FY 2007
Mississippi
State Health Plan

Mississippi Department of Health

Governor’s Letter of Approval

(To be Included)

Governor
State of Mississippi

The Honorable Haley Barbour

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- Office of Health Services
  - Child\Adolescent Health
  - Women's Health
  - Health Promotion
  - Health Disparity
- Office of Health Informatics
  - Vital Records
- Office of Epidemiology
- Office of Health Protection
  - Emergency Planning and Response
  - Environmental Health
  - Licensure
- Office of Finance and Accounts
  - Printing
- Office of Science and Evaluation

Office of the Governor
Mississippi Department of Human Services
Mississippi Department of Mental Health
Mississippi Department of Rehabilitation Services
Mississippi Department of Education
University of Mississippi Medical Center
- School of Medicine
- School of Dentistry
- School of Health Related Professions

Board of Trustees of State Institutions of Higher Learning
Mississippi State Board of Medical Licensure
Mississippi State Board of Nursing
Mississippi Dental Association
Mississippi Nurses' Association

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Mississippi State Health Plan FY 2007
Executive Summary

Legal Authority and Purpose

Section 41-7-171 et seq., Mississippi Code 1972 Annotated, as amended, establishes the Mississippi Department of Health (MDH) as the sole and official agency to administer and supervise all health planning responsibilities for the state, including development and publication of the *Mississippi State Health Plan*. The *State Health Plan*:

- Identifies priority health care needs in Mississippi,
- Recommends ways in which those needs may be met, and
- Establishes criteria and standards for health-related activities which require Certificate of Need review.

The effective dates of the *Fiscal Year 2007 Mississippi State Health Plan* extend from November 11, 2006, through June 30, 2007, or until superseded by a later *Plan*.

Outline of the State Health Plan

The *Plan* is divided into sections:

Section A
- Description of Mississippi's demographic characteristics
- Identification of health status indicators based on vital statistics
- Summary of major health care resources
- Identification of priority health needs
- Establishment of policies and strategies to help meet identified needs
- Examination of health care professionals shortage

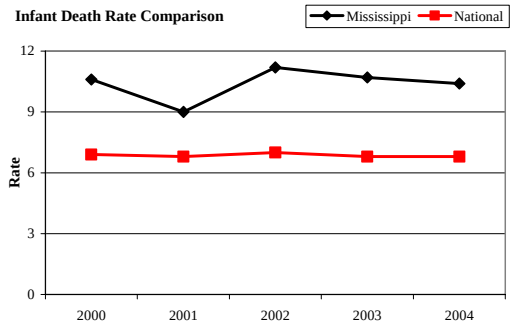
Section B
- Description of existing services
- Evaluation of the need for additional services
- Description of Certificate of Need criteria and standards

Demographic Profile

Mississippi had an estimated 2,902,966 people dispersed in 82 counties and 296 incorporated cities, towns, and villages. While 50.4 percent of the people live in one of the incorporated municipalities, 51.2 percent live in areas classified as rural by the Census Bureau. Nearly 20 percent of the people live in a city with a population of 25,000 or more, and only 34.9 percent in a city of 10,000 or more. The 2000 Census reported 1,161,953 housing units in Mississippi and an average occupancy of 2.45 persons per unit. Employment decreased from 1,249,700 in 2004 to 1,237,300 in 2005 (annual average), a one percent increase. This figure includes all Mississippi residents who are employed, whether the employment is within Mississippi or out-of-state. Mississippi ranked 49th among the states in per capita income and 48th in median family income. High school graduation rates in Mississippi rose to 74.3 percent in 2000, from 64.3 percent in 1990, a gain of ten points. Although there has been marked improvement in income, education, and housing, Mississippi remains well below the national average in these areas.

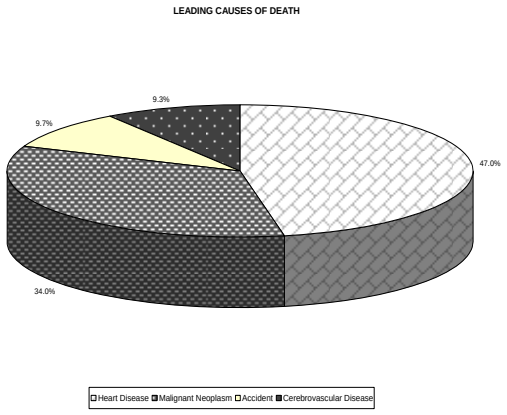
Health Status

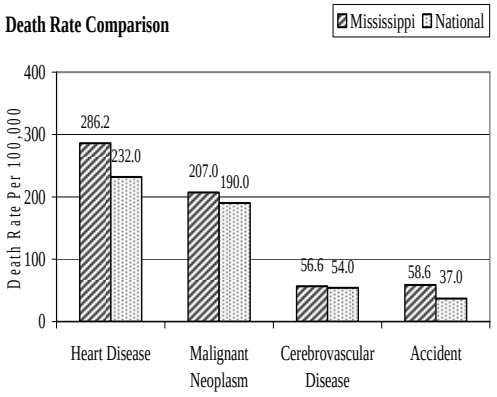
Live Births: In 2004, live births numbered 42,809, compared to 42,321 registered in 2003. A physician attended 97.6 percent of all in-hospital births (41,783). Nurse midwives delivered 837 live births. A total of 497 congenital malformations were reported in 2004 for a rate of 11.6 per 1,000 live births. Mississippi experienced 419 fetal, 11 maternal, and 417 infant deaths in 2004. The infant mortality rate in Mississippi has declined since 1980; from 17.0 per 1,000 live births in 1980 to 10.4 per 1,000 live births in 2004.



Rate = Infant deaths per 1,000 live births
National rates from Center for Disease Control & Prevention (rate for 2004 preliminary data)

Deaths: There were 27,748 deaths reported in 2004, with cardiovascular diseases, principally heart disease and stroke, being the leading cause, accounting for 29.7 percent of deaths, followed closely by malignant neoplasm, accounting for 21.5 percent.





Rate per 100,000 population

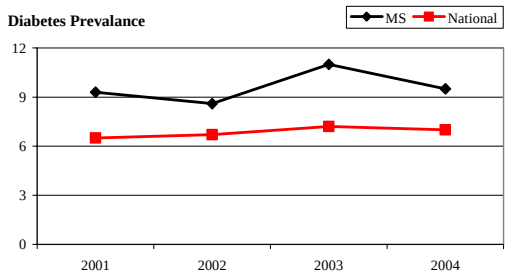
Obesity: Mississippi has had the highest rates of adult overweight and obesity in the nation. Overweight and obesity are one of the state's most pressing public health problems. The increasing high rate of diabetes in the state is largely a consequence of the increasing rate of obesity.

Hypertension: Hypertension (high blood pressure) is a major risk factor for coronary heart disease (CHD), heart failure, and stroke. The high (and rising) prevalence of hypertension is a reason for the high CHD and stroke mortality rates in the state. Mississippi is one of 11 states in the southeast U.S. known as the "Stroke Belt".

Diabetes: The 2004 prevalence of diabetes in Mississippi was 9.5 percent, the third highest in the nation. Diabetes is the primary cause of macrovascular disease, stroke, adult blindness, end-stage renal disease, and non-traumatic lower extremity amputations. Diabetes is also an important risk factor for coronary heart disease, stroke, and various complications of pregnancy. The 2004 diabetes prevalence rate showed a 13.6 percent decrease from the 2003 prevalence rate. Authorities estimate that adult onset diabetes is under-reported by 40 percent.

2004 Diabetes Prevalence

Diabetes prevalence decreased slightly from 2003 to 2004 with Mississippi at a rate of 9.5 percent compared to a National rate of 7.0 percent.



Behavioral Risk Factor Surveillance System

	Mississippi	National
Diabetes Prevalence	9.5%	7.0%

Behavioral Risk Factor Surveillance System

Cancer: Each year, more than 15,000 Mississippians are diagnosed with cancer. In

order of frequency, the top five sites of cancer diagnosis were lung, breast, prostate, colorectal, and bladder. Cancer caused 5,964 deaths to Mississippians during 2004. Lung cancer is the most common cause of cancer death.

Tuberculosis: Mississippi reported 103 new cases of tuberculosis in 2005 or a rate of 3.5 cases per 100,000 population; this compares with the national rate of 5.1 cases per 100,000 population.

Sexually Transmitted Diseases: Sexually transmitted diseases remain a public health problem in Mississippi. A total of 47 cases of early syphilis were reported, or a rate of 1.98 new cases per 100,000 population. This compares with a national rate of 2.5. The state had 7,170 cases of gonorrhea, 21,258 chlamydia infections, and 577 new cases of AIDS reported in 2005.

Hepatitis: Mississippi reported 19 cases of hepatitis A, 53 cases of hepatitis B, and 19 cases of hepatitis C in 2005 for a rate of 0.7, 3.72, and 1.15 for hepatitis A, B, and C, respectively. CDC reported national rates at 2.6, 2.6, and 0.4, respectively.

Occupational Injuries and Illnesses: Seventy-three occupational related fatalities and 13,197 work-related injuries or illnesses were reported in 2005.

Health Care Resources

Health Professionals: The following table details the count of health professionals during 2005.

Health Professionals by Type (2005)

Health Profession	Number
Physicians*	5,421
Dentists*	1,407
Chiropractors	265
Optometrists	283
Pharmacists	2,682
Registered Nurses	33,750
Nurse Practioners	1,599
Licensed Practical Nurses	13,405
Nursing Assistants / Aides	16,391
Physicians' Assistants	67
Physical Therapy Practitioners	1,346
Occupational Therapists	727
Social Workers	4,191

*Active

Long Term Care: Mississippi has 185 public or proprietary skilled nursing homes, with a total of 17,112 licensed beds; 11 entities have received CON approval for the construction of 543 additional beds; and 12 facilities have voluntarily delicensed a total of 512 nursing home beds, which are being held in abeyance by MDH. This count excludes eight facilities that operate 1,747 beds not subject to Certificate of Need review and serve a specific population. The *Plan* indicates a need for 8,388 additional skilled nursing beds.

The state has 13 intermediate care facilities for the mentally retarded with a total of 2,724 beds. The state also has six psychiatric residential treatment facilities for emotionally disturbed children and adolescents, with a total of 358 licensed and CON approved beds. The *Plan* indicates that the state is presently over-bedded by 190 mentally retarded/developmental disabled long-term care and 76 psychiatric residential treatment beds.

The state has 184 licensed personal care homes, with 5,102 beds; various retirement or senior housing facilities that provide apartments for independent living; and several continuing care retirement communities that provide continuum of care to the elderly. Fifty-three Mississippi hospitals have designated 674 beds as swing-beds, which provided 80,206 inpatient days of long-term skilled nursing care to 6,322 persons. Eleven hospitals operated a total of 167 as a “distinct-part

skilled nursing facility." Nine freestanding Medicare-approved hospitals provide long-term acute care services to patients who do not require more than three hours of rehabilitation per day. Two additional facilities have received CON approval to offer LTAC services.

Acute Care Hospitals: Mississippi had 97 non-federal acute (short term) care hospitals, with a total of 11,273 licensed medical-surgical beds, of which 10,304 were set-up and staffed. The count excludes hospitals operated by the state and federal agencies that serve a unique population. Twenty-eight of the 97 hospitals have been designated as Critical Access Hospitals, providing outpatient, emergency, and limited inpatient services only. The average daily census of Mississippi hospitals was 5,211. Fifty-five of the state's hospitals reported occupancy rates of less than 40 percent during FY 2005. Mississippi is over-bedded, with an average of 6,044 licensed beds remaining vacant on any given day.

Acute Care Hospital Data (2005)

	Number
Non-Federal Acute Care Hospitals	97
Licensed Medical-Surgical Beds	11,273
Medical-Surgical Beds Setup	10,304
Critical Access Hospitals	28 *
Average Daily Census	5,229

*Included in 97 acute care hospitals

Diagnostic Imaging Services: The following table details the number of diagnostic imaging procedures performed by providers during 2005.

Diagnostic Imaging Procedures by Type (2005)

Diagnostic Imaging Service	Procedures
Magnetic Resonance Imaging	225,604
Digital Subtraction Angiography	51,450
Computer Assisted Tomography	503,010
Positron Emission Tomography	7,354

Acute Care Services: Radiation Therapy uses ionizing radiation to treat diseases, primarily cancer. Brachytherapy radiation implantation was performed on 2,824 patients in 15 hospitals; the state's only GammaKnife® reported 110 external beam radiation therapy procedures; and 21 cancer treatment centers performed 159,694 megavoltage therapeutic procedures during 2005.

Acute Care Services: Extracorporeal Shock Wave Lithotripsy (ESWL). The lithotripter is a medical device which disintegrates kidney or biliary stones (gallstones) by using shock waves. Twenty-eight Mississippi hospitals and two free-standing facilities provided 3,576 renal ESWL procedures during FY 2005.

Acute Care Services: Cardiac Cauterization. Cardiac catheterization, predominately a diagnostic tool that is an integral part of cardiac evaluation, brings together two disciplines: cardiac catheterization (the evaluation of cardiac function) and angiography (X-ray demonstration of cardiac anatomy). Cardiac catheterization includes various therapeutic interventions. In FY 2004, the state's 52 cardiac catheterization laboratories performed 40,939 adult and 367 pediatric cardiac catheterizations. Providers performed a total of 9,234 percutaneous transluminal coronary angioplasties to improve myocardial blood flow.

Acute Care Services: Open Heart Surgery. Open-heart surgery involves a number of procedures, including valve replacement, repair of cardiac defects, coronary bypass, heart transplantation, and artificial heart implantation. Providers performed a total of 4,036 such surgeries during 2005.

Acute Care Services: Perinatal Care. Three Mississippi hospitals reported more than 2,000 obstetrical deliveries each in FY 2005, accounting for 19.8 percent of the state's 39,832 hospital deliveries.

Acute Care Services: Outpatient Services. Hospitals received 1,674,009 emergency room visits and 2,262,596 clinic visits for a total of 3,936,605 outpatient visits during 2005.

Acute Care Services: Ambulatory Surgery. Fifty-five percent of the 266,555 surgeries performed in hospitals (147,702) were outpatient surgeries. The state's 24 freestanding ambulatory surgery centers performed an additional 89,707 surgeries during 2005.

Mental Health Services: The public mental health system, including regional community mental health centers and the community service divisions of the state psychiatric hospitals provided services to a total of 64,074 adults and 28,220 adolescents and children. Mississippi's four state-operated mental hospitals, which provide the majority of inpatient psychiatric care, operated 1,902 beds and admitted 2,682 adult patients during 2005. Mississippi has 12 hospital-based and two freestanding non-state operated adult psychiatric facilities, with a capacity of 513 licensed beds for adult psychiatric patients.

Three freestanding facilities and six hospital-based facilities, with a total of 222 licensed beds, provide acute psychiatric inpatient services for children and adolescents. Additionally, the Department of Mental Health operates a separately-licensed 60-bed facility at Mississippi State Hospital to provide short-term inpatient psychiatric treatment for children and adolescents. East Mississippi State Hospital operates a 50-bed psychiatric and chemical dependency treatment unit for adolescent males.

Rehabilitative Services: Comprehensive medical rehabilitation (CMR) services are intensive care providing a coordinated multidisciplinary approach to patients with severe physical disabilities that require an organized program of integrated services. Level I facilities offer a full range of CMR services to treat disabilities such as spinal cord injury, brain injury, stroke, congenital deformity, amputations, major multiple trauma, polyarthritis, fractures of the femur, and neurological disorders, including multiple sclerosis, cerebral palsy, muscular dystrophy, Parkinson's Disease, and others. Level II facilities offer CMR services to treat disabilities other than spinal cord injury, congenital deformity, and brain injury. Seven hospital-based Level I facilities offered CMR services to 4,286 patients and nine hospital-based Level II facilities offer limited CMR services to 2,494 additional patients.

Home Health Care: The 63 home health agencies licensed to provide services to certain home-bound patients provided 2,352,343 home health visits to 62,700 Mississippians during the year. The breakdown of visits by the Department of Health, the hospital based, and freestanding home health agencies are as follows:

Home Health Patients & Visits by Agency (2004)

Home Health Agencies	Patients Served	Home Health Visits
Department of Health	1,171	89,442
Hospital-Based	15,555	576,391
Freestanding	45,974	1,686,510
Total	**62,700 ***	**2,352,343**

*Non-duplicate count

End Stage Renal Disease: End Stage Renal Disease (ESRD) describes the loss of kidney function from chronic renal failure to the extent that the remaining kidney function will no longer sustain life. Treatment generally consists of either transplantation or dialysis consisting of peritoneal dialysis or hemodialysis. Kidney transplantation is the treatment of choice for most patients with end stage renal failure. The University of Mississippi Medical Center has the only transplant program in the state and performed 26 cadaver transplants during the calendar year 2005. Mississippi had 70 ESRD facilities which collectively housed 1,567 hemodialysis stations providing

maintenance dialysis services to 5,116 patients during 2005.

Statutory and Policy Changes

Statutory provisions contained in Mississippi Code 41-7-191, Subsection 13, which exempts continuing care retirement centers from CON review if applicants meet certain conditions, were repealed effective July 1, 2005 because of an included repeal provision.

The State Board of Health, on July 13, 2005, modified its policy governing Magnetic Resonance Imaging (MRI) procedures estimation methodology to require that projected procedures (submitted by referring physician affidavit) be based on actual MRI procedures referred during the past year.

Title 15 - Mississippi Department of Health

Part IX – Office of Health Policy and Planning

Subpart 90 – Planning and Resource Development

Chapter 01 Introduction

100 General Information

Mission: The Mississippi Department of Health's mission is to promote and protect the health of the citizens of Mississippi. The Department accomplishes its mission through many programs and projects as well as through cooperation with other government agencies and private sector organizations. As a part of that mission, the *State Health Plan* identifies those areas of greatest need in the state; develops strategies to reduce deficiencies in the state's health care system; and establishes policies to encourage the provision of appropriate care to all people – regardless of age, sex, race, ethnicity, or ability to pay. The *State Health Plan* provides an overview of a broad spectrum of services, including many services designed to meet the state's priority health care needs discussed later in this chapter.

Vision Statement: The Mississippi Department of Health strives for excellence in government, cultural competence in carrying out the mission, and to seek local solutions to local problems.

Value Statement: The Mississippi Department of Health identifies its values as applied scientific knowledge, teamwork, and customer service.

Legal Authority and Purpose

Section 41-7-171 et seq., Mississippi Code 1972 Annotated, as amended, establishes the Mississippi Department of Health (MDH) as the sole and official agency to administer and supervise all health planning responsibilities for the state, including development and publication of the *Mississippi State Health Plan*. The *State Health Plan* 1) identifies priority health care needs in Mississippi; 2) recommends ways in which those needs may be met; and 3) establishes criteria and standards for health-related activities which require Certificate of Need review. The effective dates of the *Fiscal Year 2007 Mississippi State Health Plan* extend from November 11, 2006, through June 30, 2007, or until superceded by a later *Plan*.

The MDH considered the health needs of the state, consulted with health provider associations and other health-related agencies of state government, and determined through public meetings and public comments the priority health needs of Mississippi for Fiscal Year 2007. These needs are as follows:

- Disease prevention, health protection, and health promotion
- Health care for specific populations, such as mothers, babies, the elderly, the indigent, the uninsured, and minorities
- Implementation of a statewide trauma system

- Health needs of persons with mental illness, alcohol/drug abuse problems, mental retardation/developmental disabilities, and/or handicaps

- Availability of adequate health manpower throughout the state

- Enhanced capacity for detection of and response to public health emergencies, including acts of bioterrorism.

Section 41-7-191, Mississippi Code 1972 Annotated, as amended, requires Certificate of Need (CON) approval for the establishment, relocation, or expansion of health care facilities. The statute also requires CON approval for the acquisition or control of major medical equipment and for the change of ownership of defined health care facilities unless the facilities meet specific requirements.

This *Plan* provides the service-specific CON criteria and standards developed and adopted by the MDH for CON review of health-related activities requiring such review. The *Mississippi Certificate of Need Review Manual* provides additional general CON criteria by which the Department reviews all applications.

General Certificate of Need Policies

Mississippi's health planning and health regulatory activities have the following purposes:

- To prevent unnecessary duplication of health resources

- To provide cost containment

- To improve the health of Mississippi residents

- To increase the accessibility, acceptability, continuity, and quality of health services.

While all of the stated purposes of health planning and health regulatory activities are important, cost containment and the prevention of unnecessary duplication of health resources are the primary purposes and shall be given primary emphasis in the Certificate of Need process.

The MDH intends to approve an application for CON if it substantially complies with the projected need and with the applicable criteria and standards presented in this *Plan*, and to disapprove all CON applications which do not substantially comply with the projected need or with applicable criteria and standards presented in this *Plan*.

The MDH intends to disapprove CON applications which fail to confirm that the applicant shall provide a reasonable amount of indigent care, or if the applicant’s admission policies deny or discourage access to care by indigent patients. Furthermore, the MDH intends to disapprove CON applications if such approval would have a significant adverse effect on the ability of an existing facility or service to provide indigent care. Finally, it is the intent of the Mississippi Department of Health to strictly adhere to the criteria set forth in the *State Health Plan* and to ensure that any provider desiring to offer healthcare services covered by the Certificate of Need statutes undergoes review and is issued a Certificate of Need prior to offering such services.

The State Health Officer shall determine whether the amount of indigent care provided or proposed to be offered is "reasonable." The Department considers a reasonable amount of indigent

care as that which is comparable to the amount of such care offered by other providers of the requested service within the same, or proximate, geographic area.

The MDH may use a variety of statistical methodologies including, but not limited to, market share analysis or patient origin data to determine substantial compliance with projected need and with applicable criteria and standards in this *Plan*.

Population for Planning

Population projections used in this *Plan* were calculated by the Center for Policy Research and Planning, Mississippi Institutions of Higher Learning, as published in *MISSISSIPPI, Population Projections for 2010, 2015, and 2020,* August 2005. This plan is based on 2010 population projections. Map I-1 depicts the state's 2010 estimated population by county.

Outline of the State Health Plan

Section A of the *State Health Plan* outlines Mississippi's demographic characteristics, presents some of the state's health status indicators based on vital statistics, summarizes the major health care resources, identifies the priority health needs of the state, and establishes policies and strategies to help meet the identified needs. The *Plan* also examines the shortage of health care professionals in the state.

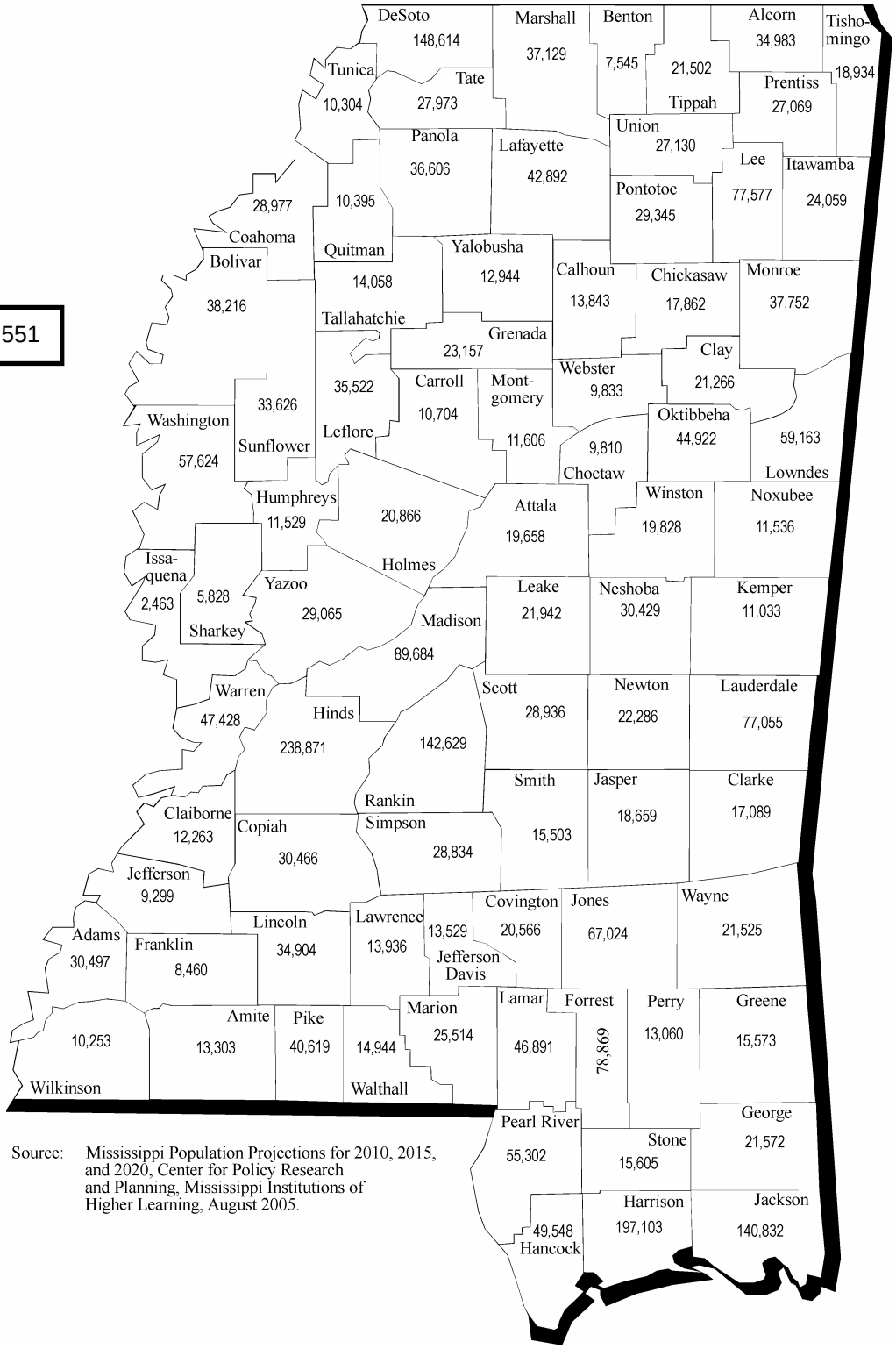
Section B describes existing services, evaluates the need for additional services in various aspects of health care, and provides Certificate of Need criteria and standards for each service requiring CON review. These services include: long-term care, including care for the aged and the mentally retarded; mental health care, including psychiatric, chemical dependency, and long-term residential treatment facilities; perinatal care; acute care, including various types of diagnostic and therapeutic services; ambulatory care, including outpatient services and freestanding ambulatory surgical centers; comprehensive medical rehabilitation; home health services; and end stage renal disease facilities.

Section C contains a glossary of terms and phrases used in this *Plan*.

Section D contains Guidelines for the Operation of Perinatal Units (Obstetrics and Newborn Nursery).

Map I - 1
Population Projections
2010

State Total - 2,975,551



Source: Mississippi Population Projections for 2010, 2015, and 2020, Center for Policy Research and Planning, Mississippi Institutions of Higher Learning, August 2005.

Chapter 02 Mississippi Demographic Profile

This section provides descriptive and statistical information on the demographic characteristics of Mississippi according to the 2000 Census and 2004 population estimates by the U.S. Census Bureau.

100 Population

According to the 2004 Census Estimate, Mississippi had 2,902,966 people dispersed in 82 counties and 296 incorporated cities, towns, and villages. While 50.4 percent of the people live in one of the incorporated municipalities, 51.2 percent live in areas classified as rural by the Census Bureau. Nearly 20 percent (19.8) of the people live in a city with a population of 25,000 or more, and only 34.9 percent in a city of 10,000 or more. The state has four metropolitan statistical areas (MSAs) completely within its borders: Gulfport-Biloxi (Hancock, Harrison, and Stone counties); Pascagoula (Jackson and George counties); Jackson (Hinds, Madison, Rankin, Copiah, and Simpson counties); and Hattiesburg (Forrest, Lamar, and Perry counties). In addition, four Mississippi counties (DeSoto, Marshall, Tate, and Tunica) are included in the Memphis MSA.

The 2004 Census Estimate reports that the state's gender composition was 48.5 percent male and 51.5 percent female. The racial composition was 61.3 percent white, 36.8 percent black, and 1.8 percent other races. Persons aged 65 or older made up 12.1 percent of the population. These data are reflected in the following table.

Table II-1
Population by Gender and Race
2004

2004 Census Estimate: 2,902,966					
Whites	**1,780,313**	**Blacks**	**1,068,990**	**Other**	**53,663**
Males	878,930	Males	503,685	Males	26,118
Females	901,383	Females	565,305	Females	27,545
Estimated Population Over Age 65: 352,867					
Whites	**262,905**	**Blacks**	**86,265**	**Other**	**3,697**
Males	109,350	Males	32,450	Males	1,534
Females	153,555	Females	53,815	Females	2,163

Source: U.S. Census Bureau, 2004 Population Estimates.

101 Housing

The 2000 Census reported 1,161,953 housing units in Mississippi and an average occupancy of 2.45 persons per unit. By contrast, in 1990 there were 1,010,423 housing units, with an average occupancy of 2.55 persons. The average household size in 2000 was 2.63 persons; the average family size 3.14. Although there has been marked improvement in income, education, and housing, Mississippi remains well below the national average in these areas.

Table II-2
Mississippi Non-Agricultural Employment and Job Openings
By Employment Sector
2002 to 2012

Employment Sector	2002 Employment	2012 Projected Employment	Projected Growth 2002 to 2012	
			Number	Percent
Mining	4,830	4,580	(250)	(5.2)
Transportation, Warehousing, and Utilities	45,640	52,660	7,020	15.4
Construction	53,850	66,300	12,450	23.1
Manufacturing	188,470	207,210	18,740	9.9
Wholesale Trade	34,910	40,080	5,170	14.8
Retail Trade	140,820	166,060	25,240	17.9
Finance, Insurance, and Real Estate	45,990	53,220	7,230	15.7
Information, Professional, Scientific, and Technical Services	43,860	55,270	11,410	26.0
Educational, Health Care, and Social Assistance Services	114,460	149,438	34,978	30.6
Management, Administrative, and Support Services	49,980	63,820	13,840	27.7
Accommodation and Food Services	108,260	125,890	17,630	16.3
Other Services (Except Government)	39,590	47,200	7,610	19.2
Arts, Entertainments, and Recreation	13,710	17,670	3,960	28.9
Self Employed and Unpaid Family Workers	127,700	131,710	4,010	3.1
Government	241,210	265,648	24,438	10.1

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

102 Employment

Employment decreased from 1,249,700 in 2004 to 1,237,300 in 2005 (annual average), a one percent decrease, according to the Mississippi Department of Employment Security. This figure includes all Mississippi residents who are employed, whether the employment is within Mississippi or out of state. The average civilian labor force, which includes all residents of the state who are working or seeking employment, was 1,334,400 in 2005. An average of 106,000 Mississippi residents were seeking employment during the year, for an average unemployment rate of 7.9 percent, a 25.4 percent increase from the 6.3 rate reported in 2004.

103 Income

Mississippi ranked 49th among the states in per capita income and 48th in median family income, according to the 2000 Census. In 1999, the per capita income was $16,257, while the national average was $21,690. The median family income was $39,266, more than $10,000 less than the $49,507 for the United States. Table II-3 shows additional information on poverty for individuals and families.

104 Education

According to the 2000 Census, high school graduation rates in Mississippi rose to 74.3 percent in 2000 from 64.3 percent in 1990, a gain of ten points, although the state is below the national average of 81.6 percent. Approximately 18.6 percent of Mississippians over 25 years of age hold a bachelor's degree or higher, compared to 25.1 percent for the United States.

Table II-3
Persons and Families by Poverty Status
Mississippi and United States
1999, 1989, and 1979

	Number of Families Below Poverty Level (in thousands)			Percent Below Poverty Level					
				Persons			Families		
Area	**1999**	**1989**	**1979**	**1999**	**1989**	**1979**	**1999**	**1989**	**1979**
United States	6,828	6,488	5,646	12.5	13.1	12.5	9.6	10.0	9.6
Mississippi	104	137	120	18.2	25.2	23.9	14.3	20.2	18.7

Source: U.S. Census Bureau, Census 2000

Chapter 03 Health Status of Mississippi Population

The *State Health Plan* serves as a resource in helping to improve the health status of the people of the state. One of the first steps toward achieving this objective is to establish a base line of data to determine the current health status of the people. No universally accepted definition of "health" exists. The World Health Organization defines health as ... "a state of complete physical, mental, and social well being; not merely the absence of disease or infirmity." This definition implies that everyone, including the ill or disabled, should have the opportunity to live up to his or her own potential.

In assessing of the health status of Mississippians, the *State Health Plan* focuses on mortality, natality, and morbidity factors. Where data are available, the *Plan* contrasts Mississippi data to the United States. The *Plan* also discusses significant variations within the state by age, race, sex, or geographic area. The Office of Health Informatics of the Mississippi Department of Health (MDH) compiles the relevant information for this chapter. In most cases, 2004 statistics are the most current available.

100 Natality Statistics

100.01 Live Births

Mississippi experienced a 1.2 percent increase in live births from the previous year. In 2004, live births numbered 42,809 compared to 42,321 registered in 2003. Of these, 55.0 percent (23,524) were white and 45.0 percent (19,285) were nonwhite. Table III-1 provides birth data for the last five years.

A physician attended 97.6 percent of all in-hospital live births delivered in 2004 (41,783). Nurse midwife deliveries accounted for 837 live births, an increase of 8.1 percent from the 774 reported in 2003. The nurse midwife deliveries were 1.8 percent (417) for whites and 2.2 percent (420) for nonwhites.

Almost 98 (97.5) percent of expectant mothers received some level of prenatal care in 2004. More than 12 percent (5,359) were in the second trimester before receiving care and 1.7 percent (720) were in the third trimester. These proportions have not changed significantly since the 1980's. White mothers usually receive initial prenatal care much earlier in pregnancy than do nonwhites.

More than 99 percent of the live births occurred in the 15 to 44 years age group. Births to unmarried women made up 48.3 percent (20,684) of all live births in 2004, of these, 69.9 percent (14,465) were nonwhite. Mothers under the age of 15 gave birth to 177 children; 83.6 percent (148) were nonwhite.

Gender ratios of live births have remained unchanged for several years. In 2004, 51.0 percent (21,846) of the births were male and 49.0 percent (20,963) female. September, December, and August were the peak months for births in 2004.

The birth rate in 2004 was 14.7 live births per 1,000 population; the fertility rate was 68.3 live births per 1,000 women aged 15-44 years. Table III-1 and Figures III-1 and III-2 provide information on birth and fertility rates by race for the past five years.

The MDH uses birthweight and gestational age obtained from birth certificates to monitor fetal development. Low birthweight — less than 5.5 pounds (2,500 grams) at birth, and prematurity — gestation age less than 37 weeks, are factors relating to inadequate prenatal care, poor nutrition, lack

of formal education, abject socioeconomic status, smoking, alcohol or drug abuse, and age of the mother. In 2004, 21.9 percent of births were either low birthweight or premature. These indicators differ markedly by race of the mother. Low birthweight was 74.7 percent higher among nonwhite mothers: 8.7 for whites, against 15.2 percent for nonwhites. The rate of births that were either low birthweight or premature was 42.7 percent higher among nonwhite mothers (14.3 percent for whites versus 20.4 percent for nonwhites). National studies have shown that teenagers are more likely to deliver low birthweight babies, and such is the case in Mississippi. In 2004, 13.7 percent of the births to teenagers were low birthweight, and 18.2 percent were premature. The low birthweight rate for white teens was 11.0 percent compared to a rate of 15.7 percent for nonwhites, creating a difference of 42.7 percent.

A total of 497 congenital malformations were reported in 2004 for a rate of 11.6 per 1,000 live births. Other musculoskeletal/integumental anomalies was the malformation category most frequently reported at 24.5 cases per 10,000 live births, followed by polydactyly/syndactyl/adactylia at 18.5, and malformations of the heart at 10.3. Since 1980, malformation of the musculoskeletal system remains at, or near, the top of the anomalies reported at birth in Mississippi. The rates were 19.6 cases per 10,000 live births for whites and 30.6 for nonwhites, a difference of 56.1 percent. It should be noted that congenital anomalies are not well reported in the birth certificate. Many of these are not detected for months or even years after birth. The birth defect registry, currently being implemented, will provide a much more accurate assessment of the incidence of congenital anomalies.

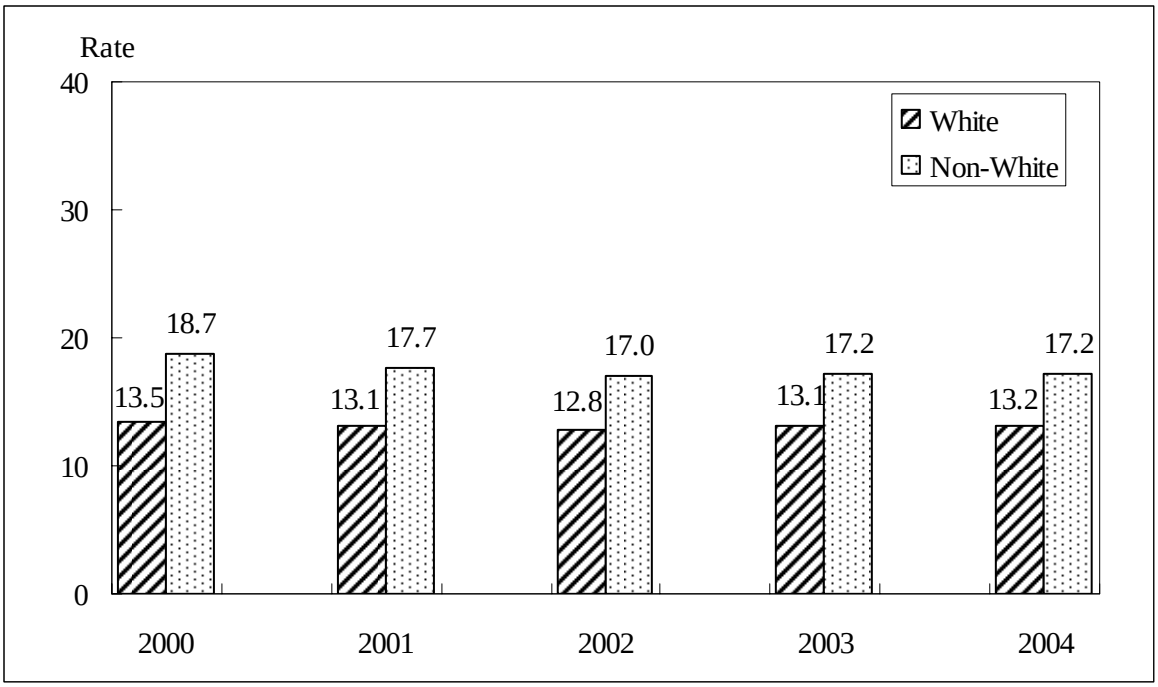
Table III-1
Live Births, Birth Rates, and Fertility Rates
2000-2004

	2000	2001	2002	2003	2004
Live Births	**44,075**	**42,277**	**41,511**	**42,321**	**42,809**
Percent Change	3.3	(4.1)	(1.8)	2.0	1.2
White	23,540	22,798	22,620	23,118	23,524
Non-White	20,535	19,479	18,891	19,203	19,285
Birth Rates[1]	**15.5**	**14.9**	**14.5**	**14.7**	**14.7**
White	13.5	13.1	12.8	13.1	13.2
Non-White	18.7	17.7	17.0	17.2	17.2
Fertility Rates[2]	**69.4**	**66.6**	**65.7**	**67.8**	**68.3**
White	65.0	63.0	63.0	65.4	66.1
Non-White	75.2	71.4	69.2	70.9	71.1

[1] Live Births per 1,000 total population
[2] Live Births per 1,000 females, 15 to 44 years old

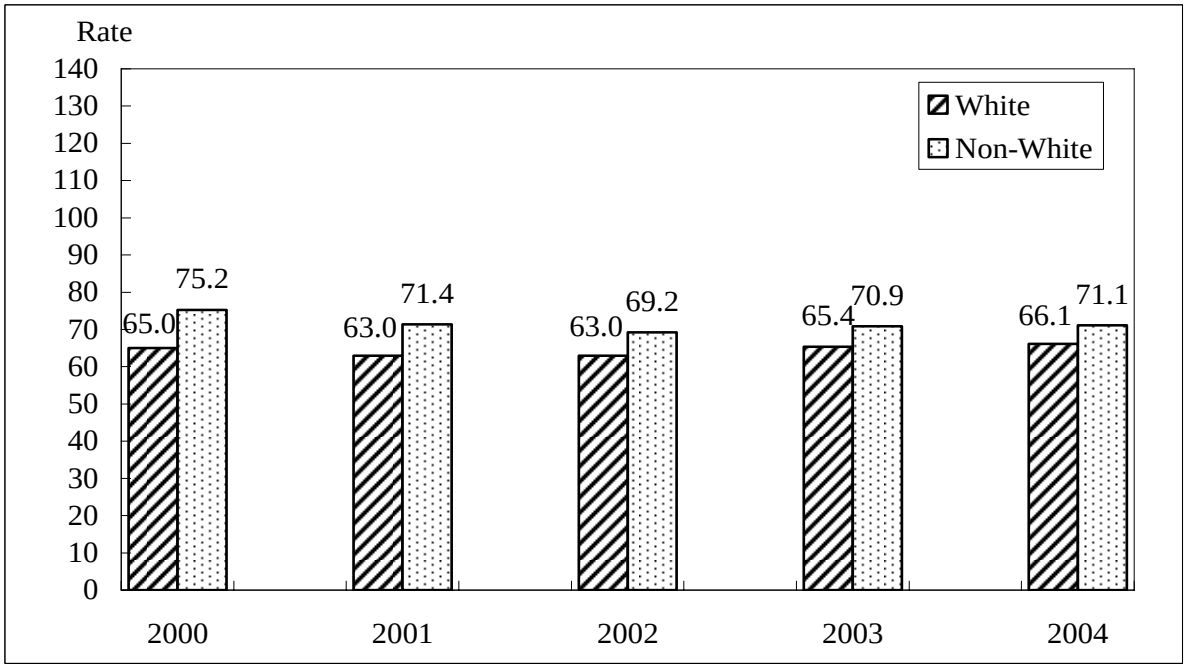
Source: *Vital Statistics Mississippi, 2004,* Mississippi Department of Health, Office of Health Informatics

Figure III-1
Birth Rates, Mississippi 2000 to 2004
(Live Births per 1,000 Population)



Source: *Vital Statistics Mississippi*, 2004, Mississippi Department of Health, Office of Health Informatics

Figure III-2
Fertility Rates, Mississippi 2000 to 2004
(Live Births per 1,000 Population)



Source: *Vital Statistics Mississippi*, 2004, Mississippi Department of Health, Office of Health Informatics

100.02 Babies Born to Mothers-At-Risk
100.03

Seventy-four percent of the live births in 2004 were associated with "at risk" mothers — 31,673 of the 42,809 total births, according to the Mississippi Department of Health. The top ten counties for percentage of those born to mothers-at-risk are: Jefferson, Claiborne, Sunflower, Sharkey, Humphreys, Coahoma, Quitman, Holmes, Leflore and Tunica. “At risk" factors include mothers:

- who are under 17 years of age or above 35 years of age;
- who are unmarried;
- who completed fewer than eight years of school;
- who had fewer than five prenatal visits;
- who began prenatal care in the third trimester;
- who have had previous terminations of pregnancy; and/or
- who have a short inter-pregnancy interval (prior delivery within 11 months of conception for the current pregnancy).

Mississippi experiences the highest percentages of births to teenagers in the nation, at 15.7 percent of all live births — a total of 6,716 children in 2004, a decrease from the 6,769 reported in 2003 (16.0 percent) of live births.

101 Mortality Statistics

101.01 Fetal Deaths

In 2004, Mississippi reported 419 fetal deaths, an increase from 417 reported in 2003, and from the 394 reported in 2002. The fetal death rate for nonwhites has been more than double that of whites for the past several years and in 2003 it continued, with 14.3 per 1,000 live births for nonwhite compared to 6.1 for whites.

Mothers age 40-44 had the highest fetal death ratio at 24.8 per 1,000 live births, followed by mothers aged 15-19, with a rate of 15.3. Next were mothers aged 20-24, having a rate of 9.4 The MDH requires the reporting of fetal deaths with gestation of 20 or more weeks or fetal weight of 350 grams or more.

101.02 Maternal Deaths

Maternal mortality refers to death resulting from complications of pregnancy, childbirth, or the puerperium within 42 days of delivery. Eleven such deaths were reported during 2004, an increase from seven reported in 2003. Some health care professionals believe that maternal deaths are under-reported.

101.03 Infant Deaths

Mississippi experienced 417 infant deaths — children less than one year of age — during 2004, with 273 of those (65.5 percent) to non-white infants. The total included 256 neonatal deaths (within the first 27 days) and 202 post-neonatal deaths (28 days to less than one year).

Disorders relating to short gestation and unspecified low birth weight (79); congenital malformation, deformity, and chromosomal abnormalities (72); sudden infant death syndrome (71); bacterial sepsis of newborn (12); and pulmonary hemorrhage originating in the perinatal period (12)

constituted the five leading causes of infant deaths, 59.0 percent of all infant deaths, in Mississippi during 2004. Table III-2 presents the number of infant deaths and death rates for selected causes by race.

Table III-2
Deaths and Rates for Infants Under One Year
Selected Causes by Race
2004

Area	Number			Rate[1]		
	Total	White	Non-White	Total	White	Non-White
All Causes	417	144	273	9.7	6.1	14.2
Disorders Relating to Short Gestation and Low Birthweight	79	22	57	1.8	0.9	3.0
Congenital Anomalies	72	38	34	1.7	1.6	1.8
Sudden Infant Death Syndrome	71	32	39	1.6	1.4	2.0
Pulmonary Hemorrhage Originating in Perinatal Period	12	0	12	0.3	0	0.6
Bacterial Sepsis	12	4	8	0.3	0.2	0.4
Maternal Complications of Pregnancy	11	3	8	0.2	0.1	0.4
Gastritis, Duodenitis, and Noninfective Enteritis and Colitis	10	2	8	0.2	0.1	0.4
Respiratory Distress Syndrome	10	0	10	0.2	0	0.5
Accidents	10	3	7	0.2	0.1	0.4
Diseases of Circulatory System	8	2	6	0.2	0.1	0.3
Neonatal Hemorrhage	8	2	6	0.2	0.1	0.3
Neonatal Necrotizing Enterocolitis	7	2	5	0.2	0.1	0.3
Influenza and Pneumonia	7	1	6	0.2	<0.1	0.3
Septicemia	6	1	5	0.1	<0.1	0.3
Chronic Respiratory Disease Originating in the Perinatal Period	5	0	5	0.1	0.0	0.3
Intrauterine Hypoxia and Birth Asphyxia	4	3	1	0.1	0.1	0.1
Assault (Homicide)	4	2	2	0.1	0.1	0.1
Atelectasis	4	2	2	0.1	0.1	0.1

[1]Rate per 1,000 live births
Source: *Vital Statistics Mississippi, 2004,* Mississippi Department of Health, Office of Health Informatics

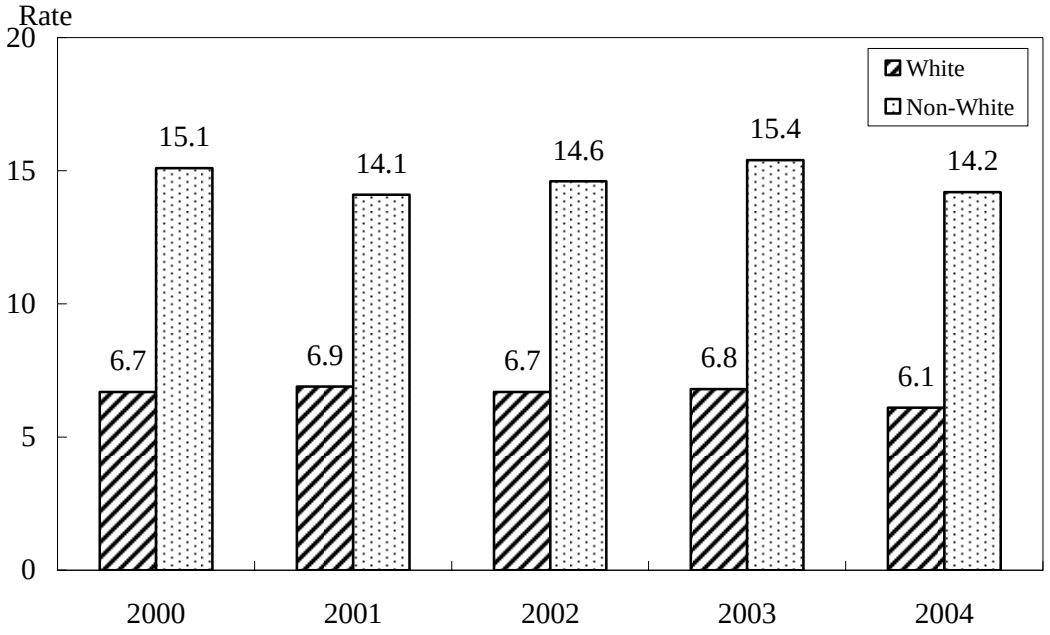
Approximately 63 percent of the neonatal deaths were from disorders relating to short gestation and unspecified low birthweight (79), congenital anomalies (46), and bacterial sepsis of newborn (18), sudden infant death syndrome (12), and pulmonary hemorrhage originating in the perinatal period (12). Fifty-nine percent of the post-neonatal deaths were related to sudden infant death syndrome (59), congenital anomalies (26), and accidents (10).

101.04 Infant Mortality Rate

Overall, the infant mortality rate in Mississippi has declined since 1980, although there have been variations from year to year. Figure III-3A shows the year 2004 mortality rate for nonwhite infants at more than twice that for white infants — 14.2 deaths per 1,000 live births to 6.1 for whites. This difference is comparable to national figures. Many researchers believe that inadequate prenatal care among nonwhite mothers accounts for much of the disparity, as deficient care often results in low birthweight.

Figure III-3
Mortality Rates Among White and Nonwhite Infants,
Mississippi 2000 to 2004

3A
Infant Mortality



Figures 3B and 3C show the trend of neonatal mortality and post-neonatal mortality for the past five years. In 2004 nonwhite infants had a neonatal mortality rate of 9.0 deaths per 1,000 live births, and white infants had a rate of 3.5 deaths per 1,000 live births. The post-neonatal mortality rate was 5.1 for nonwhite infants and 2.6 for white infants.

Figure 3B
Neonatal Mortality

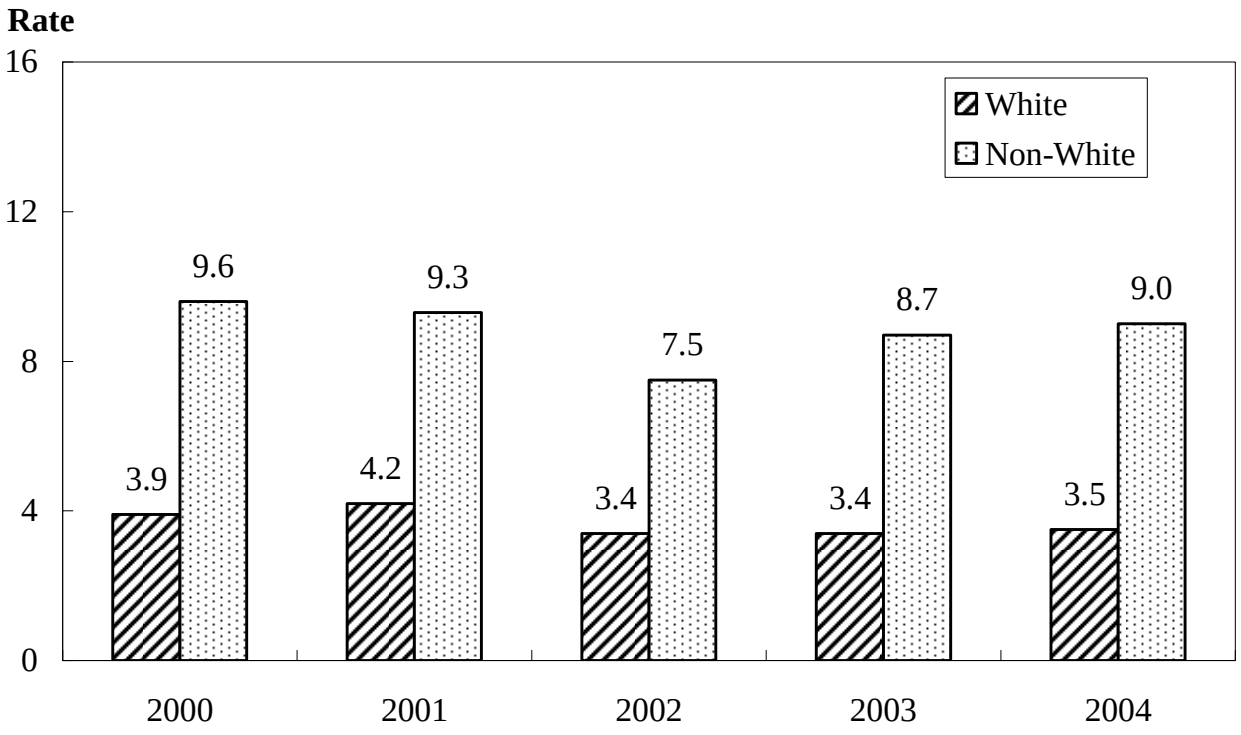
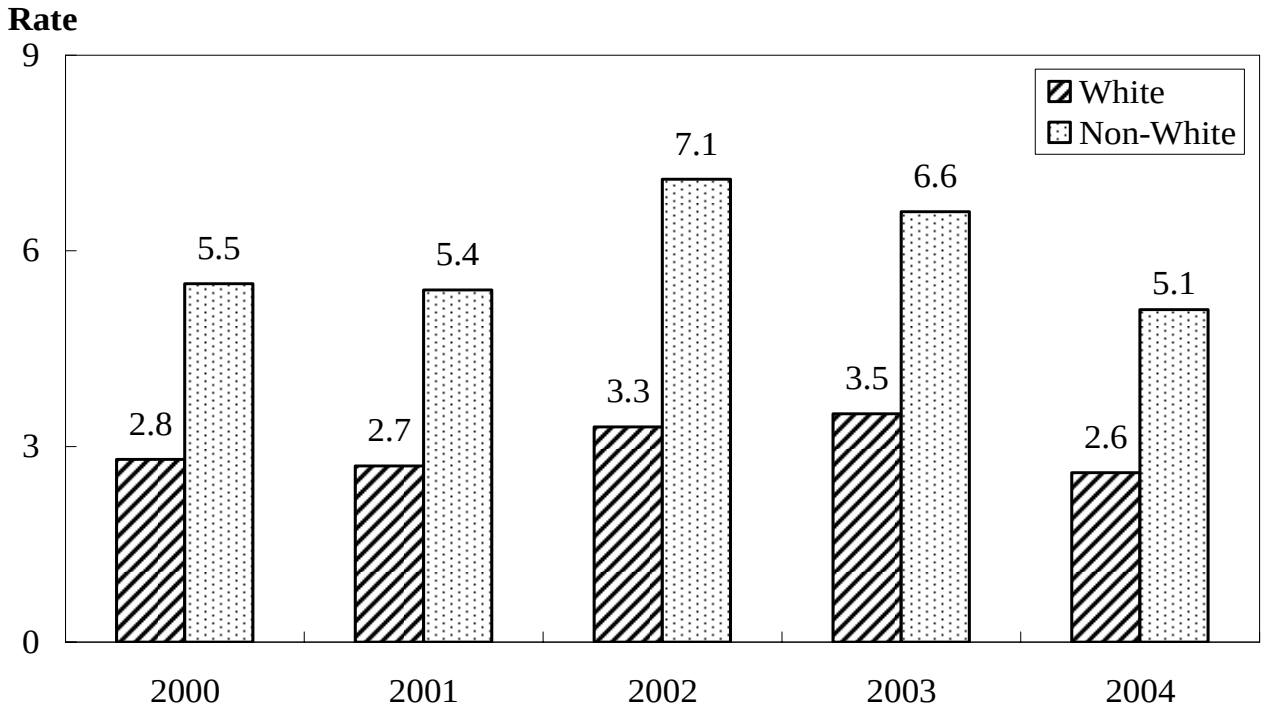


Figure 3C
Post-Neonatal Mortality



In the five-year period 2000 to 2004, 37 counties in Mississippi had five-year average infant mortality rates above the five-year state average of 10.4 per 1,000 live births. None of the ten counties with the highest average infant mortality rates for the last five years had lower rates of live births to mothers-at-risk than did the state at large. Tallahatchie County reported the highest percentage (25.7) of live births to teenagers and Issaquena County reported the highest percentage (28.6) of low birthweight infants. Table III-3 lists the ten counties with the highest average infant mortality rates for this period and which accounted for 7.5 percent of the state's total live births in 2004. Table III-4 presents 2004 data for these counties contrasted with the state.

