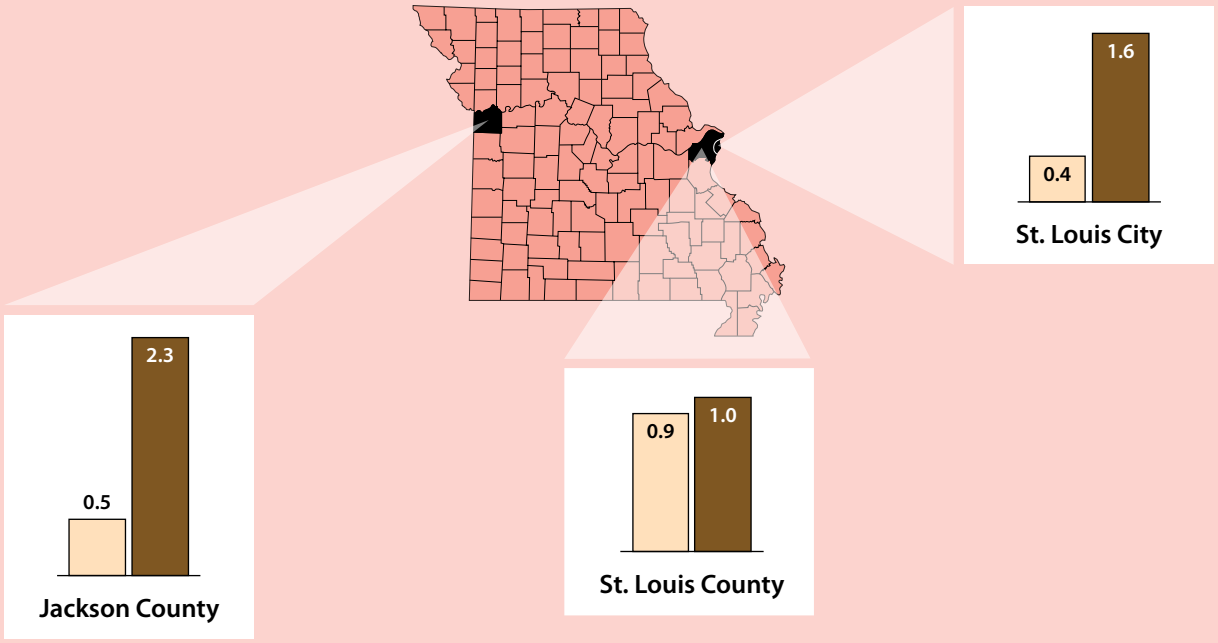
SIDS is the leading cause of infant death after one month of age, and African American infants are twice as likely to die of SIDS as white infants. Over the last decade, the SIDS rate decreased for both racial groups, but the decrease was greater for white infants. Risk factors are maternal smoking during pregnancy, LBW infant, smoking in the infant's household, placing the infant on its stomach to sleep, sleeping on a soft mattress, and sleeping with fluffy bedding or stuffed toys. According to the National Infant Sleep Position Study, African American mothers are still more likely than white mothers to place their infants on their stomachs to sleep.

Sudden Infant Death Syndrome (SIDS) Rates*
Missouri, 1997-2006



*Rates per 1,000 Live Births

Sudden Infant Death Syndrome (SIDS) Rates*
Missouri, 1997-2006 (Selected Counties**)



*Rates per 1,000 Live Births
**The numbers of SIDS deaths in Boone, Greene, and Pemiscot counties were too low to calculate reliable rates.

Communicable Diseases

Ratios for Selected Communicable Diseases 19

HIV
- Comparison Chart 20
- Trend Graph 20

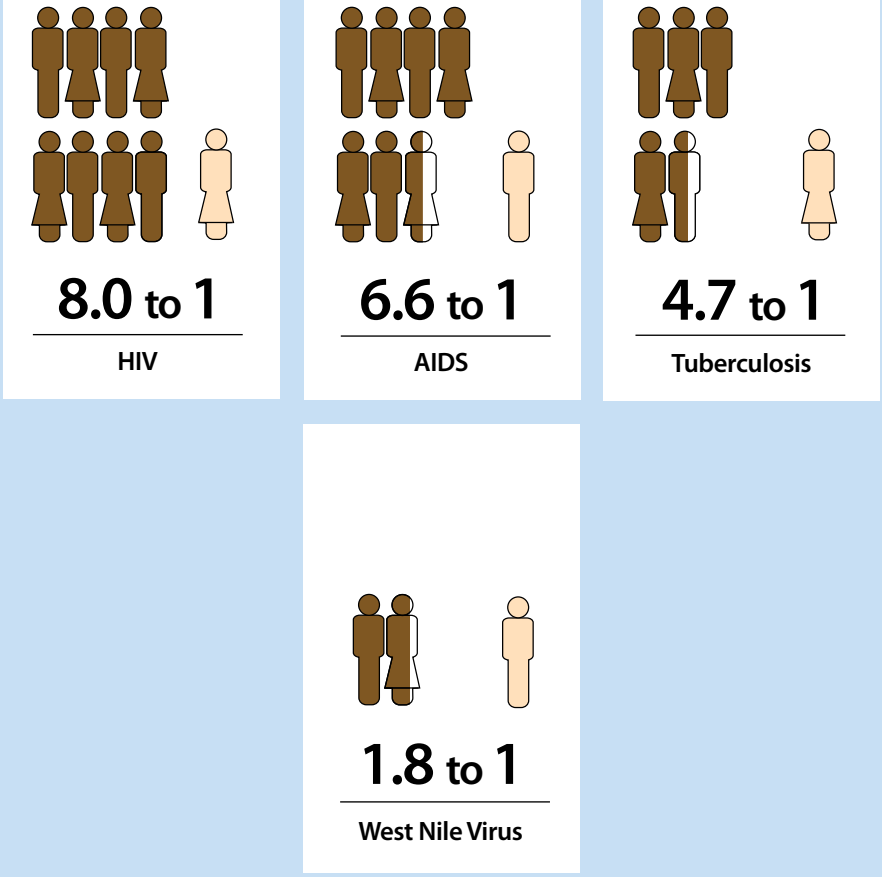
AIDS
- Comparison Chart 21
- Trend Graph 21

Tuberculosis
- Comparison Chart 22
- Trend Graph 22

West Nile Virus
- Comparison Chart 23

Ratios of African American to White Rates for Selected Communicable Diseases

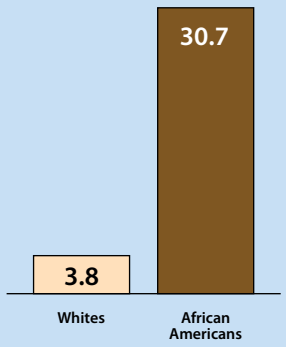
Missouri, 2003 - 2007



HIV

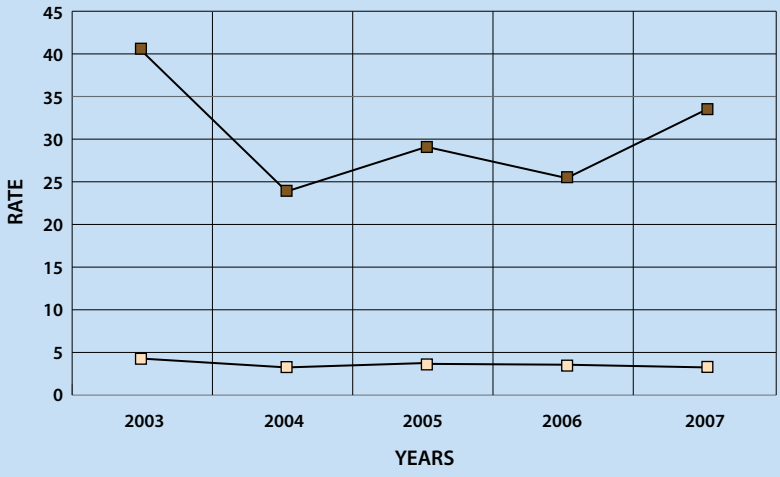
HIV disease includes all persons infected with the human immunodeficiency virus (HIV). Those identified as having HIV are then sub-classified into HIV cases or AIDS cases depending on the progression of the disease. The numbers reported for HIV refer to all cases diagnosed during the year(s) reported which remained HIV cases at the end of the time frame. There is a large disparity between the two genders, with males, regardless of race, nearly five times as likely to contract the disease. African Americans are eight times as likely to have HIV compared to whites. The leading risk factors for HIV are high-risk sexual contact, injection drug use, and for males, sexual relations with other men. HIV is more frequent among low-income groups who have less access to health care and preventive measures.

HIV Rates*
Missouri, 2003-2007



*Rates per 100,000 Population

HIV Rates* Missouri, 2003-2007



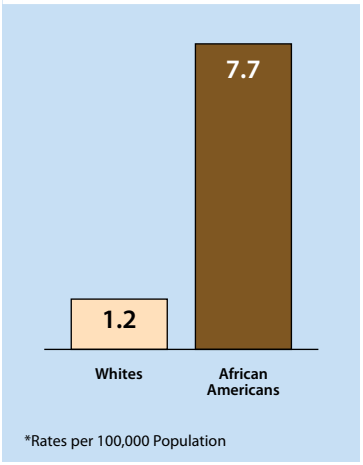
*Rate per 100,000 Population

HIV *– Although persons infected with HIV may not have symptoms of illness for some time, they are at risk for eventually developing many serious health problems. As the HIV disease process progresses, there is a gradual deterioration of immune system function that makes the individual particularly vulnerable to serious illnesses, which can include extreme weight loss, severe pneumonia, forms of cancer, and damage to the nervous system. In some people, these illnesses may develop within a year or two after they become infected. Others may stay healthy for as long as 10 or more years before symptoms appear. These illnesses signal the onset of AIDS, which is diagnosed in the later stages of HIV infection.*

AIDS

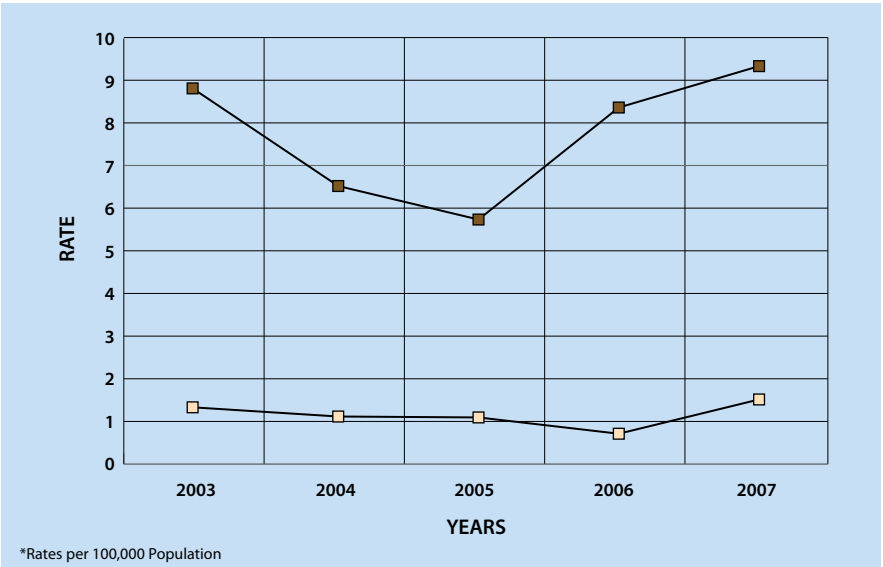
AIDS cases are defined as persons in the latter stages of the HIV disease process that meet the case definition for AIDS. The numbers reported for AIDS refer to all AIDS cases that were initially diagnosed during the time frame listed. African Americans were six and one-half times as likely to be diagnosed with AIDS compared to whites. Rates in the state, for both races, have fluctuated over the past 5 years but were on the upswing in 2007.

AIDS Rates*
Missouri, 2003-2007



*Rates per 100,000 Population

AIDS Rates* Missouri, 2003-2007



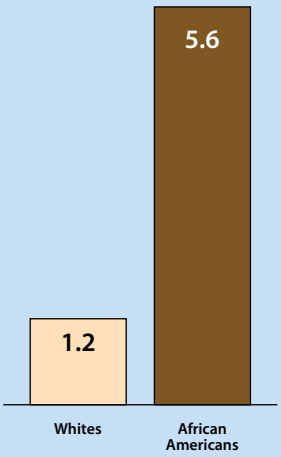
*Rates per 100,000 Population

AIDS – *AIDS is an acronym for acquired immunodeficiency syndrome, a disease in which the body's immune system breaks down. The immune system normally wards off infections and certain other diseases. Because the system fails when AIDS is spread, the individual with AIDS develops a variety of life-threatening illnesses.*

Tuberculosis

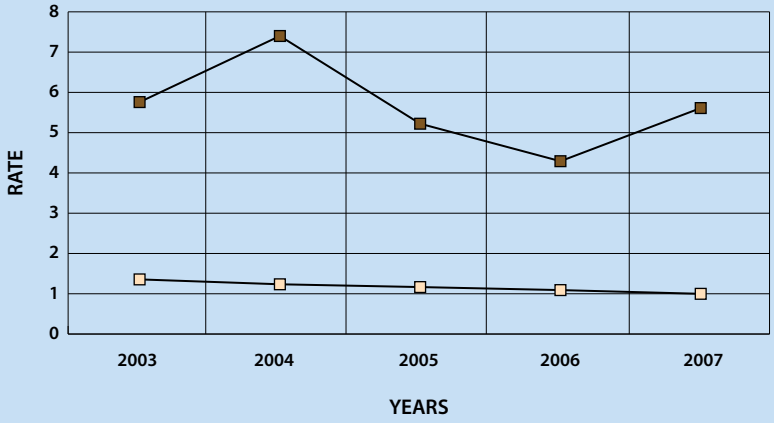
Tuberculosis is a common, and sometimes deadly, infectious disease found predominantly in developing countries. In Missouri, tuberculosis has been on the decline for the past 20 years, decreasing from 6.7 in 1985 to 1.8 in 2006. Rates for African Americans are over four and one-half times greater than for whites (in 2003-2007). However African American rates have declined substantially in the past few years, decreasing from 11.7 in 1998-2002 to 5.6 in 2003-2007.

