MFH
Missouri Foundation for Health

Minority Health Disparities in Missouri

2009 Hispanic 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.

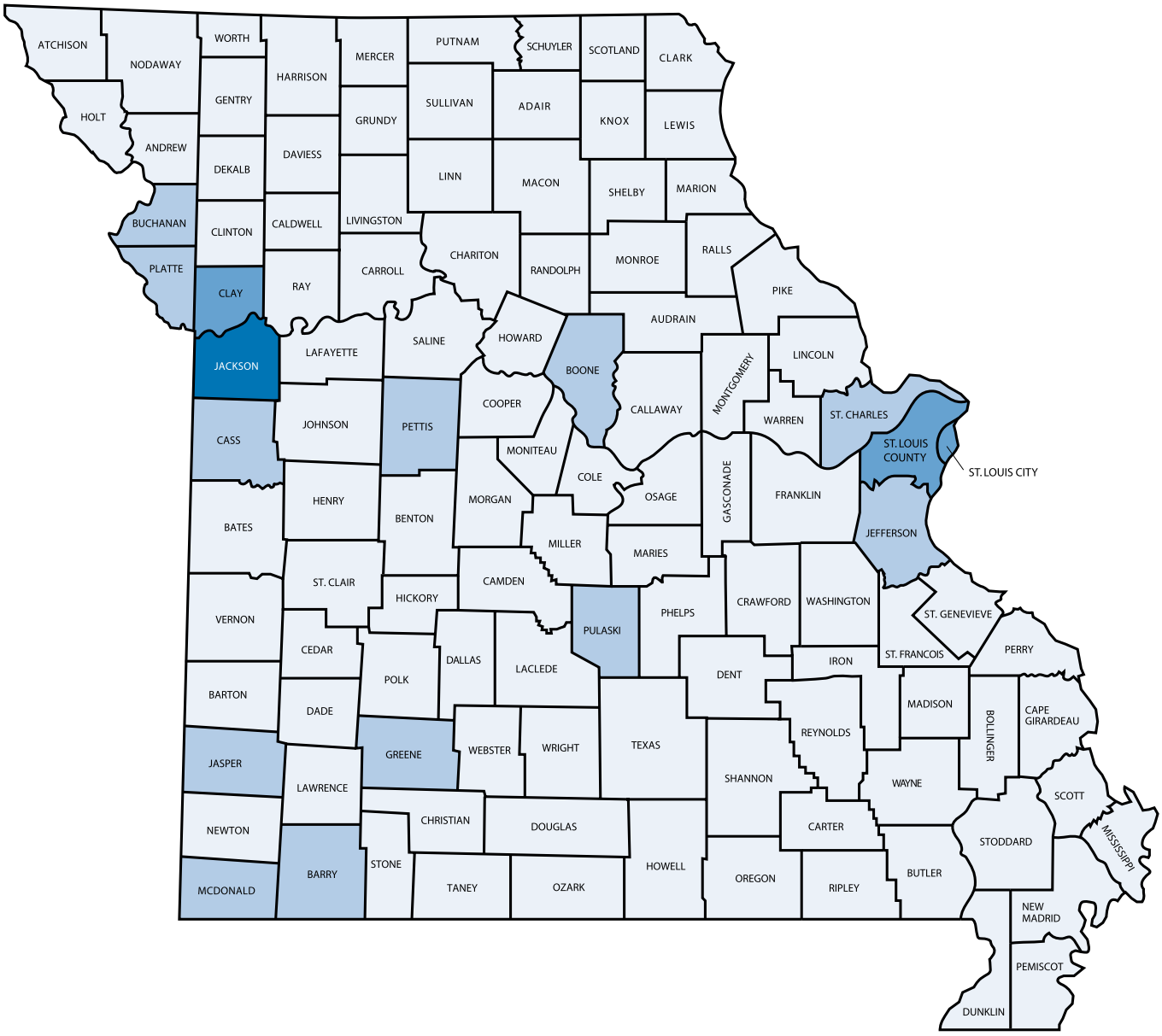
Preface

In an effort to document health disparities among ethnic and racial groups, the Missouri Foundation for Health (MFH) engaged the Bureau of Health Informatics at the Missouri Department of Health and Senior Services (DHSS) to assemble data on Missouri's Hispanic population. A similar report, compiled in 2005, presented findings on health disparities among Missouri's Hispanics, African Americans, and whites based on key health indicators. The current publication provides an update to the 2005 baseline report. Where possible, the current document makes note of trends in health indicators 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 African American 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.

Table of Contents

2006 Hispanic Population Counts in Missouri*



7 - 1,760	8,953 - 19,364
2,287 - 7,014	47,180

*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 Hispanic Data Book

Hispanic (or Latino) ethnicity includes any persons of Cuban, Mexican, Puerto Rican, Dominican Republic, other Central or South American countries, or other persons of Spanish culture or origin. Not all Hispanics speak Spanish. Ethnicity is defined as a large class of people bonded by shared national, religious, or cultural origins.[1] It is distinct from race and is usually reported in a separate category.

Missouri's Hispanic population, while small in total, continues to rise at a rapid rate. In 2006, the U.S. Census Bureau estimated there were 164,194 Hispanics in the state. Hispanic persons accounted for 2.8 percent of the total state population. This is well below the national average of 14 percent. However, Missouri's 2.8 percent Hispanic population figure represents an increase of more than two and a half times the percentage in Missouri in 1990. The Hispanic population has increased by 38 percent since 2000. This contrasts with an increase of 3.7 percent for the non-Hispanic population in the state during the same time period. Migration is an important factor in analyzing population trends for Hispanics in the state. Migration accounts for 55 percent of the population increase for Hispanics in the state from 2000 to 2006. By contrast, for the non-Hispanic population, migration accounts for only 42 percent of the total population increase for this time period.

The age distribution in the state for Hispanics is dramatically different from that of the rest of the population. More than 37 percent of Hispanics in Missouri are under the age of 20. This compares to only 27 percent of the non-Hispanic population in the state under 20. Also, Hispanic men aged 20 to 39 outnumber women by 8,000 (a 1 to 3 ratio). Among non-Hispanics, males and females each make up 50 percent of the total for the same age group.

In many ways, the Hispanic population in Missouri is more dispersed geographically than African Americans. In 2006, only

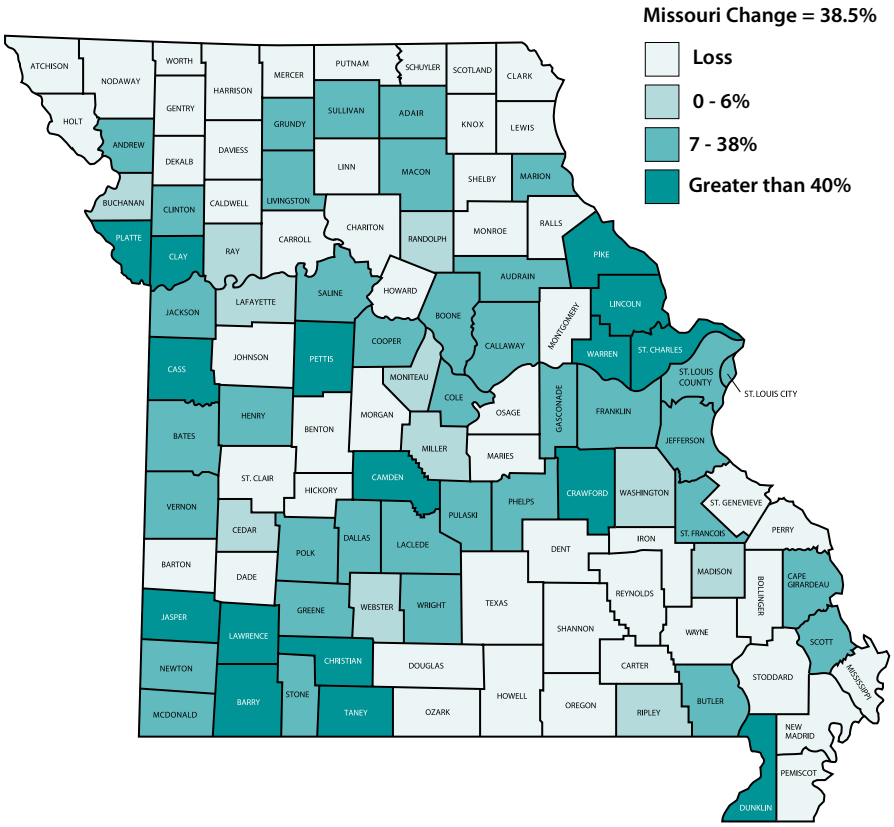
Data From:
Missouri Department of Health and Senior Services, Bureau of Health Informatics

Minority Health Disparities in Missouri

eight counties in Missouri had fewer than 50 Hispanic persons, while 28 counties had fewer than 50 African Americans. All regions of the state have counties with large increases in the Hispanic population since the 2000 Census. Many places in the state have a small but not insignificant number of Hispanics in their communities. However, like African Americans, Hispanic persons are largely concentrated in urban areas. Kansas City/Jackson County has by far the largest cluster of Hispanic individuals. In 2006, 29 percent of all Hispanic Missourians lived in Jackson County. This was more than double the total for St Louis County, which had the second largest percentage (11 percent) of the Hispanic population in the state. Regionally important pockets of Hispanic population are also found in the southwest portion of the state and in select counties in rural northern Missouri.

