Mississippi
State Department of Health

Bolivar County

2007 Health Profiles

Mississippi
State Department of Health

570 E Woodrow Wilson
Jackson, MS 39216

Ph: (601) 576-7400
www.HealthyMS.com

Bolivar County

2007 Health Profiles

Prepared by:
Mississippi State Department of Health
Office of Health Data and Research
570 E. Woodrow Wilson
Jackson, MS 39216
Ph: (601) 576-8165

Acknowledgements

Lei Zhang, PhD, MBA
Office Director, Office of Health Data and Research

Sandra C. Hayes, MPH
Epidemiologist, Office of Health Data and Research

Lynn Kopp
Operations Management Analyst, Principal
Office of Health Data and Research

Claudia Dvorak, MLS, MBA
Office of Communications

Special Acknowledgements to the
Office of Health Data and Research Staff

Table of Contents

State and County Demographics

Population Trends and Projections 1
Gender Distribution 3
Racial Distribution 4
Age Distribution 5
Income and Poverty 6
Workforce 7
Projections for Population 65 Years and Older 8
County Health Care Delivery 9
Hospital Beds, Specialized Care Beds, and Long Term Care Beds 10

Maternal and Child Health Indicators

Pregnancy, Infancy, and Infant Mortality 11
Births to Unmarried Mothers 13
Births to Teenage Mothers 14
Low Birth Weight Newborns 16
Infant Mortality 17

Illness, Injury, and Death

Chronic Disease 18
West Nile Virus 19
Causes of Death 20
Accidental Deaths 23

County Health Services

Immunizations 25
Children with Complete Immunization at Age 2 Years 26
Women and Children Served 27
Public Water Supply 29

References **30**

List of Figures

Figure

1 Population Trends and Projections, County, 2000 – 2020 1
2 Population Trends and Projections, Mississippi, 2000 – 2020 2
3 Gender Distribution, County, 2007 3
4 Gender Distribution, Mississippi, 2007 3
5 Racial Distribution, County, 2007 4
6 Racial Distribution, Mississippi, 2007 4
7 Age Distribution, County, 2007 5
8 Population Living in Poverty, County and Mississippi, 2005 6
9 Unemployment, County and Mississippi, 2007 7
10 Projections for Population 65 Years and Older, County, 2015 – 2025 8
11 Health Care Providers, County, 2007 9
12 Licensed Beds, County, 2005 10
13 Rate of Live Births by Race, County and Mississippi, 2007 11
14 Frequency of Live Births by Race, County and Mississippi, 2007 12
15 Total Live Births to Unmarried Mothers, County, 2007 13
16 Total Live Births to Unmarried Mothers, Mississippi, 2007 13
17 Teen Pregnancy – Ages 15-19 Years, County and Mississippi, 2007 14
18 Live Births to Teens, County, 2007 15
19 Low Birth Weight Newborns, County, 2007 16
20 Prevalence of Selected Chronic Disease, Mississippi, 2006 – 2007 18
21 West Nile Virus – Human Cases and Mortality, County 2007 19
22 West Nile Virus – Human Cases and Mortality, Mississippi 2007 19
23 Causes of Death – All Races, Mississippi, 2007 20
24 Causes of Death – All Races, County, 2007 21
25 Causes of Death – Nonwhite, County, 2007 22
26 Causes of Death – White, County, 2007 22
27 Accidental Deaths, County, 2007 23
28 Accidental Deaths, Mississippi, 2007 24
29 Immunizations by Age Group, County, 2007 25
30 Children with Complete Immunization at Age 2 Years, Mississippi, 2007 26
31 WIC – Women and Children Served, County, 2007 27
32 County Health Services, County, 2007 28
33 Maximum Contaminants Level – Public Water Systems with Total Coliform Rule Violations, County and Mississippi, 2007 29

List of Tables

Table

1 Number of Infant Deaths, County, 1998 – 2007 17

Introduction

The mission of the Mississippi State Department of Health is to promote and protect the health of the citizens of Mississippi. The Mississippi State Department of Health strives for excellence in the governance of public health, cultural competence in carrying out its mission, and to seek local solutions to local problems.

This report is intended to be a tool to assist in the planning for new health programs throughout the state of Mississippi, as well as to be used as a means to inform the general public of each county's health status. Taking into account that there are many factors that influence health status, such as sex, race, age, and socioeconomic status, the report will start with county demographics and show how the county compares with the state as a whole.

For most of the charts, a basis for comparison is provided for the county and the state. There are also some graphs that show trends of change over a selected period of time. In addition, several charts have detailed descriptions concerning the health factor indicated.

For many of the health factors reported in these county profiles, the rates for nonwhites are higher than for whites. Public health practitioners can work to reduce the disparities between whites and nonwhites by providing preventive, medical, and educational services.

Mississippi faces numerous challenges in regard to the state of its health. According to the book, *America's Health: State Health Rankings-2007 Edition*, Mississippi ranked 50th out of 50 for overall health status. This is a major concern and informational and program development tools such as the County Health Profiles are provided to assist in a statewide effort to improve Mississippi's health status.

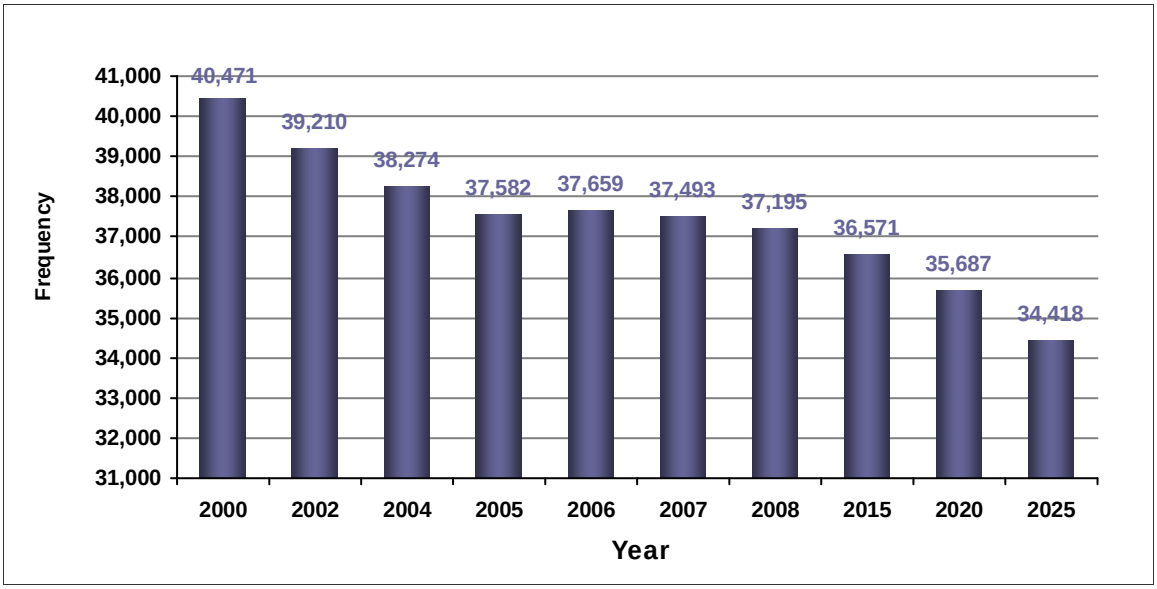
State and County Demographics

To describe and understand the pattern of health and disease in a population, knowledge of the size, structure, and growth of the population is needed. The United States takes a census of the population every 10 years at the turn of the decade. The last census taken was in the year 2000. Population numbers for every year thereafter, until a new census is taken, are estimates and projections by the United States Census Bureau.

Additionally, race, gender, age, unemployment rate, and income levels are important factors to be considered when describing health status. These factors provide information that help identify vulnerable populations, such as the elderly, young, and women in the reproductive period, in terms of the burden of illness. The primary source of data on population characteristics is the United States Census (1).

Population Trends and Projections

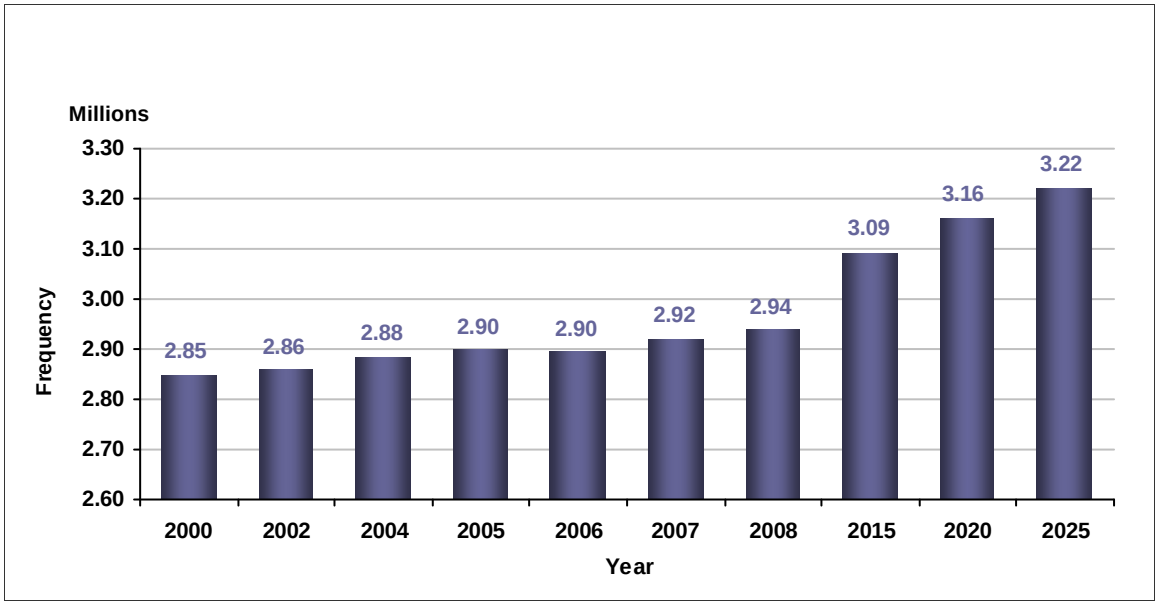
Figure 1. Population Trends and Projections, Bolivar County, 2000 - 2025



Source: Population Division, U.S. Census Bureau, 2000 - 2008 Estimates; Mississippi Institutes of Higher Learning, 2010 - 2025 Projections

From the year 2000 to 2025, the population estimates and projections for Bolivar County show an overall decrease.

Figure 2. Population Trends and Projections, Mississippi, 2000 - 2025

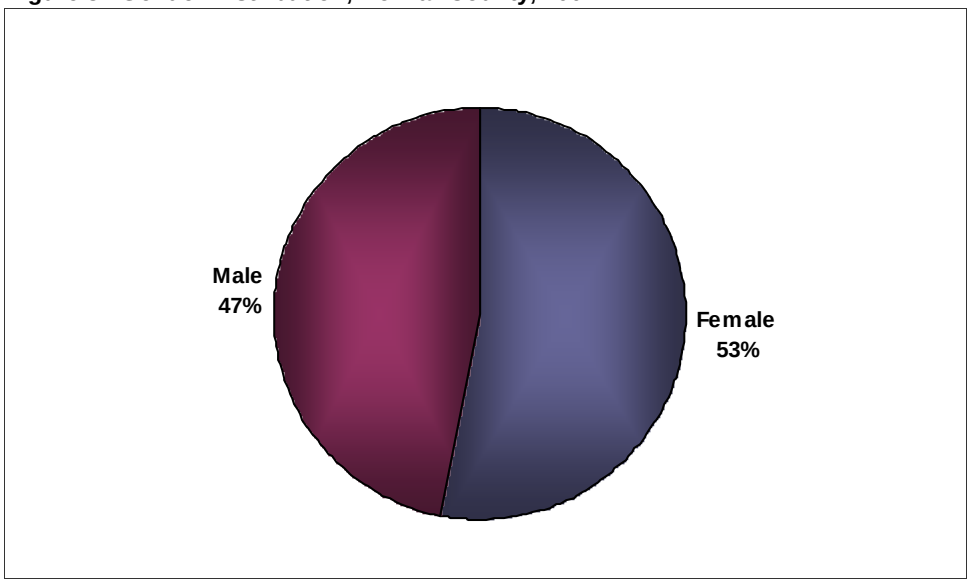


Source: Population Division, U.S. Census Bureau, 2000 - 2008 Estimates; Mississippi Institutes of Higher Learning, 2010 - 2025 Projections

The population trend for the state is expected to continue to climb.