Table III-3
Mississippi Counties
Experiencing the Highest Infant Mortality Rate
2000 to 2004 (5-Year Average)

State/County	Rate[1]		
	Total	**White**	**Non-White**
Mississippi	**10.4**	**6.7**	**14.8**
Noxubee	18.5	4.5	22.5
Coahoma	18.4	6.9	20.6
Kemper	18.0	10.1	21.4
Humphreys	17.7	6.3	19.9
Sunflower	17.2	9.2	19.0
Leflore	16.9	4.7	20.2
Tunica	16.8	13.6	17.4
Clay	16.1	5.8	21.2
Claiborne	15.7	14.5	15.8
Scott	15.2	12.7	18.5

[1]Rate per 1,000 births

Source: *Vital Statistics Mississippi, 2004,* Mississippi Department of Health, Office of Health Informatics

Table III-4
Selected Data for Counties in Mississippi Having
The Highest 5-Year Infant Mortality Rates
2004

State/County	Births to Mothers at Risk		Births to Teenagers		Low Birthweight Births	
	Number	Percent	Number	Percent	Number	Percent
Mississippi	**31,673**	**74.0**	**6,716**	**15.7**	**4,973**	**11.6**
Noxubee	165	83.8	32	16.2	29	14.7
Coahoma	453	89.5	113	22.3	64	12.7
Kemper	102	80.3	16	12.6	18	14.2
Humphreys	167	90.3	40	21.6	29	15.7
Sunflower	416	90.4	108	23.5	61	13.3
Leflore	477	87.7	97	17.8	67	12.3
Tunica	164	86.8	35	18.5	24	12.7
Clay	233	78.7	60	20.3	51	17.2
Claiborne	144	93.5	29	18.8	22	14.3
Scott	376	76.9	94	19.2	67	13.7
Total	**2,697**	**85.7**	**624**	**19.8**	**432**	**13.7**

Source: *Vital Statistics Mississippi, 2004,* Mississippi Department of Health, Office of Health Informatics

101.05 Deaths and Death Rates

There were 27,748 deaths reported in 2004, for a death rate of 9.6 per 1,000 population. The largest proportion of deaths occurred among whites aged 65 and older, at 48.9 percent (13,579) of the total. Non-whites in the same age group accounted for 18.3 percent (5,068).

Age-adjusted death rates allow comparisons between populations of differing age distributions. For the purpose of the *State Health Plan,* the age-adjusted death rate is based on the United States population in 2000. Table III-5 shows the Mississippi age-adjusted death rates for 2004. The total age-adjusted rate was 9.9 per 1,000 population: 9.4 per 1,000 whites and 11.0 per 1,000 non-whites.

Table III-5
Age-Adjusted Death Rates[1]
by Age and Race in Mississippi
2004

	Number			Rate[1]		
Age Group	**Total**	**White**	**Non-White**	**Total**	**White**	**Non-White**
Total Deaths	27,748	18,689	9,059			
Crude Rates				9.6	10.5	8.1
Age Adjusted Rates				9.9	9.4	11.0
Age Specific Deaths and Death Rates						
Under 1	417	144	273	9.7	6.4	13.3
1-4	82	32	50	0.5	0.4	0.6
5-9	39	18	21	0.2	0.2	0.2
10-14	59	28	31	0.3	0.2	0.3
15-24	515	284	231	1.1	1.2	1.1
25-34	659	342	317	1.7	1.5	2.0
35-44	1,193	623	570	2.9	2.4	3.8
45-54	2,489	1,351	1,138	6.3	5.3	8.0
55-64	3,645	2,286	1,359	12.8	11.2	17.2
65-74	5,067	3,500	1,567	26.3	24.4	31.9
75+	13,580	10,079	3,501	84.7	84.3	85.7
Unknown	3	2	1	***	***	***

[1] Deaths per 1,000 population in the specified group

Source: *Vital Statistics Mississippi, 2004,* Mississippi Department of Health, Office of Health Informatics

101.06 Leading Causes of Death and Death Rates

Ten leading causes resulted in 79.1 percent of all deaths in Mississippi during 2004. Heart disease was the leading cause of death in both Mississippi and the United States. Data on the leading causes of death is presented in Table III-6. Cardiovascular disease (CVD), principally heart disease and stroke, is the leading cause of death in Mississippi and accounted for 29.7 percent of all deaths One in 4.1 CVD deaths occurred in Mississippians under 65 years of age. Whites have higher CVD death rates than African Americans, and men have higher rates than women.

The mortality rate for malignant neoplasms was 227.7 per 100,000 for whites and 170.1 for non-whites. Cancer of the respiratory and intra-thoracic organs was the most common cause of cancer deaths among both white and non-white males, followed by cancer of the digestive organs and peritoneum. Among females, cancer mortality varied according to race. In white females, death from cancer of the respiratory and intra-thoracic organs ranked first, followed by cancer of the digestive organs and peritoneum and then breast cancer. In non-white females, cancer of the digestive organs and peritoneum ranked first, followed by cancer of the respiratory and intra-thoracic organs and then breast cancer.

The ratio of homicides for nonwhites to whites was 3.6 to 1. Whites were 1.3 times more likely to die from malignant neoplasms than nonwhites and 3.7 times more likely to die from emphysema and other chronic obstructive pulmonary diseases than were non-whites. The death rate for the ten leading causes was more than 35.4 percent higher in the white population than the non-white population (8.4 and 6.2 per 1,000, respectively).

Table III-6
Number of Deaths, Death Rates, Percent of Total Deaths, and Relative Risk for the Ten Leading Causes of Death
2004

Cause of Death	Number	Death Rate[1]	% of Total Deaths	Relative Risk[2]
All Causes	27,748	955.8	100.0	1.0
Heart Disease	8,246	284.0	29.7	0.7
Malignant Neoplasm	5,964	205.4	21.5	0.7
Accidents	1,689	58.2	6.1	0.8
Cerebrovascular Disease	1,632	56.2	5.9	0.9
Emphysema & Other Respiratory Disease	1,343	46.3	4.8	0.3
Nephritis, Nephrotic Syndrome & Nephrosis	663	22.8	2.4	1.3
Diabetes Mellitus	658	22.7	2.4	1.4
Influenza and Pneumonia	635	21.9	2.3	0.7
Alzheimer's Disease	622	21.4	2.2	0.4
Septicemia	500	17.2	1.8	1.0
All Other Causes	5,796	199.7	20.9	1.0

[1] Per 100,000 Population
[2] Rate for nonwhites/rate for whites (i.e. nonwhites vs whites)

Source: *Vital Statistics Mississippi, 2004,* Mississippi Department of Health, Office of Health Informatics

Table III-7
Five Leading Causes of Death by Age Group
And Percent of Deaths by Age Group
2004

Age Group	Cause of Death	Number	Percent	Rate[1]
1 - 4	**All Causes**	**82**	**100.0**	**0.5**
	1. Accidents	34	41.5	20.5
	2. Homicide	9	11.0	5.4
	3. Influenza & Pneumonia	6	7.3	3.6
	4. Congenital Anomalies	5	6.1	3.0
	5. Malignant Neoplasms	4	4.9	2.4
5 - 14	**All Causes**	**98**	**100.0**	**0.2**
	1. Accidents	58	59.2	14.0
	2. Malignant Neoplasms	9	9.2	2.2
	3. Heart Diseases	5	5.1	1.2
	4. Homicide	4	4.1	1.0
	5. Suicide	3	3.1	0.7
15 - 24	**All Causes**	**515**	**100.0**	**1.1**
	1. Accidents	270	52.4	59.9
	2. Homicide	62	12.0	13.8
	3. Suicide	49	9.5	10.9
	4. Heart Diseases	19	3.7	4.2
	5. Malignant Neoplasms	16	3.1	3.5
25 - 44	**All Causes**	**1,852**	**100.0**	**2.3**
	1. Accidents	488	26.3	61.3
	2. Heart Diseases	300	16.2	37.7
	3. Malignant Neoplasms	237	12.8	29.8
	4. Homicide	133	7.2	16.7
	5. Suicide	127	6.9	16.0
45 - 64	**All Causes**	**6,134**	**100.0**	**9.0**
	1. Malignant Neoplasms	1,827	29.8	268.2
	2. Heart Diseases	1,664	27.1	244.2
	3. Accidents	406	6.6	59.6
	4. Cerebrovascular Diseases	271	4.4	39.8
	5. Emphysema & Other Respiratory Diseases	226	3.7	33.2
65 & Over	**All Causes**	**18,647**	**100.0**	**52.8**
	1. Accidents	6,252	33.5	1,771.8
	2. Homicide	3,870	20.8	1,096.7
	3. Suicide	1,312	7.0	371.8
	4. Heart Diseases	1,100	5.9	311.7
	5. Malignant Neoplasms	616	3.3	174.6

[1]Deaths from All Causes per 1,000 Population: From Specific Causes per 100,000 Population

Source: *Vital Statistics Mississippi, 2004,* Mississippi Department of Health, Office of Health Informatics

Table III-7 shows the five leading causes of death by age groups. Accidents were the leading cause of death for individuals less than 45 years of age; while malignant neoplasms led for individuals aged 45-64, followed by heart disease, which was also the leading cause of death for individuals aged 65 and older, followed by malignant neoplasms. National death rates from heart disease vary substantially by race and sex, with higher rates among men.

In the 15-24 year age group, 74.0 percent of all deaths were from external causes: accidents, homicide, and suicide. Motor vehicle accidents were associated with 53.7 percent of all deaths from accidents and were the primary cause of accidental death among all age groups, except those under age one. The mortality rate for motor vehicle accidents was highest among the nonwhite male population.

102 Morbidity Statistics

The term *morbidity* is loosely interchangeable with the terms *sickness, illness,* and *disease* (including injury and disability). Morbidity statistics (prevalence and incidence), therefore, measure the amount of non-fatal illness or disease in the population. *Incidence* measures how rapidly new cases of a disease are developing, whereas *prevalence* measures the total number of cases, both new and long-standing, in the population. Accurate, reliable morbidity data are more difficult and costly to collect, compared to mortality data. Incidence data are available only for cancer. Prevalence data are collected for a limited number of diseases and risk factors through the Behavioral Risk Factor Surveillance System (BRFSS) survey and the Youth Risk Behavior Survey (YRBS). Hospital visit data in a limited geographic area are now being collected for asthma.

102.01 Cardiovascular Disease

Cardiovascular disease (CVD) includes coronary heart disease, stroke, complications of hypertension, and diseases of the arterial blood vessels. In addition to causing almost half of all deaths in Mississippi, CVD is the major cause of premature, permanent disability among working adults. Stroke alone disables almost 2,000 Mississippians each year. Overall, approximately nine percent of Mississippi adults (194,000 people) report having some kind of CVD, such as coronary heart disease, angina, previous heart attack, or stroke (BRFSS, 2003).

Several modifiable risk factors contribute significantly to CVD: smoking, high blood pressure, high blood cholesterol levels, diabetes, sedentary lifestyle, and being overweight/obese. Diabetes is a major independent risk factor for CVD. Seven-eighths of adult Mississippians have at least one of six risk factors, and three-fifths of the population has at least two risk factors.

Smoking is the single most important modifiable risk factor for CVD. Approximately one-fourth (24.4 percent) of adult Mississippians are current smokers (BRFSS, 2004). This figure has stayed virtually constant since 1990, though it has increased slightly in recent years. Measures of tobacco use among Mississippi high school students are comparable to national figures: 66 percent have smoked cigarettes, compared to 58 percent nationally; 25 percent have smoked cigarettes during the past month, compared to 22 percent nationally; and 12 percent have smoked cigarettes on 20 or more of the past 30 days, compared to 10 percent nationally (YRBS, 2003).

The percentage of adult Mississippians reporting a high blood cholesterol level has changed little since 1990 and currently stands at about 35 percent (BRFSS, 2003). About one-third of adult Mississippians have not had their blood cholesterol level checked within the past five years (BRFSS, 2003).

Mississippi has one of the highest rates of self-reported lack of regular exercise among U.S. adults. In 2003, 60 percent of adult Mississippians did not meet recommended guidelines for moderate physical activity; 80 percent did not meet recommended guidelines for vigorous physical activity; and 30 percent did not participate in any physical activity during the past month. Among Mississippi students, all measures of physical activity are worse (higher) than the national average: 68 percent of Mississippi high school students (87,000 out of 128,000 students) were not enrolled in a physical education class, compared to 44 percent nationally; 77 percent did not attend a physical education class daily, compared to 72 percent nationally; and 47 percent did not participate in vigorous physical activity in the week prior to the survey, compared to 37 percent nationally (YRBS, 2003).

102.02 Obesity

Mississippi has had the highest rates of adult overweight and obesity in the nation for many years, and the rates have climbed steadily since 1990. No indication exists that these upward trends will level off any time soon. Overweight is defined as a body mass index (BMI) of 25 to 29.9, and obese is defined as a BMI of 30 or above. In 2005, 65 percent of adult Mississippians reported themselves as overweight or obese (BRFSS, 2004).

Among public high school youth, the problem is similar. The frequency of overweight students in Mississippi is higher than the national average: 16 percent of Mississippi students are overweight, compared to 12 percent nationally. An additional 16 percent of Mississippi students are at risk of becoming overweight, compared to 15 percent nationally (YRBS, 2003). Mississippi ranks number two (second highest) in the nation for rates of overweight in high school students (YRBS, 2003). Overweight and obesity have become one of the state's most important and pressing public health problems, and the high and increasing rate of diabetes in the state is largely a consequence of the increasing rate of obesity.

102.03 Hypertension

Hypertension (high blood pressure) is a major risk factor for coronary heart disease (CHD) and heart failure, and it is the single most important risk factor for stroke. The high (and rising) prevalence is very likely an important reason for the high CHD and stroke mortality rates in the state. Mississippi is one of 11 states in the southeast region of the U.S. known as the "Stroke Belt"; this region has for at least 50 years had higher stroke death rates than other U.S. regions.

In 2005, 33.2 percent of adult Mississippians had hypertension (BRFSS, 2004). This also is an important and serious public health problem in Mississippi – not only because of the high frequency of this condition in the population, but also because of the many problems related to treatment and control. Studies elsewhere have shown that many patients with hypertension are not receiving treatment, for various reasons, and that many of those who are being treated are not getting their blood pressures adequately controlled.

102.04 Diabetes

The 2004 prevalence of diabetes in Mississippi was 9.5 percent; the state's prevalence ranked third in the nation in 2004 (most recent national comparisons available), with a rate about 37 percent higher than the national average of seven percent. Diabetes is the primary cause of macrovascular disease, stroke, adult blindness, end-stage renal disease, and non-traumatic lower extremity amputations. Diabetes is also an important risk factor for coronary heart disease, stroke, and various complications of pregnancy.

102.05 Asthma

Asthma is the sixth-ranking chronic condition in the nation and one of the most common chronic diseases in children. It is the number one cause of school absences caused by a chronic condition. Mississippi currently has no tracking systems in place for documenting actual asthma cases; the best estimates at this time are extrapolated from national estimates. In 2004, 12 percent of adult Mississippians had a history of asthma; of these, seven percent still had asthma.

Recently the MDH began collecting hospital visit data for asthma in the three-county Jackson metropolitan area (Hinds, Madison, and Rankin counties); statewide data are yet to be collected. These data show marked white/nonwhite disparities at all ages. The overall prevalence rate of unduplicated hospital visits for asthma in 2003 was 961 per 100,000 (crude) and 943 per 100,000 (age-adjusted). Nonwhite females had the highest age-adjusted rate, 2.7 times that of white females. Nonwhite males had an age-adjusted rate 3.7 times that of white males.

102.06 Cancer

Each year, more than 15,000 Mississippians are diagnosed with cancer. Cancer caused 5,964 deaths to Mississippians during 2004. Lung cancer is the most common cause of cancer death; much of this cancer is due to cigarette smoking.

103 Communicable Diseases

103.01 Tuberculosis

The state reported 103 new cases of tuberculosis in 2005, with a new case rate of 3.5 per 100,000 population. Approximately 84.5 percent (N=87) of the new cases were pulmonary tuberculosis. Tuberculosis was diagnosed three times as frequently in males as females (75 males vs. 28 females). Of the 103 reported cases, 65 (63 percent) were non-white; 38 (36.9 percent) were white.

Although Mississippi has historically exceeded the national new-case rate of tuberculosis each year, assertive intervention and management have resulted in declining cases and case rates below the national average for the past five consecutive years. Mississippi is the only southern state to have reached the CDC's Advisory Committee goal for the elimination of tuberculosis by reducing the new-case rate to 3.5 per 100,000 population.

103.02 Other Communicable Diseases

Table III-8 lists the reported cases of selected communicable diseases for 2003-2005. ***Sexually transmitted diseases*** remain a public health problem in Mississippi, although syphilis rates have decreased in recent years. A total of 47 cases of early syphilis were reported in 2005, a decrease from the 57 cases reported in 2004. Mississippi's case rate has historically been several times higher than the national rate, but remains below the national rate for the fifth year. The state had 7,170 cases of gonorrhea reported in 2005. The 21,258 chlamydia infections shown on Table III-8 are the results of an expansion of testing statewide that began in 2004.

Acquired Immunodeficiency Syndrome (AIDS) received designation as a legally reportable disease in July 1983. By 1990, AIDS had become the tenth leading cause of death in the United States. Individuals engaging in certain risky behaviors have greater risk of contracting the Human Immune-deficiency Virus (HIV) – the virus that causes AIDS. These behaviors include sharing needles and/or syringes, having unprotected sex (anal, oral, or vaginal), having multiple sex partners, having a history of sexually transmitted diseases, abusing intravenous drugs, and having sex with a person engaged in one of these risky behaviors. There were 577 new cases of HIV Disease (HIV infections with or without AIDS and AIDS) reported in 2005.

Hepatitis A is caused by a virus primarily transmitted between individuals through fecal or oral contact or through oral contact with items contaminated by infected human fecal waste. Potential contributing factors include poor personal hygiene, poor sanitation, overcrowding, and fecal contamination of food and water. Another form of hepatitis, ***Hepatitis B***, is transmitted by percutaneous or permacosal exposure to infected blood or blood products, sexual intimacy, and inutero maternal-infant contact. The ***Hepatitis C*** virus is transmitted through percutaneous or permacosal exposure to infected blood, e.g. shared needles. There were 19 reports of Hepatitis A, 53 reports of Hepatitis B, and 17 reports of Hepatitis C in Mississippi during 2005.

Meningitis is an inflammation, usually due to infection of the pia-arachnoid and the fluid it contains. Infecting agents include viruses, bacteria, fungi, or parasites. The disease involves both the brain and the spinal cord; and in bacterial meningitis, the outcome is potentially fatal. Meningitis is more common in the first year of life. Infants, less than one year old, have an incidence rate 6.5 times higher than children one to four years old and 38 times higher than children five to nine years old.

Viral Meningitis, as the name suggests, is caused by a virus. It is usually self-limiting and seldom fatal. The incidence of meningitis usually peaks in the late summer and fall. Cases of meningitis decreased from 94 in 2004 to 74 in 2005.

Salmonellosis is an infection caused by the ingestion of organisms from the *Salmonella* species. Symptoms of the disease are severe diarrhea, cramps, and fever. The MDH received 904 reports of salmonellosis cases in 2005.

Shigellosis has symptoms and modes of transmission similar to salmonellosis. The Mississippi State Department of Health received 105 reports of shigellosis cases in 2005.

Table III-8
Reported Cases of Selected Communicable Diseases [1]
2003 – 2005

Diseases	2003	2004	2005
Sexually Transmitted Diseases			
Primary and Secondary (Infectious) Syphilis	40	57	47
Chlamydia	12,193	18,863	21,258
Gonococcal Infections	6,328	7,162	7,170
HIV Disease	452	607	577
Viral Hepatitis			
Type A	16	24	19
Type B, Acute Viral	110	104	53
Type C, Acute Viral	49	29	17
Enteric Diseases			
Salmonellosis	1,043	911	904
Shigellosis	174	54	105
Campylobacter Disease	109	114	94
Central Nervous System Diseases and Other Invasive Diseases			
Viral Meningitis	79	94	74
Invasive Meningococcal Infections	24	20	6
Invasive *Haemophilus* Influenza, Type B	2	0	0
Other Diseases			
Rocky Mountain Spotted Fever	30	32	18
Animal Rabies (bats only)	4	11	5

[1] This data reflects the most current, updated information available as of June 8, 2006. Additionally, the data reflect only confirmed cases and may differ from previously reported provisional data.

Source: *Office of the State Epidemiologist, June 2006,* Mississippi Department of Health

104 Occupational Injuries and Illnesses

The Mississippi Worker's Compensation Commission produces an annual report on work place injuries and illnesses using information compiled from accident report forms that employers must submit to the Commission. The report shows that work-related injuries and illnesses place significant demands on industry. Such information helps industry to focus on safe work practices and injury prevention through the implementation of safety programs.

Statistical highlights of the Commission's *2004 Annual Report of Occupational Injuries and Illnesses* (most recent available) are as follows:

- During 2004, 73 employees suffered fatalities.
- Employees sustained 13,197 work-related injuries or illnesses that resulted in absence from work for six or more work days during 2004.
- Injuries to females were reported less frequently than males, with 5,178 claims (39.2 percent).
- Strains remained the most common type of injury, with 4,283 claims (32.5 percent).
- Pain in the lower back (the part of the body most often affected) resulted in 1,907 claims (14.5 percent).
- Hinds County had the highest number of reported occurrences with 1,741 claims (13.2 percent).
- Injuries or illness associated with lifting accounted for 2,030 claims (15.4 percent).
- Major injuries or illnesses occurred on Monday more than any other day of the week with 2,511 claims (19.0 percent). August reports exceeded other months with 1,256 claims (9.5 percent), followed by October with 1,225 claims (9.3 percent) and March with 1,222 (9.3 percent).
- Controversial claims totaled 5,285 or 40.0 percent of claims filed.
- Insurance carriers and self-insurers paid a total of $282,226,778 in 2004: $149,198,396 by insurance companies and $133,028,382 by self-insurers.

The top five industries reporting work-related injuries and illnesses during 2004 were:

Table III-9
Industries Reporting Work-Related Injuries
2004

Industry	Number of Job-Related Injuries/Illnesses	Percentage of Total
Manufacturing	2,797	21.2
Services	2,781	21.1
Retail Trade	1,510	11.4
Construction	1,001	7.6
Transportation, Utilities	864	6.6

Source: *Mississippi Worker's Compensation Commission Annual Report of Occupational Injuries and Illnesses*, 2004

105 Expectation of Life at Birth

Statistics show that the average life expectancy of a Mississippi baby born between 1999 and 2001 is 73.8 years. Life expectancy increased by 0.7 years during the previous decade. Racial differences in life expectancy have decreased, but differences in the life expectancy of the sexes have widened each decade.

White females have the longest life expectancy, while non-white males have the shortest. A white female can expect to live about 16 percent longer than a non-white male, a difference of more than eleven years. If these rates prevail throughout their lifetimes, almost 95 percent of white females will reach age 50, compared to only 85 percent of non-white males.

106 Natural Increase

Natural increase (the excess of births over deaths) added an estimated 15,061 persons to Mississippi's population during 2004. The rate of natural increase for the year was 5.2 persons per 1,000 estimated population. Natural increase has declined since 1980, when the rate was 9.6 persons per 1,000 estimated population, although this decline has fluctuated at times. In 2004 the rate of natural increase in the state was 2.7 persons per 1,000 estimated white population and 9.1 persons per 1,000 estimated non-white population.

107 Minority Health Status

Compared to all other ethnic groups, the *American Medical News* reports that African Americans experience higher rates of illness and death from virtually every health condition–from asthma to cancer to diabetes. African Americans in Mississippi face substantially higher rates of teen pregnancy, births to unmarried mothers, infant mortality, and other health status indicators than do white Mississippians. Some disparities which impact health care include economic and geographic factors.

Mississippi ranked 50th among the states in median family income at $39,520 in 2001 inflation-adjusted dollars. Sixteen percent of Mississippi families live below the poverty level, compared to 9.2 percent for the United States. Poverty dictates a standard of living that diverts all income to the essential needs of food, clothing, and shelter; therefore, it is difficult for the impoverished to afford good quality health care.

Officials estimate that 22 percent of Mississippians have no health insurance. Across all ethnic groups, lack of insurance results in weak connections to health care services. Uninsured persons, in fair or poor health, visit physicians less often than their insured counterparts; they are less likely to receive care needed to manage chronic conditions such as diabetes or high blood pressure. Uninsured children and adults are less likely to receive preventive health services or care for acute conditions.

The frequently cited explanation for the disparity in health care for African Americans is “lack of access to quality health care”. The Henry J. Kaiser Family Foundation commissioned a synthesis of the literature on *Racial and Ethnic Differences in Access to Medical Care* in 1999. For most uninsured persons, low incomes and unemployment make insurance coverage unaffordable without substantial financial assistance. Overall, 57 percent of the uninsured are poor or near poor, with family incomes below 200 percent of the poverty level.

Rural areas, particularly those with a high concentration of poor blacks, often have very few medical resources. This fact further limits access to primary health care. As of April 2006, 75 counties or portions of counties were designated as health professional shortage areas for primary medical care.

Minorities are also under-represented in the health professions. Many medical schools have taken steps to increase minority representation. According to the Agency for Healthcare Research and Quality, *Strategies to Reduce Health Disparities, 2001 Conference*, Louisiana and Mississippi applications for minorities to enter medical schools declined 17 percent (2.3 times more than the national average). Even more alarming is that the percentage of applicants accepted declined 27 percent (seven times that of the national average). There was also a drop in minority matriculation by 26 percent (six times greater than the national average).

In licensing year 2006 (FY 2005), only 7.6 percent of Mississippi's total active physicians were black and 6.5 percent were Asians. Based on an estimated non-white population of 1,159,565 (38.9 percent of the total 2010 projected population), the state has one minority physician for every 1,243 non-white persons. Considering black physicians only, there is one black physician for every 2,814 non-white persons; 283 or 68.6 percent, of the state's black physicians were primary care physicians.

Key health problems across the life span of blacks in Mississippi include:

Infant Years:	Infant Mortality
Childhood Years:	Accidents Cancer Dental Health Poor Nutrition
Teenage/Young Adult Years:	Teenage Pregnancy Drugs Motor Vehicle Accidents
Mature Adult Years:	Homicide Accidents
Elderly Years:	Heart Disease Stroke Hypertension Diabetes Cancer

Chapter 04 Priority Health Needs

An assessment of.Mississippi's health care system reveals gaps and unmet needs in several areas. The MDH has identified the following priority health needs for Mississippi:

- Disease prevention, health protection, and health promotion
- Health care for specific populations, such as mothers, babies, the elderly, the indigent, the uninsured, and minorities
- Implementation of a statewide trauma system
- Health needs of persons with mental illness, alcohol/drug abuse problems, and/or mental retardation/developmental disabilities
- Availability of adequate health manpower throughout the state
- Enhanced capacity for detection of and response to public health emergencies, including acts of bioterrorism.

100 Disease Prevention, Health Protection, and Health Promotion

Many of the health problems that plague Mississippians are the result of the state's social, economic, and educational conditions. Mississippi has the second lowest per capita and family income in the nation. Information from the 2000 U.S. Census showed that the state ranks below the national average in the percentage of its population who are high school graduates and college graduates. Mississippi continues to lead the nation in infant death rate, teenage pregnancy, births to unwed mothers, and sexually transmitted diseases (especially syphilis). However, with the state's improved economic situation, many of these problems are being aggressively addressed.

Ten leading causes resulted in 79.1 percent of all deaths in Mississippi during 2004, as discussed in Chapter III. Lifestyle choices are a contributing factor to many of the leading causes of death; most of the premature death, injury, and disability in Mississippi are related to only six risk factors: tobacco use, poor diet, sedentary lifestyle, intentional and unintentional injury, drug and alcohol abuse, and sexual behavior.

Early detection and prevention efforts can greatly influence other factors. For example, a screening and treatment program for hypertension can help avoid some of the costs associated with premature death and disability due to heart disease and stroke. Other prominent factors contributing to heart disease and stroke are cigarette smoking, elevated blood cholesterol levels, diabetes, and obesity. Almost all of these factors can be averted with proper preventive measures.

Prevention costs significantly less than managing disease or disability. Mississippi's high rates of mortality and morbidity in many areas cause high costs for health and social services. Properly directed and increased expenditures for such preventive services as prenatal care, family planning services, cardiovascular disease prevention, targeted screening, and health education could help avoid greater expenditures in the future from premature births, teenage pregnancies, heart disease, stroke, accidents, tuberculosis, sexually transmitted diseases (including HIV/AIDS), and other problems. Continued and increased support in disease prevention and health promotion is a cost effective approach toward improving the health status of Mississippians.

The MDH maintains numerous programs directed toward disease prevention and health promotion. For example, its Office of Epidemiology provides a statewide surveillance program to monitor and investigate the occurrence and trends of reportable diseases and provides consultation to health care professionals and the public on communicable disease control and prevention. The immunization program provides and supports services designed to ultimately eliminate morbidity and

mortality due to childhood vaccine-preventable diseases. The HIV/AIDS prevention and sexually transmitted disease programs offer treatment and drug counseling, testing, and referral services. The Office of Preventive Health directs activities in areas such as injury/violence prevention and control, physical activity, worksite health promotion, cardiovascular disease and diabetes prevention and control, school health, community health promotion, and tobacco prevention and cessation.

Chapter VII presents more information on health promotion, health protection, and disease prevention programs administered through the MDH and other agencies.

101 Health Care for Specific Populations

Mothers and Babies

Mississippi has high rates of infant mortality, low birthweight, and teenage pregnancy. Contributing factors are late or inadequate prenatal care; unhealthy lifestyle factors such as inadequate prenatal nutrition, maternal smoking, or substance abuse; medical or congenital disorders; low socio-economic status; and low educational attainment. To combat these problems, the state must ensure that all persons receive the services necessary to prevent unplanned pregnancies and to promote healthy pregnancies and births. These services include:

- early health education to encourage teenagers to postpone sexual involvement;
- accessible family planning services to prevent unplanned pregnancies;
- comprehensive and risk-appropriate prenatal care, including medical, nursing, nutritional, educational, and social services, to ensure optimal pregnancy outcome;
- obstetrical delivery at a hospital appropriate for the level of patient risk involved; and
- regular pediatric assessments, timely childhood immunizations, and sick care for the infant to ensure a healthy start in life.

The MDH provides maternity services statewide through county health departments, targeting pregnant women whose incomes are at or below 185 percent of the federal poverty level. A Task Force on Infant Mortality assisted the MDH in developing strategies to prevent unintended pregnancies, encourage comprehensive prenatal care, implement regionalized perinatal services, and improve access to prenatal and delivery care. Special initiatives to reduce maternal and infant morbidity and mortality and identify special developmental needs of infants include:

- The **Perinatal High Risk Management/Infant Services System (PHRM)** uses nurses, social workers, and nutritionists to provide multidisciplinary services to high-risk mothers and infants using targeted case management. This team of professionals provides risk screening assessments, counseling, health education, home visiting, and monthly case management. The initiative is an effort to improve access to available resources, provide early detection of risk factors, allow coordinated care, and decrease low birthweight and preterm delivery.

- **Pregnancy Risk Assessment Monitoring System (PRAMS):** PRAMS is part of the Centers for Disease Control and Prevention initiative to reduce infant mortality and low birthweight. PRAMS is an ongoing, population-based, state-specific source of information on selected maternal behaviors and experiences that occur before and during pregnancy and during a child's early infancy. The risk factor surveillance system is designed to supplement vital records, generate state specific risk factor data, and allow comparison of these data among states. This data will be used to develop, monitor and access programs designed to identify high-risk pregnancies and to reduce adverse pregnancy outcome.

- The **Maternal and Infant Mortality Surveillance System** collects information on infant and maternal deaths to identify and examine factors associated with the death of a woman who had been pregnant or with the death of an infant. The information is compiled from a variety of sources such as medical and public health records and family interviews, and reviewed to determine if or how the death could have been prevented. These reviews are used to improve services, resources, and community support for pregnant women, infants, and their families.

- **Genetic Services:** These services include hemoglobinopathy services (screening, education, follow-up, and treatment); clinical genetics (genetics clinics, education, and treatment); newborn screening (recently expanded to include 40 genetic disorders); Birth Defects Registry (birth defects database, registry, and tracking); and case management and provider education to more than 70 hospital nurseries, laboratories, and 120 health department clinics.

- **Early Hearing Detection and Intervention Program:** This program is responsible for the universal newborn hearing screening program, including testing, diagnosis, tracking, and follow-up. Children identified through this program as having a hearing loss are referred to the MDH Early Intervention program for services and follow-up.

Maternal and Child Health Five-Year Needs Assessment

Every five years, the Maternal and Child Health Bureau requires states to conduct a needs assessment to assure the appropriateness of each state's maternal and child health (MCH) services. The FY 2005 need assessment examined state and national performance measures, MCH health status, and capacity indicators. Some priorities were continued from the previous five-year cycle; others were enhanced to better focus on current needs; and some new priorities were chosen.

The following is a list of priorities selected to improve maternal and child health services in Mississippi as a result of the 2005 MCH needs assessments:

1. Increase EPSDT/Preventive Health Services for children on Medicaid and SCHIP.
2. Decrease smoking among pregnant women.
3. Decrease cigarette smoking among sixth through twelfth graders.
4. Reduce repeat teen pregnancies for adolescents less than 18 years old.
5. Address child/adolescent obesity/overweight issues.
6. Increase oral health care and preventive services for children.
7. Reduce child/adolescent unintentional injuries.
8. Decrease unhealthy behaviors, specifically alcohol and drug use and risky sexual behavior, for teenagers sixth through twelfth grades.
9. Maintain case management follow-up services for children with genetic disorders identified through MDH newborn screening.
10. Continue to improve and maintain developed data collection for Title V Population.

The Elderly

Although the majority of the state's younger elderly persons remain relatively healthy, general health and mobility decline with advancing years. About 25 percent of persons aged 85 or older cannot perform the essential activities of daily living. These "frail elderly" persons require nursing home care or extensive medical and social support in the home.

However, few elderly persons can afford extended long-term care. Societal trends in the United States have produced smaller family units and fewer unemployed family members, making the option of home care by the family of elderly persons less available than in past years. Financing for physician care and medication becomes more difficult for the elderly as Medicare deductibles and co-insurance payments increase.

Home health services play an important role in providing needed health care for the homebound elderly, but the care is provided on an intermittent basis and is limited to skilled rehabilitative care. Most elderly people lack adequate financing for custodial care, leaving nursing home care as the only option for many. Medicaid is the primary payor for this expensive care; however, Medicaid has strict limits on the amount of income and assets a person may have and still receive assistance. In addition, the Legislature has limited the number of nursing home beds allowed to participate in the Medicaid program because of the tremendous cost of nursing home care.

The state must continue to examine ways to expand health care services for the elderly population. The Legislature has authorized expansion of current and creation of new home and community-based waiver programs through the Division of Medicaid. These programs are designed to allow Medicaid eligible individuals to avoid or delay institutionalization. The Division operates five waiver programs; two are specifically designed to assist elderly Mississippians: the Elderly Disabled Waiver and the Assisted Living Waiver. Services available through these waiver programs include case management, expanded home health, homemaker, adult day health, home delivered meals, escorted transportation, and in-home and institutional respite.

The MDH endorses the continuing development of residential retirement communities, supervised living apartments, assisted living facilities, personal care homes, adult day care centers, respite care services, and home and community-based services. The MDH encourages all skilled nursing homes participating in the Medicaid program to also participate in Medicare, supports the funding of a broad spectrum of senior citizen services, and recommends the limited expansion of nursing home beds in the state according to the statistical formula for Certificate of Need.

Chapter VIII provides additional information on long-term care.

The Indigent and Uninsured

The traditional sources of reimbursement for indigent care have not kept pace with the increased number of indigent patients, and some traditional sources have diminished. Two undesirable events occur as a result of these circumstances: (1) indigent persons delay or forego needed health care, resulting in increased morbidity and mortality; and 2) health care providers deliver increased amounts of uncompensated care, resulting in severe financial distress for providers who serve significant numbers of indigent patients. The medically indigent population is comprised of several groups of people:

- unemployed or self-employed persons with no health insurance;
- employees of small businesses and agencies which do not provide health insurance;
- part-time employees who are not eligible for health insurance;
- persons covered by insurance and in need of services not covered by insurance;
- the uninsured and under-insured non-poor who experience high costs due to catastrophic illness; and
- undocumented aliens

The working poor whose earnings exceed Medicaid qualifications and who are not provided health insurance benefits by their employer are financially unable to purchase needed primary care

services and create serious uncompensated care problems for service providers. Small rural hospitals serving populations comprised of a large proportion of uninsured or under-insured individuals are struggling to survive financially.

The cost of uncompensated care, shifted to the bills of paying patients, has doubled since 1980. The American Hospital Association estimates that about 16 percent is added to every medical bill of patients with private insurance to help defray the cost of indigent health care. However, hospitals are finding it increasingly difficult to shift these costs. The largest health care customers — American businesses and industries through employee health insurance policies — have demanded discounts and lower prices. Additionally, as the organization and structure of health care delivery has changed from a cost-based reimbursement to a uniform prospective payment system, health care providers (particularly hospitals) are finding it difficult to continue traditional charity care for an increasing indigent population.

The high cost of uninsured health care bankrupts families as well. The elderly person who needs long-term care for a chronic illness is financially impoverished before Medicaid reimbursement becomes available. The young couple with a chronically ill child may face tremendous financial burdens and live on the edge of poverty to pay for care for their uninsurable child. The influx of non-citizen Hispanic and Asian families has caused a tremendous impact on resources.

This situation also creates serious health problems for the individual. The Medicare recipient who receives a minimal Social Security payment must often decide between buying food or medicine and frequently forgoes essential health care. Uninsured individuals with chronic diseases cannot afford prescribed medication and therefore do not properly manage their illness. A pregnant woman delays prenatal care and thus endangers both her health and that of her unborn child.

While there are no precise measures of the number of Mississippians who have been refused health care, or of the amount of charity care provided, there are some useful indicators of the extent of medical indigence, including the number of persons who have no health insurance. Nationally, about 17 percent of the non-elderly population has no health insurance. Approximately 518,000 or 22.1 percent of the non-elderly population in Mississippi has no health insurance, according to the Employee Benefit Research Institute.

Minorities

Advances in technology, medication, treatment, and disease management have led to marked improvements in the health and longevity of Americans. However, gaps between the health status of whites and nonwhites continue to show disturbing disparities. Reducing or eliminating such risk factors as smoking, improper nutrition, and substance abuse would decrease morbidity and mortality rates in the minority community. One or more of these factors contribute to all the conditions causing excess mortality among minority populations. Other factors include lack of early identification of disease, lack of access to health care, and poverty. Moreover, programs designed to reduce or eliminate high risk behaviors have more significantly benefited the majority population.

Many of the factors contributing to excess deaths in the state's minority population are related to lifestyle. This situation emphasizes the need for health promotion and disease prevention within the minority community. The black male faces the greatest disparity in health indicators. He is more likely to die young, and the cause of death is usually homicide. Answers must be found to mitigate or stop the increase of black male homicide/violence.

Barriers to adequate health care for minorities include lack of access to the health care system, the cultural insensitivity of providers, and the lack of health insurance services. Possible solutions include promoting health education for providers (especially minority providers), funding

services and programs targeted to minorities, and evaluating the effectiveness of programs that minority groups need.

After receiving input from various citizens groups residing in Mississippi, the Mississippi Department of Health developed a comprehensive plan to address the health problems unique to minority groups of the state, specifically African Americans. African Americans are the primary ethnic group statistically impacting Mississippi at this time; however, other racial and ethnic minorities are not ignored. The plan can be used as a baseline for improvement of health care practices as other ethnic groups migrate to the state in larger numbers. The plan, entitled *Plan to Eliminate Racial and Ethnic Health Care Disparities,* identifies poverty, the influx of large minority groups, lower educational levels, and limited health manpower, particularly in rural areas, as conditions that contribute to racial and ethnic health care disparities. The plan emphasizes cardiovascular disease, diabetes, cancer screening, HIV/AIDS, child/adult immunization, and infant mortality as six areas of health care disparities most often experienced by minority groups at all life stages.

After health care data was collected and evaluated, five issues emerged as methods to eliminate health care disparities in multiple racial and ethnic minority groups. These issues include cultural competency, prevention/education, accessibility/availability, funding/finance, and legislation. The disparity plan addresses strategies, action steps, and desired outcomes. Strategies include the creation of partnerships to provide health insurance coverage, increasing the number of under-represented minorities in health professions, increasing the number of consumers on health care provider boards, increasing community health education outreach activities of hospital and health care agencies, and preparing health and human service professionals for patient cross-cultural relationships. Action steps to facilitate these strategies include creating partnerships with other state agencies, faith-based agencies, community-based organizations, and provider groups to strengthen the ability to fully serve and effectively address the health care needs of all citizens in the state.

A full text of the disparity plan is available on the MDH website at www.msdh.state.ms.us.

102 Implementation of a Statewide Trauma System

Trauma is the leading cause of death for all age groups in Mississippi from birth to age 44. Serious injury and death resulting from trauma events such as vehicle crashes, falls, and firearms claim 2,000 lives and disable 6,000 Mississippians each year. Trauma victims require immediate, expert attention.

Following the recommendations of a Trauma Care Task Force, the Mississippi Legislature authorized the MDH to develop a statewide trauma care system and established a permanent trust fund to finance the system. The Trauma Care Trust Fund receives funding through a $5 assessment on all moving traffic violations. The fund provides administrative functions at both the state and regional levels.

The MDH has designated seven trauma care regions; each is incorporated as a 501c-3 organization and contracts with the MDH to develop and implement a Regional Trauma Plan. The Mississippi Trauma Care System Plan includes the seven regional trauma plans. The plan allows for trauma patients to be transported to the “most appropriate” trauma facility for their injuries.

Designation levels set specific criteria and standards of care that guide hospital and emergency personnel in determining the level of care a trauma victim needs and whether that hospital can care for the patient or transfer the patient to a Trauma Center that can administer more definitive care.

Level I Trauma Centers must have a full range of trauma capabilities, including an emergency department, a full-service surgical suite, intensive care unit, and diagnostic imaging. Level I centers must have a residency program, ongoing trauma research, and provide 24-hour trauma service. These hospitals provide a variety of other services to comprehensively care for both trauma patients and medical patients. Level I Trauma Centers act as referral facilities for Level II, III, and IV Trauma Centers.

Level II Trauma Centers must be able to provide initial care to the severely injured patient. These facilities must have a full range of trauma capabilities, including an emergency department, a full service surgical suite, an intensive care unit, and diagnostic imaging. Level II Trauma Centers act as referral facilities for Level III and IV Trauma Centers. For specialty care a patient may be transferred to a Level I Trauma Center.

Level III Trauma Centers must offer continuous general surgical coverage and have the ability to manage the initial care of many injured patients. Level III Trauma Centers must also provide continuous orthopedic coverage. Transfer agreements must be in place with Level I and II Trauma Centers for patients that exceed the Level III Trauma Center's resources. Level III centers may act as referral facilities for Level IV Trauma Centers.

Level IV Trauma Centers provide initial evaluation and assessment of injured patients. Most patients will require transfer to facilities with more resources dedicated to providing optimal care for the injured patients. Level IV Trauma Centers must have transfer agreements in place with Level I, II, and III Trauma Centers.

Mississippi Trauma Care Regions

North Mississippi Trauma Care Region, Inc. serves an 18-county area in the northeast portion of the state, encompassing 8,777 square miles. Counties include: Alcorn, Benton, Choctaw, Clay, Chickasaw, Calhoun, Itawamba, Lee, Lafayette, Lowndes, Oktibbeha, Monroe, Pontotoc, Prentiss, Tippah, Tishomingo, Union, and Webster. There are 18 hospitals in the Region; 16 hospitals with emergency rooms are participating in the Mississippi Trauma Care System. The region has two fully designated Level II hospitals: North Mississippi Medical Center, Tupelo, and Baptist Memorial Hospital-Golden Triangle, Columbus; one Level III hospital: North Mississippi Medical Center-West Point; and 11 Level IV hospitals: Baptist Memorial Hospital-Booneville; Baptist Memorial Hospital-Union County, New Albany; Calhoun Health Services, Calhoun City; Choctaw County Medical Center, Ackerman; Magnolia Regional Health Center, Corinth; North Mississippi Medical Center-Eupora; North Mississippi Medical Center-Pontotoc; North Mississippi Medical Center-Iuka; Pioneer Community Hospital-Aberdeen; and Tippah County Hospital, Ripley.

The Mississippi Delta Trauma Care Region, Inc. serves a 19-county area in the northwest portion of the state, encompassing 10,518 square miles. Counties include: DeSoto, Tunica, Tate, Marshall, Coahoma, Quitman, Panola, Bolivar, Sunflower, Tallahatchie, Yalobusha, Grenada, Leflore, Washington, Humphreys, Carroll, Montgomery, Sharkey, and Issaquena. The region has one fully designated Level I hospital—the Regional Medical Center at Memphis, Tennessee; One Level II Hospital: Delta Regional Medical Center, Greenville; and 13 Level IV hospitals: Alliance Healthcare Systems, Holly Springs; Baptist Memorial Hospital-DeSoto, Southaven; Bolivar Medical Center, Cleveland; Greenwood Leflore Hospital, Greenwood; Grenada Lake Medical Center, Grenada; North Oaks Regional Medical Center, Senatobia; North Sunflower County Hospital, Ruleville; Northwest Mississippi Regional Medical Center, Clarksdale; Quitman County Hospital, Marks; South Sunflower County Hospital, Indianola; Tallahatchie General Hospital, Charleston; Tri-Lakes Medical Center, Batesville; and Tyler Holmes Memorial Hospital, Winona.

Central Mississippi Trauma Care Region serves a 14-county, 9,616 square mile area in the west central portion of the state. Counties include: Attala, Claiborne, Copiah, Hinds, Holmes, Jefferson, Leake, Madison, Rankin, Scott, Simpson, Smith, Warren, and Yazoo. The Region contains a total of 21 hospitals; 14 hospitals with emergency rooms are participating in the Mississippi Trauma Care System. The region has one fully designated Level I hospital, University Medical Center and Clinics, Jackson; and 11 Level IV hospitals: Claiborne County Hospital, Port Gibson; Hardy Wilson Memorial Hospital, Hazlehurst; Lackey Memorial Hospital, Forest; Leake Memorial Hospital, Carthage; Madison County Medical Center, Canton; Montford Jones Memorial Hospital, Kosciusko; Rankin Medical Center, Brandon; River Oaks Hospital, Flowood; River Region Medical Center, Vicksburg; Scott County Regional Hospital, Morton; and University Hospital and Clinics, Lexington.

East Central Mississippi Trauma Care Region serves a seven-county area in the eastern portion of the state, including: Winston, Noxubee, Neshoba, Kemper, Newton, Lauderdale, and Clarke. There are a total of 10 hospitals with emergency rooms that are participating in the Mississippi Trauma Care System. The region has seven fully designated Level IV hospitals: Alliance-Laird Hospital, Union; Choctaw Health Services, Philadelphia; H.C. Watkins Memorial Hospital, Quitman; Neshoba County General Hospital, Philadelphia; Newton Regional Hospital, Newton; Riley Hospital, Meridian; and Winston Medical Center, Louisville.

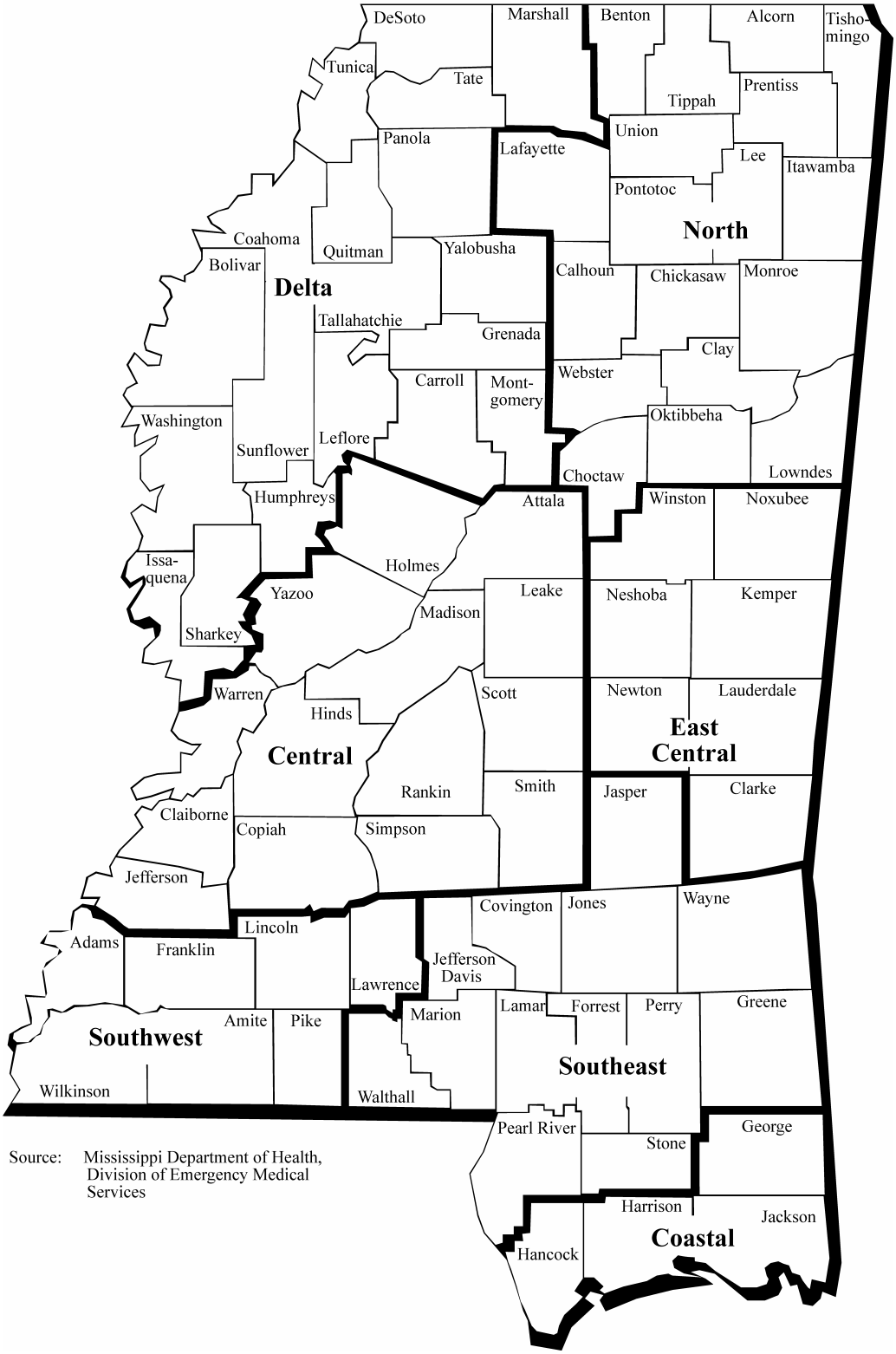
Southwest Mississippi Trauma Care Region serves a seven-county area in the southwest portion of the state. Counties include: Adams, Franklin, Wilkinson, Amite, Lincoln, Pike, and Lawrence. There are a total of eight hospitals with emergency rooms participating in the Mississippi Trauma Care System. The region has six fully designated Level IV hospitals: Field Memorial Community Hospital, Centerville; Franklin County Memorial Hospital, Meadville; King's Daughters Hospital, Brookhaven; Lawrence County Hospital, Monticello; Natchez Regional Medical Center, Natchez ; and Natchez Community Hospital, Natchez.

Southeast Mississippi Trauma Care Region serves a 13-county area in the southeastern portion of the state. Counties include: Covington, Forrest, Greene, Jasper, Jones, Lamar, Perry, Pearl River, Walthall, Marion, Wayne, Stone, and Jefferson Davis. The region has one fully designated Level II hospital: Forrest General Hospital, Hattiesburg; one Level III hospital: South Central Regional Medical Center, Laurel; and nine fully designated Level IV hospitals: Covington County Hospital, Collins; Greene County Hospital, Leakesville; Highland Community Hospital (L. O. Crosby Memorial Hospital), Picayune; Jefferson Davis Community Hospital, Prentiss; Marion General Hospital, Columbia; Perry County Hospital, Richton; Stone County Hospital, Wiggins; Walthall County General Hospital, Tylertown; and Wayne General Hospital, Waynesboro.

Coastal Mississippi Trauma Care Region serves four counties in the southern portion of the state: Jackson, Harrison, Hancock, and George. Eight hospitals participate in the Mississippi Trauma Care System. The region has two fully designed Level III hospitals: Ocean Springs Hospital, Ocean Springs and Singing River Hospital, Pascagoula, and six Level IV hospitals: Biloxi Regional Medical Center, Biloxi; Garden Park Community Hospital, Gulfport; George County Hospital, Lucedale; Gulf Coast Medical Center, Biloxi; Hancock Medical Center, Bay St. Louis; and Memorial Hospital at Gulfport.

In total, 77 percent of Mississippi hospitals with an emergency room are part of the Mississippi Trauma Care System. Map IV-1 shows Mississippi's seven Trauma Care Regions.

Map IV - 1
Mississippi
Trauma Care Regions



Source: Mississippi Department of Health, Division of Emergency Medical Services

103 Health Needs of Persons with Mental Illness, Alcohol/Drug Abuse Problems, and/or Mental Retardation/Developmental Disabilities

Access to a full range of care for persons with mental illness or alcohol/drug abuse problems could prove difficult. State government provides or finances the majority of mental health services, particularly residential treatment services. Mississippi has made a considerable investment in mental health facilities and services, and the state has a number of private sector facilities; yet, a substantial number of Mississippians cannot obtain needed mental health care. The high cost and limited third party coverage of private sector mental health services denies access to all but the wealthy or persons with exceptional health insurance coverage.

Efforts to improve access include additional facilities opened or under construction by the Mississippi Department of Mental Health; an increase in the number of group homes for persons with chronic mental illness, operated by state hospitals or regional mental health/mental retardation centers; and the opening of group homes for emotionally disturbed children to prevent institutional placement or to provide a placement for adolescents ready for discharge from the state hospital. The existing triad of the Department of Mental Health, regional community mental health/mental retardation centers, and private sector providers has the potential of supporting a comprehensive network capable of providing vitally needed services for persons with mental illness or mental retardation.

Mississippi Access to Care (MAC) is a statewide initiative to assess and address the needs of individuals with disabilities. Participating in this initiative are persons with disabilities and their family members; service providers; associations; advocates; state agencies, including the Departments of Education, Health, Human Services, Mental Health, Rehabilitation Services, and the Division of Medicaid; local agencies; and any other persons or organizations interested in making the greatest possible independence available to those with disabilities. Mississippi has implemented a number of activities in compliance with the Americans with Disabilities Act (*Olmstead Ruling*). Mississippi was recognized as one of only four states in the nation to complete a plan which included goals, responsible agencies, timelines, and budgets. Many of the goals outlined in the MAC plan have been addressed or partially implemented, even though budget shortfalls prevented the state from funding full plan implementation. A detailed copy of the implementation plan appears at http://www.mac.state.ms.us.

The First Steps Early Intervention Program is Mississippi's early intervention system for infants and toddlers with special developmental needs and their families. First Steps is implemented through an interagency system of comprehensive developmental services for eligible infants and toddlers. The statewide system seeks to minimize the impact of a disabling condition on an infant or toddler and his or her family by identifying and utilizing community-based resources to the maximum extent possible. The process of connecting an eligible infant to the provision of services and transition of toddlers into an appropriate educational setting is well orchestrated in keeping with the regulations of the Individuals with Disabilities Education Act (IDEA) Part C.

Mississippi serves all eligible infants and toddlers and their families. The program provides procedural safeguards, service coordination, evaluation and assessment, and transition services free of charge to families. After a comprehensive, multi-disciplinary evaluation and assessment, specialized developmental services may be provided to the child and family in accordance with an individualized family service plan (IFSP). All services are currently provided at no cost to families. Cost for specialized developmental services may be charged to private insurance or Medicaid. If the family has no form of insurance coverage, the MDH as the lead agency may pay for services as "payor of last resort."

104 Availability of Adequate Health Manpower

Essential health service delivery requires an adequate supply and appropriate distribution of fully qualified physicians, nurses, and other health care personnel. Mississippi has an adequate total of physicians to meet national standards; however, the physicians are maldistributed through the state. As of April 2006, 75 counties or portions of counties were designated as health professional shortage areas for primary medical care. Mississippi needs to further encourage the training of primary care physicians who will practice in designated underserved areas. Consideration should be given to using community hospitals more extensively for residency training in family medicine.

Approximately 39 percent of Mississippi's dentists practice in the two major metropolitan areas: Jackson and the Gulf Coast. The state's goal is to improve the distribution of dentists so that no county has more than 5,000 persons per dentist and primary dental care is available within 30 minutes travel time of all areas.

The Mississippi Nurses' Association (MNA) and 25 nursing organizations are working together through the MNA's Nursing Organization Liaison Committee to address nursing manpower issues related to anticipated changes in the workplace. Through the efforts of this group, the Mississippi Legislature authorized an Office of Nursing Workforce to develop a statewide model for predicting nursing manpower needs and to initiate methods of transitioning nurses as needed from jobs in the acute care setting to jobs in the community.

The supply of allied health professionals has increased in recent years, with the work force distributed to virtually all health care settings. Firm conclusions about the supply and demand for allied health personnel are difficult to draw, because very little data is available for the study of these groups of health professionals. However, officials believe that changes in the health care delivery system, the aging of the population, and advances in health service techniques and technology will continue to increase the demand for qualified technologists and technicians.

Chapter VI provides additional information on health care personnel in Mississippi.