Tuberculosis Rates*
Missouri, 2003-2007



*Rates per 100,000 Population

Tuberculosis Rates*
Missouri, 2003-2007

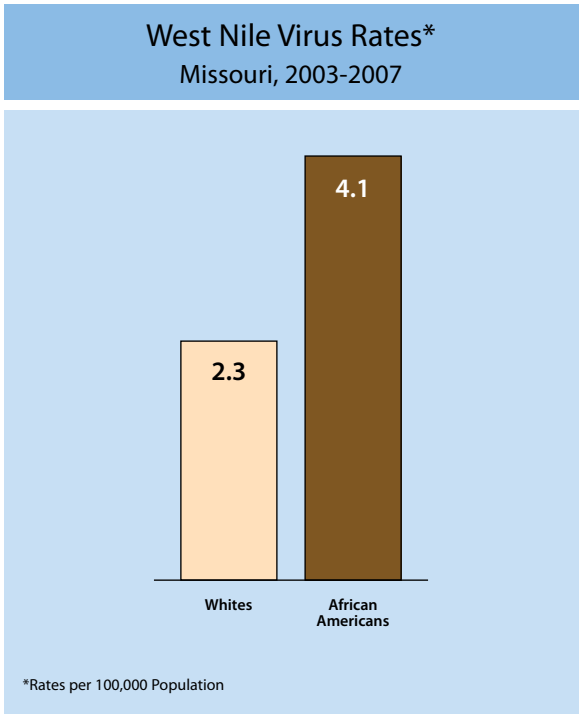


*Rates per 100,000 Population

Tuberculosis – *Tuberculosis is a communicable disease caused by a bacterium called Mycobacterium tuberculosis. Tuberculosis is spread from person to person through the air. Tuberculosis bacteria can be spread only if a person with active disease of the lungs or throat coughs, shouts, sneezes, sings, or talks. Anyone nearby can breathe Tuberculosis bacteria into their lungs. Tuberculosis may scar the lungs and attack other parts of the body, such as the kidneys, bones, or the brain. If left untreated, active tuberculosis can damage the lungs or other organs and can possibly cause death.*

West Nile Virus

The West Nile Virus is relatively new to Missouri and even North America. The first case in the continent was documented in 1999; it became a reportable condition in Missouri in 2002. Both race groups have seen increasing rates of West Nile Virus over the past five years. However, the disparity decreased from a ratio of 2.1 to 1 between African Americans and whites in 1998-2002 to 1.8 to 1 in 2003-2007.



West Nile Virus – *West Nile Virus is spread through the bite of mosquitoes, which become infected with the virus when they feed on infected birds. A very small number of individuals have also become infected by receiving transplanted organs. Arboviral infections may be asymptomatic or may result in illnesses of variable severity sometimes associated with central nervous system (CNS) involvement. When the CNS is affected, clinical syndromes ranging from febrile headache to aseptic meningitis to encephalitis may occur, and these are usually indistinguishable from similar syndromes caused by other viruses. Arboviral meningitis is characterized by fever, headache, stiff neck, and pleocytosis.*

Sexually Transmitted Diseases

Ratios for Sexually Transmitted Diseases 25

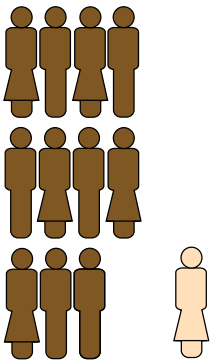
Chlamydia
- Trend Graph 26
- Comparison Chart 26

Primary & Secondary Syphilis
- Trend Graph 27
- Comparison Chart 27

Gonorrhea
- Comparison Chart 28
- Trend Graph 28

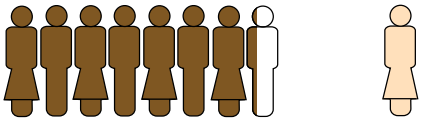
Ratios of African American to White Rates for Selected Sexually Transmitted Diseases

Missouri, 2003-2007



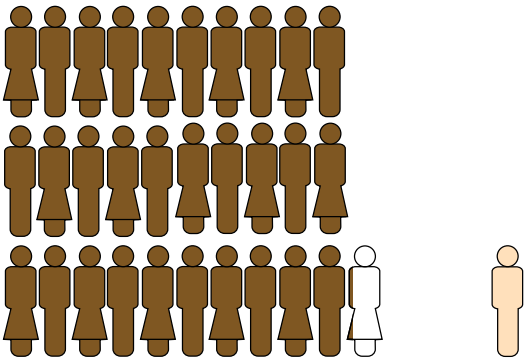
11.0 to 1

Chlamydia



7.3 to 1

Primary & Secondary Syphilis



30.1 to 1

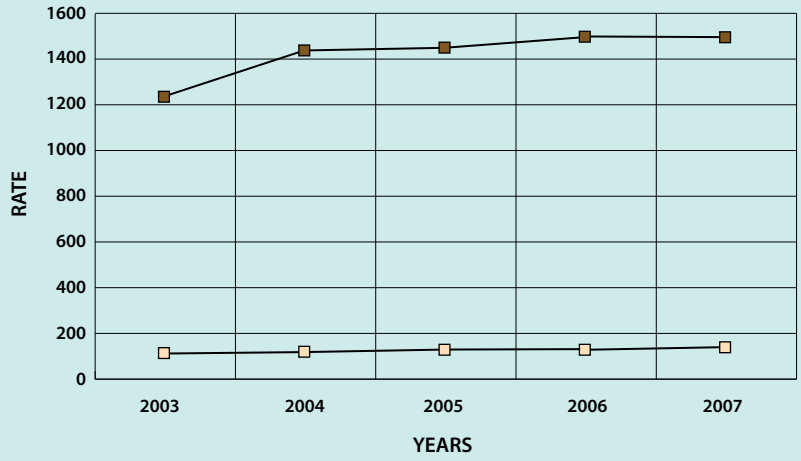
Gonorrhea

African American

White

Chlamydia

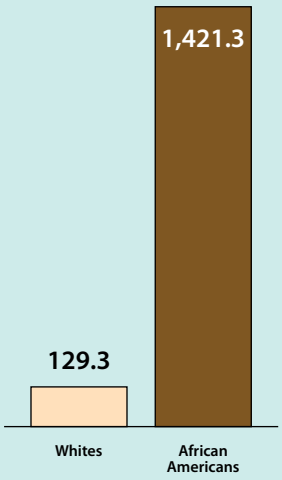
Chlamydia Rates*
Missouri, 2003-2007



*Rates per 100,000 Population

Chlamydia is the most common sexually transmitted disease (STD) and is caused by the bacterium, *Chlamydia trachomatis*, which can damage a woman's reproductive organs. Women are over two and one-half times as likely to contract the disease; yet the ratio is only 2 to 1 for African American women to men. Among all persons, the ratio of African American to white rates is 11 to 1. Chlamydia rates among African Americans nearly doubled in the past 10 years. Since 2003, Chlamydia rates increased by 22 percent for African Americans and 17 percent for whites. Chlamydia rates are particularly high in Missouri's largest cities (St. Louis and Kansas City).

Chlamydia Rates*
Missouri, 2003-2007

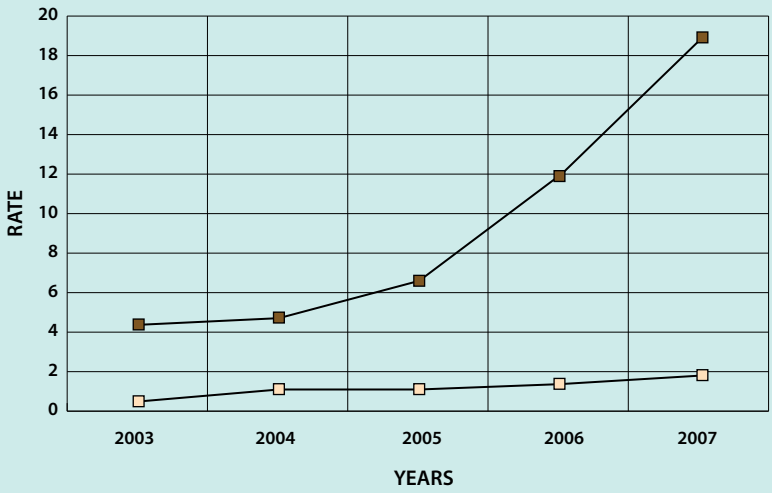


*Rates per 100,000 Population

Chlamydia *– This infection is easily confused with gonorrhea because the symptoms of both diseases are similar and they often occur together. These include discharge from the genitals for both sexes. For females, it can include bleeding after intercourse or between menstrual periods, and abdominal or pelvic pain. For men, it can include painful urination and swollen or painful testicles. The most reliable way to diagnose Chlamydia infection is by laboratory test of a sample of the patient's secretions.*

Primary and Secondary Syphilis

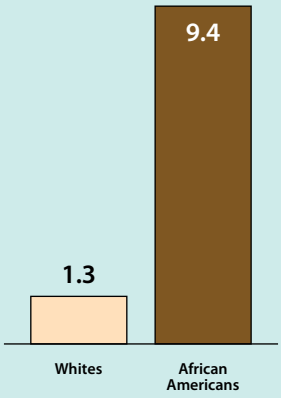
Primary and Secondary Syphilis Rates*
Missouri, 2003-2007



*Rates per 100,000 Population

Syphilis is a curable STD caused by the *bacterium Treponema pallidum*. Primary and secondary syphilis rates in Missouri for African Americans have had large fluctuations over the past 10 years. In the late 1990s, rates hovered in the high teens per 100,000 persons but plunged to the 3.0-5.0 ranges between 2000 and 2004. Large amounts of public health resources devoted to containing the spread of syphilis helped to decrease this rate. In the recent past, however, both race groups have seen large increases in syphilis rates, with the African American rate steadily climbing to 18.9 in 2007. Overall, the disparity ratio is 7.3 to 1 between African Americans and whites for 2003-2007.

Primary and Secondary Syphilis Rates*
Missouri, 2003-2007



*Rates per 100,000 Population

Primary & Secondary Syphilis – *The first symptom of primary syphilis is an ulcer called a chancre [shang-ker]. The chancre can appear within 10 days to three months after exposure, but it generally appears within two to six weeks. Because the chancre may be painless and may occur inside the body, it may go unnoticed. It usually is found on the part of the body exposed to the partner's ulcer, such as the penis, the vulva, or the vagina. A chancre also can develop on the cervix, tongue, lips, or other parts of the body. The chancre disappears within a few weeks whether or not a person is treated.*

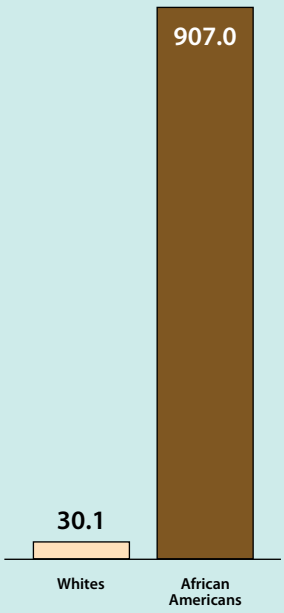
The second stage starts when one or more areas of the skin break into a rash that usually does not itch. Rashes can appear as the chancre is fading or can be delayed up to 10 weeks. The rash usually heals within several weeks or months. Other symptoms also may occur, such as mild fever, fatigue, headache, sore throat, as well as patchy hair loss, and swollen lymph glands throughout the body. These symptoms may be very mild and, like the chancre of primary syphilis, will disappear without treatment. The signs of secondary syphilis may come and go over the next one to two years.

Having syphilis increases by 3- to 5-fold the risk of transmitting and acquiring HIV (human immunodeficiency virus), the virus that causes AIDS (acquired immunodeficiency syndrome).

Gonorrhea

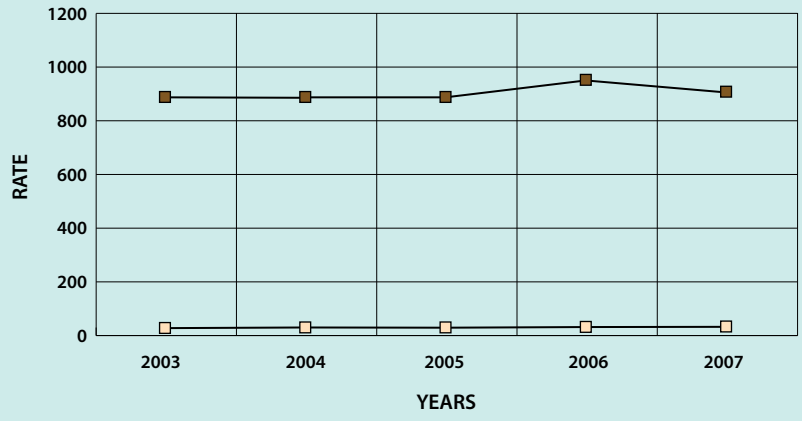
Gonorrhea is a sexually transmitted disease caused by *Neisseria gonorrhoeae*, a bacterium that can grow and multiply easily in the warm, moist areas of the women's reproductive system. For African American men and women, the number of gonorrhea cases reported in 2007 was about equal. White women, however, were nearly three times as likely as their male counterparts to contract the disease. Overall, the disparity between African Americans and whites was 30 to 1. This was the highest disparity of the STDs analyzed in this report but does represent a decrease from the 44 to 1 ratio that occurred during the years 1998-2002.