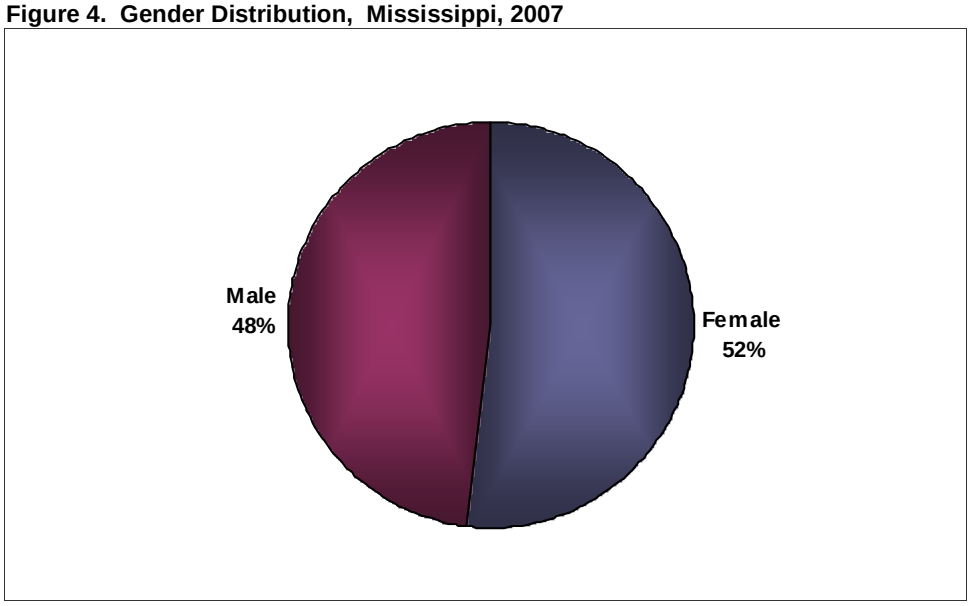
Gender Distribution

Figure 3. Gender Distribution, Bolivar County, 2007



Source: U.S. Census Bureau, 2007 Estimates

Figure 4. Gender Distribution, Mississippi, 2007

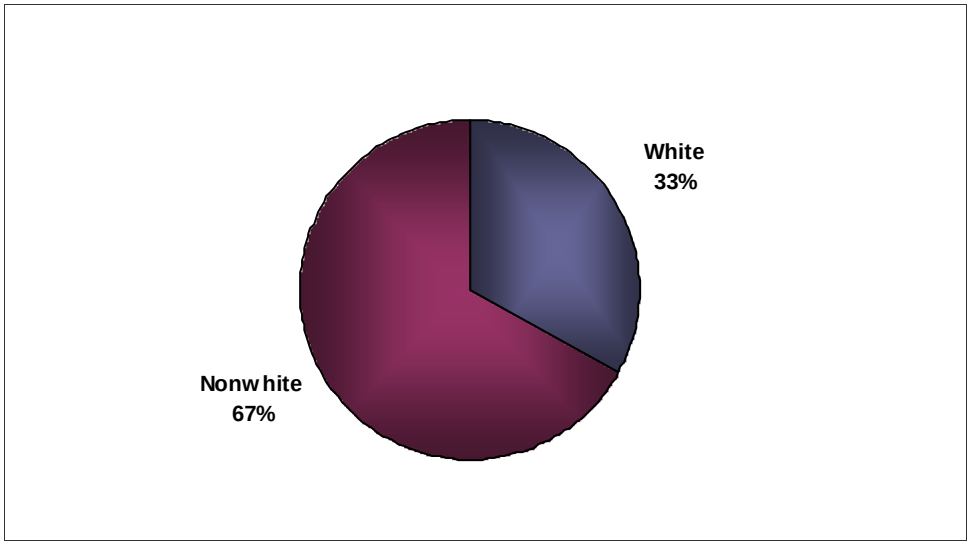


Source: U.S. Census Bureau, 2007 Estimates

Racial Distribution

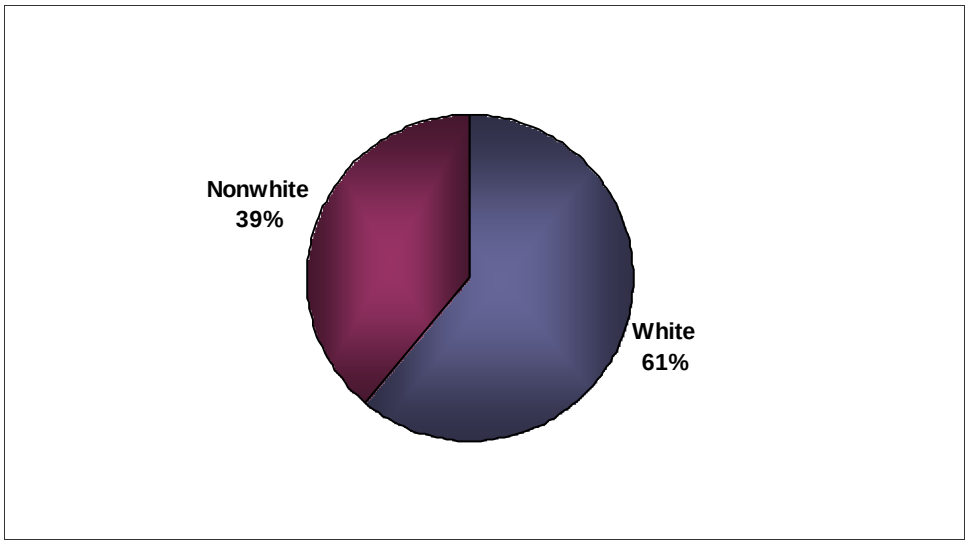
Bolivar County has a dissimilar racial distribution to that seen across Mississippi: there is a substantially larger percentage of nonwhites than whites.

Figure 5. Racial Distribution, Bolivar County, 2007



Source: U.S. Census Bureau, 2007 Estimates

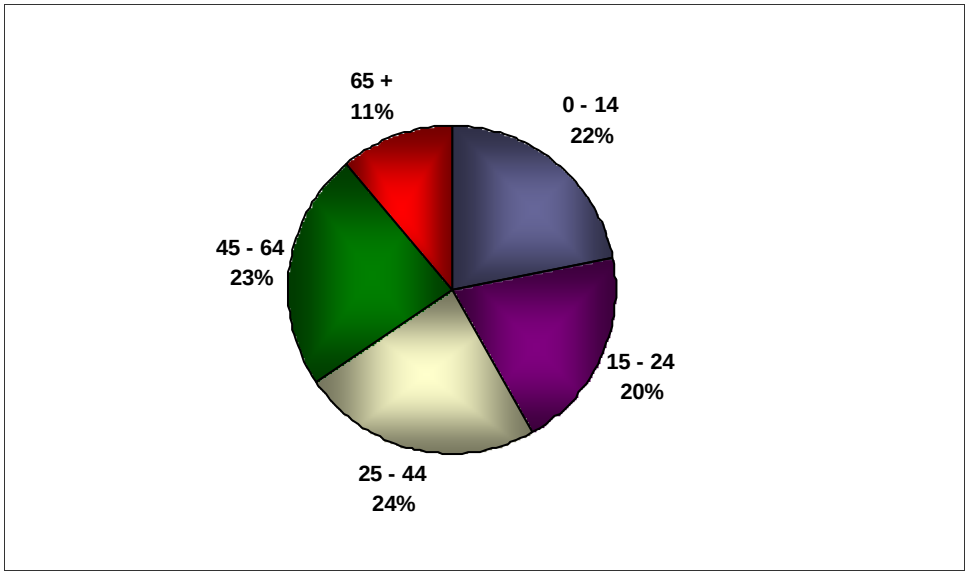
Figure 6. Racial Distribution, Mississippi, 2007



Source: U.S. Census Bureau, 2007 Estimates

Age Distribution

Figure 7. Age Distribution, Bolivar County, 2007



Source: U.S. Census Bureau, 2007 Estimates

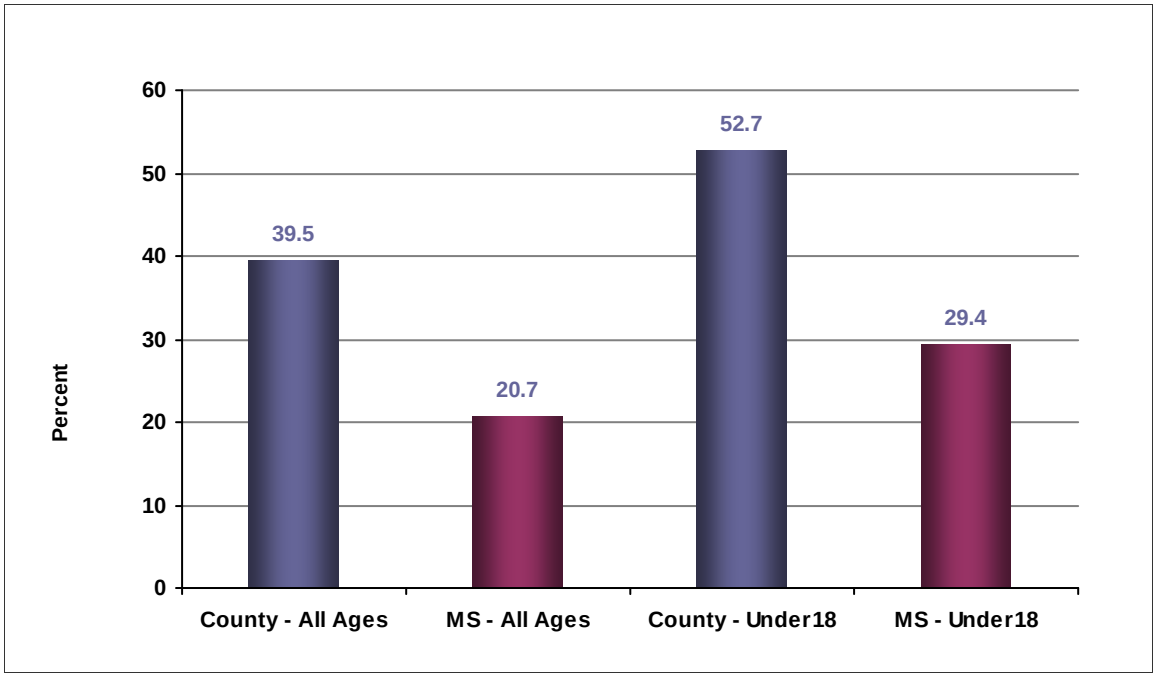
The three largest age groups are the: 0-14, 25-44, and 45-64 year olds.

Income and Poverty

The Census Bureau uses a set of money income thresholds that vary by family size and composition to detect who is poor. If a family's total income is less than that family's threshold, then that family, and every individual in it, is considered poor. The poverty thresholds do not vary geographically, but they are updated annually for inflation with the Consumer Price Index (CPI-U). The official poverty definition counts money income before taxes and excludes capital gains and noncash benefits such as public housing, medicaid, and food stamps (2).

The income thresholds used by the Census Bureau are defined by the Health and Human Services agency (3).

