

# State of Missouri Health Disparities Report

Promoting Health Equity &  
Reducing Health Disparities  
in Missouri

Jane Drummond, Director  
May 2008



Missouri Office of Minority Health



Missouri Department  
of Health and  
Senior Services



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## Promoting Health Equity & Reducing Health Disparities in Missouri

Missouri Department of Health and Senior Services

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### Report Information

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Audience: Individuals, communities and agencies interested and involved in addressing priority public health issues and reducing health disparities.

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## ABOUT THIS REPORT

The Missouri Foundation for Health and the Missouri Office of Minority Health at the Missouri Department of Health and Senior Services joined efforts to compile information on key indicators regarding health disparities in Missouri. While this report looks at key health indicators regarding disparities, unfortunately the same health data are not available for all populations. Data for American Indian or Alaska Native, Asian, and Native Hawaiian or other Pacific Islander populations is limited in Missouri. Therefore, data on all combined population groups and national priorities are included to provide a broader picture of health disparities. Although it is beyond the scope of this report to be inclusive of all the health disparities in Missouri, it is designed to highlight a method to prioritize health issues with a substantial disparities burden and complement existing minority health disparities reports for African Americans and Hispanics.

Existing reports related to health disparities in Missouri include *Data Book 1: African Americans: Minority Health Disparities in Missouri* (2004) and *Data Book 2: Hispanics: Minority Health Disparities in Missouri* (2005). Both publications are available at the Missouri Foundation for Health website: [http://www.mffh.org/policy\\_healthdisp.html](http://www.mffh.org/policy_healthdisp.html)

### Missouri Office of Minority Health

In April 1987, State Representative Mary Groves Bland met with Dr. Robert G. Harmon, then Director of the Missouri Department of Health, regarding the establishment of the Minority Health Issues Task Force. As a result of this meeting, in 1987, the first Department of Health Minority Health Issues Task Force, consisting of community representatives and department employees, was appointed.

In January 1988, the Minority Health Issues Task Force forwarded two formal recommendations to the Director of the Missouri Department of Health:

- Establish an Office of Minority Health within the Missouri Department of Health, and
- Reduce infant mortality in black and other minority populations, utilizing the Healthy Mothers, Healthy Fathers, Healthy Babies health education project concept.

Both of these recommendations were accepted and implemented. Representative Bland sponsored House Bill 1565 establishing the Missouri Office of Minority Health, which was signed into law by Missouri Governor John Ashcroft in June 1988. The Office of Minority Health is currently seated in the Missouri Department of Health and Senior Services, Division of Community and Public Health, Center for Health Policy Integration.

### Missouri Foundation for Health

The Missouri Foundation for Health (MFH) was created in January 2000 as part of a negotiated agreement among Blue Cross/Blue Shield of Missouri (BCBSM), the Missouri Department of Insurance and the Missouri Attorney General. The foundation received a significant portion of the assets of RightChoice, the for-profit created by the conversion. Missouri Foundation for Health is dedicated to improving the health of the people in the BCBSM service area, which encompasses 84 Missouri counties and the City of St. Louis. In support of its mission, MFH undertakes health studies on topics of significance to the foundation service area and beyond.

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Missouri Foundation for Health

Missouri Department of Health and Senior Services

Office of Minority Health

Bureau of Health Informatics

Bureau of HIV, STD, and Hepatitis

Heart Disease and Stroke Prevention Program

Office of Epidemiology

Office of Community Health Information

Missouri Disparity Elimination Task Force

Eastern Regional Minority Health Alliance

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Northwest Regional Minority Health Alliance

Southeast Regional Minority Health Alliance

Southwest Regional Minority Health Alliance

Northeast Regional Minority Health Alliance

American Heart Association Minority Council, St. Louis, Missouri

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African American/Black

Hispanic/Latinos

Vietnamese

Bosnian



# TABLE OF CONTENTS

Executive Summary..... 6

Introduction ..... 10

Missouri Demographics ..... 10

Health Disparities ..... 11

National Health Initiatives ..... 11

    Healthy People 2010..... 11

    REACH 2010 ..... 12

Health Disparities in Missouri ..... 13

    Selecting Indicators ..... 13

    Priority MICA ..... 13

    Data for Selected Indicators ..... 14

    Priority Diseases, Risk Factors, and Selected Health Indicators  
    by Life Stage ..... 15

Missouri Office of Minority Health Regional Focus Groups..... 30

Strategies for Reducing Disparities ..... 40

Conclusion..... 41

References ..... 42

Appendices..... 44



**Building awareness of health disparities is key to improving the health of minority populations in Missouri.**

## EXECUTIVE SUMMARY

Over the past few decades, advances in technology and medicine have resulted in an overall improvement in health for American citizens. However, this has not been true for all Americans. In spite of significant improvements in our nation's health, health disparities continue to persist among racial and ethnic minority populations throughout the United States and in the state of Missouri. The purpose of this report is to heighten awareness and provide information regarding priority diseases/conditions and risk factors disproportionately affecting African Americans at each life stage in Missouri. It focuses on conditions and health risks that are most amenable to change, but in which racial disparities currently exist. In addition, focus groups were conducted across the state with minority participants to obtain community perspectives on disparity issues related to access, quality, and delivery of health care. This report may assist Missouri communities in planning and implementing sound approaches to reduce health inequities among ethnic/racial and other vulnerable groups in the state. In addition, it aims to inform and support federal, state, and local partners regarding these critical health issues.

According to the U.S. Census in 2006, the population in the state of Missouri was 5,842,713. Regarding the racial and ethnic composition, whites accounted for 85.1% and African Americans comprised 11.5%. Hispanic/Latinos made up 2.8% and Asians totaled 1.4% while American Indian/Alaskan Native accounted for 0.5% and Native Hawaiian and other Pacific Islanders comprised 0.1% of the state's population. Although racial and ethnic groups comprise a small percentage of the total population in the state of Missouri, a substantial burden from chronic illnesses and diseases exist within these population groups.

Health disparities (also called health inequalities) are population-specific differences in the presence of disease and health outcomes, as well as differences in access to and quality of health and health care across racial, ethnic, gender, age and socioeconomic groups. For this report, an interactive, internet-based data system, Priority MICA (Missouri Information for Community Assessment), which combines data from multiple sources to compile composite rankings, was utilized along with other health data to identify and rank disease and condition priorities among African American and white population groups in Missouri. In addition, focus groups were conducted to obtain information on the main barriers to health care access, affordability of health care, quality of health care being received, and key health disparities from their perspectives.

Key findings of the disease/condition and risk factor priorities according to life stage included:

### *Infants and Children (Age 0-9)*

- Infant health problems, as a group, are the leading health priority for African-American infants and children and ranked among the top three priorities for all race groups combined as well as for white infants and children. The criteria contributing the most to this ranking were number of hospitalizations and ER visits and racial disparities for deaths.
- In 2006, Missouri's infant mortality rate was 7.4 per 1,000 live births. African-American infants were more than twice as likely to die than white infants (14.9 v. 6.0 per 1,000 live births, respectively). Over the years, infant mortality has been a consistent disparity in Missouri and the gap remains wide.



**This report sets the stage to increase public awareness of health disparities in Missouri.**



- Asthma and assaults/homicides were the second and third highest health priorities among African-American infants and children. Emergency room visits for asthma were nearly five times higher for African-Americans (all ages combined) compared to whites and were particularly high for African-American children 9 years of age and younger. Motor vehicle accidents were the second leading health priority for white infants and children.
- The leading health risk factor for all infants and children regardless of race was the mother being overweight. Maternal overweight and obesity increase the risk for pregnancy complications and preterm birth, which in turn contribute to babies being born at a low birth weight, making them susceptible to a host of health complications. Over the years, almost twice as many African-American infants were born at a low birth weight compared to white infants.
- Pneumonia and influenza ranked as the highest disease and condition priority for all infants and children combined.

### Adolescents (Age 10-17)

- Assaults and homicides are the leading health priority among African-American adolescents and among all adolescents combined. For white adolescents, motor vehicle accidents ranked as the leading health priority with assaults and homicides ranking third.
- Asthma and diabetes emerged as the second and third health conditions among African-American adolescents.
- Pneumonia and influenza was the fourth health priority for African-American and all adolescents followed by sickle cell anemia for African-American adolescents.
- Other health priorities for African-American adolescents included pregnancy complications, vaccine-preventable diseases, anemia, dental health problems, and motor vehicle accidents.
- White adolescents had much higher health priority rankings for suicide and self-inflicted injury, anxiety-related mental disorders, and alcohol- and substance abuse compared to African-American adolescents.
- Based on amenability to change and prevalence, the highest health priority for all adolescents was child abuse and neglect. However, smoking during pregnancy for white adolescents, and mother overweight among African Americans, were also health risk priorities.

### Adults (Age 18-64)

- Diabetes was the leading health priority among African-American adults as well as for all adults compared to chronic obstructive pulmonary disease (COPD) for white adults.
- Assaults/homicides ranked as the second highest health priority among African-American adults, particularly young adults 18-19 years of age, compared to motor vehicle accidents for white adults.
- The third highest disease and condition priority for all adults and both races was heart disease.
- White and African-American adults differed on some disease priorities. White adults had higher disease and condition priority rankings for suicide and self-inflicted injury, pneumonia and influenza, and affective disorders. African-American adults had high priority rankings for sickle cell anemia, asthma, and HIV/AIDS.
- The two risk priorities for all adults were obesity and lack of leisure time physical activity (i.e., no exercise). Smoking ranked as the fourth health priority for all groups.

### Senior (Age 65 and older)

- The leading disease and condition priority for all seniors and among African Americans was diabetes, compared to chronic obstructive pulmonary disease for white seniors.
- Heart disease ranked as the second leading health priority for both white and African-American seniors.

- Arthritis/lupus followed by alcohol- and substance-related conditions ranked third and fourth priorities for African-American seniors.
- Other priorities for African-American seniors included asthma; cervical, lung and colorectal cancers; and Alzheimer's disease.
- Other priorities for white seniors included pneumonia and influenza, arthritis/lupus, stroke, lung cancer, falls, motor vehicle accidents, and Alzheimer's disease.

Missouri has some of the best surveillance and data systems in the nation that provide valuable information about people's health. However, several key surveillance systems such as the Priority MICA need to be updated and strengthened with greater integration to better monitor the health of Missourians and its population groups. These include expanding current risk factors, particularly for children and adolescents, and enhanced disease and condition measures and definitions. Nevertheless, the Priority MICA has provided important insights regarding health disparities in Missouri.

Participants in the focus groups brought a wide variety of cultural perspectives on disparate health care issues and included community representatives from different population groups. These groups included white, African, African American, Bosnian, American Indian, Hispanic, and Vietnamese. Findings of the focus groups included:

### Barriers to Health Care Access

- Lack of transportation
- Inaccessible locations and hours of operation of some health care organizations and pharmacies
- Lack of knowledge about the availability of health care, signs and symptoms of diseases and conditions, and health care resources
- Racism
- Lack of dentists who accept Medicaid
- Lack of vision care
- Lack of professional health and medical interpreters
- Lack of knowledge regarding covered services of Medicare and Medicaid
- Fear of deportation and immigration laws
- Low socioeconomic status

### Affordability of Health Care

- Unaffordable
- Lack of health insurance
- Unable to afford cost of health insurance, medical co-payments or deductibles
- Background from different types of health care systems, didn't understand why Americans must pay for health care
- Some providers and hospitals overcharge for health services or vary by insurance status

### Quality of Health Care

- Inability to understand language used by health care providers and information on prescriptions
- Influenced by health care providers' demeanor, interactions, and competence with the clients
- Imperfect cultural competency undermines health care quality
- Depends on type of insurance, lack of insurance or ability to self-pay
- Care depends on ability to effectively communicate with providers in the health care system (e.g., doctor, pharmacy, ER and clinic staff, etc.)
- Depends on how rushed the health care provider was during the visit and the wait time

- Health care providers unfamiliar with cultural backgrounds required greater explanation of services wanted and needed

### Community Perspectives of Disease/Condition and Risk Factor Health Disparities

- Childhood obesity
- HIV/AIDS
- Cardiovascular or heart disease
- Diabetes
- Kidney disease
- Sexually transmitted diseases
- Teen pregnancy (and limited family planning services)
- Mental health including Alzheimer's disease
- Stroke
- Stress
- Smoking
- High cholesterol and nutrition label interpretation
- Physical inactivity
- Tuberculosis

These focus groups have provided vital information from the community perspective on access, barriers, quality and affordability of health care. Interestingly, most participants in the focus groups did not have a problem with being seen by a health care provider of a different nationality, race or cultural background as long as the provider was competent and had a genuine concern, warm spirit, and respect for the client. Missouri has many excellent health care facilities and caring health care providers. However, we as a collective society must maintain vigilance in addressing health disparities to improve the health of all Missourians.

## INTRODUCTION

Overall health has improved in the nation and in Missouri, partly as a result of a shifting emphasis to preventing illness and advancing health technology.<sup>1</sup> Yet, large gaps in many health outcomes persist between population groups both in the United States and Missouri. This report describes Missouri and its population, explores methods for identifying priority health disparities among Missouri population groups, and encourages the use of effective strategies for reducing gaps in health outcomes.

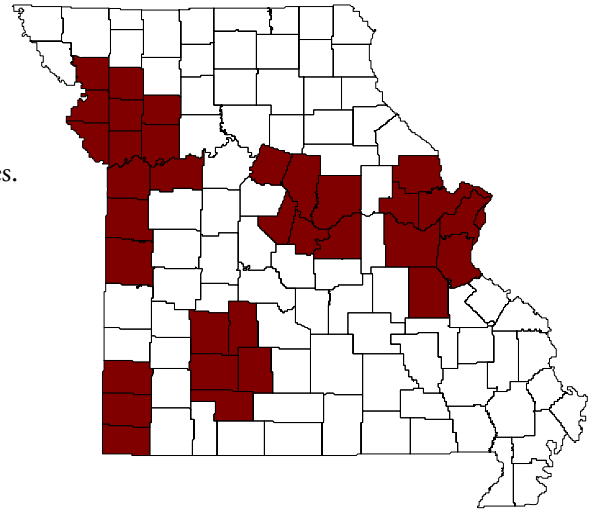
### Missouri Demographics

Missouri is a state located in the Midwestern United States and borders eight other states - Iowa, Illinois, Kentucky, Tennessee, Arkansas, Oklahoma, Kansas, and Nebraska. Missouri ranks 18<sup>th</sup> as most populous state, with a current total population estimated at 5,842,713 people (2006), which is a 4.4% increase since 2000.<sup>2</sup> The population is dispersed in 114 counties and one independent city with a mixture of urban and rural cultures.