In addition, the U.S. Health Resources and Services Administration (HRSA) supports the development of systems to improve access to preventive and primary care by providing funding, human resources, and technical assistance to states and community-based organizations. To support state efforts, funds are provided for cooperative agreements to maintain a Primary Care Office (PCO) in each of the 50 states, the District of Columbia, and Puerto Rico.

The Mississippi Department of Health has housed a PCO for more than 19 years. The program is responsible for primary care needs assessment and plan development, health manpower recruitment, coordination of National Health Service Corps and foreign-trained providers, developing linkages with health professional schools, Health Professional Shortage Area designations, researching health care disparities, and assisting in marketplace analysis for primary care delivery sites. The PCO also assists in coordination of primary care services by working with Federally Qualified Community Health Centers and other organizations to help place physicians in underserved areas.

The PCO administers and/or makes recommendations regarding the placement of foreign medical graduates through the J-1 Visa waiver programs. Through these programs, an exchange visitor can be granted a waiver of the two-year foreign residence requirement of the Immigration and Nationality Act if their stay is in the public interest and they agree to serve in underserved areas. There are currently 97 foreign providers actively practicing in Mississippi – 16 placed through the

Appalachian Regional Commission, 65 placed through the State Program, and 16 through the Delta Regional Authority.

The PCO also assists the National Health Service Corps (NHSC) in the placement of health care professionals – primary care physicians, dentists, nurse practitioners, and psychiatrists – in health professional shortage areas through loan repayment and scholarship programs. The current NHSC field strength is 56 and growing as a result of President Bush's Management for Growth initiative. The NHSC seeks to improve the health of underserved Americans by bringing quality primary health care professionals to communities in need, as well as supporting communities in their efforts to build better systems of care.

105 Public Health Preparedness and Response

In 1998, the Centers for Disease Control provided funds to state departments of health to prepare for and respond to bioterrorism. Since then, the Mississippi Department of Health has used those funds to improve the capabilities of the Department to respond to all public heath emergencies, including bioterrorism.

Following the events of September 2001 and the subsequent anthrax incidents that affected the nation, Congress approved an unprecedented increase in funding for public health to combat bioterrorism and improve the public health infrastructure of the nation. Every state received money to improve response efforts in seven emphasis areas. Mississippi's response efforts are based on the overarching principal that all response is local. In essence, the response begins before the threat is fully recognized, emphasizing the need for a well-trained, well-coordinated response plan. The following outline represents the basic response plans and efforts based on the areas of emphasis as identified by the CDC:

Preparedness Planning focuses on the Department's ability to respond to all emergencies, including acts of bioterrorism. For the first time, the Department has had the opportunity to position emergency response coordinators in each district, with the direct responsibility of strengthening ties with the community and helping integrate public health into local emergency response efforts. Further, this emphasis area highlights *readiness assessment*, which the Department will use to identify deficiencies in the response system and to make plans for future improvements.

Surveillance and Epidemiological Capacity has been greatly enhanced with the funding from this grant. Both technological and human resources have been enhanced to improve surveillance activities. The MDH is developing a comprehensive, statewide, enterprise Public Health Information Management System (PHIMS). Based on the National Electronic Disease Surveillance System (NEDSS) model, the data stored in the PHIMS repository will be available to all program areas. The modification and implementation of a central repository is one phase of a multi-phase project to implement a department-wide repository based upon CDC's Public Health Information Network (PHIN) architecture. With the development and implementation of a new Laboratory Information Management System, both clinical and environmental results will be available electronically to all program areas. Additionally, the MDH is implementing a statewide electronic syndromic surveillance system that will increase its ability to receive near "real time" hospital data on a daily basis and use such information for the purpose of combating emerging public health issues.

Laboratory Capacity has been enhanced in two separate areas: *Biological Agents* and *Chemical Agents*. While the Chemical Agent funding was new for the 2003-2004 funding cycle, the Biological Agents funding has already greatly improved laboratory capacity to respond in testing for agents such as anthrax, and has provided much-needed equipment and staff. The Preparedness and Response Laboratory (PRL) has been able to implement a coordinated training program for other laboratories statewide, and has added a molecular biology section to the lab. One of the biggest

problems facing the PHL at this time is finding space to conduct the tests; that problem will be solved, in part, with the move and renovation of a modular unit later this year. That unit will be necessary to further increase lab capacity to test chemical agents.

The *Health Alert Network* is responsible for providing accurate, timely health alerts and information to appropriate audiences through secure channels. Building on systems already in place in the surveillance program, the MS-HAN plans to upgrade alerting capabilities to include the ability to provide health alert messages via multiple channels to physicians, emergency rooms, infection control specialists, and non-traditional partners in law enforcement, emergency response, and fire departments. Further, the system will integrate with other information systems as part of the Public Health Information Network (PHIN), which includes HAN, NEDSS, the Laboratory Response Network (LRN), and other CDC-sponsored efforts.

Risk Communication and Health Information Dissemination focuses on the Department's ability to communicate high-risk and highly technical information to both the media and the public. Communications with the media focus on clear, concise messages prepared and delivered by public health professionals trained in media relations. Information for the public includes general information regarding bioterrorism and other public health emergencies, including emerging infectious diseases. The grant funding has allowed the Department to upgrade and expand the web site capabilities, providing a more streamlined and user-friendly vehicle for both public communication and services.

Education and Training are the foundation for preparing any team for response efforts. Through this grant, the Department plans to work toward a comprehensive, cohesive training plan for employees with an emphasis on workforce development and emergency response. Creation of a Learning Management System which links to a national system and gives employees the opportunity to select training is planned, as well as strengthening existing partnerships within the South Central Public Health group, a consortium which includes the state health departments in Mississippi, Louisiana, Alabama, and Arkansas, and the Schools of Public Health at the Tulane University School of Public Health and Tropical Medicine and the University of Alabama at Birmingham. Through all of these emphasis areas, the grant funding has emphasized improving ties between MDH and communities, and improving the practice of public health in Mississippi.

In addition, the U.S. Department of Health and Human Services Health Resources and Services Administration funds the Bioterrorism Hospital Preparedness program. The MDH Office of Emergency Planning and Response administers this program through its Bureau of Emergency Preparedness and Planning. The program is to develop, implement, and intensify regional terrorism preparedness plans and protocols for hospitals, outpatient facilities, EMS systems (both freestanding and fire-based), and poison control centers in a collaborative statewide and regional model.

Surge capacity has been addressed by forming seven emergency preparedness regions; each can address a surge capacity of at least 500 patients presenting as a direct result of bioterrorism, weapons of mass destruction, or other public health emergency. Specific hospitals in each region have been identified as Weapons of Mass Destruction Centers of Excellence. Each of these preparedness-enhanced facilities are receiving pharmaceutical caches, personal protective equipment, decontamination units, communication upgrades, isolation capability upgrades, and training. The WMD Centers of Excellence Hospitals are supported by numerous hospitals which have been designated as support centers.

Emergency medical services, hospitals, and hospital laboratories will receive benefits as well, including communications improvements, training in planning and response, personal protective equipment, and pharmaceutical caches.

Chapter 05 Health Care System

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.

Increasing numbers of providers have formed networks and other partnerships to offer patients a reduced cost for services. Others are joining health care systems to facilitate referrals for related services or referrals to larger facilities for specialized services.

The following sections summarize the different types of health facilities and health services available in Mississippi.

100 Hospitals

Mississippi had 97 non-federal acute (short term) care hospitals in April 2006, with a total of 11,273 licensed medical-surgical beds, of which 10,304 were set up and staffed. The count excludes Whitfield Medical-Surgical Hospital, a 43-bed facility providing acute care to psychiatric patients at the Mississippi State Hospital at Whitfield, and the Medical-Dental Facility at Parchman, a 56-bed facility providing acute and psychiatric care to inmates at the Mississippi State Penitentiary.

Also excluded in the above count are the state's nine licensed long-term acute care hospitals: Batesville Specialty (29 beds); Greenwood Specialty Hospital (40 beds); Mississippi Hospital for Restorative Care, Jackson (25 beds); Promise Specialty Hospital of Vicksburg (35 beds); Select Specialty Hospital of Jackson (53 beds); Regency Hospital of Meridian (40 beds);; Specialty Hospital of Meridian (49 beds); Regency Hospital of Hattiesburg (33 beds); and Select Specialty Hospital-Mississippi Gulf Coast, Gulfport (30 beds). These hospitals provide care to patients who need less than three hours of rehabilitation services per day but who have an average length of stay greater than 25 days. Chapter XI provides more information on long-term acute care hospitals.

Twenty-eight of the 97 hospitals have been designated as Critical Access Hospitals (CAH). These hospitals provide outpatient, emergency and limited inpatient services and receive cost-based reimbursement for services provided to Medicare patients. CAHs may operate a maximum of 25 beds and keep inpatients an average of 96 hours. A CAH can participate in a swing bed program but may not exceed the 25 bed limit. Federal regulations require that CAHs must be rural; must make emergency care available 24 hours a day; and must be a member of a referral network and have an agreement with at least one other hospital for patient transfer, communication systems, transportation, credentialing, and quality assurance.

In addition to the state's non-federal hospitals, the federal government operates two Veterans' Administration Hospitals, one in Jackson and one in Biloxi. The United States Air Force operates medical facilities at Columbus and Biloxi to serve active duty and retired military personnel and their dependents. The Indian Health Service funds the operation of the Choctaw Health Center, an 18-bed acute care hospital in Philadelphia which is operated by and provides health care services to the Mississippi Band of Choctaw Indians.

Eight Mississippi counties have no hospital: Amite, Benton, Carroll, Issaquena, Itawamba, Kemper, Smith, and Tunica counties. However, these counties appear to receive

sufficient inpatient services from hospitals in adjoining counties. Chapter XI details the state's acute care services.

101 Ambulatory Care

Ambulatory care is available through private offices of physicians and through MDH clinics, 22 Community Health Centers with 128 sites, 145 certified rural health clinics, and 70 hospital outpatient clinics. In addition, Mississippi has 24 licensed freestanding multi-specialty ambulatory surgery centers.

Mississippi had 5,421 active licensed physicians (5,098 medical doctors, 264 osteopaths, and 59 podiatrists); 1,212 active licensed dentists; 33,750 registered nurses; and 13,405 licensed practical nurses for FY 2005. Approximately 24,859 of the RNs and 8,997 of the LPNs were employed full-time in nursing careers. There were 1,599 RNs certified for expanded role nursing as nurse practitioners. Chapter VI of this *Plan* provides more detailed information on health care personnel in Mississippi.

The MDH operates at least one county health department in every county, with Sharkey and Issaquena counties sharing a health department, for a total of 101 clinics throughout the state. Department staff includes public health nurses, nurse practitioners, physicians, disease investigators, environmentalists, medical records clerks, social workers, and nutritionists. The county health departments provide immunizations, family planning, WIC (Special Supplemental Food Program for Women, Infants, and Children), tuberculosis treatment and prevention services, sexually-transmitted disease (including HIV/AIDS) services, and other communicable disease follow-up. Additional services, such as child health and maternity services, are available based on the county's need. The number and type of staff may vary according to the need and resources in each particular county; however, every county provides all general public health services.

Community health centers (CHCs) are federally-subsidized, non-profit corporations that delivered primary and preventive health care and social services to 310,807 Mississippians in calendar year 2004. CHCs must serve populations identified by the U.S. Department of Health and Human Services as medically underserved. This status indicates that the geographic area has limited medical resources; other factors include poverty and lack of health insurance. CHCs offer a range of services, including medical, dental, radiology, pharmacy, nutrition, health education, and transportation. Mississippi has 22 CHCs, with 128 sites.

Rural health clinics (RHCs) also provide care in areas designated by the U.S. Department of Health and Human Services as medically underserved. These clinics use physician's assistants and nurse practitioners under the general direction of a physician, who is located within 15 miles of the clinic, to provide outpatient primary care to patients in rural areas. RHCs receive cost-based reimbursement from Medicare and Medicaid. A total of 145 certified RHCs operated in Mississippi as of April 2006.

Seventy Mississippi hospitals provided outpatient services during FY 2005, with 2,262,596 out-patient clinic visits. The state's 24 freestanding ambulatory surgery facilities provided a total of 89,707 surgeries, in addition to the 147,702 ambulatory surgeries performed in hospitals during the year.

Chapter XIII provides more detail on all of the ambulatory care facilities. In addition to these facilities, a number of non-profit voluntary health organizations provide educational and informational services, screening services, referral services, counseling, limited diagnosis, and treatment services. Examples include the Muscular Dystrophy Association, American Heart

Association, American Red Cross, Mississippi Lung Association, American Diabetes Association, American Cancer Society, and Catholic Charities. These organizations and others serve as a general support system for persons with specific health problems.

102 Long-Term Care

Mississippi has 185 public or proprietary skilled nursing homes, with a total of 17,112 licensed beds. Eleven entities have received CON approval for the construction of 543 additional nursing home beds, and 12 facilities have voluntarily delicensed a total of 514 nursing home beds which are being held in abeyance by MDH. This count excludes one nursing home operated by the Mississippi Band of Choctaw Indians, with 120 beds; two nursing homes operated by the Department of Mental Health, with a total of 705 licensed beds; a total of 262 beds in continuing care retirement communities; four nursing homes operated by the Mississippi State Veteran's Affairs Board, with a total of 600 beds; and one facility operated by the Mississippi Methodist Rehabilitation Center, with a total of 60 beds dedicated to serving patients with special rehabilitative needs, including spinal chord and closed-head injuries. The state has 13 intermediate care facilities for the mentally retarded - five proprietary and eight state owned and operated - with a total of 2,724 beds. Ellisville State School includes four separately-licensed facilities. The state also has six operational psychiatric residential treatment facilities for emotionally disturbed children and adolescents, with a total of 282 licensed beds, an additional 76 beds have received CON approval.

In addition, 11 Mississippi hospitals provide limited nursing home care in "distinct part skilled nursing facilities." These units are located in a physically identifiable distinct part of the hospital and are certified for participation in the Medicare program as skilled nursing facilities, but cannot participate in the Medicaid program. As of April 2006, 167 beds were in operation.

Another 53 hospitals offer care in "swing beds", which are beds approved to alternate as needed between acute care and long-term care in hospitals of fewer than 100 beds. These hospitals provided care equivalent to 220 nursing home beds in FY 2005.

Individuals who need some custodial care or assistance with the activities of daily living, but do not require skilled nursing services, may choose to live in a licensed personal care home. Mississippi has 184 such homes, with a total of 5,102 licensed beds.

Numerous retirement communities or assisted living facilities provide independent living areas for individuals who need a sheltered environment, including nutritional and social support, but who do not require institutional health care. The state's ten Area Agencies on Aging coordinate home and community-based services such as adult day care, respite care, congregate or home-delivered meals, and chore/homemaker services. Chapter VIII provides more detailed information on long-term care.

103 Hospice Services

The appropriate care of terminally ill individuals has become a major concern of society. This concern led to the philosophy that terminally ill patients should be allowed to spend their final days at home or in a home-like environment if they so desire, yet still receive appropriate palliative care. As a result of this thinking, the federal government enacted legislation allowing Medicare to pay for hospice care.

By definition, a hospice is not a facility but a program. A hospice provides palliative care to terminally ill patients and counseling to the patient's family. Palliative care controls pain and the symptoms of the dying process and is not intended to be curative in nature. It is supportive care provided to meet the special needs arising from the physical, emotional, spiritual, social, and economic stresses that are experienced during the final stages of illness, dying, and bereavement. This care is available 24 hours per day, seven days a week, and is provided on the basis of need regardless of ability to pay. The care is designed and provided by an interdisciplinary team.

For the purposes of this *Plan*, a hospice or hospice program is defined as an autonomous, centrally administered, medically directed, nurse-coordinated program providing a continuum of home, outpatient, and inpatient care for not less than four terminally ill patients and their families.

Mississippi currently has 110 licensed and Medicare-certified hospices in operation in the state plus three other hospices that are licensed to operate in Mississippi but are certified by other states.

104 Rehabilitation

The Mississippi Department of Rehabilitation Services (MDRS) provides a variety of services to persons with disabilities and their families. The MDRS helps individuals who have a physical or mental impairment that substantially hinders employment and who have the potential of getting and keeping a job as a result of vocational rehabilitation. Services include medical assistance, physical and occupational therapy, counseling, educational assistance, job training, and placement. The MDRS also offers programs to help individuals with disabilities gain independent living skills and cooperates with a number of other agencies to provide specialized services.

The Mississippi Schools for the Deaf and the Blind provide residential and day programs for hearing or visually impaired children and youth to 21 years of age. The schools offer elementary and secondary education curricula that meet State Department of Education standards, as well as specialized courses to meet the particular needs of hearing or visually impaired students.

Blair E. Batson Children’s Hospital at the University of Mississippi Medical Center offers both inpatient and outpatient habilitation and rehabilitation services for physically and developmentally disabled persons, both children and adults. The State Department of Education has accredited Children’s Hospital to provide elementary and secondary curricula, as needed, allowing the children’s program to provide optimum development for each child.

Fifty-seven certified rehabilitation agencies in Mississippi offer various services on an outpatient basis, such as physical therapy, speech therapy, and social services. Other facilities offer comprehensive medical rehabilitation (CMR) services, defined as intensive care providing a coordinated multidisciplinary approach to patients with severe physical disabilities that require an

organized program of integrated services. Level I facilities offer a full range of CMR services to treat disabilities such as spinal cord injury, brain injury, stroke, congenital deformity, amputations, major multiple trauma, polyarthritis, fractures of the femur, and neurological disorders, including multiple sclerosis, cerebral palsy, muscular dystrophy, Parkinson's Disease, and others. Level II facilities offer CMR services to treat disabilities other than spinal cord injury, congenital deformity, and brain injury.

Seven hospital-based units offer Level I CMR services and eight hospital-based units offer Level II limited CMR services. Mississippi's Level l CMR units are located at Baptist Memorial Hospital-DeSoto in Southaven, Delta Regional Medical Center in Greenville, Forrest General Hospital in Hattiesburg, Memorial Hospital at Gulfport, Mississippi Methodist Rehabilitation Center in Jackson, North Mississippi Medical Center in Tupelo, and University Hospital and Clinics in Jackson.

Level II CMR units are located at Baptist Memorial Hospital-North Mississippi in Oxford, Greenwood Leflore Hospital in Greenwood, Natchez Regional Medical Center in Natchez, Northwest Mississippi Regional Medical Center in Clarksdale, Riley Memorial Hospital in Meridian, River Region Health System in Vicksburg, Singing River Hospital in Pascagoula, and Southwest Mississippi Medical Center in McComb. Tables XII-1 and XII-2 list bed capacity, discharges, average lengths of stay, and occupancy rates of Mississippi's Level I and Level II comprehensive medical rehabilitation units, respectively. Map XII-1 shows the location of these units.

The Children's Medical Program of the Mississippi Department of Health provides medical care and rehabilitative services to children with physical disabilities whose families cannot afford the cost of properly caring for their children. The program provides services in field clinics throughout the state and makes referrals for services the program does not offer.

The MDH provides leadership for First Steps, Mississippi's interagency early intervention system for infants and toddlers with developmental delays. Mississippi has fully implemented this system statewide as an entitlement for children with disabilities and their families.

Chapter XII, *Habilitation and Rehabilitation Services*, provides more detailed information on all of these agencies and programs.

105 Other Services

Numerous other organizations provide a variety of health care services in Mississippi. Individuals may receive health care services in the home through any of the 63 home health agencies licensed to serve patients in Mississippi. A total of 62,700 Mississippians received home health services during FY 2004.

Mississippi has 70 certified and four CON-approved end stage renal disease facilities, with a total of 1,567 renal dialysis machines that provide maintenance kidney dialysis services. Chapter XIII provides additional information on both ESRD and home health services.

A health maintenance organization (HMO) is an organization that provides or arranges for the delivery of basic health care services to enrollees on a prepaid or other financial basis, using an organized system that combines the delivery and financing of health care. HMOs may be public or private entities, and they may be non-profit or propriety.

The delivery of health care services through HMOs has existed in some parts of the United States since the 1930s. These organizations have proliferated throughout the country in recent years. Beginning in 1995, an explosion of interest was demonstrated in the Mississippi HMO market. By December 1998, 15 HMOs were operating in the state. During 1999, however, the market experienced significant fallout. As of December 30, 2005, five HMOs were licensed in Mississippi, although all may not be active.

106 Public Health

Mississippi's public health system includes a 13-member Board of Health, the State Health Officer, central administrative offices in Jackson, nine district offices, 13 licensed home health regions, and 81 county health departments. The Mississippi Department of Health (MDH) promotes and protects the health of the citizens of Mississippi through health promotion, disease prevention, and the control of communicable diseases. Communicable disease services include epidemiology, screening, surveillance, diagnosis, and treatment in areas such as tuberculosis, sexually transmitted diseases, and HIV/AIDs. Programs attempt to control disease transmission through effective intervention, treatment, and immunization where possible. In addition, the immunization program strives to eliminate morbidity and mortality from vaccine-preventable diseases.

The MDH maintains programs to reduce the risk of particular health problems and to control or prevent such non-communicable diseases as diabetes, cancer, hypertension, and cardiovascular disease. Other components of public health include services to:

- provide supplemental food and nutrition education to low-income pregnant, breastfeeding, and postpartum women and to infants and children up to five years of age (accomplished through the WIC program), serving as an adjunct to good health care during critical times of growth and development and reducing health problems associated with poor nutrition during pregnancy, infancy, and early childhood;

- improve family planning through contraceptive services and counseling;

- improve maternal health through prenatal and postpartum care for maternity patients and access to enhanced delivery services for high risk pregnant women;

- contribute to the health of children and youth through the Early Periodic Screening, Diagnosis, and Treatment program; the First Steps Early Intervention System for Infants and Toddlers; the Children's Medical Program; school nurse services; and other services for infants, children, and adolescents;

- control or prevent problems that can endanger public health through protection of consumers against preventable hazards in food, milk, and water; maintenance and enforcement of regulatory standards regarding proper wastewater disposal; radiological safeguards; and consultation on public health pest management;

- support the detection, analysis, and treatment of public health problems;

- enhance the state's emergency medical services through development of a statewide trauma plan and licensing of ambulance services and emergency medical technicians;

- enforce established standards in the delivery of health care through inspection and licensure of hospitals, nursing homes, and other health care facilities;

- maintain public records such as births, deaths, utilization of health care services, and other statistical information regarding the health of Mississippians for the purpose of tracking public health trends and needs;

- support the planning and development of policies and standards for public health services; and

- develop emergency preparedness plans, including enhanced infectious disease surveillance/investigation and improved technological connectivity between physicians, hospitals, and the public health system.

107 Emergency Medical Services

Emergency Medical Services (EMS) are health care services delivered under emergency conditions that occur as a result of the patient's condition, natural disasters, or other situations. Emergency Medical Services are provided by public, private, or non-profit entities with the authority and the resources to effectively administer the services.

The MDH Bureau of Emergency Medical Services licenses all ambulance services in Mississippi; inspects and permits ambulances; tests and certifies emergency medical technicians on the basic, intermediate, and paramedic level; tests and certifies EMS drivers; tests and certifies medical first responders; authorizes advanced life support and all other training programs; manages a statewide records program (Mississippi Emergency Medical Services Information System); and administers the EMS Operating Fund.

The Division of Trauma System Operations (DTSO) coordinates the development of the Mississippi Trauma Care System and synchronizes efforts between the staff and contracted trauma consultants for trauma center inspections, educational visits, programmatic audits, and overall systems design with hospitals in Mississippi and bordering states. The Division manages the Emergency Medical Services for Children (EMSC) Program, including management of the federal grant funds, implementation of Mississippi EMSC projects, and EMSC curriculum. The DTSO houses the Traumatic Brain Injury/Spinal Cord Injury Surveillance program and registry, which gathers data from all Mississippi hospitals pertaining to brain and spinal cord injury patients. The Division of Trauma also manages the Mississippi Burn Care Fund, which provides reimbursement for the out of state hospitals which provide care for Mississippi burn patients.

Mississippi has five EMS districts; within each district, a county has the option to participate with an EMS authority. Approximately 50 percent of the state's 82 counties presently participate in regional EMS programs. Counties not participating are left to provide services on an individual basis.

The four EMS districts and participating counties are as follows:

- North Mississippi EMS Authority (seven participating counties): Calhoun, , Itawamba, Lafayette, Lee, Pontotoc, Tishomingo, and Union;

- Central Mississippi EMS District (35 participating counties): Adams, Amite, Attala, Carroll, Chickasaw, Choctaw, Claiborne, Coahoma, Copiah, Greene, Holmes, Jefferson, Kemper, Lauderdale, Leflore, Marshall, Monroe, Montgomery, Neshoba, Newton, Noxubee, Panola, Pearl River, Pike, Scott, Simpson, Sunflower, Smith, Tallahatchie, Tunica, Warren, Washington, Wilkinson, Winston, and Yazoo;

- Southeast Mississippi Air Ambulance District (eight participating counties): Covington, Forrest, Jefferson Davis, Lamar, Marion, Perry, Stone, and Walthall. This district is the oldest continuing publicly supported air ambulance system in the United States.

- Harrison and Jackson counties have each formed EMS districts focusing on EMS training.

Mississippi has five helicopter air ambulance services based within the state. The air ambulance helicopters are located at Forrest General Hospital in Hattiesburg, North Mississippi Medical Center in Tupelo, University Medical Center in Jackson, Air EVAC Life Team in Batesville, and Air EVAC Life Team in Corinth. In addition, six out-of-state air ambulance services are licensed to serve Mississippi: Hospital Wing Air Ambulance Service of Memphis, Tennessee; Air Evac Service of Jackson, Tennessee, Marianna, Arkansas, and Tuscumbia Alabama; Ochner's Flight Care of New Orleans, Louisiana; Acadian Air Med Services of Louisiana; and Air Evac and Critical Care Transport, both of Birmingham, Alabama. Acadian and Critical Care Transport also provide fixed-wing air ambulance services.

Mississippi has 94 licensed ambulance providers, including nine out-of-state providers: two in Alabama, two in Arkansas, two in Louisiana, and three in Tennessee. The Bureau of Emergency Medical Services reported 519 permitted vehicles in 2005: 523 ground units, 3 fixed wing, and 15 rotary wing units.

108 Mental Health

The Mississippi Department of Mental Health (MDMH) administers four state psychiatric hospitals, six crisis intervention centers, five residential centers for persons with mental retardation, community mental health and mental retardation services for children and adults, and a variety of alcohol and drug prevention and treatment programs. The MDMH also develops day-programs and caregiver training for individuals with Alzheimer's disease/other dementia and serves as the Designated State Agency (DSA) for the Mississippi Council on Developmental Disabilities. Through contracts and affiliations with the state's community mental health/mental retardation centers and other public and private agencies, the MDMH strives to ensure a continuum of community prevention, treatment, training, and support services. The MDMH offers a range of services to persons with mental retardation and developmental disabilities through a variety of programs, including early intervention programs, alternative living arrangements, work activity centers, and long-term residential care. In addition to the MDMH, 15 regional community mental health/mental retardation centers and their satellite facilities, as well as other nonprofit programs, provide a network of services throughout the state.

Mississippi has 12 hospital-affiliated and three freestanding facilities providing psychiatric care, with a total of 513 psychiatric beds for adults and 222 beds for children/adolescents (plus outstanding CONs for 47 additional adolescent beds). The state has 12 facilities offering chemical dependency services, with 301 beds for adults and 52 beds for children/adolescents. In addition, the state has six freestanding psychiatric residential treatment facilities, with a total of 282 licensed beds (an additional 76 beds have received CON approval), offering long-term care to emotionally disturbed children and adolescents who need restorative residential treatment services. Chapter IX provides additional detail regarding mental health services.

109 Third Party Reimbursement

Medicare, a federally-administered program, provides payments for hospital, physician, and other medical services for most persons 65 years of age and older and disabled persons entitled to Social Security cash benefits for 24 months. Medicare consists of two parts: compulsory hospitalization insurance (Part A) and voluntary supplemental medical insurance (Part B), which covers physician services and some medical services and supplies not covered by Part A.

Medicaid, another third party reimbursement program, provides health care services for eligible persons. The Mississippi Division of Medicaid, Office of the Governor, administers state appropriated funds and federal matching funds within the provisions of Title XIX of the Social Security Act, as amended, to provide medical assistance for needy Mississippians. Medicaid includes 12 mandatory services and 24 optional services. The mandatory services include: inpatient hospital services, other than institutions for mental disease; outpatient hospital; rural health and federally qualified health center clinic services; other laboratory and x-ray services; skilled nursing facility services for individuals age 21 and older; physician services, family planning services and supplies; EPSDT (Early and Periodic Screening, Diagnostic and Treatment) services, home health services for persons eligible for nursing facility services; nurse-midwife services to the extent allowed by state law; pediatric and family nurse practitioner services; medical and surgical dental services; and transportation services.

States may choose to offer optional services to the categorically needy only, to the categorically needy and the medically needy, or not at all. The following optional services may be offered: licensed practitioners' services (e.g., podiatrists, psychologists, nurse anesthetists); private duty nursing; clinic services; dental services; physical therapy; occupational therapy; speech, hearing, and language therapy; prescribed drugs; prosthetic devices; eyeglasses; diagnostic services; screening services; preventive services; rehabilitative services; case management services; respiratory care services; tuberculosis-related services; inpatient hospital services to individuals aged 65 or older in an institution for mental disease; nursing facility services to individuals age 65 or older in an institution for mental disease; intermediate care facility for the mentally retarded (ICF/MR) services; inpatient psychiatric services for individuals under age 21; nursing facility services for individuals under age 21; hospice care services; and other medical services as approved by the Secretary (e.g., emergency hospital services, personal care services).

The Division of Medicaid offers 30 regional offices throughout the state to serve beneficiaries. The Division is promoting a Mississippi Medicaid Home initiative to assist beneficiaries in obtaining a regular primary care provider and an annual physical examination. This initiative will help create a healthier Mississippi by encouraging wellness strategies and disease prevention efforts, and it should also help control Medicaid cost by reducing emergency room visits for routine care.

The State Children's Health Insurance Program (SCHIP) is a separate health insurance program that covers non-Medicaid children up to 200 percent of the federal poverty level (FPL). Currently, SCHIP targets all children in the state under age 19 who are below 200 percent of the FPL, not eligible for Medicaid coverage, and have no other health coverage. The reauthorization of this program will be discussed further during the 2007 Congressional Session. Currently, 60,856 children participate in the SCHIP program.

Benefits of SCHIP include all benefits under the high option of the State and School Employees Health Insurance Plan, as well as vision and hearing screening, eyeglasses, hearing

aids, and dental care. There are no exclusions for pre-existing conditions. There are no premiums charged to eligible families and no cost sharing requirements (deductibles, co-payments) for preventive services, dental services, routine eye examinations, eyeglasses, or hearing aids. There is no cost sharing requirement for families below 150 percent of the FPL. Families with incomes above 150 percent of the FPL are responsible for minimal co-payments ($5 for office visits and $15 for emergency room visits).

The Division of Medicaid administers the C*overing Kids and Families* grant program provided by the Robert Wood Johnson Foundation with matching funds provided through the Bower Foundation. The grant program is a four-year collaborative initiative involving the Bower Foundation, the Department of Education, and the Division of Medicaid to improve the health status of school-aged children in Mississippi. The program is designed to reduce the number of uninsured children in the Medicaid or the Children's Health Insurance Program and coordinate health coverage offered through programs.

Mississippi has partially implemented the Mississippi Access to Care Plan, even though budget shortfalls have prevented full implementation. Mississippi was recognized as one of only four states to complete a plan that includes foals, responsible agencies, timelines, and budgets. A copy of the plan appears at http: //www.mac.state.ms.us.

The U.S. Department of Defense operates the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), a part of the Tri-Care Program, which provides health insurance for covered medical care provided in civilian facilities to wives and children of active military personnel, retired military personnel and their dependents, and dependents of deceased personnel (unless eligible for Part A of Medicare). The program reimburses those unable to use government medical facilities because of distance, overcrowded facilities, or the absence of appropriate treatment at a military medical center.

110 Environmental Protection

The Mississippi Department of Environmental Quality (MDEQ) develops comprehensive programs for the prevention, control, and abatement of air and water pollution in the state and is responsible for conserving, protecting, and improving the air and water quality. The MDEQ also makes interest-free loans available to eligible local governments to partially fund the cost of necessary wastewater treatment projects.

The Mississippi Department of Health's Bureau of Environmental Health protects the health and safety of the state's citizens through programs in food and milk sanitation, public water supply, wastewater disposal; boiler and pressure vessel safety, and radiological health. Chapter VII provides more information on MDH programs.

111 Related Areas

Many other related programs complement the health care services mentioned in this chapter. The following are some of the primary sources of health-related services in Mississippi:

- United States Department of Agriculture (USDA) - inspection and grading of meat and poultry;

- Mississippi Department of Human Services - food stamp program, child welfare and protection, eligibility determination for Medicaid, and coordination and funding of programs for the elderly;

- Mississippi State Department of Education - school lunch program, pupil transportation, health related services, and health and physical education;

- Mississippi Department of Economic and Community Development - community health education and planning.

112 Allocation of Public Funds

Table V-1 presents the allocation of public funds for health and health-related services during Fiscal Year 2005. Where available, the table provides actual expenditures by the various agencies. The expenditures shown include some duplication, in that third party programs have reimbursed for services provided through institutions and organizations included in the table.

Table V-1
Mississippi's State Supported Health Care System
FY 2005

Category	Federal Funds	State General Funds	Other Funds	Total
Hospitals				
University Medical Center - Consolidated	*	$ 131,139,243	$ 557,624,513	$ 688,763,756
Public Health				
State Department of Health	$ 114,567,997	$ 29,062,469	$ 77,116,397	$ 220,746,863
Social Welfare				
Division of Medicaid	$ 2,709,262,150	$ 247,025,158	$ 788,064,837	$ 3,744,352,145
Mental Health				
Department of Mental Health - Consolidated	$ 28,401,176	$ 190,179,733	$ 288,017,278	$ 506,598,187
Rehabilitation				
Vocational Rehabilitation	$ 31,954,926	$ 4,734,092	$ 4,999,660	$ 41,688,678
Disability Determination	$ 23,195,625		$ 323,834	$ 23,519,459
Special Disability	$ 1,828,974	$ 1,003,642	$ 7,583,694	$ 10,416,310
Vocational Rehabilitation for the Blind	$ 6,625,175	$ 1,053,999	$ 697,830	$ 8,377,004
Spinal Cord and Head Injury Program			$ 6,054,568	$ 6,054,568
Subtotal	$ 63,604,700	$ 6,791,733	$ 19,659,586	$ 90,056,019
Public Education-Rehabilitative				
School for the Blind and Deaf	$ 558,467	$ 10,732,325		$ 11,290,792
Environmental Protection				
Department of Environmental Quality	$ 37,843,787	$ 11,521,271	$ 49,415,533	$ 98,780,591

*Federal funds not reported separately; these funds are included in Other Funds
Source: State of Mississippi Proposed Budget for Fiscal Year July 1, 2006 to June 30, 2007. Actual expenditure for FY 2005

Chapter 06 Health Personnel

High quality health care services depend on the availability of competent health personnel in sufficient numbers to meet the population's needs. Mississippi is traditionally a medically underserved state, particularly in sparsely populated rural areas and areas containing large numbers of poor people, elderly people, and minorities. This chapter discusses the areas of greatest need for health care personnel, focusing on physicians, dentists, and nurses, and recommends actions to help increase the numbers of health personnel in underserved areas.

Note: Various boards of licensure provide information for this chapter; the licensure of health professionals may not indicate whether they are currently practicing on the Mississippi Gulf Coast following Hurricane Katrina. The effect of the hurricane on health professionals practicing on the Mississippi Gulf Coast may be more apparent in licensing year 2007, which will be reported in next year's 2008 State Health Plan.

100 Physicians

The University of Mississippi Medical Center's School of Medicine has graduated 4,658 physicians, including 314 non-white physicians, since its first class in 1957. The school awarded 102 Doctor of Medicine degrees in school year 2004-2005. The class included 11 minorities, or 10.8 percent of the graduates.

Mississippi had 5,098 active medical doctors, 264 osteopaths, and 59 podiatrists licensed by the Board of Medical Licensure for licensing year 2006, for a total of 5,421 active licensed physicians practicing in the state. This number represents an increase of 116 physicians, or more than 2.13 percent, from licensing year 2005. In 2005, the Board revised its reporting policy, resulting in a decrease in the number of physicians by county in licensing year 2005. Previously, the Board reported physicians with a primary or a secondary practice location in Mississippi. Currently, the board reports only those physicians who indicate a primary practice location in Mississippi. Based on Mississippi's projected 2010 population of 2,975,551, the state has approximately one licensed physician for every 549 persons.

Approximately 15.9 percent of Mississippi's medical doctors cite the practitioner's office as their primary place of business; 23.1 percent cite clinics; 19.9 percent cite both hospitals and the practitioner's office, with no major setting determined; 17.3 percent cite hospitals; 5.6 percent cite schools of medicine; and the remainder cites federal health facilities, schools, public health, or other areas.

Approximately 2,172 (42.6 percent) of the state's active medical doctors are primary care physicians, representing a ratio of one primary care physician for every 1,370 persons, based on 2010 projected population. The primary care physicians included 711 family practitioners, 111 general practitioners, 687 internal medicine physicians, 314 obstetrical and gynecological physicians, and 349 pediatricians. Table VI-1 presents the total number of medical doctors in all specialties; Table VI-2 presents the number of physicians by sex, race, and age per primary care specialty; and Map VI-1 depicts the total number of primary care medical doctors by county.

Mississippi had 75 counties or portions of counties designated as health professional shortage areas for primary medical care for 2006. The United States Department of Health and Human Services defines a health professional shortage area (HPSA) as a geographic area encompassing 30 minutes travel time and containing at least 3,500 persons per primary care physician. Areas with 3,000 persons per primary care physician are also designated if the areas meet any one of the following three criteria: 1) more than 100 births per year per 1,000 women aged 15-44; 2) an infant mortality rate of more than 20 infant deaths per 1,000 live births; or 3) more than 20 percent of the population with incomes below the poverty level.

Degree-of-shortage designations reflect the ratio of population to the number of full-time equivalent primary care physicians and the presence or absence of unusually high needs for primary health care services as demonstrated by the three conditions listed in the previous paragraph.

Minority Physicians

Mississippi had 977 minority physicians in licensing year 2006: 450 black, 358 Asian, 29 Indian, and 140 of other races. Blacks comprised 7.6 percent of the total active licensed physicians and Asians 6.6 percent. Using a non-white population figure of 1,159,565 (38.9 percent of the total 2010 projected population); the state has one minority physician for every 1,187 non-white persons. Considering black physicians only, there is one black physician for every 2,577 non-white persons; 283 (or 70 percent) of the state's black physicians were primary care physicians.

The UMC School of Medicine has graduated a total of 314 non-white physicians, with 11 minorities included in the 2004-2005 graduating class. Mississippi needs additional minority physicians to meet the high need for medical services in rural Mississippi. This need is heightened by socioeconomic factors such as education, income, and housing conditions. All of these factors affect health status.

Osteopaths

Mississippi had 264 active osteopaths licensed for licensing year 2006, distributed as follows: 109 in family practice; 40 in emergency medicine; 9 in general practice; 10 in anesthesiology, 26 in internal medicine, 9 in pediatrics, 11 in obstetrics and gynecology, and 50 in various other specialties.

Table VI-1
Medical Doctors by Specialty
FY 2004

Adolescent Medicine	2	Neurology	85	Psychiatry	228
Aerospace Medicine	3	Neurology & Psychiatry	6	Psychiatry, Addiction	3
Allergy & Immunology	24	Neuropathology	2	Psychiatry, Child & Adolescent	21
Anesthesiology	257	Neuroradiology	2		
		Nuclear Medicine	2	Public Health & General Preventive Medicine	12
Blood Banking/Transfusion Medicine	2			Pulmonary Disease	22
		Obstetrics & Gynecology	309	Pulmonary Medicine	43
Cardiac Electrophysiology	8	Occupational Medicine	9		
Cardiology	57	Oncology	10	Radiation Oncology	26
Cardiovascular Disease	90	Ophthalmology	151	Radiation Therapy	3
Clinical Genetics (M.D.)	1	Otolaryngology	48	Radiology	78
Clinical Neurophysiology	1	Otolaryngology / Neurotology	1	Radiology, Diagnostic	146
Critical Care Medicine	2	Otorhinolaryngology	49	Radiology, Vascular & Interventional	17
Cytopathology	2				
		Pain Management	12	Rheumatology	28
Dermatology	48	Pathology, Anatomic	6	Roentgenology	1
Dermatopathology	2	Pathology, Anatomic & Lab Medicine	4	Roentgenology, Diagnostic	5
		Pathology, Anatomic / Clinical	106		
Emergency Medicine	254	Pathology, Clinical	3	Sports Medicine	2
Endocrinology	3	Pathology, Forensic	1		
Endocrinology, Diabetes, & Metabolism	16				
Endocrinology, Reproductive	3	Pediatric Allergy & Immunology	1	Surgery	17
		Pediatric Cardiology	5	Surgery, Facial Plastic	2
Family Practice	711	Pediatric Critical Care Medicine	3	Surgery, General	209
		Pediatric Endocrinology	1	Surgery, General / Vascular	20
Gastroenterology	86	Pediatric Gastroenterology	2	Surgery, Hand	2
General Practice	111	Pediatric Hematology / Oncology	2	Surgery, Neurological	57
Geriatric Medicine	5	Pediatric Infectious Disease	1	Surgery, OB / GYN	4
Gynecologic Oncology	5	Pediatric Nephrology	1	Surgery, Orthopaedic	184
		Pediatric Neurology	4	Surgery, Otorhinolaryngology & Facial Plastic	7
Hematology	1	Pediatric Otolaryngology	1	Surgery, Pediatric	4
Hematology & Oncology	16	Pediatric Pathology	1	Surgery, Plastic	10
		Pediatric Pulmonology	2	Surgery, Plastic & Reconstructive	41
Infectious Diseases	21	Pediatric Radiology	1	Surgery, Thoracic	9
Internal Medicine	687	Pediatric Sports Medicine	1	Surgery, Thoracic / Cardiovascular	41
Laboratory Medicine	1	Pediatrics	324	Surgery, Urological	31
Maternal & Fetal Medicine	5	Physical Medicine & Rehab	21	Undersea Medicine	1
Medical Genetics	4	Preventive / Aerospace Medicine	3	Urology	64
Medical Oncology	28	Preventive / Occupational - Environmental Medicine	1		
		Preventive Medicine / Occupational Medicine	1	Other & Unknown	49
Neonatal & Perinatal Medicine	12				
Neonatology	5				
Nephrology	56			**Total**	**5,098**

Table VI-2
Medical Doctors in Mississippi – Federal and Nonfederal
Specialty by Sex, Race, and Age
License Year 2006

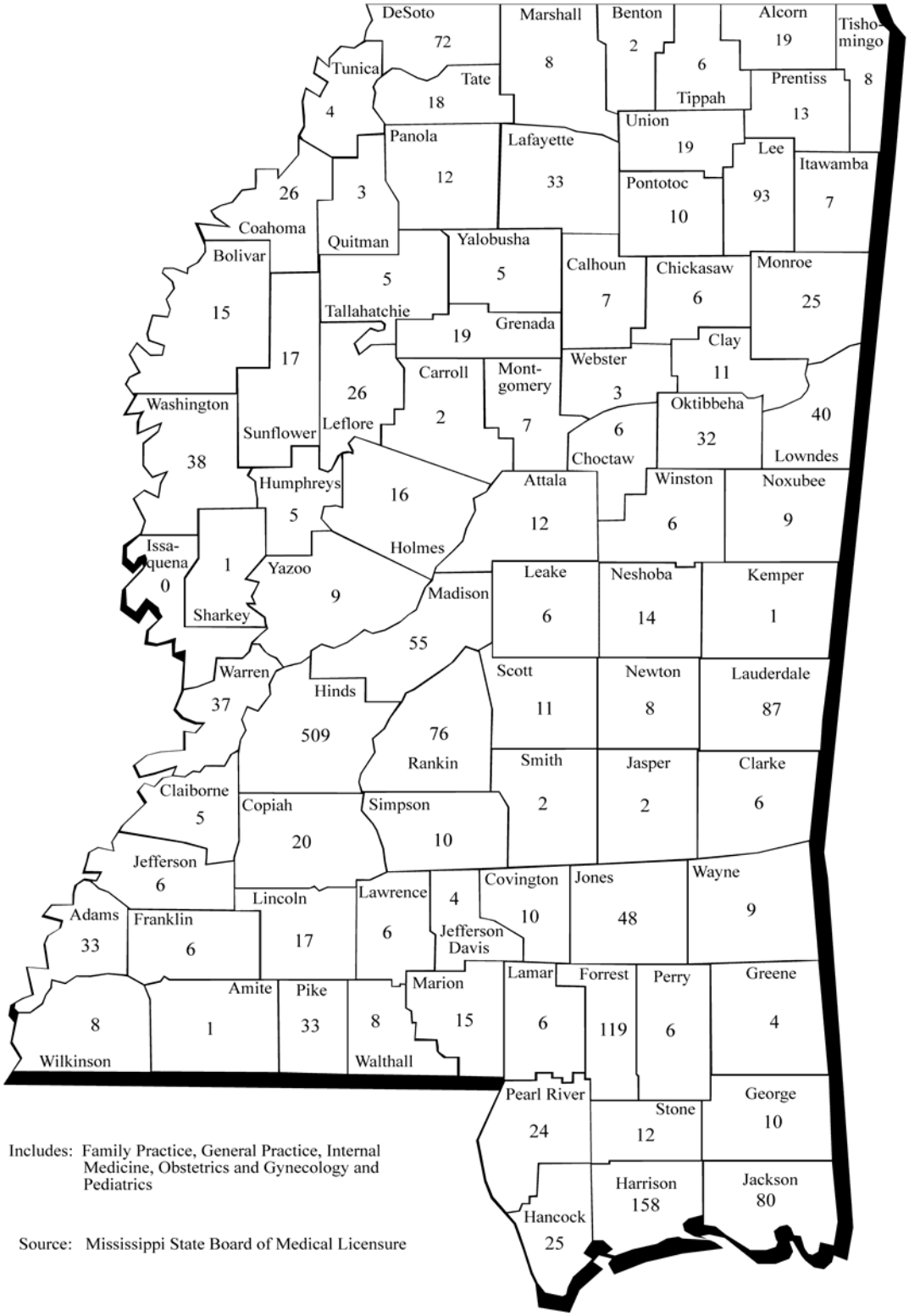
	Family Practice	General Practice	Internal Medicine	OB/GYN*	Pediatrics**	Non-Primary Care Specialists	Unknown	Total
Total	**711**	**111**	**687**	**314**	**349**	**2,918**	**8**	**5,098**
Sex								
Male	575	100	535	241	187	2,523	5	4,166
Female	136	11	152	73	162	395	3	932
Race								
White	588	91	444	256	266	2,517	3	4,165
Black	87	13	104	44	35	129	0	412
Indian	2	1	5	1	4	15	1	29
Asian	28	6	95	6	37	181	2	355
Other	6	0	39	7	7	76	2	137
Age								
Under 30	9	0	21	3	6	24	2	65
30 - 34	61	4	101	39	49	223	4	481
35 - 39	111	3	118	39	60	372	0	703
40 - 44	86	3	124	42	59	431	0	745
45 - 49	105	6	109	52	48	468	1	789
50 - 54	111	17	88	35	39	405	1	696
55 - 59	68	14	49	33	35	356	0	555
60 - 64	53	13	23	29	21	266	0	405
65 - 69	27	12	19	15	16	173	0	262
≥70	80	39	35	27	16	200	0	397

*OB/GYN includes Gynecologic Oncology, Obstetrics, and Gynecology.

**Pediatrics includes Pediatrics, Pediatric Allergy, Pediatric Cardiology, Pediatric Critical Care Medicine, Pediatric Emergency Medicine, Pediatric Endocrinology, Pediatric Gastroenterology, Pediatric Hematology – Oncology, Pediatric Infectious Disease, Pediatric Intensive Care, Pediatric Nephrology, Pediatric Neurology, Pediatric Otolaryngology, Pediatric Pathology, Pediatric Psychiatry, Pediatric Pulmonology, Pediatric Radiology, Pediatric Rheumatology, and Pediatric Sports Medicine.

Source: Mississippi State Board of Medical Licensure

Map VI - 1
Active Primary Care Medical Doctors by County of Residence
License Year 2006



Includes: Family Practice, General Practice, Internal Medicine, Obstetrics and Gynecology and Pediatrics

Source: Mississippi State Board of Medical Licensure

101 Dentists

Numerically, dentistry represents the fourth largest health profession, following nursing, medicine, and pharmacy. The Mississippi State Board of Dental Examiners reported 1,407 licensed (1,212 “active” and 195 “inactive”) dentists in the state for 2006, with 44 new dentists licensed during 2005. Based on Mississippi's 2010 projected population of 2,975,551, the state has one active dentist for every 2,455 persons.

The more populated areas of Mississippi are sufficiently supplied with dentists; however, many rural areas still face tremendous shortages, particularly in dentists who specialize in treating periodontal disease. A statewide assessment of dental needs conducted in FY 2005 by the MDH Office of Primary Care determined that 62 counties could qualify as dental health professional shortage areas. Currently, 44 counties have been designated by the HRSA Office of Workforce Analysis and another 16 counties are awaiting approval.

Mississippi's two major population centers contain the most active dentists. The Jackson area had a total of 324 active dentists in 2005, with 174 in Hinds County, 75 in Rankin County, and 75 in Madison County. The Gulf Coast region had the second largest count at 148, with 82 in Harrison County, 56 in Jackson County, and ten in Hancock County. Combined, these two metropolitan areas contained 39 percent of the state's total supply of active dentists.

On the opposite end of the spectrum, seven counties – Carroll, Franklin, Greene, Kemper, Quitman, Tunica, and Webster – had only one active dentist each and six counties – Amite, Benton, Humphreys, Issaquena, Jefferson, and Sharkey – had no active dentist. Map VI-2 presents the number of dentists per county.

The University of Mississippi School Of Dentistry has awarded 792 Doctor of Dental Medicine degrees since graduating its first class in 1979, with 29 graduates in the school year 2004-2005. The School of Dentistry maintains 120 students overall, more or less equally divided among its four-year educational program.

The School of Dentistry accepts six residents each year in a general practice residency and six residents in an advanced education in general dentistry residency, for a total of 12 residents. Both residencies are one-year post-doctoral programs.

Nonwhite Dentists

A total of 68 non-white dentists have graduated from the UMC School of Dentistry, or 8.6 percent of its total graduates. The class of 2004-2005 included one non-white member.

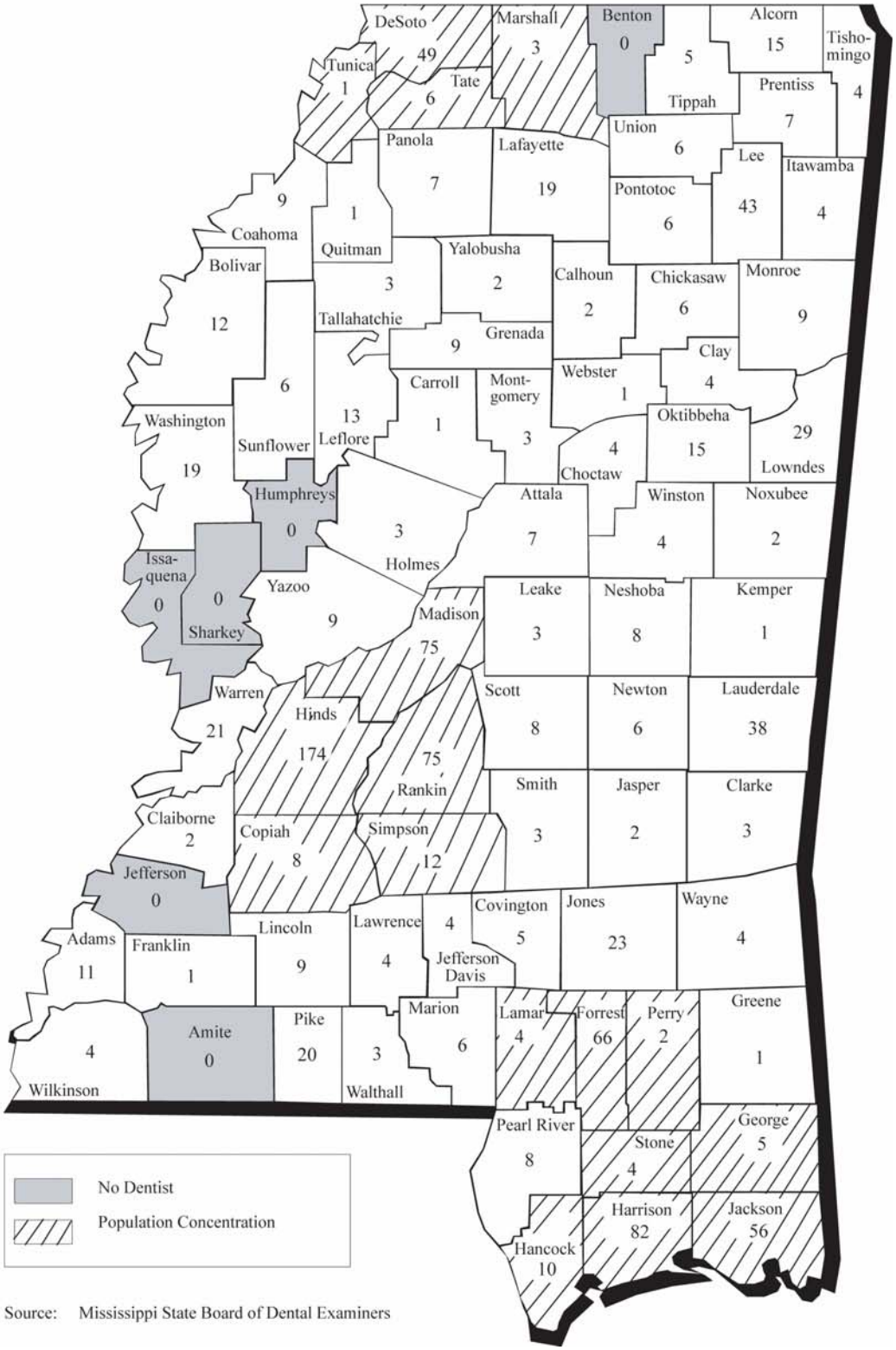
Dental Hygiene Personnel

Registered dental hygienists are licensed oral health care professionals whose preventive services limit the extent of cavities and periodontal (gum) disease. They provide oral health care to patients by scaling and polishing teeth; charting oral conditions; taking and processing x-rays; applying preventive topical fluorides and sealants; and providing advice and instruction concerning oral health. Dental hygienists work as clinical practitioners, educators, researchers, administrators, managers, preventive program developers, and consultants. Registered (licensed) dental hygienists practice according to the requirements of individual state dental practice acts.

Dental hygienists are the primary allied dental personnel in Mississippi. The Mississippi State Board of Dental Examiners reported 1,195 licensed dental hygienists (979 active and 216 inactive) in Mississippi in 2006, with 87 new licenses issued during 2005.

Mississippi has five schools of dental hygiene: the School of Health Related Professions at UMC in Jackson, Mississippi Delta Community College in Moorhead, Meridian Community College in Meridian, Northeast Mississippi Community College in Booneville, and the Forrest County Center of Pearl River Community College in Hattiesburg. The schools reported a total enrollment of 82 first-year students and 76 second-year students in 2005-2006. Seventy-eight students graduated in 2005.

Map VI - 2
Active Dentists by County
License Year 2006



Source: Mississippi State Board of Dental Examiners

102 Nurses

Members of the nursing profession represent the largest single contingent of professional health care providers in the state. In fact, nurses in Mississippi outnumber all other health professionals combined. The Mississippi Board of Nursing regulated 47,155 nurses in FY 2005. Of this number, 45,162 were licensed to practice along with an additional 392 practicing in this state under a privilege to practice pursuant to compact licensure in another state. (The statistics referenced by the Mississippi Board of Nursing in the remainder of this chapter do not include nurses practicing in Mississippi under the privilege to practice pursuant to compact licensure in another state). Inactive licensure was issued to 1,993 nurses.

Registered Nurses

The Board reported 33,750 registered nurses (RNs) in Mississippi for FY 2005. Of this number, 24,859 (73.7 percent) were employed full time in nursing careers; 3,974 (11.8 percent) were employed part-time in nursing careers; 682 (two percent) were employed in non-nursing careers; 2,868 (8.5 percent) were unemployed; and 1,367 (four percent) held inactive status. Of the 28,833 RNs employed full-time or part-time in nursing, 18,633 (64.6 percent) were employed in hospitals; 1,477 (5.1 percent) in nursing homes; 1,854 (6.4 percent) in physicians' offices; 2,482 (8.6 percent) in community, public, or home health; 648 (2.2 percent) in schools of nursing; 514 (1.8 percent) in schools; and 3,225 (11.2 percent) in other nursing careers. Of the total number of RNs, 91 percent were female and nine percent male; 84 percent were Caucasian, 14 percent African-American, and two percent other. Registered Nurses by degree in FY 2005 included 2,385 diploma; 17,551associates; 1,054 baccalaureate non-nursing; 9,506 baccalaureate nursing, 665 masters non-nursing; 2,364 masters nursing; and 225 doctorate degrees.