Gonorrhea Rates*
Missouri, 2003-2007



*Rates per 100,000 Population

Gonorrhea Rates*
Missouri, 2003-2007



*Rates per 100,000 Population

Gonorrhea – *Gonorrhea is a curable sexually transmitted infection caused by a bacterium called Neisseria gonorrhoeae. These bacteria can infect the genital tract, the mouth, and the rectum. In women, the opening to the uterus, the cervix, is the first place of infection. The disease, however, can spread into the uterus and fallopian tubes, resulting in pelvic inflammatory disease (PID). PID affects more than 1 million women in this country every year and can cause infertility in as many as 10 percent of infected women.*

Injuries Treated in Hospitals

Ratios for Selected Injuries Treated in Hospitals (Inpatient + Emergency Room) 29

Bicyclist
- Comparison Chart 30
- Trend Graph 30

Firearm Assault
- Comparison Chart 31
- County Chart 31

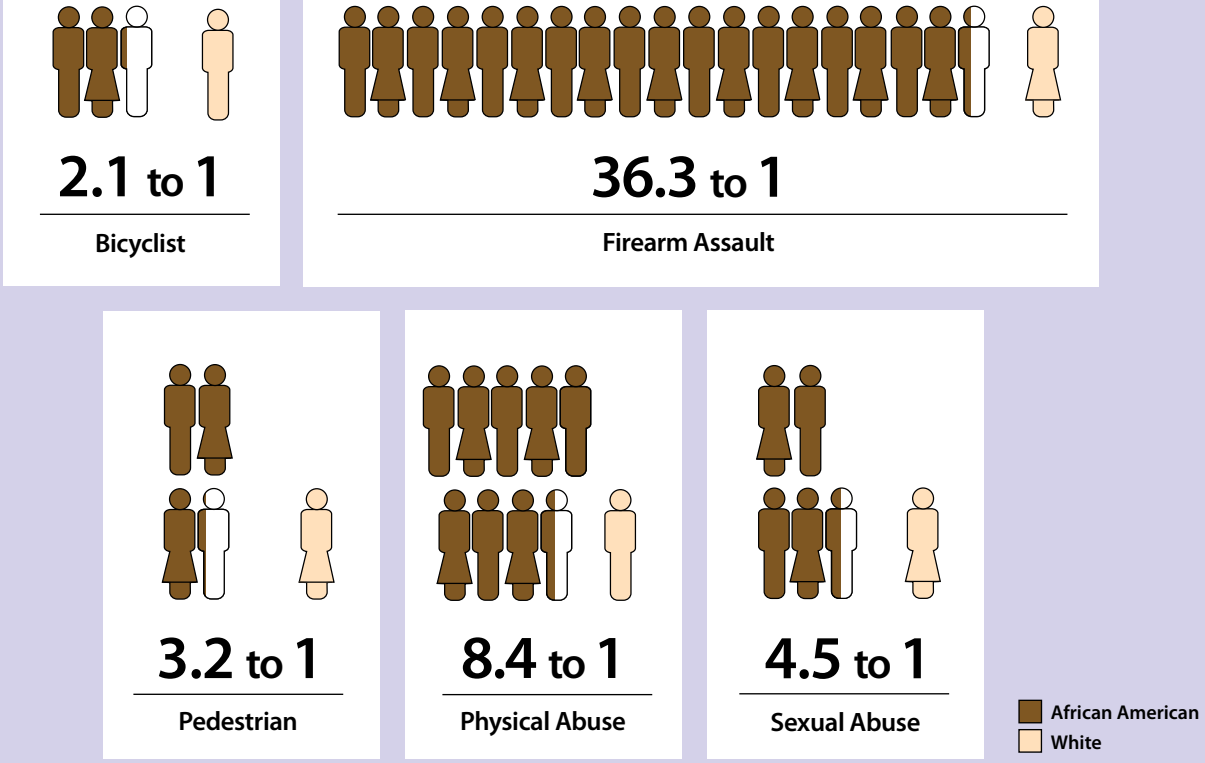
Pedestrian
- Comparison Chart 32

Physical Abuse
- Comparison Chart 32

Sexual Abuse
- Comparison Chart 33
- Trend Graph 33

Ratios of African American to White Rates for Selected Injuries Treated in Hospitals

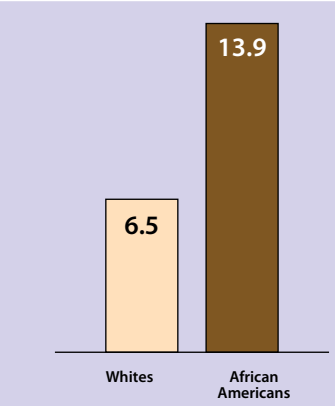
Missouri, 2006



Bicyclist Injury

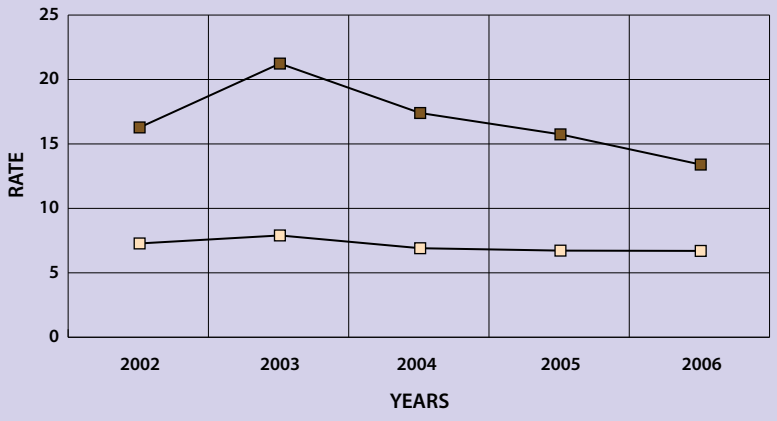
African Americans are twice as likely to sustain bicycle related injuries as whites. Children under the age of 15 accounted for about one-third of bicyclists who were injured by motor vehicles and seen in the hospital or emergency room in 2006. Males made up 75 percent of this group. Nationwide, males and children riding during non-daylight hours are most at risk of injury. Fatal crashes occurred most often from June to September at non-intersections; 1 in 6 cyclists who died had been inebriated.[3] According to one study of emergency room visits and deaths, bicycle helmets could reduce bike rider head injuries by 69-74 percent.[4]

Bicyclist Injury Rates*
Missouri, 2006



*Age-Adjusted Rates per 100,000 Population

Bicyclist Injury Rates*
Missouri, 2002-2006

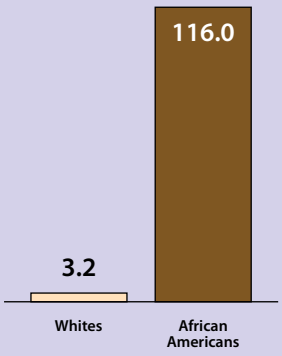


*Age-Adjusted Rates per 100,000 Population

Bicyclist – *Resident hospital admissions plus emergency room visits for bicyclists injured in collisions with motor vehicles on a roadway. ICD-9 codes are 8106, 8116, 8126, 8136, 8146, 8156, 8166, 8176, 8186 and 8196.*

Firearm Assault Injury

Firearm Assault Injury Rates*
Missouri, 2006

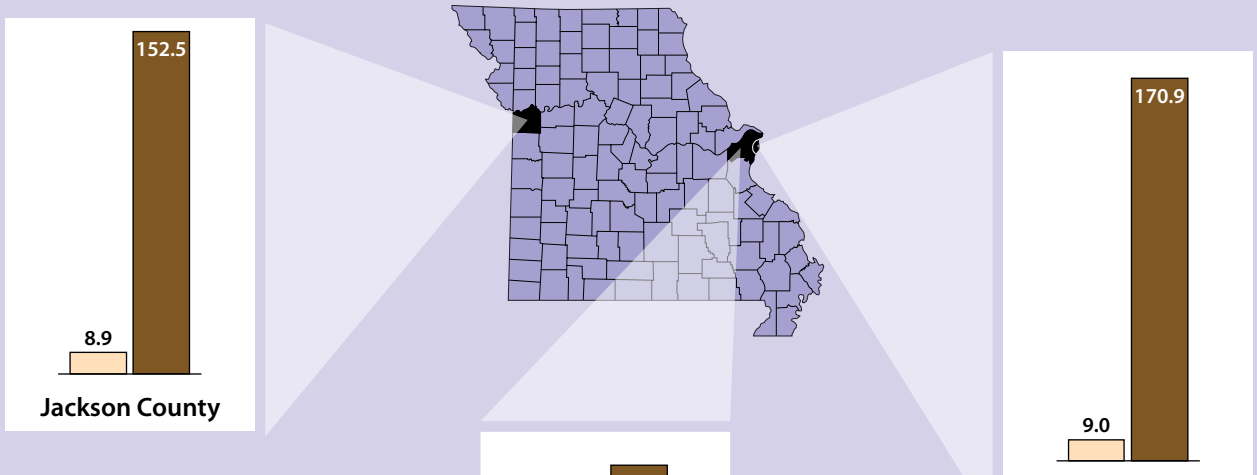


*Age-Adjusted Rates per 100,000 Population

The firearm assault injury rate has increased significantly for African Americans since 2001. The rate among African Americans jumped 51 percent, from 76.5 to 116.0 while rates for whites showed a non-significant increase from 3.1 to 3.2. As a result, the African American rate is now 36 times that of whites. In both the St. Louis and Kansas City areas, the increase in rates among African Americans is high. The youngest group (under 15) and the middle-aged group (45-64) saw the biggest changes, increasing 91 percent and 90 percent, respectively. Low socio-economic status is a major risk factor for victimization by violence, and the ready availability of firearms is a contributor to firearm assault injury.[5] In addition, gang activity in Missouri's large urban areas, which has been the subject of newspaper articles,[6] may be playing a part in the increase in firearm assault injuries among young people.

Firearm Assault *– Resident hospital admissions plus emergency room visits for firearm assault injuries. ICD-9 codes are E965.0-E965.4 and E979.4.*

Firearm Assault Injury Rates* Missouri, 2002-2006 (Selected Counties**)

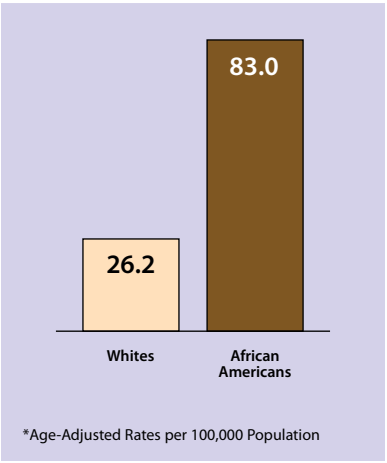


*Age-Adjusted Rates per 100,000 Population
**The numbers of injuries for Boone, Greene, and Pemiscot residents were too low to calculate reliable rates.

Pedestrian Injury

Nationally, as well as in Missouri, African Americans have higher rates than whites of pedestrian injuries. Slightly over one-third of adult pedestrians who died in the U.S. in 2006 were legally intoxicated. Most pedestrian deaths occurred at non-intersection locations between 6 p.m. and midnight, and 19 percent were due to hit-and-run accidents.[7] In Missouri, African Americans have shown a significant drop in hospitalizations and emergency room visits for motor vehicle caused pedestrian injuries. Between 2001 and 2006, the rate dropped from 97.9 to 83.0 while whites experienced a non-significant decrease of 28.3 to 26.2. In 2006, males accounted for 62 percent of hospital and emergency department visits for pedestrian injuries, with the highest rate among 15- to 24-year-olds.

Pedestrian Injury Rates*
Missouri, 2006



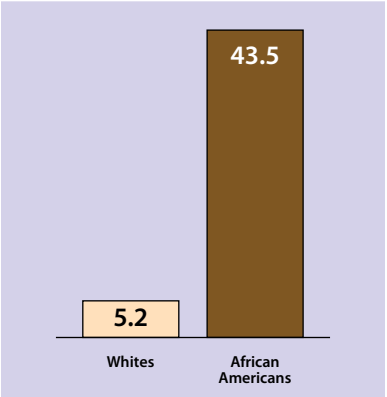
*Age-Adjusted Rates per 100,000 Population

Pedestrian – *Resident hospital admissions plus emergency room visits for pedestrians injured in collisions with motor vehicles on a roadway and injuries sustained in non-vehicle accidents. ICD-9 codes are 810.7, 811.7, 812.7, 813.7, 814.7, 8157, 8167, 8177, 8187 and 8197.*

Physical Abuse Injury

African Americans seek treatment at hospitals for physical abuse eight times more frequently than whites. Children less than one year old had the highest rates. Between 2004 and 2006, the African American rate was 119.8, over twice the rate among white children. In 2006, 39 percent of physical abuse patients were under age 15 and 72 percent were females. The likelihood of physical abuse increases in families affected by crime, poverty, and the lack of support systems and social services.[8] Children in these families are at the greatest risk of suffering physical abuse.