The smallest counties include Worth, Mercer, Knox, and Schuyler.<sup>3</sup> However, slightly more than one-half (54%) of Missouri's population resides in the metropolitan statistical areas of St. Louis and Kansas City, the largest urban areas, followed by Springfield, Joplin, Columbia and Jefferson City (Figure 1).

Missouri's population is diverse with 24.3% under age 18, 36.7% age 18-44, 25.7% age 45-64, and 13.3% age 65 and over.<sup>4,5</sup> In regard to the racial and ethnic composition of the State, as shown in Table 1, in 2006 the U.S. Census Bureau estimated 85.1% of the population to be white and 11.5% of the population African American, with the remaining 3.4% Hispanics, American Indian, Alaskan Native, Pacific Islander, Native Hawaiians, of mixed race or some other race. Regarding gender, 48.9% of the population is male, while 51.1% of the population is female. According to the 2006 American Community Survey, the average household size in Missouri is 2.46 persons, while the average family totaled 3.04 individuals.<sup>5</sup> This same survey reported that 70.7% of persons live in owner occupied units while 29.3% of individuals live in renter occupied units. Of the population age 16 and over, 65.5% are identified as being in the labor force. The median household income in the state of Missouri totaled \$42,841. In terms of education among individuals 25 and older, 84.8% have achieved a high school diploma or higher, while 24.3% have obtained a bachelor's degree or higher.

**Figure 1. Missouri Metropolitan Statistical Areas**



■ Metropolitan Counties

**Table 1. Racial and Ethnic Composition of Missouri<sup>6</sup>**

Category	Number	Percent
White	4,974,983	85.1
Black or African American	673,075	11.5
Hispanic or Latino of any race	164,194	2.8
Asian	83,216	1.4
American Indian/Alaskan Native	28,332	0.5
Native Hawaiian and other Pacific Islander	4,373	0.1
Some other race	62,026	1.1
Two or more races	78,734	1.3

\*Total will be higher than Missouri population due to overlap in race/ethnic categories.

## HEALTH DISPARITIES

Substantial differences exist among population groups in terms of health outcomes. It is believed that health disparities result from complex and multi-factorial interactions involving genetics, environmental factors and specific health behaviors. Health disparities are identified based on characteristic differences (e.g., racial/ethnic, age, gender, education, income or socioeconomic status, disability, or geographic location) between two or more population groups in the prevalence, incidence or burden of disease disability, injury, or death.<sup>7,8</sup> Other factors such as differences in health care access, coverage and quality, including differences in preventive, diagnostic and treatment services, also contribute to unfavorable health outcomes among diverse population groups. Disparities are measured relative to other population groups as the percent difference between disease burden measures or indicators for each group compared to the group with the best rate. It is important to explore existing health data to identify and prioritize health issues by population groups in Missouri, focus on disease burden areas amenable to change, implement evidence supported strategies, and monitor health indicators.

## NATIONAL HEALTH INITIATIVES

### Healthy People 2010

In 1998, under the auspices of former U.S. President, Bill Clinton, Healthy People 2010 launched as a comprehensive set of disease prevention and health promotion objectives for the Nation. The Healthy People 2010 initiative is designed to achieve two overarching goals: “1) Increase quality and years of healthy life; and 2) Eliminate health disparities.”<sup>8</sup> There are hundreds of population-based objectives and sub-objectives being monitored under this initiative by race and ethnicity, by income or education, and, when applicable, by gender. Healthy People 2010 objectives provide for a broad examination of disparities among populations. However, the midcourse review of the objectives regarding disparities found that there have been widespread improvements in health indicators for most populations and a greater number of objectives were moving toward the targets for almost all population groups; however, there was no change in disparity for the majority (81%) of the objectives and sub-objectives related to ethnic and racial groups or those related to gender (83%) compared to the groups with the best rate.



Although the midcourse review results related to disparity are modest, these are clearly early results and therefore, interpreted cautiously. Toward the goal of improving this nation's health, Healthy People 2010 provides an abundance of useful information for identifying health disparities among population groups, monitoring interventions, and benchmarking progress toward national objectives. Healthy People 2020, currently under development, will continue to build on the principles of Healthy People 2010 and to explore how prevention and other health promotion efforts impact the nation's health.

### **Racial and Ethnic Approaches to Community Health (REACH) 2010**

The Centers for Disease Control and Prevention (CDC) initiated REACH in 1999 to address the Healthy People 2010 goal of eliminating health disparities among segments of the population.<sup>9</sup> Forty communities were funded to close the gap in at least one of six racial and ethnic population groups (African Americans, American Indian, Alaska Natives, Asian Americans, Pacific Islanders, or Hispanic/Latinos). These communities focused on six health priority areas: breast and cervical cancer screening and management, cardiovascular disease, diabetes mellitus, immunizations, HIV/AIDS, and infant mortality. Reach 2010 takes a life stages approach to addressing health disparities by segmenting the population by life stage (infants, children, adolescents, adults, and older adults) and identifying disparities by stage. Following a major strategic planning initiative, REACH 2010 has evolved into REACH Across the U.S. (REACH U.S.) and focuses on applying lessons learned from REACH 2010 and disseminating and supporting best and promising practices to eliminate health disparities.





## HEALTH DISPARITIES IN MISSOURI

### Selecting Indicators

There are many health issues that disproportionately affect minority populations in Missouri. With limited resources, it is important to identify the most significant preventable threats to health and establish baseline data by which to monitor progress. Similar to REACH 2010, this report uses a life stages approach to identify the most critical health issues. However, what is unique is that an Internet-based tool, the Priority Missouri Information for Community Assessment (MICA),<sup>10</sup> was used to assist in establishing the health disparities priorities in Missouri. In addition, the prevalence of disease and risk factors as well as additional Missouri health information and national priorities were considered in discussing the priorities.

### Priority MICA

The Priority MICA provides a structured process to determine the priority health needs of a community or for the state of Missouri. It prioritizes from a list of 42 diseases or a list of 20 risk factors available in the application, with these lists varying according to life stage or gender. The diseases and risk factors listed were selected based upon the Missouri Department of Health and Senior Services (DHSS) strategic plan, Healthy People 2010 and available data. This interactive system allows the prioritization to be stratified by: all races combined, for whites or for African Americans/blacks; gender; life stage/age group; and geographic location.

Data from multiple sources are combined in Priority MICA to provide composite ranking by which to prioritize diseases/conditions and risk factors. Sources of data include birth and death certificates, information from the Patient Abstract System (i.e., emergency room (ER) visits and hospitalizations), Behavioral Risk Factor Surveillance System (BRFSS), and other data files such as from the Department of Social Services regarding child abuse and information such as from the World Health Organization<sup>11</sup> regarding disability burden.

The prioritization of diseases and risk factors are computed independently and based on separate criteria. The disease criteria options for prioritization include:

- amenability to change,
- community support,
- statistically significant death trend (1991-2005),
- disability burden (2002),
- hospital days of care (2003-2005),
- number of deaths (1995-2005),
- number of deaths under age 65 (1995-2005),
- number of hospitalizations and emergency room (ER) visits (2003-2005),
- racial disparity of ER visits (2003-2005), and
- racial disparity for deaths (1995-2005).

The risk factor criteria options include amenability to change, community support, prevalence/incidence, and prevalence/incidence trend.

Additional input included selecting the level of community support and level of importance of the criteria. Community support ranges from “1” active community opposition to “4” community coalition organized and supported to address the health issue. The level of importance of each criterion is rated as low, average, or high. The final step is to select the geographic location (i.e., county, city or state) for which the priorities will be computed.

In computing the priorities, each disease or risk factor is listed in priority order based upon the criteria that were selected. For each criteria selected, the diseases or risk factors are ordered in terms of magnitude and given a ranking from “1” to the total number of diseases risk factors selected. The ranking for each criterion is multiplied by the level of importance (i.e., weight) assigned. If the level of importance for the criterion is high, the ranking for a disease/risk factor is multiplied by two. If the level of importance for the criterion is average, the ranking for a disease/risk factor is multiplied by one. If the level of importance for the criterion is low, the ranking for a disease/risk factor is multiplied by one-half. The ranking times the level of importance gives the weighted ranking for each criterion.

The weighted rankings for each disease or risk factor are summed across all criteria to obtain a total score. The total scores for the diseases or risk factors are then ranked in ascending order. The disease or risk factor having the highest total score is the highest priority and given a ranking of “1”. The scores provide a general sense of ranking and are best interpreted by segmenting the diseases or risk factors into high, medium and low groups and are most useful when combined with other available health information.

### Data for Selected Indicators

For this report, Priority MICA was used to prioritize the diseases and risk factors available in the system for the total population, by race and life stage/age group (i.e., infants and children, adolescents, adult, and seniors 65 and older). In the prioritization process, the racial disparity criteria were applied for all races combined and for African Americans/blacks and given a high level of importance. Amenability to change and number of hospitalizations and emergency room (ER) visits were also given a high level of importance with all other criteria kept constant using system levels for community support and criteria importance. The leading 10 prioritized diseases and conditions are presented. If a disease ranked higher than 10 in any group, its ranking is shown in parentheses (# rank). Risk factors were prioritized giving a high level of importance to amenability to change and the prevalence or prevalence/incidence trend. The leading five risk factors are presented. If a risk factor ranked higher than fifth, its ranking is shown in parentheses (# rank). Since the disease/conditions and risk factors priority score rankings are most useful when combined with other available health information, additional data from the health systems are presented to enhance and augment the defining of disparate health priorities.



## Priority Diseases, Risk Factors, and Selected Health Indicators by Life Stage

### Infants and Children (Age 0-9)

Table 2 shows the leading health disease and condition priorities for infants and children based on the Priority MICA. Pneumonia and influenza were the highest priority for all infants and children but ranked as



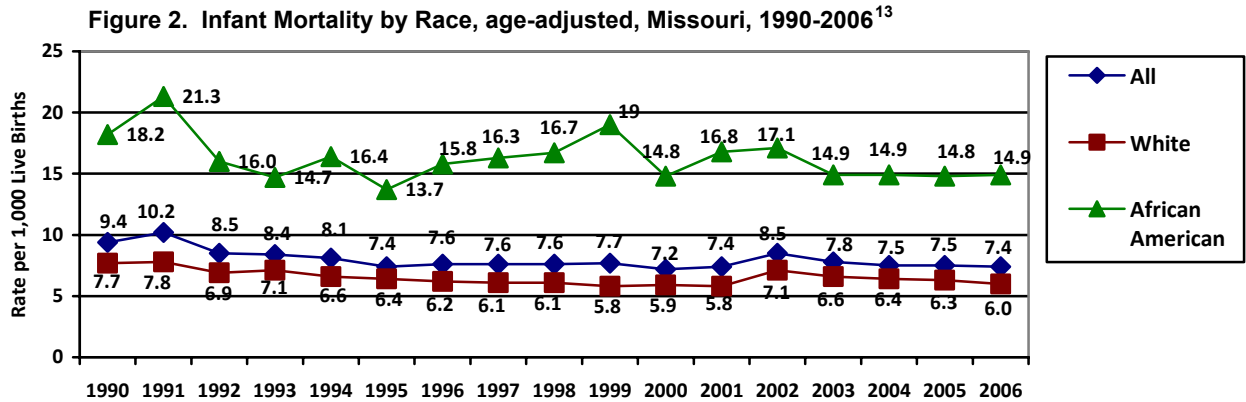
the 4<sup>th</sup> priority health condition among African-American infants and children using this system. Infant health problems, as a group, were the leading health priority among African Americans and ranked among the top three priorities for all race groups. Among African-American infants and children, the criteria contributing the most to this high ranking were number of hospitalizations and ER visits and racial disparities for deaths. The diagnoses contributing the most to the ER visits and hospitalizations for all infant health problems in 2006 were acute upper respiratory infection (12.8%), otitis media (10.0%), and fever of unknown origin (5.5%), non-infectious gastroenteritis (3.9%), and viral infections (3.0%).<sup>12</sup>

**Table 2. Leading Disease and Condition Priorities Among Infants and Children by Race in Missouri<sup>10</sup>**

Diseases and Conditions	All Rank	White Rank	African American Rank
Pneumonia and influenza	1	1	4
Infant Health Problems	2	3	1
Asthma	3	8	2
Vaccine-Preventable Diseases	4	4	5
Assaults/Homicides	5	7	3
Motor vehicle accidents	6	2	6
Dental Health Problems	7	5	9
Burns (scalds/hot objects)	8	9	8
Sickle cell anemia	9	(20)	7
Falls	10	10	(13)
Diabetes	(16)	6	(16)
Abuse and neglect	(12)	(18)	10

## Infant Mortality

Infant mortality is defined as the number of infant deaths less than one year of age per 1,000 live births. Similar to nationwide trends, the African-American infant mortality rates in Missouri are over twice that among whites (Appendix 1, Table 1). As shown in Figure 2, in 2006, the infant mortality rate was 6.0 per 1,000 live births for whites and 14.9 per 1,000 live births for African Americans.<sup>13</sup> Infant mortality is a consistent disparity in Missouri and the gap remains wide. Contributing to the high infant mortality rate are high levels of smoking during pregnancy, premature births, and infants born at low or very low birth weight.