Figure 8. Population Living in Poverty, Bolivar County and Mississippi, 2007



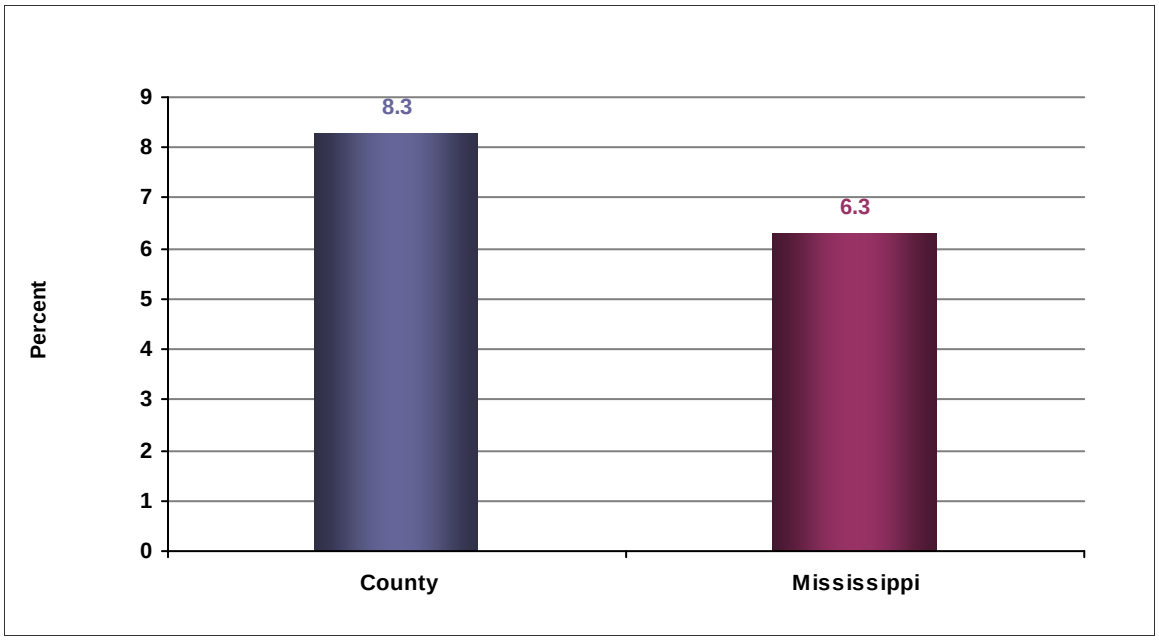
Source: U.S. Census Bureau, 2007 Estimates

The percentage of population living in poverty in Bolivar County is higher than the percentage of population living in poverty in Mississippi across all age groups.

Workforce

Unemployment puts health at risk, and the risk is higher in regions where unemployment is widespread. Evidence shows that, even after allowing for other factors, the unemployed and their families suffer a substantially increased risk of premature death. The health effects of unemployment are linked to effects on mental health (particularly anxiety and depression), self-reported ill health, heart disease and risk factors for heart disease (4).

Figure 9. Unemployment, Bolivar County and Mississippi, 2007



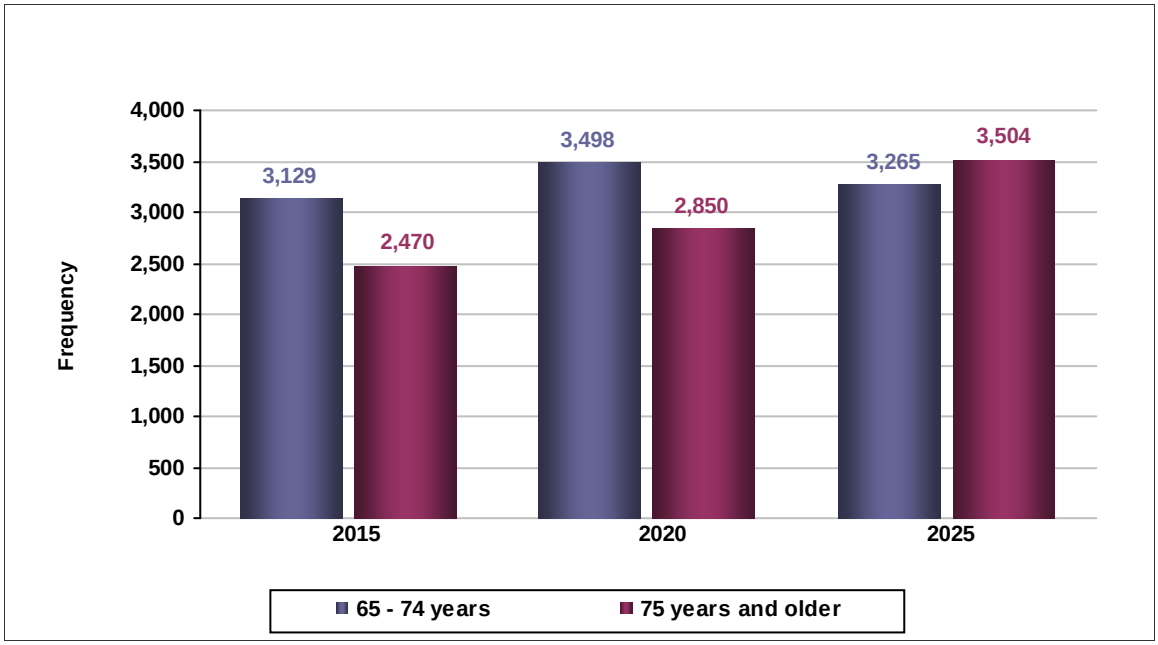
Source: Labor Market Information Department, Mississippi Department of Employment Security, July 2009

Bolivar County's unemployment percentage is higher than the Mississippi average percentage of 6.3%.

Projections for Population 65 Years and Older

As people grow older, their risks for contracting diseases and developing debilitating chronic conditions increase, as well as their need for more medical care. This trend becomes noticeable at about age 65 years old and directly increases with age. As the population ages, the need for hospital, nursing home and chronic illness care increases. In addition, as the population ages, there is an increase in the need for home health care and case management services, especially for persons over the age of 85 years old who still live in their own homes (5).

Figure 10. Projections for Population 65 Years and Older, Bolivar County, 2015 - 2025



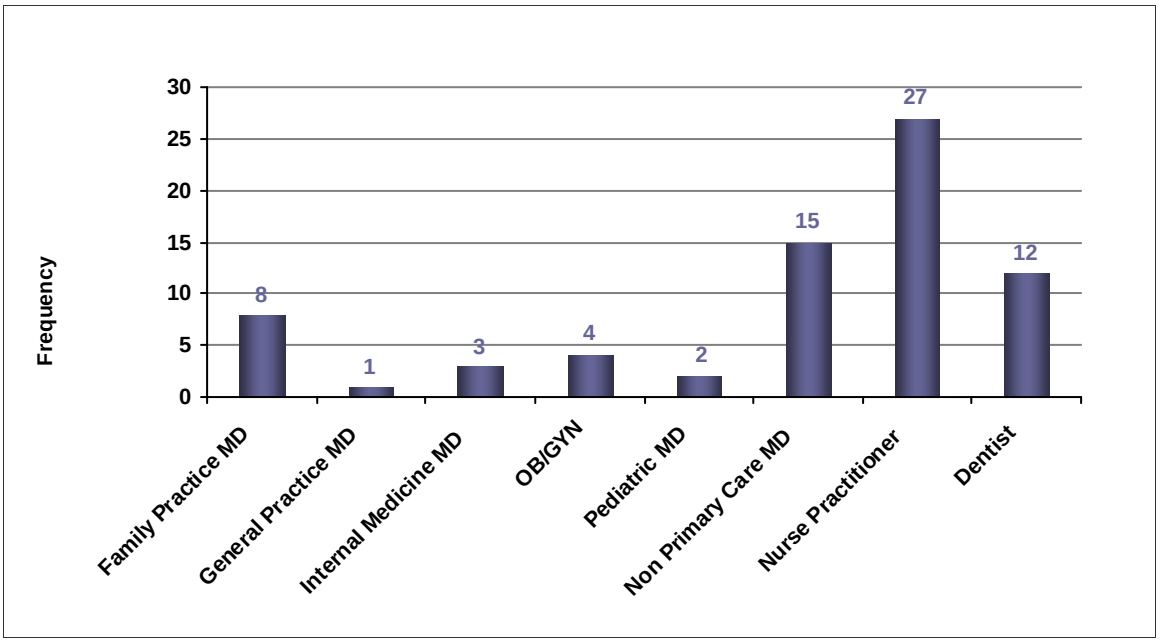
Source: Mississippi Institutes of Higher Learning, 2015 - 2025 Projections

The number of Bolivar County residents over the age of 65 years old is expected to increase over the next decade.

County Health Care Delivery

The availability and accessibility of health care services is essential to meet the needs of the state's population. Health professional shortage areas are determined based on the desired ratio of one primary care provider for each unit of 3,500 people in an area (6).

Figure 11. Health Care Providers, Bolivar County, 2007



Source: Mississippi State Board of Medical Licensure, 2007; Mississippi Board of Nursing, 2007; Mississippi State Board of Dental Examiners, 2007

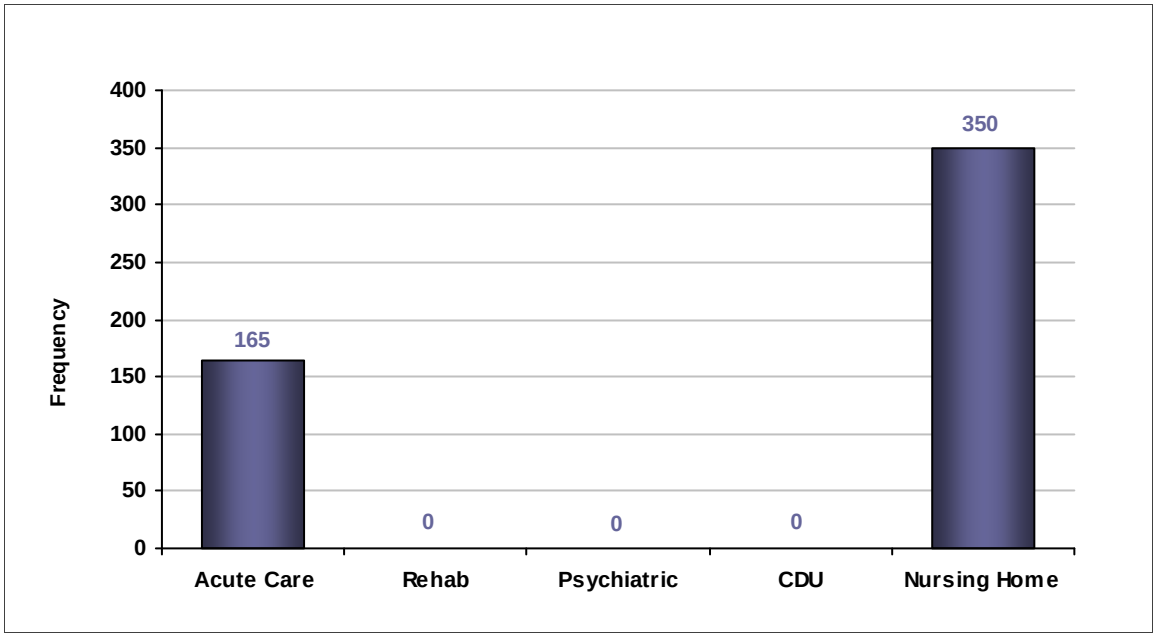
Seventy-six of Mississippi's 82 counties are designated by the Health Resources and Services Administration (HRSA) as primary medical care, health professional shortage areas; Bolivar County is one of these.

Hospital Beds, Specialized Care Beds, and Long Term Care Beds

Mississippians receive health care from a variety of sources that provide a continuum of care. While hospital inpatient care is a vital part of this continuum, more and more patients receive care in a clinic, health care provider's office, home or community based setting, and ambulatory care facilities. In 2007, Mississippi had 108 non-federal acute care hospitals with a total of 11,594 licensed medical-surgical beds, of which 10,474 were set up and staffed. Also, there were 20 psychiatric, 12 chemical dependency, and 14 rehabilitation hospitals (7).

Mississippi's nursing home and home health patients are primarily disabled elderly people. The U. S. Census Bureau estimates place the number of non-institutionalized individuals 65 years or older in 2007 at 344,100; of this number, the estimate of disabled individuals is 65,993 or 19% (8). Drastic increases occur with advancing age in the number of people reporting difficulties and in the number reporting more than one problem and the severity of problems is likely to worsen as the years pass (9).