Physical Abuse Injury Rates*
Missouri, 2006

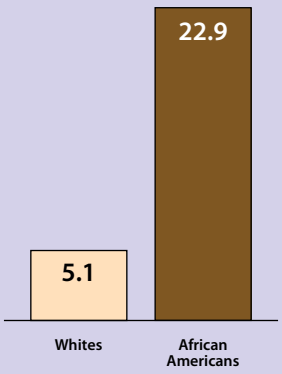


*Age-Adjusted Rates per 100,000 Population

Physical Abuse – *Resident hospital admissions plus emergency room visits for intentionally inflicted physical injury. For children the injury is usually inflicted by a caregiver. ICD-9 codes are E967, E9670-E9672, E9674-E9679 also E9673 if age is less than 14.*

Sexual Abuse Injury

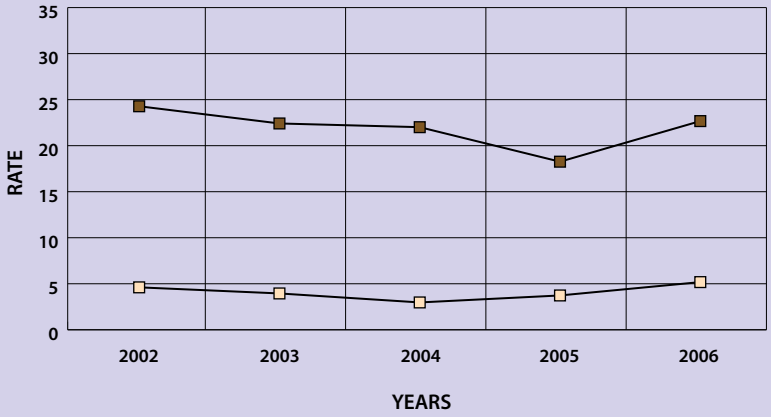
Sexual Abuse Injury Rates*
Missouri, 2006



*Age-Adjusted Rates per 100,000 Population

African Americans seek treatment at hospitals for sexual abuse four times more frequently than whites. Children age 10-14 have the highest rate of treatment for sexual abuse. Within this age range, African Americans are over seven times more likely than whites to seek treatment (104.3 compared to 18.1). Regardless of race, nearly all victims in this age group are females. Most females are likely to know their abuser while boys are more likely to be molested by a non-family member. Abuse often occurs within a long-term relationship and a significant number of offenders are adolescents. Factors such as absent or unavailable parents, few friends, a stepfather, and family conflict increase the risk of sexual abuse for girls.[9]

Sexual Abuse Injury Rates*
Missouri, 2002-2006



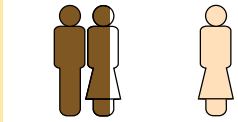
*Age-Adjusted Rates per 100,000 Population

Sexual Abuse – *Resident hospital admissions plus emergency room visits for sexual abuse. Sexual abuse includes physical or psychological injury due to all forms of sexual contact or exposure, as well as non-contact sexual abuse (e.g., voyeurism, exposure to pornography). Sexual violence occurs when the victim does not consent to the sexual activity, or when the victim is unable to consent (e.g., due to age, illness) or refuse (e.g., due to physical violence or threats). ICD-9 codes are as follows: E-code 9601 and either second E-code is 967 or 9679; or else one of the first 10 diagnoses is one of the following: 9955, 99550, 99551, 99553, 99554, 99559, 99580, 99581, 99582, 99583, 99585; or if one of the first 10 diagnoses is 99553 or 99583 and the E-code is in the range of 960-968 (assault).*

Emergency Room Visits

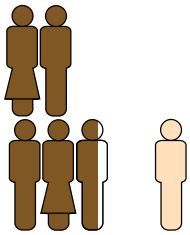
Ratios of African American to White Rates for Selected Causes of Emergency Room Visits

Missouri, 2006



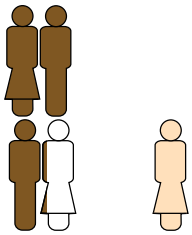
1.8 to 1

Alcohol /Drug Use



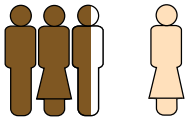
4.8 to 1

Asthma



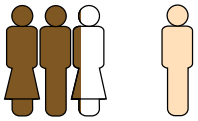
3.1 to 1

Diabetes Mellitus with Complications



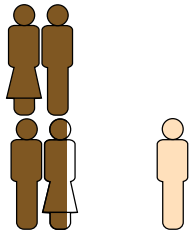
2.7 to 1

Eye Infection



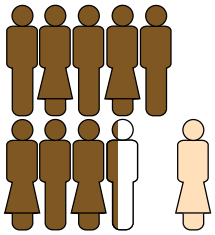
2.2 to 1

Congestive Heart Failure



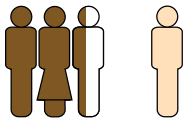
3.8 to 1

Essential Hypertension



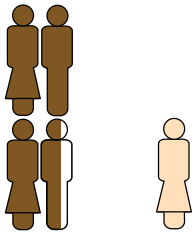
8.3 to 1

Schizophrenia and Related Disorders



2.4 to 1

Epilepsy-Convulsions



3.7 to 1

Osteoarthritis

Ratios for Selected Emergency Room Visits 35
Alcohol/Drug Use
Comparison Chart 36
Asthma
Comparison Chart 36
County Chart 37
Diabetes Mellitus with Complications
Comparison Chart 38
Trend Graph 38
Eye Infection
Comparison Chart 39
Congestive Heart Failure
Comparison Chart 39
Essential Hypertension
Comparison Chart 40
Trend Graph 40
County Chart 41
Schizophrenia
Comparison Chart 42
Trend Graph 42
County Chart 43
Epilepsy
Comparison Chart 43
Osteoarthritis
Comparison Chart 44
Trend Graph 44

African Americans are less likely than whites to have primary care providers. This results in delays in treatment and exacerbations of problems, leading to heavy use of emergency rooms (ER).

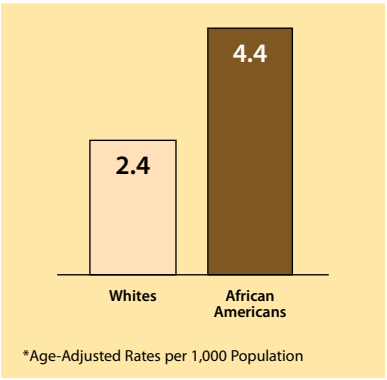
African American
White

Alcohol/Drug Use Related ER Visits

Alcohol/Drug Use *– Resident emergency room visits caused by excessive use of alcohol or drugs. ICD-9 codes are 291.0-292.9, 303.00-305.93, or V15.82.*

In the past five years, the disparity among African Americans and whites in ER visits for substance use has decreased. The rate for whites has increased significantly from 1.8 to 2.4, while that for African Americans has decreased non-significantly from 4.6 to 4.4. It is difficult to determine exactly why the rate for whites has increased or whether the underlying disparity is due to the difficulties in collecting accurate data on substance use. The higher rate of substance use related emergency room visits for African Americans may be related to lower rates of primary health care providers in this population. Another cause may be the higher prevalence of uninsured persons (18.6 percent of African Americans compared to 12.3 percent of whites in 2007). Factors contributing to higher drug use include poverty, illiteracy, limited job opportunities, poor education, high availability of drugs, and stresses of the urban lifestyle.[10]

Alcohol/Drug Use Related ER Visit Rates*
Missouri, 2006



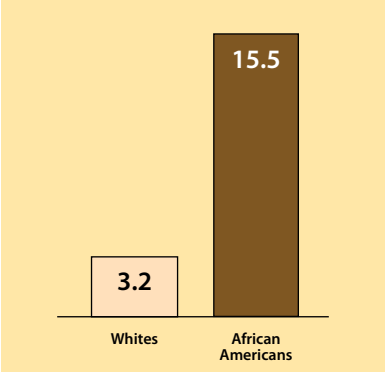
*Age-Adjusted Rates per 1,000 Population

Asthma Related ER Visits

Asthma *– Resident emergency room visits with a primary diagnosis of asthma, which is a chronic lung disease characterized by episodes of breathing difficulties. ICD-9 codes are 493.00-493.92.*

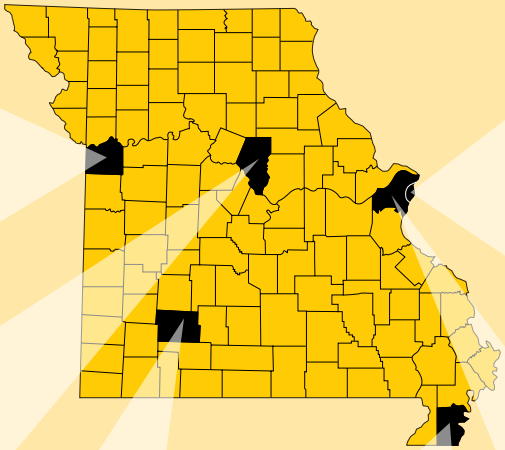
Rates of ER visits for asthma have dropped significantly for both races in the past five years, from 3.7 to 3.2 for whites and 16.6 to 15.5 for African Americans. However, a five-fold disparity still exists between the two races. According to the Asthma Allergy Foundation of America, asthma is the most frequent chronic health problem among children, affecting 1 in 20. "Ethnic differences in asthma prevalence, morbidity, and mortality are highly correlated with poverty, urban air quality, indoor allergens, lack of patient education, and inadequate medical care."[11]

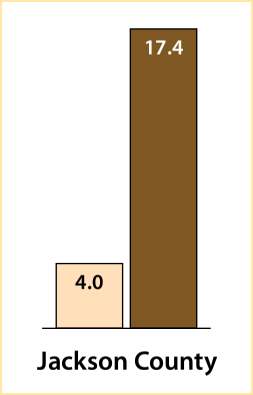
Asthma Related ER Visit Rates*
Missouri, 2006

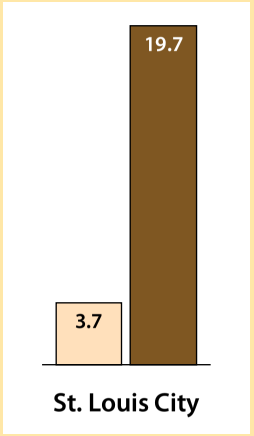


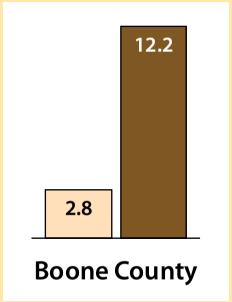
*Age-Adjusted Rates per 1,000 Population

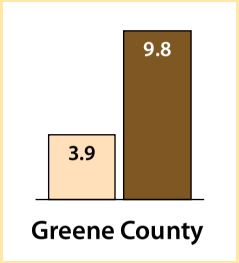
Asthma Related Emergency Room Visit Rates* Missouri, 2002-2006 (Selected Counties)

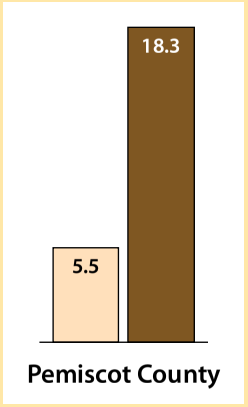


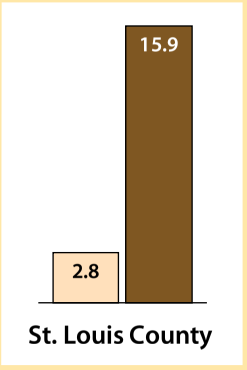










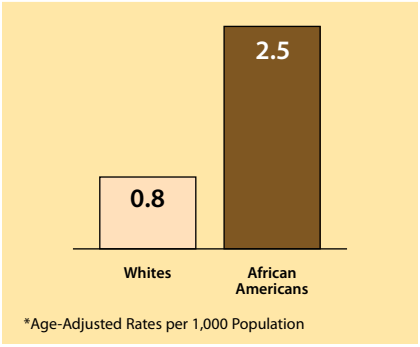


*Age-Adjusted Rates per 1,000 Population

Diabetes Mellitus Related ER Visits

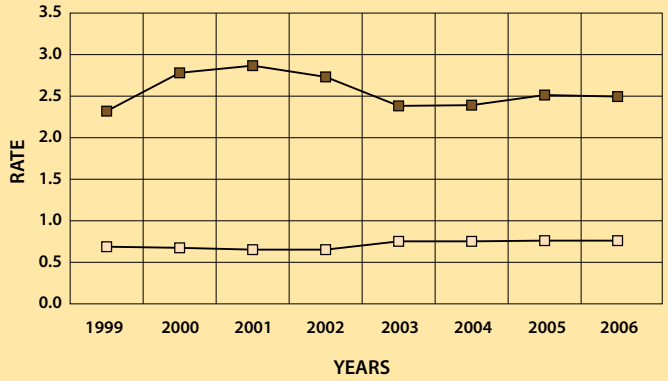
Over the past five years, the ER rates for whites increased slightly from 0.7 to 0.8, while the rate for African Americans decreased slightly from 2.9 to 2.5. Although the disparity has narrowed, African Americans are three times more likely than whites to enter the ER for diabetes complications. Type II diabetes, which accounts for the vast majority of diabetes cases, involves a number of risk factors such as family history of diabetes, previous history of gestational diabetes, physical inactivity, and being overweight. Lower levels of vitamin D[12] and higher levels of cortisol[13] (a 'stress' hormone) have also been suggested as contributing to higher rates of diabetes in African Americans. Cortisol output increases in reaction to stress and contributes to heart disease, as well as diabetes. Diabetes complications arise over time when blood glucose or sugar remains uncontrolled. These high sugar levels can cause multiple problems including nerve damage particularly in the feet and legs, eye problems, and kidney damage. People with diabetes are also at higher risk for heart disease and stroke.