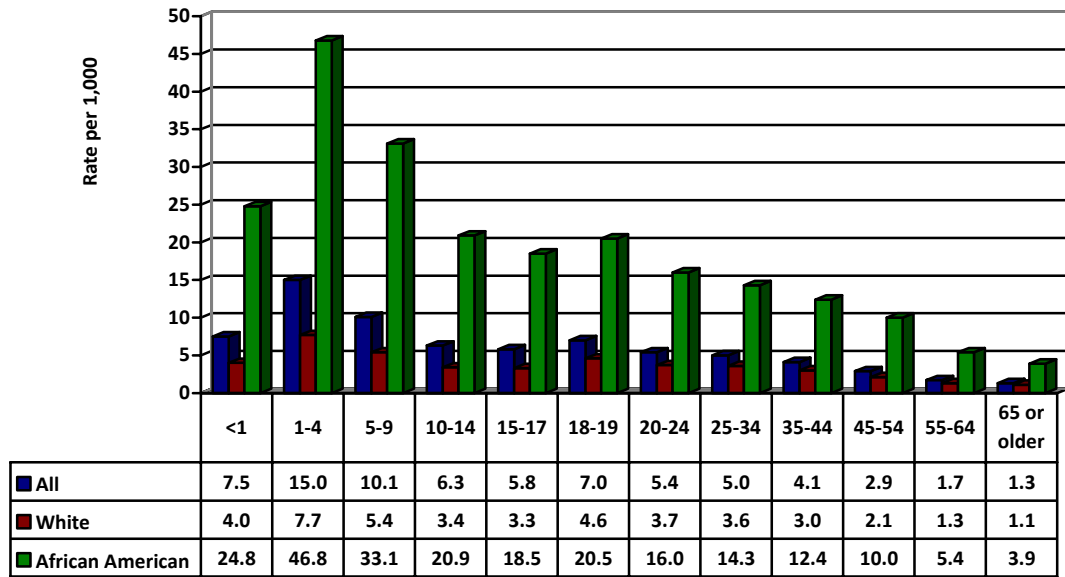


## Asthma

Asthma and assaults/homicides were the 2<sup>nd</sup> and 3<sup>rd</sup> priorities, respectively, among African-American infants and children compared to motor vehicle accidents and infant health problems being the 2<sup>nd</sup> and 3<sup>rd</sup> priorities for white infants and children. Asthma is an inflammatory condition of the bronchial airways, which are the tubes that carry air in and out of your lungs.<sup>14</sup> Allergy, viral respiratory infections, and airborne irritants among other factors produce this inflammation. These changes produce airway obstruction, chest tightness, coughing and wheezing. If severe, this can cause severe shortness of breath and low blood oxygen. Inflammation of the airways is the common finding in all asthma patients. Each person reacts differently to the factors that may trigger an asthma attack, including: respiratory infections, colds; cigarette smoke; allergic reactions to such allergens as pollen, mold, animal dander, feather, dust, food, and cockroaches; indoor and outdoor air pollutants, including ozone; vigorous exercise; exposure to cold air or sudden temperature change; excitement/stress and exercise. Asthma may also be triggered by over the counter drugs, such as aspirin and beta-blockers.<sup>15</sup>

In Missouri, (as shown in Appendix 1, Table 2), asthma was more prevalent among African-American (11.0%) adults compared to whites (8.2%).<sup>16</sup> In addition, emergency department visits for asthma were nearly five times higher among African Americans (15.5 per 1,000 population) than whites (3.3 per 1,000 population) for the period 2005-2006 (Appendix 1, Table 3) and were particularly high for African American children age 9 and younger (Figure 3).<sup>17</sup> Currently there are approximately 500,000 adults and children with asthma in the state.<sup>18, 19</sup> The prevalence of asthma is significantly higher among adults with less than a high school education and individuals with a lower household income.

**Figure 3. Age Group Specific Rates for Asthma Emergency Room Visits, Missouri, 2006<sup>17</sup>**



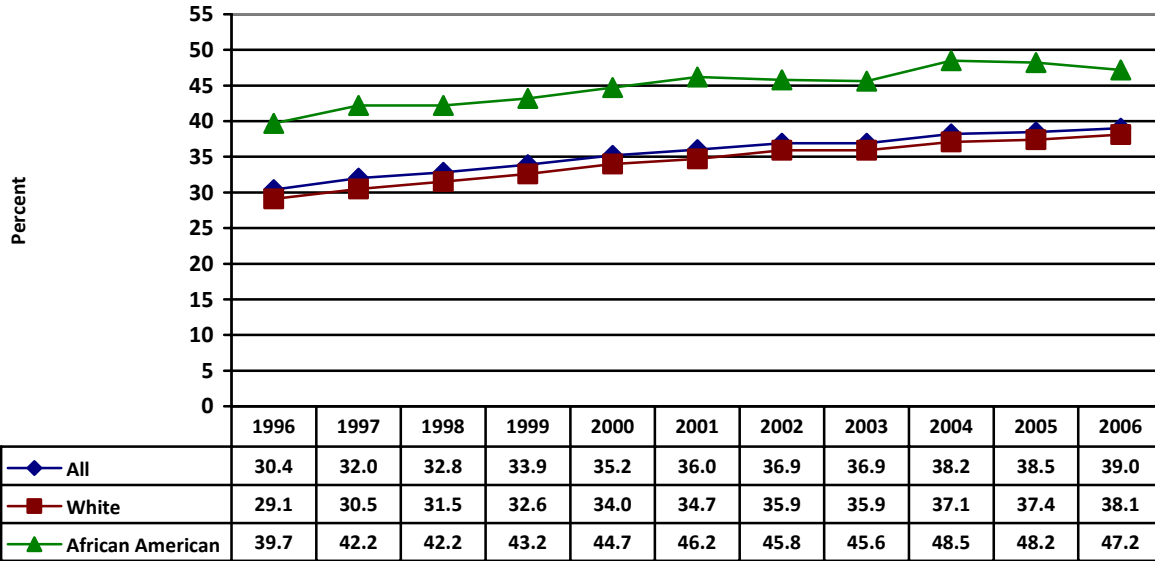
### Risk Factors

The leading health risk factor for all infants and children regardless of race based on Priority MICA was the mother being overweight (Table 3). As shown in Figure 4, there has been a steady increasing trend in pregnant women who are 20% or more overweight since 1996, particularly among African-American women. Maternal overweight and obesity increase the risk for preterm birth, which often results in very low (less than 1,500 grams or 3.3 lbs) or low birth weight babies weighing less than 2,500 grams or 5.5 lbs.

**Table 3. Leading Risk Factor Priorities Among Infants and Children by Race in Missouri<sup>10</sup>**

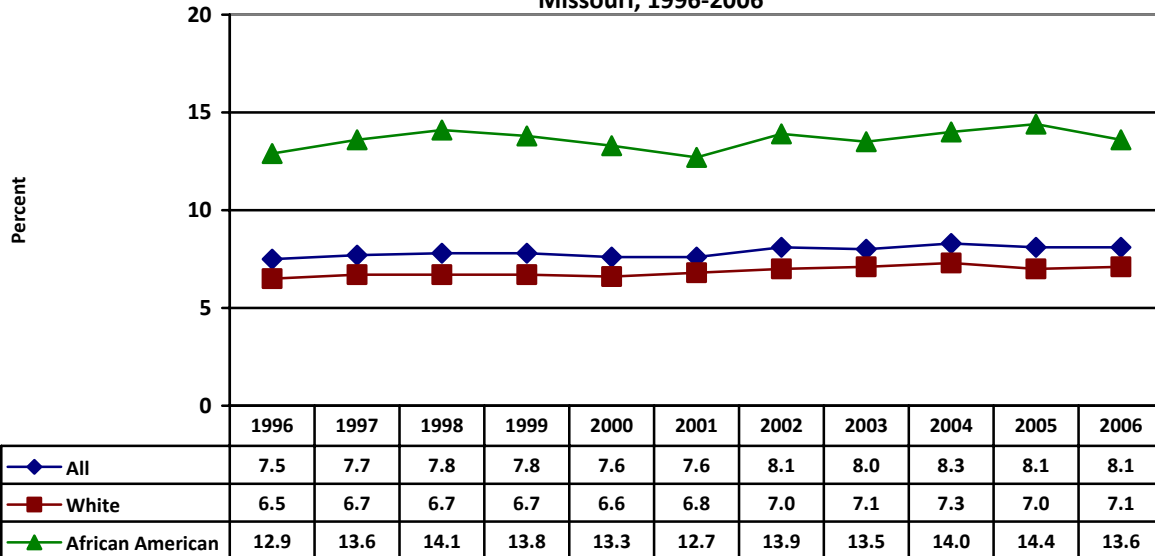
Risk Factor	All Rank	White Rank	African American Rank
Mother overweight	1	1	1
Out-of-Wedlock births	2	2	4
Low birth weight	3	3	3
Smoking during pregnancy	4	4	(6)
Very low birth weight	5	5	2
Child abuse and neglect	(10)	(10)	5

Figure 4. Percent of Mothers Overweight by 20% or More, Missouri, 1996-2006



Among African-American infants and children, very low and low birth weight were the 2<sup>nd</sup> and 3<sup>rd</sup> health risk factors compared to out-of wedlock births and low birth weight for white infants and children, respectively. Low birth weight has two primary causes - premature birth (approximately 70%) or poor fetal growth (30%). Each condition relates to several risks including multiple births, smoking, low socioeconomic status, infections, alcohol intake and other factors. Overweight and obesity put the mother at risk for complications such as hypertension and gestational diabetes, which contribute to preterm births. As shown in Figure 5, almost twice as many African-American infants were born at low birth weight compared to white infants and this has been consistently higher for the period 1996-2006.<sup>20</sup>

Figure 5. Percent of Infant Born at Low Birth Weight (< 2,500 grams), Missouri, 1996-2006<sup>20</sup>





## Adolescents (Age 10-17)



Presented in Table 4 are the leading health disease and condition priorities for adolescents based on the Priority MICA. Assaults and homicides were the leading health priority among African-American adolescents and ranked 3<sup>rd</sup> among white adolescents. Motor vehicle accidents ranked as the highest health priority with diabetes ranked 2<sup>nd</sup> among white adolescents. Asthma and diabetes emerged as the 2<sup>nd</sup> and 3<sup>rd</sup> priorities among African-American adolescents. The health priority rankings varied greatly for white adolescents compared to African Americans, with much higher health rankings for suicide and self-inflicted injury, anxiety disorders, and alcohol and substance abuse. Sickle cell anemia is ranked as the 5<sup>th</sup> health priority for African-American adolescents compared to pneumonia and influenza for white adolescents.

**Table 4. Leading Disease and Condition Priorities Among Adolescents by Race in Missouri<sup>10</sup>**

Diseases and Conditions	All Rank	White Rank	African American Rank
Assaults/Homicides	1	3	1
Asthma	2	(15)	2
Diabetes	3	2	3
Pneumonia and Influenza	4	5	4
Vaccine-Preventable diseases	5	9	7
Dental health problems	6	6	9
Motor Vehicle Accidents	7	1	10
Anemia (excluding Sickle Cell)	8	(16)	8
Pregnancy Complications	9	10	6
Sickle Cell Anemia	10	(23)	5
Suicide and Self-Inflicted injury	(13)	4	(18)
Anxiety-related mental disorders	(11)	7	(12)
Alcohol- and Substance-related	(22)	8	(24)

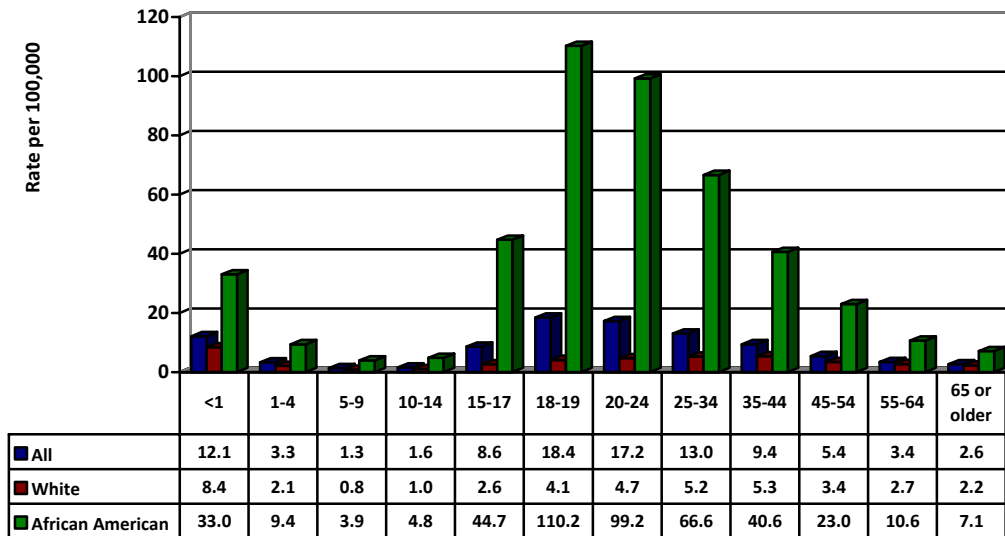
Pregnancy complications were ranked as the 6<sup>th</sup> health priority for African-American adolescents and 10<sup>th</sup> among white adolescents. Major criteria contributors to pregnancy complications were the number of Emergency Department (ED) visits and hospitalizations. In 2006, many of the ED visits and hospitalizations for pregnancy complications were due to post-term deliveries (16.9%) followed by pre-term deliveries (9.8%).<sup>12</sup> Dental health problems ranked as the 6<sup>th</sup> highest health priority for white adolescents compared to 9<sup>th</sup> for African-American adolescents with the number of ER visits and hospitalizations also contributing substantially to this ranking. In 2006, over 40% of the dental-related ER visits and hospitalizations for all ages combined were for a periapical abscess which results from a chronic, localized infection at the tip or apex of the root of a tooth.<sup>12</sup>

### Mortality Assaults/Homicides

For the period 1996-2006, the assaults/homicides death rate among African-American adolescents 15-17 years old (44.7 per 100,000) was 17 times higher than the rate for white adolescents in this age group (2.6 per 100,000).<sup>13</sup> Among adolescents 10 to 17 years of age, as shown in Figure 6, African-American adolescents age 15-17 had the highest death rate from assaults/homicides over this eleven year period, followed by African-American infants less than 1 year of age.



Figure 6. Age Group Specific Mortality Rates for Assaults/Homicides, Missouri, 1996-2006<sup>13</sup>



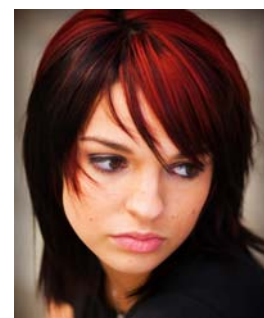
## Risk Factors

Based on amenability to change and prevalence, the leading health risk factor for all adolescents regardless of race according to the Priority MICA was child abuse and neglect (Table 5). However, the leading health risk factor for African-American adolescents (and 2<sup>nd</sup> priority for white adolescents) based on this system was mother overweight largely due to its amenability to change followed by child abuse and neglect. No health insurance for ER visits ranked as the 4<sup>th</sup> highest risk factor priority among African-American adolescents and 3<sup>rd</sup> highest priority among white adolescents.