Health disparities affecting Missouri's Hispanic population are less well understood than those for African Americans. The Hispanic population is not a large segment of the state's population. This fact results in small numbers for many health indicators and at times prevents the calculation of meaningful rates. Other factors that make analysis of Hispanic health and health disparities more difficult include evolving data systems that have not historically collected data on ethnicity, as well as language barriers and reporting issues that make data collection challenging. The result is that many data systems are suspected of undercounting Hispanic totals.

Percent Change: Hispanic Population 2000-2006



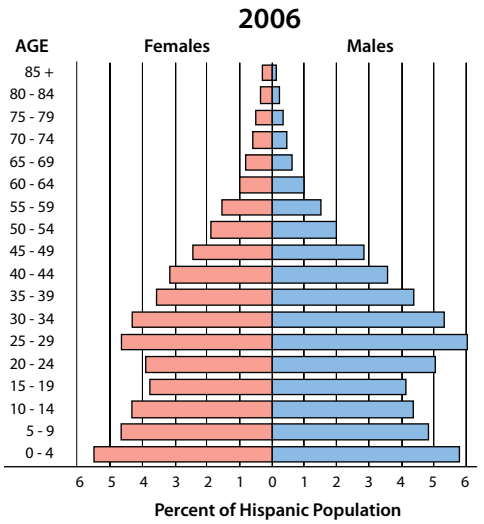
Minority Health Disparities in Missouri

While Hispanics come from a wide variety of backgrounds and cultures, as a group they face many barriers to achieving positive health outcomes in today's society. Many Hispanics have a limited command of the English language. According to the Census Bureau's American Community Survey estimates, about 11 percent of the Spanish-speaking Missouri population do not speak English well.[2] In general, Hispanics have less education than the overall population, are less likely to have access to preventative care, and are more likely to be without health insurance.[3] Moreover, Hispanics are less likely to focus on prevention and health promotion and more likely to report no usual place of health care compared to whites.[4] These factors all work against the overall health picture for Hispanics in Missouri.

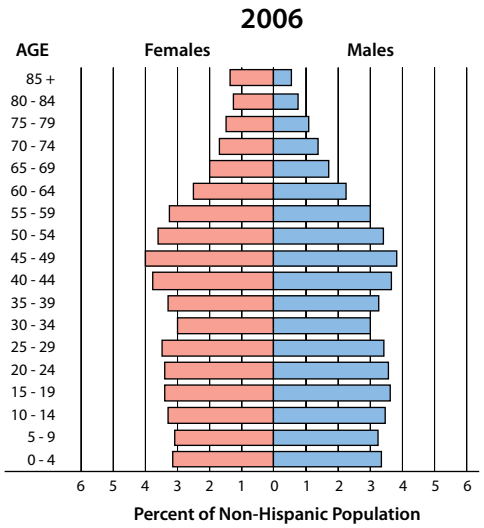
The purpose of this publication is to report on some key health indicators that highlight Hispanics health disparities in the state. In instances where data is available, the report compares the key indicators of today to indicators presented in a 2005 report on the same topic.[5]

At this time, the Hispanic health data presented in this book will not be available on the Department of Health and Senior Services (DHSS) Community Data Profiles Website. The size of the Hispanic population in Missouri limits the calculation of meaningful rates for a number of indicators on a state level and for the majority of indicators on a county level. In addition, health data relating to the Hispanic population was not collected until relatively recently. As the Hispanic population in Missouri continues to grow, and as data continue to accumulate, it may be appropriate to support DHSS in incorporating Hispanic health data into their Community Data Profiles Website.

Age-Gender Distribution of Missouri Hispanic Population



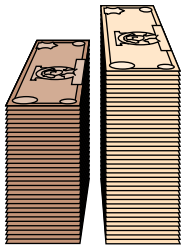
Age-Gender Distribution of Missouri Non-Hispanic Population



Socio-Economic Factors

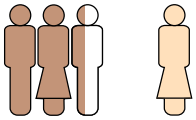
Ratios of Hispanics to Whites: Selected Socio-Economic Indicators*

Missouri, 2006



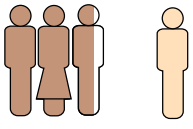
0.8 to 1

Median Household Income



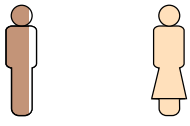
2.4 to 1

Population Below Poverty Level



2.7 to 1

Families with Children Under 18 Years Old Below Poverty Level



0.8 to 1

Persons Age 25 & Over with at Least a High School Diploma/ Equivalent**

*American Community Survey, U.S. Census
**This is a ratio of percentages.

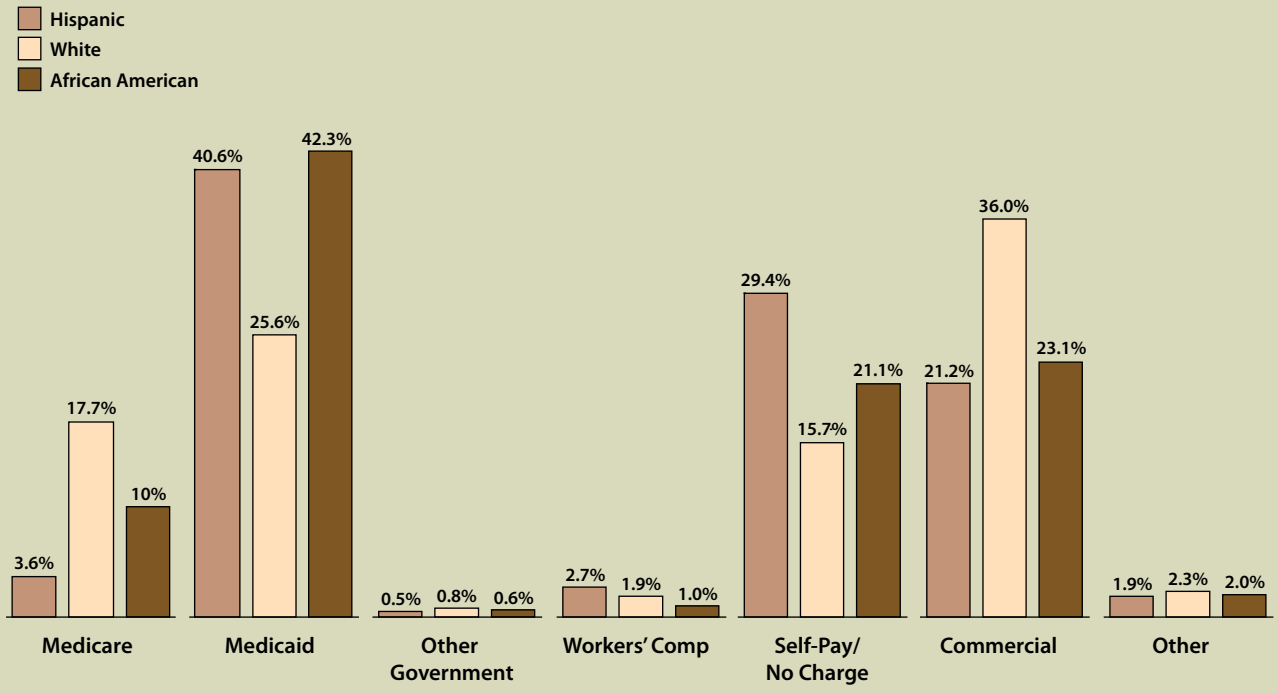
Hispanic
White

Expected Pay Source for Emergency Room Visits

Hispanics are less likely than either whites or African Americans to have insurance coverage for their health care needs, as evidenced by the percent of emergency room visits where the pay source was self-pay or no charge. A 2006 U.S. Census report indicated that 34.1 percent of Hispanics do not have health insurance, higher than the 20.5 percent for African Americans, and more than three times the 10.8 percent for whites.[6] Additionally, a variety of obstacles including language barriers, concern about immigrant status, and federal and state restrictions on eligibility have kept many Hispanics out of the State Children's Health Insurance Program (SCHIP).[7]