Figure 12. Licensed Beds, Bolivar County, 2007



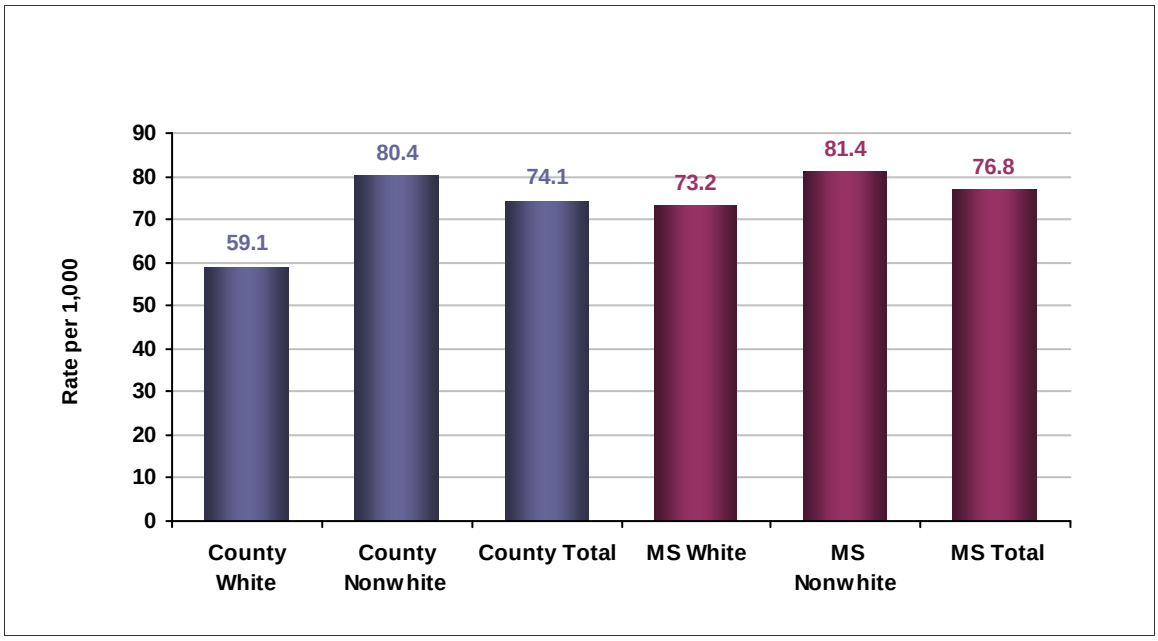
Source: Bureau of Health Facilities Licensure and Certification, Mississippi State Department of Health, 2007

Maternal and Child Health Indicators

Pregnancy, Infancy, and Infant Mortality

Healthy pregnancies and healthy babies are the result of prevention of foreseeable maternal and infant complications. Since the loss of an infant in the first year of life results in 70 or 75 years of potential life lost, a community's infant mortality rate is used as a barometer to gauge that population's quality of life and as a measurement of access to basic health care (10).

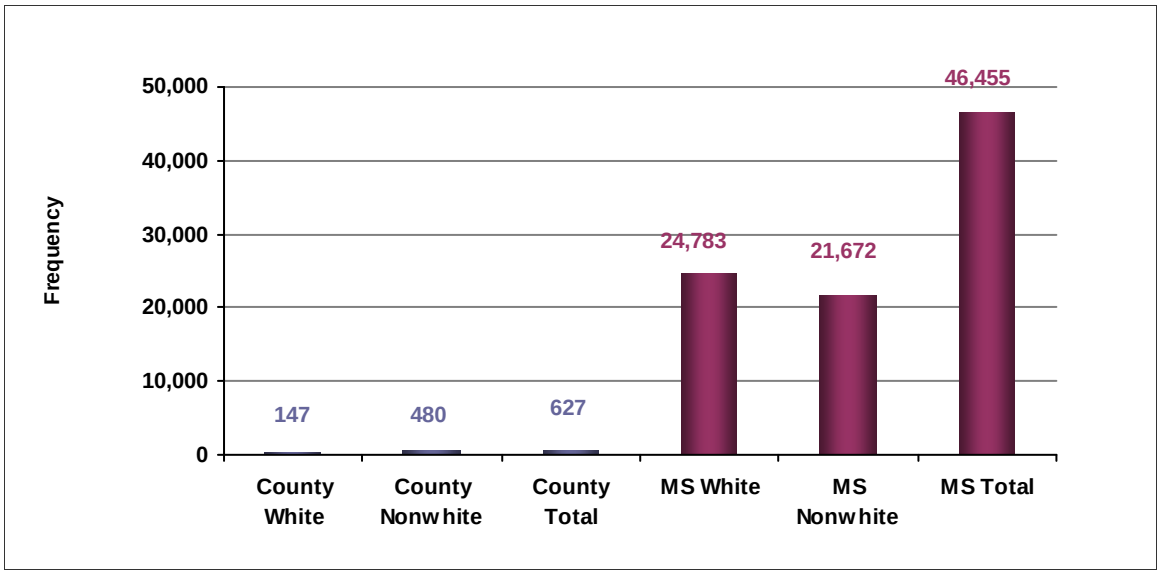
Figure 13. Fertility Rates by Race, 15-44 Years of Age, Bolivar County and Mississippi, 2007



Source: Office of Vital Records, Mississippi State Department of Health, 2007

Bolívar County had a total fertility rate of 74.1 live births per 1,000 population compared to the state rate of 76.8 live births per 1,000 population.

Figure 14. Live Births by Race, 15-44 Years of Age, Bolivar County and Mississippi, 2007

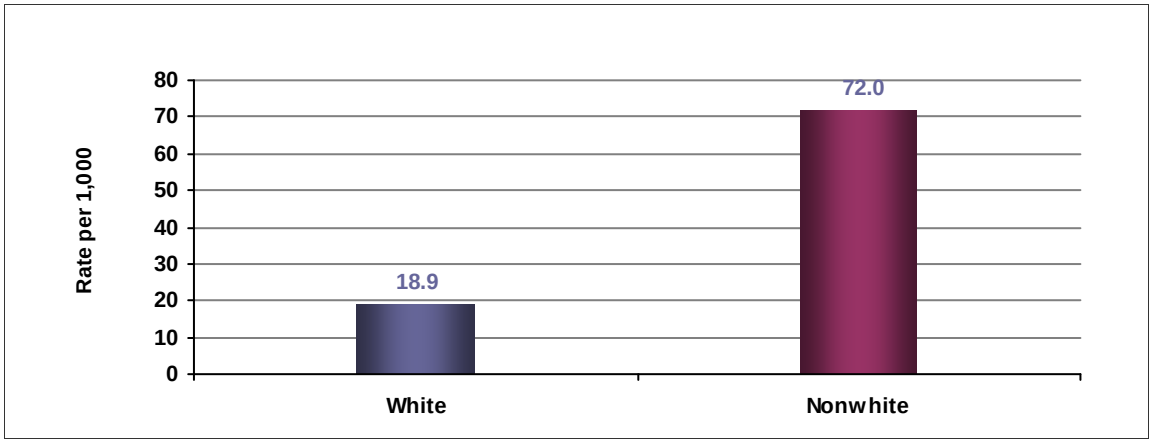


Source: Office of Vital Records, Mississippi State Department of Health, 2007

Births to Unmarried Mothers

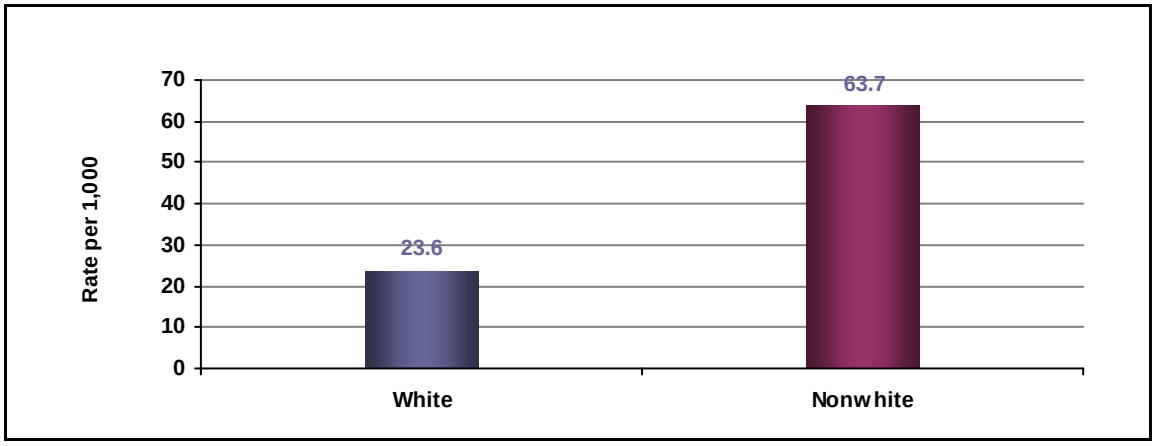
Children born to unmarried mothers are more likely to grow up in a single-parent household, experience instability in living arrangements, live in poverty, and have socioemotional problems (11, 12, 13, 14). As these children reach adolescence, they are more likely to have low educational attainment, engage in sex at younger ages, and have a premarital birth (11, 14). As young adults, these children are more likely to be idle (neither in school nor employed), have lower occupational status and income, and have more troubled marriages and divorces than those born to married parents (15).

Figure 15. Live Births to Unmarried Mothers, Ages 15 - 44, Bolivar County, 2007



Source: Office of Vital Records, Mississippi State Department of Health, 2007

Figure 16. Live Births to Unmarried Mothers, Ages 15 - 44, Mississippi, 2007



Source: Office of Vital Records, Mississippi State Department of Health, 2007

In Bolivar County, the rate of births to unmarried mothers was lower for whites and higher for nonwhites compared to the Mississippi rates.

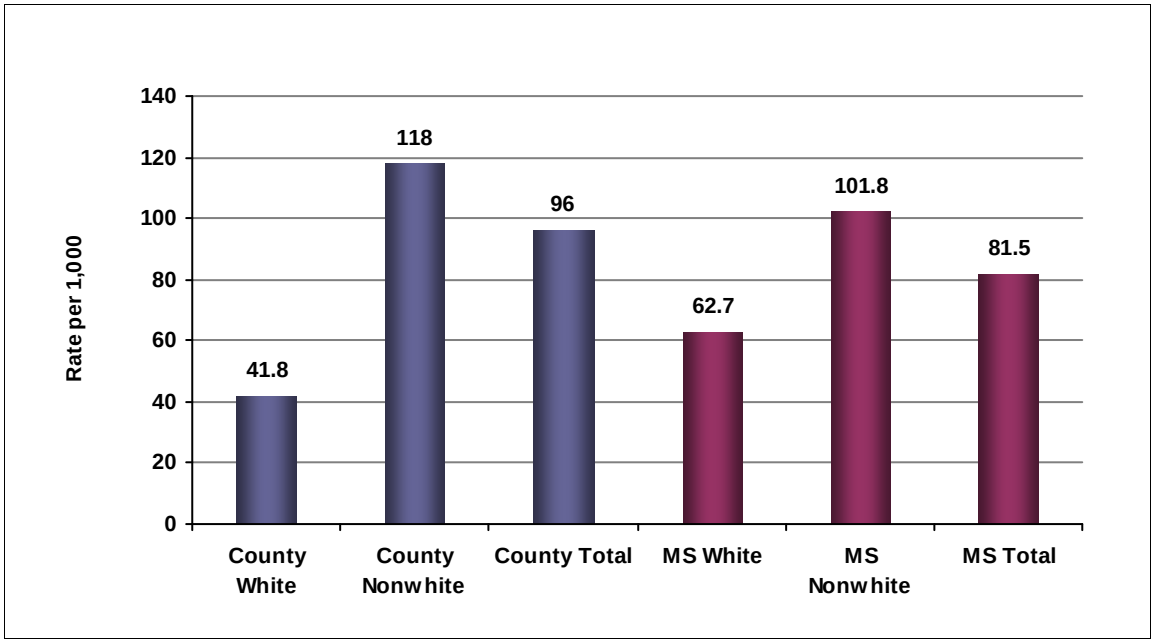
Births to Teenage Mothers

Teenage parents are at a greater disadvantage than other teens. Both before and after becoming parents, they are generally unprepared for the financial responsibilities and the emotional and psychological challenges of early childbearing. Because teenage mothers are more likely to have a child outside of marriage and to be single mothers in adulthood, they often face the primary responsibility of parenthood alone (16).

Compared with older mothers, teenage mothers are more likely to be high school dropouts, limiting future earnings and the financial support they provide their child, and they are more likely to rely on public assistance.

Children born to adolescent mothers are more likely to be born prematurely, to be born at a low birth weight, and to die as infants (17, 18, 19). They generally have less stimulating home environments and poorer academic and behavioral outcomes than do children born to older mothers (20, 21) and are more likely themselves to initiate sex at an early age and to have a teen birth (22).