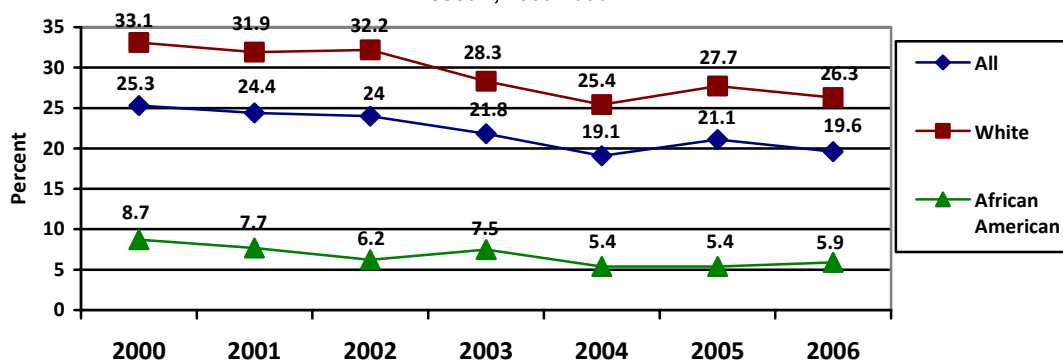
**Table 5. Leading Risk Factor Priorities Among Adolescents by Race in Missouri<sup>10</sup>**

Risk Factor	All Rank	White Rank	African American Rank
Child abuse and neglect	1	5	2
Mother overweight	2	2	1
Smoking during pregnancy	3	1	3
No health insurance for ER visits	4	3	4
Out-of-wedlock births	5	4	5

Smoking during pregnancy was the leading health risk factor priority for white adolescents, but ranked 3<sup>rd</sup> among African-American adolescents. The high prevalence of smoking during pregnancy for white adolescents has consistently been higher compared to African-American adolescents.<sup>20</sup> As shown in Figure 7, although the prevalence of smoking during pregnancy for white adolescent females age 15-17 has declined since 2000, in 2006 the prevalence remained over four times higher than that of African-American adolescents. Smoking increases the risk for pregnancy complications as well as pre-term delivery, low birth weight and infant mortality.



**Figure 7. Percent of Adolescents Age 15-17 Who Smoked During Pregnancy, Missouri, 2000-2006<sup>20</sup>**



## Adults (Age 18-64)



Table 6 shows the leading health disease and condition priorities for adults based on the Priority MICA. Diabetes was the highest priority for all adults and African-American adults. This was largely based on the number of hospitalizations, racial disparity for ER visits and deaths as well as its high amenability to change. For white adults, based on the criteria, the leading health priority was chronic obstructive pulmonary disease followed by motor vehicle accidents. Major contributors to these rankings were the number of hospitalizations and ER visits and their amenability to change.

Among African-American adults, assaults/homicides ranked as the 2<sup>nd</sup> highest disease and condition priority due to the racial disparity for deaths, number of hospitalizations and ER visits, and its high amenability to change. The 3<sup>rd</sup> highest disease and condition priority for all adults and both races as shown was heart disease.

**Table 6. Leading Disease and Condition Priorities Among Adults by Race in Missouri<sup>10</sup>**

Diseases and Conditions	All Rank	White Rank	African American Rank
Diabetes	1	4	1
Alcohol- and substance-related	2	5	7
Heart disease	3	3	3
Arthritis/Lupus	4	6	6
Pregnancy complications	5	9	4
Assaults/Homicides	6	(13)	2
Sickle Cell Anemia	7	(33)	5
Motor vehicle accidents	8	2	10
Asthma	9	(20)	8
Chronic obstructive pulmonary disease (COPD)	10	1	(16)
Suicide and self-inflicted injury	(25)	7	(28)
Pneumonia and influenza	(12)	8	(11)
Affective disorders	(23)	10	(24)
HIV/AIDS	(13)	(27)	9

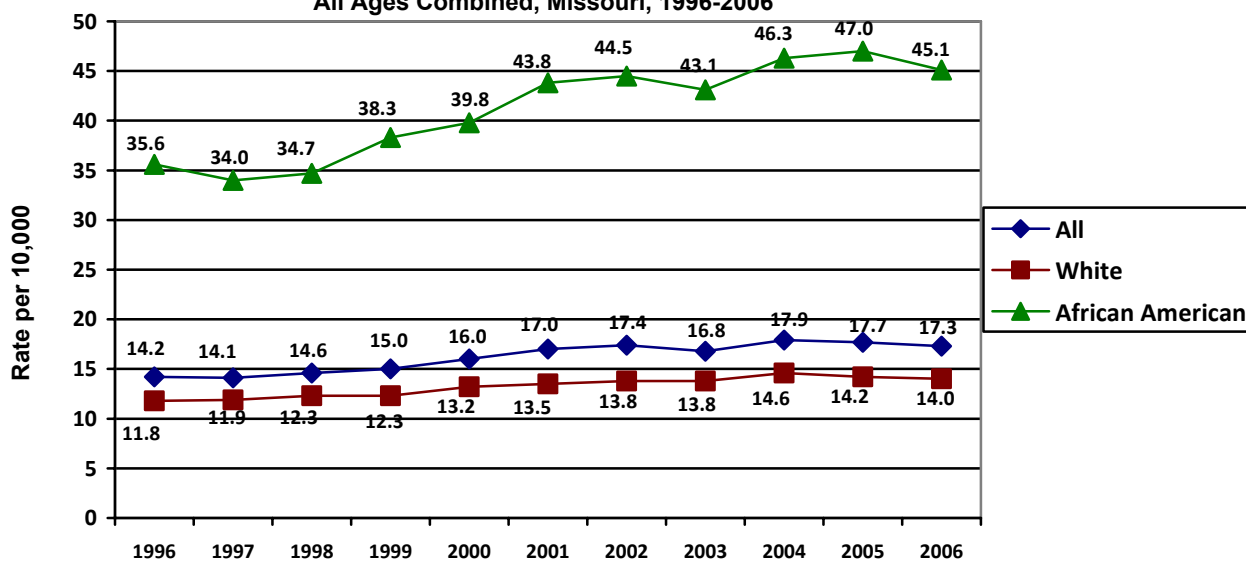
For the period 1996-2006, the assaults/homicides death rate among African-American young adults 18-19 years old (110.2 per 100,000) was over 25 times higher than the rate for white young adults (4.1 per 100,000).<sup>13</sup> As shown in Figure 6, African-American young adults age 18-19 years of age had the highest death rate from assaults/homicides over this eleven year period followed by African-Americans 20-24 years of age.

White and African-American adults differed on other disease and condition priorities. Among white adults, the disease and condition priorities ranked much higher related to suicide and self-inflicted injury, pneumonia and influenza, and affective disorders compared to the rankings of African-American adults for these conditions. However, African-American adults had higher disease and condition priority rankings for sickle cell anemia, asthma, and HIV/AIDS compared to white adults.

### Diabetes

According to the U.S. Department of Health and Human Services, Office of Minority Health, diabetes is a disease in which blood glucose levels are above normal. People with diabetes have problems converting food to energy.<sup>15</sup> Individuals can be diagnosed as having Type 1 or Type 2 Diabetes.<sup>21, 22</sup> Type 1 diabetes, formerly called juvenile diabetes or insulin-dependent diabetes, is usually first diagnosed in children, teenagers, or young adults. Type 2 diabetes, formerly called adult-onset diabetes or non-insulin-dependent diabetes, is the most common form of diabetes. People can develop Type 2 diabetes at any age—even during childhood. Some women develop gestational diabetes during pregnancy, which then places them at risk of developing Type 2 diabetes later in life. In 2006-2007, 9.8% of African-American adults in Missouri reported being diagnosed with diabetes compared to 7.4% of whites (Appendix 1, Table 2). In addition, as shown in Figure 8, the rate of hospitalizations related to diabetes was over three times higher for African Americans (45.1 per 10,000 population) compared to whites (14.0 per 10,000 population) for 2006.<sup>23</sup> This represents over a 200% higher diabetes hospitalization rate for African Americans compared to whites.

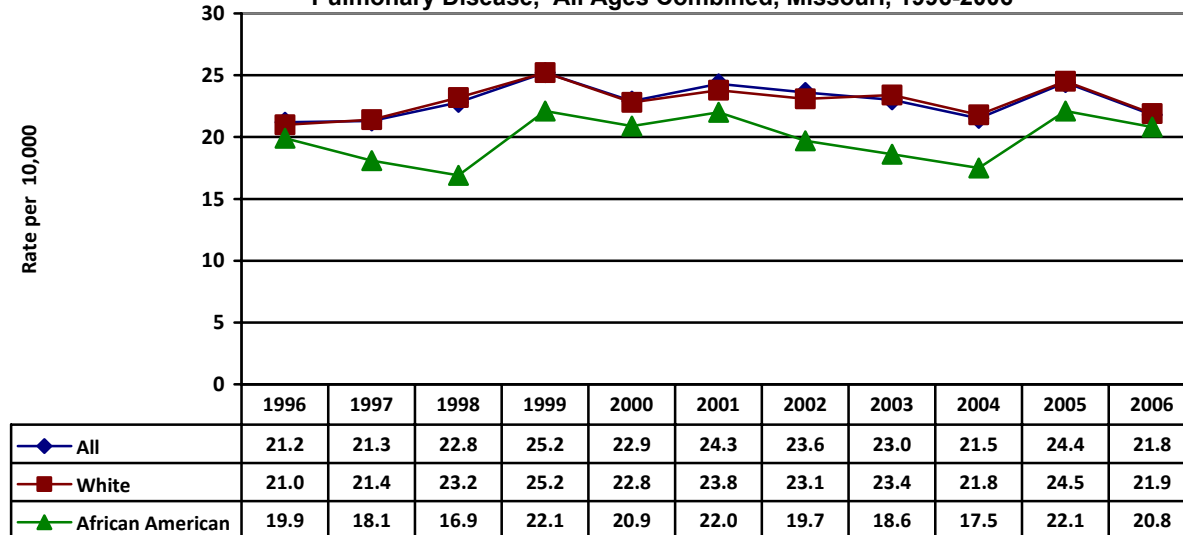
**Figure 8. Age-adjusted Inpatient Hospitalization Rates for Diabetes, All Ages Combined, Missouri, 1996-2006<sup>23</sup>**



## Chronic Obstructive Pulmonary Disease

Chronic obstructive pulmonary disease (COPD) refers to a group of diseases that cause obstruction of the airways and breathing related problems. It includes emphysema, chronic bronchitis and in some cases asthma. In chronic bronchitis, the airways become inflamed and thicken, limiting the passage of airflow. Emphysema is an abnormal, permanent enlargement and destruction of the walls of the air spaces or alveoli within the lungs. The enlarged air sacs of the lungs reduce the surface area for air and gas exchange during respiration, thus progressive and continuous shortness of breath develops. As shown in Figure 9, inpatient hospitalizations for whites have been consistently higher than for African Americans.<sup>23</sup>

**Figure 9. Age-adjusted Inpatient Hospitalization Rate for Chronic Obstructive Pulmonary Disease, All Ages Combined, Missouri, 1996-2006<sup>23</sup>**



## Risk Factors

Based on Priority MICA, the top five risk factors for adults were very similar across race groups with the leading risk factor for all adults and race groups related to body weight. For African-American women the highest health risk priority was being overweight at the time of delivery (Table 7). The leading health risk priority for all adults was obesity largely due to its increasing trend (Figure 10) and amenability to change. Smoking ranked as the 4<sup>th</sup> leading health risk priority for all groups. The high prevalence of current smoking among adults and the amenability to change contributed most to this priority.

**Table 7. Leading Risk Factor Priorities Among Adults by Race in Missouri<sup>10</sup>**

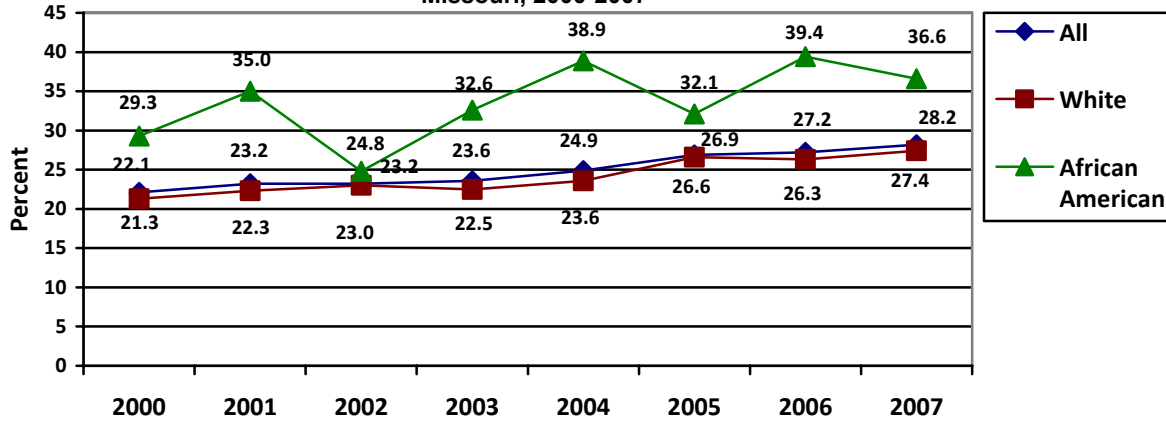
Risk Factor	All Rank	White Rank	African American Rank
Obesity	1	1	3
No exercise	2	2	2
Mother overweight	3	3	1
Smoking	4	4	4
No mammography	5	5	5



## Obesity

The obesity rate among Missouri residents has doubled since 1990. Obesity is defined according to body mass index (BMI), which is a persons weight (in kilograms) divided by a persons height (in meters) squared. For example, a person who weighs 203 pounds (92 kilograms) and is 5'9" tall (1.75 meters) has a BMI of 30.0. A person with a BMI of 30.0 or more is considered to be obese.<sup>24</sup> In 2007, the obesity rate for adult African Americans was 36.6% and 27.4% for whites (Figure 10) representing a 30% higher prevalence among African Americans than whites. In addition, in 2007, the prevalence of obesity among adults in Missouri (28.2%) was slightly higher than the U.S. rate of 26.3%.