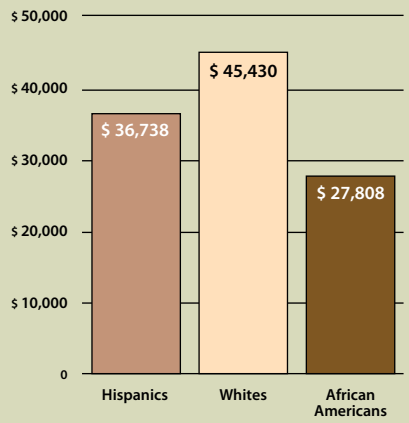
Expected Pay Source for Emergency Room Visits

Missouri, 2006



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

Median Household Income*
Missouri, 2006



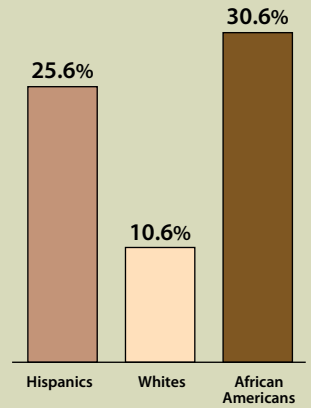
*American Community Survey, U.S. Census

Median household income for persons of Hispanic origin falls squarely between that of whites and African Americans in Missouri ($9,000 less than the median white household and $9,000 more than the median African American household). The household income patterns in 2006 are very similar to those found in 2000. Over the six year period, the median white household income increased by almost $6,000 while the median Hispanic household income increased by $3,000.

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 Population Below Poverty Level*
Missouri, 2006



*American Community Survey, U.S. Census

Estimated poverty rates for the Hispanic population are almost two and one-half times the rate for whites. The Hispanic population is also experiencing more of an increase in poverty compared to the white population. During the 2000-2006 time period, the percentage of the Hispanic population in poverty increased by 5 percent, while the white population increased by 1 percent. Persons living in poverty are more likely to smoke, have limited or no health care insurance, and put off going to the doctor.[8]

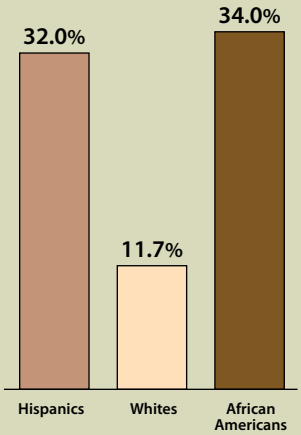
Population Below Poverty Level

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.*

Families with Children Below Poverty Level

Percent of Families with Children Under 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.*

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



*American Community Survey, U.S. Census

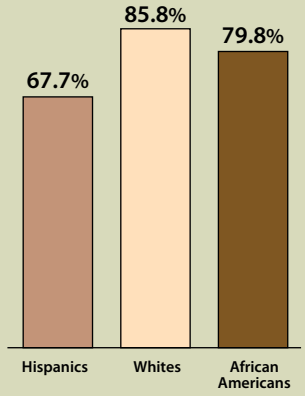
Families with children are the most susceptible to falling into poverty. Overall, it is estimated that 32 percent of Hispanic families fall below the poverty level. Moreover, a larger percent of Hispanics that are in poverty are families with children compared to the white and African American populations. The Hispanic and African American rates for families with children below poverty are similar; both are nearly three times the white population rates.

Persons with at Least a High School Diploma

Percent of Persons Age 25 and Over with at Least a High School Diploma/ Equivalent – *The percent of individuals age 25 and older who have graduated from high school (or equivalent).*

Educational attainment is an important risk factor for poor health. Among other consequences, adults without a high school education are less likely to secure jobs with good health insurance benefits. The Missouri Hispanic population lags behind the white and African American populations in terms of adults age 25 and over who have acquired at least a high school education. Nearly one-third of all Hispanics do not have a high school diploma or equivalent.

Percent of Persons Age 25 & Over with at Least a High School Diploma/Equivalent*
Missouri, 2006

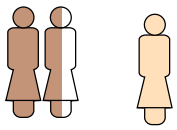


*American Community Survey, U.S. Census

Maternal and Child Health

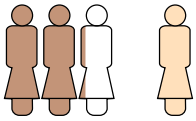
Ratios of Hispanic to White Rates for Selected Maternal and Child Health Indicators

Missouri, 2002-2006



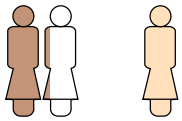
1.6 to 1

Births to Unmarried Mothers



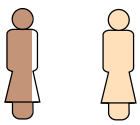
2.1 to 1

Inadequate Prenatal Care



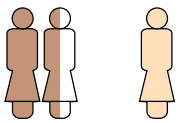
1.1 to 1

Infant Deaths



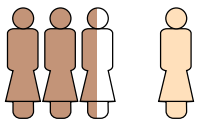
0.9 to 1

Low Birth Weight



1.5 to 1

Births to Mothers Receiving Medicaid



2.5 to 1

Mothers with Less Than a High School Education

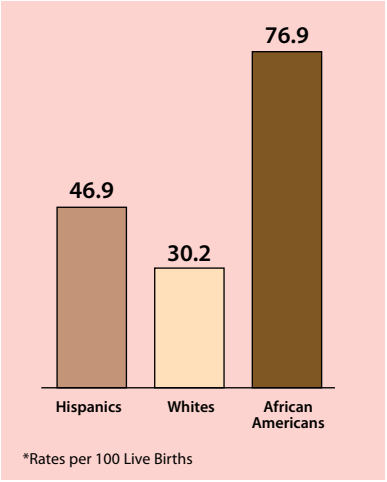
Hispanic
White

Births to Unmarried Mothers

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

The rate of births to unmarried Hispanics was about 36 percent higher than the white rate, but 64 percent less than the African American rate. The number of births to unmarried mothers has increased somewhat for Hispanics and whites since the previous 2005 report. The causes of births to unmarried mothers are very complex and include values, lack of educational and economic opportunities, home environment, peer and media influences, and lack of access to contraceptive services. Infants living in single parent households are more likely to live in poverty and more at risk for the numerous associated health problems.

Rates of Births to Unmarried Mothers*
Missouri, 2002-2006



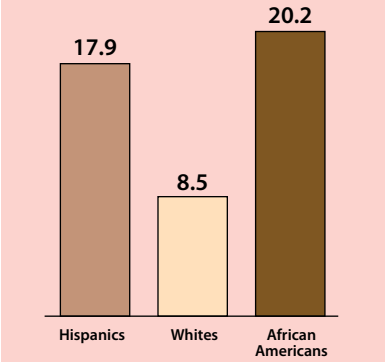
*Rates per 100 Live Births

Inadequate Prenatal Care

Inadequate Prenatal Care – *Live births to Missouri 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.*

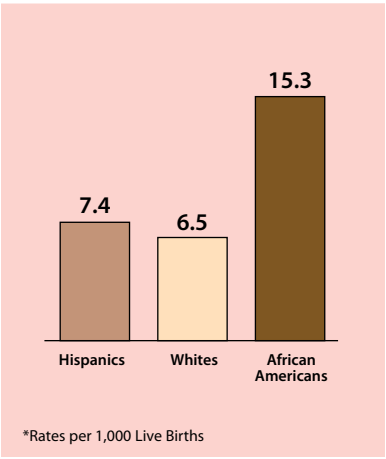
The 2002-2006 rate of inadequate prenatal care for Hispanic mothers was more than double the rate for white mothers and was slightly below the African American rate. The Hispanic rate reflects the low socio-economic level of many Hispanics and possible lack of access to medical care. Other reasons for inadequate prenatal care include lack of transportation, lack of childcare, physicians not accepting Medicaid, and pregnancy denial.