Nurse Practitioner

Nurse Practitioner includes any person licensed to practice nursing in Mississippi and certified by the Board of Nursing to practice in an expanded role as a nurse practitioner. For FY 2005, there were 1,599 RNs certified for expanded role nursing as nurse practitioners in the following specialties: Acute Care Nurse Practitioner - 36; Adult Nurse Practitioner - 41; Adult Psychiatric/Mental Health Nurse Practitioner - 18; Certified Nurse Midwife - 26; Certified Registered Nurse Anesthetist - 487; Family Nurse Practitioner - 877; Family Planning Nurse Practitioner - 3; Family Psychiatric/Mental Health Nurse Practitioner - 17; Gerontological Nurse Practitioner - 5; Neonatal Nurse Practitioner - 30; Obstetrics/Gynecology Nurse Practitioner - 11; Pediatric Nurse Practitioner - 23; and Women's Health Care Nurse Practitioner - 25.

Licensed Practical Nurses

The Board of Nursing reported 13,405 licensed practical nurses (LPNs) in Mississippi for FY 2005. Of this number, 8,997 (67.1 percent) were employed full-time in nursing careers; 1,428 (10.7 percent) were employed part-time in nursing careers; 353 (2.6 percent) were employed in non-nursing careers; 2,000 (14.91 percent) were unemployed; and 627 (4.7 percent) held inactive license.

Of the 10,425 LPNs employed full-time or part-time in nursing, 3,367 (32.3 percent) were employed in hospitals; 3,412 (32.7 percent) in nursing homes; 558 (5.4 percent) in community, public, or home health; 1,728 (16.6 percent) in physicians' offices; 343 (3.3 percent) in private duty; 73 (0.7 percent) in private industry; and 944 (9.1 percent) in other nursing careers. Of the total number of LPNs, 96 percent were female and four percent male; 64 percent Caucasian, 35 percent African-American, and one percent other.

There were 2,340 LPNs certified for an expanded role in FY 2005. Of this number, 2,185 LPNs were certified in an expanded role in intravenous therapy, 129 LPNs were certified in hemodialysis, and 26 were certified in both expanded roles.

Certified Nurse Aides/Assistants

The Department of Health's Bureau of Health Facility Licensure and Certification regulates the Nurse Aide Training and Competency Evaluation Programs. The Program certifies nurse aides to work in long-term care nursing facilities or distinct part/skilled nursing facilities in acute care hospitals that participate in the Medicare/Medicaid programs, as mandated by the Omnibus Budget Reconciliation Act of 1987. The Bureau develops requirements for approval of nurse aide training programs, conducts onsite inspections of nurse aide training programs, posts adverse findings against errant nurse aides in the Mississippi Nurse Aide Registry, and oversees the maintenance and content of the Registry.

As of December 31, 2005, Mississippi had 16,391 active Certified Nurse Aides on the Registry. A total of 2,244 nurses aides were certified during 2005. These numbers do not reflect the nurse aides that work in sites other than skilled nursing facilities and distinct part skilled nursing sections of certain rural hospitals. To be classified as a certified nurse aide, an individual must successfully complete a state approved nurse aide training program and pass a competency evaluation that includes written, oral, and clinical skill examinations.

Nursing Education

In the fall of 2005, the Mississippi Institutions of Higher Learning's nursing education programs enrolled 4,607 students, a 6.9 percent increase from the 2004 enrollment of 4,307. Mississippi has 23 undergraduate and six graduate nursing education programs, preparing a variety of professional nurse specialists for teaching fields, administration, or clinical practice. The University Medical Center and the University of Southern Mississippi collaboratively offer a Ph.D. degree in Nursing.

Undergraduate nursing education includes 16 associate degree programs, which are located in 14 community or junior colleges and two public universities. These programs enrolled a total of 3,026 students in Fall 2005 (66 percent of the 4,607 students involved in nursing school). Undergraduate education also includes seven baccalaureate degree programs in five public universities and two private colleges. A total of 1,221students participated in these programs for Fall 2005 (27 percent of all nursing students).

Mississippi offers six master's degree nursing programs in five public universities and one private college. These programs reported a total enrollment of 360 students in Fall 2005 (seven percent of all nursing students).

During FY 2005, 2,704 applicants were licensed as registered and licensed practical nurses by examination in Mississippi; 1,918 passed on the first attempt. In FY 2005, 1,950 Mississippi graduates of schools of nursing applied for licensure by examination through out the United States; 1,726, or 90 percent, passed the licensure examination on the first attempt.

103 Other Health Related Professionals

This section summarizes the status of health professional manpower in Mississippi in other specific categories.

Podiatrists

Foot care services are provided primarily by podiatrists, orthopedic surgeons, and general and family practice physicians. Podiatrists devote most of their practice to the treatment of soft tissue complaints and flat foot. Mississippi licensed 59 active, instate podiatrists for licensing year 2006. This number includes 43 general practitioners, 13 foot surgeons, two foot orthopedists, and one other or unknown. Age distribution included 15 aged 30-39, 27 aged 40-49, eight aged 50-59, and 10 aged 60 or over. Racial make-up was 37 white, 19 black, one Asian, and two of other race. Sex distribution was 45 males and 14 females.

Because most rural areas do not have a podiatrist, primary care physicians provide the majority of foot care. Under the formula for designation of podiatric care shortage areas, primary care physicians are estimated to spend two percent and orthopedic surgeons 15 percent of their time treating patients needing general foot care.

Chiropractors

The practice of chiropractic involves the analysis of any interference with normal nerve transmission and expression and the procedure preparatory and complementary to the correction thereof, by adjustment and/or manipulation of the articulations of the vertebral column and its immediate articulations for the restoration and maintenance of health without the use of drugs or surgery. Chiropractors are licensed to use x-rays and therapeutic modalities.

The Mississippi State Board of Chiropractic Examiners reported 265 chiropractors available to practice in the state during 2006. Chiropractors were located in 51 of Mississippi's 82 counties. The highest number of chiropractors was located in the following counties: 35 in Harrison; 22 in Hinds; 20 in Jackson; 17 in DeSoto; and 15 in Lee.

Psychiatrists and Psychologists

As reported in Table VI-1, 252 licensed physicians practiced psychiatry in Mississippi during FY 2005. The Jackson metropolitan area contained 45.2 percent of the psychiatrists, with 71 in Hinds County, 28 in Rankin, and 15 in Madison. Harrison County had 25 psychiatrists; Lauderdale County had 14; and Forrest County had 17.

The Mississippi Board of Psychology reported 384 licensed psychologists in the state for 2006. Only individuals with doctorate degrees are eligible for licensure in Mississippi. As with psychiatrists, the majority of psychologists practice in the Jackson area or on the Coast. Smaller concentrations practice in DeSoto, Forrest, and Lafayette counties, with the remainder scattered throughout the state. The actual number of licensed psychologists providing clinical services to the public is reduced when those filling administrative or teaching positions are subtracted from the total. A substantial portion of the state receives insufficient psychological services, particularly the rural areas.

Licensed Professional Counselors

The Mississippi State Board of Examiners for Licensed Professional Counselors, established in 1985, regulates the activities of individuals rendering services to the public under the title of "Licensed Professional Counselor" (LPC). Mississippi Licensed Professional Counselors are highly trained to do assessment, diagnosis, and treatment of mental disorders. They provide an array of services including psychotherapy; marriage and family therapy; vocational, educational, rehabilitation counseling; and consultation. They practice in both the private (170) and public sectors; in university (102) and school (118) settings; community mental health centers (196); state facilities (73); hospitals (76); and, other settings such as rehabilitation programs, churches, probation programs, correctional facilities and private industry (133) (Numerical counts as of April 2006).

The Board of Examiners for Licensed Professional Counselors reported 772 counselors in Mississippi in April 2006 and an additional 96 out-of-state residents with a Mississippi license. The Board granted 45 new licenses so far during the 2006 fiscal year. Currently, licensed professional counselors reside in approximately 90 percent of Mississippi counties.

Optometrists

The Mississippi State Board of Optometry reported 283 optometrists licensed in Mississippi for 2006, with 274 of those certified to use diagnostic and therapeutic agents. Effective July 1, 2005, Mississippi optometrists are authorized to prescribe oral medications in the treatment of ocular disease. Under new regulations requiring standardization of licensure, all optometrists will be certified to use diagnostic and therapeutic agents by December 2006. The Board conducts two licensure examinations each year, on the second Saturday of January and of July. Although every county does not have a resident optometrist, many optometrists operate branch offices in adjoining counties.

Pharmacists

The State Board of Pharmacy reported approximately 2,682 licensed pharmacists in the state during 2005, with an additional 958 pharmacists licensed in Mississippi but living in other states. The Board issued a total of 113 pharmacist licenses during 2005 – 65 issued by examination and 48 by reciprocity. The University of Mississippi School of Pharmacy, located on the Oxford campus, offers a six-year pharmacy program. The curriculum includes a minimum of two years of pre-professional and four years of professional studies. The school graduated 77 students in 2005 with a Doctor of Pharmacy degree.

Veterinarians

The Mississippi Board of Veterinary Medicine listed 986 licensed veterinarians in Mississippi in January 2006, with approximately 846 in full-time active practice, and 47 in part-time practice. The Board reports that no licensed veterinarians reside in Benton, Choctaw, Greene, Issaquena, Quitman, or Tunica counties, but these counties have adequate access to veterinary services from veterinarians residing in adjacent counties in Mississippi and neighboring states. Mississippi State University, College of Veterinary Medicine, has graduated 1,002 veterinarians since its first class in 1981. The College will accept 72 new candidates as of August 2006.

Physician Assistants

Physician Assistants (PA's) are educated in the medical model to provide diagnostic, therapeutic, and preventive health care services with physician supervision. Physician Assistants

work with physicians as part of a team in every medical and surgical specialty in every practice setting. Under the Physician Assistant Licensure Act, the State Board of Medical Licensure regulates the practice of PA's to include scope of practice, level of supervision, discipline, and other issues relevant to PA practice. PA's must pass a national certifying test and retest every six years. The Mississippi State Board of Medical Licensure issued 16 initial Physician Assistants licenses for licensing year 2006. Mississippi has a total of 67 physician assistants currently licensed in the state.

104 Allied Health Personnel

Allied health professionals render service in every aspect of health care delivery — emergency services, patient evaluation, treatment, therapy, testing, fabrication and fitting of medical devices, record maintenance, acute care, long-term care, and rehabilitation. This group of occupations exhibits wide variations in degree of responsibility, training, professional organization, regulation, employment settings, and characteristics of workers. Allied health personnel include technologists, therapists, and others who perform relatively high-level health care functions; technicians and assistants whose duties vary in complexity; and aides who perform routine supportive services. The scope of allied health education is similarly broad, ranging from limited post-secondary training to post-doctoral study.

For many occupations, responsibilities vary widely among employment settings and institutions. Other occupations are relatively new, and functions are still evolving. All of this diversity contributes to difficulty in developing reliable estimates of supply and demand for allied health personnel. This section discusses allied health occupations, training programs, and distribution throughout the state to the extent that information is available.

Physical Therapy Practitioners

Physical therapy (PT) practitioners provide preventive, diagnostic, and rehabilitative services to restore function or prevent disability from disease, trauma, injury, loss of a limb, or lack of use of a body part to individuals of all ages. Physical therapy practitioners also provide health care information to enhance function and to prevent disability and pain. Physical therapy is used to treat neurological disorders, nerve or muscular injuries, chest conditions, amputations, fractures, burns, arthritis, and many other conditions. Two categories of practitioners exist: physical therapist and physical therapist assistants.

In addition to treating and assessing the progress of patients, PT personnel work closely with other members of the health care team and instruct caregivers in treatment to be continued in the home. Practitioners provide services in hospitals, outpatient clinics, home health agencies, schools, and a variety of other settings. Practice patterns vary with employment settings.

A small number of Mississippi physical therapists have attained board-certified status in specific practice areas through advanced study/practice and successful completion of national certification examinations. Physical therapy assistants also have access to some specialty courses. Beginning July 2006, access to physical therapy services will be limited by insurance requirements and the licensure law that states that patients must be referred to physical therapy services for continued treatment by another health care provider, with some identified exceptions.

The Mississippi State Board of Physical Therapy reported 1,346 licensed physical therapists in Mississippi as of March 2006. Nine percent of the Mississippi resident physical therapy practitioners live in Hinds County, six percent in Harrison County, and eight percent in Madison County, for a total of 23 percent in three counties. Mississippi ranks 39th in the United States for the

ratio of therapists per 100,000 population. The Board also reported 569 licensed physical therapist assistants, with 446 practicing in the state.

UMC provides Mississippi's only three-year Doctor of Physical Therapy program. The physical therapy program has graduated 1,092 therapists since initiation of the program in 1973 and 36 will receive the final Master of Physical Therapy degrees in May 2006.

Hinds Community College, Itawamba Community College, Meridian Community College, and Pearl River Community College offer educational programs leading to associate degrees as a physical therapist assistant. In 2005 Itawamba graduated 12 PTAs, Pearl River seven, Hinds seven, and Meridian 12. Presently, there is a need to only maintain existing programs. The U.S. Department of Labor projects a 21-35 percent increase in employment through 2010. Demand for physical therapy practitioners should continue as the number of individuals with disabilities or limited functions increases due to an aging population and medical development.

Speech Pathologists and Audiologists

The disciplines of speech-language pathology and audiology focus on disorders in the production, reception, and perception of speech and language. Although both provide specialized assistance to persons with communication problems, speech-language pathologists are primarily concerned with speech, language, and voice disorders, while audiologists concentrate on hearing problems.

The MDH reported 960 speech-language pathologists and 144 audiologists licensed in Mississippi as of April 2006, with 875 of the speech-language pathologists and 125 of the audiologists residing in the state.

Occupational Therapists

Occupational therapy is a health and rehabilitation profession that serves people of all ages who are physically, psychologically, or developmentally disabled. These health professionals work closely with other members of the rehabilitation health care team. Their functions range from diagnosis to treatment, including the design and construction of various special and self-help devices. OTs direct their patients in activities designed to help them learn skills necessary to perform daily tasks, diminish or correct pathology, and promote and maintain health. There are two levels of personnel: occupational therapists and occupational therapy assistants.

Therapists work in many different settings, including rehabilitative and psychiatric hospitals, school systems, nursing homes, and home health agencies. The nature of their work varies according to the setting. There are a number of recognized specialty areas, which have national examinations and certification.

The MDH reported 727 licensed occupational therapists and 255 certified occupational therapy assistants on its Mississippi roster as of April 2006, with 594 of the OTs and 217 of the OTAs residing in the state.

The School of Health Related Professions at UMC offers the only school of occupational therapy in the state. It is a master's entry level that consists of a three-year senior college program, following two years of prerequisite course work at either a community college or a four-year senior college. Beginning in 2007, a master's degree or higher in occupational therapy will be the minimal educational requirement nationally. The first masters-level class at UMC will graduate in 2006. The school has graduated 356 therapists since beginning its first class in May 1989. The master's

program received more than 78 applications for a maximum of 40 available slots to begin class in the summer of 2006.

Pearl River Community College has developed an OTA program which expects to graduate 13 OTAs in May of 2006. Future classes are expected to contain a maximum of 20 students. Holmes Community College expects to graduate 14 OTA candidates in May 2006, and also has a maximum class size of 20 students. Also, Itawamba Community College initiated an Occupational Therapy Assistant/Pre-Occupational Therapy Program in the fall of 2006. The initial class will contain approximately 12 students.

The U.S. Department of Labor, Bureau of Statistics, *Occupational Outlook Handbook* projects that the occupational therapy profession will increase faster than average, especially as the rapid growth of the number of middle-aged and elder individuals increases the demand for therapeutic services. This growth is projected to have an increase of 27 percent or more in employment through 2014. As there is an expansion of the school-age population, there will also be an expansion of services for disabled students, resulting in an employment growth in the school systems.

Emergency Medical Personnel

The training of emergency medical personnel includes ambulance drivers and emergency medical technicians (EMTs). Mississippi requires all ambulance drivers to have EMS driver certification (EMS-D). To qualify, an individual must complete an approved driver training program that involves driving tasks, vehicle dynamics, vehicle preventative maintenance, driver perception, night driving, and information on different driving maneuvers. This training offers both academic and clinical (practical hands on) experiences for the prospective ambulance driver.

EMT training involves EMT-Basic (EMT-B), EMT-Intermediate (EMT-I), and EMT-Paramedic (EMT-P). In accordance with federal Department of Transportation standards, EMT-B training includes basic life support, airway, breathing, Automated External Defibrillators (AED), circulation procedures, and assistance to patients with a limited number of drugs.

The EMT-I and EMT-P receive training in basic and advanced life support, also in accordance with federal Department of Transportation standards. Advanced life support involves basic life support plus definitive therapy. The emergency physician, the EMT-I, and the EMT-P constitute the advanced life support team. This team assesses and aggressively treats life-threatening conditions using advanced airway maneuvers, invasive procedures, cardiac monitors, drugs, defibrillation, intravenous fluids, and other adjuncts.

The EMT-I performs the same basic responsibilities as an EMT-B. In addition, the EMT-I uses adjunctive equipment to sustain life, such as intravenous therapy, airway management, and defibrillation.

The EMT-P must master a variety of complex skills that are not practiced by the basic level emergency medical technician, such as intravenous cannulation, endotracheal intubation (airway management), recognition and management of cardiac dysrythmia, and administration of drugs and intravenous fluids. Many of these procedures can be very hazardous if performed by poorly trained persons; thus the paramedic must take responsibility for continuing competence and maintaining proficiency in those skills necessary to sustain life and prevent injury.

EMT personnel are certified for two year periods. For FY 2005 the MDH Bureau of Emergency Medical Services reported a total of 1,460 EMT Basics certified in the state; 1,096 EMT Paramedics; and 63 EMT intermediates.

The Legislature authorized the MDH Bureau of Emergency Medical Services (BEMS) to certify Mississippi's medical first responders beginning July 1, 2004. Since that time, BEMS has certified 86 medical first responders.

Social Workers

Social workers practice and serve as an integral part of a complex and multidisciplinary health care system. The field of social work provides a network of services to all age groups, with a range of needs, in the form of diagnosis, treatment, rehabilitation, maintenance, and prevention in a variety of settings, including hospitals, nursing homes, clinics, hospices, and public health programs.

The Mississippi State Board of Examiners for Social Workers and Marriage and Family Therapists reported 4,191 licensed social workers available during FY 2006, 3,732 of whom reside within the state. Three categories of licensure exist for social workers: Licensed Social Worker (LSW) for those individuals at the baccalaureate level, Licensed Masters Social Worker (LMSW) for those individuals who practice at the master's level, and Licensed Certified Social Worker (LCSW) for those individuals who have fulfilled the requirements for LMSW and completed a two-year requirement for post-master's professional supervision.

The Board reported 589 LCSWs, 683 LMSWs, and 2,460 LSWs available in Mississippi during FY 2006. The highest number of Master's level social workers reside in three counties: Hinds – 109 LCSW's, 120 LMSW's; Harrison – 80 LCSW's, 78 LMSW's; and, Forrest - 36 LCSW's, 63 LMSW's. Approximately 38 percent of LCSW's and 36% of LMSW's reside in these three counties. A maldistribution of master's level social workers often causes problems in some counties where no master's level social workers are available for the supervision of baccalaureate level social workers, as is required for reimbursement by most health care payors.

Finally, the State Board of Examiners for Social Workers and Marriage and Family Therapists recently assumed licensure of marriage and family therapists in 2005. There are 397 licensed marriage and family therapists, of which 341 reside in the state.

Certified Medical Technologists

The American Society of Clinical Pathologists (ASCP) is the major certifying agency for medical technologists in Mississippi. Candidates may also obtain certification through the National Credentialing Agency for Laboratory Personnel (NCA). The total number certified by these two agencies is unknown; however, UMC is currently performing a workforce study to determine the actual number of CLS/MTS and CLT/MLTs certified in Mississippi.

Mississippi has two university-based schools for clinical laboratory scientists/medical technologists and two hospital-based programs. The University of Mississippi Medical Center's (UMC) program resides in the Department of Clinical Laboratory Sciences and its graduates receive a bachelor of science degree in clinical laboratory sciences. Students complete two years of academic preparation at any accredited institution of higher learning and then two years of upper division study at the Medical Center campus in Jackson. The undergraduate program also offers an expanded curriculum that allows students to specialize in the areas of molecular diagnostics, laboratory information systems, or laboratory management. UMC also offers a masters and a doctorate degree in clinical health sciences, with a specialty track in clinical laboratory sciences. This program is

designed to prepare graduate level educators and managers for positions in universities and the clinical laboratory. The Department of Clinical Laboratory Science at UMC expects to graduate six senior students in May 2006. For the 2006-2007 academic year, UMC expects 20 junior and 14 senior students.

The University of Southern Mississippi (USM) offers a "modified two-plus-two program," in which students complete three years of study before entering the medical technology practicum. Students may complete the first two years of the curriculum at a community college or another senior college. The program has a process for articulation with accredited Medical Laboratory Technician (MLT) programs which provide career mobility for the associate degree-level technician. Once enrolled in the practicum, which is the senior year, students receive two semesters of study on the USM campus and then complete a 24-week clinical rotation at an affiliated hospital, which include Forrest General Hospital in Hattiesburg, Gulf Coast Medical Center in Biloxi, Memorial Hospital at Gulfport, and Singing River Hospital in Pascagoula. A Bachelor of Science (BS) degree is awarded upon completion of the program. The total number of majors is approximately 130 and 20 students have or will graduate in 2005-2006. The program experienced 100 percent placement for the last three years.

USM also offers two programs leading to the Master's degree in Medical Technology. One program is for individuals who possess certification as a medical technologist from a recognized national certifying agency, and the second program is for individuals who do not hold certification. The second program includes a medical technology practicum that allows the individual to become eligible to sit for a certification examination. Both the thesis and non-thesis options are available.

Mississippi's two hospital-based medical technology programs are located at North Mississippi Medical Center in Tupelo and Mississippi Baptist Medical Center in Jackson. In these programs, "three + one" students obtain three years of academic preparation at an institution of higher learning that has an affiliation agreement with the hospital program; then the students complete one year of clinical training in the respective hospital. These students receive a Bachelor of Science degree in medical technology from the university they attend. "Four + one" students complete a bachelor of science degree at any university, then complete one year of clinical training in the hospital with a certificate in medical technology. These programs graduated 12 students in 2005, expect to graduate 9 in 2006, and enroll 17 for the 2006-2007 term. Both programs experienced the lowest number of qualified medical technology applicants in 25 years.

Seven community colleges in the state offer two-year medical laboratory technician programs: Copiah-Lincoln, Gulf Coast, Hinds, Meridian, Mississippi Delta, Northeast, and Pearl River.

Certified Radiologic Technologists

Radiologic health services began with the diagnostic use of x-rays and the application of these and other forms of ionizing radiation for a limited number of therapeutic purposes. Now radiologic technology includes a wide variety of services ranging from diagnosis and therapy to radiation health and safety. New professions rapidly emerge as medical advances and technological developments introduce new equipment and instrumentation. Developments in ultrasound scanning, magnetic resonance imaging, and computerized tomography, including electronics, are revolutionizing the field.

The term "Radiologic Technology" actually encompasses all technologists specializing in radiography, nuclear medicine, radiation therapy, and diagnostic medical sonography. These technologists have national credentialing by the American Registry of Radiologic Technologists and

are affiliated with the American Society of Radiologic Technologists. As of April 2006, 2,753 credentialed technologists were registered with the Department of Health.

Mississippi has nine radiologic technology programs located at community colleges: Meridian, Copiah-Lincoln, Mississippi Delta, Gulf Coast, Itawamba, Jones, Northeast, Pearl River, and Hinds. The University of Mississippi Medical Center is the only certificate program in the state. Itawamba Community College established the state's first ultrasound program in 2000, and additional programs have been established at Hinds and Jones Community Colleges. UMC teaches a nuclear medicine program.

The Mississippi Society of Radiologic Technologists states that the job market for technologists does not indicate a shortage at this time, and current program enrollment in the state is meeting the needs of the job market. No expansion of existing programs or establishment of new programs is recommended. A baccalaureate program for a BS in Health Sciences has been established via UMC and the University of Mississippi, with a second campus in Tupelo. A radiation therapy program may be considered in the future. The need for qualified instructors, particularly program directors, faces a critical shortage nationwide, and should be a major concern for educational institutions in the state.

Registered Dietitians and Licensed Nutritionists

Nutrition professionals provide medical nutritional therapy for the treatment of disease, as well as providing education for the prevention of disease and disability. As of April 2006, the MDH Division of Professional Licensure reported 619 regular and 37 provisionally licensed dietitians.

Respiratory Care Practitioners

Respiratory care practitioners are graduates of technician or therapist programs and work under the direction of qualified physicians. Respiratory care is a health care specialty offering a set of unique challenges in prevention, diagnosis, treatment, management, and rehabilitation of people with lung problems. The majority of respiratory care practitioners work in hospitals, while others are employed in home health care, sleep clinics, pulmonary rehabilitation, and education.

The MDH reported 1,954 (28 held temporary licenses) respiratory care practitioners licensed in Mississippi as of April 2006, with 1,676 residing in the state. All Mississippi hospitals have licensed respiratory care practitioners on staff. Seven community colleges offer two-year programs in respiratory therapy: Copiah-Lincoln, Gulf Coast, Hinds, Itawamba, Meridian, Northeast, and Pearl River.

Health Information Managers

Health Information Managers use computer technology to collect, organize, analyze, and generate health data for treatment, reimbursement, planning, quality assessment, and research. These health information professionals help safeguard the accuracy and privacy of patient information, while guaranteeing patients' access to their own records. This profession evolved from medical record administration within a hospital setting to an occupation responsible for the identification and organization of healthcare data from multiple sources. Health information managers work in acute care, ambulatory, long-term and mental health care facilities, industrial clinics, state and federal health agencies, private industry, and colleges and universities.

The School of Health Related Professions at the University of Mississippi Medical Center offers the state's only two-year upper division baccalaureate degree program for health information

managers. Following graduation, the students are eligible to take the national registration exam and receive the credential RHIA, Registered Health Information Administrator. The RHIA is a manager and information specialist who interacts with other members of the medical, financial, and administrative staff to ensure that the information is protected, accurate, properly classified, and timely. RHIAs participate in the development and maintenance of health information systems.

Meridian, Hinds, and Itawamba Community Colleges offer two-year associate degree programs for the medical records technician. Students who satisfactorily complete these programs are eligible to take the examination for certification by the American Health Information Management Association and receive the credential RHIT, Registered Health Information Technician. RHITs perform a variety of technical health information functions, including evaluating health information, compiling health statistics, and coding diseases, operations, and procedures.

105 Health Manpower Standards

In planning for health manpower, one must consider the needs of current and projected populations for professional health services and the level of educational programs required to meet those needs. Unfortunately, significant numbers of professionals trained and educated in Mississippi leave the state, further increasing the difficulty of making accurate projections.

This section discusses standards and goals for the number of physicians, dentists, and nurses in Mississippi. The Department of Health recognizes that Mississippi needs additional health personnel in many fields; however, sufficient information is not available to estimate supply and demand for many professions, particularly allied health personnel.

Primary Care Physician Standard

The "National Guidelines for Health Planning" recommend a ratio of one primary care physician for every 2,000 persons. However, this ratio is a minimum number because it does not reflect the productivity of individual physicians nor the availability of physicians to all population groups. The U.S. Department of Health and Human Services requires a ratio of 3,500 persons per primary care physician to designate an area as a health professional shortage area for primary care. The Department will also designate areas with 3,000 persons per primary care physician if the area meets certain other conditions, as discussed at the beginning of this chapter. Mississippi had 75 counties or portions of counties designated as health professional shortage areas in July 2006.

Although the state as a whole has a ratio of one primary care physician per 1,370 persons based on 2010 projected population, the physicians are maldistributed. Almost 60 percent (1,257) of the 2,172 primary care physicians lived and practiced in only nine counties; Hinds County alone had 23.8 percent of the total. The Department of Health recommends a ratio of one primary care physician for every 2,000 people as a goal for every county not currently meeting this standard.

Dentist Standard

The U.S. Department of Health and Human Services requires a ratio of 5,000 persons per dentist to designate an area as a health professional shortage area for dental care. This ratio is also the Mississippi standard. Based on a 2010 projected population of 2,975,551, the state currently has one active dentist for every 2,455 persons; however, as with physicians, the dentists are maldistributed through the state. Approximately 39 percent of Mississippi's dentists practice in the two metropolitan areas: Jackson and the Gulf Coast. Other counties have few dentists or none at all. The state's goal is to improve the distribution so that no county has more than 5,000 persons per dentist and primary dental care is available within 30 minutes travel time of all areas.

Nursing Standard

Based on the 2010 projected population, Mississippi currently has one registered nurse employed full-time in a nursing career for every 120 persons, and one licensed practical nurse employed full-time in a nursing career for every 331 persons. The role of the nurse continues to expand, and nurses sometimes provide health care in rural areas which do not have access to physicians. The state supports the diverse nursing education programs throughout Mississippi and recognizes the importance of the nurse's role as a provider of quality and economical health care in a variety of health care areas.

106 Strategies for Meeting Health Manpower Shortages

In attempting to recommend or suggest health system changes necessary to reach established manpower standards, one must remember that several variables have unpredictable effects. The recommendations presented here are based upon the judgment, experience, and current knowledge of the planning staff.

Physicians

Mississippi meets the minimum national standard statewide, but does not meet the standard in every county. The following recommendations would help the state improve its primary care physician to population ratio in underserved counties:

1. Increased retention of Mississippi graduates who go out of the state for primary care residency training.

2. Increased primary care residency opportunity within the state through expansion of the federally funded Area Health Education Center (AHEC) program established by the University of Mississippi Medical Center. AHEC provides off-site educational experiences in local communities for students and medical residents. Medical students and residents who receive a portion of their training in rural communities are more likely to return to those areas upon completion of training.

3. Continuation of the Family Medical Education Scholarship program begun in 2001. This scholarship provides up to the cost of attendance as defined by the Office of Student Financial Aid at the University of Mississippi Medical Center (UMMC). Funds permitting, the program will award scholarships up to 20 medical students who attend UMMC and who commit to practice family medicine in a medically underserved area of Mississippi that is designated a "critical needs" area for six years upon completion of medical training. Currently, five UMMC students participate in the program.

4. Provision of a 10 percent bonus under the Medicaid program for primary care physicians practicing in Health Professional Shortage Areas (HPSAs). The federal Medicare program currently awards a 10 percent reimbursement bonus to physicians who practice in HPSAs to recognize the reduced earning capacity associated with practicing in a rural area and the need to attract additional physicians to these areas. Extending this bonus to primary care physician payments under the Medicaid program would serve as an increased incentive to attract needed doctors to underserved areas of the state.

Dentists

As with physicians, the state as a whole meets the minimum national standard for dentists, but many counties do not. Changes recommended to help achieve this goal in the provision of dental care are as follows:

1. An incentive program to encourage dentists to settle in rural areas where access to dental care is limited.

2. An innovative financial aid package for financially disadvantaged and/or minority applicants that is competitive with financial aid packages offered throughout the southeastern United States. The Omnibus Loan or Scholarship Act of 1991 created a program of scholarship aid for dentists as well as physicians, but funding has been inadequate to achieve substantial results.

Nurses

The Mississippi Nursing Organization Liaison Committee (NOLC), a committee of the Mississippi Nurses Association composed of representation from 25 nursing organizations, has worked proactively to address nursing workforce issues related to anticipated changes in nursing and the health care delivery system. Through the efforts of the NOLC, the Mississippi Legislature passed the Nursing Workforce Redevelopment Act during the 1996 Session. The Act authorized the Mississippi Board of Nursing to establish an entity that would be responsible for addressing changes impacting the nursing workforce.

In 1996, the NOLC also received a three-year Robert Wood Johnson Foundation (RWJF) *Colleagues in Caring* grant entitled ***Mississippi Nursing Workforce 2000.*** The grant's objectives were closely aligned with the efforts of the Nursing Workforce Redevelopment Act. Maximum effectiveness was obtained through the combination of the funds, goals and objectives, advisory boards, and staff of the two projects. The effort resulted in the formation of the Office of Nursing Workforce Redevelopment (ONWR) with several objectives, including: (1) the development and implementation of a systematic annual survey for nursing manpower needs and projections and (2) the development of a competency model to assist students in articulation and mobility within the multi-level nursing education system.

In March 1999, the ONWR received an additional three-year grant from the Robert Wood

Johnson Foundation as one of 20 participants in Stage II of the *Colleagues in Caring* grant initiative. In 2001, with endorsement from NOLC and spearheaded by the Mississippi Nurses Association (MNA), an amendment to the original legislative act was passed. This amendment changed the name to the Office of Nursing Workforce (ONW) and authorized ONW to establish systems to ensure an adequate supply of nurses to meet the health care needs of the citizens of Mississippi. Additionally, the office received $100,000 from the Legislature. ONW's commitment to designing policy strategies and leadership development will assist in positioning Mississippi as one of the states leading the effort to proactively address nursing workforce issues through policy and planning.

Currently, with funding from the legislature and the Mississippi Development Authority, ONW is working with the Mississippi Council of Deans and Directors of Schools of Nursing, the Mississippi Nurses Association and the Mississippi Organization of Nurse Executives to address issues vital to nursing. These issues include faculty shortages, barriers to nursing education, recruitment into nursing, scholarship funding, the image of nursing, service/education collaboratives, retention of nursing service employees, and leadership training for nurses. More information is available by calling ONW or visiting www.monw.org.

The Mississippi Educational Mobility Effort

Working with a consultant and the Office of Nursing Workforce Redevelopment, the Mississippi Council of Deans and Directors of Schools of Nursing (the Council) developed and approved the *Mississippi Competency Model* (the Model) for testing. The document clearly defined major nursing roles and the competencies within each role. Competencies for all levels of nursing education in the state were identified, including those for licensed practical nursing (LPN), associate degree nursing (ADN), baccalaureate degree nursing (BSN), and master of science in nursing (MSN) programs. The Model served to identify the uniqueness of each level of nursing preparation as it related to expected competencies and will assist health planners to more clearly understand the various curricula offered within Mississippi's nursing education system to facilitate educational mobility.

Because there were no doctoral programs in Mississippi during the original Model development, Ph.D. competencies were not included. Since that time, the University of Mississippi Medical Center School of Nursing in Jackson and University of Southern Mississippi School of Nursing in Hattiesburg have developed programs leading to a Ph.D. in Nursing. A Task Force on Doctoral Competencies was established in 2001 to facilitate the development of the doctoral competencies. The revised model is now known as the Mississippi Nursing Competency Model and can be accessed via the Internet at www.monw.org.

Nursing Workforce Requirements

The determination of nursing workforce needs requires strategic synthesis of data concerning the supply of and demand for nurses. Currently, nurse supply data are available from the Mississippi Board of Nursing. To determine the demand for nurses, the MDH Division of Licensure and Certification added a survey to existing agency licensure renewal application forms mailed to acute care hospitals, long-term care facilities, and home health agencies. Employers were asked to report their 2004 or 2005 budgeted full-time equivalent (FTE) positions and vacancies for multiple categories of Registered Nurses (RNs), for Licensed Practical Nurses (LPNs), and for ancillary personnel. Additionally, employers were asked to project the number of FTEs they *intend* to have in the following two years for each of the personnel categories. Responses were returned to the Office of Nursing Workforce for analysis. Surveys were received from 93 hospitals and 186 aging and adult service facilities. Respondents for hospitals and aging and adult service facilities were well distributed throughout the state (Table VI-3).

Table VI-3

Number and Percent of Hospital and Aging and Adult Service Employers Responding by Public Health District

Public Health District	Counties Included	Hospital		Aging and Adult Services	
		N	%	N	%
I	Coahoma, DeSoto, Grenada, Panola, Quitman, Tunica, Tate, Tallahatchie, Yalobusha	6	6.5	12	6.5
II	Alcorn, Benton, Itawamba, Lafayette, Lee, Marshall, Pontotoc, Prentiss, Tippah, Tishomingo, Union	10	10.8	28	15.1
III	Attala, Bolivar, Carroll, Holmes, Humphreys, Leflore, Montgomery, Sunflower, Washington	10	10.8	19	10.2
IV	Calhoun, Chickasaw, Choctaw, Clay, Lowndes, Monroe, Noxubee, Oktibbeha, Webster, Winston	12	12.9	17	9.1
V	Claiborne, Copiah, Hinds, Issaquena, Madison, Rankin, Sharkey, Simpson, Warren, Yazoo	17	18.3	42	22.6
VI	Clarke, Jasper, Kemper, Lauderdale, Leake, Neshoba, Newton, Scott, Smith	14	15.1	18	9.7
VII	Adams, Amite, Franklin, Jefferson, Lawrence, Lincoln, Pike, Walthall, Wilkinson	9	9.7	17	9.1
VIII	Covington, Forrest, Greene, Jefferson Davis, Jones, Lamar, Marion, Perry, Wayne	10	10.8	18	9.7
IX	George, Hancock, Harrison, Jackson, Pearl River, Stone	5	5.4	15	8.1
Total	All Counties	93	100.0	186	100.0

Source: Office of Nursing Workforce

Demand for Nursing Personnel in Hospitals

Registered Nurses (RNs). The 93 responding hospital employers reported a total of 12,085 budgeted FTEs for 2005. The RN FTEs include all RNs in a variety of roles in addition to staff nurses. These roles include administration, patient and inservice education, quality improvement, infection control, advanced practice nurses (nurse practitioner, clinical nurse specialist, nurse-midwife, and nurse anesthetist), and other roles. Of the total number of budgeted RN FTEs, 951.4 were vacant, resulting in a vacancy rate of 7.9 percent, slightly higher than last year's 7.7 percent.

Among employers reporting total RN FTEs, 85 provided data for 2005 budgeted FTEs and the total number of RN FTEs they intend to budget in 2006 and 2007. The current and intended numbers of RN FTEs reported by these employers are: 9,539 in 2005; 9,821 in 2006; and 9,992 in 2007. The intended increase of 453 budgeted RN FTEs represents an overall 4.7 percent increase in budgeted RN FTEs over the three-year period.

A total of 83 employers provided data on the educational level of RN employees in 2005. The greatest percentage of RNs in hospitals hold the associate degree. The percent of RNs employed by hospitals at each educational level in 2005 were: diploma, 3.0 percent; associate degree, 62.0 percent; baccalaureate degree, 29.9 percent; master's degree 5.0 percent; and doctorate, 0.1 percent.

Budgeted 2005 FTEs and vacancy rates were reported for specific categories of RN personnel. For RN staff nurse FTEs, hospital employers reported a 7.9 percent vacancy rate (N=93). Employers reported a 6.5 percent vacancy rate (N=91) for RNs in administrative positions. Employers reported a 7.1 percent vacancy rate (N=71) for RNs in infection control roles, a 7.4 percent vacancy rate (N=66) for inservice educators, a 1.7 percent vacancy rate (N=62) for RNs in quality improvement roles, a 3.9 percent vacancy rate (N=51) for case managers, a 1.8 percent vacancy rate (N= 31) for RNs in patient educator roles, a 6.8 percent vacancy rate (N=14) for RNs in first assistant roles, and a 7.8 percent vacancy rate (N=13) for clinical nurse specialists.

The actual numbers of personnel listed by employers in some categories were too small for further analysis. Budgeted 2005 FTEs as well as intended FTEs for 2006 and 2007 for selected specific categories of RNs employed in hospitals are shown in Table VI-4. Since not all hospitals employ or intend to employ all categories of RN personnel, there are differing numbers of employers responding.

Most RNs working in hospitals are identified as staff nurses (87.6 percent). Among employers providing FTE data across all three time periods, there is moderate intention to increase the number of budgeted RN staff nurse FTEs between 2005 and 2007. Other growth areas appear to be in the specific RN categories of infection control, inservice educators, family nurse practitioners, and certified registered nurse anesthetists. There is minimal intention to increase the number of budgeted FTEs in other categories.

Table VI-4

Personnel Categories, Number of Hospital Employers Providing FTE Data Across All Three Time Periods and the Percent Change for Selected Categories of RN Personnel

RN Personnel Category	Number of Employers	2005 Budgeted FTEs	2006 Intended FTEs	2007 Intended FTEs	Change in FTEs	Percent Change
RN Staff	85	8,305	8,283	8,422	117	1.4
Administrator	84	735	746	760	25	3.4
Case Manager	45	N/A	N/A	N/A	N/A	N/A
Quality Improvement	56	106	106	106	0	0.0
Clinical Nurse Specialist (CNS)	10	57	62	68	11	19.3
Infection Control	64	61	64	64	3	4.9
Inservice Educator	58	112	115	116	4	3.6
Patient Educator	26	44	45	45	1	2.3
First Assistant	11	22	23	23	1	4.5
Family Nurse Practitioner	44	167	169	171	4	2.4
Acute Care NP	12	20	25	26	6	30.0
Certified Registered Nurse Anesthetist (CRNA)	37	174	185	191	17	9.8

Source: Office of Nursing Workforce

Approximately 73 percent of the employers, a slight increase over last year, indicated they had difficulty recruiting one or more categories of RNs in 2005. Areas of need listed most frequently were: medical/surgical units, critical care areas, emergency room, psychiatric, and geriatric psychiatric units. Twenty-five hospitals reported the use of a total of 225 RNs licensed under the compact licensing agreement.

Employers had the opportunity of listing nursing continuing education needs for their hospitals. The primary continuing education needs cited were ACLS/PALS/ATLS/trauma care, patient safety, medications, critical thinking, documentation (particularly legal aspects), regulatory issues and standards, leadership/management skills.

Licensed Practical Nurses (LPNs). Eighty-five employers provided vacancy and total budgeted LPN FTEs in 2005. Respondents reported 2,160 budgeted LPN FTEs and 261 FTE vacancies, resulting in an LPN vacancy rate of 12.1 percent, slightly higher than last year's rate of 11.6 percent. Sixteen hospital employers (17 percent) indicated they had difficulty recruiting LPNs in 2005.

LPN FTEs were reported for 2005, 2006, and 2007 by 76 employers. The current and intended number of LPN FTEs was reported as: 1,670 in 2005; 1,704 in 2006; and 1,737 in 2006. The intended increase of 67 budgeted LPN FTEs represents an overall 3.9 percent increase in LPN FTEs over the three-year period, a decrease from last year's predicted increase of 5.9 percent.

Ancillary Personnel. Ancillary personnel vacancy and total budgeted FTEs for 2005 were reported by 86 employers. There were a total of 5,300 budgeted ancillary personnel FTEs and 438 FTE vacancies, resulting in a vacancy rate of 8.3 percent for ancillary personnel, slightly higher than last year.

A total of 77 hospital employers reported budgeted FTE data for ancillary personnel for 2005, 2006, and 2007. The current and intended numbers of ancillary personnel FTEs are: 4,213 in 2005; 4,278 in 2006; and 4,314 in 2007. The intended increase of 272 budgeted FTEs represents an overall 2.4 percent increase in ancillary personnel FTEs over the three-year period, less than half of the 5.8 increase predicted last year.

Temporary Personnel. Employers were asked whether they used temporary help to staff their facilities. The majority of employers (N= 57, 61 percent) indicated they do not use temporary help. Of the 36 hospitals reporting the use of temporary nursing service staff, 30 (83.3 percent) used 8.2 percent or less. Eighty-two (88 percent) employers indicated they used part-time staff. Of the 82 hospitals reporting use of part-time personnel, 53 (65 percent) used 20 percent or less. The number of hospitals reporting the use of temporary personnel decreased and the number reporting use of part-time personnel increased from 2004 to 2005.

Demand for Nursing Personnel in Aging and Adult Services

Registered Nurses (RNs). The 186 responding employers reported a total of 1,442 budgeted RN FTEs for 2006. The RN FTEs include all RNs in a variety of roles in addition to staff nurses including administration, quality improvement, inservice education, advanced practice (nurse practitioners, clinical nurse specialist), and other roles. Of the total number of budgeted RN FTEs, 185.5 were vacant resulting in a vacancy rate of 12.9 percent, slightly higher than last year's vacancy rate. Fifteen facilities reported the use of a total of 45 RNs licensed under the licensing compact agreement.

Among employers reporting total RN FTEs, 182 provided data for 2006 budgeted FTEs and the total number of RN FTEs they intend to budget in 2007 and 2008. The current and intended numbers of RN FTEs reported by these employers are: 1,423 in 2006; 1,495 in 2007; and 1,577 in 2008. The intended increase of 154 budgeted RN FTEs represents an increase of 10.8 percent in budgeted RN FTEs over the three-year period, substantially higher than last year's predicted increase of 3.2 percent.

A total of 183 employers provided data on the educational level of RN employees in 2006. The greatest percentage of RNs in aging and adult services hold the associate degree. The percentage of RNs employed at each educational level in 2006 were: diploma, 5.6 percent; associate degree, 76.1 percent; baccalaureate degree, 15.7 percent; master's degree, 2.5 percent; and doctoral degree, 0.1 percent. A total of 166 employers reported their intention to increase RNs by educational level through 2008. There is no intent to increase diploma, masters, or doctoral prepared RNs. There is intent to increase associate degree nurses by 7.9 percent and baccalaureate nurses by 12.6 percent.

Budgeted 2006 FTEs and vacancy rates were reported for specific categories of RN personnel. For RN staff nurse FTEs, employers reported a 14.5 percent vacancy rate. Aging and adult services employers reported a 9.5 percent vacancy rate for RNs in administrative positions. Reported vacancy rates were 14.3 percent for quality improvement FTEs and 16.2 percent for inservice educator FTEs. Budgeted 2006 FTEs, as well as intended FTEs for 2007 and 2008 for selected specific categories of RNs employed in aging and adult services are shown in Table VI-5. Since not all aging and adult services agencies employ or intend to employ all categories of RN personnel, there are differing numbers of employers responding.

Table VI-5
Personnel Categories, Number of Aging and Adult Services Employers Providing FTE Data Across All Three Time Periods, And the Percent Change for Selected Categories of RN Personnel

RN Personnel Category	Number of Employers	2006 Budgeted FTEs	2007 Intended FTEs	2008 Intended FTEs	Change in FTEs	Percent Change
Staff	167	765	823	837	72	9.4
Administrator	169	377	379	381	4	1.1
Quality Improvement	81	98	102	103	5	5.1
Inservice Educator	73	66	69	71	5	7.6
Other RN's	56	105	107	107	2	1.9

Source: Office of Nursing Workforce

The majority of RNs working in aging and adult services are identified by employers as staff nurses (54 percent). Among employers providing FTE data across all three time periods, there is intention to increase the number of budgeted RN staff nurse, administrative, quality improvement, and inservice education FTEs between 2006 and 2008. Several other categories of RN personnel were listed for employer responses. However, the actual number of personnel listed by employers in these categories is too small for further analysis. These categories include clinical nurse specialists and nurse practitioners. Eight facilities reported use of clinical nurse specialists and ten reported use, or intended use, of nurse practitioners. Fifty-six employers indicated they used RNs in roles other than those listed, such as MDS coordinators, case management, care plan coordinators, and assessment coordinator.

Recruitment difficulties were reported by 144 facilities (77.4 percent). Eighty (43 percent) of aging and adult services employers indicated they had difficulty recruiting RNs in 2006. Employers had the opportunity of listing nursing continuing education needs for their facilities. Again, documentation was most frequently listed as a continuing education need, followed by leadership/management/supervisory skills, wound care, regulatory and legal issues, and medication administration.

Licensed Practical Nurses (LPNs). Vacancy and total budgeted LPN FTEs for 2006 were reported by 186 aging and adult services employers. Respondents reported 2,654 budgeted LPN FTEs and 333 FTE vacancies, resulting in an LPN vacancy rate of 12.6 percent and representing little change over last year's vacancy rate of 12.5 percent. Of those 186 employers providing data for 2006, a total of 106 (57 percent) indicated difficulty recruiting LPNs in 2006. Twenty-four facilities reported the use of a total of 122 LPNs licensed under the compact licensing agreement.

LPN FTEs were reported for 2006, 2007, and 2008 by 183 employers. The current and intended numbers of LPN FTEs are: 2,619 in 2006; 2,737 in 2007; and 2,756 in 2008. The intended increase of 137 budgeted LPN FTEs represents an overall 5.2 percent increase in budgeted LPN FTEs over the three-year period.

Ancillary Personnel. Ancillary personnel vacancy rate and total budgeted FTEs for 2006 were reported for 178 aging and adult services employers. A total of 7,635 ancillary personnel

FTEs and 615 FTE vacancies were reported, resulting in a vacancy rate of 8.0 percent for ancillary personnel. Sixty (32 percent) of the employers indicated difficulty recruiting ancillary personnel. The percentage of employers indicating difficulty recruiting certified nursing assistants has almost doubled in the past year.

A total of 174 aging and adult services employers reported budgeted FTE data for ancillary personnel for 2006, 2007, and 2008. The current and intended numbers of ancillary personnel FTEs are: 7,524 in 2006; 7,737 in 2007; and 7,719 in 2008. The intended increase of 195 budgeted FTEs represents an overall 2.6 percent increase in budgeted ancillary personnel FTEs over the three-year period.

Temporary Personnel. A total of 80 aging and adult services employers (43.0 percent) indicated they use temporary nursing personnel. Of the 71 employers indicating a percent of temporary help, the majority indicated use of 20 percent or less for their nursing personnel requirements. Use of part-time staff was reported by 150 (80.6 percent) of facilities. The majority of those facilities use 20 percent or less. Only two (1.1 percent) indicated use of foreign trained nurses.

School of Nursing Data

Data for the following section were extracted from annual 2006 surveys administered to the Deans and Directors of Schools of Nursing by the Southern Regional Education Board (SREB) Council on Collegiate Education for Nursing and the Mississippi Office of Nursing Workforce. Permission to use the data was granted by SREB and the Mississippi Council of Deans and Directors of Schools of Nursing.

Currently, there are 21 state accredited Mississippi Schools of Nursing, including 7 baccalaureate degree programs and 16 associate degree programs. Twenty-one (100 percent) schools participated in the survey:

1. Alcorn State University
2. Coahoma Community College
3. Copiah-Lincoln Community College
4. Delta State University
5. East Central Community College
6. Hinds Community College
7. Holmes Community College
8. Itawamba Community College
9. Jones County Community College
10. Meridian Community College
11. Mississippi College
12. Mississippi Delta Community College
13. Mississippi Gulf Coast Community College
14. Mississippi University for Women
15. Northeast Mississippi Community College
16. Northwest Mississippi Community College
17. Pearl River Community College
18. Southwest Mississippi Community College
19. University of Mississippi Medical Center
20. University of Southern Mississippi
21. William Carey College

Respondents reported that not every student admitted to associate, baccalaureate, masters, and doctoral programs subsequently enrolled. Additionally, all programs, other than doctoral, reported having qualified students who were not admitted. Eleven of the fourteen associate degree programs could not have accepted more students. Six of the seven baccalaureate programs could not have accepted more students. Four of the six masters programs could have accepted more students.

Both Associate and Baccalaureate programs listed (1) lack of faculty to teach students, (2) lack of campus resources, e.g., classroom/lab space and (3) limited clinical sites for interactive learning experiences as the top three factors preventing acceptance of more students in the program. Masters programs cited lack of qualified applicants and lack of faculty to teach students as the most common factors that prevented acceptance of more students.

The total number of full-time and part-time students reported by participating schools is 5,188 (see Table VI-6). Of those students, 1,811 are expected to graduate by August 2006. Approximately 20.1 percent (1,041) of students currently enrolled in participating programs are male (a seven percent increase as compared to last year) and the majority are Caucasian (see Table VI-6).

Table VI-6
Nursing Student Status and Gender

Program Type	Full-Time		Part-Time		Total	Male*	Female*	Expect to Graduate August 06
ADN	3,478	98.6%	49	1.4%	3,527	782	2,656	1,130
BSN	1,148	93.0%	86	7.0%	1,234	217	1,017	496
MSN	250	64.1%	140	35.9%	390	36	354	175
PHD	21	56.8%	16	43.2%	37	6	31	10
Total	4,897	N/A	291	N/A	5,188	1,041	4,058	1,811

*89 (1.7 %) students not identified by gender.
Source: Office of Nursing Workforce

Table VI-7
Number of Students by Ethnic/Racial Group*

Program Type	African American	American Indian / Alaskan Native	Asian	Caucasian (non-Hispanic)	Hispanic	Other
ADN	721	6	27	2,647	30	7
BSN	277	4	14	924	9	6
MSN	100	0	3	283	4	0
PHD	8	0	0	28	0	1
Total*	1,106	10	44	3,882	43	14
Percent	21.3%	0.2%	0.8%	74.8%	0.8%	0.3%

* 89 (1.7%) students not identified in ethnic/racial groups.
Source: Office of Nursing Workforce

Participants reported 459 budgeted full time positions in the nursing education units; 40 (8.7 percent) were unfilled. Twenty-five nurse educators resigned during the 2005-2006 academic year for various reasons. The primary reasons for resignation were salary and relocation due to Hurricane Katrina. Thirteen nurse educators are expected to resign during the 2006-2007 academic year.

Ten nurse educators retired during the 2005-2006 academic year, with 15 retirements projected for the 2006-2007 academic year, 23 retirements predicted for the 2007-2008 academic year, and 37 retirements predicted for the 2008-2009 academic year. Ninety percent of the nurse educators who retired during the 2005-2006 academic year were in the 56 to 65 age group. Eighty-five retirements and 38 resignations through the 2008-2009 academic year in conjunction with the 40 unfilled nurse educator positions would result in a vacancy rate of 35.5 percent (163) in three years. This vacancy rate is approximately 10 percent higher than last year's predicted rate. Sixty 2006 graduates of masters and doctoral programs are expected to complete courses to teach nursing.

This year, the MS Board of Nursing, the MS Nurses Association, the MS Office of Nursing Workforce, the MS Council of Deans and Directors of Schools of Nursing, and the MS Hospital Association have worked collaboratively to address faculty shortage issues. The most frequently cited reason for nurse educator resignation was salary. Many reported the ability to earn higher salaries in clinical practice or in nursing education in other states. Legislation aimed at improving nursing faculty salaries in schools of nursing was introduced and passed. Additionally, the MS Hospital Association commissioned a white paper, which will be available later this year, to address the faculty shortage. The aforementioned group is committed to providing adequate numbers of nurses to care for Mississippians. To this end, the information gathered for the white paper and the forthcoming recommendations will be used to strategically plan for nursing faculty losses and to provide additional faculty for increasing capacity.

Occupational Therapists

To maintain the number of occupational therapists and occupational therapy assistants in the state, the following strategies are recommended:

I. Encourage the maintenance of the occupational therapy educational system.

   A. Support existing educational programs for occupational therapy assistants in Pearl River and Holmes Community Colleges. Due to the fluctuating marketplace, expansion and development of future programs is unadvisable at this time.

   B. Promote the development and funding of the existing program providing occupational therapy education, both clinically and didactically.

   C. Increase the number of qualified applicants from the high school level through college years.

II. Continue to recruit qualified applicants into occupational therapy education programs, from high school level forward.

   A. Target specific promotion to additional populations, including second career seekers, underemployed persons in related fields, and baccalaureate degree graduates in related fields.

   B. Mount efforts aimed at attracting and retaining minorities in the profession.

C. Encourage the continued recruitment of qualified applicants from the high school level through college years.

III. Increase promotional activities aimed at expanding the availability of occupational therapy services to meet the needs of unserved or underserved persons. Support research to produce valid information of the efficacy of occupational therapy treatment for use in promoting the development of this service.

IV. Offer incentives such as day care, competitive salaries, and financial support for continuing education to attract other occupational therapists to the state.

Physical Therapists

To maintain the number of physical therapists and physical therapist assistants in the state, the following strategies are recommended:

I. Encourage maintenance of the physical therapy educational system.

A. Promote expansion and adequate funding of the existing physical therapy educational opportunities in the state, including clinical education components as well as didactic education. Also increase the numbers of qualified physical therapy faculty.

B. Support maintenance of the physical therapy educational program at the University Medical Center.

C. Provide financial aid to physical therapy students, especially those who are financially disadvantaged and/or minorities to encourage them to remain in the state as a practitioner.

II. Promote activities aimed at providing physical therapy services to persons presently unserved or underserved.

III. Encourage research to enhance evidence based practice.

IV. Support existing physical therapist assistant programs at Pearl River Community College, Meridian Community College, and Itawamba Community College. Due to the fluctuating market place, expansion of future programs is not warranted.

V. Encourage the continued recruitment of individuals into the profession, beginning with career awareness activities in middle school and continuing into college years.

VI. Encourage greater recruitment of minorities and baccalaureate degree graduates into physical therapy from related fields.

VII. Use incentives to retain physical therapists in the profession.

A. Provide day care services within the health care setting.

B. Provide continuing and specialized education for physical therapists to maintain the highest quality of services.

VIII. Provide greater access to consumer choice of physical therapy services and promote the concept of direct access.

IX. Promote actions to enhance the quality of care through changing the entry degree to the doctoral level. Provide mechanisms for practicing therapists to obtain the doctoral degree.

Speech-Language Pathologists/Audiologists

To increase the number of speech-language pathologists and audiologists in the state, the following strategies are recommended:

I. Expand the educational system to train more speech-language pathologists/audiologists.

II. Develop a plan to more actively recruit speech-language pathology and audiology students.

A. Provide health care linkages in promoting entry into the profession. Career awareness information should be provided to students earlier – perhaps in elementary and middle schools. The type of student attracted to professional programs (honor students) usually decides early about a professional career choice.