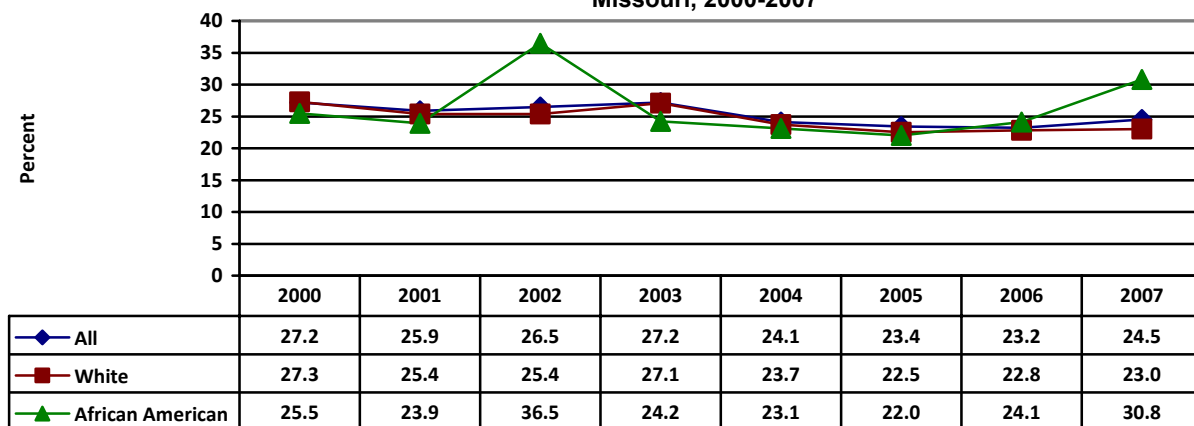
**Figure 10. Prevalence of Obesity Among Adults, age 18 and older, Missouri, 2000-2007<sup>16</sup>**



## Smoking

Research has shown that smoking damages the immune system and nearly every organ in the body and can increase the risk of infections. Persons who smoke are likely to suffer from heart disease, lung cancer and many other chronic illnesses. Smoking was found to be responsible for one of every five deaths in Missouri.<sup>24</sup> As shown in Figure 11, in 2007, 23.0% of adult white Missourians smoked cigarettes compared to 30.8% of African Americans although the prevalence has varied greatly since 2000. Nevertheless, in 2007 the prevalence of current smoking in Missouri was 24% higher than the U.S. median of 19.8%.<sup>16</sup>

**Figure 11. Prevalence of Current Smoking Among Adults, age 18 and older, Missouri, 2000-2007<sup>16</sup>**



## Health Insurance Coverage

In 2005, the *Current Population Survey* indicated that 13% of Missourians had no health insurance coverage for 2004 compared with 16% of persons nationally.<sup>24</sup> The uninsured health care rate for people under age 65 in Missouri was 14% compared with the national rate of 18%. According to the BRFSS in 2006, 23.5% of African Americans did not have any health insurance as compared to 11.5% of whites in Missouri.<sup>16</sup> In 2004, 65% of Missourians received health care coverage through private health insurance provided through an employer or union, while 8% purchased individual insurance.<sup>24</sup>

## HIV/AIDS

HIV (human immunodeficiency virus) is the virus that causes Acquired Immune Deficiency Syndrome (AIDS). This virus may be passed from one person to another when infected blood, semen, or vaginal secretions come in contact with an uninfected person's broken skin or mucous membranes. AIDS is caused by infection with HIV. In addition, infected pregnant women can pass HIV to their babies during pregnancy or delivery, as well as through breast-feeding. People with HIV have what is called HIV infection. Some of these people will develop AIDS as a result of their HIV infection.<sup>24</sup> Between 1998 and 2002, the HIV/AIDS adjusted death rate per 100,000 persons in Missouri was as follows: Hispanics accounted for 4.5% of the HIV/AIDS death rate as compared to 1.6% for whites and 11.7% for African Americans.<sup>25</sup> According to the Henry J. Kaiser Family Foundation, in 2005, the rates for new AIDS cases in Missouri were: 186 cases (48%) were reported by whites, 174 cases (45%) were reported by African Americans and 24 cases (6%) were reported by Hispanics.



## Seniors (Age 65 and Older)



Table 8 shows the leading health disease and condition priorities for seniors based on the Priority MICA. The leading health disease and condition priority for all seniors and among African Americans (ranked 3<sup>rd</sup> among whites) was diabetes compared to chronic obstructive pulmonary disease for whites. Diabetes was the leading health disease for African-American and white seniors particularly due to the high racial disparity in ER visits and amenability to change. Heart disease was the 2<sup>nd</sup> leading disease and condition for both whites and African Americans based on the criteria.

Arthritis/lupus ranked 3<sup>rd</sup> highest priority disease and condition for African-American seniors but 2<sup>nd</sup> among all seniors particularly related to the number of hospitalizations and racial disparity in ER visits. Although among white seniors pneumonia and influenza were ranked the 4<sup>th</sup> highest condition priority, when all races were combined lung cancer was the 4<sup>th</sup> highest disease and condition priority. The criteria contributing substantially to the lung cancer ranking were the high amenability to change and the disability burden.

**Table 8. Leading Disease and Condition Priorities Among Senior Adults by Race in Missouri<sup>10</sup>**

Diseases and Conditions	All Rank	White Rank	African American Rank
Diabetes	1	3	1
Arthritis/Lupus	2	5	3
Heart disease	3	2	2
Lung cancer	4	7	7
Chronic obstructive pulmonary disease (COPD)	5	1	(14)
Alcohol- and substance-related	6	(19)	4
Assaults/Homicides	7	(22)	8
Cervical cancer	8	(24)	6
Medical/surgical complications	9	(15)	(15)
Alzheimer's/Dementia/Senility	10	10	10
Pneumonia and influenza	(12)	4	(16)
Stroke/other cerebrovascular diseases	(14)	6	(11)
Falls	(21)	8	(22)
Motor vehicle accidents	(13)	9	(13)
Asthma	(11)	(23)	5
Colorectal cancer	(16)	(11)	9

Other disease and conditions ranked as priorities among white seniors were stroke and other cerebrovascular diseases, falls, and motor vehicle accidents compared to alcohol and substance-related conditions, cervical cancer, assaults and homicides, asthma, and colorectal cancer among African-American seniors. The health priority of falls among white seniors related to the number of ER visits and hospitalizations as well as the number of hospital days of care. Asthma ranked the 5<sup>th</sup> highest priority among African-American seniors and the criteria contributing the most to this ranking was the racial disparity for ER visits. For both cervical and colorectal cancers, the rankings related to the racial disparity in deaths and amenability to change.

### Risk Factors

According to the Priority MICA data (Table 9), the leading health risk factor for all seniors was lack of physical activity followed by obesity. Lack of preventive care is suggested by the priority rankings for no cervical screening and no mammography screening. High blood pressure, obesity and smoking are inter-related risks to health as obesity and smoking contribute to high blood pressure. The rankings for the risk factor priorities for seniors were largely the result of their high prevalence and amenability to change.

**Table 9. Leading Risk Factor Priorities Among Senior Adults by Race in Missouri**

Risk Factor	All Rank	White Rank	African American Rank
No exercise	1	1	1
Obesity	2	2	2
No cervical screening	3	3	4
No mammography	4	4	5
High blood pressure	5	5	(6)
Smoking	(7)	(7)	3

### Heart Disease

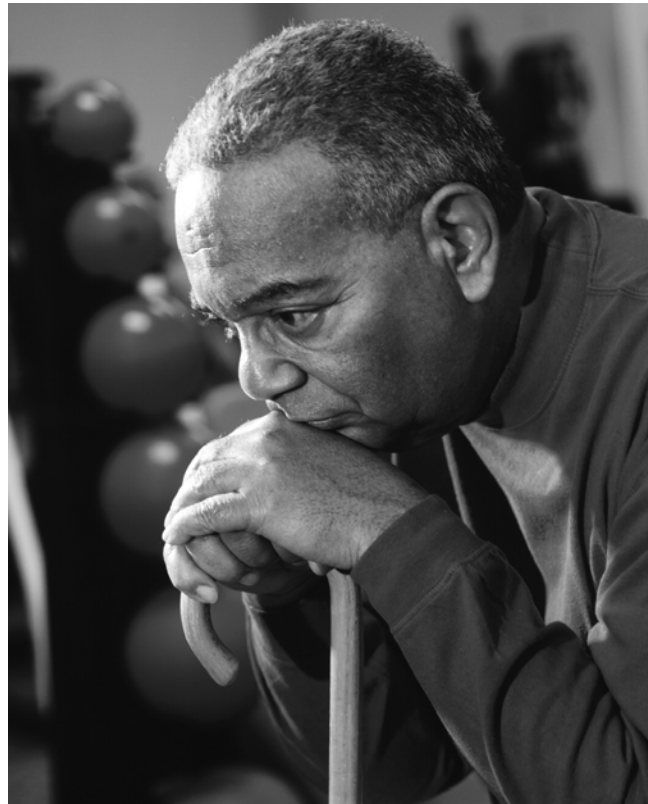
Coronary heart disease is the most common form of heart disease. It is a disorder of the blood vessels of the heart that can lead to heart attack. A heart attack occurs when an artery becomes blocked, preventing oxygen and nutrients from getting to the heart. Often referred to simply as heart disease, it is one of several cardiovascular diseases, which are diseases of the heart and blood vessel system. Other cardiovascular diseases include stroke, high blood pressure, angina (chest pain), and rheumatic heart disease.<sup>26</sup> As shown in Appendix 1, Table 4, the hospitalization rates related to heart disease were higher in every region of the state for African Americans compared to whites. Heart disease has been the leading cause of death in Missouri since the 1920s with 14,647 deaths in 2006 representing almost 27% of all deaths in the state for that year. According to the Heart Disease and Stroke Prevention Program, the age-adjusted heart disease death rates for African Americans was consistently higher than for whites from 1995-2005.<sup>26</sup> According to the Death MICA, in 2006, the heart disease death rate was over 30% higher for African Americans (284.4 per 100,000 population) compared to whites (217.8 per 100,000 population).<sup>13</sup>

## Cancer

Cancer is a group of many related diseases in which abnormal cells develop, divide uncontrollably and have the ability to infiltrate and destroy normal body tissue. Normally, cells grow and divide to produce more cells as they are needed to keep the body healthy. Sometimes, this orderly process goes wrong. New cells form when the body does not need them, and old cells do not die when they should. The extra cells form a mass of tissue called a growth or tumor. Not all tumors are cancerous; tumors can be benign or malignant. Benign tumors are not cancer. They can often be removed and, in most cases, they do not come back. Cells in benign tumors do not spread to other parts of the body. Most importantly, benign tumors are rarely a threat to life. Malignant tumors are cancer. Cells in malignant tumors are abnormal and divide without control or order. While the incidence for several types of cancer are lower among African Americans compared to whites, the deaths tend to be much higher among African Americans. According to Missouri Vital Statistics, in 2006, 12,484 deaths in Missouri resulted from cancer representing 23% of all deaths in the state for that year.<sup>13</sup> Deaths due to cancer among African Americans were 33% higher than among whites for the period 1996-2006 (Appendix 1, Table 5).

## Mental Health

According to the U.S. Department of Health and Human Services, Office of Minority Health, “Mental health is how a person thinks, feels, and acts when faced with life's situations. It is how people look at themselves, their lives, and the other people in their lives, evaluate their challenges and problems, and explore choices.<sup>15</sup> Mental health can affect one's mind, emotions and behavior. For disease and conditions such as Alzheimer's disease, arthritis, depression, bi-polar disorders, and other mental health issues, they can result in heavy illness and economic burden on senior adults. As Missouri's population continues to age, these health issues will become even higher health priorities.







### Missouri Disparity Elimination Plan (MDEP) Task Force

The Missouri Foundation for Health awarded funding to the Missouri Office of Minority Health to assemble a Missouri Disparity Elimination Plan (MDEP) Task Force to develop a Health Disparity Action Plan. The mission of the Missouri Disparity Elimination Plan (MDEP) Task Force is to provide recommendations to the Missouri Office of Minority Health for community engagement, and advocacy for the elimination of health disparities in the state of Missouri. The Task Force met for the first time July 27, 2006. Several public health professionals from various regions in Missouri discussed health related issues that impact minority populations in the state. As a result, the consensus was to conduct focus groups in order to obtain Missouri residents' perceptions regarding access to health care, quality of health care and the delivery of health care. Residents' perceptions about health care services can be very valuable, because they have direct experiences with health care organizations. Therefore, residents are in the best position to identify specific factors that may be problematic in their respective regions.

### Methodology

To gain an understanding of the perceptions that Missourians have about the health care system in the state, the Missouri Office of Minority Health conducted eleven focus groups. The Office received approval from the Missouri Department of Health and Senior Services' Institutional Review Board to conduct these focus groups. The eleven focus groups were conducted within the six Minority Health Alliance regions (Figure 12) in the state of Missouri. An average of 10 persons participated in the focus groups within each of the six Minority Health Alliance regions. However, due to hazardous weather conditions only two individuals participated in the focus group that was conducted within the southwest region. Focus group discussions convened for ninety minutes in each of the regions. The regions are as follows: St. Louis (Eastern Region), Kansas City (Northwest Region), Columbia (Central Region), Boonville (Central Region), Sikeston (Southeast Region), Springfield (Southwest Region) and Moberly (Northeast Region). The following six questions were asked to participants in the focus group discussions: 1) What do you believe are some of the barriers to health care access? 2) Do you feel like health care is affordable in Missouri? 3) What are your thoughts about the quality of health care in Missouri? 4) When you go to the doctor, pharmacy, emergency room or clinic, do you feel as though your needs are met? 5) When you go to the doctor and there is a doctor, nurse or other staff member that is of a different ethnic background than you, how do you feel when you interact with them? 6) What do you feel is a health disparity within the health care system in the state of Missouri? Responses stemmed from their personal and/or professional experiences with the health care system in the state of Missouri. Participants discussed some of their personal encounters with health care providers and health care organizations in these regions. They also talked about some of the problems their clients faced when utilizing health care services. Responses provided by participants were paraphrased in each of the summaries listed below.

## Summaries of Regional Focus Group Findings

### Eastern Minority Health Alliance Region (St. Louis, Missouri)

This focus group was held at a health care facility in St. Louis, Missouri in February 2008. Twelve members from the Eastern Minority Health Alliance participated in this focus group discussion. These alliance members worked in the field of Public Health. It was comprised of one Hispanic female, one Bosnian female, one white female, one African male, one African American male and seven African American females. The age of these participants ranged from twenty to sixty years old.

Participants stated that some of the main barriers to health care access in the St. Louis area were lack of transportation, cost of health care and lack of knowledge about the availability of health care services. Participants also said that the long waiting time for pregnant women seeking care in the clinic and lack of persistence among clients to keep their health care appointments were also barriers to health care access in St. Louis. In relation to the affordability of health care, many of the participants felt as though health care in Missouri was not affordable due to the cost of health insurance and medical co-payments. Participants indicated that the quality of health care received was impacted by their ethnicity and/or race. Participants also mentioned that the quality of health care received was determined by the amount of time they spent in the waiting room, their ability to obtain health insurance, and how effectively they could communicate with their health care provider. Participants' perception of the doctor's attitude toward them and their choice to utilize a public health facility or personal physician were factors that contributed to their needs being met by the doctor, or while in the pharmacy, emergency room or clinic. Some of the participants commented that their interaction with a doctor, nurse, or other staff member who was of a different ethnic background than themselves was pretty good. However, some of the participants said they would begin to look for stereotypes when interacting with health care providers who were of a different ethnic background than themselves because of past negative experiences. Moreover, participants agreed that lack of transportation, lack of access to mental health care services and unequal access to health care services for minorities were health disparities that existed in the St. Louis area.

### Minority Council Members of the American Heart Association (St. Louis, Missouri)

This focus group was held at the American Heart Association (AHA) in St. Louis, Missouri in February 2008. Eighteen Minority Council members of the (AHA) participated in this focus group discussion. It was comprised of one white male, three white females, two African-American males and twelve African-American females. The age of these participants ranged from twenty to seventy years old.