Inadequate Prenatal Care Rates*
Missouri, 2002-2006



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

Infant Death Rates*
Missouri, 2002-2006



*Rates per 1,000 Live Births

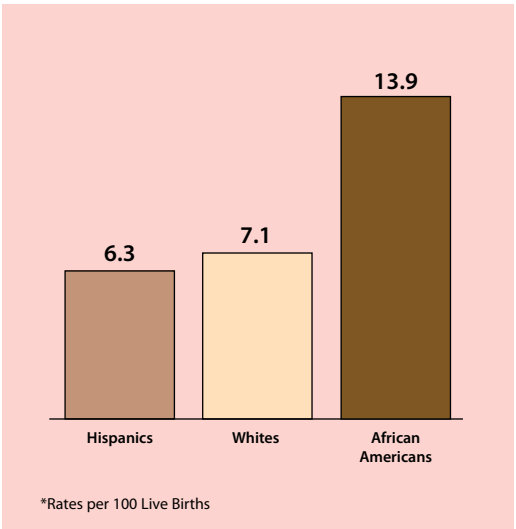
The Hispanic infant death rate was less than half that of African Americans and slightly higher than that of whites. This was also true for deaths due to perinatal conditions. Neonatal death (<28 days) rates for Hispanics were higher than those of whites, but close to half of those for African Americans. SIDS death rates were identical for Hispanics and whites and half of the rate for African Americans.

Infant Deaths

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.*

Despite the relatively low socio-economic level of Hispanic Missourians, the low-birth-weight (less than 2,500 grams) rate of Hispanics was actually lower than that for whites for 2002-2006 births. Two primary factors that contribute to this lower rate include a rate of smoking during pregnancy that is only one-third of that of whites and fewer multi-fetal pregnancies among Hispanic births.

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



*Rates per 100 Live Births

Low Birth Weight

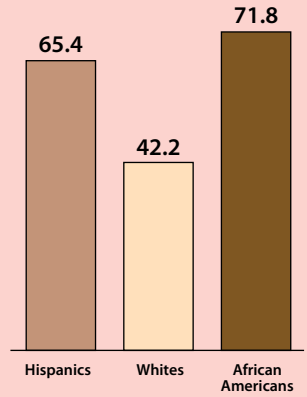
Low Birth Weight – *Number of infants born alive to resident mothers and weighing less than 2,500 grams (5.5 pounds and the percent this number is of total live births for the time period.*

Births to Mothers Receiving Medicaid

For more than half the Hispanic births in Missouri, the mother was on Medicaid during her pregnancy. This rate is 1.5 times the white rate and 8.2 percent less than the African American rate. As with many of the health indicators illustrated in this data book, Hispanics have poorer health outcomes than whites but better outcomes than African Americans.

Mothers Receiving Medicaid – *Number of mothers who participated in the Medicaid program during pregnancy.*

Rates of Births to Mothers Receiving Medicaid*
Missouri, 2002-2006



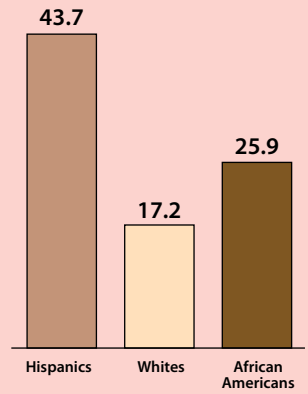
*Rates per 100 Live Births where Medicaid status is known

Mothers with Less Than a High School Education

Hispanic mothers had lower education levels than either white or African American mothers according to 2002-2006 birth certificates. Thirty percent of Missouri Hispanic mothers had less than 10 years of education compared to just over 5 percent of non-Hispanic mothers. The percentages of mothers with college degrees were similar for Hispanics and African Americans (11 percent and 10 percent, respectively). By comparison, 29.3 percent of white mothers had college degrees.

Mothers with Less Than a High School Education – *Percent of mothers with less than a high school education.*

Rates of Mothers with Less Than a High School Education*
Missouri, 2002-2006

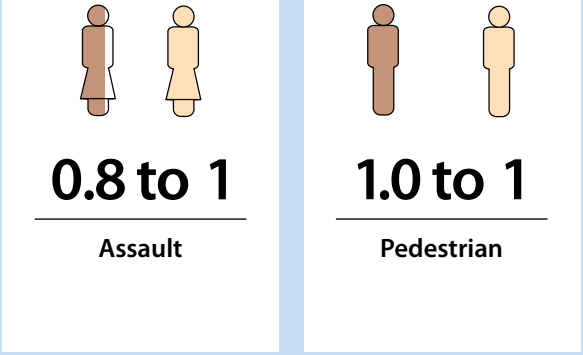


*Rates per 100 Live Births

Injuries Treated in Hospitals

Ratios of Hispanic to White Rates for Selected Injuries Treated in Hospitals

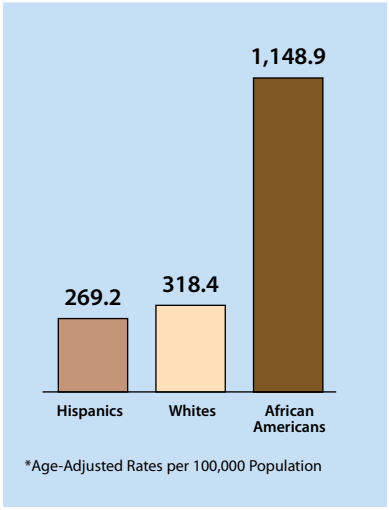
Missouri, 2002-2006



Assault Injury

Compared to both whites and African Americans, Hispanics had a lower rate of combined inpatient hospitalizations and emergency room visits for assaults. African Americans had about four times the rate of either Hispanics or whites. Males and persons aged 18-24 predominated among all three groups. Nationally in 2000, the rates for violent crimes were similar for Hispanics and whites, but 18 percent higher for African Americans. Fifty-two percent of victims said the offender was a stranger and 47 percent said it was an acquaintance, friend, or intimate. Firearms were reported to be present during the offense by 15 percent of Hispanic victims, 17 percent of African American victims, and 7 percent of white victims.[9] The rate of violent crime has been falling in the U.S. in recent years. Between 1993 and 2005, it fell 55 percent for Hispanics (55 to 25 victimizations per 1,000 population), 60 percent for African Americans (34.3 to 13.6), and 63 percent for whites (17.8 to 6.5).[10]

Assault Injury Rates*
Missouri, 2006



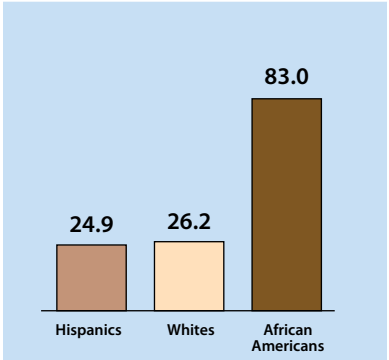
*Age-Adjusted Rates per 100,000 Population

***Assault** – Resident hospital admissions plus emergency room visits for persons injured during an assault. International Classification of Diseases 9th Revision, Clinical Modification (ICD-9) codes are E960-E969, E979, and E999.1.*

Pedestrian Injury

In 2006, the rate of pedestrian injuries related to motor vehicles was not significantly different among Hispanics and whites in Missouri. Nationally, Hispanics have had higher rates of pedestrian injuries as a result of the following factors: Hispanics tend to live in densely populated urban areas, which tend to have higher rates of pedestrian injuries; Hispanics also tend to live in homes without vehicles, which leads to more walking and more exposure to motor vehicle traffic.[11]