B. Provide financial aid to speech-language pathology and audiology students.

1. Support state legislation to increase financial aid.
2. Encourage hospitals not presently providing scholarships/grants to do so.

C. Encourage greater recruitment of minority students into speech-language pathology or audiology careers.

Chapter 06 Health Personnel

High quality health care services depend on the availability of competent health personnel in sufficient numbers to meet the population's needs. Mississippi is traditionally a medically underserved state, particularly in sparsely populated rural areas and areas containing large numbers of poor people, elderly people, and minorities. This chapter discusses the areas of greatest need for health care personnel, focusing on physicians, dentists, and nurses, and recommends actions to help increase the numbers of health personnel in underserved areas.

Note: Various boards of licensure provide information for this chapter; the licensure of health professionals may not indicate whether they are currently practicing on the Mississippi Gulf Coast following Hurricane Katrina. The effect of the hurricane on health professionals practicing on the Mississippi Gulf Coast may be more apparent in licensing year 2007, which will be reported in next year's 2008 State Health Plan.

100 Physicians

The University of Mississippi Medical Center's School of Medicine has graduated 4,658 physicians, including 314 non-white physicians, since its first class in 1957. The school awarded 102 Doctor of Medicine degrees in school year 2004-2005. The class included 11 minorities, or 10.8 percent of the graduates.

Mississippi had 5,098 active medical doctors, 264 osteopaths, and 59 podiatrists licensed by the Board of Medical Licensure for licensing year 2006, for a total of 5,421 active licensed physicians practicing in the state. This number represents an increase of 116 physicians, or more than 2.13 percent, from licensing year 2005. In 2005, the Board revised its reporting policy, resulting in a decrease in the number of physicians by county in licensing year 2005. Previously, the Board reported physicians with a primary or a secondary practice location in Mississippi. Currently, the board reports only those physicians who indicate a primary practice location in Mississippi. Based on Mississippi's projected 2010 population of 2,975,551, the state has approximately one licensed physician for every 549 persons.

Approximately 15.9 percent of Mississippi's medical doctors cite the practitioner's office as their primary place of business; 23.1 percent cite clinics; 19.9 percent cite both hospitals and the practitioner's office, with no major setting determined; 17.3 percent cite hospitals; 5.6 percent cite schools of medicine; and the remainder cites federal health facilities, schools, public health, or other areas.

Approximately 2,172 (42.6 percent) of the state's active medical doctors are primary care physicians, representing a ratio of one primary care physician for every 1,370 persons, based on 2010 projected population. The primary care physicians included 711 family practitioners, 111 general practitioners, 687 internal medicine physicians, 314 obstetrical and gynecological physicians, and 349 pediatricians. Table VI-1 presents the total number of medical doctors in all specialties; Table VI-2 presents the number of physicians by sex, race, and age per primary care specialty; and Map VI-1 depicts the total number of primary care medical doctors by county.

Mississippi had 75 counties or portions of counties designated as health professional shortage areas for primary medical care for 2006. The United States Department of Health and Human Services defines a health professional shortage area (HPSA) as a geographic area encompassing 30 minutes travel time and containing at least 3,500 persons per primary care physician. Areas with 3,000 persons per primary care physician are also designated if the areas meet any one of the following three criteria: 1) more than 100 births per year per 1,000 women aged 15-44; 2) an infant mortality rate of more than 20 infant deaths per 1,000 live births; or 3) more than 20 percent of the population with incomes below the poverty level.

Degree-of-shortage designations reflect the ratio of population to the number of full-time equivalent primary care physicians and the presence or absence of unusually high needs for primary health care services as demonstrated by the three conditions listed in the previous paragraph.

Minority Physicians

Mississippi had 977 minority physicians in licensing year 2006: 450 black, 358 Asian, 29 Indian, and 140 of other races. Blacks comprised 7.6 percent of the total active licensed physicians and Asians 6.6 percent. Using a non-white population figure of 1,159,565 (38.9 percent of the total 2010 projected population); the state has one minority physician for every 1,187 non-white persons. Considering black physicians only, there is one black physician for every 2,577 non-white persons; 283 (or 70 percent) of the state's black physicians were primary care physicians.

The UMC School of Medicine has graduated a total of 314 non-white physicians, with 11 minorities included in the 2004-2005 graduating class. Mississippi needs additional minority physicians to meet the high need for medical services in rural Mississippi. This need is heightened by socioeconomic factors such as education, income, and housing conditions. All of these factors affect health status.

Osteopaths

Mississippi had 264 active osteopaths licensed for licensing year 2006, distributed as follows: 109 in family practice; 40 in emergency medicine; 9 in general practice; 10 in anesthesiology, 26 in internal medicine, 9 in pediatrics, 11 in obstetrics and gynecology, and 50 in various other specialties.

Table VI-1
Medical Doctors by Specialty
FY 2004

Adolescent Medicine	2	Neurology	85	Psychiatry	228
Aerospace Medicine	3	Neurology & Psychiatry	6	Psychiatry, Addiction	3
Allergy & Immunology	24	Neuropathology	2	Psychiatry, Child & Adolescent	21
Anesthesiology	257	Neuroradiology	2		
		Nuclear Medicine	2	Public Health & General Preventive Medicine	12
Blood Banking/Transfusion Medicine	2			Pulmonary Disease	22
		Obstetrics & Gynecology	309	Pulmonary Medicine	43
Cardiac Electrophysiology	8	Occupational Medicine	9		
Cardiology	57	Oncology	10	Radiation Oncology	26
Cardiovascular Disease	90	Ophthalmology	151	Radiation Therapy	3
Clinical Genetics (M.D.)	1	Otolaryngology	48	Radiology	78
Clinical Neurophysiology	1	Otolaryngology / Neurotology	1	Radiology, Diagnostic	146
Critical Care Medicine	2	Otorhinolaryngology	49	Radiology, Vascular & Interventional	17
Cytopathology	2				
		Pain Management	12	Rheumatology	28
Dermatology	48	Pathology, Anatomic	6	Roentgenology	1
Dermatopathology	2	Pathology, Anatomic & Lab Medicine	4	Roentgenology, Diagnostic	5
		Pathology, Anatomic / Clinical	106		
Emergency Medicine	254	Pathology, Clinical	3	Sports Medicine	2
Endocrinology	3	Pathology, Forensic	1		
Endocrinology, Diabetes, & Metabolism	16				
Endocrinology, Reproductive	3	Pediatric Allergy & Immunology	1	Surgery	17
		Pediatric Cardiology	5	Surgery, Facial Plastic	2
Family Practice	711	Pediatric Critical Care Medicine	3	Surgery, General	209
		Pediatric Endocrinology	1	Surgery, General / Vascular	20
Gastroenterology	86	Pediatric Gastroenterology	2	Surgery, Hand	2
General Practice	111	Pediatric Hematology / Oncology	2	Surgery, Neurological	57
Geriatric Medicine	5	Pediatric Infectious Disease	1	Surgery, OB / GYN	4
Gynecologic Oncology	5	Pediatric Nephrology	1	Surgery, Orthopaedic	184
		Pediatric Neurology	4	Surgery, Otorhinolaryngology & Facial Plastic	7
Hematology	1	Pediatric Otolaryngology	1	Surgery, Pediatric	4
Hematology & Oncology	16	Pediatric Pathology	1	Surgery, Plastic	10
		Pediatric Pulmonology	2	Surgery, Plastic & Reconstructive	41
Infectious Diseases	21	Pediatric Radiology	1	Surgery, Thoracic	9
Internal Medicine	687	Pediatric Sports Medicine	1	Surgery, Thoracic / Cardiovascular	41
Laboratory Medicine	1	Pediatrics	324	Surgery, Urological	31
Maternal & Fetal Medicine	5	Physical Medicine & Rehab	21	Undersea Medicine	1
Medical Genetics	4	Preventive / Aerospace Medicine	3	Urology	64
Medical Oncology	28	Preventive / Occupational - Environmental Medicine	1		
		Preventive Medicine / Occupational Medicine	1	Other & Unknown	49
Neonatal & Perinatal Medicine	12				
Neonatology	5				
Nephrology	56			**Total**	**5,098**

Table VI-2
Medical Doctors in Mississippi – Federal and Nonfederal
Specialty by Sex, Race, and Age
License Year 2006

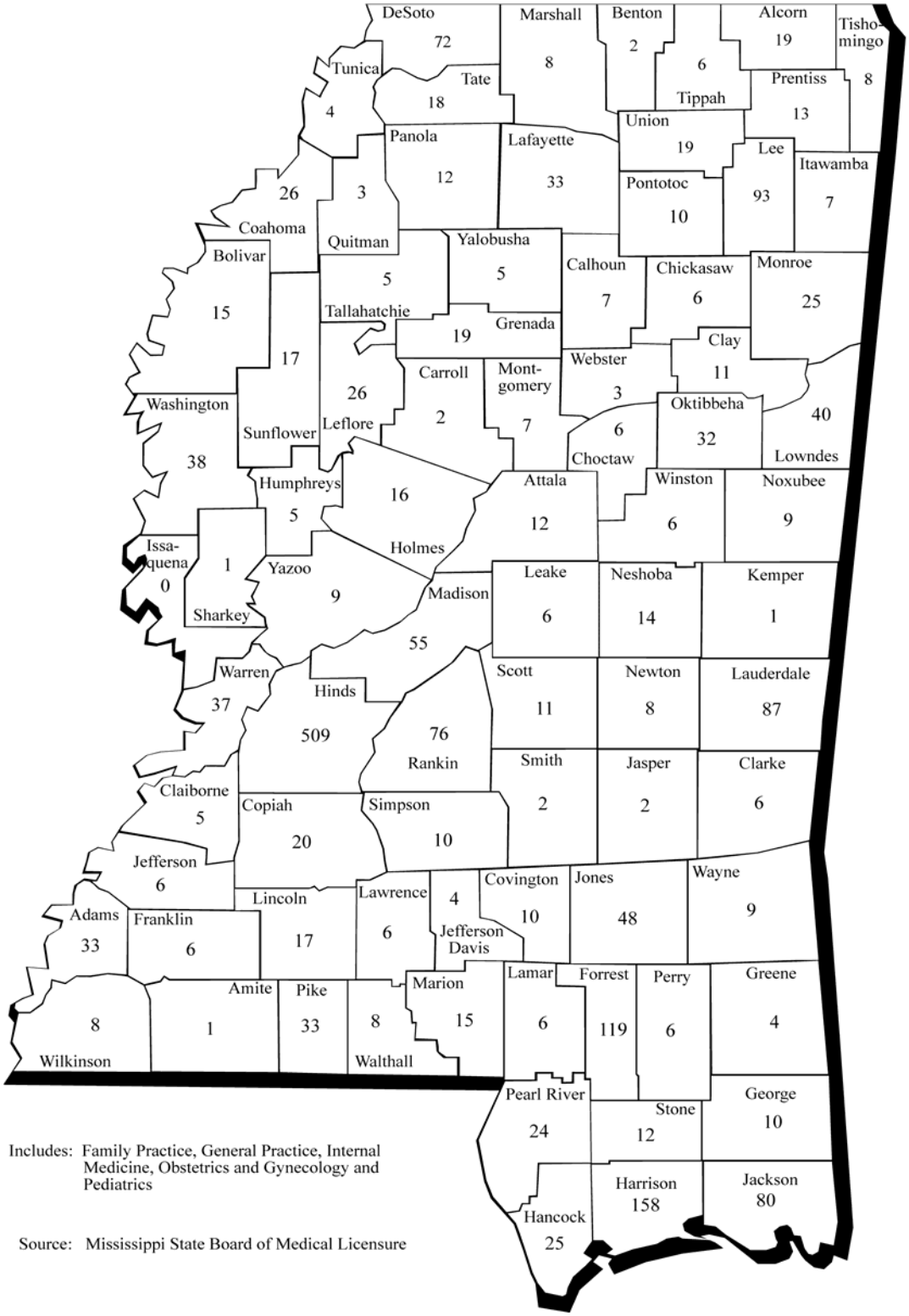
	Family Practice	General Practice	Internal Medicine	OB/GYN*	Pediatrics**	Non-Primary Care Specialists	Unknown	Total
Total	**711**	**111**	**687**	**314**	**349**	**2,918**	**8**	**5,098**
Sex								
Male	575	100	535	241	187	2,523	5	4,166
Female	136	11	152	73	162	395	3	932
Race								
White	588	91	444	256	266	2,517	3	4,165
Black	87	13	104	44	35	129	0	412
Indian	2	1	5	1	4	15	1	29
Asian	28	6	95	6	37	181	2	355
Other	6	0	39	7	7	76	2	137
Age								
Under 30	9	0	21	3	6	24	2	65
30 - 34	61	4	101	39	49	223	4	481
35 - 39	111	3	118	39	60	372	0	703
40 - 44	86	3	124	42	59	431	0	745
45 - 49	105	6	109	52	48	468	1	789
50 - 54	111	17	88	35	39	405	1	696
55 - 59	68	14	49	33	35	356	0	555
60 - 64	53	13	23	29	21	266	0	405
65 - 69	27	12	19	15	16	173	0	262
≥70	80	39	35	27	16	200	0	397

*OB/GYN includes Gynecologic Oncology, Obstetrics, and Gynecology.

**Pediatrics includes Pediatrics, Pediatric Allergy, Pediatric Cardiology, Pediatric Critical Care Medicine, Pediatric Emergency Medicine, Pediatric Endocrinology, Pediatric Gastroenterology, Pediatric Hematology – Oncology, Pediatric Infectious Disease, Pediatric Intensive Care, Pediatric Nephrology, Pediatric Neurology, Pediatric Otolaryngology, Pediatric Pathology, Pediatric Psychiatry, Pediatric Pulmonology, Pediatric Radiology, Pediatric Rheumatology, and Pediatric Sports Medicine.

Source: Mississippi State Board of Medical Licensure

Map VI - 1
Active Primary Care Medical Doctors by County of Residence
License Year 2006



Includes: Family Practice, General Practice, Internal Medicine, Obstetrics and Gynecology and Pediatrics

Source: Mississippi State Board of Medical Licensure

101 Dentists

Numerically, dentistry represents the fourth largest health profession, following nursing, medicine, and pharmacy. The Mississippi State Board of Dental Examiners reported 1,407 licensed (1,212 “active” and 195 “inactive”) dentists in the state for 2006, with 44 new dentists licensed during 2005. Based on Mississippi's 2010 projected population of 2,975,551, the state has one active dentist for every 2,455 persons.

The more populated areas of Mississippi are sufficiently supplied with dentists; however, many rural areas still face tremendous shortages, particularly in dentists who specialize in treating periodontal disease. A statewide assessment of dental needs conducted in FY 2005 by the MDH Office of Primary Care determined that 62 counties could qualify as dental health professional shortage areas. Currently, 44 counties have been designated by the HRSA Office of Workforce Analysis and another 16 counties are awaiting approval.

Mississippi's two major population centers contain the most active dentists. The Jackson area had a total of 324 active dentists in 2005, with 174 in Hinds County, 75 in Rankin County, and 75 in Madison County. The Gulf Coast region had the second largest count at 148, with 82 in Harrison County, 56 in Jackson County, and ten in Hancock County. Combined, these two metropolitan areas contained 39 percent of the state's total supply of active dentists.

On the opposite end of the spectrum, seven counties – Carroll, Franklin, Greene, Kemper, Quitman, Tunica, and Webster – had only one active dentist each and six counties – Amite, Benton, Humphreys, Issaquena, Jefferson, and Sharkey – had no active dentist. Map VI-2 presents the number of dentists per county.

The University of Mississippi School Of Dentistry has awarded 792 Doctor of Dental Medicine degrees since graduating its first class in 1979, with 29 graduates in the school year 2004-2005. The School of Dentistry maintains 120 students overall, more or less equally divided among its four-year educational program.

The School of Dentistry accepts six residents each year in a general practice residency and six residents in an advanced education in general dentistry residency, for a total of 12 residents. Both residencies are one-year post-doctoral programs.

Nonwhite Dentists

A total of 68 non-white dentists have graduated from the UMC School of Dentistry, or 8.6 percent of its total graduates. The class of 2004-2005 included one non-white member.

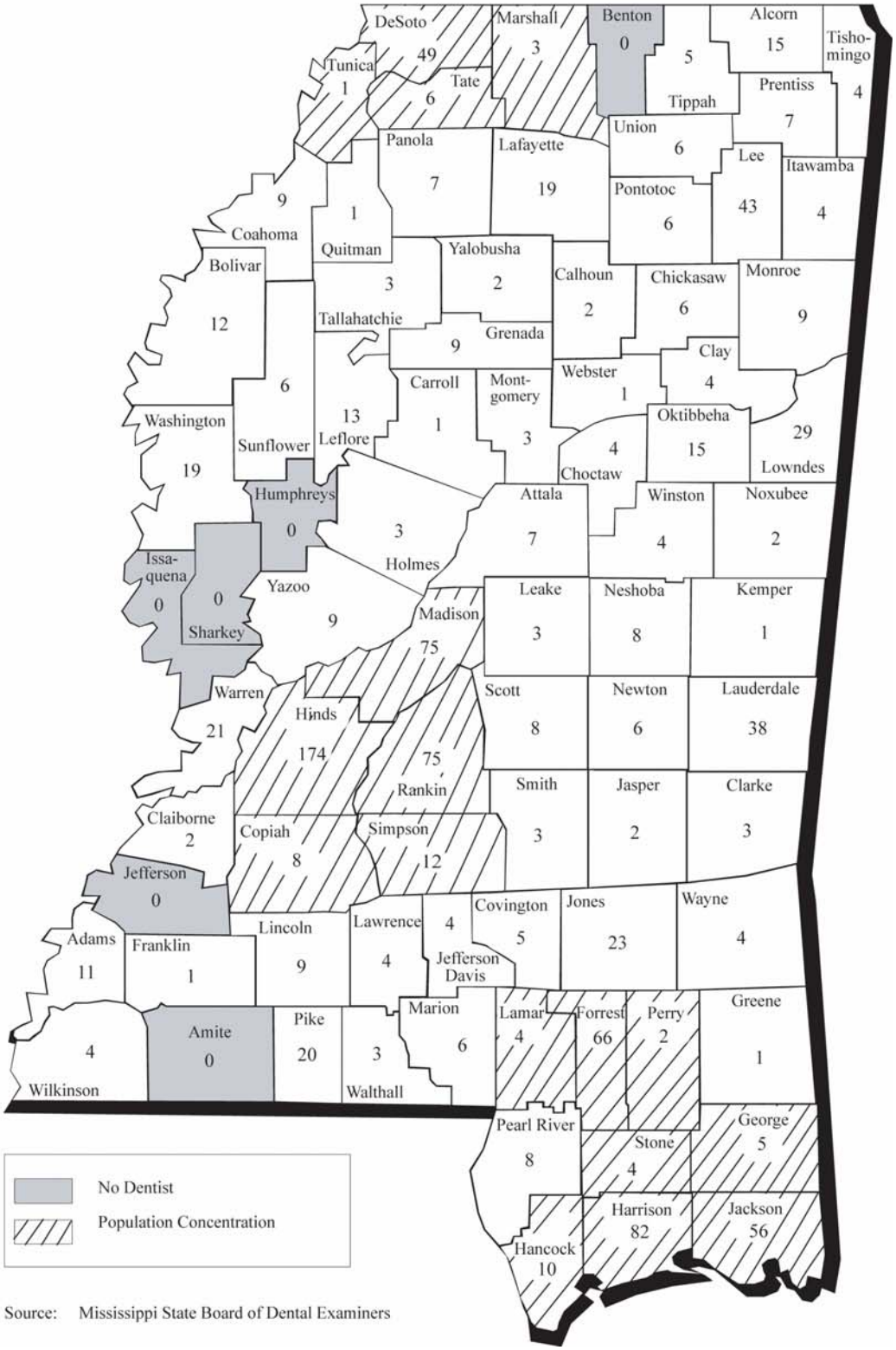
Dental Hygiene Personnel

Registered dental hygienists are licensed oral health care professionals whose preventive services limit the extent of cavities and periodontal (gum) disease. They provide oral health care to patients by scaling and polishing teeth; charting oral conditions; taking and processing x-rays; applying preventive topical fluorides and sealants; and providing advice and instruction concerning oral health. Dental hygienists work as clinical practitioners, educators, researchers, administrators, managers, preventive program developers, and consultants. Registered (licensed) dental hygienists practice according to the requirements of individual state dental practice acts.

Dental hygienists are the primary allied dental personnel in Mississippi. The Mississippi State Board of Dental Examiners reported 1,195 licensed dental hygienists (979 active and 216 inactive) in Mississippi in 2006, with 87 new licenses issued during 2005.

Mississippi has five schools of dental hygiene: the School of Health Related Professions at UMC in Jackson, Mississippi Delta Community College in Moorhead, Meridian Community College in Meridian, Northeast Mississippi Community College in Booneville, and the Forrest County Center of Pearl River Community College in Hattiesburg. The schools reported a total enrollment of 82 first-year students and 76 second-year students in 2005-2006. Seventy-eight students graduated in 2005.

Map VI - 2
Active Dentists by County
License Year 2006



Source: Mississippi State Board of Dental Examiners

102 Nurses

Members of the nursing profession represent the largest single contingent of professional health care providers in the state. In fact, nurses in Mississippi outnumber all other health professionals combined. The Mississippi Board of Nursing regulated 47,155 nurses in FY 2005. Of this number, 45,162 were licensed to practice along with an additional 392 practicing in this state under a privilege to practice pursuant to compact licensure in another state. (The statistics referenced by the Mississippi Board of Nursing in the remainder of this chapter do not include nurses practicing in Mississippi under the privilege to practice pursuant to compact licensure in another state). Inactive licensure was issued to 1,993 nurses.

Registered Nurses

The Board reported 33,750 registered nurses (RNs) in Mississippi for FY 2005. Of this number, 24,859 (73.7 percent) were employed full time in nursing careers; 3,974 (11.8 percent) were employed part-time in nursing careers; 682 (two percent) were employed in non-nursing careers; 2,868 (8.5 percent) were unemployed; and 1,367 (four percent) held inactive status. Of the 28,833 RNs employed full-time or part-time in nursing, 18,633 (64.6 percent) were employed in hospitals; 1,477 (5.1 percent) in nursing homes; 1,854 (6.4 percent) in physicians' offices; 2,482 (8.6 percent) in community, public, or home health; 648 (2.2 percent) in schools of nursing; 514 (1.8 percent) in schools; and 3,225 (11.2 percent) in other nursing careers. Of the total number of RNs, 91 percent were female and nine percent male; 84 percent were Caucasian, 14 percent African-American, and two percent other. Registered Nurses by degree in FY 2005 included 2,385 diploma; 17,551associates; 1,054 baccalaureate non-nursing; 9,506 baccalaureate nursing, 665 masters non-nursing; 2,364 masters nursing; and 225 doctorate degrees.

Nurse Practitioner

Nurse Practitioner includes any person licensed to practice nursing in Mississippi and certified by the Board of Nursing to practice in an expanded role as a nurse practitioner. For FY 2005, there were 1,599 RNs certified for expanded role nursing as nurse practitioners in the following specialties: Acute Care Nurse Practitioner - 36; Adult Nurse Practitioner - 41; Adult Psychiatric/Mental Health Nurse Practitioner - 18; Certified Nurse Midwife - 26; Certified Registered Nurse Anesthetist - 487; Family Nurse Practitioner - 877; Family Planning Nurse Practitioner - 3; Family Psychiatric/Mental Health Nurse Practitioner - 17; Gerontological Nurse Practitioner - 5; Neonatal Nurse Practitioner - 30; Obstetrics/Gynecology Nurse Practitioner - 11; Pediatric Nurse Practitioner - 23; and Women's Health Care Nurse Practitioner - 25.

Licensed Practical Nurses

The Board of Nursing reported 13,405 licensed practical nurses (LPNs) in Mississippi for FY 2005. Of this number, 8,997 (67.1 percent) were employed full-time in nursing careers; 1,428 (10.7 percent) were employed part-time in nursing careers; 353 (2.6 percent) were employed in non-nursing careers; 2,000 (14.91 percent) were unemployed; and 627 (4.7 percent) held inactive license.

Of the 10,425 LPNs employed full-time or part-time in nursing, 3,367 (32.3 percent) were employed in hospitals; 3,412 (32.7 percent) in nursing homes; 558 (5.4 percent) in community, public, or home health; 1,728 (16.6 percent) in physicians' offices; 343 (3.3 percent) in private duty; 73 (0.7 percent) in private industry; and 944 (9.1 percent) in other nursing careers. Of the total number of LPNs, 96 percent were female and four percent male; 64 percent Caucasian, 35 percent African-American, and one percent other.

There were 2,340 LPNs certified for an expanded role in FY 2005. Of this number, 2,185 LPNs were certified in an expanded role in intravenous therapy, 129 LPNs were certified in hemodialysis, and 26 were certified in both expanded roles.

Certified Nurse Aides/Assistants

The Department of Health's Bureau of Health Facility Licensure and Certification regulates the Nurse Aide Training and Competency Evaluation Programs. The Program certifies nurse aides to work in long-term care nursing facilities or distinct part/skilled nursing facilities in acute care hospitals that participate in the Medicare/Medicaid programs, as mandated by the Omnibus Budget Reconciliation Act of 1987. The Bureau develops requirements for approval of nurse aide training programs, conducts onsite inspections of nurse aide training programs, posts adverse findings against errant nurse aides in the Mississippi Nurse Aide Registry, and oversees the maintenance and content of the Registry.

As of December 31, 2005, Mississippi had 16,391 active Certified Nurse Aides on the Registry. A total of 2,244 nurses aides were certified during 2005. These numbers do not reflect the nurse aides that work in sites other than skilled nursing facilities and distinct part skilled nursing sections of certain rural hospitals. To be classified as a certified nurse aide, an individual must successfully complete a state approved nurse aide training program and pass a competency evaluation that includes written, oral, and clinical skill examinations.

Nursing Education

In the fall of 2005, the Mississippi Institutions of Higher Learning's nursing education programs enrolled 4,607 students, a 6.9 percent increase from the 2004 enrollment of 4,307. Mississippi has 23 undergraduate and six graduate nursing education programs, preparing a variety of professional nurse specialists for teaching fields, administration, or clinical practice. The University Medical Center and the University of Southern Mississippi collaboratively offer a Ph.D. degree in Nursing.

Undergraduate nursing education includes 16 associate degree programs, which are located in 14 community or junior colleges and two public universities. These programs enrolled a total of 3,026 students in Fall 2005 (66 percent of the 4,607 students involved in nursing school). Undergraduate education also includes seven baccalaureate degree programs in five public universities and two private colleges. A total of 1,221students participated in these programs for Fall 2005 (27 percent of all nursing students).

Mississippi offers six master's degree nursing programs in five public universities and one private college. These programs reported a total enrollment of 360 students in Fall 2005 (seven percent of all nursing students).

During FY 2005, 2,704 applicants were licensed as registered and licensed practical nurses by examination in Mississippi; 1,918 passed on the first attempt. In FY 2005, 1,950 Mississippi graduates of schools of nursing applied for licensure by examination through out the United States; 1,726, or 90 percent, passed the licensure examination on the first attempt.

103 Other Health Related Professionals

This section summarizes the status of health professional manpower in Mississippi in other specific categories.

Podiatrists

Foot care services are provided primarily by podiatrists, orthopedic surgeons, and general and family practice physicians. Podiatrists devote most of their practice to the treatment of soft tissue complaints and flat foot. Mississippi licensed 59 active, instate podiatrists for licensing year 2006. This number includes 43 general practitioners, 13 foot surgeons, two foot orthopedists, and one other or unknown. Age distribution included 15 aged 30-39, 27 aged 40-49, eight aged 50-59, and 10 aged 60 or over. Racial make-up was 37 white, 19 black, one Asian, and two of other race. Sex distribution was 45 males and 14 females.

Because most rural areas do not have a podiatrist, primary care physicians provide the majority of foot care. Under the formula for designation of podiatric care shortage areas, primary care physicians are estimated to spend two percent and orthopedic surgeons 15 percent of their time treating patients needing general foot care.

Chiropractors

The practice of chiropractic involves the analysis of any interference with normal nerve transmission and expression and the procedure preparatory and complementary to the correction thereof, by adjustment and/or manipulation of the articulations of the vertebral column and its immediate articulations for the restoration and maintenance of health without the use of drugs or surgery. Chiropractors are licensed to use x-rays and therapeutic modalities.

The Mississippi State Board of Chiropractic Examiners reported 265 chiropractors available to practice in the state during 2006. Chiropractors were located in 51 of Mississippi's 82 counties. The highest number of chiropractors was located in the following counties: 35 in Harrison; 22 in Hinds; 20 in Jackson; 17 in DeSoto; and 15 in Lee.

Psychiatrists and Psychologists

As reported in Table VI-1, 252 licensed physicians practiced psychiatry in Mississippi during FY 2005. The Jackson metropolitan area contained 45.2 percent of the psychiatrists, with 71 in Hinds County, 28 in Rankin, and 15 in Madison. Harrison County had 25 psychiatrists; Lauderdale County had 14; and Forrest County had 17.

The Mississippi Board of Psychology reported 384 licensed psychologists in the state for 2006. Only individuals with doctorate degrees are eligible for licensure in Mississippi. As with psychiatrists, the majority of psychologists practice in the Jackson area or on the Coast. Smaller concentrations practice in DeSoto, Forrest, and Lafayette counties, with the remainder scattered throughout the state. The actual number of licensed psychologists providing clinical services to the public is reduced when those filling administrative or teaching positions are subtracted from the total. A substantial portion of the state receives insufficient psychological services, particularly the rural areas.

Licensed Professional Counselors

The Mississippi State Board of Examiners for Licensed Professional Counselors, established in 1985, regulates the activities of individuals rendering services to the public under the title of "Licensed Professional Counselor" (LPC). Mississippi Licensed Professional Counselors are highly trained to do assessment, diagnosis, and treatment of mental disorders. They provide an array of services including psychotherapy; marriage and family therapy; vocational, educational, rehabilitation counseling; and consultation. They practice in both the private (170) and public sectors; in university (102) and school (118) settings; community mental health centers (196); state facilities (73); hospitals (76); and, other settings such as rehabilitation programs, churches, probation programs, correctional facilities and private industry (133) (Numerical counts as of April 2006).

The Board of Examiners for Licensed Professional Counselors reported 772 counselors in Mississippi in April 2006 and an additional 96 out-of-state residents with a Mississippi license. The Board granted 45 new licenses so far during the 2006 fiscal year. Currently, licensed professional counselors reside in approximately 90 percent of Mississippi counties.

Optometrists

The Mississippi State Board of Optometry reported 283 optometrists licensed in Mississippi for 2006, with 274 of those certified to use diagnostic and therapeutic agents. Effective July 1, 2005, Mississippi optometrists are authorized to prescribe oral medications in the treatment of ocular disease. Under new regulations requiring standardization of licensure, all optometrists will be certified to use diagnostic and therapeutic agents by December 2006. The Board conducts two licensure examinations each year, on the second Saturday of January and of July. Although every county does not have a resident optometrist, many optometrists operate branch offices in adjoining counties.

Pharmacists

The State Board of Pharmacy reported approximately 2,682 licensed pharmacists in the state during 2005, with an additional 958 pharmacists licensed in Mississippi but living in other states. The Board issued a total of 113 pharmacist licenses during 2005 – 65 issued by examination and 48 by reciprocity. The University of Mississippi School of Pharmacy, located on the Oxford campus, offers a six-year pharmacy program. The curriculum includes a minimum of two years of pre-professional and four years of professional studies. The school graduated 77 students in 2005 with a Doctor of Pharmacy degree.

Veterinarians

The Mississippi Board of Veterinary Medicine listed 986 licensed veterinarians in Mississippi in January 2006, with approximately 846 in full-time active practice, and 47 in part-time practice. The Board reports that no licensed veterinarians reside in Benton, Choctaw, Greene, Issaquena, Quitman, or Tunica counties, but these counties have adequate access to veterinary services from veterinarians residing in adjacent counties in Mississippi and neighboring states. Mississippi State University, College of Veterinary Medicine, has graduated 1,002 veterinarians since its first class in 1981. The College will accept 72 new candidates as of August 2006.

Physician Assistants

Physician Assistants (PA's) are educated in the medical model to provide diagnostic, therapeutic, and preventive health care services with physician supervision. Physician Assistants

work with physicians as part of a team in every medical and surgical specialty in every practice setting. Under the Physician Assistant Licensure Act, the State Board of Medical Licensure regulates the practice of PA's to include scope of practice, level of supervision, discipline, and other issues relevant to PA practice. PA's must pass a national certifying test and retest every six years. The Mississippi State Board of Medical Licensure issued 16 initial Physician Assistants licenses for licensing year 2006. Mississippi has a total of 67 physician assistants currently licensed in the state.

104 Allied Health Personnel

Allied health professionals render service in every aspect of health care delivery — emergency services, patient evaluation, treatment, therapy, testing, fabrication and fitting of medical devices, record maintenance, acute care, long-term care, and rehabilitation. This group of occupations exhibits wide variations in degree of responsibility, training, professional organization, regulation, employment settings, and characteristics of workers. Allied health personnel include technologists, therapists, and others who perform relatively high-level health care functions; technicians and assistants whose duties vary in complexity; and aides who perform routine supportive services. The scope of allied health education is similarly broad, ranging from limited post-secondary training to post-doctoral study.

For many occupations, responsibilities vary widely among employment settings and institutions. Other occupations are relatively new, and functions are still evolving. All of this diversity contributes to difficulty in developing reliable estimates of supply and demand for allied health personnel. This section discusses allied health occupations, training programs, and distribution throughout the state to the extent that information is available.

Physical Therapy Practitioners

Physical therapy (PT) practitioners provide preventive, diagnostic, and rehabilitative services to restore function or prevent disability from disease, trauma, injury, loss of a limb, or lack of use of a body part to individuals of all ages. Physical therapy practitioners also provide health care information to enhance function and to prevent disability and pain. Physical therapy is used to treat neurological disorders, nerve or muscular injuries, chest conditions, amputations, fractures, burns, arthritis, and many other conditions. Two categories of practitioners exist: physical therapist and physical therapist assistants.

In addition to treating and assessing the progress of patients, PT personnel work closely with other members of the health care team and instruct caregivers in treatment to be continued in the home. Practitioners provide services in hospitals, outpatient clinics, home health agencies, schools, and a variety of other settings. Practice patterns vary with employment settings.

A small number of Mississippi physical therapists have attained board-certified status in specific practice areas through advanced study/practice and successful completion of national certification examinations. Physical therapy assistants also have access to some specialty courses. Beginning July 2006, access to physical therapy services will be limited by insurance requirements and the licensure law that states that patients must be referred to physical therapy services for continued treatment by another health care provider, with some identified exceptions.

The Mississippi State Board of Physical Therapy reported 1,346 licensed physical therapists in Mississippi as of March 2006. Nine percent of the Mississippi resident physical therapy practitioners live in Hinds County, six percent in Harrison County, and eight percent in Madison County, for a total of 23 percent in three counties. Mississippi ranks 39th in the United States for the

ratio of therapists per 100,000 population. The Board also reported 569 licensed physical therapist assistants, with 446 practicing in the state.

UMC provides Mississippi's only three-year Doctor of Physical Therapy program. The physical therapy program has graduated 1,092 therapists since initiation of the program in 1973 and 36 will receive the final Master of Physical Therapy degrees in May 2006.

Hinds Community College, Itawamba Community College, Meridian Community College, and Pearl River Community College offer educational programs leading to associate degrees as a physical therapist assistant. In 2005 Itawamba graduated 12 PTAs, Pearl River seven, Hinds seven, and Meridian 12. Presently, there is a need to only maintain existing programs. The U.S. Department of Labor projects a 21-35 percent increase in employment through 2010. Demand for physical therapy practitioners should continue as the number of individuals with disabilities or limited functions increases due to an aging population and medical development.

Speech Pathologists and Audiologists

The disciplines of speech-language pathology and audiology focus on disorders in the production, reception, and perception of speech and language. Although both provide specialized assistance to persons with communication problems, speech-language pathologists are primarily concerned with speech, language, and voice disorders, while audiologists concentrate on hearing problems.

The MDH reported 960 speech-language pathologists and 144 audiologists licensed in Mississippi as of April 2006, with 875 of the speech-language pathologists and 125 of the audiologists residing in the state.

Occupational Therapists

Occupational therapy is a health and rehabilitation profession that serves people of all ages who are physically, psychologically, or developmentally disabled. These health professionals work closely with other members of the rehabilitation health care team. Their functions range from diagnosis to treatment, including the design and construction of various special and self-help devices. OTs direct their patients in activities designed to help them learn skills necessary to perform daily tasks, diminish or correct pathology, and promote and maintain health. There are two levels of personnel: occupational therapists and occupational therapy assistants.

Therapists work in many different settings, including rehabilitative and psychiatric hospitals, school systems, nursing homes, and home health agencies. The nature of their work varies according to the setting. There are a number of recognized specialty areas, which have national examinations and certification.

The MDH reported 727 licensed occupational therapists and 255 certified occupational therapy assistants on its Mississippi roster as of April 2006, with 594 of the OTs and 217 of the OTAs residing in the state.

The School of Health Related Professions at UMC offers the only school of occupational therapy in the state. It is a master's entry level that consists of a three-year senior college program, following two years of prerequisite course work at either a community college or a four-year senior college. Beginning in 2007, a master's degree or higher in occupational therapy will be the minimal educational requirement nationally. The first masters-level class at UMC will graduate in 2006. The school has graduated 356 therapists since beginning its first class in May 1989. The master's

program received more than 78 applications for a maximum of 40 available slots to begin class in the summer of 2006.

Pearl River Community College has developed an OTA program which expects to graduate 13 OTAs in May of 2006. Future classes are expected to contain a maximum of 20 students. Holmes Community College expects to graduate 14 OTA candidates in May 2006, and also has a maximum class size of 20 students. Also, Itawamba Community College initiated an Occupational Therapy Assistant/Pre-Occupational Therapy Program in the fall of 2006. The initial class will contain approximately 12 students.

The U.S. Department of Labor, Bureau of Statistics, *Occupational Outlook Handbook* projects that the occupational therapy profession will increase faster than average, especially as the rapid growth of the number of middle-aged and elder individuals increases the demand for therapeutic services. This growth is projected to have an increase of 27 percent or more in employment through 2014. As there is an expansion of the school-age population, there will also be an expansion of services for disabled students, resulting in an employment growth in the school systems.

Emergency Medical Personnel

The training of emergency medical personnel includes ambulance drivers and emergency medical technicians (EMTs). Mississippi requires all ambulance drivers to have EMS driver certification (EMS-D). To qualify, an individual must complete an approved driver training program that involves driving tasks, vehicle dynamics, vehicle preventative maintenance, driver perception, night driving, and information on different driving maneuvers. This training offers both academic and clinical (practical hands on) experiences for the prospective ambulance driver.

EMT training involves EMT-Basic (EMT-B), EMT-Intermediate (EMT-I), and EMT-Paramedic (EMT-P). In accordance with federal Department of Transportation standards, EMT-B training includes basic life support, airway, breathing, Automated External Defibrillators (AED), circulation procedures, and assistance to patients with a limited number of drugs.

The EMT-I and EMT-P receive training in basic and advanced life support, also in accordance with federal Department of Transportation standards. Advanced life support involves basic life support plus definitive therapy. The emergency physician, the EMT-I, and the EMT-P constitute the advanced life support team. This team assesses and aggressively treats life-threatening conditions using advanced airway maneuvers, invasive procedures, cardiac monitors, drugs, defibrillation, intravenous fluids, and other adjuncts.

The EMT-I performs the same basic responsibilities as an EMT-B. In addition, the EMT-I uses adjunctive equipment to sustain life, such as intravenous therapy, airway management, and defibrillation.

The EMT-P must master a variety of complex skills that are not practiced by the basic level emergency medical technician, such as intravenous cannulation, endotracheal intubation (airway management), recognition and management of cardiac dysrythmia, and administration of drugs and intravenous fluids. Many of these procedures can be very hazardous if performed by poorly trained persons; thus the paramedic must take responsibility for continuing competence and maintaining proficiency in those skills necessary to sustain life and prevent injury.

EMT personnel are certified for two year periods. For FY 2005 the MDH Bureau of Emergency Medical Services reported a total of 1,460 EMT Basics certified in the state; 1,096 EMT Paramedics; and 63 EMT intermediates.

The Legislature authorized the MDH Bureau of Emergency Medical Services (BEMS) to certify Mississippi's medical first responders beginning July 1, 2004. Since that time, BEMS has certified 86 medical first responders.

Social Workers

Social workers practice and serve as an integral part of a complex and multidisciplinary health care system. The field of social work provides a network of services to all age groups, with a range of needs, in the form of diagnosis, treatment, rehabilitation, maintenance, and prevention in a variety of settings, including hospitals, nursing homes, clinics, hospices, and public health programs.

The Mississippi State Board of Examiners for Social Workers and Marriage and Family Therapists reported 4,191 licensed social workers available during FY 2006, 3,732 of whom reside within the state. Three categories of licensure exist for social workers: Licensed Social Worker (LSW) for those individuals at the baccalaureate level, Licensed Masters Social Worker (LMSW) for those individuals who practice at the master's level, and Licensed Certified Social Worker (LCSW) for those individuals who have fulfilled the requirements for LMSW and completed a two-year requirement for post-master's professional supervision.

The Board reported 589 LCSWs, 683 LMSWs, and 2,460 LSWs available in Mississippi during FY 2006. The highest number of Master's level social workers reside in three counties: Hinds – 109 LCSW's, 120 LMSW's; Harrison – 80 LCSW's, 78 LMSW's; and, Forrest - 36 LCSW's, 63 LMSW's. Approximately 38 percent of LCSW's and 36% of LMSW's reside in these three counties. A maldistribution of master's level social workers often causes problems in some counties where no master's level social workers are available for the supervision of baccalaureate level social workers, as is required for reimbursement by most health care payors.

Finally, the State Board of Examiners for Social Workers and Marriage and Family Therapists recently assumed licensure of marriage and family therapists in 2005. There are 397 licensed marriage and family therapists, of which 341 reside in the state.

Certified Medical Technologists

The American Society of Clinical Pathologists (ASCP) is the major certifying agency for medical technologists in Mississippi. Candidates may also obtain certification through the National Credentialing Agency for Laboratory Personnel (NCA). The total number certified by these two agencies is unknown; however, UMC is currently performing a workforce study to determine the actual number of CLS/MTS and CLT/MLTs certified in Mississippi.

Mississippi has two university-based schools for clinical laboratory scientists/medical technologists and two hospital-based programs. The University of Mississippi Medical Center's (UMC) program resides in the Department of Clinical Laboratory Sciences and its graduates receive a bachelor of science degree in clinical laboratory sciences. Students complete two years of academic preparation at any accredited institution of higher learning and then two years of upper division study at the Medical Center campus in Jackson. The undergraduate program also offers an expanded curriculum that allows students to specialize in the areas of molecular diagnostics, laboratory information systems, or laboratory management. UMC also offers a masters and a doctorate degree in clinical health sciences, with a specialty track in clinical laboratory sciences. This program is

designed to prepare graduate level educators and managers for positions in universities and the clinical laboratory. The Department of Clinical Laboratory Science at UMC expects to graduate six senior students in May 2006. For the 2006-2007 academic year, UMC expects 20 junior and 14 senior students.

The University of Southern Mississippi (USM) offers a "modified two-plus-two program," in which students complete three years of study before entering the medical technology practicum. Students may complete the first two years of the curriculum at a community college or another senior college. The program has a process for articulation with accredited Medical Laboratory Technician (MLT) programs which provide career mobility for the associate degree-level technician. Once enrolled in the practicum, which is the senior year, students receive two semesters of study on the USM campus and then complete a 24-week clinical rotation at an affiliated hospital, which include Forrest General Hospital in Hattiesburg, Gulf Coast Medical Center in Biloxi, Memorial Hospital at Gulfport, and Singing River Hospital in Pascagoula. A Bachelor of Science (BS) degree is awarded upon completion of the program. The total number of majors is approximately 130 and 20 students have or will graduate in 2005-2006. The program experienced 100 percent placement for the last three years.

USM also offers two programs leading to the Master's degree in Medical Technology. One program is for individuals who possess certification as a medical technologist from a recognized national certifying agency, and the second program is for individuals who do not hold certification. The second program includes a medical technology practicum that allows the individual to become eligible to sit for a certification examination. Both the thesis and non-thesis options are available.

Mississippi's two hospital-based medical technology programs are located at North Mississippi Medical Center in Tupelo and Mississippi Baptist Medical Center in Jackson. In these programs, "three + one" students obtain three years of academic preparation at an institution of higher learning that has an affiliation agreement with the hospital program; then the students complete one year of clinical training in the respective hospital. These students receive a Bachelor of Science degree in medical technology from the university they attend. "Four + one" students complete a bachelor of science degree at any university, then complete one year of clinical training in the hospital with a certificate in medical technology. These programs graduated 12 students in 2005, expect to graduate 9 in 2006, and enroll 17 for the 2006-2007 term. Both programs experienced the lowest number of qualified medical technology applicants in 25 years.

Seven community colleges in the state offer two-year medical laboratory technician programs: Copiah-Lincoln, Gulf Coast, Hinds, Meridian, Mississippi Delta, Northeast, and Pearl River.

Certified Radiologic Technologists

Radiologic health services began with the diagnostic use of x-rays and the application of these and other forms of ionizing radiation for a limited number of therapeutic purposes. Now radiologic technology includes a wide variety of services ranging from diagnosis and therapy to radiation health and safety. New professions rapidly emerge as medical advances and technological developments introduce new equipment and instrumentation. Developments in ultrasound scanning, magnetic resonance imaging, and computerized tomography, including electronics, are revolutionizing the field.

The term "Radiologic Technology" actually encompasses all technologists specializing in radiography, nuclear medicine, radiation therapy, and diagnostic medical sonography. These technologists have national credentialing by the American Registry of Radiologic Technologists and

are affiliated with the American Society of Radiologic Technologists. As of April 2006, 2,753 credentialed technologists were registered with the Department of Health.

Mississippi has nine radiologic technology programs located at community colleges: Meridian, Copiah-Lincoln, Mississippi Delta, Gulf Coast, Itawamba, Jones, Northeast, Pearl River, and Hinds. The University of Mississippi Medical Center is the only certificate program in the state. Itawamba Community College established the state's first ultrasound program in 2000, and additional programs have been established at Hinds and Jones Community Colleges. UMC teaches a nuclear medicine program.

The Mississippi Society of Radiologic Technologists states that the job market for technologists does not indicate a shortage at this time, and current program enrollment in the state is meeting the needs of the job market. No expansion of existing programs or establishment of new programs is recommended. A baccalaureate program for a BS in Health Sciences has been established via UMC and the University of Mississippi, with a second campus in Tupelo. A radiation therapy program may be considered in the future. The need for qualified instructors, particularly program directors, faces a critical shortage nationwide, and should be a major concern for educational institutions in the state.

Registered Dietitians and Licensed Nutritionists

Nutrition professionals provide medical nutritional therapy for the treatment of disease, as well as providing education for the prevention of disease and disability. As of April 2006, the MDH Division of Professional Licensure reported 619 regular and 37 provisionally licensed dietitians.

Respiratory Care Practitioners

Respiratory care practitioners are graduates of technician or therapist programs and work under the direction of qualified physicians. Respiratory care is a health care specialty offering a set of unique challenges in prevention, diagnosis, treatment, management, and rehabilitation of people with lung problems. The majority of respiratory care practitioners work in hospitals, while others are employed in home health care, sleep clinics, pulmonary rehabilitation, and education.

The MDH reported 1,954 (28 held temporary licenses) respiratory care practitioners licensed in Mississippi as of April 2006, with 1,676 residing in the state. All Mississippi hospitals have licensed respiratory care practitioners on staff. Seven community colleges offer two-year programs in respiratory therapy: Copiah-Lincoln, Gulf Coast, Hinds, Itawamba, Meridian, Northeast, and Pearl River.

Health Information Managers

Health Information Managers use computer technology to collect, organize, analyze, and generate health data for treatment, reimbursement, planning, quality assessment, and research. These health information professionals help safeguard the accuracy and privacy of patient information, while guaranteeing patients' access to their own records. This profession evolved from medical record administration within a hospital setting to an occupation responsible for the identification and organization of healthcare data from multiple sources. Health information managers work in acute care, ambulatory, long-term and mental health care facilities, industrial clinics, state and federal health agencies, private industry, and colleges and universities.

The School of Health Related Professions at the University of Mississippi Medical Center offers the state's only two-year upper division baccalaureate degree program for health information

managers. Following graduation, the students are eligible to take the national registration exam and receive the credential RHIA, Registered Health Information Administrator. The RHIA is a manager and information specialist who interacts with other members of the medical, financial, and administrative staff to ensure that the information is protected, accurate, properly classified, and timely. RHIAs participate in the development and maintenance of health information systems.

Meridian, Hinds, and Itawamba Community Colleges offer two-year associate degree programs for the medical records technician. Students who satisfactorily complete these programs are eligible to take the examination for certification by the American Health Information Management Association and receive the credential RHIT, Registered Health Information Technician. RHITs perform a variety of technical health information functions, including evaluating health information, compiling health statistics, and coding diseases, operations, and procedures.

105 Health Manpower Standards

In planning for health manpower, one must consider the needs of current and projected populations for professional health services and the level of educational programs required to meet those needs. Unfortunately, significant numbers of professionals trained and educated in Mississippi leave the state, further increasing the difficulty of making accurate projections.

This section discusses standards and goals for the number of physicians, dentists, and nurses in Mississippi. The Department of Health recognizes that Mississippi needs additional health personnel in many fields; however, sufficient information is not available to estimate supply and demand for many professions, particularly allied health personnel.

Primary Care Physician Standard

The "National Guidelines for Health Planning" recommend a ratio of one primary care physician for every 2,000 persons. However, this ratio is a minimum number because it does not reflect the productivity of individual physicians nor the availability of physicians to all population groups. The U.S. Department of Health and Human Services requires a ratio of 3,500 persons per primary care physician to designate an area as a health professional shortage area for primary care. The Department will also designate areas with 3,000 persons per primary care physician if the area meets certain other conditions, as discussed at the beginning of this chapter. Mississippi had 75 counties or portions of counties designated as health professional shortage areas in July 2006.

Although the state as a whole has a ratio of one primary care physician per 1,370 persons based on 2010 projected population, the physicians are maldistributed. Almost 60 percent (1,257) of the 2,172 primary care physicians lived and practiced in only nine counties; Hinds County alone had 23.8 percent of the total. The Department of Health recommends a ratio of one primary care physician for every 2,000 people as a goal for every county not currently meeting this standard.

Dentist Standard

The U.S. Department of Health and Human Services requires a ratio of 5,000 persons per dentist to designate an area as a health professional shortage area for dental care. This ratio is also the Mississippi standard. Based on a 2010 projected population of 2,975,551, the state currently has one active dentist for every 2,455 persons; however, as with physicians, the dentists are maldistributed through the state. Approximately 39 percent of Mississippi's dentists practice in the two metropolitan areas: Jackson and the Gulf Coast. Other counties have few dentists or none at all. The state's goal is to improve the distribution so that no county has more than 5,000 persons per dentist and primary dental care is available within 30 minutes travel time of all areas.

Nursing Standard

Based on the 2010 projected population, Mississippi currently has one registered nurse employed full-time in a nursing career for every 120 persons, and one licensed practical nurse employed full-time in a nursing career for every 331 persons. The role of the nurse continues to expand, and nurses sometimes provide health care in rural areas which do not have access to physicians. The state supports the diverse nursing education programs throughout Mississippi and recognizes the importance of the nurse's role as a provider of quality and economical health care in a variety of health care areas.

106 Strategies for Meeting Health Manpower Shortages

In attempting to recommend or suggest health system changes necessary to reach established manpower standards, one must remember that several variables have unpredictable effects. The recommendations presented here are based upon the judgment, experience, and current knowledge of the planning staff.

Physicians

Mississippi meets the minimum national standard statewide, but does not meet the standard in every county. The following recommendations would help the state improve its primary care physician to population ratio in underserved counties:

1. Increased retention of Mississippi graduates who go out of the state for primary care residency training.

2. Increased primary care residency opportunity within the state through expansion of the federally funded Area Health Education Center (AHEC) program established by the University of Mississippi Medical Center. AHEC provides off-site educational experiences in local communities for students and medical residents. Medical students and residents who receive a portion of their training in rural communities are more likely to return to those areas upon completion of training.

3. Continuation of the Family Medical Education Scholarship program begun in 2001. This scholarship provides up to the cost of attendance as defined by the Office of Student Financial Aid at the University of Mississippi Medical Center (UMMC). Funds permitting, the program will award scholarships up to 20 medical students who attend UMMC and who commit to practice family medicine in a medically underserved area of Mississippi that is designated a "critical needs" area for six years upon completion of medical training. Currently, five UMMC students participate in the program.

4. Provision of a 10 percent bonus under the Medicaid program for primary care physicians practicing in Health Professional Shortage Areas (HPSAs). The federal Medicare program currently awards a 10 percent reimbursement bonus to physicians who practice in HPSAs to recognize the reduced earning capacity associated with practicing in a rural area and the need to attract additional physicians to these areas. Extending this bonus to primary care physician payments under the Medicaid program would serve as an increased incentive to attract needed doctors to underserved areas of the state.

Dentists

As with physicians, the state as a whole meets the minimum national standard for dentists, but many counties do not. Changes recommended to help achieve this goal in the provision of dental care are as follows:

1. An incentive program to encourage dentists to settle in rural areas where access to dental care is limited.

2. An innovative financial aid package for financially disadvantaged and/or minority applicants that is competitive with financial aid packages offered throughout the southeastern United States. The Omnibus Loan or Scholarship Act of 1991 created a program of scholarship aid for dentists as well as physicians, but funding has been inadequate to achieve substantial results.

Nurses

The Mississippi Nursing Organization Liaison Committee (NOLC), a committee of the Mississippi Nurses Association composed of representation from 25 nursing organizations, has worked proactively to address nursing workforce issues related to anticipated changes in nursing and the health care delivery system. Through the efforts of the NOLC, the Mississippi Legislature passed the Nursing Workforce Redevelopment Act during the 1996 Session. The Act authorized the Mississippi Board of Nursing to establish an entity that would be responsible for addressing changes impacting the nursing workforce.

In 1996, the NOLC also received a three-year Robert Wood Johnson Foundation (RWJF) *Colleagues in Caring* grant entitled ***Mississippi Nursing Workforce 2000.*** The grant's objectives were closely aligned with the efforts of the Nursing Workforce Redevelopment Act. Maximum effectiveness was obtained through the combination of the funds, goals and objectives, advisory boards, and staff of the two projects. The effort resulted in the formation of the Office of Nursing Workforce Redevelopment (ONWR) with several objectives, including: (1) the development and implementation of a systematic annual survey for nursing manpower needs and projections and (2) the development of a competency model to assist students in articulation and mobility within the multi-level nursing education system.

In March 1999, the ONWR received an additional three-year grant from the Robert Wood

Johnson Foundation as one of 20 participants in Stage II of the *Colleagues in Caring* grant initiative. In 2001, with endorsement from NOLC and spearheaded by the Mississippi Nurses Association (MNA), an amendment to the original legislative act was passed. This amendment changed the name to the Office of Nursing Workforce (ONW) and authorized ONW to establish systems to ensure an adequate supply of nurses to meet the health care needs of the citizens of Mississippi. Additionally, the office received $100,000 from the Legislature. ONW's commitment to designing policy strategies and leadership development will assist in positioning Mississippi as one of the states leading the effort to proactively address nursing workforce issues through policy and planning.

Currently, with funding from the legislature and the Mississippi Development Authority, ONW is working with the Mississippi Council of Deans and Directors of Schools of Nursing, the Mississippi Nurses Association and the Mississippi Organization of Nurse Executives to address issues vital to nursing. These issues include faculty shortages, barriers to nursing education, recruitment into nursing, scholarship funding, the image of nursing, service/education collaboratives, retention of nursing service employees, and leadership training for nurses. More information is available by calling ONW or visiting www.monw.org.

The Mississippi Educational Mobility Effort

Working with a consultant and the Office of Nursing Workforce Redevelopment, the Mississippi Council of Deans and Directors of Schools of Nursing (the Council) developed and approved the *Mississippi Competency Model* (the Model) for testing. The document clearly defined major nursing roles and the competencies within each role. Competencies for all levels of nursing education in the state were identified, including those for licensed practical nursing (LPN), associate degree nursing (ADN), baccalaureate degree nursing (BSN), and master of science in nursing (MSN) programs. The Model served to identify the uniqueness of each level of nursing preparation as it related to expected competencies and will assist health planners to more clearly understand the various curricula offered within Mississippi's nursing education system to facilitate educational mobility.

Because there were no doctoral programs in Mississippi during the original Model development, Ph.D. competencies were not included. Since that time, the University of Mississippi Medical Center School of Nursing in Jackson and University of Southern Mississippi School of Nursing in Hattiesburg have developed programs leading to a Ph.D. in Nursing. A Task Force on Doctoral Competencies was established in 2001 to facilitate the development of the doctoral competencies. The revised model is now known as the Mississippi Nursing Competency Model and can be accessed via the Internet at www.monw.org.