Diabetes Mellitus with Complications: ER Visit Rates*
Missouri, 2006



*Age-Adjusted Rates per 1,000 Population

Diabetes Mellitus with Complications: ER Visit Rates*
Missouri, 1999-2006



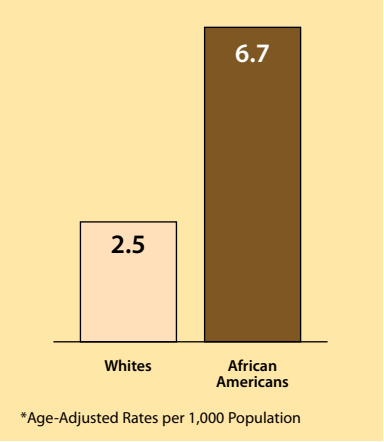
*Age-Adjusted Rates per 1,000 Population

Diabetes Mellitus with Complications *– Resident emergency room visits with a primary diagnosis of diabetes mellitus. Diabetes is characterized by an excessive urine excretion and an inability to metabolize carbohydrates, proteins, and fats with insufficient secretion of insulin. ICD-9 codes are 250.02-250.93.*

Eye Infection Related ER Visits

The rate of visits to the emergency room for eye infections is roughly two-and-one-half times as high for African Americans as it is for whites. Use of the emergency room for this condition may be due to the lack of access to primary care. Conjunctivitis, or pink eye, is one of the most common eye infections. Conjunctivitis has a variety of causes, including bacteria, viruses, allergies and dust, and other irritants in the air. The latter are likely to be more prevalent in urban and low-income neighborhoods. The most common risk factor is exposure to individuals with the bacterial or viral form.[14]

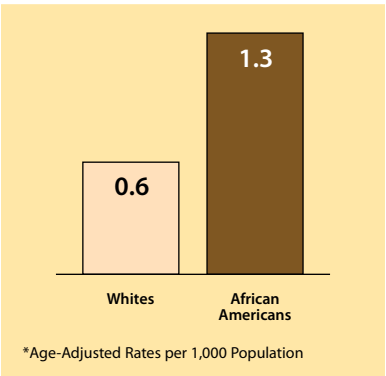
Eye Infection: ER Visit Rates*
Missouri, 2006



Eye Infections – *Resident emergency room visits with a primary diagnosis of an infection or rash on the eyelid, eye, cornea, retina, iris, or a disorder of the globe. Infections can be caused by parasites, fungal disease, a bacterial infection, or trachoma as well as other conditions. ICD-9 codes are 021.3, 032.81, 053.20-053.29, 054.40-054.49, 055.71, 076.0-077.99, 115.02, 115.12, 115.92, 130.1-130.2, 139.1, 360.00-360.19, 363.00-363.22, 364.00-364.3, 370.20-370.59,370.8-370.9, 372.00-372.39, 373.00-373.13, 373.31-373.9, 375.00-375.03, 375.30-375.43, 376.00-376.13, 377.30-377.39, or 379.00-379.09.*

Congestive Heart Failure Related ER Visits

Congestive Heart Failure:
ER Visit Rates*
Missouri, 2006



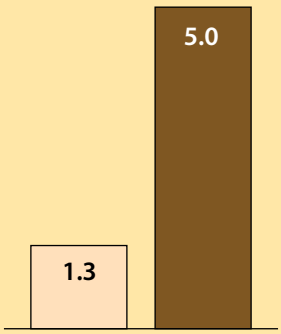
The disparity between African Americans and whites in rates of ER visits for congestive heart failure (CHF) has decreased slightly in the past five years. While the rate for whites has not changed, the rate for African Americans has shown a significant decrease, from 1.8 in 2001, to 1.3 in 2006. However, this is over twice the rate among whites. The greatest risk factor for CHF is hypertension, a condition more prevalent among African Americans. Other risk factors including diabetes, obesity, poor diet, lack of exercise, and overuse of alcohol are also more frequent among African Americans. In addition, HIV and West Nile Virus infections are more prevalent in African Americans and can contribute to CHF.

Congestive Heart Failure –
Resident emergency room visits with a primary diagnosis of decreased cardiac output and marked by hypertension and edema. Usually the inability of heart to pump adequately causes excessive fluid retention, congestion in the lungs, or swelling of torso or legs. ICD-9 codes are 398.91 or 428.0-428.9.

Essential Hypertension Related ER Visits

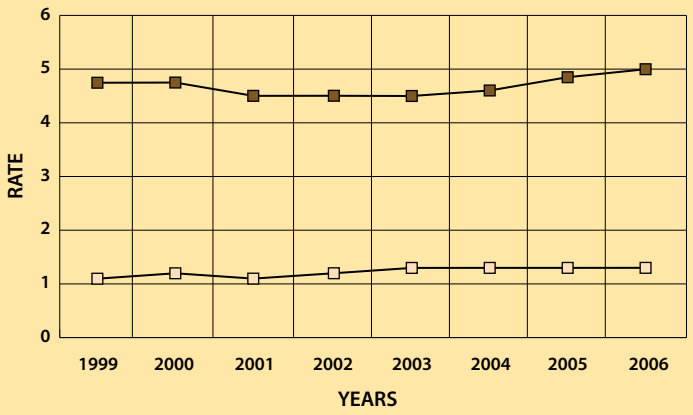
In the past five years, the rates of ER visits for essential hypertension have increased significantly among both whites and African Americans. The rate for African Americans increased from 4.5 to 5.0, while the rate for whites increased from 1.1 to 1.3. Compared to other groups, African Americans develop hypertension at an earlier age and experience it more severely. Risk factors for hypertension include being overweight, high alcohol intake, consuming diets high in sodium and low in potassium, physical inactivity, long-lasting stress, low socio-economic status, and family history of hypertension.[15] While a higher prevalence of behavioral risk factors is found among African Americans than whites, genetic factors may also contribute to the large disparity. The role of genetics, however, is somewhat controversial. The prevalence of hypertension is higher among African Americans than among blacks in other countries; and some white populations have higher rates of hypertension than African Americans.[16] On the other hand, there is evidence that, compared to whites, African Americans have higher rates of a protein that is associated with hypertension.[17]

Essential Hypertension:
ER Visit Rates*
Missouri, 2006



*Age-Adjusted Rates per 1,000 Population

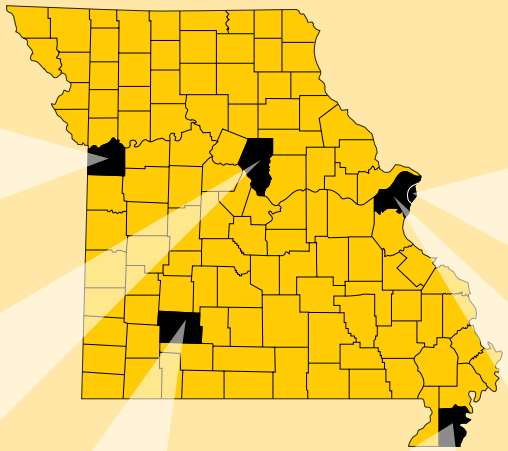
Essential Hypertension: Emergency Room Visit Rates*
Missouri, 1999-2006

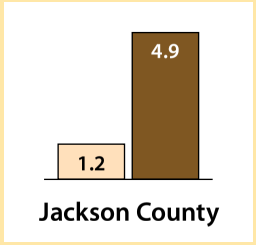


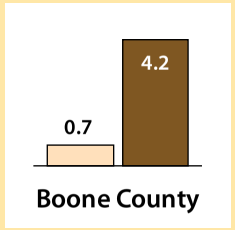
*Age-Adjusted Rates per 1,000 Population

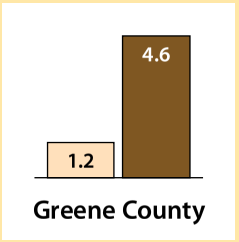
Essential Hypertension *– Resident emergency room visits with a primary diagnosis of persistently high arterial blood pressure without a discoverable organic cause. ICD-9 codes are 401.0 or 401.9.*

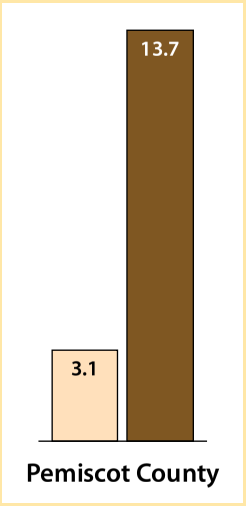
Essential Hypertension: Emergency Room Visit Rates* Missouri, 2002-2006 (Selected Counties)

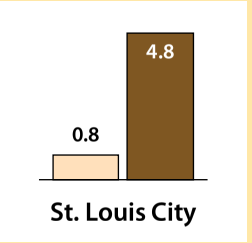


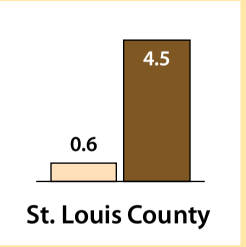










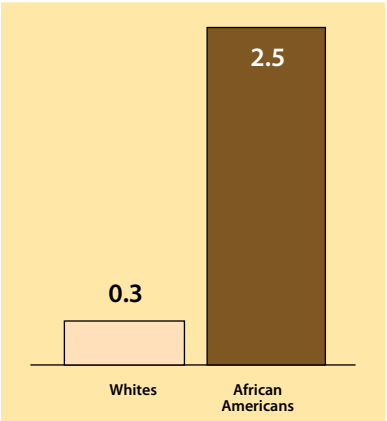


*Age-Adjusted Rates per 1,000 Population

Schizophrenia Related ER Visits

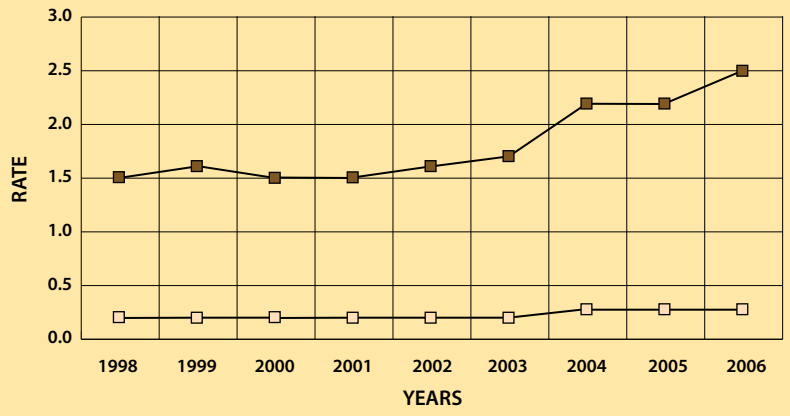
The rate of ER visits for schizophrenia is seven to eight times higher for African Americans than for whites. From 2001 to 2006, the rate among African Americans increased significantly from 1.5 to 2.5. The rates for whites increased from 0.2 to 0.3, a slight but statistically significant increase. African Americans may be more likely than whites to be diagnosed with schizophrenia, regardless of their true condition.[18] Stereotyping by the provider and African American suspicion of white physicians may contribute to the misdiagnoses, leading to lower expectations, poorer outcomes, and inappropriate services. African Americans also experience delays in care, which are associated with higher rates of hospitalization, longer lengths of stay, and poorer outcomes.[19] Compared to whites, African Americans are less likely to be referred to psychiatric care by general practitioners, may have higher distress thresholds, and be less likely to believe they have a mental illness.[20]

Schizophrenia Related
ER Visit Rates*
Missouri, 2006



*Age-Adjusted Rates per 1,000 Population

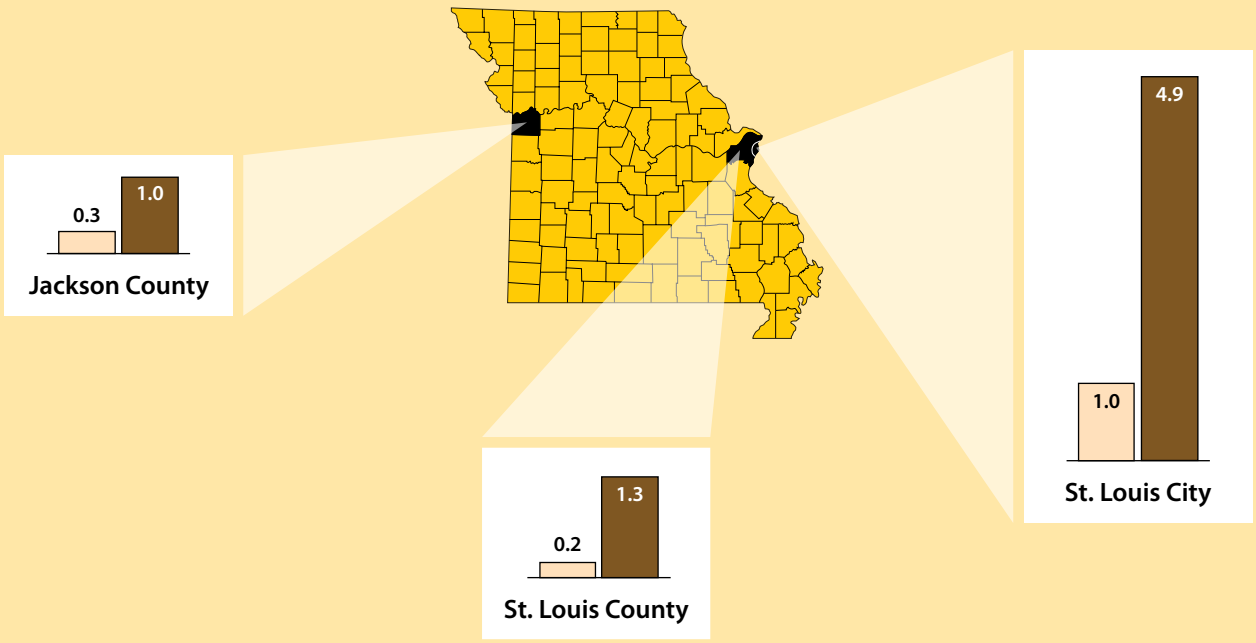
Schizophrenia Related Emergency Room Visit Rates*
Missouri, 1998-2006



*Age-Adjusted Rates per 1,000 Population

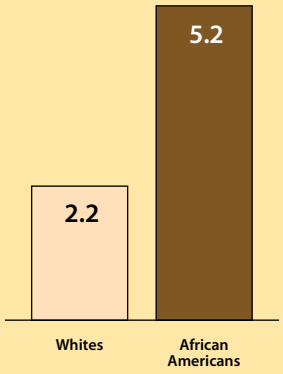
Schizophrenia – *Resident emergency room visits with a primary diagnosis of schizophrenia or a related disorder characterized by disturbance in form or content of thought, mood, and behavior. ICD-9 codes are 295.00-295.95 or 299.00-299.91.*

Schizophrenia Related Emergency Room Visit Rates*
Missouri, 2002-2006 (Selected Counties**)



*Age-Adjusted Rates per 1,000 Population
** The numbers of ER visits for Boone, Greene, and Pemiscot residents were too low to calculate reliable rates.