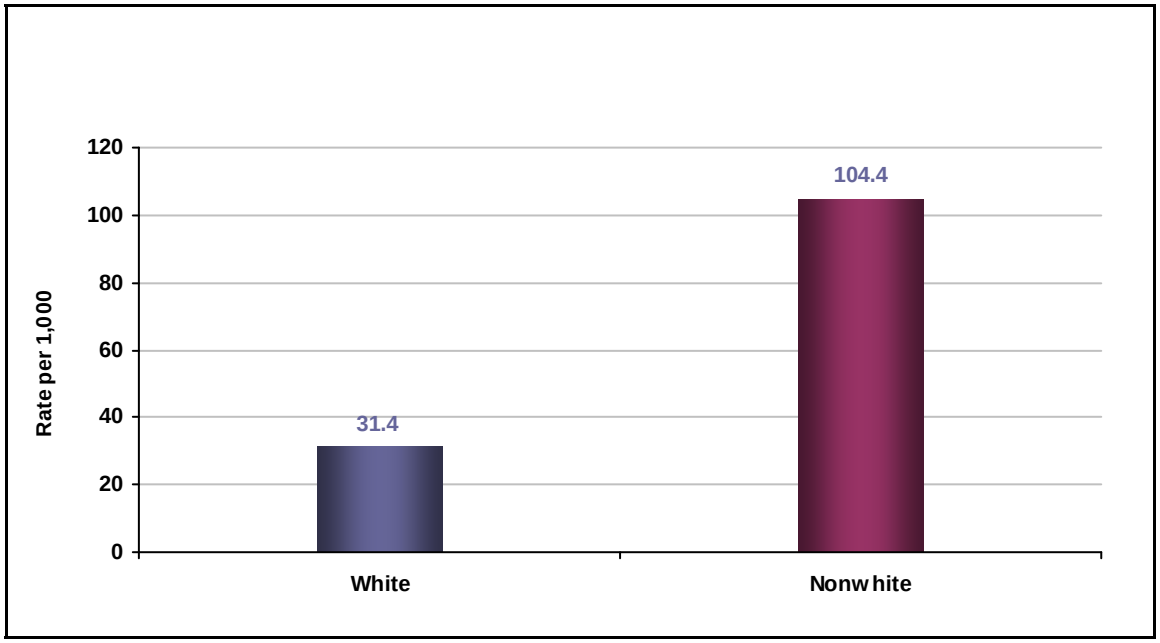
Figure 17. Teen Pregnancy - Ages 15-19 Years, Bolivar County and Mississippi, 2007



Source: Office of Vital Records, Mississippi State Department of Health, 2007

The overall teenage pregnancy rate was higher in Bolivar County compared to the overall Mississippi rate with the exception of the County White rate.

Figure 18. Live Births to Teens - Ages 15 - 19 Years, Bolivar County, 2007

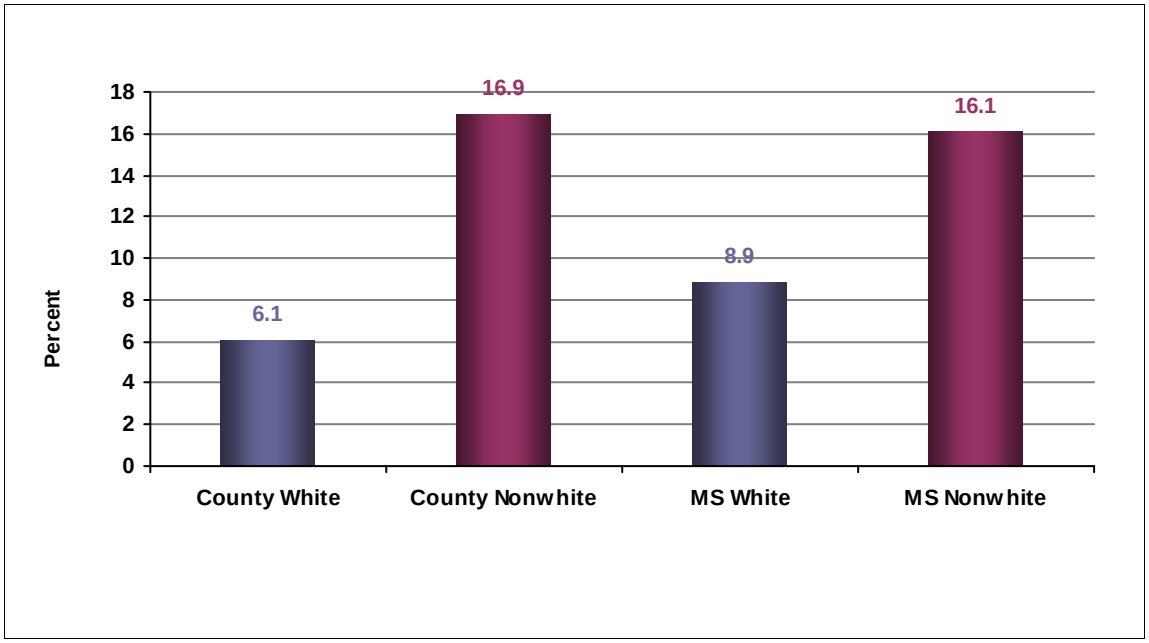


Source: Office of Vital Records, Mississippi State Department of Health, 2007

Low Birth Weight Newborns

A low birth weight baby is one that weighs less than <2,500 grams (five and a half pounds) at birth. These babies have more illnesses and higher death rates than normal weight babies. Low birth weight can be due to teenage mothers, poor nutritional status of the mother, premature birth, maternal or infant illness, maternal exposure to tobacco smoke, alcohol, drugs, or other causes. Adolescents, women over 35, women with pregnancies spaced too close together, and those who do not receive adequate prenatal care are all at high risk of having a low birth weight infant. The risk of dying during the first year of life for low birth weight babies is 24 times that for babies of normal birth weight (23).

Figure 19. Low Birth Weight Newborns, Bolivar County, 2007



Source: Office of Vital Records, Mississippi State Department of Health, 2007

In Bolivar County, the percentage of low birth weight newborns was was lower for whites and slightly higher for nonwhites compared to the Mississippi percentages.

Infant Mortality

Infant mortality refers to the death of an infant in the first year of life. Risk factors contributing to infant mortality include: congenital anomalies, pre-term birth, low birth weight, Sudden Infant Death Syndrome (SIDS), and maternal conditions such as smoking, chemical exposure, poor nutrition, infectious disease, or age (either too young or too old).

Infant mortality is further delineated into neonatal mortality and postneonatal mortality:

- Neonatal mortality occurs during the first 28 days of life. Deaths are generally due to birth defects, pregnancy complications, and infant illness resulting from pre-term birth and low birth weight.

- Postneonatal mortality occurs from the 29th day of life through one year. The leading cause of post-neonatal death is Sudden Infant Death Syndrome (SIDS) which accounts for nearly a third of deaths in this age range. Other causes include birth defects, accidents, and homicide.

  The rate of SIDS in the state is 27% higher among nonwhites than among whites (24). Improving access to education about infant sleeping environments may be vital in reducing the rate of post-neonatal deaths among nonwhites.

Table 1. Number of Infant Deaths, Bolivar County, 1998 - 2007*

	Number of Infant Deaths					
	Infant		Neonatal		Postneonatal	
Year	White	Nonwhite	White	Nonwhite	White	Nonwhite
1998	2	5	1	4	1	1
1999	1	7	1	6	0	1
2000	2	4	2	3	0	1
2001	1	7	0	2	1	5
2002	1	7	1	5	0	2
2003	1	9	0	4	1	5
2004	0	6	0	2	0	4
2005	0	7	0	3	0	4
2006	1	8	0	5	1	3
2007	0	9	0	7	0	2

Source: Office of Vital Records, Mississippi State Department of Health, 1998-2007

*The number of infant deaths was less than 20 in a single year, so infant mortality rate at the county level was not reliable and therefore, was not provided.

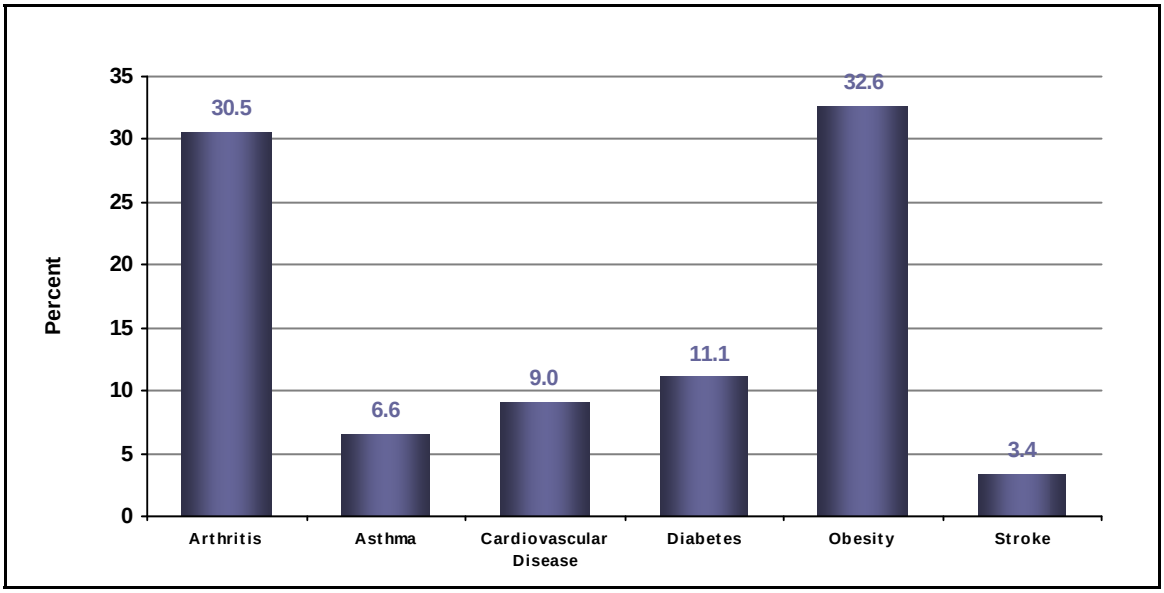
Illness, Injury, and Death

Chronic Disease

Chronic diseases such as heart disease, cancer, and diabetes are leading causes of disability and death in the United States. Every year, chronic diseases claim the lives of more than 1.7 million Americans. These diseases are responsible for 7 of every 10 deaths in the United States. Chronic diseases cause major limitations in daily living for more than 1 of every 10 Americans, or 25 million people. These diseases account for more than 70% of the $2 trillion spent on medical care each year in the United States.

Although chronic diseases are among the most prevalent and costly health problems, they are also among the most preventable. Effective measures exist today to prevent or delay much of the chronic disease burden and curtail its devastating consequences (25).

Figure 20. Prevalence of Selected Chronic Disease, Mississippi, 2007

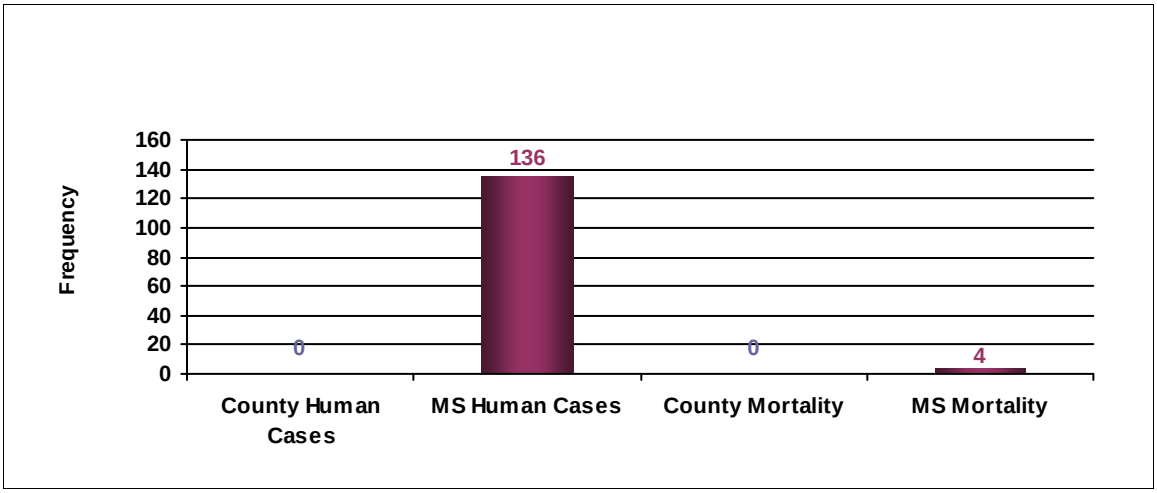


Source: Behavioral Risk Factor Surveillance System, 2007

West Nile Virus

West Nile Virus is spread by the bite of an infected mosquito and can infect humans, horses, and many types of birds. Humans who become infected with West Nile Virus can have either no symptoms or only mild ones; however, West Nile Virus infection can result in severe and sometimes fatal illnesses.