Pedestrian Injury Rates*
Missouri, 2006



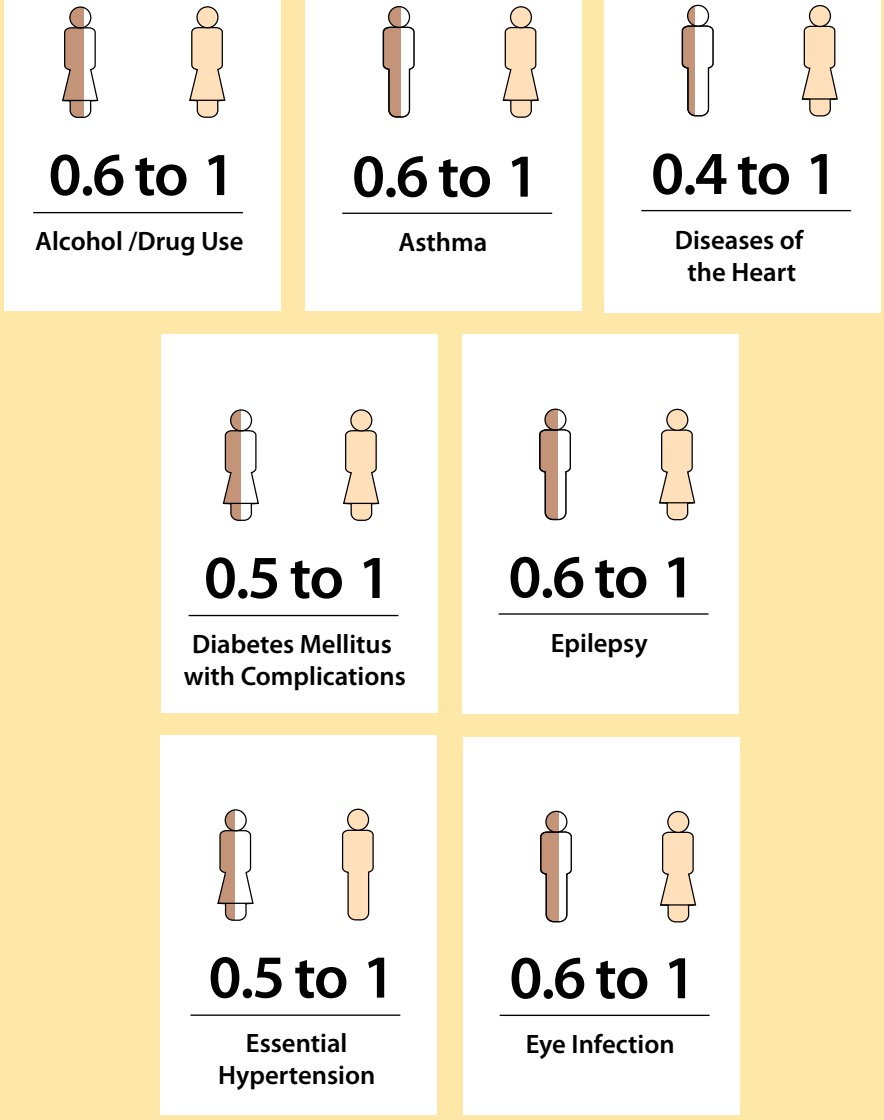
*Age-Adjusted Rates per 100,000 Population

***Pedestrian** – Resident hospital admissions plus emergency room visits for pedestrians injured in collisions with motor vehicles on a roadway. ICD-9 codes are E810.7, E811.7, E812.7, E813.7, E814.7, E815.7, E816.7, E817.7, E818.7, and E819.7.*

Emergency Room Visits

Ratios of Hispanic to White Rates for Selected Causes of Emergency Room Visits

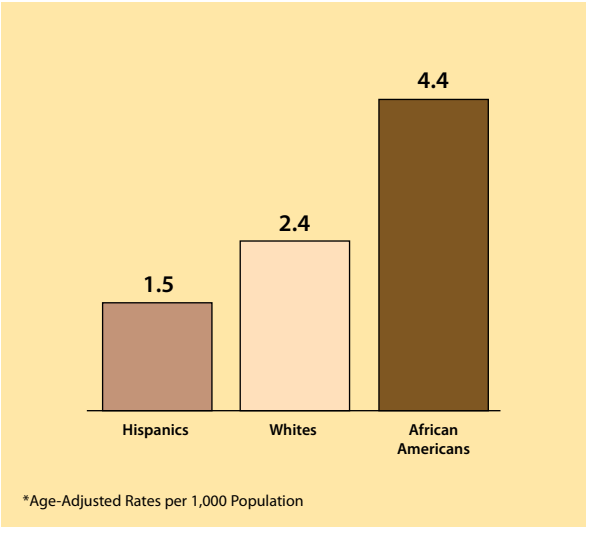
Missouri, 2006



Alcohol/Drug Use Related ER Visits

Compared to 2002, the rate of emergency department visits for alcohol and drug use did not change significantly among Hispanics and African Americans. However, rates for whites increased significantly from 1.8 percent to 2.4 percent. Males had higher rates than females in all three groups. The National Health Interview Survey indicates that in 2006, Hispanics aged 18 and over reported a lower rate of current regular drinking (38.2 percent) than did whites (58.6 percent), and slightly lower than did African Americans (40.4 percent). Rates of binge drinking (five or more drinks in one day at least once in the past year) were 32.2 percent among Hispanics, 33.7 percent among whites, and 23.6 percent among African Americans. Illicit drug use in the past month for persons age 12 and over was relatively low in all groups, with 8.1 percent for whites, 9.7 percent for African Americans, and 7.6 percent for Hispanics.[12]

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

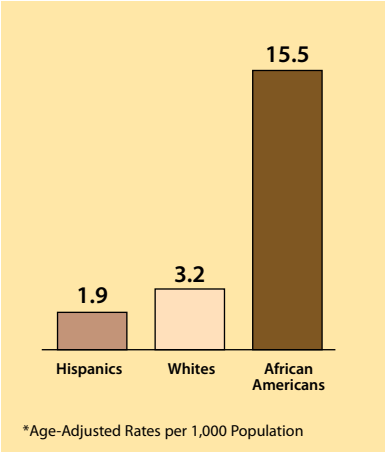


*Age-Adjusted Rates per 1,000 Population

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.*

Asthma Related ER Visits

Asthma Related ER Visit Rates*
Missouri, 2006



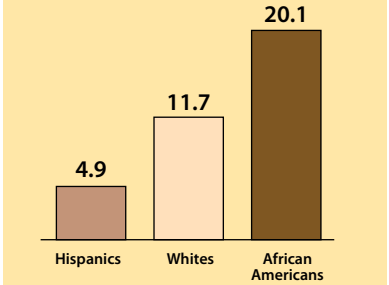
*Age-Adjusted Rates per 1,000 Population

All three groups showed significant decreases in emergency room rates for asthma compared to 2002. Rates decreased from 3.9 to 1.9 for Hispanics, from 3.7 to 3.2 for whites, and from 17.3 to 15.5 for African Americans. Hispanics thus had the lowest rate, while the rate for African Americans was eight times that of Hispanics. Children aged 1 through 4 had the highest rate in all three groups. According to a recent publication from the Centers for Disease Control and Prevention, asthma prevalence increases with age, but asthma related health care visits decrease with age.[13]

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.*

Diseases of the Heart Related ER Visit

Diseases of the Heart:
ER Visit Rates*
Missouri, 2006



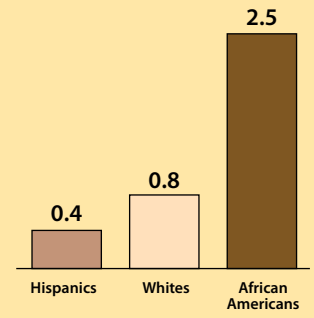
*Age-Adjusted Rates per 1,000 Population

The Hispanic rate of 4.9 emergency room visits for diseases of the heart was a significant drop from 6.8 in 2002. The rate for whites increased significantly from 11.0 to 11.7, and the rate for African Americans increased significantly from 19.3 to 20.1. According to the Behavioral Risk Factor Surveillance System (BRFSS) reports of a national sample, the self-report rate for myocardial infarction or coronary heart disease was not significantly different among the three groups in 2005. The rate for Hispanics was 6.9 while the rates for whites and African Americans were 6.2.[14] In 2002, Hispanics had the lowest death rate from heart disease (180.5 per 100,000 population, followed by 236.7 for whites and 308 for African Americans).[15] Hypertension, diabetes, obesity, lack of exercise, and poor eating habits are all risk factors for heart disease.