Epilepsy Related ER Visit Rates*
Missouri, 2006



*Age-Adjusted Rates per 1,000 Population

Epilepsy is the second most common chronic neurological condition seen by neurologists.[21] However, its prevalence is difficult to establish precisely because diagnosis requires observation of a seizure. Only about half of diagnosed epilepsy can be attributed to identified causes. Clinical case management is crucial for epilepsy; yet many inner city residents face obstacles to treatment including poverty, lack of health insurance, higher levels of drug and alcohol abuse, and fragmented health care.[22]

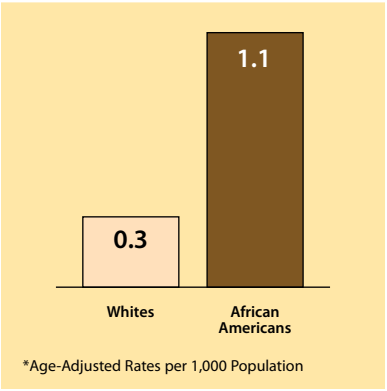
Epilepsy Related ER Visits

Epilepsy-Convulsions – *Resident emergency room visits with a primary diagnosis of a recurrent brain function disorder characterized by sudden, brief attacks of altered consciousness or motor activity. Convulsive seizures are the most common but there are varying levels of symptoms and there may or may not be loss of consciousness. ICD-9 codes are 345.0-345.91 or 780.3-780.39.*

Osteoarthritis Related ER Visits

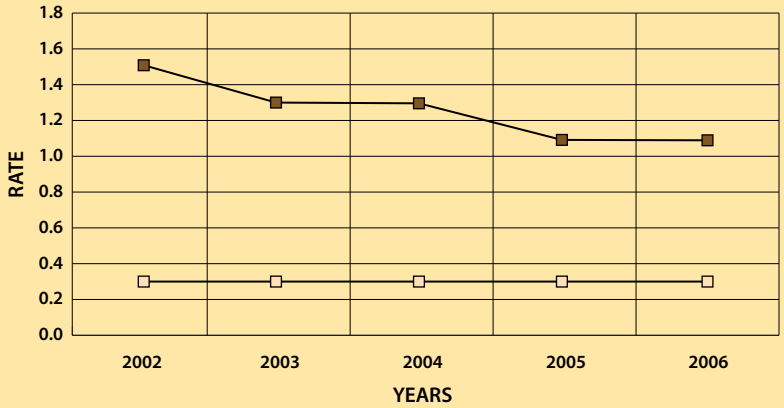
Osteoarthritis refers to a breakdown of the cartilage in the joints. It is the most common form of arthritis[23] and is the most common cause of disability in the U.S.[24] African Americans appear to be at greater risk of some forms of osteoarthritis, particularly in the hands and knees.[25] Risk factors include obesity, older age, muscle weakness, and overuse of joints.[26] The disparity between African Americans and whites for osteoarthritis related ER visits has decreased over the past few years. Five years ago, the rate for African Americans was more than five times the white rate (1.7 compared to 0.3). By 2006, the rate for African Americans had decreased significantly to 1.1, while the white rate remained at 0.3.

Osteoarthritis Related ER Visit Rates*
Missouri, 2006



*Age-Adjusted Rates per 1,000 Population

Osteoarthritis Related Emergency Room Visit Rates*
Missouri, 2002-2006



*Age-Adjusted Rates per 1,000 Population

Osteoarthritis – *Resident emergency room visits with a primary diagnosis of a chronic degenerative joint disease. May be caused by disease or internal or external injury, and may affect single or multiple sites. ICD 9 codes are 715.00-715.98 or V13.4.*

Deaths

Ratios for Selected Causes of Death 45

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Homicide
- Comparison Chart 53

Kidney Disease
- Comparison Chart 54

HIV/AIDS
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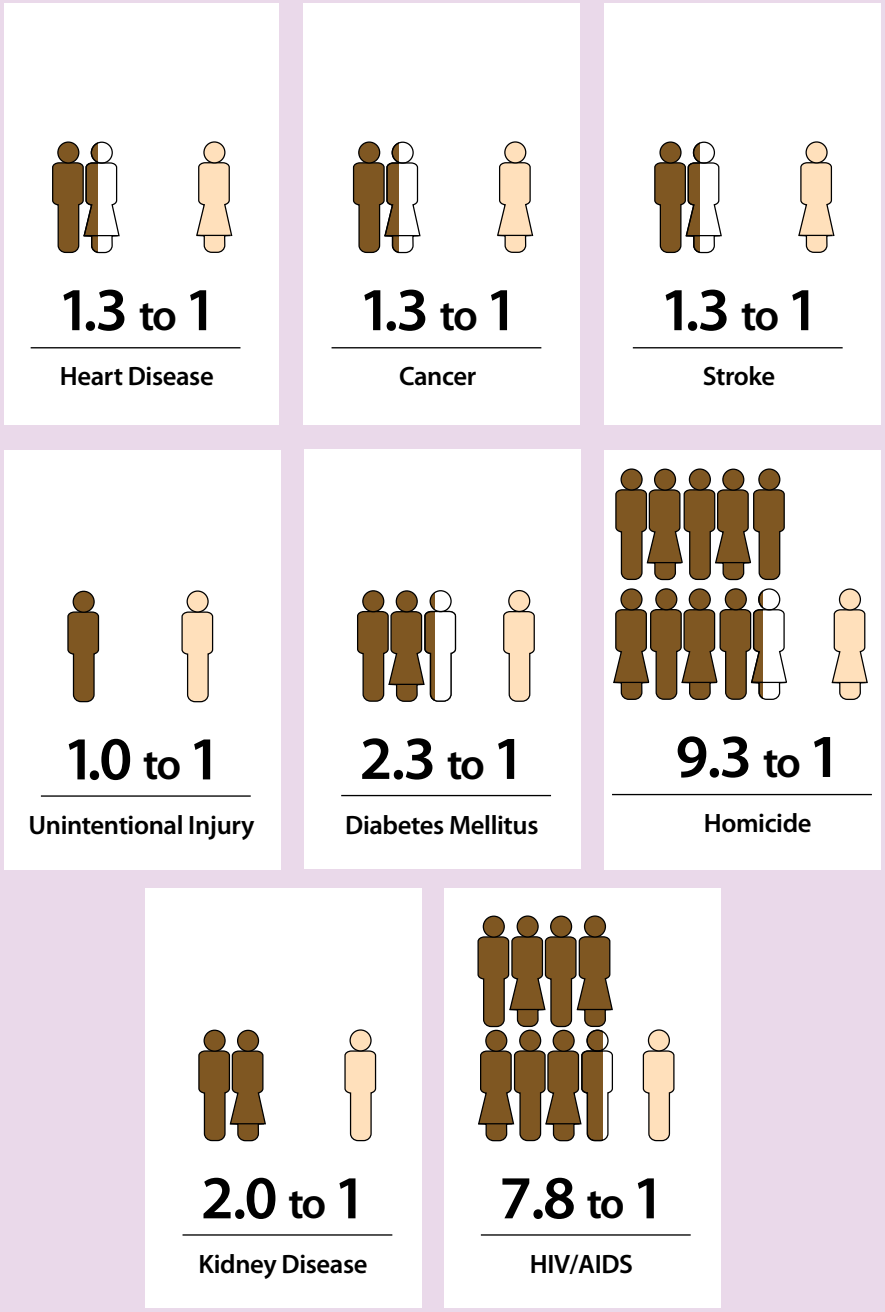
Ratios of African American to White Rates for Selected Causes of Death

Missouri, 2002-2006

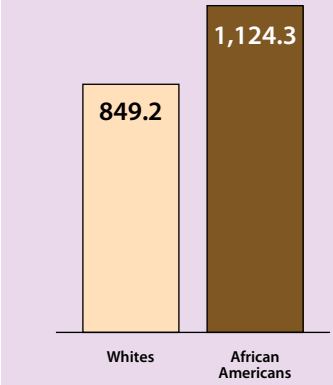


Deaths

Leading Causes of Death *– Leading causes of death are ranked by the number of deaths attributed to the selected causes. The ranking of leading causes of death depends largely on how causes are grouped. DHSS uses groupings determined by the National Center for Health Statistics and follows their tabulation lists. See R.N. Anderson, "Deaths: Leading Causes for 2000," National Vital Statistics Reports, Vol. 50, No.16, Hyattsville, Maryland: National Center for Health Statistics, Sept. 2002 for a complete list of the 50 rankable causes (Table A) and a description of how they were chosen. http://www.cdc.gov/nchs/data/nvsr/nvsr50/nvsr50_16.pdf*

For the years 2002-2006, the age-adjusted death rate per 100,000 residents was 1,124.3 for African American Missourians (30 percent higher than the rate of 849.2 for their white counterparts). These higher death rates are reflected in lower life expectancy at birth for African Americans: only 71.9 years versus 77.7 years for white Missourians in 2006.

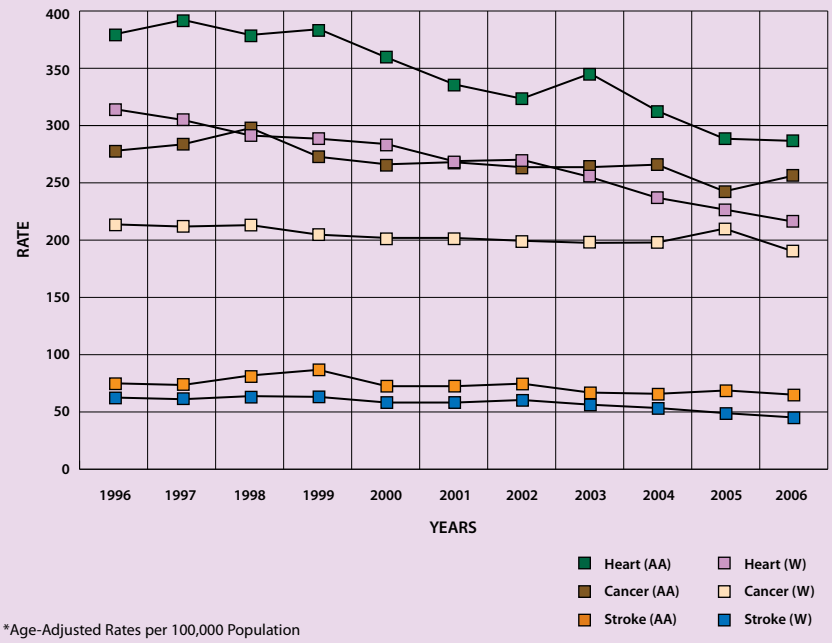
Death Rates by Race*
Missouri, 2002-2006



*Age-Adjusted Rates per 100,000 Population

The disparity between the two races is more pronounced for some causes of death than for others. There are even some causes for which the age-adjusted death rate is higher for whites. Those are mostly conditions that cause death late in life, including chronic lower respiratory diseases and Alzheimer's disease. The lower rates do not necessarily mean the cause is not a problem for African Americans. Alzheimer's disease, for example, is rising rapidly for both races.