Figure 21. West Nile Virus - Human Cases and Mortality, Bolivar County, Mississippi, 2007



Source: Office of Epidemiology, Mississippi State Department of Health, 2007

In Bolivar County, there were zero human cases and zero deaths due to West Nile Virus.

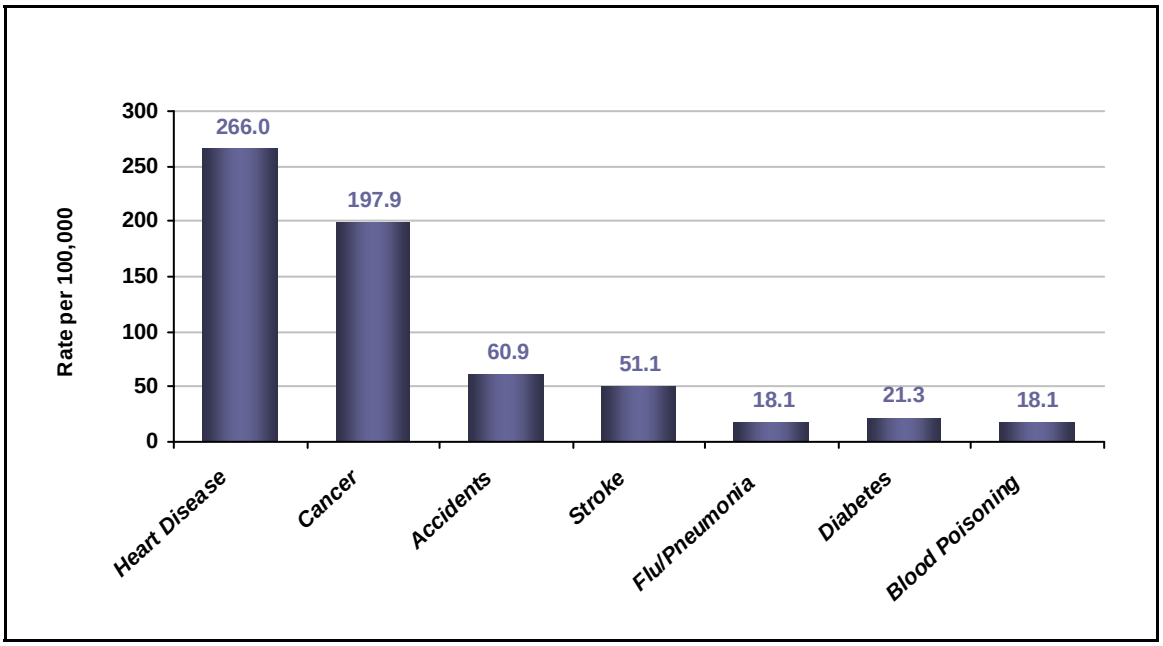
Causes of Death

Information about deaths is a reliable and consistent source of information about the health of a population. The aggregated data in death certificates are used to calculate mortality rates that can be manipulated in various ways to show general and specific health indicators and trends and to make predictions about the likely future health of the population. In Mississippi, the leading causes of death for 2007 were as follows:

Causes of Death	Mississippi Total
Heart Disease	8,022
Cancer	5,930
Unintentional Injury	1,781
Stroke	1,531
COPD/Emphysema	1,400

Chronic diseases, such as cardiovascular disease and cancer make up the highest proportion of deaths in Mississippi. In 2007, 9,553 Mississippians died from stroke and heart disease, accounting for 34% of all deaths. Stroke was the fourth leading cause of death in 2007, accounting for 5.5% of all deaths. Cancer was the second leading cause of death in Mississippi, accounting for 21% of all deaths (26).

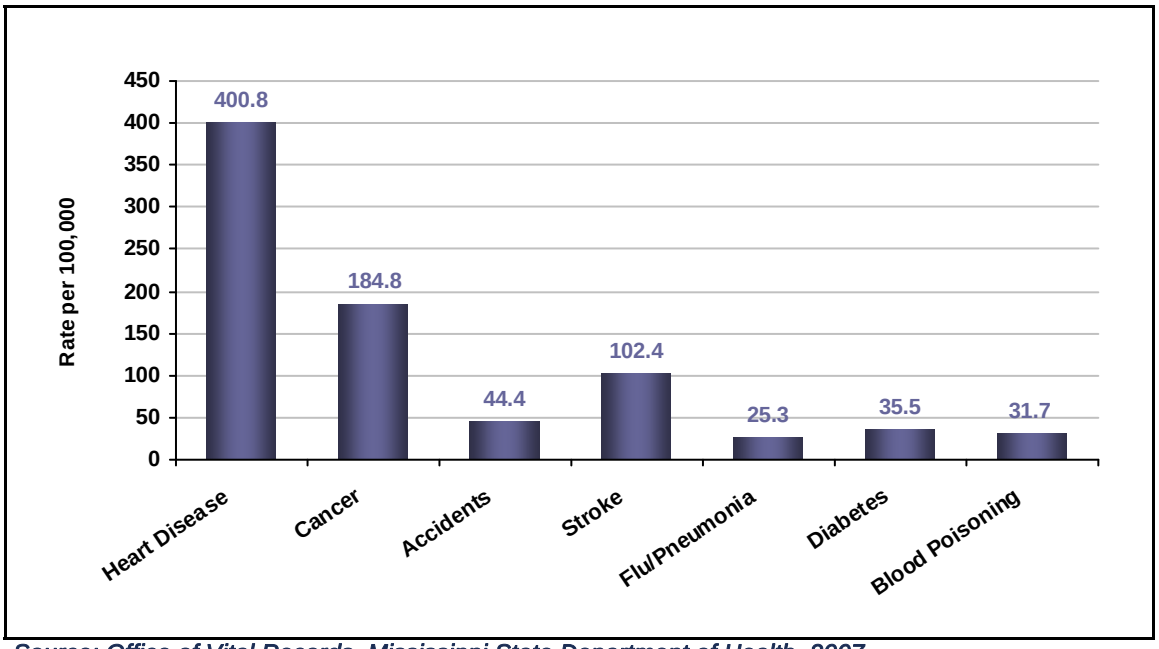
Figure 22. Age-Adjusted Rates by Causes of Death - All Races, Mississippi, 2007



Source: Office of Vital Records, Mississippi State Department of Health, 2007

Many premature deaths can be prevented, allowing the person to have more productive years of life. By looking at the numbers of deaths, the age, sex and race adjusted rates, and the years of potential life lost by premature deaths, much can be learned about the health of a community.

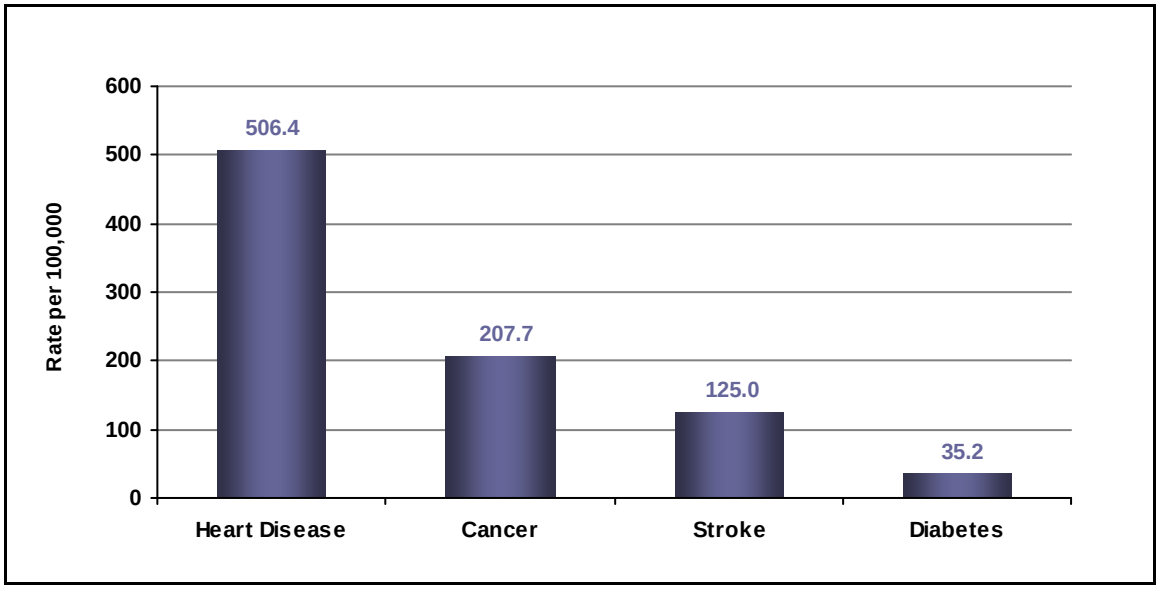
Figure 23. Age-Adjusted Rates by Causes of Death - All Races, Bolivar County, 2007



Source: Office of Vital Records, Mississippi State Department of Health, 2007

The leading cause of death in Bolivar County was heart disease, followed by cancer.

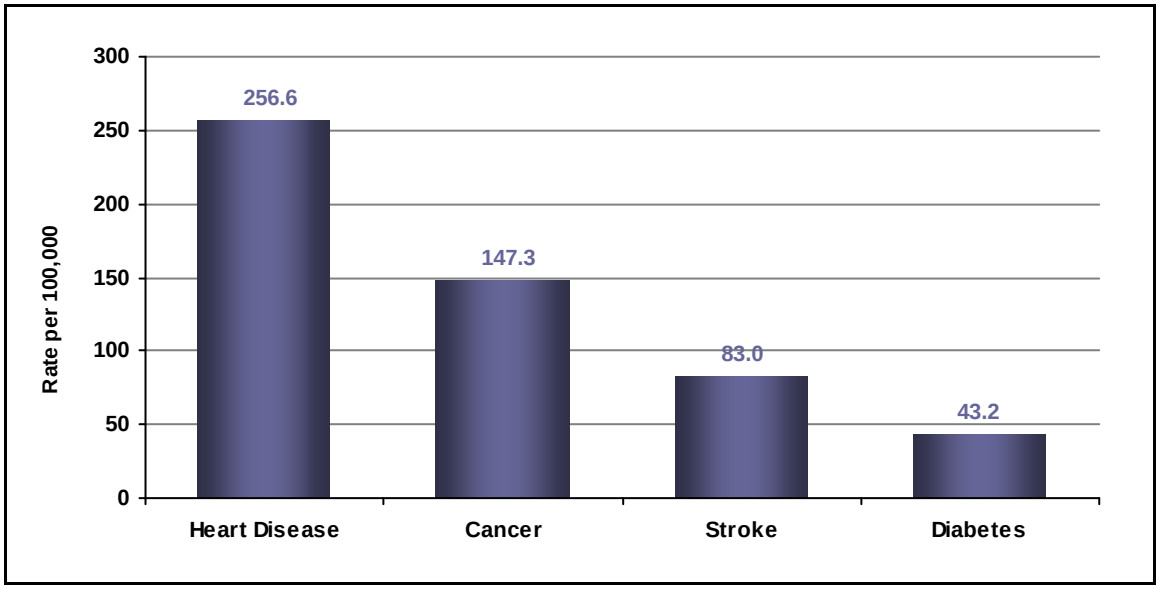
Figure 24. Age-Adjusted Rates by Causes of Death - Nonwhite, Bolivar County, 2007



SSource: Office of Vital Records, Mississippi State Department of Health, 2007

The leading cause of death for nonwhites was heart disease, followed by cancer.

Figure 25. Age-Adjsuted Rates by Causes of Death - White, Bolivar County, 2007



Source: Office of Vital Records, Mississippi State Department of Health, 2007

The leading cause of death for whites was heart disease, followed by cancer.