Participants stated that some of the main barriers to health care access in St. Louis were racism, lack of health insurance and the cost of health insurance. Participants also mentioned that additional barriers to health care access in the St. Louis area were lack of transportation, the location of health care organizations, and the hours in which health care facilities were open. Participants also noted that the additional barriers to health care access in the St. Louis area were the language used by health care providers, the client's lack of knowledge about the signs and symptoms of certain diseases and which questions to ask their health care provider. In relation to the affordability of health care, some participants said that the cost of health care insurance varied or was not affordable. However, others felt that it was affordable for some minorities and not for others. Participants stated that the quality of health care received would be determined by health care providers' interactions with the clients and the neighborhood in which the health care facility was located. Participants mentioned that their needs were met based on their decision to utilize a certain health care organization. Participants also stated that their interactions with a doctor, nurse or other staff members who was of a different ethnic background than themselves was fine as long as their health care provider had a warm spirit, welcomed them and was competent in what they were doing. Furthermore, participants collectively agreed that childhood obesity, HIV/AIDS education, cardiovascular disease and Type 2 diabetes were significant health disparities in the St. Louis area. Participants also indicated that kidney disease, sexually transmitted

diseases, mental health, Alzheimer's disease, stress and stroke were also prevalent health disparities that existed within the St. Louis region.

### Representatives from the Bosnian Community (St. Louis, Missouri)

This focus group was held at a residential building in St. Louis, in February 2008. Eleven individuals participated in this focus group. Participants were members of the Bosnian community and persons who worked in the field of public health. It was comprised of three white females, one white male, two Bosnian males, and five Bosnian females. These participants were members of the Bosnian community and persons who worked in the field of public health and social work. An interpreter was also present to translate this discussion. The age of participants ranged from twenty to sixty years old.

Participants stated that some of the barriers to health care access for members of the Bosnian community were a small number of dentists who accepted Medicaid, lack of health insurance, lack of transportation and lack of drivers who spoke the Bosnian language. A lack of knowledge about health care resources, lack of professional medical interpreters, and a lack of knowledge regarding how Medicaid works were also barriers to health care access for members of the Bosnian community. In relation to the affordability of health care, participants stated that health care was free for members of the Bosnian community when they lived in Yugoslavia. Consequently, many of them (could not afford health insurance) and did not understand why they are required to pay for their health insurance in the United States. In terms of the quality of health care received, participants commented that some patients with Medicare insurance received quality care as compared to those with Medicaid insurance. Participants stated that quality health care was determined by the front line staff member's cultural sensitivity to diverse patients and clients. Participants also said that quality health care was influenced by three categories: uninsured, publicly insured or privately insured clients. Participants stated that their needs were met by the doctor, or while at the pharmacy, emergency room or clinic, if they could effectively communicate what their needs were to the health care provider. However, participants said that their needs were not met if health care providers were not culturally competent, if medical translation services were not present or if the discussion between the health care provider and the client was inaccurately translated. In regards to their interactions with a doctor, nurse, other staff member that is was a different ethnic background than themselves, participants stated that there was a great deal of animosity between the Bosnian and African American community. Moreover, participants also said that some Bosnians would not receive assistance of any kind from someone who did not have a Bosnian name. Moreover, participants said that smoking, high cholesterol, reduced exercise and a stigma regarding mental health were health disparities that were common among members of the Bosnian community in St. Louis, Missouri.

### Southwest Minority Health Alliance Region (Springfield, Missouri)

This focus group was held at a church in Springfield, in January 2008. Two members from the Southwest Minority Health Alliance participated in this focus group discussion. These Alliance members worked in the field of public health. It was comprised of one African-American male and one white female. The age of these two participants ranged from twenty to fifty years old.

Participants stated that some of the main barriers to health care access in the Springfield area were the language gap for Hispanics, a lack of promotion about health care services and a lack of concern about health care access until one becomes sick. In relation to the affordability of health care, participants felt that health insurance was affordable if one worked for a provider that provided coverage or if a person had the money to pay for it. Participants also felt that one's socio-economic status determined the affordability of health insurance. Participants also stated that the quality of health care received depended on the client's ability to ask the health care provider questions, the amount of health insurance one had and the type of health insurance utilized to pay health care providers. Participants said that the small number of dentists who accepted Medicaid in the Springfield area affected the quality of care provided in that region. Participants also commented that quality health care was determined by the relationship that existed between the client and the health care provider. However, participants felt that a lack of quality health care stemmed from clients having physicians who rushed through their examinations and did not touch them. Furthermore,

participants stated that the cost of health care impacted whether or not their needs would be met by the doctor, or while in the pharmacy, emergency room or clinic. Participants' interaction with a doctor, nurse or other staff member who was of a different ethnic background than themselves was based on the health care provider's literacy level and their willingness to interact with them. Moreover, participants felt that mental health, obesity and tuberculosis were health disparities that existed in the Springfield area. Participants also indicated that poverty, cost of health care, lack of health insurance and lack of transportation were also significant health disparities in the Springfield region.

#### Northwest Minority Health Alliance Region (Kansas City, Missouri)

This focus group was held at a community center in Kansas City, in January 2008. It was comprised of five white females, one white male, one American Indian and thirteen African American females. Twenty members from the Northwest Minority Health Alliance participated in this focus group discussion. These alliance members worked in the field of public health. The age of these participants ranged from twenty to seventy years old.

Participants stated that the barriers to health care access in the Kansas City area were lack of health insurance, lack of transportation and lack of knowledge about where to access health care services. Participants also noted that the language barrier for non-English speaking persons, discrimination against racial and ethnic minorities in some health care organizations and inaccessible clinic hours for the working class were also barriers to health care access in the Kansas City area. Participants commented that health care was not affordable because certain dental clinics requested payment for services at the time of the client's appointment. Participants also said that some persons who were employed and had health insurance could not afford to pay their medical co-payments. Some participants indicated that the quality of health care received was subjective. Participants also commented that quality health care was determined by one's ability to obtain health insurance and ask the appropriate questions to their health care provider. Participants also mentioned that quality health care was influenced by the communication between health care providers and their clients as well and the community's perception of their health care organization. In terms of their needs being met by the doctor, or while in the pharmacy, emergency room or clinic, some participants felt as though their needs were met. Others mentioned that the language barrier that existed among non-English speaking persons and the inability of some clients to understand the language used by doctors affected whether or not their needs were met. However, participants also mentioned that some clients' needs were not met because they did not know which questions to ask the health care provider. Participants felt that their interaction with a doctor, nurse or other staff member from a different ethnic background was sometimes hard because they would have to repeatedly explain themselves which caused them to feel intimidated. Other participants commented that it was important for clients to acknowledge their own biases when interacting with the health care provider of different ethnic backgrounds. In terms of health disparities, participants felt that the attitude of the front line staff, and lack of access to preventative care for individuals with vision loss were health disparities in the Kansas City area. Participants also indicated that a lack of cleanliness in health care organizations and racial and ethnic minorities unequal access to health care services were also significant health disparities in the Kansas City region.

### *Representatives from the Hispanic Community, (Kansas City, Missouri)*

This focus group was held at a Hispanic community center in Kansas City, in February 2008. It was comprised of one Hispanic male and five Hispanic females. An interpreter was also present to translate the discussion. The ages of these participants ranged from twenty to seventy years old.

Participants stated that some of the barriers to health care access for Hispanics in the Kansas City area were a lack of money to pay for health care services, the inability to read English and the inability to complete health care forms. Participants commented that a lack of jobs, a lack of health insurance and fear of being deported were also barriers to accessing health care. In relation to the affordability of health care, many of the participants felt that health care was not affordable. However, some of the participants said that health care insurance would be affordable if they earned a higher salary. Participants felt that they could not afford to pay for health care because most of their income was used to pay for rent, food and public transportation. Participants felt that they did not receive quality health care because the government has treated immigrants as third class citizens who are not worthy of receiving any employment or medical assistance. In regards to their needs being met by the doctor, or while at the pharmacy, emergency room or clinic, participants stated that in some instances they were treated rudely by the front line staff. Participants also said that more culturally sensitive staff and culturally appropriate services (would help to meet their needs). Participants also mentioned that some nurses were very helpful to them because they provided the medicine they needed and in this way felt as though their needs were met. Participants stated that their interactions with a doctor, nurse or other staff member who is of different ethnicity than themselves, stemmed from the immigration laws that encouraged organizations not to open their doors to Mexicans. However, participants also commented that sometimes they felt as though they were looked at differently even when they interacted with a doctor, nurse or other staff members who of the same ethnicity. In terms of health disparities, participants commented that the absence of a personal physician, a lack of health information in their native language and a lack of interpreters to accompany doctors while interacting with non-English speaking clients are health disparities that are specific to the Hispanic population in the Kansas City area.

### *Representatives from the Vietnamese Community, (Kansas City, Missouri)*

This focus group was held at a community college in Kansas City, in February 2008. It was comprised of three Vietnamese females and three Vietnamese males. An interpreter was also present to translate the discussion. The ages of these participants ranged from twenty to seventy-five years old.

Participants stated that some of the barriers to health care access for the Vietnamese population in Kansas City were lack of transportation, lack of information about where to access health care services, lack of free dental services, lack of financial assistance to pay for hearing aids, lack of medical translators and the long waiting time that occurs in certain health care facilities. In relation to the affordability of health care, some participants stated that it was not affordable, because they could not obtain assistance to pay for dental services. Some participants felt that the price of medical services in hospitals should be lower if they were on welfare or had Medicare. In relation to the quality of care received, participants commented that in general the quality of health care was good, but at a particular health care facility, there was only one interpreter on staff and as a result, they had to wait a long time to receive medical services. In regards to their needs being met by a doctor, or while in the pharmacy, emergency room or clinic, participants stated that the health care they received was good, other residents said that when they visited a certain doctor for health care issues, they did not feel any better. Participants commented that they did not experience any differences in their interactions with a doctor, nurse or other staff members of a different ethnic background. Other participants mentioned that they did not have a problem with seeing a health care provider who was of a different ethnicity because all of them were willing to provide help. In terms of health disparities, participants felt that disparities stemmed from the doctor's concern for the patient and their willingness to respect them.

### *Northeast Minority Health Alliance Region (Moberly, Missouri)*

This focus group was held at the health department in Moberly, in February 2008. It was comprised of one white female, two white males, three African-American males and three African-American females.

Participants stated that some of the barriers to health care access in the Moberly area were a lack of health insurance, lack of knowledge among clients regarding the services that Medicaid covers and the inability of some patients to pay their Medicaid spend down. Participants also said that the unfriendly attitude of the front line staff, a lack of dentists who will accept Medicaid, a reduction in the services that Medicare Part D will provide and a lack of health literacy among health care providers and clients were also barriers to accessing health care. In relation to the affordability of health care, some participants felt that health care was affordable if you were wealthy; others felt that it was not affordable because of high insurance rates. In relation to the quality of health care received, participants stated that they did not have any complaints and that it was good. Participants commented that their minority population was only about nine percent and they did not have any specialists in the Moberly area that focused on minority diseases which contributed to some of their needs not being met by a doctor, or while in the pharmacy, emergency room or clinic. Participants stated that their interactions with a doctor, nurse or other staff member from a different ethnic background than themselves was determined by the staff and the health care provider's attitude, their ability to answer the patients' questions and the clients' ability to communicate with the health care provider. In terms of health disparities, participants commented that a lack of health education, a lack of communication about the availability of health care and a lack of information in the Randolph County Health Report about various races and chronic diseases are health disparities specific to persons who live in the Moberly area.

### *Southeast Minority Health Alliance Region (Sikeston, Missouri)*

This focus group was held at a Medical center in Sikeston, in February 2008. It was comprised of five African-American females who were members of the Southeast Alliance and who also worked in the field of public health.

Participants stated that the barriers to health care access in the Bootheel area is a result of the limited number of doctors who accepted Medicaid and a lack of access to information about health care resources. A shortage of African American doctors, the amount of time a client has to wait to be seen by the doctor and the treatment Medicaid recipients by some of the front line staff members in certain doctors' offices are also barriers to accessing health care in the Bootheel area. In regards to the affordability of healthcare, participants said that health care was not affordable in Missouri because some clients could not afford to pay their Medicaid spend down. Other participants commented that some doctors overcharged for medical procedures and also stated that if they had a prior medical bill, some doctors or clinics would not see them. When these circumstances occurred, participants felt as though health care was unaffordable. In terms of the quality of care received, some participants felt that the care they received was substandard. Other participants stated that (quality) health care was present if the client had the money (to pay for it). Participants also said that only some areas in the Bootheel received mobile health care services. As a result, participants felt as if quality health care was provided in some communities and not in others. Moreover, participants commented that sometimes they were prescribed incorrect medications or were not able to get their prescriptions filled on the weekend and consequently, they did not feel that their needs had been met. Participants also stated that sometimes their needs were met and at other times, they were not given current information by health care organizations regarding where to receive treatment for certain medical services. In regards to their interactions with a doctor, nurse, or other staff member from a different ethnic background than themselves, participants said that sometimes they could not understand the terminology used by doctors from another country. Participants also mentioned that African-American clients needed to (be more assertive) in asking doctors who were of a different ethnic background than their own questions about their medical condition. Participants stated that heart disease, stroke, and a lack of education about how to read food labels were health disparities specific to the Bootheel area.



### Central Minority Health Alliance Region (Columbia, Missouri)

This focus group was held at the health department in Columbia, during April 2008. The group was comprised of two white males, two white females, one Hispanic male, two African-American females and one African-American male. One of the persons who participated in the focus group was a masters student in public health; another person was a member of an organization that provided support services to members of the Hispanic community in Columbia and the other individuals were employees of the Boone County Health Department.

Participants stated that some of the barriers to health care access in the Columbia area were fear of deportation for illegal immigrants, a lack of money to pay for health insurance and a fear among clients that their health information will not be kept confidential. Participants also said that some of the main barriers to health care access for the Hispanic population were the language barrier, lack of health insurance and lack of transportation. In relation to the affordability of health care, participants mentioned that health care was unaffordable because deductibles were too high and some clients could not afford to pay their Medicaid spend down. In terms of the quality of health care some participants stated that the quality was good; others said that the individual determined the quality of health care received. Some of the participants felt that a lack of assistance in obtaining vision and dental care impacted the quality of health care received in Missouri. In terms of their needs being met by the doctor, or while in the pharmacy, emergency room or clinic, participants commented that the long waiting time in the emergency room, the lack of communication between the emergency room and another health care provider affected their needs being met. Only one person in the focus group said that they had good experiences and felt as if their needs were met. In terms of their interactions with a doctor, nurse or staff member of a different ethnicity than themselves, participants said that cultural differences do exist and depended on which country the health care provider was from, if they had an accent and if they could understand the language used by the health care provider. Participants felt that heart disease, HIV/AIDS, sexually transmitted diseases, teen pregnancy, obesity, diabetes, family planning services for the Latino population and limited access for the underinsured were specific health disparities observed in the Columbia area.