Nursing Workforce Requirements

The determination of nursing workforce needs requires strategic synthesis of data concerning the supply of and demand for nurses. Currently, nurse supply data are available from the Mississippi Board of Nursing. To determine the demand for nurses, the MDH Division of Licensure and Certification added a survey to existing agency licensure renewal application forms mailed to acute care hospitals, long-term care facilities, and home health agencies. Employers were asked to report their 2004 or 2005 budgeted full-time equivalent (FTE) positions and vacancies for multiple categories of Registered Nurses (RNs), for Licensed Practical Nurses (LPNs), and for ancillary personnel. Additionally, employers were asked to project the number of FTEs they *intend* to have in the following two years for each of the personnel categories. Responses were returned to the Office of Nursing Workforce for analysis. Surveys were received from 93 hospitals and 186 aging and adult service facilities. Respondents for hospitals and aging and adult service facilities were well distributed throughout the state (Table VI-3).

Table VI-3

Number and Percent of Hospital and Aging and Adult Service Employers Responding by Public Health District

Public Health District	Counties Included	Hospital		Aging and Adult Services	
		N	%	N	%
I	Coahoma, DeSoto, Grenada, Panola, Quitman, Tunica, Tate, Tallahatchie, Yalobusha	6	6.5	12	6.5
II	Alcorn, Benton, Itawamba, Lafayette, Lee, Marshall, Pontotoc, Prentiss, Tippah, Tishomingo, Union	10	10.8	28	15.1
III	Attala, Bolivar, Carroll, Holmes, Humphreys, Leflore, Montgomery, Sunflower, Washington	10	10.8	19	10.2
IV	Calhoun, Chickasaw, Choctaw, Clay, Lowndes, Monroe, Noxubee, Oktibbeha, Webster, Winston	12	12.9	17	9.1
V	Claiborne, Copiah, Hinds, Issaquena, Madison, Rankin, Sharkey, Simpson, Warren, Yazoo	17	18.3	42	22.6
VI	Clarke, Jasper, Kemper, Lauderdale, Leake, Neshoba, Newton, Scott, Smith	14	15.1	18	9.7
VII	Adams, Amite, Franklin, Jefferson, Lawrence, Lincoln, Pike, Walthall, Wilkinson	9	9.7	17	9.1
VIII	Covington, Forrest, Greene, Jefferson Davis, Jones, Lamar, Marion, Perry, Wayne	10	10.8	18	9.7
IX	George, Hancock, Harrison, Jackson, Pearl River, Stone	5	5.4	15	8.1
Total	All Counties	93	100.0	186	100.0

Source: Office of Nursing Workforce

Demand for Nursing Personnel in Hospitals

Registered Nurses (RNs). The 93 responding hospital employers reported a total of 12,085 budgeted FTEs for 2005. The RN FTEs include all RNs in a variety of roles in addition to staff nurses. These roles include administration, patient and inservice education, quality improvement, infection control, advanced practice nurses (nurse practitioner, clinical nurse specialist, nurse-midwife, and nurse anesthetist), and other roles. Of the total number of budgeted RN FTEs, 951.4 were vacant, resulting in a vacancy rate of 7.9 percent, slightly higher than last year's 7.7 percent.

Among employers reporting total RN FTEs, 85 provided data for 2005 budgeted FTEs and the total number of RN FTEs they intend to budget in 2006 and 2007. The current and intended numbers of RN FTEs reported by these employers are: 9,539 in 2005; 9,821 in 2006; and 9,992 in 2007. The intended increase of 453 budgeted RN FTEs represents an overall 4.7 percent increase in budgeted RN FTEs over the three-year period.

A total of 83 employers provided data on the educational level of RN employees in 2005. The greatest percentage of RNs in hospitals hold the associate degree. The percent of RNs employed by hospitals at each educational level in 2005 were: diploma, 3.0 percent; associate degree, 62.0 percent; baccalaureate degree, 29.9 percent; master's degree 5.0 percent; and doctorate, 0.1 percent.

Budgeted 2005 FTEs and vacancy rates were reported for specific categories of RN personnel. For RN staff nurse FTEs, hospital employers reported a 7.9 percent vacancy rate (N=93). Employers reported a 6.5 percent vacancy rate (N=91) for RNs in administrative positions. Employers reported a 7.1 percent vacancy rate (N=71) for RNs in infection control roles, a 7.4 percent vacancy rate (N=66) for inservice educators, a 1.7 percent vacancy rate (N=62) for RNs in quality improvement roles, a 3.9 percent vacancy rate (N=51) for case managers, a 1.8 percent vacancy rate (N= 31) for RNs in patient educator roles, a 6.8 percent vacancy rate (N=14) for RNs in first assistant roles, and a 7.8 percent vacancy rate (N=13) for clinical nurse specialists.

The actual numbers of personnel listed by employers in some categories were too small for further analysis. Budgeted 2005 FTEs as well as intended FTEs for 2006 and 2007 for selected specific categories of RNs employed in hospitals are shown in Table VI-4. Since not all hospitals employ or intend to employ all categories of RN personnel, there are differing numbers of employers responding.

Most RNs working in hospitals are identified as staff nurses (87.6 percent). Among employers providing FTE data across all three time periods, there is moderate intention to increase the number of budgeted RN staff nurse FTEs between 2005 and 2007. Other growth areas appear to be in the specific RN categories of infection control, inservice educators, family nurse practitioners, and certified registered nurse anesthetists. There is minimal intention to increase the number of budgeted FTEs in other categories.

Table VI-4

Personnel Categories, Number of Hospital Employers Providing FTE Data Across All Three Time Periods and the Percent Change for Selected Categories of RN Personnel

RN Personnel Category	Number of Employers	2005 Budgeted FTEs	2006 Intended FTEs	2007 Intended FTEs	Change in FTEs	Percent Change
RN Staff	85	8,305	8,283	8,422	117	1.4
Administrator	84	735	746	760	25	3.4
Case Manager	45	N/A	N/A	N/A	N/A	N/A
Quality Improvement	56	106	106	106	0	0.0
Clinical Nurse Specialist (CNS)	10	57	62	68	11	19.3
Infection Control	64	61	64	64	3	4.9
Inservice Educator	58	112	115	116	4	3.6
Patient Educator	26	44	45	45	1	2.3
First Assistant	11	22	23	23	1	4.5
Family Nurse Practitioner	44	167	169	171	4	2.4
Acute Care NP	12	20	25	26	6	30.0
Certified Registered Nurse Anesthetist (CRNA)	37	174	185	191	17	9.8

Source: Office of Nursing Workforce

Approximately 73 percent of the employers, a slight increase over last year, indicated they had difficulty recruiting one or more categories of RNs in 2005. Areas of need listed most frequently were: medical/surgical units, critical care areas, emergency room, psychiatric, and geriatric psychiatric units. Twenty-five hospitals reported the use of a total of 225 RNs licensed under the compact licensing agreement.

Employers had the opportunity of listing nursing continuing education needs for their hospitals. The primary continuing education needs cited were ACLS/PALS/ATLS/trauma care, patient safety, medications, critical thinking, documentation (particularly legal aspects), regulatory issues and standards, leadership/management skills.

Licensed Practical Nurses (LPNs). Eighty-five employers provided vacancy and total budgeted LPN FTEs in 2005. Respondents reported 2,160 budgeted LPN FTEs and 261 FTE vacancies, resulting in an LPN vacancy rate of 12.1 percent, slightly higher than last year's rate of 11.6 percent. Sixteen hospital employers (17 percent) indicated they had difficulty recruiting LPNs in 2005.

LPN FTEs were reported for 2005, 2006, and 2007 by 76 employers. The current and intended number of LPN FTEs was reported as: 1,670 in 2005; 1,704 in 2006; and 1,737 in 2006. The intended increase of 67 budgeted LPN FTEs represents an overall 3.9 percent increase in LPN FTEs over the three-year period, a decrease from last year's predicted increase of 5.9 percent.

Ancillary Personnel. Ancillary personnel vacancy and total budgeted FTEs for 2005 were reported by 86 employers. There were a total of 5,300 budgeted ancillary personnel FTEs and 438 FTE vacancies, resulting in a vacancy rate of 8.3 percent for ancillary personnel, slightly higher than last year.

A total of 77 hospital employers reported budgeted FTE data for ancillary personnel for 2005, 2006, and 2007. The current and intended numbers of ancillary personnel FTEs are: 4,213 in 2005; 4,278 in 2006; and 4,314 in 2007. The intended increase of 272 budgeted FTEs represents an overall 2.4 percent increase in ancillary personnel FTEs over the three-year period, less than half of the 5.8 increase predicted last year.

Temporary Personnel. Employers were asked whether they used temporary help to staff their facilities. The majority of employers (N= 57, 61 percent) indicated they do not use temporary help. Of the 36 hospitals reporting the use of temporary nursing service staff, 30 (83.3 percent) used 8.2 percent or less. Eighty-two (88 percent) employers indicated they used part-time staff. Of the 82 hospitals reporting use of part-time personnel, 53 (65 percent) used 20 percent or less. The number of hospitals reporting the use of temporary personnel decreased and the number reporting use of part-time personnel increased from 2004 to 2005.

Demand for Nursing Personnel in Aging and Adult Services

Registered Nurses (RNs). The 186 responding employers reported a total of 1,442 budgeted RN FTEs for 2006. The RN FTEs include all RNs in a variety of roles in addition to staff nurses including administration, quality improvement, inservice education, advanced practice (nurse practitioners, clinical nurse specialist), and other roles. Of the total number of budgeted RN FTEs, 185.5 were vacant resulting in a vacancy rate of 12.9 percent, slightly higher than last year's vacancy rate. Fifteen facilities reported the use of a total of 45 RNs licensed under the licensing compact agreement.

Among employers reporting total RN FTEs, 182 provided data for 2006 budgeted FTEs and the total number of RN FTEs they intend to budget in 2007 and 2008. The current and intended numbers of RN FTEs reported by these employers are: 1,423 in 2006; 1,495 in 2007; and 1,577 in 2008. The intended increase of 154 budgeted RN FTEs represents an increase of 10.8 percent in budgeted RN FTEs over the three-year period, substantially higher than last year's predicted increase of 3.2 percent.

A total of 183 employers provided data on the educational level of RN employees in 2006. The greatest percentage of RNs in aging and adult services hold the associate degree. The percentage of RNs employed at each educational level in 2006 were: diploma, 5.6 percent; associate degree, 76.1 percent; baccalaureate degree, 15.7 percent; master's degree, 2.5 percent; and doctoral degree, 0.1 percent. A total of 166 employers reported their intention to increase RNs by educational level through 2008. There is no intent to increase diploma, masters, or doctoral prepared RNs. There is intent to increase associate degree nurses by 7.9 percent and baccalaureate nurses by 12.6 percent.

Budgeted 2006 FTEs and vacancy rates were reported for specific categories of RN personnel. For RN staff nurse FTEs, employers reported a 14.5 percent vacancy rate. Aging and adult services employers reported a 9.5 percent vacancy rate for RNs in administrative positions. Reported vacancy rates were 14.3 percent for quality improvement FTEs and 16.2 percent for inservice educator FTEs. Budgeted 2006 FTEs, as well as intended FTEs for 2007 and 2008 for selected specific categories of RNs employed in aging and adult services are shown in Table VI-5. Since not all aging and adult services agencies employ or intend to employ all categories of RN personnel, there are differing numbers of employers responding.

Table VI-5
Personnel Categories, Number of Aging and Adult Services Employers Providing FTE Data Across All Three Time Periods, And the Percent Change for Selected Categories of RN Personnel

RN Personnel Category	Number of Employers	2006 Budgeted FTEs	2007 Intended FTEs	2008 Intended FTEs	Change in FTEs	Percent Change
Staff	167	765	823	837	72	9.4
Administrator	169	377	379	381	4	1.1
Quality Improvement	81	98	102	103	5	5.1
Inservice Educator	73	66	69	71	5	7.6
Other RN's	56	105	107	107	2	1.9

Source: Office of Nursing Workforce

The majority of RNs working in aging and adult services are identified by employers as staff nurses (54 percent). Among employers providing FTE data across all three time periods, there is intention to increase the number of budgeted RN staff nurse, administrative, quality improvement, and inservice education FTEs between 2006 and 2008. Several other categories of RN personnel were listed for employer responses. However, the actual number of personnel listed by employers in these categories is too small for further analysis. These categories include clinical nurse specialists and nurse practitioners. Eight facilities reported use of clinical nurse specialists and ten reported use, or intended use, of nurse practitioners. Fifty-six employers indicated they used RNs in roles other than those listed, such as MDS coordinators, case management, care plan coordinators, and assessment coordinator.

Recruitment difficulties were reported by 144 facilities (77.4 percent). Eighty (43 percent) of aging and adult services employers indicated they had difficulty recruiting RNs in 2006. Employers had the opportunity of listing nursing continuing education needs for their facilities. Again, documentation was most frequently listed as a continuing education need, followed by leadership/management/supervisory skills, wound care, regulatory and legal issues, and medication administration.

Licensed Practical Nurses (LPNs). Vacancy and total budgeted LPN FTEs for 2006 were reported by 186 aging and adult services employers. Respondents reported 2,654 budgeted LPN FTEs and 333 FTE vacancies, resulting in an LPN vacancy rate of 12.6 percent and representing little change over last year's vacancy rate of 12.5 percent. Of those 186 employers providing data for 2006, a total of 106 (57 percent) indicated difficulty recruiting LPNs in 2006. Twenty-four facilities reported the use of a total of 122 LPNs licensed under the compact licensing agreement.

LPN FTEs were reported for 2006, 2007, and 2008 by 183 employers. The current and intended numbers of LPN FTEs are: 2,619 in 2006; 2,737 in 2007; and 2,756 in 2008. The intended increase of 137 budgeted LPN FTEs represents an overall 5.2 percent increase in budgeted LPN FTEs over the three-year period.

Ancillary Personnel. Ancillary personnel vacancy rate and total budgeted FTEs for 2006 were reported for 178 aging and adult services employers. A total of 7,635 ancillary personnel

FTEs and 615 FTE vacancies were reported, resulting in a vacancy rate of 8.0 percent for ancillary personnel. Sixty (32 percent) of the employers indicated difficulty recruiting ancillary personnel. The percentage of employers indicating difficulty recruiting certified nursing assistants has almost doubled in the past year.

A total of 174 aging and adult services employers reported budgeted FTE data for ancillary personnel for 2006, 2007, and 2008. The current and intended numbers of ancillary personnel FTEs are: 7,524 in 2006; 7,737 in 2007; and 7,719 in 2008. The intended increase of 195 budgeted FTEs represents an overall 2.6 percent increase in budgeted ancillary personnel FTEs over the three-year period.

Temporary Personnel. A total of 80 aging and adult services employers (43.0 percent) indicated they use temporary nursing personnel. Of the 71 employers indicating a percent of temporary help, the majority indicated use of 20 percent or less for their nursing personnel requirements. Use of part-time staff was reported by 150 (80.6 percent) of facilities. The majority of those facilities use 20 percent or less. Only two (1.1 percent) indicated use of foreign trained nurses.

School of Nursing Data

Data for the following section were extracted from annual 2006 surveys administered to the Deans and Directors of Schools of Nursing by the Southern Regional Education Board (SREB) Council on Collegiate Education for Nursing and the Mississippi Office of Nursing Workforce. Permission to use the data was granted by SREB and the Mississippi Council of Deans and Directors of Schools of Nursing.

Currently, there are 21 state accredited Mississippi Schools of Nursing, including 7 baccalaureate degree programs and 16 associate degree programs. Twenty-one (100 percent) schools participated in the survey:

1. Alcorn State University
2. Coahoma Community College
3. Copiah-Lincoln Community College
4. Delta State University
5. East Central Community College
6. Hinds Community College
7. Holmes Community College
8. Itawamba Community College
9. Jones County Community College
10. Meridian Community College
11. Mississippi College
12. Mississippi Delta Community College
13. Mississippi Gulf Coast Community College
14. Mississippi University for Women
15. Northeast Mississippi Community College
16. Northwest Mississippi Community College
17. Pearl River Community College
18. Southwest Mississippi Community College
19. University of Mississippi Medical Center
20. University of Southern Mississippi
21. William Carey College

Respondents reported that not every student admitted to associate, baccalaureate, masters, and doctoral programs subsequently enrolled. Additionally, all programs, other than doctoral, reported having qualified students who were not admitted. Eleven of the fourteen associate degree programs could not have accepted more students. Six of the seven baccalaureate programs could not have accepted more students. Four of the six masters programs could have accepted more students.

Both Associate and Baccalaureate programs listed (1) lack of faculty to teach students, (2) lack of campus resources, e.g., classroom/lab space and (3) limited clinical sites for interactive learning experiences as the top three factors preventing acceptance of more students in the program. Masters programs cited lack of qualified applicants and lack of faculty to teach students as the most common factors that prevented acceptance of more students.

The total number of full-time and part-time students reported by participating schools is 5,188 (see Table VI-6). Of those students, 1,811 are expected to graduate by August 2006. Approximately 20.1 percent (1,041) of students currently enrolled in participating programs are male (a seven percent increase as compared to last year) and the majority are Caucasian (see Table VI-6).

Table VI-6
Nursing Student Status and Gender

Program Type	Full-Time		Part-Time		Total	Male*	Female*	Expect to Graduate August 06
ADN	3,478	98.6%	49	1.4%	3,527	782	2,656	1,130
BSN	1,148	93.0%	86	7.0%	1,234	217	1,017	496
MSN	250	64.1%	140	35.9%	390	36	354	175
PHD	21	56.8%	16	43.2%	37	6	31	10
Total	4,897	N/A	291	N/A	5,188	1,041	4,058	1,811

*89 (1.7 %) students not identified by gender.
Source: Office of Nursing Workforce

Table VI-7
Number of Students by Ethnic/Racial Group*

Program Type	African American	American Indian / Alaskan Native	Asian	Caucasian (non-Hispanic)	Hispanic	Other
ADN	721	6	27	2,647	30	7
BSN	277	4	14	924	9	6
MSN	100	0	3	283	4	0
PHD	8	0	0	28	0	1
Total*	1,106	10	44	3,882	43	14
Percent	21.3%	0.2%	0.8%	74.8%	0.8%	0.3%

* 89 (1.7%) students not identified in ethnic/racial groups.
Source: Office of Nursing Workforce

Participants reported 459 budgeted full time positions in the nursing education units; 40 (8.7 percent) were unfilled. Twenty-five nurse educators resigned during the 2005-2006 academic year for various reasons. The primary reasons for resignation were salary and relocation due to Hurricane Katrina. Thirteen nurse educators are expected to resign during the 2006-2007 academic year.

Ten nurse educators retired during the 2005-2006 academic year, with 15 retirements projected for the 2006-2007 academic year, 23 retirements predicted for the 2007-2008 academic year, and 37 retirements predicted for the 2008-2009 academic year. Ninety percent of the nurse educators who retired during the 2005-2006 academic year were in the 56 to 65 age group. Eighty-five retirements and 38 resignations through the 2008-2009 academic year in conjunction with the 40 unfilled nurse educator positions would result in a vacancy rate of 35.5 percent (163) in three years. This vacancy rate is approximately 10 percent higher than last year's predicted rate. Sixty 2006 graduates of masters and doctoral programs are expected to complete courses to teach nursing.

This year, the MS Board of Nursing, the MS Nurses Association, the MS Office of Nursing Workforce, the MS Council of Deans and Directors of Schools of Nursing, and the MS Hospital Association have worked collaboratively to address faculty shortage issues. The most frequently cited reason for nurse educator resignation was salary. Many reported the ability to earn higher salaries in clinical practice or in nursing education in other states. Legislation aimed at improving nursing faculty salaries in schools of nursing was introduced and passed. Additionally, the MS Hospital Association commissioned a white paper, which will be available later this year, to address the faculty shortage. The aforementioned group is committed to providing adequate numbers of nurses to care for Mississippians. To this end, the information gathered for the white paper and the forthcoming recommendations will be used to strategically plan for nursing faculty losses and to provide additional faculty for increasing capacity.

Occupational Therapists

To maintain the number of occupational therapists and occupational therapy assistants in the state, the following strategies are recommended:

I. Encourage the maintenance of the occupational therapy educational system.

   A. Support existing educational programs for occupational therapy assistants in Pearl River and Holmes Community Colleges. Due to the fluctuating marketplace, expansion and development of future programs is unadvisable at this time.

   B. Promote the development and funding of the existing program providing occupational therapy education, both clinically and didactically.

   C. Increase the number of qualified applicants from the high school level through college years.

II. Continue to recruit qualified applicants into occupational therapy education programs, from high school level forward.

   A. Target specific promotion to additional populations, including second career seekers, underemployed persons in related fields, and baccalaureate degree graduates in related fields.

   B. Mount efforts aimed at attracting and retaining minorities in the profession.

C. Encourage the continued recruitment of qualified applicants from the high school level through college years.

III. Increase promotional activities aimed at expanding the availability of occupational therapy services to meet the needs of unserved or underserved persons. Support research to produce valid information of the efficacy of occupational therapy treatment for use in promoting the development of this service.

IV. Offer incentives such as day care, competitive salaries, and financial support for continuing education to attract other occupational therapists to the state.

Physical Therapists

To maintain the number of physical therapists and physical therapist assistants in the state, the following strategies are recommended:

I. Encourage maintenance of the physical therapy educational system.

A. Promote expansion and adequate funding of the existing physical therapy educational opportunities in the state, including clinical education components as well as didactic education. Also increase the numbers of qualified physical therapy faculty.

B. Support maintenance of the physical therapy educational program at the University Medical Center.

C. Provide financial aid to physical therapy students, especially those who are financially disadvantaged and/or minorities to encourage them to remain in the state as a practitioner.

II. Promote activities aimed at providing physical therapy services to persons presently unserved or underserved.

III. Encourage research to enhance evidence based practice.

IV. Support existing physical therapist assistant programs at Pearl River Community College, Meridian Community College, and Itawamba Community College. Due to the fluctuating market place, expansion of future programs is not warranted.

V. Encourage the continued recruitment of individuals into the profession, beginning with career awareness activities in middle school and continuing into college years.

VI. Encourage greater recruitment of minorities and baccalaureate degree graduates into physical therapy from related fields.

VII. Use incentives to retain physical therapists in the profession.

A. Provide day care services within the health care setting.

B. Provide continuing and specialized education for physical therapists to maintain the highest quality of services.

VIII. Provide greater access to consumer choice of physical therapy services and promote the concept of direct access.

IX. Promote actions to enhance the quality of care through changing the entry degree to the doctoral level. Provide mechanisms for practicing therapists to obtain the doctoral degree.

Speech-Language Pathologists/Audiologists

To increase the number of speech-language pathologists and audiologists in the state, the following strategies are recommended:

I. Expand the educational system to train more speech-language pathologists/audiologists.

II. Develop a plan to more actively recruit speech-language pathology and audiology students.

A. Provide health care linkages in promoting entry into the profession. Career awareness information should be provided to students earlier – perhaps in elementary and middle schools. The type of student attracted to professional programs (honor students) usually decides early about a professional career choice.

B. Provide financial aid to speech-language pathology and audiology students.

1. Support state legislation to increase financial aid.
2. Encourage hospitals not presently providing scholarships/grants to do so.

C. Encourage greater recruitment of minority students into speech-language pathology or audiology careers.

Chapter 07 Health Promotion, Health Protection, and Disease Prevention

In accordance with the mission of public health, the Mississippi Department of Health (MDH) focuses its efforts on health promotion, health protection, and disease prevention.

Health promotion strategies relate to individual lifestyle – personal choices made in a social context – that can have a powerful influence over one's health prospects. These strategies address issues such as physical activity and fitness, nutrition, tobacco, alcohol and other drugs, sexual behavior, family planning, and violent and abusive behavior. Educational and community-based programs can address lifestyle in a crosscutting fashion.

Health protection strategies relate to environmental or regulatory measures that confer protection on large population groups. These strategies address issues such as unintentional injuries, occupational safety and health, environmental health, food and drug safety, and oral health. Interventions to address these issues may include an element of health promotion, but the main approaches involve a community-wide rather than an individual focus.

Preventive services include counseling, screening, immunization, and other interventions for individuals in clinical settings. Priority areas for these strategies include maternal and infant health, heart disease and stroke, cancer, diabetes, sexually transmitted diseases (including HIV/AIDS), and other infectious diseases.

Healthy People 2010: National Health Promotion and Disease Prevention Objectives, released in 2000 by the Public Health Service of the U.S. Department of Health and Human Services, identified national health improvement goals and objectives to be reached by the year 2010. This publication defined two broad goals:

- to increase quality and years of healthy life; and
- to eliminate health disparities.

Healthy People 2010 provides a framework around which public health objectives are developed. This chapter provides a synopsis of MDH activities in the three major focus areas – health promotion, health protection, and disease prevention – and references other public agencies and private organizations attempting to improve the health status of Mississippians.

Measurements for many objectives are obtained from the Behavioral Risk Factor Surveillance System (BRFSS) survey, which is a random sample telephone survey of the adult (age 18 and older) civilian non-institutionalized population. The survey is designed to estimate the prevalence of certain behavior patterns and risk factors associated with disease, injury, and death. The results provide a tool for evaluating health trends, assessing the risk of chronic disease, and measuring the effectiveness of policies, programs, and awareness campaigns.

100 Health Promotion

Physical Activity and Fitness

Research well documents the health benefits of regular physical activity — it can help prevent coronary heart disease, hypertension, non-insulin dependent diabetes mellitus, osteoporosis, and such mental health problems as mood, depression, anxiety, and lack of self-esteem. Regular physical activity may also reduce the incidence of stroke and help maintain the functional independence of the

elderly. On average, physically active people outlive those who are inactive. However, the Behavioral Risk Factor Surveillance System (BRFSS) reported that 81 percent of adult Mississippians are not physically active on a regular basis (at least five days per week, for at least 30 minutes per day).

The MDH Office of Preventive Health coordinates initiatives for physical activity and serves as a contact for physical activity to the Centers for Disease Control and Prevention (CDC). The Mississippi Legislature enacted a worksite health promotion bill authorizing state agencies to offer employee wellness programs under guidelines established by the MDH. Employees of the MDH central office and two district offices have access to on-site fitness facilities.

The MDH Cardiovascular Health Program attempts to address physical activity barriers across the state by supporting community efforts to develop structural changes to the environment that increase outlets for physical activity. In the school setting, programs are funded to conduct physical activity and nutrition programs for staff and students. Other physical activity programs are being implemented regionally by trained teachers to influence physical activity behaviors in students at K-6 levels.

The MDH Office of Preventive Health partners with the Mississippi Department of Education (MDE), which certifies teachers for health education, to implement the Coordinated School Health Program (CSHP). Mississippi high school graduates must possess at least one-half Carnegie Unit in Comprehensive Health Education. The MDE also approves the Comprehensive School Health Framework and the Mississippi Fitness Through Physical Education curriculums.

The MDH also collaborates with the Governor's Commission on Physical Fitness and Sports, which strives to increase the level of physical activity for all Mississippians. The Commission promotes quality physical education programs in Mississippi schools through its Excellence in Physical Education Certification Program. Worksite needs are addressed through the promotion of National Employee Health and Fitness, the Annual Mississippi Worksite Award Program, and others.

The Mississippi Alliance for School Health (MASH), a non-profit organization composed of more than 40 statewide partners, leads efforts to promote daily physical education in schools. The 2003 Youth Risk Behavior Survey reported that 69 percent of Mississippi high school students were not enrolled in physical education (PE) class; 77 percent did not attend a PE class daily; and 82 percent did not participate in moderate or vigorous physical activity in the week prior to the survey.

Women, Infants, and Children (WIC)

The Special Supplemental Food Program for Women, Infants and Children, frequently referred to as WIC, is totally funded by USDA and implemented through the MDH. WIC provides nutritious foods, nutrition counseling, and referrals to health and social services at no charge to participants. WIC serves low-income pregnant, postpartum and breast-feeding women, infants and children to the age of five, who are residents of the state and meet the income guidelines. WIC is not an entitlement program; that is, Congress does not set aside funds to allow every eligible individual to participate in the program. Instead, WIC is a Federal grant program for which Congress authorizes a specific amount of funding each year for program operations. The Food and Nutrition Service, which administers the program at the Federal level, provides these funds to WIC state agencies (state health departments or comparable agencies) to pay for WIC foods, nutrition counseling and education, and administrative costs.

More than 7.5 million people nationwide receive WIC benefits each month. In Mississippi the average number of WIC participants per month is greater than 100,000, with children as the largest group. Approximately 72-73 percent of all infants born in Mississippi are enrolled in WIC

during their first year of life. The Mississippi WIC Program is recognized nationally for implementing the first Peer Counseling Breast-feeding Program to increase the number of mothers who breast feed their infants. The USDA National Office has recently issued two new Peer Counseling Grants to provide extra funds to all states for incentive and is using Mississippi as a role model state. Breast feeding numbers are increasing among the WIC population due to the work by the WIC breast feeding staff who provide counseling, educational materials, enhanced food packages, breast pumps, and related items.

Participants receive WIC foods in Mississippi through a direct distribution system located in each county. The foods provided are high in one or more of the following nutrients: protein, calcium, iron, and vitamins A and C. These are the nutrients frequently lacking in the diets of the program's target population. Different food packages are provided for different categories of participants. WIC foods include iron-fortified infant formula and infant cereal, iron-fortified adult cereal, vitamin C-rich vegetable juice, eggs, milk, cheese, peanut butter, dried beans/peas, tuna, and carrots. Special therapeutic infant formulas and medical foods are provided when WIC guidelines are met and prescribed by a physician for a specified medical condition.

Nutrition

The MDH provides nutrition services to residents in every county in Mississippi through the county health departments. Nutrition services include education and certification for the WIC program; education and support for breastfeeding mothers; and screening, home visits, education, and certification for nutrition services for the Perinatal High Risk Management System (PHRM) clients. Nutrition education is also provided on a referral basis to clients with family planning, pediatrics, maternal health, hypertension, and as requested by clinic staff or clients.

The statewide Five-A-Day program, designed to encourage increased intake for fruits and vegetables, is a responsibility of the MDH. The coordinator and nutrition staff work with community and faith-based organizations to help citizens become aware of the need to implement a healthy lifestyle from their food intake and to promote physical activity. Nutritionists assist with health fairs, screenings, lectures, and provide educational materials to help combat obesity and to make Mississippi a healthier state.

State and district nutritionists, in conjunction with the nutrition staff of state universities and dietetic programs, provide community nutrition rotations for dietetic students. State nutrition staff serve on committees dealing with school health, food security, cardiovascular disease, chronic illness, and other organizations related to health, nutrition, and an improved lifestyle.

Tobacco Prevention

The MDH Division of Tobacco Policy and Prevention (DTPP) directs its efforts toward reducing tobacco use among Mississippi youth and adults. The division monitors surveillance of smoking prevalence and smokeless tobacco use and works on new tobacco prevention initiatives in schools, clinics, communities, and work sites. The program's objectives include supporting and/or expanding community programs that link tobacco control intervention with disease prevention activities; promoting existing prevention and treatment models that can address cessation needs; and identifying and eliminating tobacco use disparities among Mississippi population groups.

The DTPP supports educational campaigns conducted through the state's nine public health districts to increase awareness of the negative effects of environmental tobacco smoke and tobacco use. The division also works closely with non-profit organizations such as the American Lung Association of Mississippi, the American Cancer Society, the American Heart Association, and the Partnership for a Healthy Mississippi (PHM). These and other members make up Mississippi's State

Tobacco Coalition. The coalition's goal is to make more Mississippians healthier by becoming tobacco-free and supporting clean indoor air legislation.

Of these non-profit groups, PHM, or Partnership, is the largest and is composed of more than 800 public and private organizations, including MDH. The PHM mission is to create a healthier environment in Mississippi by reducing tobacco use through advocacy, education, and service. The Partnership is dedicated to offering youth healthy lifestyle choices by designing programs and media messages to create an environment in Mississippi that does not accept tobacco use. The Partnership offers a comprehensive approach on tobacco issues through community outreach, public awareness, advocacy, cessation, and enforcement of youth access laws. DTPP routinely works with the PHM to achieve these goals.

The division conducts the Mississippi Youth Tobacco Survey (YTS).The survey is administered to randomly selected middle and high schools across the state every other year to determine the prevalence of tobacco use among young people. The survey also includes questions concerning the tobacco-related knowledge and attitudes of youth and their parents, the role of the media and advertising in young people's use of tobacco, minor's access to tobacco, environmental tobacco exposure, and the likelihood of cessation of tobacco use. Figures are currently being compiled for the latest survey, which was conducted during the 2003-2004 school year.

In 2000, the State Tobacco Coalition and the Mississippi State Board of Health Committee on Tobacco jointly developed a comprehensive *State Tobacco Prevention and Control Plan*.

Alcohol and Other Drugs

The Department of Mental Health's Division of Alcohol and Drug Abuse coordinates a statewide system of publicly-funded services for the prevention and treatment of alcohol and drug abuse. Each of the state's 15 regional community mental health/mental retardation centers provides a variety of alcohol and drug services at the local level with funds from the Department of Mental Health. A substantial number of for-profit and not-for-profit alcohol and drug abuse programs also offer services throughout the state. Chapter IX provides further discussion of these services.

The crisis created by alcohol and drugs resulted in several active public awareness groups, such as Developing Resources for Education in America (DREAM), Students Against Driving Drunk (SADD), and Mothers Against Drunk Driving (MADD). MADD establishes the public's conviction that impaired driving is unacceptable and criminal by promoting corresponding public policies, programs, and personal accountability. MADD sponsors such programs as victim assistance, public awareness, criminal justice, and organized youth programs. Its student counterpart, SADD, extends this mission into the schools, with positive peer messages encouraging sobriety and providing referrals to available assistance programs.

Family Planning

The Mississippi Statewide Family Planning Program promotes awareness of and ensures access to reproductive health benefits by encouraging individuals to make informed choices that provide opportunities for healthier lives. In addition to providing medical services, the MDH Family Planning program acts as a facilitator for access to family planning care and as a source of technical assistance for providers of family planning services in both the public and private sectors.

The Family Planning Program seeks to provide convenient access to high quality contraceptive, infertility, and other family planning services in an atmosphere that maintains each individual's privacy and dignity. The program targets teenagers at risk and women 20 to 44 years of age with incomes at or below 150 percent of the federal poverty level.

Local health departments and subcontractors provided family planning services to 70,867 users in fiscal year 2005, including 20,295 users aged 19 and younger. The number of teen mothers pregnant with their second child represented 21.6 percent of all teen births. All family planning clients received counseling on healthy lifestyle choices such as proper nutrition, exercise, and avoiding risky behavior.

Violent and Abusive Behavior

The MDH funds nine sexual assault/rape crisis centers and 14 domestic violence shelters across the state. In addition, funds are provided to the Coalition Against Sexual Assault and the Coalition Against Domestic Violence. These statewide entities meet separately on a regular basis and serve as links for intervention programs with professional service providers and various funding sources. A number of social services programs throughout the state address medical needs, stress factors, and violent behaviors that manifest when victims of crime seek professional assistance. A Board of Directors, oriented to the issues related to trauma and violent behavior, provides governance to each Coalition. The program director provides oversight of the day-to-day operation of individual sites.

Statistics from the 14 domestic violence shelters provide evidence that up to 49 percent of those involved in domestic violence situations have been physically abused themselves. Physical, sexual, and emotional abuse present public health problems of epidemic proportions. Domestic violence does not recognize race, gender, or socioeconomic status. According to the American Medical Association, Strategies for the Treatment and Prevention of Sexual Assault, one in five females are sexually assaulted and/or abused before they reach age 21.

From July 1, 2004, to June 30, 2005, a total of 1,014 women and 1,138 children received services from a shelter due to domestic violence. A total of 45,021 calls were received in Mississippi from victims seeking information and/or referrals. During the same fiscal year, of the new or reopened cases, 973 women experienced both physical and psychological abuse. A total of 622 women were able to create new living arrangements as a result of shelter intervention.

During the same period, the nine sexual assault/rape crisis centers reported sexual assault cases totaling 227 males and 1,131 females. The majority were females age 18-24 reporting sexual assault. For males, the age range most reporting sexual assault was 7-12.

As part of sexual assault/rape crisis centers and domestic violence shelters; law enforcement training is of vital importance. New law enforcement recruits receive training on how to effectively deal with victims and are educated regarding procedures to access resources. Last year, sexual assault/rape crisis centers conducted 27 law enforcement training seminars to 585 participants. Domestic violence shelter staff conducted 1,571 educational programs to 76,783 participants and youth education training seminars to 25,994 participants through 1,851 sessions.

Mississippi is especially proud of the Sexual Assault Nurse Examiner (SANE) training that is provided statewide to hospital personnel. The basis of SANE is the belief that sexual assault victims have an absolute right and responsibility to report rape. While a victim may choose not to report to law enforcement, the victim has a right to know what his or her options are if the choice is not to report. Those who do report have the right to sensitive and knowledgeable support without bias. Overall, the mission of SANE is to meet the needs of assault victims by providing immediate, compassionate, culturally sensitive, and comprehensive forensic evaluation by trained, professional nurse experts within the parameters of the State Nurse Practice Act, the SANE standards of International Association of Forensic Nurses, and the individual agency policies.

The Mississippi Department of Human Services provides programs to address all forms of abuse, treatment, and education. The Family Preservation Program provides home-based services to strengthen a family in lieu of removing a child from the home environment. The Department of Mental Health and other non-profit programs are available to assist persons experiencing trauma in the aftermath of violence through regional community mental health centers.

Educational and Community-Based Programs

The MDH Office of Preventive Health directs community-based activities aimed at prevention and education. The coordinator of community health services provides a link between district and local health promotion initiatives and state and national resources. Activities include community needs assessment, prioritization of health problems, coalition building, interventions, referrals, and evaluation. Activities are conducted through coalitions, committees, and state voluntary agencies.

The Community Health program provides mini-grants to five community-based organizations to conduct activities related to cardiovascular disease and physical activity. The program collaborates with health educators in Mississippi's public health districts to conduct health education and prevention activities at the community level and collaborates with other programs to conduct health and wellness activities in church/faith-based settings.

Special Initiatives:

School Health Program: The school health program works to increase the proportion of schools implementing the eight components of a Coordinated School Health Program (CSHP). The school health coordinator acts as liaison to the Mississippi Department of Education (MDE) and the Mississippi Alliance for School Health (MASH). Activities include joint conferences with MDE and other agencies/organizations, surveillance of youth risk behaviors, consultations and technical assistance to statewide school nurses, and coalition building.

The program partners with MASH to conduct an annual Mississippi Institute on School Health, Wellness, and Safety conference. During FY 2005, fourteen school districts received mini-grants through the MASH conference to address physical activities and nutrition interventions for students and staff. MDH also partnered with MDE this year to award up to 100 grants to promote health and wellness in Mississippi's public schools.

The program provides technical assistance to school nurses across the state and conducts a biannual Youth Risk Behavioral Surveillance Survey (YRBSS) to measure behaviors among youth related to the leading causes of mortality and morbidity and to assess how these risk behaviors change over time. The YRBSS measures behaviors that result in unintentional injuries and violence; tobacco use; alcohol and other drug use; sexual behaviors that result in HIV infection, other sexually transmitted diseases, and unintended pregnancies; dietary behaviors; and physical activity. The 2003 YRBSS is available on the MDH website at:
http://www.msdh.state.ms.us/msdhsite/index.cfm/31,1204,110,pdf/YouthRisk2003revised%2Epdf

101 Health Protection

Unintentional Injuries

Each year in the United States, more than 140,000 people die from injuries and approximately one-fourth of the population suffer non-fatal injuries that range from minor wounds to chronic disabilities. Injuries are expensive, costing more than $210 billion annually. In Mississippi, unintentional injury leads to more years of potential life lost than any other factor – constituting the single greatest cause of mortality for persons between the ages of one and 45.

Motor vehicle collisions, falls, drowning, and residential fires cause a large number of the state's fatalities. Motor vehicle crashes rank first as the leading cause of injury death for all individuals age one and older. Suffocation ranks first as the leading cause of death for children age one and under.

The MDH Injury Prevention Program coordinates initiatives to reduce deaths and disability related to the leading causes of injury in the state. The Child Passenger Safety Program provides education on child passenger safety, including correct installation of child restraints. Through this program, certified child passenger safety technicians provide service statewide. The Fire Prevention Program provides education and information on fire safety. This program provides smoke alarms to areas in the state with the highest fire death rates. Other programs include fall prevention for older adults and partnerships to reduce drowning fatalities. Partnerships have been formed with other state and voluntary agencies whose mission involves injury prevention.

Environmental Health

The Department of Environmental Quality's Office of Pollution Control operates four major programs: (1) air quality control, (2) surface water quality control, (3) groundwater quality control, and (4) hazardous waste management. The air quality division implements guidelines to direct the state's sources of air contaminants toward compliance with numerous legislative and regulatory requirements. The surface water quality division deals with water quality of all intrastate, interstate, and coastal waters. The groundwater quality division administers numerous permit programs, both state and federally authorized, designed to regulate sources of potential contamination to the state's groundwater resources. The hazardous waste division regulates ongoing management of hazardous waste in the state.

The Mississippi Emergency Management Agency (MEMA) cooperates with the Environmental Protection Agency and the Federal Emergency Management Agency in the Chemical Emergency Preparedness Program. This program identifies the locations of acutely toxic chemicals utilization and/or storage to assist planning and response efforts concentrated in those areas.

The Mississippi Department of Health protects the public through environmental health programs in public water supply, boiler and pressure vessel safety, radiological health, food protection, on-site wastewater regulation, milk and dairy protection, institutional services, and vector control/entomology.

Public Water Supply

The Public Water Supply Program assures safe drinking water to the 2.8 million Mississippians who use public water supplies by enforcing the requirements of the Safe Drinking Water Acts. The program operates through five major areas: 1) bacteriological, chemical, and radiological monitoring of drinking water quality; 2) review of engineering plans and specifications for all new or substantially modified public water supplies in Mississippi; 3) annual surveys of each community public water supply to eliminate operational and maintenance problems that may potentially affect drinking water quality; 4) enforcement to ensure that the bacteriological, chemical,

and radiological water quality standards of federal and state Safe Drinking Water Acts are followed; and 5) licensure and training of water supply officials and training of consulting engineers and MDH field staff in the proper methods of designing, constructing, and operating public water systems.

Boiler and Pressure Vessel Safety

The Boiler and Pressure Vessel Safety Program enforces state laws, rules, and regulations governing boilers and pressure vessels. MDH staff and reciprocal commissioned insurance company representatives inspected 13,951 boilers and pressure vessels covered by the inspection laws in FY 2005. Some of these objects receive biennial inspections, with the larger and more hazardous ones inspected annually.

Radiological Health

The Radiological Health Program of the MDH identifies potential radiological health hazards and develops precautionary control measures. The program strives to: 1) identify the sources of radiation exposure; 2) understand the biological effects of radiation; 3) investigate and evaluate exposures; and 4) formulate and apply regulations for the control of exposure. In conformance with state law, the program maintains and enforces regulatory standards to ensure low exposure to biologically harmful radiation. The program evaluates each facility licensed to possess and use radioactive materials and each facility registered to operate X-ray devices to determine compliance with the regulations and other specific conditions of the license or registration conditions.

Through a comprehensive monitoring and surveillance program, the MDH Division of Radiological Health (DRH) determines levels of radioactivity present in the environment, the probable effect of radioactivity on pathways leading to man, and the possibility of undesirable biological effects. To officially record radiation levels in the environment, the staff collects and analyzes approximately 1,175 samples annually. These samples include water, soil, meat, air, and vegetation, as well as direct radiation measurements. The Legislature also designated the Radiological Health Program to review and comment on technical information regarding radioactive waste issues. Accordingly, the staff actively participated in the implementation of the Southeast Interstate Low-Level Radioactive Waste Management Compact. In addition, DRH maintains radiological emergency response capabilities in the event of an incident/accident at the Grand Gulf Nuclear Station or a transportation accident involving radioactive materials.

Food Protection

The Food Protection Program develops policies, provides guidelines, and gives technical advice and training to guide county and district environmentalists in inspecting food and food processing establishments, a risk-based system, incorporating the most current FDA guidelines. These environmentalists also provide assistance and training to consumers and industry in an attempt to ensure that facilities comply with state and federal laws, rules, and regulations. Food service facilities must receive an annual permit from the MDH to operate, with inspection frequency based on risk factors which contribute to food-borne illnesses. The MDH website provides access to all food establishment inspection results. The website also allows consumers to lodge complaints on any food facility and see follow-up action taken.

All permanent food service establishments must have a certified manager on staff. The Food Protection Division works in partnership with industry and academia to provide training and accomplish certification. The Division also works with facilities toward achieving active managerial control of food borne illness risk factors. In addition, state rating personnel provide training and standardization to the districts in an effort to ensure uniformity and quality inspections. Central office staff provide program assessments and help the districts to improve the total quality of the food

protection program from the state to the county level. The Mississippi Food Protection Program actively participates in the National Voluntary Retail Food Program Standard Assessment Programs.

Onsite Wastewater Regulation

The Onsite Wastewater Program develops policies/regulations and gives technical assistance to county and district environmentalists in inspecting R.V. parks, on-site wastewater disposal systems, and individual water supplies. Program specialists and engineers review proposed subdivision plans for central collection and disposal feasibility, and review engineer-designed system plans. All aspects of the wastewater program are time-consuming and technical. District and county environmentalists perform soil and site evaluations and recommend the wastewater system best adapted to the site. Program specialists provide training and technical assistance. Local environmentalists respond to requests for assistance from the public regarding nuisance complaints, unsanitary conditions, and related matters. Plans for engineer-designed systems are reviewed and approved by engineering staff.

The MDH staff is currently collecting data using the Global Information System data collection system and database program for recording and reporting the data collected. This system will help identify sources of pollution in watersheds and help track and maintain compliance information.

Milk and Dairy Protection

The Milk and Dairy Protection Program develops policies, based on the Pasteurized Milk Ordinance, to guide environmentalists in inspecting and ensuring compliance with state and federal laws, rules, and regulations regarding dairy farms, bulk milk haulers, transfer stations, receiving stations, pasteurization plants, and frozen dessert plants. The program also conducts Milk Sanitation Compliance and Enforcement Ratings of milk supplies within the state. These efforts allow the dairy industry to participate in interstate and intrastate commerce. Environmentalists inspect dairy plants and farms before issuing a permit to sell milk, and take milk samples for laboratory analysis to ensure high sanitary quality. Uniformity in regulation results in reciprocity with other states and ensures availability and safety of milk products. The program ensures that current and minimum public health requirements are applicable to new products and manufacturing processes within the industry.

In FY 2005, the number of milk plants or milk producer groups failing to receive a satisfactory rating on state or federal surveys remained at zero. In maintaining a drug-free milk supply, any tankers testing positive for antibiotics were required to dump the milk so that it did not reach consumers. The public health laboratory will continue testing tankers and producer samples screened from any tanker testing positive for aflatoxin.

Institutional Services

The Institutional Services Division staff inspects the state penitentiary and its satellite facilities, jails, and state institutions, including food service operations. Staff also provide technical assistance to environmentalists inspecting foster homes, public buildings, and family day care homes. In addition, staff review plans of public buildings for compliance with the Handicap Code.

Within this branch, staff of the Childhood Lead Poisoning Prevention Program perform environmental assessments for lead in homes of children identified with elevated blood lead levels. These investigations include taking environmental samples for laboratory analysis for all children under the age of six with venous blood lead levels of 20 µg/dl or higher, and for all children under the age of six with two venous blood levels of 15-19 µg/dl taken at least three months apart.

Vector Control/Entomology

Within the Office of Environmental Health, a public health entomologist is available to the public and health care community for consultation and advice on public health pest management and prevention/control of insect-transmitted disease outbreaks. The entomologist conducts education efforts concerning mosquito control and proper pesticide use for municipal officials and mosquito control personnel. At least one mosquito integrated pest management workshop is held each year in the state. In addition, the entomologist conducts specialized mosquito identification and surveillance training for public health employees and selected Mississippi Cooperative Extension Service agents. The public health entomologist is conducting a six-year statewide survey of mosquito species to assess their medical importance and where they occur.

Oral Health

The Oral Health Program in the Division of Health Services protects and promotes optimal oral health for all Mississippians under the leadership of the state dental director. Clinical oral health assessments of school-age children are conducted every five years to assess progress in achieving oral health. The most recent assessment was completed during the 2004-2005 school year for third grade children enrolled in Mississippi's public elementary schools. Dental professionals screened 2,824 children in 48 randomly selected elementary schools using disposable dental mirrors and penlights.

Key findings are that dental decay remains a significant problem for Mississippi's third-grade children, with seven in ten children having experience with dental decay and one in four children having untreated dental decay or "cavities". Ten percent attend school with infection or pain from dental disease, which means that more than 3,800 third grade children have pain or infection because of dental decay. Dental sealants are a proven method for preventing decay; however, the majority of Mississippi's third-grade children do not have access to this valuable preventive service. Only 26 percent of the third-grade children have dental sealants. Yet, the use of dental sealants has increased from 2000 when the proportion of Mississippi's third-grade children with dental sealants was 17 percent.

Compared to white children, Mississippi's African-American children have a significantly higher prevalence of decay experience and untreated decay; but a significantly lower prevalence of protective dental sealants. In addition, almost twice as many African-American children are in need of urgent care because of pain or infection (12 percent vs.7 percent). Compared to children from higher income schools (<50 percent eligible for free or reduced-price meals), children in low-income schools (> 75 percent eligible for free or reduced-price meals) have a significantly higher prevalence of decay experience and untreated decay; plus a significantly lower prevalence of dental sealant. Table VII-1 shows the survey results by Public Health District.

Chapter VI provides information on the number of dentists per county in Mississippi. Currently 44 counties are designated as dental health professional shortage areas and another 16 counties are awaiting approval.

Mississippi also has severe disparities in access to dental care for Medicaid beneficiaries. Less than half of Mississippi's practicing dentists are enrolled as Medicaid providers. Data for FY 2003 obtained from CMS shows that 118,424 total Medicaid eligible children (28 percent) received any dental services, and only one out of four received a preventive dental service. Comparing Medicaid-eligible beneficiaries by age in FY 2003, 26,415 (44 percent) children age three to five and only 6,617 (0.1 percent) children age one to two received any preventive dental services in Mississippi. In FY 2004, 378,403 children ages 0 through 19 years of age were eligible for dental care through Medicaid.

Table VII-1

Oral Health Status of Third-Grade Children Stratified by District
Adjusted for Non-Response

District	Caries Experience	Untreated Decay	Dental Sealants	Treatment Need	
				Early Dental Care	Urgent Care
I	68.7%	46.2%	28.0%	29.7%	16.3%
II	76.2%	51.9%	34.9%	62.0%	12.6%
III	69.9%	47.2%	12.0%	36.7%	14.1%
IV	61.6%	52.0%	16.0%	35.9%	20.0%
V	67.6%	28.9%	29.7%	25.1%	4.3%
VI	76.1%	51.6%	24.6%	33.4%	19.4%
VII	70.7%	29.9%	19.0%	24.7%	1.4%
VIII	64.5%	20.9%	33.8%	16.5%	1.4%
IX	59.5%	28.9%	28.1%	29.6%	2.6%

In 2003, a Governor-appointed Oral Health Task Force (OHTF) convened to develop a state oral health plan with strategies to improve oral health care in Mississippi. Members of the OHTF included representatives from key state agencies and professional organizations. In 2005, the OHTF completed a 2006-2010 statewide oral health plan which was approved by the State Health Officer. The plan can be accessed at http://www.healthyMS.com/Dental. In February 2006, in recognition of National Children's Oral Health Month, the Oral Health Program participated with other OHTF members to give an educational program about oral health to state legislators at the Mississippi State Capitol.

The Oral Health Program continues to build strategic partnerships with concerned organizations including:

- The Bower Foundation - provides funding for the public water fluoridation program
- MS Academy of Family Physicians - provides oral health information to health professionals
- MS Chapter of the Academy of Pediatrics – provides oral health information to health professionals
- MS Dental Association - promotes water fluoridation and educate the public about oral health
- MS Dental Hygienists' Association - promotes water fluoridation and educate the public about oral health
- MS Dept. of Education – conducts oral health assessments, provides education about oral health, and encourages participation in weekly school mouthrinse program
- MS Head Start Association – collaboration on Head Start Oral Health Advisory Committee that developed an oral health guidebook for Head Start Programs based on federal performance standards
- MS Primary Health Care Association - promotes water fluoridation and educate the public about oral health
- MS Rural Water Association - provides education and training for water systems about water fluoridation

- MS State Nurse Association - provides oral health information to health professionals
- MS Water & Pollution Control Operators Association - promotes water fluoridation and educate the public about oral health
- University of Mississippi School of Dentistry – joint education and training initiatives and educates students and residents about dental public health
- University of Mississippi School of Nursing – delivers school-based dental sealants through Mercy Delta Express Program

Hurricane Katrina Dental Clinics - During FY 2006, all MDH oral health prevention programs were temporarily disrupted due to Hurricane Katrina. In the aftermath of Hurricane Katrina, many dental offices in the affected counties were partially or completely destroyed, and others were unable to reopen until utilities were restored. The Oral Health Program established two temporary dental clinic programs in the cities of Waveland and Gulfport immediately after the storm to make emergency dental care available to Hurricane Katrina victims. Both clinics remained open to the public for about 60 days and provided urgent dental care to over 1,200 people. This was the first time in our nation's history that urgent dental care was included as part of a disaster recovery effort. Members of the U.S. Public Health Service and volunteer private providers provided this dental care. The Oral Health Program also obtained a mobile dental clinic for a community health center on the Mississippi coast to use temporarily due to the destruction of their dental clinic located in Biloxi. The Coastal Family Community Health Center used the mobile clinic from October 2005 through April of 2006 to provide dental care.

The Public Water Fluoridation Program remains the most cost effective, equitable and safe public health measure to prevent tooth decay. Through a public/private partnership with the Bower Foundation, start-up funding is given to public water systems to begin water fluoridation programs. Mississippi currently has 26 new public water fluoridation programs that serve over 150,000 people. In 2002, the proportion of Mississippi's population that received consistent fluoridated water was 39 percent. By December 2005, the proportion of population in Mississippi that receives fluoridated water increased to 50.3 percent as a result of the Bower Foundation's support. In August 2004, the Oral Health Program started to use My Water's Fluoride, an Internet-based data system that allows public users to locate and determine the fluoride content of their community drinking water. My Water's Fluoride can be used by health professionals to determine if dietary fluoride supplements should be prescribed for children that live in fluoride-deficient communities. Information in My Water's Fluoride is updated monthly and can be accessed at HTTP://www.healthyMS.com/Fluoride.

The School-Based Dental Sealant Program provides at-risk children with preventive dental sealants, a plastic coating that is applied to the biting surface of the permanent first molar teeth to prevent bacteria from causing tooth decay. The Oral Health Program has a partnership with the University of Mississippi School of Nursing to utilize the Mercy Delta Express Project Mobile Health Van to provide dental sealants to second-grade children on-site at eligible schools using local dental providers. Eleven counties now participate in the program.

The School Fluoride Mouth Rinse Program is a voluntary program in which public elementary school children rinse weekly with 0.2 percent sodium fluoride solution, under the supervision of a teacher or school nurse. During FY 2005,11,483 children participated.

Regional Oral Health Consultants (ROHCs) strive to improve the oral health of all Mississippians by assisting county health departments to deliver age-appropriate oral health anticipatory guidance and preventive oral health services in each public health district. ROHCs promote information sharing between health professionals and community stakeholders and educate the public about the importance of good oral health to reduce the burden of oral disease. ROHCs have been working with the MDH Office of Preventive Health to provide oral health assessments as part of broader health screening events scheduled at state agencies and community colleges statewide. In FY

2006, ROHCs participated in over 22 health screening events.

The Daily Chewable Fluoride Program will provide daily chewable fluoride tablets for preschool children in Head Start programs in communities without public water fluoridation. The daily chewable fluoride tablet helps prevent tooth decay and may even help reverse existing decay. This program requires a fluoride usage assessment and written prescription before a classroom is able to participate. A pilot project is ongoing to implement standing orders for fluoride supplements at county health departments.

The Dental Corrections Program purchases dental services for children under age 18 with reported financial need and an inability to access essential oral health services through Private Insurance, Medicaid or CHIP. Application for the Dental Corrections Program must be made at a County Health Department.

102 Preventive Services

Maternal and Infant Health

The MDH provides maternity services statewide through the county health departments, targeting pregnant women with incomes at or below 185 percent of the federal poverty level. The program addresses its goal of reducing infant mortality by providing accessible and continuous quality service based on risk status with referral to appropriate physicians and hospitals as indicated. The Supplemental Food Program for Women, Infants, and Children (WIC) provides essential nutritional counseling and supplemental foods to pregnant and breast-feeding women, as well as infants and children.

A part-time, board-certified obstetrician provides consultation statewide for the Office of Women's Health. The public health team evaluates maternity patients at each visit, using protocols which reflect national maternity standards of care. The team places special emphasis on identifying high risk problems and ensuring appropriate care to reduce or prevent these problems. This includes assisting with arrangements for delivery by an obstetrician at a hospital that provides the necessary specialized care for the mother and the baby.

The MDH maintains a toll-free telephone hotline which answers inquiries relating to Maternal Child Health (MCH) and Children with Special Health Care Needs (CSHCN). The toll-free line provides assistance to clients seeking MCH/CSHCN services, family planning services, Medicaid, and WIC, as well as other services. This line provides a valuable tool for encouraging early entry into prenatal care and to further link the private and public sectors.