Diseases of the Heart – *Resident emergency room visits with a principal diagnosis of heart disease. It includes hypertensive, ischemic, and other heart disease.*

Diabetes Mellitus Related ER Visits

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



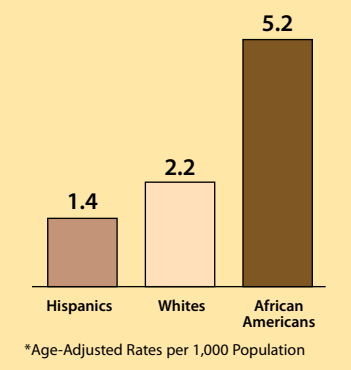
*Age-Adjusted Rates per 1,000 Population

With a rate of 0.4, Hispanics had the lowest rate of emergency room visits for diabetes with complications. African Americans, with a rate six times that of Hispanics, had the highest rate. Among all three groups, those aged 65 and over had the highest rates of visits for diabetes. The rates for males and females tended to be similar in all three groups. The similarity in emergency visit rates may represent use patterns rather than the relative prevalence of diabetes. According to the National Diabetes Information Clearinghouse, Hispanics are 1.9 times more likely than whites to have diabetes.[16] Hispanics with diabetes may have more difficulty with blood sugar control. A review of 11 studies of adults with diabetes found that a measure of blood sugar control, the A1C test, showed that Hispanics had a 50 percent higher level than non-Hispanic white patients.[17] In a study of the 1998-2002 BRFSS results for five states and Puerto Rico (accounting for 84 percent of all U.S. Hispanics), Hispanics had an age-adjusted diabetes rate of 9.8 percent, about twice that of non-Hispanic whites (5.0 percent).[18] The authors found that at each weight level, as measured by the Body Mass Index (BMI), Hispanics had a higher prevalence of diabetes. They speculated that diets lower in fiber and higher in calories might have been a contributing factor, but nutritional factors were not included in their study. A family history of diabetes, physical inactivity, and being overweight are all risk factors for diabetes. The 2003-2004 National Health and Nutrition Examination Survey (NHANES) showed that while the prevalence of obesity was high among children 12-19, it was very similar for all three groups (18.5 percent for African Americans, 19.1 percent for whites, and 18.3 percent for Hispanics).[19]

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.*

Epilepsy Related ER Visits

Epilepsy Related
ER Visit Rates*
Missouri, 2006

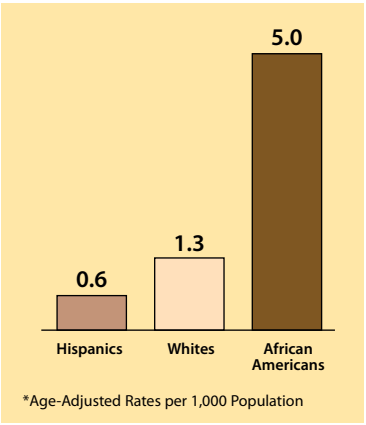


The rate of epilepsy related emergency room visits for Hispanics was significantly lower than the rate for African Americans, but was not significantly different from that for whites. African Americans had a rate that was more than double that of whites and nearly four times that of Hispanics. Among Hispanics, males made up 67 percent of the emergency room visits and those less than age 15 made up 56 percent. Other evidence suggests that, in general, Hispanics are more prone to epileptic seizures due to infections, a high incidence of birth trauma, head trauma, and stroke.[20] According to a representative survey of Hispanics in the U.S., Hispanics lack knowledge about epilepsy and have many misconceptions about it. Furthermore, many would be unlikely to report that a family member has epilepsy.[21]

Epilepsy – *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.*

Essential Hypertension Related ER Visits

Essential Hypertension:
ER Visit Rates*
Missouri, 2006



Rates of emergency room visits for essential hypertension dropped significantly among Hispanics from 2002 to 2006 (1.6 to 0.6). Rates for African Americans increased significantly (4.5 to 5.0). Rates for whites increased slightly (1.2 to 1.3), though the increase was statistically significant. In 2006, the rate of Hispanic visits to the emergency room for essential hypertension was about half that of whites. African Americans had a rate nearly four times that of whites and eight times that of Hispanics. Among Hispanics and whites, those aged 65 and over had the highest rate of visits (5.1 and 3.8, respectively). Among African Americans, those aged 45 to 64 had the highest rate (8.6). Nationally, according to 1999-2002 data, Hispanics and whites had the lowest rate of high blood pressure (26.8 percent and 27.6 percent, respectively), while African Americans had the highest (40.6 percent).[22] However, Hispanics have been found to have "…low levels of awareness, treatment, and control" of hypertension.[23]

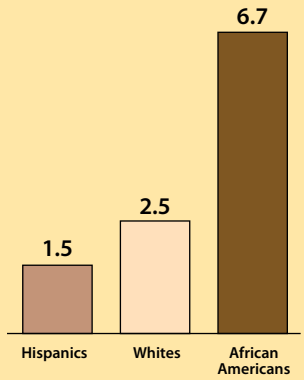
Essential Hypertension – *Resident emergency room visits with a primary diagnosis of persistently high arterial blood pressure without a discoverable organic cause. ICD-9 codes are 401.0 or 401.9.*

Eye Infection Related ER Visits

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.*

Hispanics visited the emergency room for eye infections in 2006 at significantly lower rates than either whites or African Americans. Only the rate for African Americans increased significantly between 2002 and 2006 (5.8 to 6.7). Those under the age of 5 had the highest rate of visits in all three groups. Nationally, African Americans had the highest rate (10.4 percent) of vision problems (defined as trouble seeing even with glasses). The rates for whites and Hispanics were similar, at 9.5 percent and 9.9 percent, respectively.[24]

Eye Infection Related
ER Visit Rates*
Missouri, 2006

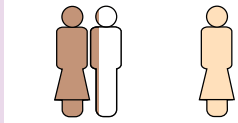


*Age-Adjusted Rates per 1,000 Population

Deaths

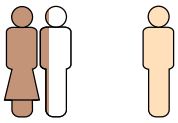
Ratios of Hispanic to White Rates for Selected Causes of Death

Missouri, 2002-2006



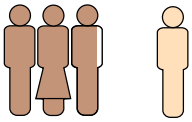
1.3 to 1

Chronic Liver Disease/Cirrhosis



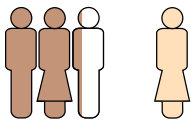
1.3 to 1

Diabetes Mellitus



2.9 to 1

HIV/AIDS



2.3 to 1

Homicide

Hispanic
White

Death Rates

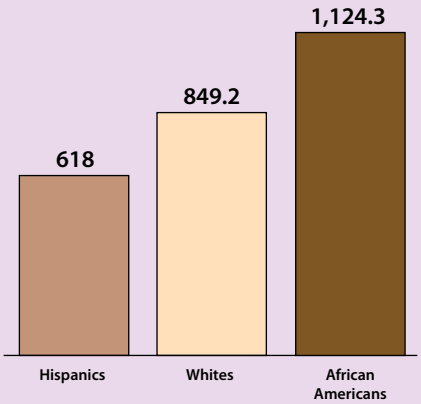
The age-adjusted Hispanic death rate for 2002-2006 was about half the rate for whites. There were only 421 total deaths of Hispanics due to all causes in 2002, and only 378 in 2006. While Hispanics constituted 2.8 percent of Missouri's population in 2006, they accounted for 0.7 percent of deaths. That difference is largely due to the relatively young Hispanic population. Even when age groups are considered separately; however, death rates for Hispanics are lower.

These low death rates partially result from under-reporting of Hispanic origin on death certificates. Hispanic persons might not be identified as Hispanic by the funeral director or informant who provides information for the certificate. Nationally, under-reporting of Hispanic origin on death certificates has been estimated to be about 5 percent.[25] In Missouri, however, under-reporting may be greater. When reported ethnicity on death certificates of children under age 7 in recent years was compared with reported ethnicity on birth certificates, about 22 percent fewer were recorded as Hispanic on the death certificates. Under-reporting makes it difficult to interpret death rates for Hispanics. It casts doubt on data showing lower death rates for Hispanics but adds weight to data showing a higher death rate for them.