### Focus group held in Boonville, Missouri

This focus group was held at a community center in Boonville, in February 2008. It was comprised of one African American female, two African American males and one white male. The age of the participants ranged from twenty-five to seventy-five years old. Two of the individuals worked in the field of public health, one was a resident of Boonville, and the other was a resident of Columbia.

Participants stated that the barriers to health care access in Missouri were lack of transportation, the cost of health insurance, the age of the person accessing medical care, fear of going to the doctor and the client's lack of trust in the health care provider. In relation to the affordability of health care, participants stated that health care insurance was affordable if one had access to a public health clinic and their services were based on a sliding scale fee. Participants also commented that health care insurance was affordable if one was married and had two incomes. However, participants felt that health care insurance was not affordable if one's socioeconomic status was above the poverty line, but not quite in the middle class category. In regards to the quality of care received, some of the participants felt that it was great. Other participants felt that the quality of care received was impacted by the doctors' willingness to establish a rapport with the patient and explain things to them. Overall, the participants agreed that their needs were met when they went to the doctor or while at the pharmacy, emergency room or clinic. Participants commented that their interactions with a doctor, nurse or other staff member of a different ethnicity than themselves were determined by their attitude toward the health care provider and the health care provider's cultural sensitivity to them. In terms of health disparities, participants stated that cancer, clients' inability to understand the information on the back of prescription bottles, the cost of insurance and the lack of transportation were some of the most prevalent health disparities in the state of Missouri.



### A General Comparison of Urban and Rural Focus Group Responses

Distinctive concerns were noticeable in the responses from urban areas in comparison to rural areas. In urban areas such as St. Louis, Kansas City and Columbia, the most common barriers to health care access were a lack of knowledge regarding the availability of health care services, a lack of money to purchase health insurance or pay the co-payments that accompany health insurance premiums. Some of the additional barriers to health care access for members of the Hispanic, Vietnamese and Bosnian communities were the lack of health literacy training provided to them and the lack of medical translators available in some health care organizations. Most of the participants from St. Louis, Kansas City and Columbia felt that health care was not affordable. Participants who lived in these urban areas stated that the quality of health care was determined by the interaction between health care providers and their clients. Participants in the St. Louis, Kansas City and Columbia areas stated that their perception of the health care provider's attitude toward them and their ability to ask appropriate questions determined if their needs would be met. Also, in these urban areas, their interactions with a doctor, nurse or other staff member from a different ethnicity than themselves was good for some participants, for others, it was difficult due to past negative experiences or because they felt intimidated after having to repeatedly explain their situation to the health care provider. Most of the participants in these areas felt that mental health, heart disease, and stroke were some of the most prevalent health disparities in these areas. Participants also agreed that obesity, diabetes, HIV/AIDS, sexually transmitted diseases and unequal access to health care services were also significant health disparities.

However, in rural non-metropolitan areas such as Boonville, Moberly and Sikeston, some of the main barriers to health care access were a lack of health insurance, a lack of knowledge regarding the services that Medicaid covers and a small number of health care providers that would accept Medicaid insurance. In relation to the affordability of health care, participants stated that the client's inability to pay a sliding scale fee at a public health clinic, purchase health insurance or pay their Medicaid spend down prevented them from being able to afford to pay for health care services in their regions. In regards to the quality of health care received, participants in these regions commented that the quality of health care received was determined by the health care provider's willingness to form a relationship with the client and the client's ability to pay for the medical services provided. In terms of their needs being met by the doctor, or while at the pharmacy, emergency room, or clinic, participants said that for the most part their needs were met. However, they also stated that their needs were not met because some health care providers in their region did not specialize in treating diseases that were relevant to certain minority populations. In terms of their interactions with a doctor, nurse or other staff member who was of a different ethnicity than themselves, participants felt that this was determined by the attitude of the health care provider and their ability to answer questions asked by their clients. Participants commented that a lack of transportation, the cost of health insurance, the health literacy level of clients and a lack of information regarding the availability of health care services were widespread health disparities in their regions.

## Summary of Recommendations from Health Disparity Result Meetings

After the Missouri Office of Minority Health conducted focus groups in the six Minority Health Alliance regions, meetings were held in Columbia, St. Louis and Kansas City, to discuss the focus group results and some of the findings from the Health Disparity document. Participants who attended the meetings in these three cities listened to a presentation that was given on Health Disparities in the state of Missouri. This presentation provided participants with statistical information on the prevalence of chronic illnesses as they relate to whites and African Americans in the state of Missouri. It also provided participants with a summary of the findings from the focus groups. After participants viewed the presentation, they were given instructions to separate into small groups and review the focus group findings. Shortly thereafter, participants were asked to brainstorm and develop three to five recommendations based on their review of the focus group responses mentioned in the Health Disparity presentation. These recommendations are not for the Missouri Department of Health and Senior Services to implement, but are recommendations that participants felt would help to reduce the occurrence of health disparities in the state of Missouri.



Participants suggested that in order to improve access to health care services for minority populations, free mobile health programs and transportation services should assist those who do not have reliable transportation to their medical appointments. Participants also stated that some health care organizations could establish collaborations with school-based dental clinics to improve access to dental care for minority populations in the state of Missouri. In order to increase awareness about health information in minority communities, participants suggested utilizing health education workers to disseminate information about health care resources and programs. Furthermore, to decrease the cost of medical services, participants suggested implementing a program that would provide funding to assist with co-payments and dental services for clients who could not afford to pay for them.

Participants felt that cultural competency trainings for health care providers, front line staff and clients would help to decrease misperceptions about various racial and ethnic minorities. They also stated that they believed health literacy and communication skill trainings would help to improve customer service within health care organizations and interaction between health care providers and clients. Moreover, to increase diversity within health care organizations, participants also suggested that minorities be included on administrative boards.

## STRATEGIES FOR REDUCING DISPARITIES

There is a growing body of information in the literature about practices and strategies that have accumulated sufficient evidence that they promote health and/or reduce behavioral risk behaviors and conditions. These interventions and strategies have been determined to be Best Practices. Although there is no one agreed upon definition, for the purpose of this report, activities and strategies showing positive outcomes and would benefit from additional research but have insufficient current evidence to support general dissemination, are considered Promising Practices.

The Guide to Community Preventive Services is led by the Task Force on Community Preventive Services and is supported by the CDC within the Epidemiology Program.<sup>27</sup> The Task Force conducts independent, systematic reviews of population-based interventions to change risk behaviors, address environmental issues, and reduce the burden of disease, injury, and impairment. Interventions that are found to be effective are recommended for use and research is encouraged on others with insufficient evidence. The information contained in the Guide to Community Preventive Services can aid in programming planning, promote the use of effective interventions, and inform broad-based health policies.

The current topics included in the Community Guide are:

- Alcohol
- Cancer
- Diabetes
- Mental Health
- Motor Vehicle Occupant Injury
- Nutrition
- Obesity
- Oral Health
- Physical Activity
- Pregnancy
- Sexual Behavior
- Social Environment
- Substance Abuse
- Tobacco
- Vaccine Preventable Diseases
- Violence Prevention

For health priority issues not yet included in the Community Guide, extensive literature reviews may be completed and guidance obtained from content experts and other available documentation on the effectiveness of interventions to address the selected topic. In addition, the U.S. Department of Health and Human Services and the federal Office of Minority Health have developed fourteen standards to help lessen the occurrence of health disparities in health care organizations<sup>28</sup> (Appendix 2). Additional resources on health and health disparities include:

NACCHO Exchange: Health Equity and Social Justice (Winter 2008),  
[http://www.naccho.org/pubs/product1.cfm?Product\\_ID=210](http://www.naccho.org/pubs/product1.cfm?Product_ID=210)

A Strategic Framework for Improving Racial/Ethnic Minority Health and Eliminating Racial/Ethnic Health Disparities, National Partnership for Action,  
<http://www.omhrc.gov/npa/templates/content.aspx?ID=78&lvl=1&lvlID=13>

U.S. Department of Health and Human Services, Office of Minority Health, <http://www.omhrc.gov/>

U.S. Department of Health and Human Services, Agency for Health Care Research and Quality. (2006). *National Healthcare Disparities Report*. Retrieved April 14, 2008, from <http://www.ahrq.gov/qual/nhdr06/nhdr06.htm>

## CONCLUSION

Health and health care disparities continue to negatively impact minority communities, resulting in the increased risk of illness, injury and death. Currently, state health statistics indicate that minority populations are disproportionately plagued with conditions such as heart disease, cancer, diabetes, HIV/AIDS and many others. Wellness for all citizens of this state is compromised when disparities such as these exist.

This report has highlighted some of the disparate health issues facing African Americans in Missouri using the interactive data system, Priority MICA. While this system has provided insight into the disease and condition as well as risk factor priorities among African Americans, it would be beneficial to update and expand the system's data, particularly as it relates to risk factors for adolescents. Nevertheless, disparities result from interactions among genetics, environmental factors and specific health behaviors; focusing on individual and public health prevention, early detection and health care indicators may result in a dramatic improvement in the health of minority population groups in Missouri.

To address the disproportionate health conditions of minority populations in Missouri, the Missouri Department of Health and Senior Services will continue to develop initiatives and partnerships to lessen the occurrence of health disparities in the state. The purpose this document is to increase awareness about health disparities. It also serves as a foundation in which multiple volumes will be developed to further identify research-based interventions and strategies that will reduce the occurrence of health inequities in Missouri.



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# APPENDICES

These regional analyses are based on the Missouri Minority Health Alliance regions.

## Appendix 1

**Table 1. Infant-Mortality Rates in Missouri, 1996-2006**

Region	Mortality Rate <sup>1</sup> Per 100,000	
	White	Black/African American
Northwest Region	5.9	13.9
Southwest Region	6.8	11.9
Central Region	6.3	16.7
Northeast Region	7.1	18.1
Eastern Region	5.4	16.4
Southeast region	8.0	25.7
State	8.0	16.0

Note: <sup>1</sup>Age-adjusted rate using the 2000 U.S. Standard Population

**Table 2. Prevalence of Selected Chronic Diseases and Behavioral Risk Factors in Missouri, 2006-2007<sup>1</sup>**

Disease/Risk factors	State/Region	Prevalence (%)	
		White	African American
Diabetes	Northwest Region	8.0	8.3
	Eastern Region	6.8	9.5
	State	7.4	9.8
Asthma	Northwest Region	7.7	10.8
	Eastern Region	7.6	9.7
	State	8.2	11.0
Obesity	Northwest Region	29.2	37.0
	Eastern Region	24.2	36.2
	State	28.8	38.0
Smoking	Northwest Region	20.3	26.2
	Eastern Region	19.4	29.0
	State	22.9	27.6

Note: <sup>1</sup> Data from the St. Louis Metro Behavioral Risk Factors Surveillance System (BRFSS) Region were used for the Eastern Region.



**Table 3. Asthma-related Emergency Room (ER) Visit Rates in Missouri, 2005-2006**

Disease/Risk Factor	Region	ER Rate <sup>1</sup> Per 1,000	
		White	Black/African American
Asthma	Northwest Region	3.2	14.7
	Southwest Region	4.2	9.2
	Central Region	3.4	9.8
	Northeast Region	2.8	8.4
	Eastern Region	2.9	17.1
	Southeast region	3.1	12.5
	State	3.3	15.5

Note: <sup>1</sup>Age-adjusted rate using the 2000 U.S. Standard Population

**Table 4. Hospitalization Rates of Selected Chronic Diseases in Missouri, 2002-2006**

Disease/Risk Factor	Region	Hospitalization Rate <sup>1</sup> Per 10,000	
		White	Black/African American
Heart Diseases	Northwest Region	156.6	199.4
	Southwest Region	147.1	167.9
	Central Region	185.2	200.7
	Northeast Region	168.3	179.5
	Eastern Region	156.9	227.8
	Southeast region	201.3	302.8
	State	163.6	222.4
Cancer	Northwest Region	38.6	43.5
	Southwest Region	39.3	42.6
	Central Region	40.4	41.5
	Northeast Region	38.3	43.6
	Eastern Region	42.1	56.9
	Southeast region	44.1	51.1
	State	40.6	52.4

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**Table 4. Hospitalization Rates of Selected Chronic Diseases in Missouri, 2002-2006 continued**

Disease/Risk Factor	Region	Hospitalization Rate <sup>1</sup> Per 10,000	
		White	Black/African American
Stroke	Northwest Region	31.4	42.3
	Southwest Region	30.9	38.7
	Central Region	32.0	45.6
	Northeast Region	34.5	37.8
	Eastern Region	29.4	48.4
	Southeast region	35.4	57.6
	State	31.0	47.3
Diabetes	Northwest Region	14.7	44.0
	Southwest Region	13.5	26.7
	Central Region	13.4	42.5
	Northeast Region	14.0	37.2
	Eastern Region	12.8	45.4
	Southeast region	17.6	65.2
	State	14.0	45.2
Kidney Renal Failure	Northwest Region	36.9	46.1
	Southwest Region	31.1	36.3
	Central Region	33.7	41.4
	Northeast Region	41.3	42.7
	Eastern Region	36.7	64.8
	Southeast region	46.7	67.7
	State	36.2	59.0

Note: <sup>1</sup>Age-adjusted rate using the 2000 U.S. Standard Population

**Table 5. Death Rates of Selected Chronic Diseases in Missouri, 1996-2006**

Disease/Risk Factor	Region	Death Rate <sup>1</sup> Per 100,000	
		White	Black/African American
Heart Diseases	Northwest Region	259.4	283.6
	Southwest Region	273.1	323.1
	Central Region	271.6	322.2
	Northeast Region	302.3	371.1
	Eastern Region	275.0	342.6
	Southeast region	316.7	458.4
	State	266.4	340.7
Cancer	Northwest Region	198.7	252.5
	Southwest Region	205.4	317.8
	Central Region	203.2	263.3
	Northeast Region	208.7	317.4
	Eastern Region	197.1	262.9
	Southeast region	222.8	258.6
	State	199.9	265.9
Stroke	Northwest Region	58.9	70.7
	Southwest Region	65.4	83.8
	Central Region	60.6	80.4
	Northeast Region	67.8	83.3
	Eastern Region	57.0	69.4
	Southeast region	68.2	102.2
	State	58.7	74.1

Note: <sup>1</sup>Age-adjusted rate using the 2000 U.S. Standard Population

## Appendix 2

### Standards to Lessen the Occurrence of Health Disparities

#### Guidelines that address Culturally Competent Care

##### Standard 1

Health care organizations should ensure that patients/consumers receive from all staff members effective, understandable, and respectful care that is provided in a manner compatible with their cultural health beliefs and practices and preferred language.