Other groups advocating improved maternal and child health include the Mississippi Hospital Association, the Mississippi Perinatal Association, the Southern Governors' Association, the State Medical Association, the University Medical Center, the Infant Mortality Task Force, and the Mississippi Primary Health Care Association.

The Division of Genetic Services provides newborn screening for 40 genetic disorders to identify these problems early and initiate immediate intervention to prevent irreversible physical or mental retardation or death. A comprehensive system of follow-up is in place to facilitate access to needed services for children and their families.

In Mississippi, birth defects are the leading cause of infant mortality and one of the leading causes of potential life loss. The Division of Genetic Services collects data on all birth defects reported for individuals born in Mississippi on or after January 1, 2000. Through this birth defects surveillance system, infants and children with birth defects are identified and referred to appropriate

programs. Sickle cell and genetic satellite clinics are strategically located throughout the state to provide counseling and clinical services.

The Mississippi Affiliate of the Muscular Dystrophy Association provides genetic screening and counseling free of charge to the people they support. The Association's Jackson, Tupelo, and Gulfport clinics provide these services.

Special Initiatives:

Perinatal High Risk Management/Infant Services System (PHRM/ISS): The perinatal high-risk management/infant services system provides a multi-disciplinary team approach to high risk pregnant women and infants through targeted case management. PHRM/ISS helps eligible women access needed medical care and enhanced services such as nursing, nutrition, and social work. A team of professionals provides risk screening assessments, counseling, health education, home visiting, and monthly case management. The program addresses the individual patient's risk factors to reduce the incidence of low birthweight and infant and maternal mortality and morbidity. Increased access to prenatal care has reduced infant mortality in the state. Chapter X provides additional information on this program.

Pregnancy Risk Assessment Monitoring System (PRAMS): *PRAMS* is a part of the Centers for Disease Control and Prevention's initiative to reduce infant mortality and low birthweight. This risk factor surveillance system was designed to generate state-specific risk factor data and to allow comparison of these data among states. PRAMS offers ongoing, population-based information on a broad spectrum of maternal behaviors and experiences, and it captures data on the use of important Maternal/Child Health related resources. Data from the system can be used to develop, monitor, and assess programs designed to identify high-risk pregnancies and to reduce adverse pregnancy outcomes. The components of the PRAMS surveillance systems are summarized under four headings: Sampling and Stratification, Data Collection, Questionnaire, and Data Management and Weighting.

Perinatal Regionalization: Perinatal Regionalization coordinates perinatal care for a defined region, allowing all pregnant women and/or their newborn babies to benefit from the availability of risk-appropriate medical and hospital care. The system encompasses aspects of education, evaluation, referral, and transportation.

Sudden Infant Death Syndrome Program: Sudden Infant Death Syndrome (SIDS) is the sudden death of an infant under one year of age which remains unexplained after a thorough case investigation, including performance of a complete autopsy, examination of the death scene, and a review of the clinical history. SIDS is one of the major causes of death in infants from one month to one year of age. County health department staff initiate contact with families that have experienced a death due to SIDS (telephone, mail, or home visit) to offer support, counseling, and referral to appropriate services. SIDS literature is also available. Parents, caretakers, and pregnant women receive counseling regarding activities to reduce SIDS, such as putting the baby to sleep on its back and avoiding cigarette smoke.

Heart Disease and Stroke

The Office of Preventive Health includes the state's Cardiovascular Health Program, which promotes the urgency of stroke and heart disease through health promotion activities related to high blood pressure and cholesterol control, knowledge of signs and symptoms of stroke, and improving health care to eliminate disparities.

The state's Cardiovascular Health Program works closely with the Mississippi Chronic Illness Coalition (MCIC) to build relationships across the state to address heart disease and stroke. Several activities are implemented via this partnership, including a statewide social marketing/speakers bureau program to promote awareness of key health indicators. In addition, community health centers are provided funding and resources to conduct heart disease and stroke prevention activities statewide. The Mississippi State Plan for Heart Disease and Stroke Prevention and Control was published in 2004 and disseminated to key stakeholders who assist in cardiovascular disease prevention/control. The plan focuses on all levels of health promotion from individual change strategies to policy change strategies to have a greater impact on the state's CVD reduction. The plan will be implemented in coordination with the Mississippi Task Force on Heart Disease and Stroke Prevention.

Breast and Cervical Cancer

Approximately 80,000 Mississippians have a history of cancer. The American Cancer Society estimates 2,290 new cases of breast cancer and 160 new cases of cervical cancer in Mississippi in 2006, and approximately 440 deaths from breast cancer during the year. Breast cancer is the second leading cause of cancer deaths among women age 45 to 65. The survival rate for non-invasive breast cancer approaches 100 percent; the survival rate for cervical cancer is 80-90 percent.

The Cancer Program works closely with the Maternal/Child Health and Family Planning programs in screening for cervical cancer in women of reproductive age. Reimbursement for diagnostic services (colposcopy directed biopsy) is provided for breast and cervical screening and mammograms. Currently, the program has 54 contracts for breast and cervical cancer screening and 40 contracts for mammography services. There is a limited amount of medication available for the treatment of breast cancer through the MDH Pharmacy; public education programs are presented as requested from outside sources. Treatment funds are available via Mississippi Division of Medicaid for women detected with breast or cervical cancer enrolled in the Breast and Cervical Cancer Program.

MDH's breast and cervical cancer program focuses on three major areas: 1) screening for breast and cervical cancer; 2) referral, follow-up, and reimbursement for outpatient diagnostic and treatment services for patients with abnormal conditions; and 3) public awareness and professional education.

Educational materials are available at the county levels and the central office of MDH relating to breast and cervical cancer early detection. During 2005, staff provided public awareness materials and conducted presentations at health fairs and professional meetings. To date, 18,266 women have been screened for breast and cervical cancer; 285 breast and 12 cervical cancers have been detected.

Diabetes

Type 2 diabetes is a serious disease in Mississippi. The 2004 Behavioral Risk Factor Surveillance System (BRFSS) indicated 9.5 percent of adult Mississippians are estimated to have been diagnosed with diabetes, compared to seven percent for the United States. The BRFSS report also revealed that the 2004 diabetes prevalence rate is slightly lower than the 2003 rate. Authorities estimate that adult onset diabetes is under-reported by 40 percent.

Uncontrolled diabetes may lead to serious complications. Every year, 2,200 Mississippians suffer significant diabetes-related complications that include lower extremity amputations (1,350 new cases annually), end-stage renal disease (500 new cases annually), and diabetes-related blindness

(350 new cases annually). About 58 percent of individuals with type 2 diabetes also suffer from cardiovascular disease. Further, idiopathic diabetes contributes to 2,300 deaths annually.

To address these problems, the Diabetes Prevention and Control Program focuses on increasing diabetic foot exams, eye exams, flu and pneumonia vaccinations, and hemoglobin A1C testing. Additional actions focus on training for health care providers, eliminating health disparities, developing wellness programs, refining tracking measures, and improving the statewide diabetes public health system.

During FY 2006 the Diabetes Prevention and Control Program provided, or caused to be provided, continuing professional diabetes management education to more than 1,000 health care providers, including training in basic foot care for more than 240 health care professionals who, in turn, conducted over 2,400 diabetic foot exams. The program participated with the American Diabetes Association in organizing and implementing "Project Power" in ten churches in the greater Jackson metropolitan area and the Mississippi Delta; continued the "Small Steps, Big Rewards" media campaign; formed partnerships with other health care providers to organize diabetes coalitions in six regions of the state; and funded 17 faith-based organizations, five community-based organizations, and one Catholic school to implement local diabetes awareness and prevention activities that reached 1,500 or more persons with or at risk for developing diabetes.

HIV Disease and Other Sexually Transmitted Diseases

Mississippi, along with the rest of the world, faces a growing problem with HIV disease (HIV infection which has not yet developed into AIDS) and AIDS. Although Mississippi's number of cases of HIV disease is relatively small, the state must continue to prepare to manage the needs of the increasing number of people living with HIV disease. But, in attending to this problem, the state cannot afford to divert resources from the control of other sexually transmitted diseases.

Mississippi reported 607 new cases of HIV disease in 2004 and 577 cases in 2005. Health officials estimate that as many as 10,000 Mississippians may be affected with HIV, the virus that causes AIDS. The severity of the epidemic in the African-American community surpasses levels initially noted in white men who have sex with other men. African-Americans now account for the majority of new HIV infections and AIDS cases. The behavioral connection between HIV infection and STDs indicates that the presence of STDs predisposes people to greater probability of HIV transmission and infection. In other words, Mississippi faces the likelihood of continuing to acquire HIV infections. Mississippi reported a total of 57 cases of primary and secondary (infectious) syphilis in 2004 and 47 in 2005.

Traditional epidemiological approaches to the control of sexually transmitted diseases include detection, partner counseling and referral services, and treatment. For HIV/AIDS, targeted testing directed toward persons with high risk characteristics is the most cost-effective method of detection. High risk groups include: (a) men who have sex with men, (b) intravenous drug users, (c) hemophiliacs and others who received blood or blood products from 1978 to June 1985, (d) infants born to mothers who are at risk for HIV infection, and (e) heterosexuals who engage in high risk behavior.

The MDH's STD/HIV Bureau serves as the focal point for the majority of federal assistance provided to Mississippi for the prevention and control of STDs, HIV infection, and AIDS. During 2005, the program received grants from, or participated in cooperative agreements with, the Centers for Disease Control and Prevention, the Health Resources and Services Administration, and the Department of Housing and Urban Development to manage six projects worth almost $20 million. The Bureau's mission is to reduce the number of newly diagnosed STDs, HIV infection, and AIDS in Mississippi. The Bureau's major activities include surveillance; counseling and testing; partner

counseling and referral services; health education/risk reduction; public information; HIV/AIDS drug, medical, and housing services reimbursement; minority initiatives; and STD treatment.

The Prevention and Education Branch plans, implement, and evaluates prevention interventions designed to reach high priority target populations. Branch staff conducts training sessions throughout the state as well as provide prevention education at forums, workshops, seminars, health conferences, community presentations, and mobile clinic site assignments. Through these venues, community members develop the knowledge and non-judgmental presentation skills and perspective necessary to support the STD/HIV Speakers Bureau. During 2005, an estimated 17,500 people benefited from these services.

The Prevention and Education Branch also coordinates the distribution and management of federal funding to eight HIV prevention programs and projects throughout Mississippi to provide Diffusion of Evidenced Based Interventions (DEBI) with the greatest HIV prevention potential. These agencies serve as partners with MDH to provide culturally sensitive and age and linguistically appropriate preventative messages to a wide variety of Mississippians, particularly those infected and affected by HIV/AIDS. These organizations received contracts based on technical merit of their applications and the degree to which each application responded to the needs identified by the Mississippi HIV Prevention Community Planning Group.

The CARE and Services Branch manages funds that Mississippi receives under the provision of Title II of the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act. These funds are available to provide life sustaining therapies for people living with HIV disease. The AIDS Drug Program managed by this branch served 1,406 people in 2005, while the Home-Based Program served 90. The Housing Opportunities for People Living With AIDS Program, also managed by this Branch, enabled people living with HIV disease and their families to remain together.

Although there is no known cure for HIV, there are drugs which slow the course of the disease and prolong the lives of patients. Protease inhibitors, in combination with other anti-retrovirals, can drastically reduce the amount of HIV present in the body. This therapy is very costly ($12,000 to $16,000 per patient per year) and is therefore unavailable to most infected Mississippians without financial assistance. Treatment of the opportunistic diseases which accompany AIDS often requires hospitalization and expensive medications. Estimates of the costs of treating current and future AIDS patients are astronomical. Currently, the average lifetime medical cost for an AIDS patient is between $129,000 and $200,000; the annual cost of treating a person with HIV infection (not yet AIDS) is approximately $32,000. Costs may vary considerably from patient to patient.

The source of payment for the high costs of HIV testing and treatment is but one of many issues being brought to the forefront of public health policy discussions. Other states have proposed or passed legislation addressing such issues as involuntary testing of defined groups of persons and discrimination by insurance companies and employers of those infected with HIV.

MDH staff, current and potential HIV disease providers, and interested citizens participated in an HIV Services Planning Project. The group developed a statewide plan for delivering integrated health and social services to individuals with HIV/AIDS and all of its clinical manifestations. The MDH published the results of this project, which included recommendations in the following areas:

- HIV counseling and testing;
- outpatient medical care;
- dental policy development and accessible dental care;
- long-term planning for hospitals regarding inpatient care;
- home health services;
- medical equipment, supplies, and medication;
- hospice care; and

- support services, such as case management and care coordination.

The state will continue its efforts to control the spread of HIV disease through public education, treatment, and contact counseling.

The Division of Medicaid was awarded a six-year grant by the Health Care Financing Administration under the Ticket to Work and Work Incentives Improvement Act of 1999 to provide Medicaid services to individuals with a diagnosis of HIV or AIDS who do not meet the disability criteria of the Social Security Administration. The purpose of the demonstration grant is to determine whether providing coverage to individuals with HIV disease earlier in the course of their disease will improve their ability to stay employed and remain self-sufficient, maintain their physical and mental health, and delay onset of disability.

Communicable Diseases

The MDH Office of Communicable Diseases provides a statewide surveillance program to monitor the occurrence and trends of infectious diseases and immunizations. The office provides drugs for direct disease intervention in specific illnesses and offers educational updates and training to the medical and lay communities. Staff provides consultation to health care providers and the general public on communicable disease control and prevention, vaccine preventable disease, international travel regulations, TB, STD, and HIV disease.

Immunizations

The MDH Immunization Program provides and supports services designed to ultimately eliminate morbidity and mortality due to childhood, adolescent, and adult vaccine-preventable diseases, influenza, and pneumonia. These services include vaccine administration, monitoring of immunization levels, disease surveillance and outbreak control, information and education, and enforcement of immunization laws by monitoring compliance in schools and day care centers.

Data for 2005 indicated that 85.9% of Mississippi's children were fully immunized by age two. All MDH clinics determined coverage levels through use of the Clinic Assessment Software Application (CASA). Additionally, an integral part of every non-MDH Vaccines for Children provider clinic evaluation includes a CASA assessment annually. National Infant Immunization Awareness Week and National Adult Immunization Awareness Week are yearly events that the Bureau of Immunization promotes and supports. The Immunization Program promotes adolescent immunization through the school-based Hepatitis-B program. The Mississippi Statewide Immunization Coalition held two meetings during the year, with approximately 77 people in attendance at each meeting. This coalition is currently functioning as a 501-C-3 organization.

All immunization providers in the state are not reporting immunization histories to the Immunization Registry. The bar code technology to fully implement the registry to all providers in the state has been developed and private providers are currently reporting through this method. Fax, phone, and mail reporting are currently available. The Bureau of Immunization provides technical assistance to MDH staff on all registry issues related to the statewide Immunization Registry. The Immunization Program has developed web site access to the statewide Immunization Registry for providers to view immunization histories. Currently, 636 providers are accessing the web site at the clinic level. This increase is due to providers assessing the register as a result of Hurricanes Katrina and Rita. The Bureau of Immunization has implemented access from the website and printing capability of the Certification of Immunization Compliance Form (Immunization Form 121).

Tuberculosis

The American Lung Association of Mississippi (ALAM), a non-profit voluntary health organization dedicated to lung disease prevention and control, provides several programs geared toward public awareness. These programs include public information, patient services, emergency financial assistance, public and professional education, and medical research. ALAM concerns itself with any lung or breathing problem — more than 30 serious lung diseases, in addition to tuberculosis, present a threat to "life and breath". ALAM's strong volunteer crusade battles tuberculosis, emphysema, chronic bronchitis, lung cancer, asthma, pneumonia, dust and lung diseases, Sudden Infant Death Syndrome, and any of the multitude of problems that strike the lungs or respiratory system.

The MDH Bureau of Tuberculosis and Refugee Health provides early and rapid detection, appropriate treatment and follow-up, and therapy for latent tuberculosis infection (LTBI) to persons at risk of developing the disease. Because of the significant public health implications of tuberculosis, regularly scheduled educational up-dates and certification courses are provided to persons in health related occupations.

Mississippi reported 119 cases of TB in FY 2005, down from 119 in 2004.TB in black Mississippians has declined from 217 cases in 1989 to 76 cases in 2005, with a reduction in the case rate among blacks from 23.6 to 7.35 cases per 100,000 population. In FY 2005, 99 percent of active TB cases were placed on directly observed therapy.

Clinical Preventive Services

The Division of Medicaid, through the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program, offers coverage for health care to eligible children and youth under the age of 21 years. This program screens children for physical, mental, and developmental conditions and provides for necessary health care to correct or ameliorate those conditions. Treatment for visual, hearing, and dental problems is also provided. Thus, EPSDT introduces eligible children into the health care system and makes services available to them before health problems become chronic and expensive to treat. EPSDT also provides teenagers with factual and reliable information to help them make better and more healthful choices.

The MDH provides childhood immunizations, well-child assessments, and tracking of infants and other high risk children, targeting services to children whose family incomes are at or below 185 percent of the federal poverty level. The Department serves more than 115,000 children annually. Adjunct services such as the Genetic Screening Program, the Supplemental Food Program for Women, Infants and Children (WIC), the Children's Medical Program, the Childhood Lead Poisoning Prevention Program, Abstinence, and the Birth Defects Registry are important components of the comprehensive Child Health Program. The multidisciplinary team includes medical, nursing, nutrition, and social services. The program provides early identification of conditions and linkages with providers necessary for effective treatment and management.

Special Initiatives:

Out-Reach Initiative Project: The failure of parents to take advantage of the EPSDT program is a major problem in the provision of preventive health services. Approximately 55 percent of children eligible for EPSDT fail to keep appointments. Consequently, early childhood services, i.e., immunizations, are deferred until the child is ready to enter Head Start or kindergarten. Providers of preventive screening services are charged with the responsibility of outreach to those children who are not in the EPSDT program in an effort to bring them into the mainstream of health care.

First Steps Early Intervention System: Mississippi has implemented an interagency early intervention system, called *First Steps*, for infants and toddlers with developmental disabilities. Early intervention of children experiencing developmental delay reduces the chance of negative economic, health status, educational, and social effects throughout life. Chapter XII presents additional information on this program.

Chapter 08 Long-Term Care

Mississippi's long-term care patients (nursing home and home health) are primarily disabled elderly people, who make up 20 percent of the 2010 projected population above age 65. Projections place the number of people in this age group at approximately 441,945 by 2010, with more than 88,000 disabled in at least one essential activity of daily living.

The risk of becoming frail, disabled, and dependent rises dramatically with age. For many years, authorities believed that because people were living longer, the population was healthier. Medical evidence suggests that this assumption is invalid, that in fact, longer life accompanies increases in the prevalence of chronic illness and disability. Public health activities have been successful in increasing healthful living conditions, increasing the average length of life. But people are often living longer with, and in spite of, some very disabling chronic conditions, which the present medical system can "manage" but not cure. So while the lives of many people have been prolonged through advances in medicine and public health, the quality of an older person's life often suffers. Aged individuals may become dependent on medical technology and professional care providers for years — not just weeks or months.

These trends pose tremendous challenges for society. Issues include ensuring an adequate supply of trained caregivers, protecting vulnerable groups, and financing expensive long-term care programs with limited resources. In many cases, the greatest needs of elderly people are not medical, but rather a need for help with the basic activities of daily living, such as bathing and dressing. Many have difficulty with activities that require walking — for example, shopping; yet with proper help, many people with disabilities are able to remain at home.

The U.S. Census' *Profile of Selected Social Characteristics: 2000* estimates that of the 316,049 Mississippians aged 65 and over in 2000, 166,819 (52.78 percent) suffered from some form of disability. 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.

100 Options for Long-Term Care

The phrase "long-term care," usually brings nursing home care to mind. In reality, most people receive long-term care at home or in the homes of family members. Only 5.9 percent of Mississippi's total population over age 65 lived in a nursing home during calendar year 2005. "Long-term care" simply means assistance provided to a person who has chronic conditions that reduce their ability to function independently. Many people with severe limitations in their ability to care for themselves are able to remain at home or in supportive housing because they have sufficient assistance from family, friends, or community services.

Community services play a vital role in helping the elderly maintain some degree of independence and postpone or avoid institutionalization. Examples of these community services include adult day care, senior centers, transportation, meals on wheels or meals at community locations, and home health services. The Older Americans Act, the Federal Social Services Block Grant, and state funds finance many of these services. The Mississippi Department of Human Services Division of Aging and Adult Services and the state's ten Area Agencies on Aging coordinate the funds and help people aged 60 and older to obtain services. These agencies work with state and local governments, foundations, and private sector businesses to expand funding at the local level and provide as many services as possible to elderly residents. Tables VIII-1 and VIII-2 show the nature and volume of such services throughout the state.

Table VIII-1
Division of Aging and Adult Services
In-Home and Community Based Services
FY 2005

Area Agency on Aging	In-Home Services		Community Services		Congregate and Home Delivered Meals	
	Clients Served	Units Served	Clients Served	Units Served	Clients Served	Units Served
Central	497	30,361	2,272	90,458	2,862	471,931
East Central	366	28,763	545	35,916	920	262,591
Golden Triangle	936	81,106	618	47,783	1,763	411,763
North Central	244	10,665	4,612	7,636	1,271	272,657
North Delta	1,372	51,827	516	43,802	1,973	314,680
Northeast	1,572	150,079	3,543	31,956	1,405	124,913
South Delta	1,914	142,766	457	26,620	1,267	309,271
Southern	884	37,284	1,020	81,186	11,800	354,215
Southwest	1,095	40,690	747	37,109	1,865	245,980
Three Rivers	639	52,796	7,838	54,251	2,232	297,600
Total	**9,519**	**626,337**	**22,168**	**456,717**	**27,358**	**3,065,601**

In-Home Services include: Case Management, Homemaker, Visitation/Telephone Reassurance, Residential Repair, Emergency Response, Respite Care, and Special Needs

Community Services include: Transportation, Outreach, Adult Day Care, Information and Referral, Ombudsman, Senior Center Activities, Legal, and Senior Discount

Table VIII-2
Home and Community Based Services Client Demographic Mix
FY 2005

Area Agency on Aging	Minority Served	Frail Disabled Served	Rural Served	Below Poverty Served	Below Poverty Minority	Socially Needy Served	Unduplicated Clients Served
Central	2,906	3,065	2,851	2,725	656	4,167	5,797
East Central	616	405	549	320	320	424	1,311
Golden Triangle	1,496	2,188	1,510	1,659	1,121	2,420	3,613
North Central	877	1,153	1,433	888	600	1,262	1,515
North Delta	1,584	2,084	1,955	1,693	1,254	2,319	3,086
Northeast	443	1,653	1,616	1,140	319	1,749	2,857
South Delta	2,392	2,971	2,330	1,379	1,964	3,118	5,027
Southern	2,133	4,505	1,217	3,463	1,437	5,718	17,497
Southwest	3,360	4,406	4,087	3,141	2,372	4,829	5,325
Three Rivers	698	2,122	714	1,460	451	2,422	6,395
Total	**16,505**	**24,552**	**18,262**	**17,868**	**10,494**	**28,428**	**52,423**

Source: Department of Human Services, Division of Aging and Adult Services

The Mississippi Division of Medicaid funds and directs a statewide program for home and community-based services under a federally granted Medicaid waiver. Under this program, eligible individuals can choose to receive supportive services in their own homes or in the community rather than enter a nursing home. Services include case management, homemaker assistance, home-delivered meals, adult day care, institutional or in-home respite care, escort transportation, and expanded home health services. Participants in the waiver program must be 21 years of age or older, meet nursing home level of care requirements, and need assistance with at least three activities of daily living. Medicaid eligibility criteria include Supplemental Security Income (SSI) beneficiaries, those covered under Poverty Level Aged or Disabled (PLAD), or those with income under 300 percent of the SSI income level.

While home care costs less per person than institutional care, total state costs can be increased tremendously by the large number of people who would likely sign up for in-home services if Medicaid were to pay for them. National surveys have shown that for every person in a nursing home, there are at least two living in the community who are just as sick. These people either refuse to enter a nursing home or have not been able to find an available nursing home bed in their area. Thus states that expand home and community-based programs through Medicaid waivers may wind up with tremendous increases in the number of people applying for the program and tremendous increases in costs as well. This is a major dilemma that all states must resolve, and its solution may lie in a complete re-formulation of long-term care policies.

101 Housing for the Elderly

Many elderly people do not need skilled nursing care on a daily basis, but simply safe, affordable housing and some assistance with the activities of daily living. Several states are exploring ways to expand supportive housing for the elderly. Such housing can take many forms.

"Board and care homes" are residences providing rooms (often semi-private), shared common areas, meals, protective oversight, and help with bathing, dressing, grooming, and other daily needs. Around the country, states license these homes under many different names. The size and type of homes, licensing requirements, staffing, costs, and the type of resident considered appropriate for this type of care vary widely.

In Mississippi, these facilities are licensed as personal care homes: Personal Care Home – Residential Living and Personal Care Home – Assisted Living. Both of these facilities provide residents a sheltered environment and assistance with the activities of daily living. Additionally, Personal Care Homes - Assisted Living may provide additional supplemental medical services that include the provision of certain routine health maintenance and emergency response services.

In 2006, the state had 184 licensed personal care homes, with a total of 5,102 licensed beds. Mississippi Medicaid operates an Assisted Living Waiver program which is piloted in seven counties: Bolivar, Sunflower, Lee, Hinds, Newton, Forrest, and Harrison. Participants in this waiver must be 21 years of age or older, meet nursing home level of care, need assistance with at least three activities of daily living, or have a diagnosis of Alzheimer's Disease or other dementia and need assistance with two activities of daily living. Facilities must be licensed by the MDH as a Personal Care Home - Assisted Living to become a Medicaid provider for participation in the waiver. Individuals will be responsible for the cost of room and board and Medicaid will pay a flat, daily rate for services received within the facility. Services include personal care services, homemaker, chore, attendant care, medication oversight, therapeutic social and recreational programming, medication administration, intermittent skilled nursing services, transportation specified in the plan of care, and attendant call systems. Medicaid eligibility criteria include SSI beneficiaries, those covered under Poverty Level Aged and Disabled (PLAD), or those with income under 300 percent of the SSI income level.

"Retirement communities" or "senior housing facilities" have become common around the state. These communities usually provide apartments for independent living, with services such as transportation, weekly or bi-weekly housekeeping, and one to three meals daily in a common dining room. Many of these facilities include a licensed personal care home where the resident may move when he or she is no longer physically or mentally able to remain in their own apartment. Most facilities do not require an initial fee and do not sign a lifetime contract with their residents. They generally offer only independent living and personal care — most do not include a skilled nursing home as a part of the retirement community.

Another type of retirement center, called a "continuing care retirement community" (CCRC) includes three stages: independent living in a private apartment, a personal care facility, and a skilled nursing home. Residents of this type of facility enter into a contract whereby the residents pay a substantial fee upon entering the CCRC and the facility agrees to provide care for the remainder of the residents' lives.

102 Financing for Long-Term Care

Most Americans are astounded to learn of the scarcity of financial help available for long-term care. Many people assume that Medicare pays for these services; in fact, Medicare funds a maximum of 100 days in a Medicare-certified skilled nursing facility only after a hospital-stay of at least three days and only if the attending physician certifies the patient as needing skilled nursing or rehabilitative services. Even under these conditions, only the first 20 days are completely covered. For the remaining 80 days, the individual must make a co-payment. The number of nursing homes certified for Medicare has increased substantially in recent years, but many still do not choose to participate in the program.

Swing-beds provide a valuable transition from hospital care for many Medicare-eligible patients whose medical condition prohibits immediate home discharge and would benefit from an additional period of supervised recuperation. Without the extended care provided in a swing-bed, many of these patients would become nursing home residents. Fifty-three hospitals participated in the swing-bed program during FY 2005 and provided care equivalent to approximately 220 nursing home beds. However, federal law limits the swing bed program to rural hospitals of fewer than 100 beds. Chapter XI offers additional information on swing bed services.

Mississippi also has nine Medicare-certified long-term acute care hospitals. These hospitals provide extended care to patients who require no more than three hours of rehabilitation per day but who have an average length of stay greater than 25 days. As with swing beds, these hospitals allow patients a longer period of recuperation to possibly avoid admission to a nursing home.

In addition, licensed acute care hospitals may designate a portion of their beds as a "distinct part skilled nursing facility." These hospitals may then receive Medicare certification as a skilled nursing facility for those apportioned beds if the beds are located in a physically identifiable, distinct part of the hospital and meet all the certification requirements of a skilled nursing facility. A total of 11 hospitals with 167 beds are in operation.

Medicare also finances home health care when medically necessary and ordered by a physician. This care is more important than ever before as hospital stays become shorter and patients are discharged in a "sicker" condition. However, Medicare regulations require that the patient be home-bound, be under the care of a physician, and need skilled nursing care, physical therapy, or occupational therapy. Chapter XIII provides information on home health services in Mississippi.

Nationally, Medicare has become one of the largest funding sources for home health services, and Medicare funding for short stays in nursing homes is increasing. Nevertheless, Medicare remains a medical model intended to pay for short term acute care, not extended long-term care services.

Medicaid

Medicaid is the primary payor of long term skilled nursing care in the United States. Nearly 18 percent of the Medicaid budget in Mississippi goes to long term care, with approximately 70 percent of the nursing home care funded by Medicaid. However, an individual's assets and income must be very low to qualify for the Medicaid program.

Nursing home care is very expensive, averaging $40,000 a year in Mississippi. Many people enter nursing homes as private pay patients and exhaust their assets after a short time. Then, they must rely on Medicaid to pay for their care. Patients or their families pay for approximately 11 percent of the nursing home care in Mississippi.

Long-Term Care Insurance

Long-term care insurance is still evolving to better meet consumers' needs. For some people, a long-term care insurance policy is an affordable and attractive option. For others, the high cost or the benefits they can afford are too small to make a policy worthwhile.

The MDH recognizes and encourages the efforts of the nursing home industry, working with the insurance industry, the American Association of Retired Persons, and others toward developing a suitable program of long-term care insurance. While not an immediate solution to the problem of funding long-term care, the potential for broader coverage through employer contributions and earlier enrollment at an age where premiums are more affordable does hold promise for improved coverage in the future.

103 Nursing Facilities

Mississippi has 185 public or proprietary skilled nursing homes, with a total of 17,112 licensed beds. Eleven entities have received CON approval for the construction of 543 additional nursing home beds, and 12 facilities have voluntarily de-licensed a total of 512 nursing home beds which are being held in abeyance by MDH. This count excludes one nursing home operated by the Mississippi Band of Choctaw Indians, with a total of 120 beds; two nursing homes operated by the Department of Mental Health, with a total of 705 licensed beds; a total of 262 beds in continuing care retirement communities (CCRC's); four nursing homes operated by the Mississippi State Veteran's Affairs Board, with a total of 600 beds; and one facility operated by the Mississippi Methodist Rehabilitation Center, with a total of 60 beds (which are dedicated to serving patients with special rehabilitative needs, including spinal cord and closed-head injuries) equaling 1,485 exempt beds in FY 2005. These beds are not subject to Certificate of Need review and are designated to serve specific populations.

The escalating costs to the Medicaid program caused the Mississippi Legislature to place a permanent moratorium of new nursing home beds in 1980. However, the Legislature periodically grants exemptions to the moratorium for specific areas of the state.

104 Long-Term Care Beds for Individuals with Mental Retardation and Other Developmental Disabilities

Mississippi had 2,724 licensed beds classified as ICF/MR (intermediate care facility for the mentally retarded) in FY 2006. The Department of Mental Health (MDMH) operates eight comprehensive regional centers that contain 2,055 active licensed and staffed beds, and five

proprietary facilities operate the remaining 669 beds. The residents of the MDMH's regional centers, although they have mental retardation/developmental disabilities, also have severe physical disabilities that result in their requiring care at the nursing home level. Regular nursing facilities are not equipped to serve these individuals.

Map VIII-2 shows the MR/DD Long-Term Care Planning Districts, and Table VIII-5 presents the MR/DD nursing home bed need by Planning District. Both the map and table appear in the criteria and standards section of this chapter. The adopted formula of one bed per 1,000 population less than 65 years of age indicates that the state is presently over bedded by 190 MR/DD nursing home beds.

The Department of Mental Health has achieved significant progress in developing community living alternatives for persons with mental retardation and developmental disabilities. The prevailing philosophy on the national and state level is to shift emphasis from large institutions to small specialized facilities within the community. Individuals placed in these facilities need long-term treatment programs that may last for several years. In theory, ICF/MR facilities are transitional - individuals should eventually reach a level of functioning that would allow them to move to a less restrictive environment. Rehabilitative and habilitative training programs continue as long as the individual remains in the facility.

Small facilities of ten or fewer beds in size blend better with the community and more closely follow the tenants of the normalization concept than do large institutions. In accordance with this philosophy, the Department of Mental Health continues the development of small ICF/MR community-based group homes and has received or requested funding for 70 such homes.

Table VIII-3 (A)
Community Living Arrangements
Group Homes*
FY 2005

Provider	Sites
Boswell Regional Center	Brookhaven (3), Hazlehurst (2), Magee (3), Mendenhall (2), Wesson (2)
Ellisville State School	Ellisville (2), Hattiesurg (3), Laurel (3), Prentiss (2), Sumrall (2), Lumberton (2), Columbus, Taylorsville (2), Waynesboro (2), Richton (2), Bay Springs (2)
Hudspeth Regional Center	Brandon, Meridian (2), Whitfield, Morton (2), Louisville (2), Kilmichael (2), Kosciusko (2)
Mississippi Christian Family Services	Rolling Fork (2)
North Mississippi Regional Center	Bruce (2), Corinth (2), Fulton (2), Hernando (2), Oxford, Batesville (2), Senatobia (2), Booneville (2), Nettleton (2), Clarksdale
Region 5 CMHC	Greenville and Cleveland
Region 6 CMHC	Greenwood (2)
Region 7 CMHC	Starkville
Region 14 CMHC	Gautier
South Mississippi Regional Center	Biloxi (2), Gautier (3), Gulfport, Picayune, Poplarville (2), Wiggins (2), Waveland (2)
Willowood	Clinton, Pearl, Jackson

*Ten-Bed ICF/MR homes are included in the above chart. The chart does not include individuals served in the HCBs supervised/supported Residential Habilitation programs.

Source: Mississippi State Department of Mental Health, Bureau of Mental Retardation

The Department of Mental Health has also developed small community-based group homes and supervised apartment programs specifically for individuals with mental retardation/ developmental disabilities. Community mental health/mental retardation centers and private, not-for-profit corporations operate additional homes. The homes and apartments must meet MDMH minimum standards for certification. The residents of these programs generally have a higher level of independence than those in the ICF/MR facilities.

Table VIII-3 (B)
Community Living Alternatives
Supervised Apartments
FY 2005

Provider	Sites
Boswell Regional Center	Magee, Brookhaven
Ellisville State School	Ellisville, Laurel, Columbus
Hudspeth Regional Center	Brandon, Clinton, Pearl, Jackson
North Mississippi Regional Center	Oxford, Tupelo
South Mississippi Regional Center	Gulfport, Biloxi, Picayune
Region 14, Mental Health Center	Lucedale
Region 15, Warren-Yazoo Mental Health Services	Yazoo City
St. Francis Academy	Picayune
Willowood	Jackson

Source: Mississippi State Department of Mental Health, Bureau of Mental Retardation

Tables VIII-3 (A) and (B) show the location and type of both the ICF/MR-licensed community-based homes, the additional community-based group homes, and the supervised apartments for individuals with developmental disabilities.

105 Alzheimer's Disease and Other Related Dementia

Dementia, a clinical syndrome characterized by the decline of cognitive ability in an otherwise alert individual, by definition involves some memory loss. Other cognitive abilities are frequently diminished or lost, including judgment, learning capacity, reasoning, comprehension, and attention and orientation to time, place, and self. The ability to express oneself meaningfully and to understand what others communicate usually also becomes affected.

The Office of Technology Assessment (OTA), U.S. Department of Health Care Financing, estimates that the prevalence of dementia increases dramatically with age from one percent of those individuals aged 65-74 years old, to seven percent of those 75-84 years, to 25 percent of those aged 85 and over. OTA also estimates that 1.8 million persons in the United States have severe dementia. In addition, one to five million people have mild or moderate dementia. The prevalence could more than triple within the next 50 years if there are no changes in the biomedical knowledge base or clinical management of the disease that causes dementia (OTA, 1992).

In general, health status declines with aging, as individuals become more frail and susceptible to multiple chronic illnesses. Cognitive losses become a leading cause of functional and physical decline. As the disease progresses, the individual begins to experience loss in

performing personal care tasks and cognitive-dependent home management tasks. These activities are referred to as activities of daily living (ADL) and instrumental activities of daily living (IADL), respectively. Persons with dementia who need physical and behavioral intervention may include persons ranging from ambulatory individuals who are able to do some ADL tasks to individuals who need total care. Estimates of how many persons need both ADL and IADL services range from nine percent of persons who are 65 to 69 years old to 45 percent or above for those 85 and older. The progression of dementia is not caused by a person's age, but by the loss of functions increasing to total disability. The most acute cases are found among persons who are over the age of 80.

Informal networks of families and other caregivers provide the bulk of the care and services for individuals with dementia. These individuals live in a home-like environment for long periods of time regardless of their severe memory impairment and behavioral dysfunctions. Often the caregivers, who endure their loved one's cognitive loss and assume heavy burdens of care over a prolonged period of time, become the less visible victims of dementia. Individuals with dementia may require constant vigilance by their caregivers because of their unpredictable behavior. As time progresses, the caregivers may begin to experience stress-related illnesses and may become more susceptible to problems of advancing age.

As the individual's illness worsens, the caregiver may require help from formal health services or a facility that offers long term residential services. Alternative services provide a continuum ranging from independent living without outside support to assisted living in the home supported by a community day service. Finally, care-givers may seek help from a residential care facility, a nursing facility, or in rare cases, a psychiatric hospital, if there is a history/evidence of a co-occurring mental illness.

Events which precipitate an individual's move from a home environment to a nursing facility are usually related to circumstances, specific events, or symptoms that cause care-giving in the home setting to be too burdensome, stressful, or unsafe. This decision is usually entailed by sickness and/or death of a spouse or care-giver. The challenge for family and care-givers is to determine when home care becomes inappropriate and institutional care becomes a necessity, not a choice.

The 1999 Legislature temporarily lifted the long-term care moratorium to allow the approval of Certificates of Need for a total of 60 nursing facility beds for individuals with Alzheimer's Disease (20-bed units in the northern, central, and southern portions of each of the Long-Term Care Planning Districts), for a total of 240 additional beds. The MDMH has established the Division of Alzheimer's Disease and Other Dementia, with the responsibility of developing and implementing state plans to assist with the care and treatment of persons with Alzheimer's disease and other dementia, including the development of community-based day programs and training needed by caregivers. Two adult day programs for individuals with Alzheimer's Disease/Other Dementia are currently funded and serving as pilot projects. Central Mississippi Residential Center operates Footprint Adult Day Services in Newton and Region 6 Community Mental Health Center (Life Help) operates Garden Park Adult Day Program in Greenwood. Each program serves approximately 20 persons at a time and presently operates at capacity. The Division of Alzheimer's Disease and Other Dementia, in addition to its main DMH office in Jackson, has satellites in Cleveland, Magee, and Long Beach. A training curriculum for education of caregivers (service providers and family members) has been updated and expanded and was made adaptable to different target audiences. Training has steadily increased since program inception. A special curriculum for providers in long-term care facilities has also been developed and is adaptable for target audiences.

Certificate of Need
Criteria and Standards
for
Nursing Home Beds

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health

106 Policy Statement Regarding Certificate of Need Applications for the Offering of Nursing Home Care Services

1. Legislation

   a. The 1990 Mississippi Legislature imposed a permanent moratorium which prohibits the MDH from granting approval for or issuing a Certificate of Need to any person proposing the new construction of, addition to, expansion of, or conversion of vacant hospital beds to provide skilled or intermediate nursing home care, except as specifically authorized by statute.

   b. Effective July 1, 1990, any health care facility defined as a psychiatric hospital, skilled nursing facility, intermediate care facility, intermediate care facility for the mentally retarded, or psychiatric residential treatment facility that is owned by the State of Mississippi and under the direction and control of the State Department of Mental Health is exempted from the requirement of the issuance of a Certificate of Need under Section 41-7-171 et seq., for projects which involve new construction, renovation, expansion, addition of new beds, or conversion of beds from one category to another in any such defined health care facility.

   c. The 1999 Mississippi Legislature temporarily lifted the 1990 moratorium to allow a 60-bed nursing facility to be added to each of 26 counties with the greatest need between the years 2000 and 2003. The Legislature also permitted CONs for 60 nursing facility beds for individuals with Alzheimer's Disease in the northern, central, and southern parts of each of the Long-Term Care Planning Districts, for a total of 240 additional beds.

   d. Effective April 12, 2002, no health care facility shall be authorized to add any beds or convert any beds to another category of beds without a Certificate of Need.

   e. Effective March 4, 2003, if a health care facility has voluntarily delicensed some of its existing bed complement, it may later relicense some or all of its delicensed beds without the necessity of having to acquire a Certificate of Need. The Department of Health shall maintain a record of the delicensing health care facility and its voluntarily delicensed beds and continue counting those beds as part of the state's total bed count for health care planning purposes.

2. Long-Term Care Planning Districts (LTCPD): The MDH shall determine the need for additional nursing home care beds based on the LTCPDs as outlined on Map VIII-1. The MDH shall calculate the statistical need for beds in each LTCPD independently of all other LTCPDs.

3. Bed Need: The need for nursing home care beds is established at:

   0.5 beds per 1,000 population aged 64 and under
   14 beds per 1,000 population aged 65-74
   59 beds per 1,000 population aged 75-84
   179 beds per 1,000 population aged 85 and older

4. Population Projections: The MDH shall use population projections as presented in Table VIII-4 when calculating bed need. These population projections are the most recent projections prepared by the Center for Policy Research and Planning of the Institutions of Higher Learning (March 2005).

5. Bed Inventory: The MDH shall review the need for additional nursing home beds using the most recent information available regarding the inventory of such beds.

6. Size of Facility: The MDH shall not approve construction of a new or replacement nursing home care facility for less than 60 beds. However, the number of beds authorized to be licensed in a new or replacement facility may be less than 60 beds.

7. Definition of CCRC: The Glossary of this *Plan* presents the MDH's definition of a "continuing care retirement community" for the purposes of planning and CON decisions.

8. Medicare Participation: The MDH strongly encourages all nursing homes participating in the Medicaid program to also become certified for participation in the Medicare program.

9. Alzheimer's/Dementia Care Unit: The MDH encourages all nursing home owners to consider the establishment of an Alzheimer's/Dementia Care Unit as an integral part of their nursing care program.

107 Certificate of Need Criteria and Standards for Nursing Home Care Beds

If the legislative moratorium were removed or partially lifted, the MDH would review applications for the offering of nursing home care under the statutory requirements of Sections 41-7-173 (h) subparagraphs (iv) and (vi), 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the applicable policy statements contained in this *Plan*; the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the MDH; and the specific criteria and standards listed below.

Certificate of Need review is required for the offering of nursing home care services, as defined, if the capital expenditure exceeds $2,000,000; if the licensed bed capacity is increased through the conversion or addition of beds; or if nursing home care services have not been provided on a regular basis by the proposed provider of such services within the period of twelve (12) months prior to the time such services would be offered. Certificate of Need review is required for the construction, development, or otherwise establishment of new nursing home care beds regardless of capital expenditure.

1. Need Criterion: The applicant shall document a need for nursing home care beds using the need methodology as presented herein: The Long-Term Care Planning District wherein the proposed facility will be located must show a need using the following ratio:

0.5 beds per 1,000 population aged 64 and under
14 beds per 1,000 population aged 65-74
59 beds per 1,000 population aged 75-84
179 beds per 1,000 population aged 85 and older

2. The applicant shall document the number of beds that will be constructed, converted, and/or licensed as offering nursing home care services.

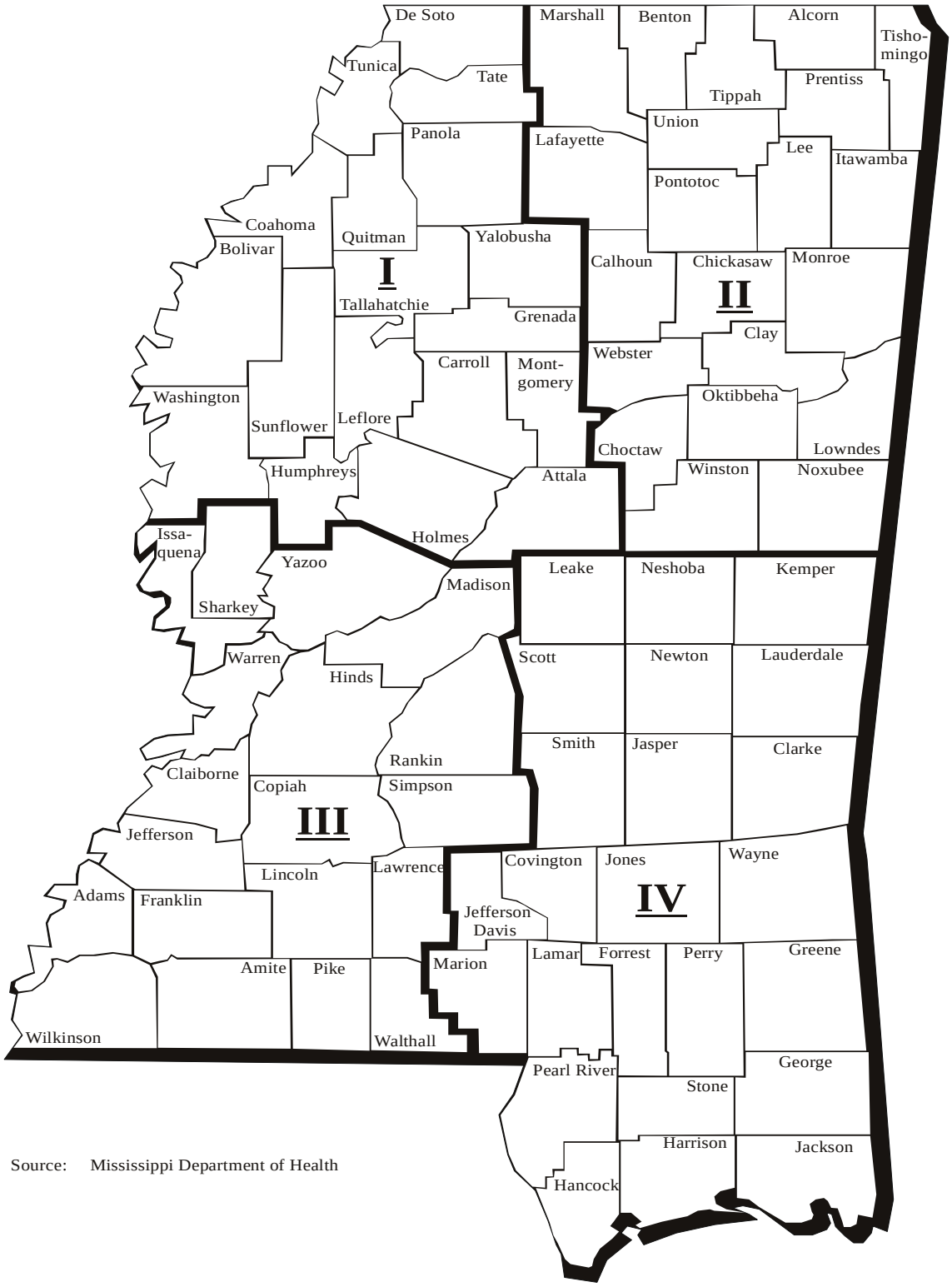
3. The MDH should consider the area of statistical need as one criterion when awarding Certificates of Need in the case of competing applications.

4. Any applicant applying for nursing home beds who proposes to establish an Alzheimer's/Dementia Care Unit shall affirm that the applicant shall fully comply with all licensure regulations of the MDH for said Alzheimer's/Dementia Care Unit.

108 Certificate of Need Criteria and Standards for Nursing Home Beds As Part of a Continuing Care Retirement Community (CCRC)

Entities desiring to establish nursing home beds as part of a CCRC shall meet all applicable requirements, as determined by the MDH, of the policy statements and general CON criteria and standards in the *Mississippi Certificate of Need Review Manual*; the CON criteria and standards for nursing home beds established in this *State Health Plan*.

Map VIII - 1
Long-Term Care Planning Districts



Source: Mississippi Department of Health

Table VIII-4

2007 Projected Nursing Home Bed Need[1]

State of Mississippi												
Long-Term Care Planning District	**Population 0 - 64**	**Bed Need (0.5/1,000)**	**Population 65 - 74**	**Bed Need (14/1,000)**	**Population 75 - 84**	**Bed Need (59/1,000)**	**Population 85+**	**Bed Need (179/1,000)**	**Total Bed Need**	**# Beds in Abeyance**	**Licensed/CON-Approved Beds**	**Difference**
District I	475,794	238	37,367	523	26,708	1,576	12,510	2,239	4,576	122	3,201 / 190	1,063
District II	499,251	250	44,952	629	33,888	1,999	15,890	2,844	5,723	0	3,846 / 60	1,817
District III	690,052	345	54,539	764	40,274	2,376	18,881	3,380	6,864	15	4,661	2,188
District IV	868,516	434	76,450	1,070	55,415	3,269	25,064	4,486	9,260	189	5,339 / 413	3,319
State Total	**2,533,613**	**1,267**	**213,308**	**2,986**	**156,285**	**9,221**	**72,345**	**12,950**	**26,424**	**326**	**17,047 / 663**	**8,388**

[1] Data may not equal totals due to rounding

Note: Licensed beds do not include 705 beds operated by the Department of Mental Health, 120 beds operated by the Mississippi Band of Choctaw Indians, 600 beds operated by the Mississippi Veteran's Affairs Board, or 60 beds operated by the Mississippi Methodist Rehabilitation Center for the treatment of patients with special disabilities, including persons with spinal cord and closed-head injuries and ventilator-dependent patients.

Sources: Mississippi Department of Health, Division of Licensure and Certification; and Division of Health Planning and Resource Development Calculations, May 2006

Population Projections: *Mississippi Population Projections 2010, 2015, and 2020.* Center for Policy Research and Planning, Mississippi Institutions of Higher Learning, August 2005

Table VIII-4 (continued)

2007 Projected Nursing Home Bed Need

Table VIII-4 (continued)
2007 Projected Nursing Home Bed Need

District II												
County	**Population 0 - 64**	**Bed Need (0.5/1,000)**	**Population 65 - 74**	**Bed Need (14/1,000)**	**Population 75 - 84**	**Bed Need (59/1,000)**	**Population 85+**	**Bed Need (179/1,000)**	**Total Bed Need**	**# Beds in Abeyance**	**Licensed/CON - Approved Beds**	**Difference**
Alcorn	28,263	14.13	3,241	45.37	2,370	139.83	1,109	198.51	398	0	264	134
Benton	6,104	3.05	653	9.14	542	31.98	246	44.03	88	0	60	28
Calhoun	10,976	5.49	1,234	17.28	1,093	64.49	540	96.66	184	0	155	29
Chickasaw	14,767	7.38	1,440	20.16	1,132	66.79	524	93.80	188	0	139	49
Choctaw	8,020	4.01	824	11.54	655	38.65	311	55.67	110	0	73	37
Clay	17,957	8.98	1,469	20.57	1,245	73.46	595	106.51	210	0	180	30
Itawamba	19,678	9.84	2,150	30.10	1,523	89.86	708	126.73	257	0	196	61
Lafayette	37,712	18.86	2,455	34.37	1,871	110.39	854	152.87	316	0	180	136
Lee	65,953	32.98	5,782	80.95	3,972	234.35	1,870	334.73	683	0	487	196
Lowndes	50,618	25.31	4,078	57.09	3,057	180.36	1,410	252.39	515	0	380	135
Marshall	31,792	15.90	2,755	38.57	1,814	107.03	768	137.47	299	0	180	119
Monroe	31,043	15.52	3,164	44.30	2,388	140.89	1,157	207.10	408	0	332	76
Noxubee	9,795	4.90	792	11.09	648	38.23	301	53.88	108	0	60	48
Oktibbeha	40,040	20.02	2,408	33.71	1,701	100.36	773	138.37	292	0	179	113
Pontotoc	24,883	12.44	2,067	28.94	1,619	95.52	776	138.90	276	0	164	112
Prentiss	22,421	11.21	2,226	31.16	1,640	96.76	782	139.98	279	0	144	135
Tippah	17,657	8.83	1,804	25.26	1,380	81.42	661	118.32	234	0	240	-6
Tishomingo	14,840	7.42	1,906	26.68	1,484	87.56	704	126.02	248	15	178	55
Union	22,578	11.29	2,095	29.33	1,661	98.00	796	142.48	281	0	180	101
Webster	7,909	3.95	838	11.73	735	43.37	351	62.83	122	0	155	-33
Winston	16,245	8.12	1,571	21.99	1,358	80.12	654	117.07	227	0	180	47
District Total	**499,251**	**249.63**	**44,952**	**629.33**	**33,888**	**1,999.39**	**15,890**	**2,844.31**	**5,723**	**15**	**4,106**	**1,602**

Table VIII-4 (continued)

2007 Projected Nursing Home Bed Need

District III

County	Population 0 - 64	Bed Need (0.5/1,000)	Population 65 - 74	Bed Need (14/1,000)	Population 75 - 84	Bed Need (59/1,000)	Population 85+	Bed Need (179/1,000)	Total Bed Need	# Beds in Abeyance	Licensed/CON Approved Beds	Difference
Adams	24,387	12.19	2,722	38.11	2,300	135.70	1,088	194.75	381	15	259	107
Amite	10,711	5.36	1,251	17.51	920	54.28	421	75.36	153	0	80	73
Claiborne	10,816	5.41	665	9.31	526	31.03	256	45.82	92	0	77	15
Copiah	25,962	12.98	2,092	29.29	1,647	97.17	765	136.94	276	0	180	96
Franklin	6,928	3.46	679	9.51	581	34.28	272	48.69	96	0	60	36
Hinds	206,884	103.44	14,996	209.94	11,382	671.54	5,609	1,004.01	1,989	2	1,425	562
Issaquena	2,115	1.06	184	2.58	119	7.02	45	8.06	19	0	0	19
Jefferson	8,027	4.01	596	8.34	463	27.32	213	38.13	78	0	60	18
Lawrence	11,621	5.81	1,121	15.69	829	48.91	365	65.34	136	0	60	76
Lincoln	29,112	14.56	2,616	36.62	2,150	126.85	1,026	183.65	362	0	320	42
Madison	79,717	39.86	4,832	67.65	3,471	204.79	1,664	297.86	610	0	395	215
Pike	34,056	17.03	2,922	40.91	2,460	145.14	1,181	211.40	414	0	285	129
Rankin	124,530	62.27	9,869	138.17	5,837	344.38	2,393	428.35	973	0	350	623
Sharkey	4,986	2.49	387	5.42	301	17.76	154	27.57	53	0	54	-1
Simpson	24,215	12.11	2,192	30.69	1,668	98.41	759	135.86	277	0	180	97
Walthall	12,317	6.16	1,258	17.61	927	54.69	442	79.12	158	0	137	21
Warren	40,133	20.07	3,573	50.02	2,532	149.39	1,190	213.01	432	0	411	21
Wilkinson	8,619	4.31	725	10.15	610	35.99	299	53.52	104	0	105	-1
Yazoo	24,916	12.46	1,859	26.03	1,551	91.51	739	132.28	262	0	221	41
District Total	**690,052**	**345.03**	**54,539**	**763.55**	**40,274**	**2,376.17**	**18,881**	**3,379.70**	**6,864**	**17**	**4,659**	**2,188**

Table VIII-4 (continued)

2007 Projected Nursing Home Bed Need

District IV												
County	**Population 0 - 64**	**Bed Need (0.5/1,000)**	**Population 65 - 74**	**Bed Need (14/1,000)**	**Population 75 - 84**	**Bed Need (59/1,000)**	**Population 85+**	**Bed Need (179/1,000)**	**Total Bed Need[1]**	**# Beds in Abeyance**	**Licensed/CON-Approved Beds**	**Difference**
Clarke	13,892	6.95	1,455	20.37	1,180	69.62	562	100.60	198	0	135	63
Covington	17,250	8.63	1,609	22.53	1,173	69.21	534	95.59	196	0	60 / 60	76
Forrest	68,607	34.30	4,675	65.45	3,768	222.31	1,819	325.60	648	60	436	152
George	18,445	9.22	1,682	23.55	1,002	59.12	443	79.30	171	0	60 / 60	51
Greene	13,642	6.82	1,003	14.04	636	37.52	292	52.27	111	0	120	-9
Hancock	40,615	20.31	4,626	64.76	3,003	177.18	1,304	233.42	496	99	99	298
Harrison	169,196	84.60	13,812	193.37	9,836	580.32	4,259	762.36	1,621	180	676 / 60	705
Jackson	120,720	60.36	10,805	151.27	6,568	387.51	2,739	490.28	1,089	0	528	561
Jasper	15,576	7.79	1,429	20.01	1,124	66.32	530	94.87	189	0	110	79
Jefferson Davis	11,157	5.58	1,120	15.68	842	49.68	410	73.39	144	0	60	84
Jones	55,684	27.84	5,170	72.38	4,219	248.92	1,951	349.23	698	0	438	260
Kemper	9,192	4.60	820	11.48	685	40.42	336	60.14	117	21	60	36
Lamar	41,083	20.54	2,995	41.93	1,961	115.70	852	152.51	331	0	150 / 43	138
Lauderdale	64,102	32.05	5,682	79.55	4,840	285.56	2,431	435.15	832	0	572	260
Leake	18,272	9.14	1,639	22.95	1,382	81.54	649	116.17	230	0	143	87
Marion	21,271	10.64	1,845	25.83	1,637	96.58	761	136.22	269	0	297	-28
Neshoba	25,437	12.72	2,235	31.29	1,851	109.21	906	162.17	315	0	208	107
Newton	18,404	9.20	1,723	24.12	1,451	85.61	708	126.73	246	0	120 / 60	66
Pearl River	46,173	23.09	4,716	66.02	3,117	183.90	1,296	231.98	505	0	246 / 120	139
Perry	11,105	5.55	1,027	14.38	656	38.70	272	48.69	107	0	60	47
Scott	24,516	12.26	2,114	29.60	1,569	92.57	737	131.92	266	0	140	126
Smith	12,632	6.32	1,388	19.43	1,030	60.77	453	81.09	168	0	121	47
Stone	13,333	6.67	1,206	16.88	747	44.07	319	57.10	125	0	169	-44
Wayne	18,212	9.11	1,674	23.44	1,138	67.14	501	89.68	189	0	90	99
District Total	**868,516**	**434.26**	**76,450**	**1,070.30**	**55,415**	**3,269.49**	**25,064**	**4,486.46**	**9,260**	**360**	**5,098 / 403**	**3,279**

Policy Statement Regarding Certificate of Need Applications for the Offering of Nursing Home Care Services for Mentally Retarded and Other Developmentally Disabled Individuals

1. Legislation

   a. The 1990 Mississippi Legislature imposed a permanent moratorium which prohibits the MDH from granting approval for or issuing a CON to any person proposing the new construction, addition to, or expansion of an intermediate care facility for the mentally retarded (ICF/MR).

   b. Effective July 1, 1990, any health care facility defined as a psychiatric hospital, skilled nursing facility, intermediate care facility, intermediate care facility for the mentally retarded, or psychiatric residential treatment facility which is owned by the State of Mississippi and under the direction and control of the State Department of Mental Health is exempted from the requirement of the issuance of a Certificate of Need under Section 41-7-171 et seq., for projects which involve new construction, renovation, expansion, addition of new beds, or conversion of beds from one category to another in any such defined health care facility.

   c. Effective April 12, 2001, no health care facility shall be authorized to add any beds or convert any beds to another category of beds without a Certificate of Need.

   d. Effective March 4, 2003, if a health care facility has voluntarily delicensed some of its existing bed complement, it may later relicense some or all of its delicensed beds without the necessity of having to acquire a Certificate of Need. The Department of Health shall maintain a record of the delicensing health care facility and its voluntarily delicensed beds and continue counting those beds as part of the state's total bed count for health care planning purposes.