There is also evidence that the lower death rates for Hispanics have some basis in truth. The fact that death rates and other health indicators are often more positive for Hispanics than for others, despite possible disadvantages such as lack of proficiency in English and/or lower income, is sometimes called the "Hispanic paradox." One possible explanation for this paradox is that people who move to another country seeking opportunity are most likely to be in good health. Another is that U.S. residents of Hispanic origin may return to their country of origin when ill or to die.[26] In those cases, they would disappear from Missouri's mortality data.

Undercount of Hispanic Ethnicity in Missouri Vital Records – *Data were analyzed for the year 2000 through mid 2007. Of 4,125 infant/child deaths for which the birth certificate had non-blank ethnicity for both parents, 253 were classified as Hispanic on the basis of having at least one Hispanic parent. Of those 253, Hispanic ethnicity was recorded for 164 (65 percent). An additional 26-infant/child deaths from among the 4,125 were recorded as Hispanic on their death certificates but had not been on their birth certificates. Thus there was net under-reporting of Hispanic ethnicity by 25 percent on death certificates, compared with birth certificates. (For children for whom both parents were recorded as Hispanic on the birth certificate, the under-reporting was about 17 percent.)*

Death Rates*
Missouri, 2002-2006



*Age-Adjusted Rates per 100,000 Population

Leading Causes of Death

For Hispanic, African American, and white Missourians, the leading causes of death for 2002-2006 were heart disease and cancer. However, death rates for both causes were lower for Hispanics than for the other two groups. Because of those low rates and the relatively young Hispanic population, heart disease and cancer accounted for only 37.6 percent of Hispanic deaths during those years, while they accounted for about half of deaths for the other two groups. The Hispanic death rates for both causes were statistically significantly lower than for the five-year period immediately preceding, consistent with declining heart disease and cancer death rates statewide and nationally.

For Hispanic Missourians, the third leading cause was unintentional injury while the third leading cause for white and African American Missourians was stroke. This difference is also attributable to the relative youth of the Hispanic population. Stroke deaths are mostly concentrated among older people, while deaths due to unintentional injury are more evenly distributed across the lifespan. The rate of unintentional injury death for Hispanics is similar to that of other groups. However, motor vehicle crashes accounted for a larger proportion of the fatal unintentional injuries to Hispanic residents: about 55 percent, compared to 43 percent for white and 38 percent for African American Missourians.

Stroke was the fourth leading cause of death for Hispanics during 2002-2006. As was the case for heart disease and cancer, the Hispanic death rate due to stroke was lower than that of the other two groups and lower than it had been during the previous five-year period.

Diabetes was the fifth leading cause of death for Hispanic Missourians, as it was for African American Missourians. Diabetes ranked only eighth for whites. The Hispanic death rate was statistically significantly lower than the African American rate but higher than the white rate.

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 their tabulation lists were followed. 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*

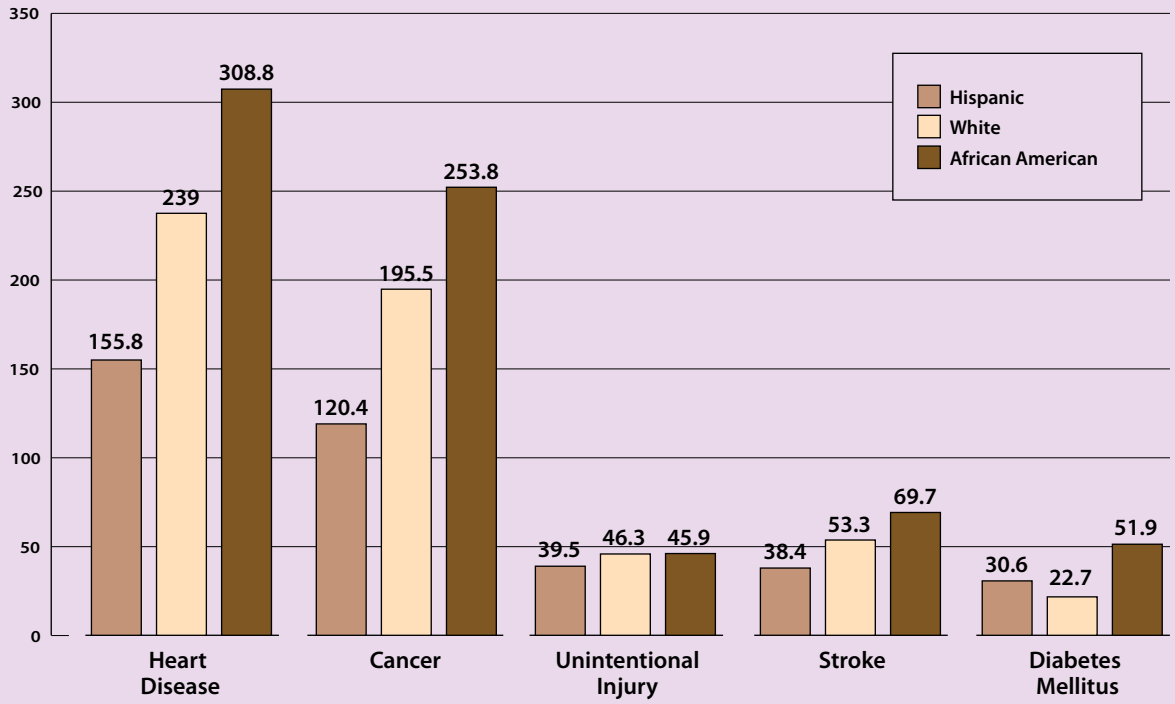
Leading Causes of Death:
Hispanic Residents
Missouri, 2002-2006

	Cause	Deaths*
1	**Heart Disease**	**418**
2	**Cancer**	**364**
3	**Unintentional Injury**	**248**
4	**Stroke**	**105**
5	**Diabetes Mellitus**	**88**

*Cumulative totals

Five Leading Causes of Death for Hispanics: A comparison with Whites and African Americans*

Missouri, 2002-2006



*Age-Adjusted Rates per 100,000 Population

Heart Disease – *Resident deaths for which the underlying cause of death was given on the death certificate as heart disease. International Classification of Diseases 10th Revision, Clinical Modification (ICD-10) codes are I00-I109, I11, I13, I20-I51.*

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

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

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

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.*

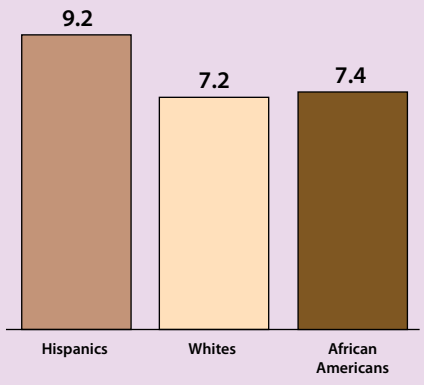
Chronic Liver Disease/Cirrhosis Deaths

Hispanics in Missouri had the highest rate of deaths due to chronic liver disease and cirrhosis. African American and white rates were both about 20 percent lower by comparison. However, the rates are based on low totals (36 Hispanic deaths), which creates instability in the rates. The Hispanic rate is not statistically significantly different from the rates by race.

The Hispanic death rate for liver disease/cirrhosis has decreased by more than 50 percent (14.6 to 9.2) compared to the 1998-2002 time period. Here again, the difference is not statistically significant because of the low totals. White rates were virtually unchanged (7.1 to 7.2), and African American rates were down slightly (8.3 to 7.4) during the same time period. In addition, although the numbers are small, the Hispanic percentage of alcohol-related liver deaths was about the same as the percentage for non-Hispanics.

There remains a gender disparity for chronic liver disease for all Missourians and an even wider disparity for Hispanics specifically. For all races, males accounted for 69 percent of all deaths due to liver disease/cirrhosis. For Hispanics, males accounted for 80 percent of liver/cirrhosis deaths. The Hispanic gender disparity is partly explained because males account for a larger percent of the Hispanic population (52.8%) compared to the population as a whole (48.8%). The gender disparity is present for both alcoholic liver disease deaths and other chronic liver disease and cirrhosis.