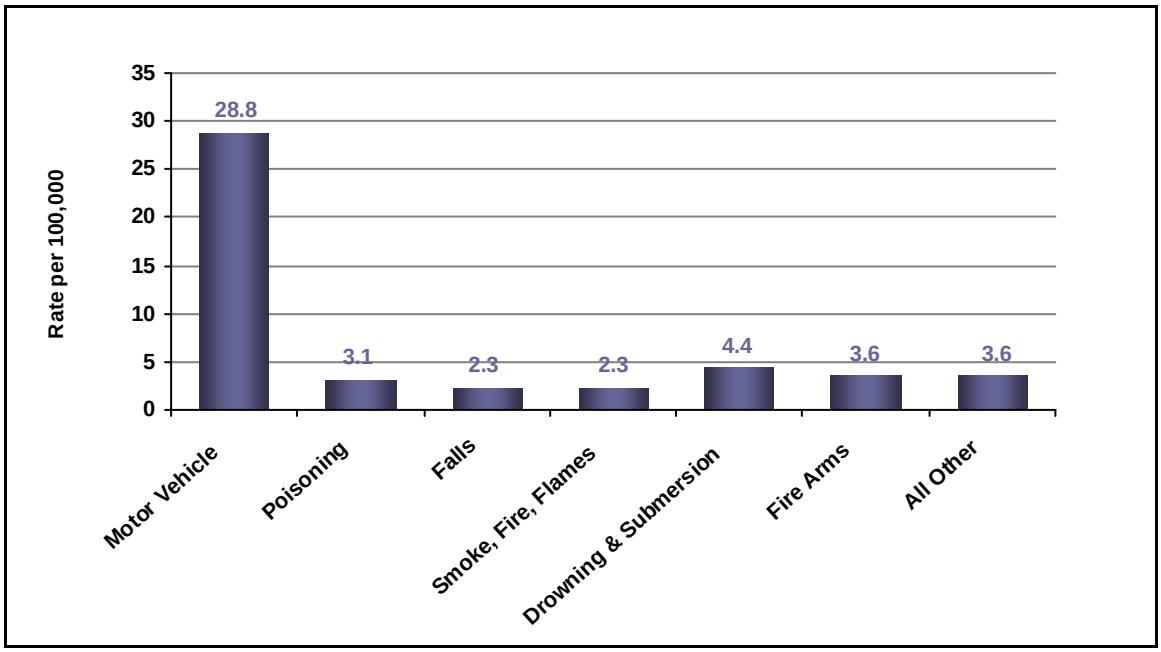
Accidental Deaths

Unintentional injuries are a substantial and preventable public health problem, resulting in significant numbers of hospitalizations and deaths both nationally and in Mississippi. Despite evidence that almost all injuries are preventable, they constitute one of the most tragic and costly public health problems to date. Unintentional injuries are those without purposeful intent, including motor vehicle crashes affecting passengers or pedestrians, bicycle crashes, falls, fires, poisonings, drowning, choking, and occupational or recreational injuries. In Mississippi, the leading causes of death due to unintentional injuries were as follows:

Accidental Deaths	Mississippi Total
Motor Vehicle Accidents	894
Poisoning (drugs)	249
Falls	188
Submersion, suffocation, foreign bodies	172
Fire, Flames, Smoke	84

In 2007, unintentional injuries accounted for approximately 7% of all deaths in the state. Despite evidence that almost all injuries are preventable, they constitute one of the most tragic and costly public health problems to date (26).

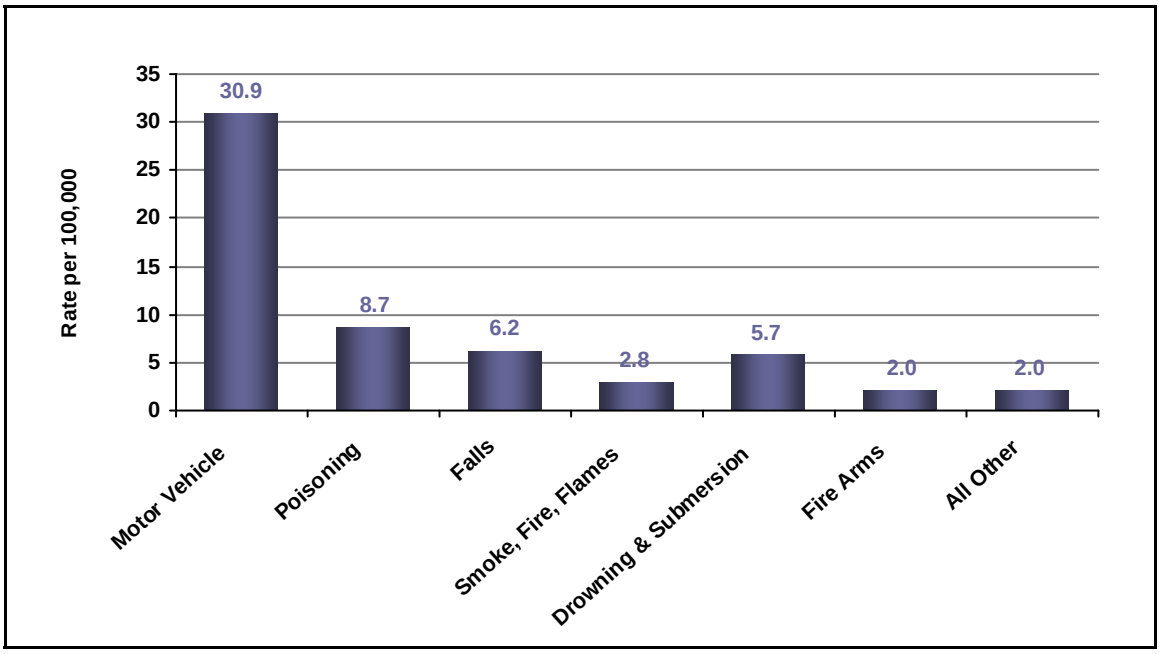
Figure 26. Age- Adjusted Rates by Accidental Death, Bolivar County, 2007



Source: Office of Vital Records, Mississippi State Department of Health, 2007

The leading cause of accidental death was motor vehicle accidents.

Figure 27. Age-Adjusted Rates by Accidental Death, Mississippi, 2007



Source: Office of Vital Records, Mississippi State Department of Health, 2007

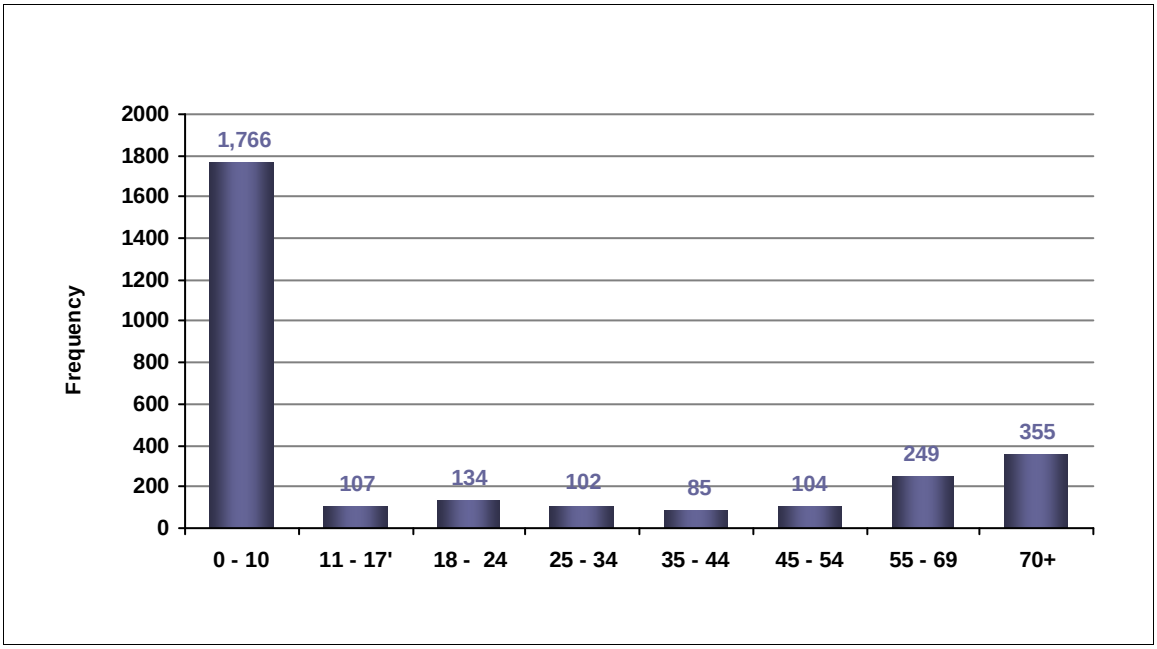
The leading cause of accidental death was motor vehicle accidents.

County Health Services

Immunizations

One of the most important tools used by public health to prevent disease is immunization. Infant vaccinations, yearly influenza vaccinations, pneumonia vaccinations, and "booster shots" for college students account for some of the thousands of inoculations given to Mississippians each year at county health departments.

Figure 28. Immunizations by Age Group, Bolivar County, 2007

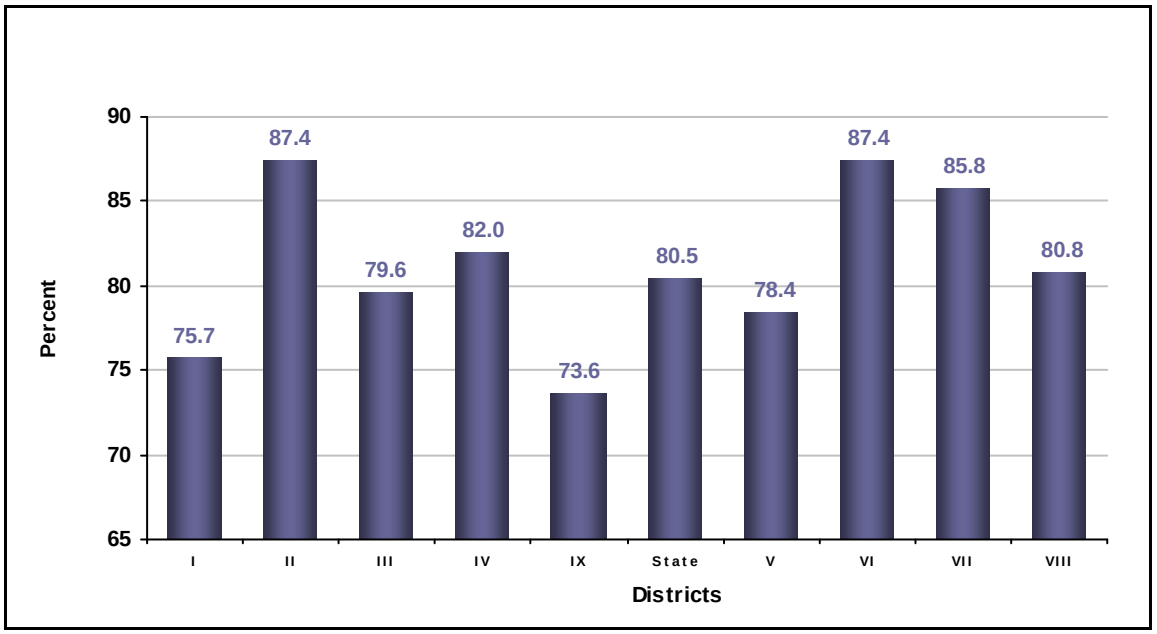


Source: Patient Information Management System, Mississippi State Department of Health, 2007

Children with Complete Immunization at Age 2 Years

Vaccines which protect against disease by inducing immunity, are widely and routinely adminstered based on the common-sense principal that it is better to keep people from falling ill than to treat them once they are ill. Childhold vaccination is considered to be one of the most cost-effective health interventions. The 4:3:1:3:3 series includes: four doses of diphtheria, tetanus, and pertussis (DTaP); three doses of polio vaccine; one dose of measles, mumps, and rubella (MMR) vaccine; three doses of influenza type B (Hib); and three doses of hepatitis B.