Death Rates Due to Heart Disease, Cancer, and Stroke*
Missouri, 1996-2006

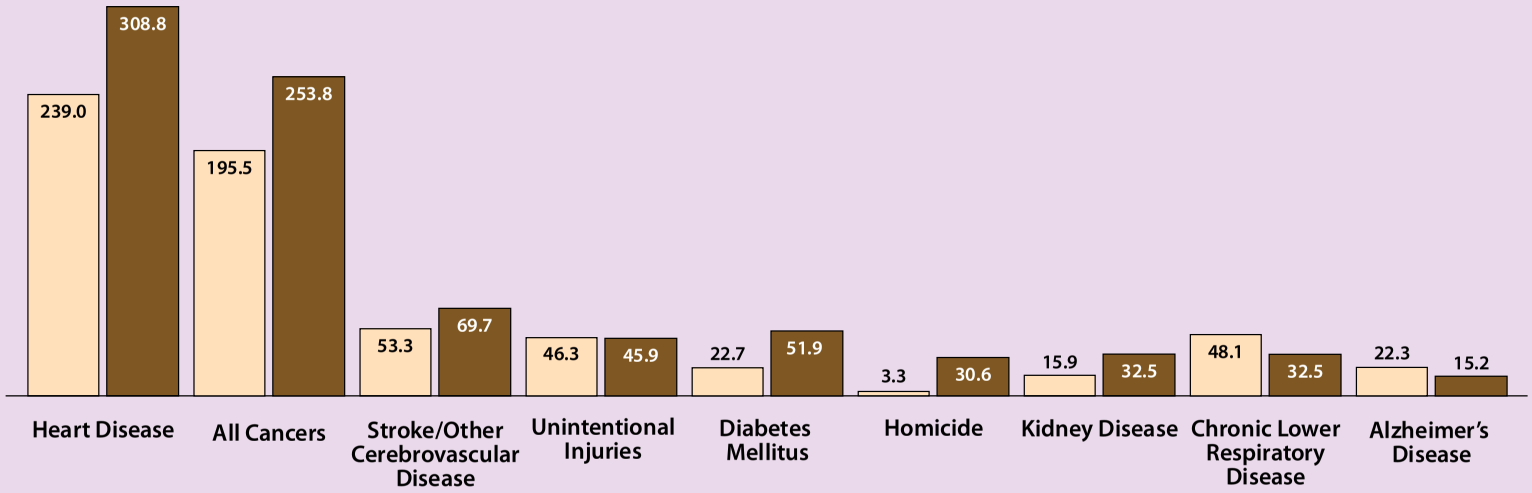


*Age-Adjusted Rates per 100,000 Population

From 2002 to 2006, the three leading causes of death for both African Americans and white Missourians continued to be heart disease, cancer, and stroke. The age-adjusted death rate for African Americans was about 30 percent higher for each of these three causes than it was for white Missourians. Although the death rates for both races have been declining for all three causes, the racial disparity in death rates did not decrease for any of them.

Comparison of Leading Causes of Death for Whites and African Americans*

Missouri, 2002-2006



*Age-Adjusted Rates per 100,000 Population

Leading Causes of Death by Race

Missouri, 2002-2006

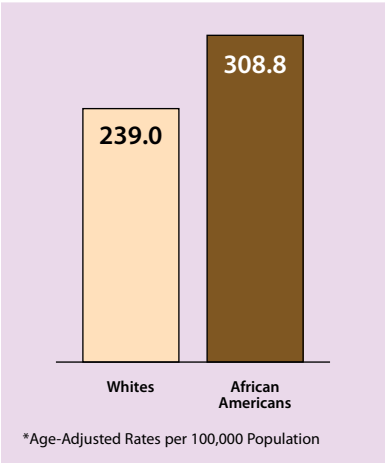
African American Residents			White Residents		
	Cause	Deaths*		Cause	Deaths*
1	Heart Disease	7,348	1	Heart Disease	70,067
2	Cancer	6,213	2	Cancer	55,236
3	Stroke	1,637	3	Stroke	15,740
4	Unintentional Injury	1,431	4	Chronic Lower Respiratory Disease	13,783
5	Diabetes Mellitus	1,254	5	Unintentional Injury	12,067
6	Homicide	1,092	6	Pneumonia & Influenza	6,983
7	Kidney Disease	774	7	Alzheimer's Disease	6,784

*Cumulative totals

Heart Disease Deaths

The disparity in death rates for heart disease is most pronounced in hypertensive forms of heart disease. Although essential hypertension is categorized separately from heart disease as a cause of death, it is closely related. The African American death rate for essential hypertension was about three times the white rate. The atherosclerosis death rate was also more than twice the white rate.

Heart Disease Death Rates*
Missouri, 2002-2006



*Age-Adjusted Rates per 100,000 Population

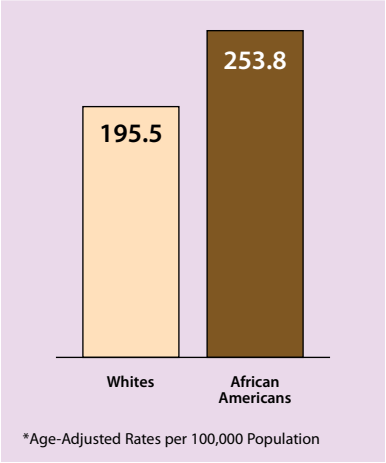
Some insight into the causes of racial disparity in death rates can be gleaned from the Behavioral Risk Factor Surveillance System (BRFSS).[27] While the 2007 BRFSS did not reveal statistically significant differences between races in the likelihood of having had a heart attack, African American Missourians were more likely to report having been told by a health professional that they had high blood pressure (42 percent versus 27 percent of whites). Another risk factor is that African Americans had less knowledge of some heart attack signs and symptoms. Failure to recognize these symptoms could lead to dangerous delays in treatment.

At a more basic level, African Americans were more likely to report some risk factors for development of heart disease. They were statistically significantly more likely to report no leisure time physical activity in the past month. Additionally, the percentage of African Americans who reported being obese was significantly higher, at 37 percent versus 27 percent.

Heart Disease – *Resident deaths for which the underlying cause of death was given on the death certificate as heart disease. ICD-10 codes are I00-I109, I11, I13, I20-I51.*

Cancer Deaths

Cancer Death Rates*
Missouri, 2002-2006



During 2002-2006, the leading causes of cancer death for African Americans were lung, colon, breast, prostate, pancreas, and liver (in that order). The top three were the same for both races, but cancer of the pancreas and liver ranked higher for African Americans than for whites. The death rates for African Americans were statistically significantly higher for all six of those cancers. Factors contributing to cancer death rates include likelihood of developing cancer, stage at diagnosis, and access to treatment. Considering all invasive cancers for the years 2002-2005, African Americans were about 10 percent more likely than whites to be diagnosed with invasive cancer, and less likely to be diagnosed while the cancer was localized. Some cancers for which African Americans have higher rates of incidence include cancers of the lung, colon, prostate, cervix, stomach, esophagus, and liver.

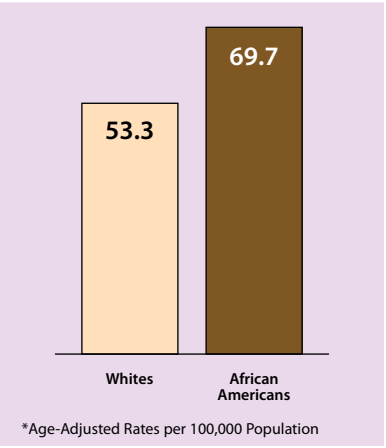
Generally, invasive cancers were diagnosed at later stages for African Americans. Even though breast cancer was diagnosed at younger ages for African American than for white women, it was still diagnosed at later stages. A similar paradox held true for prostate cancer. The percentage of prostate cancers diagnosed at ages 45-64 was higher for African American men than for white men, while white men had a higher percentage of diagnoses at ages 65-84. Nonetheless, African American men were more likely than white men to be diagnosed with cancer at regional or distant stages, and white men were more likely to be diagnosed while the cancer was still localized.

Cancer *– Resident deaths for which the underlying cause of death was given on the death certificate as cancer. ICD-10 codes are C00-C97.*

Stroke Deaths

For ages 65 and older, the two races have similar death rates due to stroke. In fact, for those over age 85, the death rate was higher for whites. The higher overall death rate for African Americans is accounted for by the fact that African American residents were much more likely to die younger. From ages 35 through 64, the African American death rate was about three times the white rate.

Stroke Death Rates*
Missouri, 2002-2006



*Age-Adjusted Rates per 100,000 Population

High blood pressure is a major factor for stroke, and African Americans are far more susceptible to it, as discussed under "heart disease." Other factors related to heart disease, such as physical inactivity and obesity, are also risk factors for stroke.

Once a stroke occurs, prompt recognition and treatment can limit the damage and prevent death. African American Missourians surveyed in 2007[28] were generally less likely to recognize all the symptoms of stroke, although the only question for which the difference was clearly statistically significant pertained to recognizing sudden confusion or trouble speaking (82 percent of African Americans versus 93 percent of white respondents).

Stroke *– Resident deaths for which the underlying cause of death was given on the death certificate as stroke. ICD-10 codes are I60-I69.*

Unintentional Injury Deaths

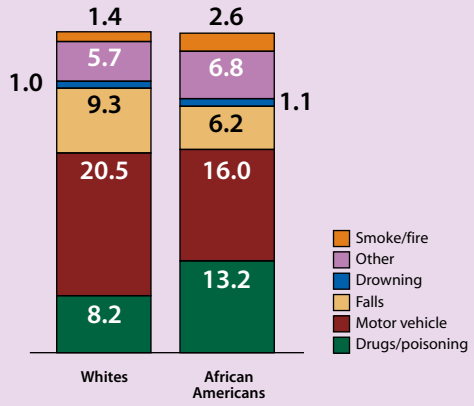
Unintentional injury was the fourth leading cause of death for African Americans but ranked fifth for whites during the years 2002-2006. During that time, the ranking of unintentional injury as a cause of death for African American Missourians rose from fourth in 2002 to third in 2006. The most common causes of "unintentional injury" death are motor vehicle crashes, falls, and accidental poisoning.

The age-adjusted death rates due to unintentional injury are similar for the two races, but that similarity masks differences in death rates for specific causes of accidental injury. For African Americans, lower rates of death from motor vehicle crashes and

Unintentional Injury *– Resident deaths for which the underlying cause of death was given on the death certificate as unintetional injury. ICD-10 codes are V01-X59, Y85-Y86.*

Unintentional Injury Deaths

Unintentional Injury Death Rates*
Missouri, 2002-2006



*Age-Adjusted Rates per 100,000 Population

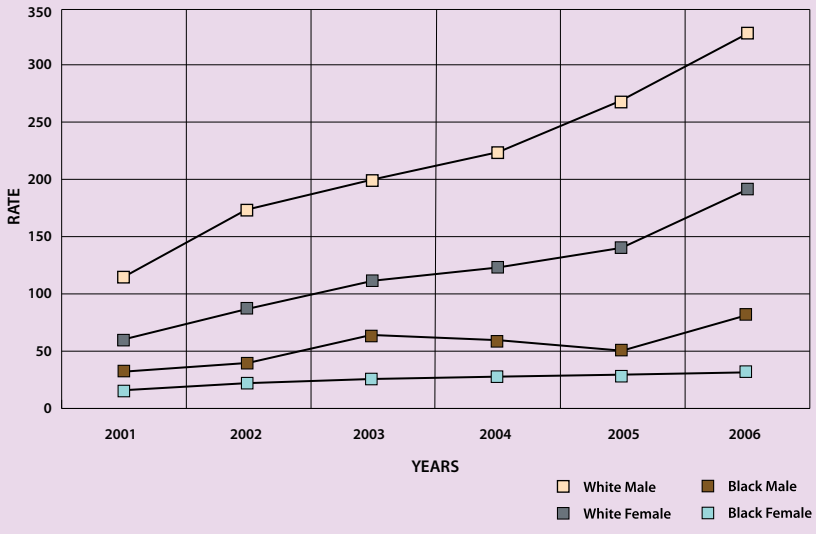
falls are made up for by higher rates of accidental death due to drug poisoning, as well as fires and other accidents. Lower motor vehicle death rates for African Americans are related in part to their likelihood of living in urbanized areas, where there are fewer two-lane highways and where trauma centers are nearby.

In the 2006 BRFSS survey,[29] respondents age 45 and over were asked whether they had fallen during the past three months. The rates of having fallen were similar for white and African American Missourians. Rates of death due to falls, however, are lower for African Americans because they are less likely to develop osteoporosis. For persons under age 75, the two races have similar death rates due to falls; over age 75, however, the white rate is about twice as high.

Drug Induced Due to Accidental Poisoning *– Resident deaths for which the underlying cause of death was given on the death certificate as drug induced due to accidental poisoning. ICD-10 codes are X40-X44.*

The racial disparity in death rates due to accidental poisonings by drugs has been decreasing in Missouri over the past few years. Unfortunately, the gap is narrowing because of more rapid increases in death rates for white Missourians, not because of improvement in death rates for African Americans. Between 2001 and 2006, the numbers of male and female African American Missouri residents dying of accidental drug poisoning doubled, while the number of white male deaths nearly tripled, and the number for white females more than tripled.

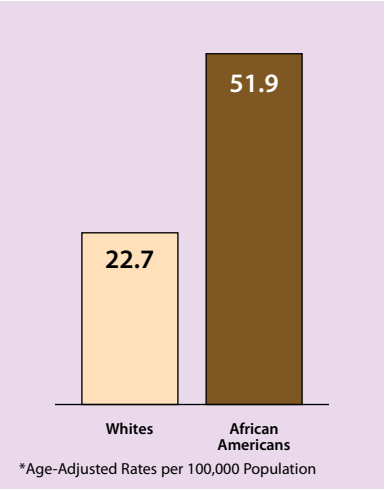
Drug-Induced Deaths Due to Accidental Poisoning by Gender and Race
Missouri, 2001-2006



Diabetes Mellitus Deaths

The fifth leading cause of death for African Americans in Missouri was diabetes, which ranks only eighth for whites. The African American rate was twice as high as the white rate for males and two and one half times the rate for females. Overall, the ratio between the age-adjusted rates was 2.29. The disparity appears to be getting worse, increasing from 1.9 in 1996, to 2.1 in 2002, to 2.5 in 2006.

Diabetes Mellitus Death Rates*
Missouri, 2002-2006



*Age-Adjusted Rates per 100,000 Population

Obesity and physical inactivity are important risk factors for development of diabetes and for complications among adults with diabetes.

A key factor in higher diabetes death rates is development of the disease at earlier ages. According to the 2007 BRFSS, about 7 percent of white and 10 percent of African American Missourians had been diagnosed with diabetes, but the difference was not statistically significant. There was a dramatic difference, however, in age at diagnosis, with African American respondents much more likely to report diagnosis between the ages of 18 and 44. While disparity in death rates was present across the entire lifespan, it was greatest for the ages under 65.