Chronic Liver Disease/ Cirrhosis Death Rates*
Missouri, 2002-2006



*Age-Adjusted Rates per 100,000 Population

Chronic Liver Disease and Cirrhosis – *Resident deaths for which the underlying cause of death was given on the death certificate as either alcoholic liver disease or other chronic liver disease and cirrhosis. For data in 1998, the ICD-9 code is 571. For data years 1999 forward, ICD-10 codes are K70, K73, and K74.*

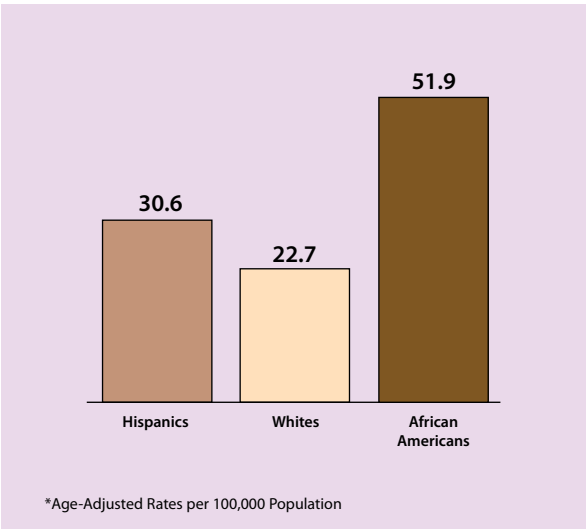
Diabetes Mellitus Deaths

Diabetes was the fifth leading cause of death for Hispanic Missourians, as well as African American Missourians. However, diabetes ranked only eighth for whites. The Hispanic death rate was statistically significantly lower than the African American rate, but higher than the white rate. The Hispanic death rate was down slightly in 2002-2006 compared to 1998-2002 (30.6 to 35.1). White deaths rates for diabetes showed a similar trend (22.7 to 23.2). Neither of the differences was statistically significantly different. There was no gender disparity among Hispanics. Each gender accounted for exactly half of the total deaths due to diabetes. Hispanic subgroups (e.g., Mexicans, Cubans) may have different patterns related to diabetes. Nationally, research shows that persons of Mexican descent have a higher death rate from diabetes compared to other Hispanic populations.[27] In Missouri there are not enough Hispanic persons to make meaningful comparisons by sub-group.

Research indicates that nationally, diabetes disproportionately affects minority populations with low socio-economic status. The same research, however, also reveals that in the U.S. over the past 25 years for males, disparity differentials for racial and ethnic populations for undiagnosed diabetes have disappeared.[28] Undiagnosed and untreated diabetes creates serious health risks ultimately leading to increased mortality.

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.*

Diabetes Mellitus Death Rates*
Missouri, 2002-2006



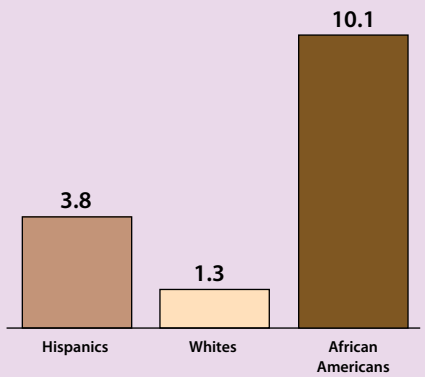
HIV/AIDS Deaths

The Hispanic death rate due to HIV/AIDS in Missouri is nearly three times the rate of whites (3.8 to 1.3). However, the African American rate (10.1) is close to three times as high as the Hispanic rate (3.8). The Hispanic rate is statistically significantly higher than the white rate and lower than the African American rate.

The HIV/AIDS death rate for all three race/ethnic groups decreased between 1998-2002 and 2002-2006. The Hispanic rate declined by nearly 20 percent, which was in line with the declines seen in the other groups. The decline in the Hispanic rate was not statistically significant due to small numbers. There is also a wide gender disparity for HIV/AIDS. For non-Hispanics, males account for five out of every six deaths (83%). For Hispanics, males account for more than 95 percent of all HIV/AIDS deaths.

In treating HIV/AIDS, like many chronic and communicable diseases, Hispanic populations face barriers, such as language, lack of insurance, and immigration status among others.[29] Increased discrimination during difficult economic times may also discourage Hispanics from accessing programs. In addition to these concerns, the stigmas associated with HIV/AIDS further complicate the ability to receive services and control the disease.

HIV/AIDS Death Rates*
Missouri, 2002-2006



*Age-Adjusted Rates per 100,000 Population

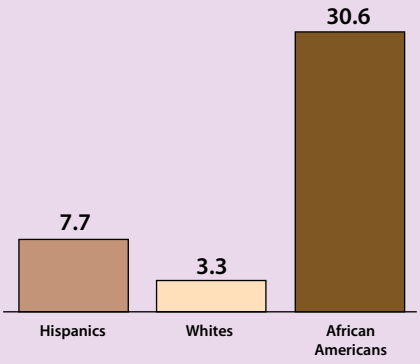
HIV/AIDS – *Resident deaths for which the underlying cause of death was given on the death certificate as HIV/AIDS. For data in 1998, ICD-9 codes are 042-0444. For data years 1999 forward, ICD-10 codes are B20-B24.*

Homicide

Homicide was the seventh leading cause of death for Hispanic Missouri residents during 2002-2006. Their rate of homicide death was statistically significantly higher than the white rate and lower than the African American rate. One factor elevating the Hispanic rate is the higher proportion of males, who have a much higher rate of death by homicide. The rate for Hispanic males (13.0) was between the rates for males of the other two groups (4.5 white, 55.6 African American). Like African Americans, Hispanics are more concentrated in Missouri's urban areas than whites, which also contributes to the elevated Hispanic rate for homicide.

Homicide – *Resident deaths resulting from assault by another person, whether or not death was intended. ICD-10 codes are U01-U02, X85-Y09, Y87.1.*

Homicide Rates*
Missouri, 2002-2006



*Age-Adjusted Rates per 100,000 Population

Glossary, Appendix, Endnotes, & Data Sources

Glossary

Age-Adjusted Rates

Age-adjusting rates 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).

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 race/ethnicity based on BRFSS data should be interpreted with caution. The numbers of Hispanic respondents are small. In the 2006 BRFSS survey, only 96 respondents identified themselves as Hispanic, and in 2007 only 69 did. These numbers are too small to base conclusions about a group as diverse as Hispanic Missourians. Therefore, Missouri BRFSS was not used for analysis in the Hispanic portion of this report.

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 Hispanic to White Rates from Data Book 2: Hispanics: Minority Health Disparities in Missouri*

Selected Socio-Economic Factors (2000)

- 0.8 to 1 Median Household Income
- 2.2 to 1 Population Below Poverty
- 2.2 to 1 Families with Children Below Poverty Level
- 1.9 to 1 Populations with Less Than a High School Education

Selected Maternal and Child Health Indicators (1998-2002)

- 1.5 to 1 Births to Unmarried Mothers
- 2.3 to 1 Inadequate Prenatal Care
- 1.2 to 1 Infant Deaths
- 0.9 to 1 Low Birth Weight
- 1.6 to 1 Pregnant Women Receiving Medicaid
- 2.4 to 1 Mothers with Less Than a High School Education

Selected Injuries Treated in Hospitals (2002)

- 1.0 to 1 Assault
- 0.9 to 1 Pedestrian

Selected Causes of Emergency Room Visits (2002)

- 1.1 to 1 Alcohol/Drug Use
- 0.8 to 1 Asthma
- 0.8 to 1 Congestive Heart Failure
- 1.1 to 1 Diabetes Mellitus with Complications
- 0.7 to 1 Epilepsy
- 1.3 to 1 Essential Hypertension
- 0.9 to 1 Eye Infection

Selected Causes of Death (1998-2002)

- 2.1 to 1 Chronic Liver Disease/Cirrhosis
- 1.5 to 1 Diabetes Mellitus
- 2.8 to 1 HIV/AIDS
- 3.1 to 1 Homicide

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Emergency Room Visits Indicators: Missouri Department of Health and Senior Services Patient Abstract System data files (hospital records).

Death (Mortality) Indicators: Missouri Department of Health and Senior Services Vital Statistics data files (death certificate records).

Missouri Foundation for Health Health Policy Publications

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