Figure 29. Children with Complete Immunization at Age 2 Years, Mississippi, 2007



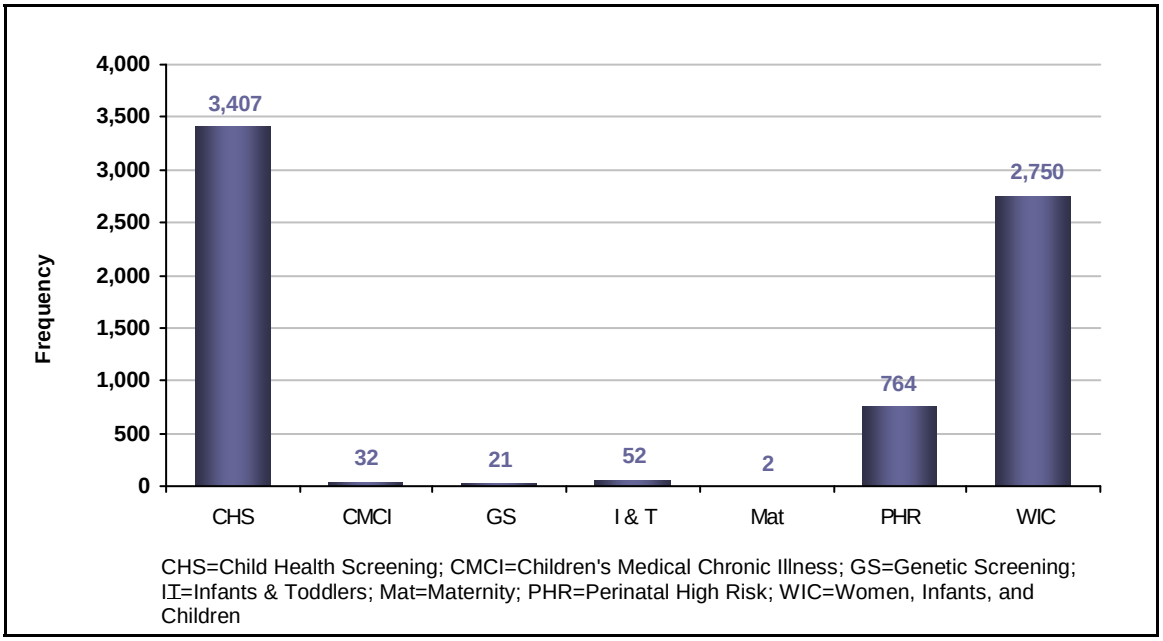
Source: Office of Communicable Diseases, Mississippi State Department of Health, 2007

Bolivar County is a part of Health District III.

Women and Children Served

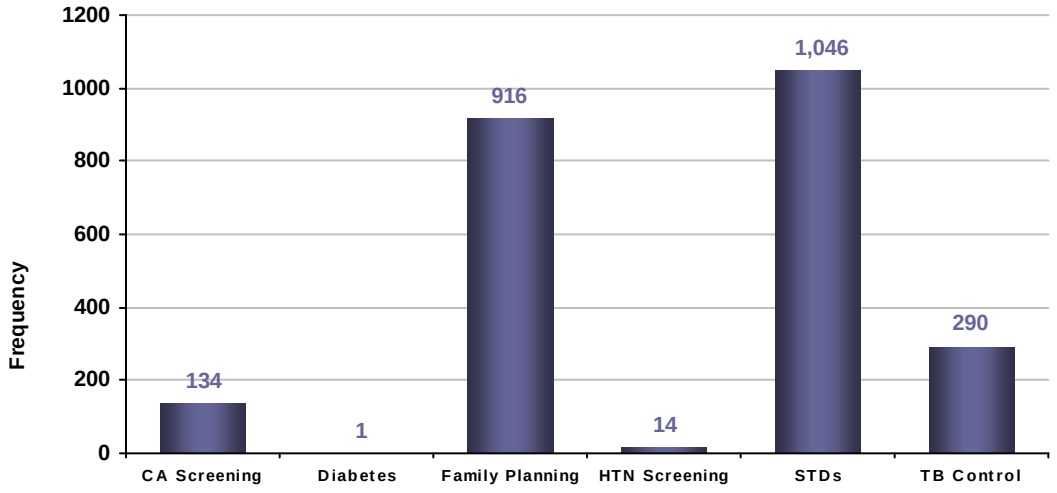
At the 81 county health departments (Issaquena and Sharkey are combined), public health practitioners provide maternity care, genetic screening, high risk perinatal care, and health care for babies and children. WIC is a special supplemental food program for pregnant, breastfeeding, and post-partum women, infants and children under five years of age. To be eligible for the program, a woman, infant, or child must meet the income guidelines and be at medical or nutritional risk. Low iron levels in the blood (anemia), underweight, overweight, or poor diet are typical examples of medical or nutritional risk. In 2007, the total number of women and children served by WIC was 137,779 (27).

Figure 30. WIC - Women and Children Served, Bolivar County, 2007



Source: Mississippi State Department of Health, Patient Information Management System, 2007

Figure 31. County Health Services, Bolivar County, 2007



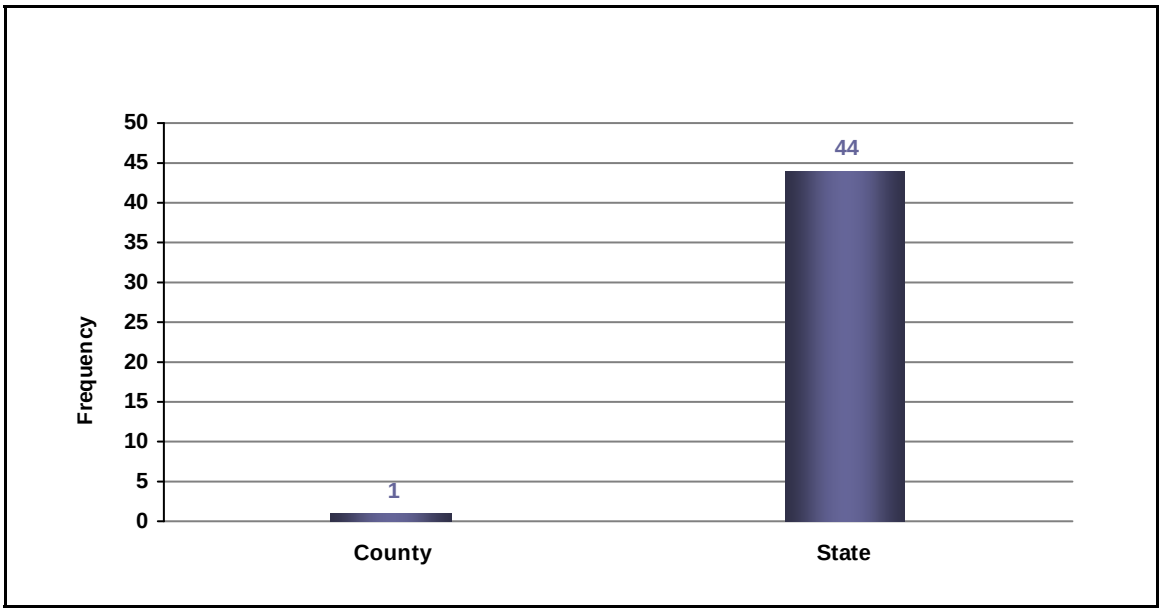
CA=Cancer; HTN=Hypertension and Cardiovascular; STD=Sexually Transmitted Disease; TB=Tuberculosis

Source: Mississippi State Department of Health, Patient Information Management System, 2007

Public Water Supply

Public water systems provide drinking water to 96% of the state's citizens (28). The Public Water Supply Program monitors drinking water quality, follows-up and resolves water quality violations, and works toward the goal of ensuring public water systems comply with all Safe Drinking Water Act water quality standards. The Environmental Protection Agency sets national limits on contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits are known as Maximum Contaminants Levels.

Figure 32. Maximum Contaminants Level - Public Water Systems with Total Coliform Rule Violations, Bolivar County and Mississippi, 2007



Source: Mississippi State Department of Health, 2007

References

1. Young, T. K. (1998). Population Health: Concepts and Methods. Oxford University Press, Inc.: New York
2. U. S. Census Bureau. Household Income and Persons below Poverty, http://quickfacts.census.gov/qfd/meta/long_IPE120207.htm.
3. The United States Department of Health and Human Services. The 2007 HHS Poverty Guidelines, http://aspe.hhs.gov/poverty/07poverty.shtml.
4. World Health Organization (2003). Social determinants of health: the solid facts. 2nd edition / edited by Richard Wilkinson and Michael Marmot.
5. National Center for Health Statistics. Older Person's Health.
6. United States Department of Health and Human Resources, Health Resources and Services Administration. Shortage Designation: HPSAs, MUAs & MUPs, http://bhpr.hrsa.gov/shortage/primarycare.htm.
7. Mississippi State Department of Health, Bureau Health Facilities Licensure and Certification. *Report on 2007 Hospitals*. pps. 2-5, 32.
8. U. S. Census Bureau. Detailed Tables: B18002. SEX BY AGE BY DISABILITY STATUS FOR THE CIVILIAN NONINSTITUTIONALIZED POPULATION 5 YEARS AND OVER - Universe: CIVILIAN NONINSTITUTIONALIZED POPULATION 5 YEARS AND OVER
9. Mississippi State Department of Health. *2007 Mississippi State Health Plan*, Chapter 8 – Long Term Care, p. 1.
10. National Center for Health Statistics (2005).
11. Aquilino, W. S. (1996). The life course of children born to unmarried mothers: Childhood living arrangements and young adult outcomes. *Journal of Marriage & the Family*, 58(2), 293-310.
12. Demo, D., and Cox, M. (2000). Families with young children: A review of research in the 1990s. *Journal of Marriage and the Family*. 62 (4) 876-895.
13. Haveman, R., Wolfe, B., & Pence, K. (2001). Intergenerational effects of nonmarital and early childbearing. In L. L. Wu, & B. Wolfe (Eds.), *Out of wedlock: causes and consequences of nonmarital fertility*. New York: Russell Sage Foundation.
14. McLanahan, S. and Sandefur, G. (1994). *Growing up with a Single Parent: What Hurts, What Helps*. Cambridge: Harvard University Press.
15. Amato, Paul. (2005). "The Impact of Family Formation Change on the Cognitive, Social, and Emotional Well-Being of the Next Generation." *The Future of Children, 15*(2). http://www.futureofchildren.org/usr_doc/05_FOC_15-2_fall05_Amato.pdf
16. Child Trends. (2002). "Ten Reasons to Keep the Focus on Teen Childbearing." Special Report, #2002-52. To obtain a copy visit: http://www.childtrends.org/_docdisp_page.cfm?LID=4F305203-ACBD-460B-9D5F250787866CB4

17. Ventura, S.J., Martin, J.A., Curtin, S.C., Menacker, F., Hamilton, B.E. (1999). Births: Final data for 1999.

18. Mathews, T.J., Curtin, S.C., MacDorman, M.F. (2000). Infant mortality statistics from the 1998 period linked birth/infant death data set. *National Vital Statistics Reports*, vol. 48 (12). Hyattsville, MD: National Center for Health Statistics. http://www.cdc.gov/nchs/data/nvsr/nvsr48/nvs48_12.pdf

19. *National Vital Statistics Reports*, vol. 49(1). Hyattsville, MD: National Center for Health Statistics. http://www.cdc.gov/nchs/data/nvsr/nvsr49/nvsr49_01.pdf

20. Moore, K.A., Morrison, D.R., and Greene, A.D., (1997). Effects on the children born to adolescent mothers. In Maynard, R.A., (ed). *Kids Having Kids: Economic Costs and Social Consequences of Teen Pregnancy.* Washington, DC: The Urban Institute. To order visit: http://www.urban.org/publications/106764.html

21. Levine, J.A., Pollack, H., & Comfort, M.E. 2001. "Academic and behavioral outcomes among the children of young mothers," *Journal of Marriage and Family* 63(2): 355-369. http://www.jcpr.org/wpfiles/levine_pollack_comfort.PDF?CFID=1366348&CFTOKEN=22589118

22. Manlove, J., Terry-Humen, E., Papillo, A.R., Franzetta, K., Williams, S., and Ryan, S. (2001). *Background for Community-Level Work on Positive Reproductive Health in Adolescence: Reviewing the Literature on Contributing Factors.* Washington, DC: Child Trends. http://www.childtrends.org/Files/KReproES.pdf

23. United Nations Children's Fund (2008). Normal birthweight is critical to future health and development. New York: UNICEF.

24. Mississippi State Department of Health. Office of Vital Statistics (2007).

25. National Center for Chronic Disease Prevention and Health Promotion (2005).

26. Mississippi State Department of Health. Office of Vital Statistics (2007).

27. Mississippi State Department of Health. Patient Information Management System (2007).

28. Mississippi State Department of Health. Bureau of Public Water Supply (2007).