##### Standard 2

Health care organizations should implement strategies to recruit, retain, and promote at all levels of the organization a diverse staff and leadership that are representative of the demographic characteristics of the service area.

##### Standard 3

Health care organizations should ensure that staff at all levels and across all disciplines receive ongoing education and training in culturally and linguistically appropriate service delivery.

#### Mandates that address Language Access Services

##### Standard 4

Health care organizations must offer and provide language assistance services, including bilingual staff and interpreter services, at no cost to each patient/consumer with limited English proficiency at all points of contact, in a timely manner during all hours of operation.

##### Standard 5

Health care organizations must provide to patients/consumers in their preferred language both verbal offers and written notices informing them of their right to receive language assistance services.

##### Standard 6

Health care organizations must assure the competence of language assistance provided to limited English proficient patients/consumers by interpreters and bilingual staff. Family and friends should not be used to provide interpretation services (except on request by the patient/consumer).

##### Standard 7

Health care organizations must make available easily understood patient-related materials and post signage in the languages of the commonly encountered groups and/or groups represented in the service area.

#### Standards that Address Organizational Supports for Cultural Competence

##### Standard 8

Health care organizations should develop, implement, and promote a written strategic plan that outlines clear goals, policies, operational plans, and management accountability/oversight mechanisms to provide culturally and linguistically appropriate services.

**Standard 9**

Health care organizations should conduct initial and ongoing organizational self-assessments of CLAS-related activities and are encouraged to integrate cultural and linguistic competence-related measures into their internal audits, performance improvement programs, patient satisfaction assessments, and outcomes-based evaluations.

**Standard 10**

Health care organizations should ensure that data on the individual patient's/consumer's race, ethnicity, and spoken and written language are collected in health records, integrated into the organization's management information systems, and periodically updated.

**Standard 11**

Health care organizations should maintain a current demographic, cultural, and epidemiological profile of the community as well as a needs assessment to accurately plan for and implement services that respond to the cultural and linguistic characteristics of the service area.

**Standard 12**

Health care organizations should develop participatory, collaborative partnerships with communities and utilize a variety of formal and informal mechanisms to facilitate community and patient/consumer involvement in designing and implementing CLAS-related activities.

**Standard 13**

Health care organizations should ensure that conflict and grievance resolution processes are culturally and linguistically sensitive and capable of identifying, preventing, and resolving cross-cultural conflicts or complaints by patients/consumers.

**Standard 14**

Health care organizations are encouraged to regularly make available to the public information about their progress and successful innovations in implementing the CLAS standards and to provide public notice in their communities about the availability of this information. (Retrieved on November 7, 2007 at <http://www.hhs.state.ne.us/minorityhealth/docs/CLASBrochure.pdf>)

## Appendix 3

# Missouri Office of Minority Health Addressing Health Disparities in Missouri

### Vision Statement

The vision of the Office of Minority Health is that Missouri will become a state where diversity is valued and all residents live healthy productive lives free of health, economic and cultural disparities.

### Mission Statement

The mission of the Missouri Office of Minority Health, through leadership and community involvement, is to identify health and aging issues; assist in departmental policy development; and recommend strategies to eliminate disparities in all of Missouri's minority communities.

### Responsibilities of the Missouri Office of Minority Health

- Monitors programs in the Department of Health and Senior Services for their impact on eliminating the disparities in health status that exist among African American, Hispanic American, American Indian and Asian American populations.
- Advises the Director of the Department of Health and Senior Services on health matters affecting minorities.
- Provides health information, data, staff, and resources to the Missouri Department of Health and Senior Services and the Minority Health Advisory Committee.
- Participates in the design and implementation of cultural sensitivity and awareness programs.
- Ensures that all programs are responsive to the unique needs of people of color.
- Assist in the design of programs targeted specifically toward improving the health status of people of color.
- Coordinates the development of educational programs designed to reduce the incidence of disease in the minority populations.
- Addresses new issues related to minority health.
- Promotes the development of community coalitions and resources.
- Develops culturally sensitive health education materials and programs.
- Establishes interagency communications.
- Analyzes federal and state legislation for its impact on the health status of minorities.

### The Office of Minority Health Supports

- Six Regional Minority Health Alliances.
- Community-based activities.
- Senior services outreach.
- Education and capacity building seminars.
- Faith-based initiatives.
- Technical and advisory assistance related to minority health issues.

The Office of Minority Health is currently focusing on three major health initiatives:

- Obesity Prevention.
- Prevention of HIV/AIDS in the African American Community.
- Infant Mortality Reduction.

#### Outcomes for the Missouri Office of Minority Health

- Increased involvement of minorities in identifying and implementing strategies to address their health needs.
- An established communication network on minority health issues between the Missouri Office of Minority Health and community health organizations in Missouri.
- Consistent communication between the Minority Health Advisory Committee and the Missouri Department of Health and Senior Services.
- Effective analysis of federal and state legislation for its impact on the health status of minorities.
- Increased awareness about the existence and implications of health disparities within the Missouri Department of Health and Senior Services.
- A greater number of staff within the Missouri Department of Health and Senior Services become committed to the reduction of health disparities.
- A greater number of minorities working in the area of policy development to reduce health disparities.
- Increased funding provided to minority community-based health organizations for the reduction of health disparities.



## Appendix 4

### 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, hospitalization, or other types of health event 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 (NCHS) recommends that the U.S. 2000 standard population be used when calculating age-adjusted rates. We have followed the NCHS recommendation in the preparations for this report. 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.*

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*, Feb 2000, Vol. 33 No. 12.

Age-adjusted rates published elsewhere (e.g., in the annual *Missouri Vital Statistics*) may be slightly different from those found in this report 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; and the age-adjusted rates for injury hospitalizations are per 100,000 population. However, the age-adjusted rates for emergency department visits are per 1,000 population.

#### Age-Specific Rates

Rates computed by dividing the number of events (e.g., deaths) in any age group in the area or state by the estimated population of the same age group in the area or the state and then multiplying by 100,000 or the appropriate multiplier.

#### Amenability to Change

This criterion measures the scientific knowledge of known community interventions that have been shown to prevent or reduce a given disease.

1. Interventions not evaluated in the literature for outcomes or published evaluations show inconsistent or negative results.
2. Published evaluations of outcomes of interventions show positive results (i.e., promising practice).
3. Interventions recommended by a federal agency on a federal agency best practice list.
4. Interventions recommended by Community Preventive Services Task Force (CPSTF).

### **Behavioral Risk Factor Surveillance System**

BRFSS data are collected through random-digit-dialed (RDD) monthly telephone interviews with non-institutionalized, civilian, adults (18 years of age and older) using standardized protocols and interviewing techniques. BRFSS is the world's largest, on-going telephone health survey system that is conducted annually by all 50 state health departments as well as those in the District of Columbia, Puerto Rico, Guam and the U.S. Virgin Islands with support and technical assistance from the Centers for Disease Control and Prevention (CDC). All states use the same standard core questionnaire, but states may include optional modules and add state-specific questions to the survey to address their needs. The data in this report are representative of individuals with landlines telephones.

### **Community Support**

This is a subjective measure of the current level of support in the community to address the disease/risk factor determined by the user or community group. The highest level of community support for each disease is given a score of 4 and the lowest level of support (i.e., active opposition) is given a score of 1.

1. Active community opposition
2. No groups/persons showing interest
3. Some interest groups/persons showing interest but not organized
4. Community coalition organized or support by elected official(s) or private business

### **Death Trend Statistically Significant**

This is a measure of the urgency of the disease. If the number of deaths is increasing over time, it is a more urgent disease than one for which the death rate is decreasing. The measure used is the coefficient of the slope of the regression line for the time period. If the regression coefficient is not significantly different from 0 (the regression line is parallel to the x axis), then the trend is not significantly increasing or decreasing. All diseases that have a non-significant slope coefficient are set at 0 since it is not meaningful to rank diseases where the slope coefficients are statistically the same.

### **Disability Burden**

The disability burden for each disease is measured by the number of years lived with disability taken from Revised Global Burden of Disease 2002 Estimates. Estimates are from reports for WHO sub-regions for 2002 as reported in the World Health Report 2004. Tables are taken from GBD 2002: YLDs ('000) by age, sex, and cause for the year 2000 Region 3: AMRO A. Numbers are divided by an additional 1,000.

### **Hospital Days of Care**

“Hospital days of care” is another measure of the severity of a disease and its potential impact on financial resources due to the cost of hospital care and productivity loss. The hospital days of care data are obtained from the patient abstract data system (PAS).

### **Missouri Information for Community Assessment (MICA)**

MICA is an interactive, web-based system that provides chronic disease and other information from multiple data systems to make health data accessible at the community-level. MICA allows users to produce summary statistics, including age-adjusted rates from 30 different data files including BRFSS, birth and death certificates, hospitalizations, and ER visits. Tables can be generated by year, age, gender, race, county, and Zip code of residence. These data represent Missouri residents.

### **Mortality**

Mortality data are primarily from Missouri death certificates filed with the Missouri Department of Health and Senior Services. “Cause of death” refers to the underlying cause of death which is defined as the disease or injury that initiated the chain of events leading directly to the death. The *International Statistical Classification of Diseases and Related Health Problems*, 10<sup>th</sup> Revision (ICD-10) was used to define cause of

death from 1999 to present. For 1995-1998, ICD-9 was used. All mortality rates were age-adjusted using the United States 2000 population as the standard and are generally expressed per 100,000.

### **Mother Overweight**

Women equal to or greater than 20% over the desired weight for height.

### **Number of Deaths**

The number of deaths is a measure of the severity of the disease.

### **Number of Deaths Under Age 65**

The number of deaths under age 65 is a measure of the severity of a disease.

### **Number of Hospitalizations and ER Visits**

The number of hospitalizations and ER visits is used to measure the magnitude of the disease. For most diseases, data are not available on incidence or prevalence; therefore, hospitalization and ER data are used instead. The data come from acute care hospitals and hospitals operated by the Missouri Department of Mental Health.

### **Obesity**

Data from BRFSS, Body Mass Index ( $\geq 30$  BMI) Derived by calculating BMI using responses to the following questions: About how much do you weigh without shoes? About how tall are you without shoes?

Body mass index (BMI) is an indicator of body fat and is calculated as weight in kilograms divided by height in meters squared ( $\text{kg}/\text{m}^2$ ). Weight in pounds (lbs) is converted to weight in kilograms (kg) using 0.45 kg/lb. Height in feet and inches is first converted to height in inches (in), then height in centimeters (cm) using 2.54 cm/in, then to meters by dividing by 100.

### **Patient Abstract System**

The Patient Abstract System was implemented in 1993, following the enactment of 192.665–192.667, RSMo. It includes outpatient and inpatient data as well as data from ambulatory surgical centers (since 1994). The data include emergency room patients, observation patients, and patients receiving invasive procedures on an outpatient basis, as well as patients receiving certain specified diagnostic procedures. The hospitalization data are based primarily on inpatient hospital stays in Missouri. Hospitalization and ER data represent encounters, not individuals. Those seen in the ER that are subsequently admitted to the hospital are excluded from the ER data and captured in the inpatient data. The primary diagnosis listed in the patient's medical record is used for categorizing hospitalizations and ER visits. The data are maintained by the Missouri Department of Health and Senior Services.

### **Population**

The number of residents in a geographic area.

### **Prevalence/Incidence**

Prevalence is the number of people who have a condition at a specific point in time. Incidence is the number of new people who get the condition during a specified time period. The Behavioral Risk Factor Surveillance System (BRFSS) is used to obtain the prevalence of high cholesterol, obesity, smoking, high blood pressure, no cervical cancer screening, no exercise, no health insurance for ER visits and no mammography. Incidence data is drawn from birth certificate data for low birth weight, mother overweight, prenatal care inadequate, very low birth weight not delivered in level III center, mother under weight, out-of-wedlock births, repeated births under age 18, smoking during pregnancy and very low birth weight. Other data files include pregnancy, abortion and child abuse/neglect from the Department of Social Services, Division of Family Services for teenage pregnancy under age 18, abortions and child abuse and neglect.

### **Prevalence/Incidence Trend**

This is a measure of the urgency of the risk factor. If the prevalence/incidence is increasing over time, it is a more urgent risk factor than one for which the prevalence/incidence is decreasing. The measure used is the coefficient of the slope of the regression line for the time period. If the regression coefficient is not significantly different from 0 (the regression line is parallel to the x axis), then the trend is not significantly increasing or decreasing. All risk factors that have a non-significant slope coefficient are set at 0 since it is not meaningful to rank risk factor where the slope coefficients are statistically the same.

### **Priority MICA Documentation**

The purpose of the Priority MICA is to provide a structured process to determine the priority health needs of a community. The Priority MICA allows a user to prioritize from a list of diseases or risk factors available in the application. The model expanded on previously developed priority setting models by reflecting various dimensions of health issues (e.g., magnitude of the problem, severity, urgency, etc.) The Priority MICA provides an objective method for establishing priorities. While an objective methodology provides a rational basis for priority setting one should not assume that a purely objective process is always the preferred approach. There can be situations in which other non-objective criteria are important to the priority setting process. A community should not ignore other criteria of community importance not included in the Priority MICA. The Priority MICA is meant only as a tool. It should be used along with other information that is available in a community. There may be other diseases/risk factors that are important to a community that are not part of the Priority MICA. The fact that a disease/risk factor is not in the Priority MICA does not mean a community should ignore the disease/factor. The data sources are Death Certificates, Emergency Room Visits, Hospital Discharges, Behavioral Risk Factor Surveillance System (BRFSS), Birth Certificates, Abortions, Pregnancies and Child Abuse/Neglect. We only used data sources that are available for all diseases or risk factors.

### **Racial Disparity for ER Visits**

Because racial disparity data are not routinely available on the incidence or prevalence of diseases, ER visits are used as a proxy to determine racial disparities. ER data were selected over hospital discharge data because there may be barriers for inpatient care due to the lack of insurance. These barriers are not as much of a factor for care in an emergency room. The primary minority population in Missouri is African-American; therefore, the measure is computed as the ratio of the African-American age-adjusted ER visit rate for a specific disease divided by the White age-adjusted ER visit rate for the same disease.

### **Racial Disparity for Deaths**

This is a second measure of racial disparity. The measure is computed as the ratio of the African-American age-adjusted death rate for a specific disease divided by the White age-adjusted death rate for the same disease.

### **Resident**

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