Diabetes Mellitus – *Resident deaths for which the underlying cause of death was given on the death certificate as diabetes. ICD-10 codes are E10-E14.*

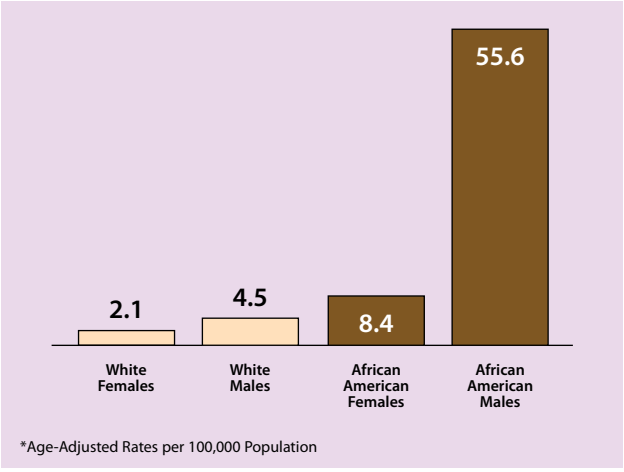
Homicide

The racial disparity in death rates is even greater for homicide, which ranks sixth for African Americans but 20th for white Missourians. The rate for African Americans is nine times the white rate (four times as high for females and more than 12 times for males).

African American victims of homicide during 2002-2006 were largely concentrated among residents of Missouri's urban areas: 399 were residents of St. Louis City, 349 of Jackson County, and 264 of St. Louis County. The remaining 80 were residents of the rest of the state combined. African American homicide deaths were clustered by age as well. Homicide death rates for African American persons aged 18-19 and 20-24 were nearly three times the total crude rate for all African Americans.

Mortality statistics reflect the key role of guns. For African American Missourians, the death rate for assault by firearm was 13 times the rate for white Missourians, while the rate for other means of assault was six times the white rate.

Homicide Rates by Gender and Race*
Missouri, 2002-2006



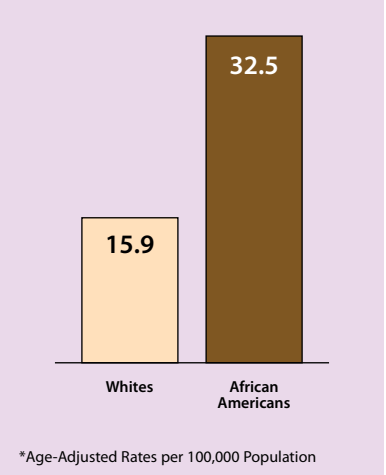
*Age-Adjusted Rates per 100,000 Population

Homicide – *Resident deaths resulting from assault by another person, whether or not death was intended. For deaths in 1998, ICD-9 codes are E960-E969. For deaths from 1999 forward, ICD-10 codes are U01-U02, X85-Y09, Y87.1.*

Kidney Disease Deaths

Kidney disease (nephritis, nephrosis, and nephrotic syndrome, including renal failure) ranked as the seventh leading cause of death for African American Missourians and ninth for white Missourians. As with diabetes, the death rate for African Americans was more than twice as high as that of whites. Diabetes and hypertension, both more prevalent among African Americans, are risk factors for kidney failure.

Kidney Disease Death Rates*
Missouri, 2002-2006



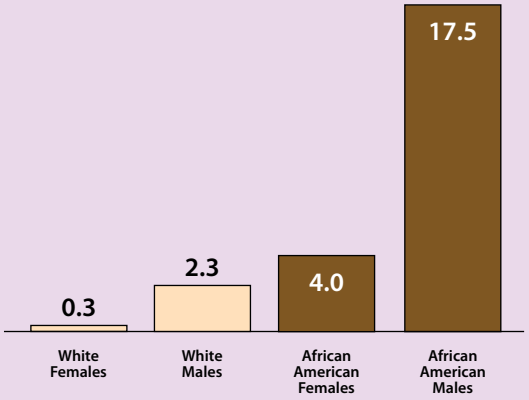
*Age-Adjusted Rates per 100,000 Population

***Kidney Disease** – Resident deaths for which the underlying cause of death was given on the death certificate as kidney disease. ICD-10 codes are N00-N07, N17-N19, N25-N27.*

HIV/AIDS Deaths

Although no longer one of the top 10 causes of death, HIV/AIDS continues to be of concern, particularly to the African American community. Racial disparity in AIDS deaths is not improving. The death rate for African Americans for 2002-2006 was 10.1 (7.8 times the white rate of 1.3). For the previous five years (1997-2001), the rates were 12.0 and 1.7, for a ratio of 7.1. As with homicide,

HIV/AIDS Death Rates by Gender and Race*
Missouri, 2002-2006



*Age-Adjusted Rates per 100,000 Population

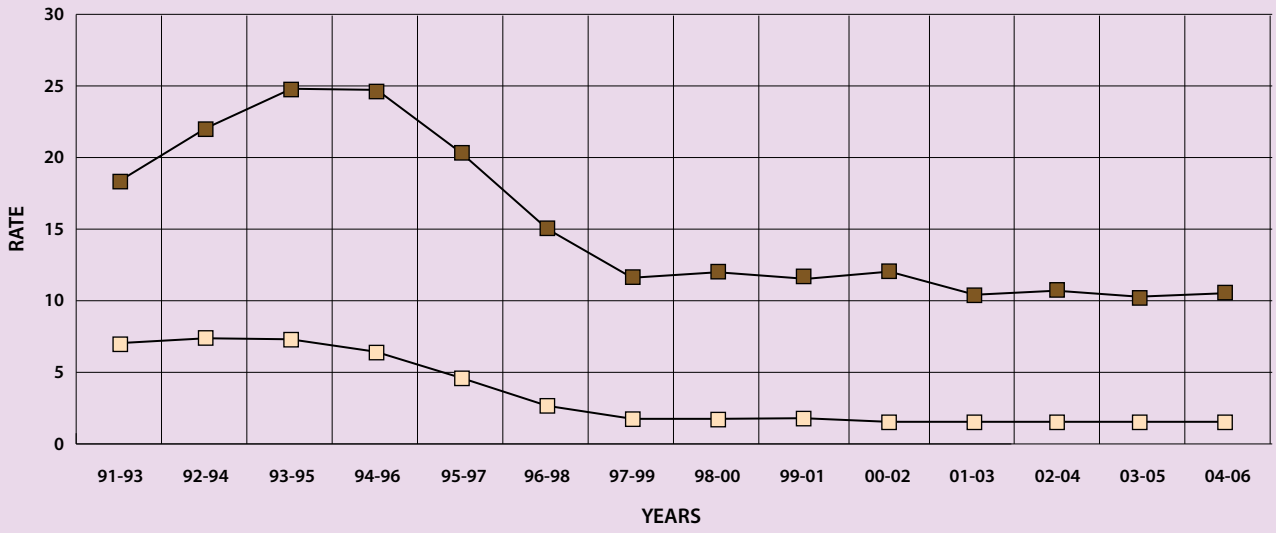
***HIV/AIDS** – AIDS (Human immunodeficiency virus [HIV] disease). Resident deaths for which the underlying cause of death was given on the death certificate as HIV/AIDS. For deaths in 1998, ICD-9 codes are 042-044. For deaths from 1999 forward, ICD-10 codes are B20-B24.*

HIV/AIDS Deaths

HIV/AIDS victims are disproportionately African American, male, and residents of urban areas. The distribution of deaths due to AIDS is largely reflective of rates of infection, which are higher for those groups. In 2006, the HIV disease prevalence rates were 636.9 per 100,000 for African American Missourians and 111.3 for white Missourians, for a ratio of 5.7 to one.

HIV/AIDS Death Rates*

Missouri, 1991-2006



*Three-Year Moving Average Rates per 100,000 Population

Glossary, Appendix, & Endnotes

Glossary

Age-Adjusted Rates

Age-adjusting a rate is a way to make fairer comparisons between groups with different age distributions. For example, a county having a higher percentage of elderly people may have a higher rate of death or hospitalization than a county with a younger population, merely because the elderly are more likely to die or be hospitalized. The same distortion can happen when we compare races, genders, or time periods. Age adjustment can make the different groups more comparable.

A "standard" population distribution is used to adjust death and hospitalization rates. The age-adjusted rates are rates that would have existed if the population under study had been distributed by age the same way as in the "standard" population. Therefore, they are summary measures adjusted for differences in age distributions.

The National Center for Health Statistics recommends that the U.S. 2000 standard population be used when calculating age-adjusted rates. However, if you compare rates from different sources, it is very important that you use the same standard population on both sides of your comparison. ***It is not legitimate to compare adjusted rates that use different standard populations.***

Age-adjusted rates published elsewhere (e.g., in the annual Missouri Vital Statistics) may be slightly different from those found in the Missouri Information for Community Assessment (MICA) or Community Data Profiles, due to updating of population estimates for years between Censuses. The "per population" number used for the age-adjusted rate may vary, depending on the type of event. For example, the age-adjusted rates for deaths are per 100,000 population. However, the age-adjusted rates for emergency department visits are per 1,000 population.

The use of different standard populations can also affect general trends in total mortality and cause of death and differences in mortality by race and gender. For more information on this topic see: "Effects of Changing from the 1940 to the Year 2000 Standard Population for Age-Adjusted Death Rates in Missouri": *Missouri Monthly Vital Statistics*, 33.12 (Feb. 2000).

Glossary

Behavioral Risk Factor Surveillance System (BRFSS)

The BRFSS is a nationwide, state-based program to acquire information about health-related behaviors and risk factors affecting Americans age 18 and older. It is a random-digit-dialed telephone survey of non-institutionalized adults.

Comparisons across races based on BRFSS data should be interpreted with caution. African Americans represent just below 12 percent of Missouri's population but only 8.2 percent of respondents to the 2007 BRFSS survey. This small sample not only increases the effects of random variability but also may not be representative of all African Americans in Missouri.

Body Mass Index /Obesity

Body Mass Index (BMI) is a popular screening index that serves as a reliable indicator of body fatness for most people. Persons with BMI values above 30.0 are considered obese. The BMI formula using pounds and inches is: weight(lb)x703/[height(in)]^2.

Missouri Cancer Registry

The Missouri Cancer Registry (MCR) is a collaborative partnership between the Missouri Department of Health and Senior Services (DHSS) and the University of Missouri-Columbia. Since 1995, MCR has received financial support from the National Program of Cancer Registries (NPCR) of the Centers for Disease Control and Prevention (CDC). The information collected consists of demographics, site of cancer, type of cancer, type of treatments, stage of disease at diagnosis, and vital status. Hospital registry data are used to evaluate diagnostic and treatment practices, assess quality of patient care and hospital programs, and track outcomes.

Central cancer registries depend on the information obtained from hospital-based registries and from other sources (e.g., pathology laboratories, freestanding cancer clinics and treatment centers, physician offices, other state central registries, etc.). Data submitted by hospitals and other reporting facilities are edited for quality and consolidated to remove duplicate cases.

Resident

Resident means the person was a resident of Missouri at the time of the event in question (birth, death, emergency room visit, etc.).

Appendix

Ratios of African American to White Rates from Data Book 1: African Americans: Minority Health Disparities in Missouri*

Selected Socio-Economic Indicators (2000)

0.7 to 1	Median Household Income
2.8 to 1	Families with Children Below Poverty Level
2.7 to 1	Population Below Poverty

Selected Maternal and Child Health Indicators

2.4 to 1	Inadequate Prenatal Care (2002)
2.0 to 1	Low Birth Weight (1998-2002)
2.7 to 1	Births to Unmarried Women (2002)
2.6 to 1	Infant Death Rates (1993-2002)
2.2 to 1	Sudden Infant Death Syndrome (1993-2002)

Selected Communicable Diseases (1998-2002)

7.2 to 1	HIV
7.1 to 1	AIDS
6.9 to 1	Tuberculosis
2.1 to 1	West Nile Virus

Selected Sexually Transmitted Diseases (1998-2002)

10.7 to 1	Chlamydia
29.7 to 1	Primary & Secondary Syphilis
43.8 to 1	Gonorrhea

Selected Injuries Treated in Hospitals (2001)

2.2 to 1	Bicyclist Injury
24.7 to 1	Firearm Assault Injury
3.5 to 1	Pedestrian Injury
8.6 to 1	Physical Abuse Injury
4.7 to 1	Sexual Abuse Injury

Selected Causes of Emergency Room Visits (2001)

2.6 to 1	Alcohol/Drug Use
4.5 to 1	Asthma
4.1 to 1	Diabetes Mellitus with Complications
2.8 to 1	Eye Infection
3.0 to 1	Congestive Heart Failure
4.1 to 1	Essential Hypertension
7.5 to 1	Schizophrenia and Related Disorders
2.8 to 1	Epilepsy-Convulsions
5.7 to 1	Osteoarthritis

Selected Causes of Death (1991-2002)

4.0 to 1	HIV/AIDS
2.4 to 1	Alcohol/Drug Induced
2.7 to 1	Septicemia
11.3 to 1	Homicide
2.1 to 1	Diabetes Mellitus

*Data Book 1: African Americans: Minority Health Disparities in Missouri, Missouri Foundation for Health (2004). Data from Missouri Dept. of Health and Senior Services. *http://www.mffh.org/Minorityhealthdisparities.pdf*

Endnotes

1. *Data Book 1: African Americans: Minority Health Disparities in Missouri*, Missouri Foundation for Health (2004). Data from Missouri Dept of Health and Senior Services (DHSS). *http://www.mffh.org/Minorityhealthdisparities.pdf*
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