2. MR/DD Long-Term Care Planning Districts (MR/DD LTCPD): The need for additional MR/DD nursing home care beds shall be based on the MR/DD LTCPDs as outlined in Map VIII-2.

3. Bed Need: The need for MR/DD nursing home care beds is established at one bed per 1,000 population less than 65 years of age.

4. Population Projections: The MDH shall use population projections as presented in Table VIII-5 when calculating bed need.

5. Bed Limit: No MR/DD LTCPD shall be approved for more than its proportioned share of needed MR/DD nursing home care beds. No application shall be approved which would over-bed the state as a whole.

6. Bed Inventory: The MDH shall review the need for additional MR/DD nursing home care beds utilizing the most recent information available regarding the inventory of such beds.

109 Certificate of Need Criteria and Standards for Nursing Home Beds for Mentally Retarded and Other Developmentally Disabled Individuals

If the legislative moratorium were removed or partially lifted, the Mississippi Department of Health would review applications for MR/DD nursing home care beds under the statutory requirements of Sections 41-7-173 (h) subparagraph (viii), 41-7-191, and 41-7-193, Mississippi Code 1972, as amended. The MDH will also review applications for Certificate of Need according to the applicable policy statements contained in this *Plan*; the general criteria as listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

Certificate of Need review is required for the offering of MR/DD nursing home care services, as defined, if the capital expenditure exceeds $2,000,000; if the licensed bed capacity is increased through the conversion or addition of beds; or if MR/DD nursing home care services have not been provided on a regular basis by the proposed provider of such services within the period of twelve (12) months prior to the time such services would be offered. Certificate of Need review is required for the construction, development, or otherwise establishment of new MR/DD nursing home care beds regardless of capital expenditure.

1. **Need Criterion: The applicant shall document a need for MR/DD nursing home care beds using the need methodology as presented below. The applicant shall document in the application the following:**

    a. **using the ratio of one bed per 1,000 population under 65 years of age, the state as a whole must show a need; and**

    b. **the MR/DD Long-Term Care Planning District (LTCPD) where the proposed facility/beds/services are to be located must show a need.**

2. The applicant shall document the number of beds that will be constructed/converted and/or licensed as offering MR/DD nursing home care services.

3. The MDH shall give priority consideration to those CON applications proposing the offering of MR/DD nursing home care services in facilities which are 15 beds or less in size.

110 Policy Statement Regarding Certificate of Need Applications for a Pediatric Skilled Nursing Facility

Legislation

1. The 1993 Mississippi Legislature authorized the Department of Health to issue a Certificate of Need for the construction of a pediatric skilled nursing facility not to exceed 60 new beds.

2. A pediatric skilled nursing facility is defined as an institution or a distinct part of an institution that is primarily engaged in providing to inpatients skilled nursing care and related services for persons under 21 years of age who require medical, nursing care, or rehabilitation services for the rehabilitation of injured, disabled, or sick persons.

3. The MDH will review applications for the construction of pediatric skilled nursing facility beds using the general CON review criteria and standards contained in the *Mississippi Certificate of Need Review Manual*, criteria and standards for nursing homes and MR/DD facilities contained in the *State Health Plan*, and all adopted rules, procedures, and plans of the Mississippi State Department of Health.

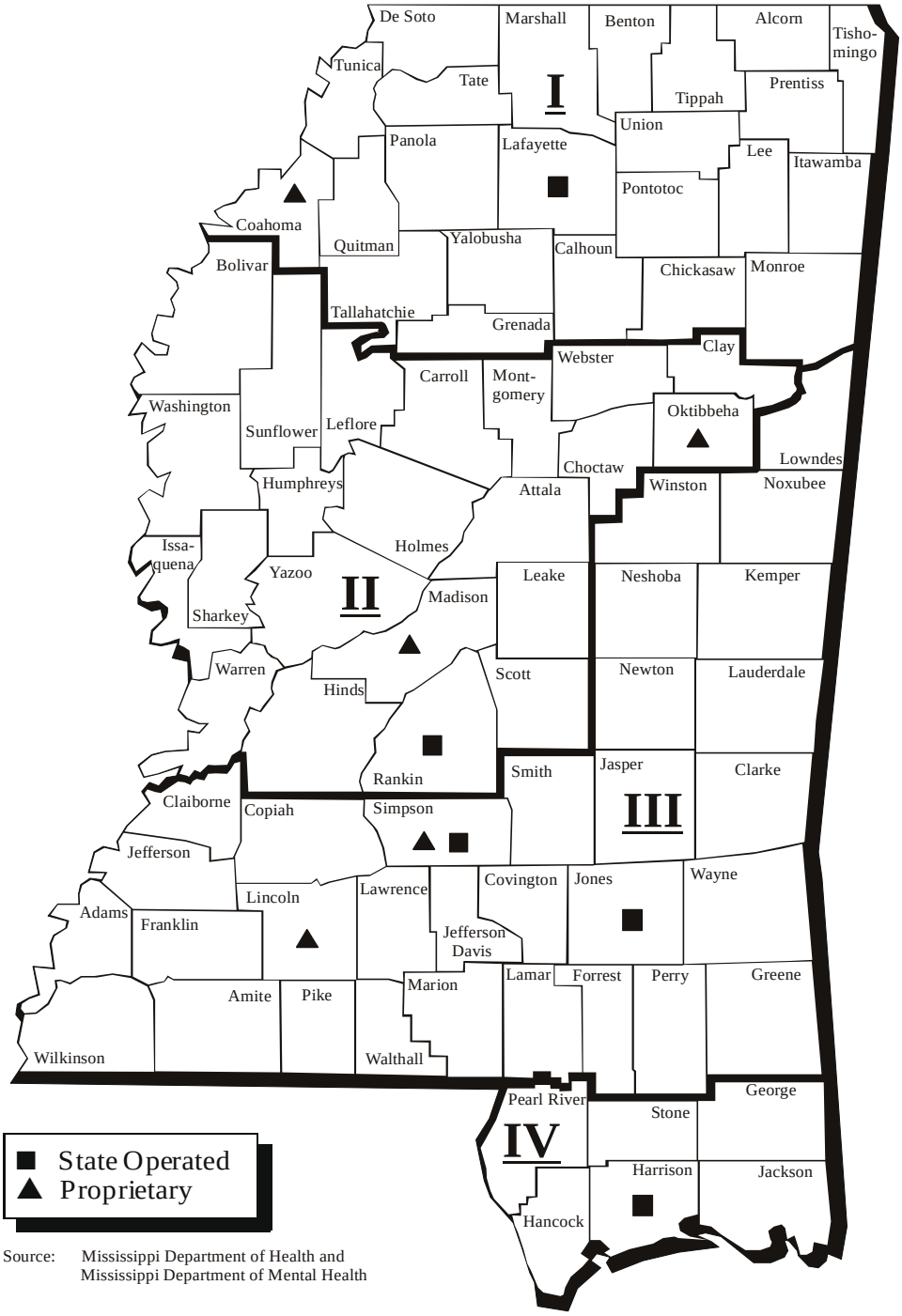
4. Effective April 12, 2002, no health care facility shall be authorized to add any beds or convert any beds to another category of beds without a Certificate of Need under the authority of Section 41-7-191(1)(c).

5. Effective March 4, 2003, if a health care facility has voluntarily delicensed some of its existing bed complement, it may later relicense some or all of its delicensed beds without the necessity of having to acquire a Certificate of Need. The Department of Health shall maintain a record of the delicensing health care facility and its voluntarily delicensed beds and continue counting those beds as part of the state's total bed count for health care planning purposes.

Map VIII - 2

Mentally Retarded/Developmentally Disabled Long-Term Care Planning Districts and Location of Existing Facilities

(ICF/MR - Licensed)



Source: Mississippi Department of Health and
Mississippi Department of Mental Health

Table VIII-5
2007 Projected MR/DD Nursing Home Bed Need
(1 Bed per 1,000 Population <65)

	2010 Projected Pop. <65	2006 Licensed Beds	Projected MR/DD Bed Need	Difference
Mississippi	**2,533,613**	**2,724**	**2,534**	**-190**
District I	**619,374**	**602**	**619**	**17**
Alcorn	28,263		28	28
Benton	6,104		6	6
Calhoun	10,976		11	11
Chickasaw	14,767		15	15
Coahoma	24,773	132	25	-107
DeSoto	131,632		132	132
Grenada	19,177		19	19
Itawamba	19,678		20	20
Lafayette	37,712	470	38	-432
Lee	65,953		66	66
Marshall	31,792		32	32
Monroe	31,043		31	31
Panola	31,246		31	31
Pontotoc	24,883		25	25
Prentiss	22,421		22	22
Quitman	8,828		9	9
Tallahatchie	11,685		12	12
Tate	23,888		24	24
Tippah	17,657		18	18
Tishomingo	14,840		15	15
Tunica	9,015		9	9
Union	22,578		23	23
Yalobusha	10,463		10	10

Table VIII-5 (continued)
2007 Projected MR/DD Nursing Home Bed Need
(1 Bed per 1,000 Population <65)

	2010 Projected Pop. <65	2005 Licensed Beds	Projected MR/DD Bed Need	Difference
District II	**855,700**	**687**	**856**	**169**
Attala	15,757		16	16
Bolivar	33,131		33	33
Carroll	8,707		9	9
Choctaw	8,020		8	8
Clay	17,957		18	18
Hinds	206,884		207	207
Holmes	17,918		18	18
Humphreys	9,988		10	10
Issaquena	2,115		2	2
Leake	18,272		18	18
Leflore	30,809		31	31
Lowndes	50,618		51	51
Madison	79,717	132	80	-52
Montgomery	9,271		9	9
Oktibbeha	40,040	140	40	-100
Rankin	124,530	415	125	-290
Scott	24,516		25	25
Sharkey	4,986		5	5
Sunflower	29,947		30	30
Warren	40,133		40	40
Washington	49,559		50	50
Webster	7,909		8	8
Yazoo	24,916		25	25

Table VIII-5 (continued)
2007 Projected MR/DD Nursing Home Bed Need
(1 Bed per 1,000 Population <65)

	2010 Projected Pop. <65	2004 Licensed Beds	Projected MR/DD Bed Need	Difference
District III	**650,057**	**1,175**	**650**	**-525**
Adams	24,387		24	24
Amite	10,711		11	11
Claiborne	10,816		11	11
Clarke	13,892		14	14
Copiah	25,962		26	26
Covington	17,250		17	17
Forrest	68,607		69	69
Franklin	6,928		7	7
Greene	13,642		14	14
Jasper	15,576		16	16
Jefferson	8,027		8	8
Jefferson Davis	11,157		11	11
Jones	55,684	712	56	-656
Kemper	9,192		9	9
Lamar	41,083		41	41
Lauderdale	64,102		64	64
Lawrence	11,621		12	12
Lincoln	29,112	140	29	-111
Marion	21,271		21	21
Neshoba	25,437		25	25
Newton	18,404		18	18
Noxubee	9,795		10	10
Perry	11,105		11	11
Pike	34,056		34	34
Simpson	24,215	323	24	-299
Smith	12,632		13	13
Walthall	12,317		12	12
Wayne	18,212		18	18
Wilkinson	8,619		9	9
Winston	16,245		16	16

Table VIII-5 (continued)
2007 Projected MR/DD Nursing Home Bed Need
(1 Bed per 1,000 Population <65)

	2010 Projected Pop. <65	2005 Licensed Beds	Projected MR/DD Bed Need	Difference
District IV	**408,482**	**260**	**408**	**148**
George	18,445		18	18
Hancock	40,615		41	41
Harrison	169,196	260	169	-91
Jackson	120,720		121	121
Pearl River	46,173		46	46
Stone	13,333		13	13

Chapter 09 Mental Health

This chapter addresses mental illness, alcoholism, drug abuse, and developmental disabilities. These conditions result in social problems of such magnitude that mental health ranks as one of the state's priority health issues. The Mississippi Department of Mental Health, regional community Mental Health-Mental Retardation Centers, and licensed private sector facilities provide most of the state's mental health services. Unless otherwise specified, information in this chapter is limited to the programs and services of these entities.

Some providers in the private sector are not licensed under state authority. These entities are not required nor do they voluntarily submit information to any state agency regarding the amount and type of services they render. The lack of data from these facilities makes it difficult to determine the overall impact that the private sector has in delivering mental health services.

100 Mississippi Department of Mental Health

State law designates the Mississippi Department of Mental Health (MDMH) as the agency to coordinate and administer the delivery of public mental health services, alcohol/drug abuse services, and mental retardation services throughout the state, as well as community-based day programs for individuals with Alzheimer's disease and other dementia. Responsibilities of MDMH include: (a) state-level planning and expansion of all types of mental health, mental retardation, and substance abuse services, (b) standard-setting and support for community mental health/mental retardation and alcohol/drug abuse programs, (c) state liaison with mental health training and educational institutions, (d) operation of the state's psychiatric facilities, and (e) operation of the state's facilities for individuals with mental retardation. MDMH consists of three bureaus: Administration, Mental Health, and Mental Retardation. Responsibility for the operation and oversight of specific programs falls to the various divisions within each bureau.

Bureau of Administration

The Bureau of Administration consists of the Divisions of Accounting, Auditing, Planning and Public Information, Professional Development, Information Systems, Human Resources, and Professional Licensure and Certification. These divisions work collectively with bureaus that provide direct service.

Bureau of Mental Health

The Bureau of Mental Health provides a variety of services through several divisions:

a. Responsibility for the development and maintenance of community-based mental health services for adults, addressing a priority population of adults with serious mental illness, belongs to the Division of Community Services. The 15 regional mental health centers and the community service divisions of the state psychiatric hospitals provide an array of treatment and support services. The division focuses its major effort toward providing a network of community-based services offering the support needed by individuals, which may vary across time. Additionally, the Bureau works in conjunction with the Bureau of Mental Retardation to coordinate the emergency/crisis response of the MDMH with the Mississippi Emergency Management Agency (MEMA).

b. The Division of Alcohol and Drug Abuse Services establishes, maintains, monitors, and evaluates a statewide system of alcohol and drug abuse services, including prevention, treatment, and rehabilitation. The division designed a system of services to reflect its philosophy that alcohol and drug abuse are preventable and treatable illnesses. This system provides a continuum of community-based, accessible services including prevention, outpatient, detoxification, community-based primary and transitional treatment, inpatient, and aftercare services. The division provides technical assistance to state agencies and other interested organizations in implementing Employee Assistance Programs. All services are provided through a grant/contract with state agencies, local public agencies, and nonprofit organizations.

c. The Division of Children and Youth Services determines the mental health service needs of children and youth in Mississippi and develops programs to meet those needs. Division staff provide technical assistance and leadership in the implementation of MDMH-certified mental health services and programs for children and youth. The division develops and supervises evaluation procedures to ensure the quality of these programs and oversees the enforcement of certain governmental regulations, including MDMH guidelines and standards for services. The 15 regional community mental health centers and a number of other nonprofit agencies and organizations funded and/or certified by MDMH provide community mental health services for children.

d. The Division of Accreditation and Licensure for Mental Health coordinates and develops certification standards, certification site reviews, and compliance requirements for community mental health and alcohol/drug abuse services operated and/or funded through the MDMH. This division coordinates peer review/quality assurance teams, which may review community programs operated and/or funded by MDMH.

e. The Division of Alzheimer's Disease and Other Dementia develops and implements state plans to assist in the care and treatment of persons with Alzheimer's disease and other dementia, including education and training of caregivers (family and service providers), and development of community-based day programs.

f. The Office of Constituency Services documents, investigates, and resolves all complaints/grievances received from consumers, family members, and the general public regarding state and community mental health/mental retardation facilities. The office also operates and maintains a computerized database and a toll-free helpline to provide information regarding services for persons with mental illness, mental retardation, and substance abuse.

g. The state's two larger psychiatric hospitals - East Mississippi State Hospital (EMSH) at Meridian and Mississippi State Hospital (MSH) at Whitfield - both provide inpatient services, including acute and intermediate psychiatric care, alcohol and drug treatment for adults, acute psychiatric care for adolescents, and skilled nursing care. EMSH provides inpatient acute psychiatric alcohol and drug treatment for adolescent males, and MSH provides acute psychiatric care for children, medical/surgical hospital services, and forensic services. Two 50-bed hospitals, the North Mississippi State Hospital (NMSH) in Tupelo and the South Mississippi State Hospital (SMSH) in Purvis, provide acute psychiatric services for adults for designated service areas. The NMSH serves men and women from 18 counties, and SMSH serves adults from a nine-county area. Both the MSH and EMSH also provide transitional, community-based care for adults with serious mental illness. These services include community-based housing options (such as group homes or supervised apartments), halfway house services, case management, psycho-social rehabilitation services, and specialized services for individuals with mental illness who are homeless. These

services are generally provided in close proximity to the hospitals and/or in areas where a regional mental health/mental retardation center elects not to provide that particular community service.
Mississippi State Hospital, North Mississippi State Hospital, South Mississippi State Hospital, and Central Mississippi Residential Center also operate state crisis intervention centers.

h. The first phase of renovation of the Central Mississippi Residential Center (CMRC) in Newton (formerly the Clarke College property) is complete, and four 12-bed personal care homes located on the campus were opened in the fall of 2003. The CMRC will provide a specialized residential treatment program for adults with long-term mental illness discharged/transferred from the state hospitals. CMRC continues to operate a day- program for persons with Alzheimer's disease/other dementia and a crisis intervention center.

i. The Specialized Treatment Facility for Emotionally Disturbed Youth in Gulfport opened in September 2004 and operated at partial capacity in 2005. In 2006, funds were authorized to increase the operational capacity of this center. This 48-bed facility is designed to serve youth who have come before youth court and have also been diagnosed with a mental disorder. Adolescents appropriate for admission are 13 years, but less than 21 years of age, who present an Axis I diagnosis of a severe emotional disturbance and need psychiatric residential care.

Bureau of Mental Retardation

The Bureau of Mental Retardation supervises three divisions and five comprehensive regional facilities for persons with developmental disabilities/mental retardation.

a. The Division of Community Mental Retardation Services develops community mental retardation programs established with state or federal funds other than Developmental Disability Funds. The division works with the regional community mental health/mental retardation centers, state facilities, and other service providers to develop community programs for persons with mental retardation. The division also develops the *State Plan for Related Services and Support to Individuals With Mental Retardation/Developmental Disabilities,* and supports the Bureau of Mental Retardation State Plan Advisory Council.

The Bureau also provides early intervention services for infants and toddlers with developmental disabilities or potential for developmental delay. The MDMH's Early Intervention Programs and the MDH's First Steps Early Intervention Program cooperate to jointly locate children and families in need of early intervention services and provide linkages to those services. Program sites across the state provide children and families with comprehensive multidisciplinary evaluations, speech/language therapy, occupational therapy, physical therapy, and educational interventions. Each of the five comprehensive regional centers provide community early intervention services.

b. The Bureau of Mental Retardation serves as the designated state agency for the Mississippi Council on Developmental Disabilities (CDD). The CDD funds are used to improve the lives of people with developmental disabilities and their families throughout the state. Service priorities selected by the Council for FY 2001-2006 include employment, community living, transportation, health, and leisure/recreation. Initiatives (service grants) are awarded to programs through an annual Request for Proposal process.

~~c.~~c. The Division of Home and Community-Based MR/DD Waiver (HCBS Waiver) provides services to persons with mental/retardation/developmental disabilities who would require the

level of care found at an intermediate care facility for the mentally retarded (ICF/MR) if these services were not available. Statewide program capacity has increased over time and will continue to expand pending federal approval and appropriation of the state General Fund match. The HCBS-MR/DD Waiver program is available on a statewide basis to eligible persons of all ages. More information about this program appears in the Mental Retardation/Developmental Disabilities section of this chapter.

d. The Division of Accreditation, Licensure, and Quality Assurance for Mental Retardation coordinates the development of certification standards, certification site visits, and compliance requirements for community programs. The division also works with the five regional centers for persons with developmental disabilities, the comprehensive community mental health/mental retardation centers, and other providers to ensure quality of care and compliance with accreditation standards.

e. Mississippi operates five comprehensive regional facilities for individuals with developmental disabilities: Boswell Regional Center, Sanatorium; Hudspeth Regional Center, Whitfield; Ellisville State School, Ellisville; North Mississippi Regional Center, Oxford; and South Mississippi Regional Center, Long Beach. These facilities provide institutional care as licensed intermediate care facilities for the mentally retarded (ICF/MR). Residential services include psychology, social services, medical and nursing services, recreation, special education, speech therapy, occupational therapy, physical therapy, audiology, and vocational or work training. These facilities also provide a primary vehicle for delivering community services throughout Mississippi. In the community setting, the comprehensive regional facilities provide alternative living arrangements, including group homes, supervised apartments, and specialized homes for elderly persons, and shadow-supervised living arrangements. They also provide diagnostic and evaluation services, employment services, early intervention services, case management services, and transitional training services.

f. The Juvenile Rehabilitation Facility is a 48-bed residential facility in Brookhaven, serving youth with mental retardation whose behavior makes it necessary for their treatment to be provided in a specialized treatment facility. Though most youth served are between 13 and 21 years old, persons under age 13 may be considered for services on an individual basis as space is available.

The various bureaus and divisions of the MDMH maintain close working relationships with the 15 regional community mental health centers, the Mississippi Department of Education, Mississippi Department of Rehabilitation Services, Mississippi Department of Human Services, Mississippi Department of Health, and other public and private organizations.

101 Regional Community Mental Health-Mental Retardation Centers

Regional community mental health-mental retardation centers provide a major component of the state's mental health services. Fifteen centers currently operate in the state's mental health service areas, and most centers have satellite offices in other counties. These centers provide a statewide network of services readily available to all Mississippians. Each center provides a number of services to adults and children. The specific services may vary among centers, but generally include the following:

- Outpatient services
- Psychosocial rehabilitative services
- Consultation and education services

- After-care services
- Pre-evaluation screening (prior to civil commitment examination)
- Case management services
- Inpatient referral
- Emergency services
- Access to family education services
- Access to consumer education services
- Mental health therapeutic residential services
- Alcohol abuse prevention/treatment services
- Drug abuse prevention/treatment services
- Mental retardation/developmental disabilities services
- Specialized children's mental health services — crisis intervention, sexual abuse intervention, intensive psychosocial/day treatment rehabilitation, and outpatient therapy.

The Mississippi Legislature established community mental health centers in 1966 with funding from federal staffing grants. To secure the required matching funds for these grants, the Legislature authorized local governments to appropriate up to two mills in tax revenues to be used as match. As federal staffing grants were phased out, the Mississippi State Legislature began to support the community mental health centers with state appropriations for essential mental health and mental retardation services. Since 1986, a significant increase in state appropriated funds for community mental health center services has occurred; however, the need exists for increased appropriations through the Legislature and local governments for centers to continue providing existing services and to expand services.

The Department of Mental Health is prohibited from funding services at any regional community mental health center that does not receive a specified minimum level of support from each county in the region. That minimum level of support is the greater of (1) the proceeds of a ¾ mill tax in 1982, or (2) the actual contribution made in 1984. All counties were in compliance with this provision for 2005; however, the total received from all counties is approximately six percent of total community mental health center receipts.

Each regional community mental health center is a separate legal entity that conforms to federal and state program standards relating to administration, services provided, and staffing. The 1997 Legislature clarified the MDMH's authority to set and enforce minimum standards for community mental health center services and to increase uniformity in the availability and quality of services across mental health center regions. The regional community mental health-mental retardation centers form the core of an integrated system which, if properly funded and utilized, would be capable of delivering needed mental health services to all citizens of Mississippi.

102 Social Services Block Grant

The Department of Human Services administers the Social Services Block Grant (SSBG) monies which come into the state. For the past several years, a portion of the SSBG has been directly allocated to and administered by the MDMH. The MDMH uses these funds for such programs as alcohol/drug residential treatment programs, mental health halfway house programs, residential treatment for chemically dependent adolescents, therapeutic foster care for children with emotional or mental disorders, work activity, child care for children with mental retardation/developmental disabilities, and case management. The MDMH contracts with regional community mental health centers and other public and private nonprofit providers for these programs.

103 Mental Health Problems in Mississippi

Mental Illness

The complexity of mental illness hinders professionals from determining an accurate diagnosis and classification of mental and emotional disorders. This complexity also causes problems in ascertaining the actual number of people who suffer from mental illness and associated problems. In addition, no reliable comprehensive database exists to document the prevalence of mental health problems across age groups.

The National Co-morbidity Survey estimates that 52 million people aged 15 to 54 had some type of alcohol, drug abuse, or mental health disorder within the past year. Of these, an estimated 40 million had some type of mental disorder. According to the United States Substance Abuse and Mental Health Services Administration (SAMHSA), an estimated eight million people, or 4.5 percent, had both a mental disorder and substance abuse/dependence with the past year. (SAMHSA, U.S. Department of Health and Human Services, 1995).

The prevalence of mental illness – although difficult to assess– serves as a good indicator of the volume of need for mental health services in a given population. The negative social stigma associated with the term "mental illness" also obstructs efforts to measure the true incidence/ prevalence of most types of mental illness and behavior disorders and the need for mental health services.

Using the methodology updated by the federal Center for Mental Health Services (CMHS) for estimated prevalence of serious mental illness among adults (*Federal Register*, June 24, 1999) and U.S. Bureau of the Census 2004 population estimates, the MDMH estimates the prevalence of serious mental illness among adults in Mississippi as 5.4 percent or 115,390 individuals. The same methodology estimates the national prevalence for the same age group also as 5.4 percent.

In Fiscal Year 2005, a total of 64,074 adults received services through the public community mental health system, including the regional community mental health centers, and the community service divisions of the state psychiatric hospitals. A total of 53,574 of these adults had a mental illness; of which 47,905 had a serious mental illness (includes adults with a dual diagnosis of mental illness and substance abuse).

Mental Health Needs of Children/Adolescents

Precise data concerning the size of the country's population of children and adolescents with emotional or mental disorders remain difficult to obtain. The methodology issued by the national Center of Mental Health Services (*Federal Register*, July 17,1998) estimates the prevalence of serious emotional disturbance nationally among children and adolescents (9-17 years of age) to be between 9-13 percent. The methodology adjusts for socio-economic differences across states. Given Mississippi's relatively high poverty rate when compared to other states, the estimated prevalence ranges for the state, updated for 2004, were on the highest end of the range, as follows:

(1) Mississippi's estimated prevalence of serious emotional disturbance in children and adolescents (ages 9 to 17) is between 11 and 13 percent, or 42,116 - 49,773 children.
(2) Mississippi's estimated prevalence of the more severely impaired group of children and adolescents (estimated at five to nine percent of the national population), aged 9-17 is between seven and nine percent, or 26,801 - 34,458 Mississippi children.
(3) The MSDMH estimates that the prevalence of serious emotional disturbance among Mississippi youth in the transition age group of 18 to 21 years of age is 12,250.

Note: *As pointed out in the methodology, there are limitations to these estimated prevalence ranges, including the "modest" size of the studies from which these estimates were derived; variation in the population, instruments, methodology, and diagnostic systems across the studies; inadequate data on which to base estimates of prevalence for children under nine; and inadequate data from which to determine potential differences related to race or ethnicity or whether or not the youth lived in urban or rural areas.*

In Fiscal Year 2005, the public community mental health system served 28,220 children and adolescents with serious emotional disturbance. Additionally, 434 youth were served by providers certified, but not funded by, the MDMH (for therapeutic foster care, therapeutic group homes, day-treatment, intensive in-home, or adolescent offender programs certified by MDMH).

Alcohol and Drug Abuse

The abuse of alcohol and other drugs has reached pandemic proportions. Alcohol and other drug problems cause pervasive effects: biological, psychological, and social consequences for the abuser; psychological and social effects on family members and others; increased risk of injury and death to self, family members, and others (especially by accidents, fires, or violence); and derivative social and economic consequences for society at large.

SmartTrack®

SmartTrack®, a web- based data collection tool developed by DREAM, Inc., provides need-assessment data related to the Center for Substance Abuse Prevention core measures. It collects data on severity of substance abuse, risk and protective factors, and identification of the most pressing prevention issues.

These data are collected from schools in communities throughout the state to establish base-line data on prevalence and severity of substance abuse, as well as related behaviors and attitudes. A survey of 109,773 sixth through eleventh grade public school students conducted during the 2004-05 school term reveals the following protective factors among Mississippi youth: Approximately 59 percent of students indicated smoking marijuana regularly posed a great risk and 47 percent stated that consuming four to five alcoholic beverages per day was a great risk. Approximately 35 percent of surveyed students strongly felt that they belonged to their school compared to eight percent that strongly disagreed. The survey found that 24 percent of students indicated that they almost always enjoyed being in school as compared to ten percent that stated the opposite. Approximately 46 percent of students stated that they never have major fights or arguments with their parent/guardian(s), while 41 percent indicated that they could ask their parents for help in dealing with a personal problem. Finally, 60 percent of students indicated that their parents enforce rules at home.

National Survey on Drug Use and Health for Mississippi

According to statistics cited in SAMHSA's *2003-04 National Survey on Drug Use and Health* state estimates, six percent of Mississippians 12 years or older were past-month illicit drug users. By age group, 12-17 year old Mississippians represented nine percent of past-month illicit users; 18-25 year olds represented 13 percent; and persons 26 years or older represented four percent. Past-month marijuana use among Mississippians 12 years and older was four percent. By age group, 12-17 year olds represented six percent of past-month marijuana users; 18-25 year olds represented 11 percent; and persons 26 years or older represented three percent. Approximately 37 percent of Mississippians were past-month alcohol users. By age group, 12-17 year olds represented 14 percent of past-month alcohol users; 18-25 year olds represented 51 percent; and persons 26 years or older represented 37 percent. Past month binge alcohol use among Mississippians was 20 percent.

Mississippi's 2003 Youth Risk Behavior Survey (YRBS)

The Mississippi YRBS measures the incidence and prevalence of behaviors that contribute to the leading causes of mortality and morbidity among youth. The YRBS is part of a larger effort to help communities promote the "resiliency" of young people by reducing high risk behaviors and increasing health behaviors. The U.S. Centers for Disease Control and the nationally recognized survey research firm, Westat, developed the survey and analyzed the data collection. The Mississippi Department of Health conducted the survey and developed the report. A total of 1,488 students in 34 public high schools, grades 9-12, completed the YRBS in the spring of 2003. The school response rate was 76 percent, the student response rate was 89 percent, and the overall response rate was 34 percent. Students completed a voluntary, self administered anonymous, 87-item questionnaire.

Mississippi youth exhibit substance use rates and risk behaviors similar to national rates according to statistics published in the *2003 Youth Risk Behavior Survey (YRBS)*. Table IX-1 illustrates the YRBS trends for Mississippi youth over a ten-year period. Statistics reveal that marijuana use among Mississippi youth increased significantly from a low of nine percent in 1993 to 21 percent in 2003.

Table IX-1
Mississippi Youth Risk Behavior Survey Trends
1993-2003

Substances & Risk Factors	U.S. 2003	MS 2003	2001	1999	1997	1995	1993
Alcohol use, past month	45%	42%	42%	43%	46%	49%	47%
Episodic heavy drinking, past-month	28%	25%	22%	25%	24%	30%	27%
Marijuana use, past month	22%	21%	17%	19%	21%	16%	9%
Ever used cocaine	9%	6%	5%	6%	4%	3%	2%
Ever used inhalants	12%	11%	10%	13%	17%	18%	N/A
Alcohol use before age 13	28%	32%	32%	34%	36%	31%	34%

Source: *2003 Youth Risk Behavior Survey (YRBS)*

Although past-month alcohol use has declined over a ten-year period, the percentage of youth reporting 30-day alcohol use has remained constant since 2001. Binge drinking rates reflect that one in four Mississippi youth (25 percent) report that they have consumed more than five alcoholic beverages in the past 30 days. Approximately one-third of Mississippi youth have consumed alcohol before age 13. This statistic supports the fact that motor vehicle crashes are the leading causes of death among Mississippians 10 to 24 years old, at 36 percent, compared to a national rate of 32 percent. The prevalence of underage drinking is higher among males than females and is higher among white males than black and Hispanic males.

Tobacco Use

Measures of tobacco use among Mississippi students are compared to national numbers in 2003 indicate that:

- 66 percent of Mississippi students have ever smoked cigarettes, compared to 58 percent nationally;
- 25 percent of Mississippi students have smoked cigarettes during the past month, compared to 22 percent nationally;
- 12 percent of Mississippi students have smoked cigarettes on 20 or more of the past 30 days, compared to ten percent nationally;
- 18 percent of Mississippi students have smoked cigars during the past month, compared to 15 percent nationally;
- Eight percent of Mississippi students have used smokeless tobacco during the past month, compared to seven percent nationally.

There has been significant improvement, an overall downward trend, in several measures of tobacco use among Mississippi students:

- The percentage of students who have ever tried cigarette smoking has decreased from 76 percent in 1993 to 66 percent in 2003;
- The percentage of students who have smoked cigarettes during the past 30 days has decreased from 28 percent in 1993 and 35 percent in 1995 to 25 percent in 2003;
- The percentage of students who have smoked cigarettes on school property during the past 30 days has decreased from nine percent in 1993 to six percent in 2003;
- The percentage of students who have used chewing tobacco or snuff during the past 30 days was ten percent in 1995 and eight percent in 2003; and
- The percentage of students who have used any form of tobacco during the past 30 days has decreased from 39 percent in 1999 to 34 percent in 2003.

Developmental Disabilities

In general, the term "developmental disability" means a severe, chronic disability of an individual that:

(1) Is attributable to a mental or physical impairment or a combination of mental and physical impairments;
(2) Is manifested before the person attains age 22;
(3) Is likely to continue indefinitely;
(4) Results in substantial functional limitations in three or more of the following areas of major life activity: self care, receptive and expressive language, learning, mobility, self-direction, capacity for independent living, and economic self-sufficiency; and
(5) Reflects the individual's need for a combination and sequence of special, interdisciplinary, or generic services, individualized supports, or other forms of assistance that are of lifelong or extended duration and are individually planned and coordinated.

Infants And Young Children: An individual from birth to age nine, inclusive, who has a substantial developmental delay of specific congenital or acquired condition, may be considered to have a developmental disability without meeting three or more of the criteria described in (1) through (5) above, if the individual, without services and support, has a high probability of meeting those criteria later in life.

The nationally-accepted prevalence rate for persons with developmental disabilities in the state is estimated at 1.8 percent of the general population. By applying the 1.8 percent prevalence rate to Mississippi's 2010 population projections, the results equal 53,560 individuals who may have a developmental disability.

Based on the 2010 projected population, service need is estimated by age ranges as follows:

Table IX-2
Service Need by Age Range
2005

Ages	0 to 4	5 to 17	18 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 to 74	75 to 84	85 +
Percentage of Population	6.9%	18.9%	10.0%	13.8%	12.5%	13.8%	11.4%	7.2%	3.1%	2.4%

104 Mental Health Services Delivery System

The mental health delivery system in Mississippi includes a wide range of services and settings. Supportive services are impossible to list because these would include any individual or organization providing relief for an emotional problem that impairs the ability of an individual to function normally. Direct services are those whose primary mission involves the detection and treatment of mental illness, substance abuse, and mental retardation/developmental disabilities.

Although quasi-public and private agencies provide an assortment of programs, state government provides or finances the majority of mental health services. This is especially true of residential treatment services. As mentioned previously, Mississippi has four state-operated hospitals for individuals with mental illness: Mississippi State Hospital (MSH) at Whitfield; East Mississippi State Hospital (EMSH) at Meridian; North Mississippi State Hospital (NMSH), an acute psychiatric hospital for adults in Tupelo; and South Mississippi State Hospital (SMSH), an acute psychiatric hospital for adults in Purvis.

Mississippi State Hospital reported a total of 2,093 licensed beds for FY 2005. This total includes two separately-licensed facilities operated by MSH: Oak Circle Center, a 60-bed child-adolescent psychiatric hospital, and Whitfield Medical/Surgical Hospital, a 32-bed acute care hospital, and crisis centers. MSH also had 479 licensed skilled nursing facility (nursing home) beds at the main hospital. East Mississippi State Hospital reported 635 licensed beds for FY 2005, including 228 licensed nursing home beds.

Adult Psychiatric Services

Mississippi's four state-operated hospitals provide the majority of inpatient psychiatric care and services through state crisis centers. MSH reported a total of 1,422 adult psychiatric licensed beds; EMSH reported 332, NMSH reported 82, and SMSH reported 66. The four facilities reported 2,682 admissions to adult psychiatric services in FY 2005— 1,351 to MSH, 461 to EMSH, 381 to NMSH, and 489 to SMSH (162 were also admitted to crisis programs).

In addition to the facilities listed above, Mississippi has 13 hospital-based and two freestanding adult psychiatric facilities, with a capacity of 513 licensed beds for adult psychiatric patients (plus 30 held in abeyance by the MDH) distributed throughout the state. The criteria and standards section of this chapter provides a full description of the services that private facilities must provide. Map IX-1 shows the location of inpatient facilities in Mississippi serving adult acute psychiatric patients, and Table IX-2 shows utilization statistics.

Even though many of the private facilities have low occupancy rates, the state institutions provide the majority of inpatient care for the medically indigent. Medically indigent patients have difficulty gaining access to private psychiatric facilities in their respective communities. To help address the problem, the Legislature provided funding for construction of seven state crisis intervention centers to be operated as satellites to existing facilities operated by the Department of Mental Health.

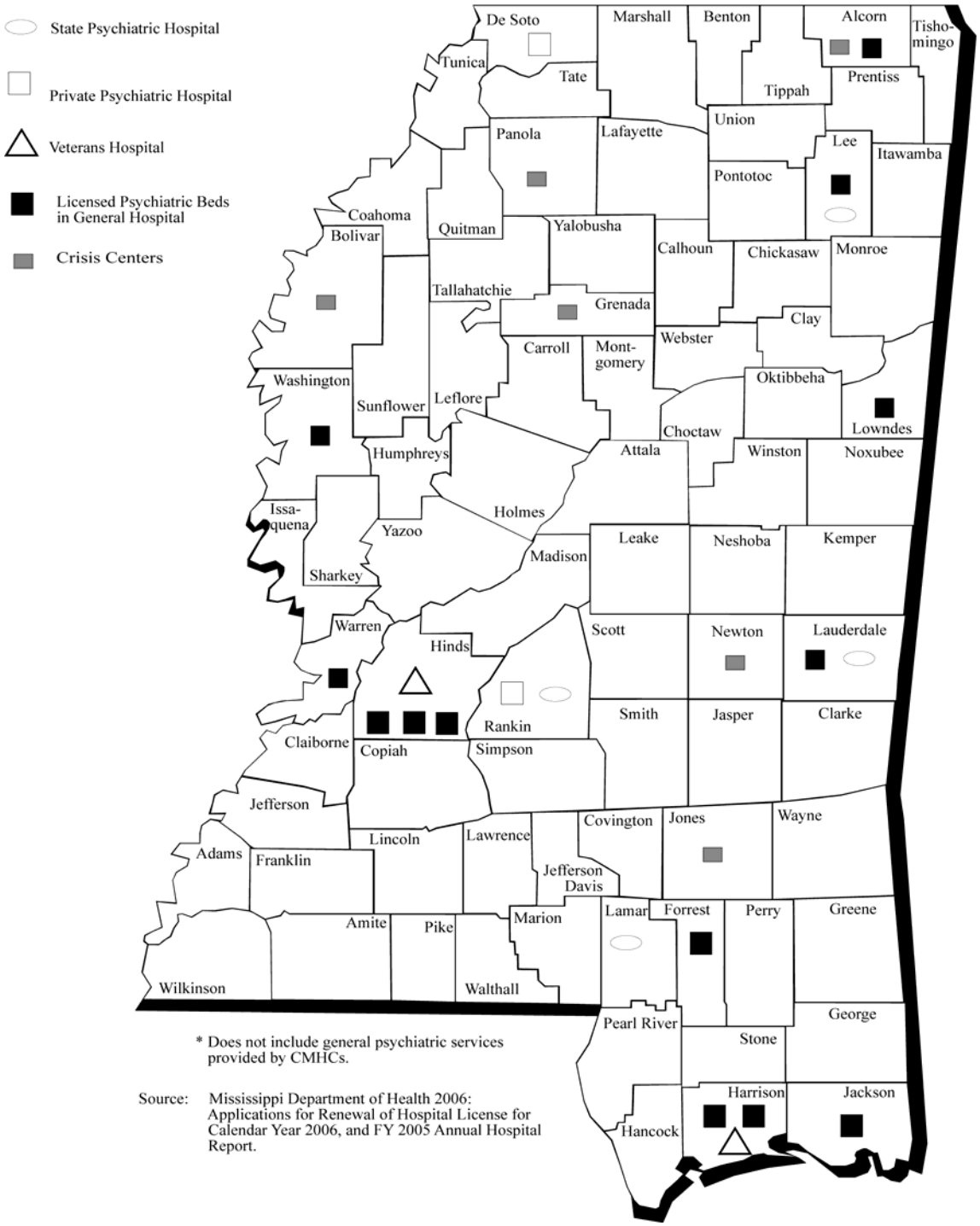
All of the centers are of similar design and function and include 16 beds and one isolation bed. The role of these centers in the regional system is to provide stabilization and treatment services to persons who have been committed to a psychiatric hospital and for whom a bed is not available. It is believed that many of these individuals can be treated in the center and returned to the community without an inpatient admission to the state psychiatric hospital. The more quickly a person receives treatment, the less likely his or her condition will worsen. The centers are located near medical facilities that will accommodate medical emergencies. In addition, plans include establishment of a cooperative relationship with a medical emergency facility so that medical clearance can be obtained for persons who have symptoms that may be indicative of both psychiatric and other medical conditions.

The seven community-based crisis centers were planned for Corinth, Newton, Grenada, Laurel, Cleveland, Batesville, and Brookhaven. The 2004 Legislature appropriated funds to open the center in Corinth at full capacity in FY 2005. Funds were appropriated in 2006 to open the five remaining centers that are constructed (Newton, Grenada, Laurel, Cleveland, and Batesville) at full capacity in 2007.

Development of the Central Mississippi Residential Center (CMRC) began in 1997 after the State of Mississippi purchased the property that was formerly the Clarke College in Newton. The property was renovated to enable the Mississippi Department of Mental Health to provide a specialized treatment program for adults with long-term, serious mental illness, including persons discharged or transferred from the state psychiatric hospitals. The program is based on a bio-psychosocial rehabilitation model and when fully operational will include a total of 168 beds (144 in personal care homes located on the campus and 24 in supervised apartments). In the fall of 2003, 48 personal care home beds for persons with mental illness were opened on campus. CMRC provided a range of services, such as medical care, educational, vocational and recreational services, individual and group therapy, and administrative and physical facility support services. CMRC continues to operate community day programs for adults with Alzheimer’s disease/other dementia near the campus..

Map IX - 1

Operational and Proposed Inpatient Facilities Serving Adult Acute Psychiatric Patients*



* Does not include general psychiatric services provided by CMHCs.

Source: Mississippi Department of Health 2006: Applications for Renewal of Hospital License for Calendar Year 2006, and FY 2005 Annual Hospital Report.

Table IX-2
Acute Psychiatric Bed Utilization
FY 2005

Facility	County	Licensed/CON*/ Abeyance** Beds	Inpatient Days	Occupancy Rate(%)**	Discharges	ALOS
Alliance Health Center	Lauderdale	24	12,289	140.29	1,106	11.09
(Adolescent)	Lauderdale	22	13,639	169.85	790	17.17
Baptist Memorial Hospital - Golden Triangle	Lowndes	22	2,833	35.28	365	7.53
Brentwood Behavioral Health Care	Rankin	48 / 30 **[1]	6,624	37.81	687	9.56
(Adolescent)	Rankin	59 / 12 *	16,573	76.96	1,345	12.22
Central Miss Medical Center	Hinds	29	7,881	74.45	732	10.74
Children's Hospital - Vicksburg						
(Adolescent)	Warren	20*	N/A	N/A	N/A	N/A
Delta Regional Medical Center	Washington	9	N/A	N/A	N/A	N/A
Diamond Grove Center						
(Adolescent)	Winston	20	4,361	59.74	419	10.53
Forrest General Hospital	Forrest	40	11,251	77.06	1,828	6.19
(Adolescent)	Forrest	16	6,585	112.76	843	7.86
Gulf Coast Medical Center	Harrison	34	5,826	46.95	811	7.19
(Adolescent)	Harrison	11	474	11.81	64	9.14
Magnolia Regional Health Center	Alcorn	19	4,513	65.08	536	8.22
Memorial Hospital at Gulfport	Harrison	59	5,077	23.58	773	6.82
(Adolescent)	Harrison	30	7,865	71.83	927	8.34
North Miss Medical Center	Lee	33	10,542	87.52	1,353	7.76
(Adolescent)	Lee	15 *	N/A	N/A	N/A	N/A

Table IX-2 (continued)
Acute Psychiatric Bed Utilization
FY 2005

Facility	County	Licensed/CON*/ Abeyance** Beds	Inpatient Days	Occupancy Rate(%)**	Discharges	ALOS
Parkwood Behavioral Health System	DeSoto	22	9,037	112.54	819	8.35
(Adolescent)	DeSoto	52	14,967	78.86	1,066	10.69
River Region Health System	Warren	40	7,890	54.04	937	8.11
Singing River Hospital	Jackson	30	3,619	33.05	580	7.52
St. Dominic Hospital	Hinds	83	15,359	50.70	1,841	8.80
University Hospital & Clinics	Hinds	21	6,461	84.29	817	7.91
(Adolescent)	Hinds	12	1,836	41.92	246	7.46
Total Adult		**513**	**109,202**	**58.32**	**13,185**	**8.21**
Abeyance		**30 ****				
Total Adolescent		**222 / 47 ***	**66,300**	**81.82**	**5,700**	**10.98**

*CON approved
**Beds held in abeyance by the MDH
Note: Unless otherwise noted, the above psychiatric beds are designated for adults
[1] CON approval has been granted to transfer 10 of these beds to Tri-Lakes Medical Center in Panola County

Sources: Applications for Renewal of Hospital License for Calendar Year 2006 and FY 2005 Annual Hospital Report; and Division of Health Planning and Resource Development Computations

Child/Adolescent Psychiatric Services

Although Mississippi has made progress in addressing the need for specialized services for children and adolescents, significant problems remain. Three freestanding facilities and five hospital-based facilities, with a total of 222 licensed beds, provide acute psychiatric inpatient services for children and adolescents. Two other hospitals and one freestanding facility have received Certificate of Need approval to add an additional 47 beds. Map IX-2 shows the location of inpatient facilities that serve adolescent acute psychiatric patients, and Table IX-2 gives utilization statistics. The criteria and standards section of this chapter provides a further description of the programs that inpatient facilities offering child/adolescent psychiatric services must provide.

The Department of Mental Health operates a separately-licensed 60-bed facility (Oak Circle Center) at Mississippi State Hospital to provide short-term inpatient psychiatric treatment for children and adolescents between the ages of four and 17 years 11 months. East Mississippi State Hospital operates a 50-bed psychiatric and chemical dependency treatment unit for adolescent males. Planning is complete for a 75-bed, long-term psychiatric residential treatment center for adolescents to be operated by EMSH; however, construction funds have not been approved.

The DMH operates a specialized 48-bed treatment facility in Brookhaven for youth with mental retardation who are involved with the criminal justice system. A similar facility is in Harrison County for youth who have come before Youth Court and have also been diagnosed with a mental disorder. Adolescents appropriate for admission are 13 years, but less than 21 years of age who present with an Axis I diagnosis of a severe emotional disturbance and need psychiatric residential care.

The Mississippi Legislature authorized the State Department of Health to establish Certificate of Need criteria and standards for psychiatric residential treatment facilities (PRTF). These facilities serve emotionally disturbed children and adolescents who are not in an acute phase of illness that requires the services of a psychiatric hospital, but who need restorative residential treatment services. "Emotionally disturbed" in this context means a condition exhibiting certain characteristics over a long period of time and to a marked degree. The criteria and standards section of this chapter describes these facilities more fully. A total of 358 PRTF beds are now authorized; six facilities are in operation, with a total of 282 beds; an additional 76 beds have received CON approval. Map IX-3 presents the location of existing and CON-approved private psychiatric residential treatment facilities. Children and adolescents who need psychiatric residential treatment beyond the scope of these residential treatment centers are served in acute psychiatric facilities or sent out of the state to other residential treatment facilities.

In FY 2005, DMH continued to make funds available to support services provided through 14 therapeutic group homes (and also, the ARK, which serves youth with dual disorders), including three transitional therapeutic homes that received DMH support from mental health services for youth; however, in the latter part of 2005, providers of therapeutic group home services funded by DMH closed a home in Columbus. These homes served a total of 260 children and youth during FY 2005. (This total does not include data from four homes that were severely impacted by Hurricane Katrina.) An additional 112 youths were served through therapeutic group homes certified, but not funded, by DMH. Additionally, the DMH continued to fund Catholic Charities, Inc. to help support 22 therapeutic foster care homes which provided therapeutic foster care services for 26 youths. Senior Services, Stepping Stones, United Methodist Ministries, Mississippi Children's Home Society, and Youth Village, non-profit private providers certified but not funded by MDMH, provided therapeutic foster care services to 130 youth in FY 2005.

A Division of Children and Youth Services staff member provides technical assistance and support to the homes, including documentation of site visits, record monitoring, and technical assistance activities. The DMH provided funding for five specialized outpatient intensive crisis intervention projects; these projects served 874 youths with severe emotional disturbances in FY 2005. The DMH also continued to provide funding to four model comprehensive crisis intervention programs for youth with serious emotional disturbance or behavioral disorders who are in crisis or who are identified as at risk for residential placement (operated by Catholic Charities, Inc. in the Jackson Metro area, by Community Counseling Services in the Region VII [east-central area of the state]; by Pine Belt Mental Health Care Services in Region XII [southeastern area of the state]; and Region VIII Community Mental Health Center. Funding was reallocated in FY 2005 to develop a fifth program in the northeast part of the state to be operated by Region IV Timber Hills Mental Health Services.)

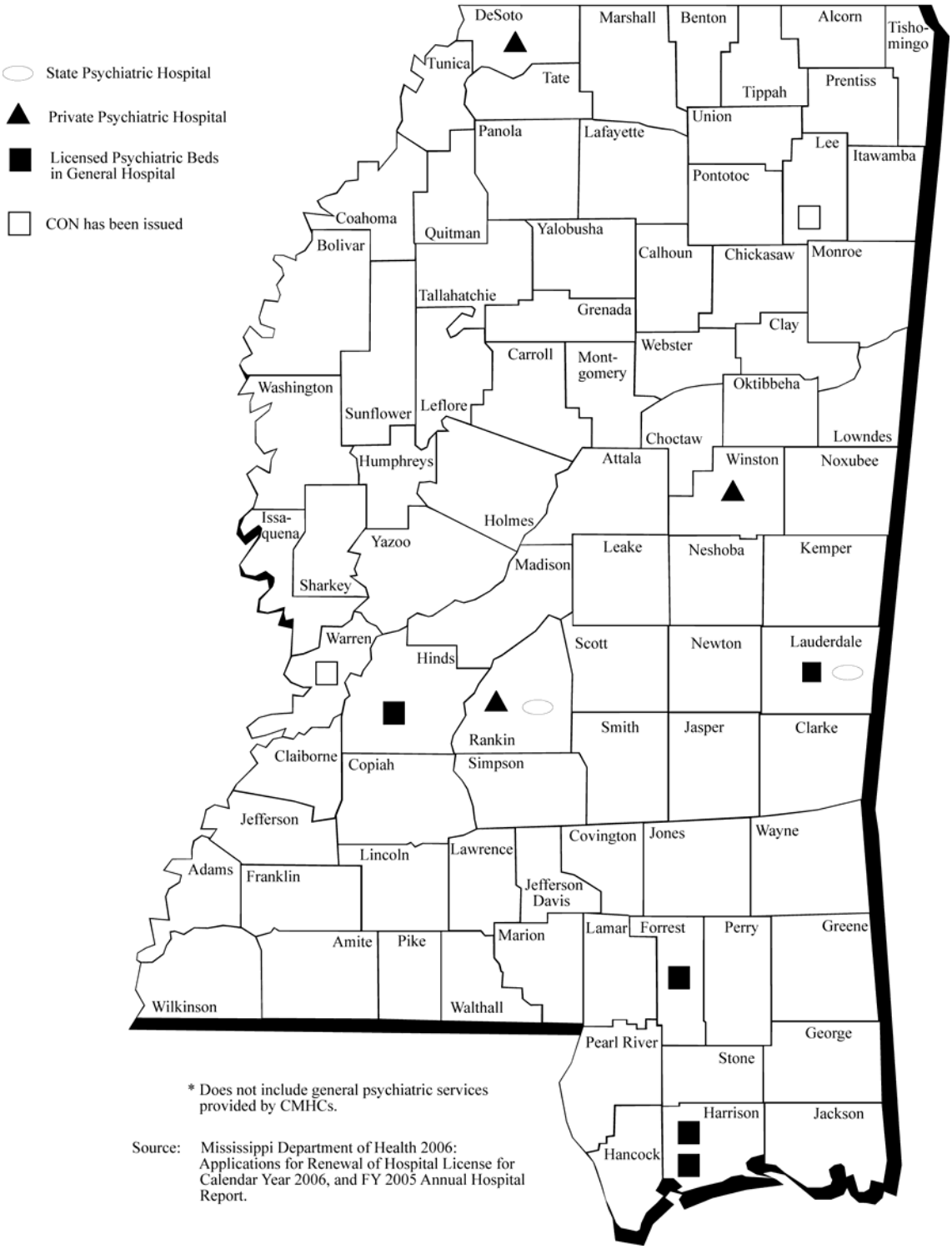
While inpatient services are sometimes necessary, every child/adolescent in the state should have access to appropriate community-based mental health services. This concept would provide an array of regional mental health services, allowing children/adolescents with emotional distress to be given the most appropriate and least restrictive service in or near the home community. Based on availability of adequate funding, regional community mental health centers could provide this array of community-based services.

The development of community-based programs provides many advantages. Such programs are generally less expensive, more family oriented, and frequently more effective than centralized institutional programs. Mississippi's Community Mental Health Plan describes an ideal comprehensive community mental health system for children, which would include the following major components:

- Prevention
- Diagnosis and evaluation/early intervention
- Case management
- Crisis intervention
- Outpatient services
- Day treatment/psychosocial rehabilitation
- Respite services
- Family education/support
- Community-based residential services
- Community residential treatment for alcohol/drug problems
- Protection and advocacy
- Inpatient services
- Therapeutic support services, including staff training and human resource development
- Other support services

Map IX - 2

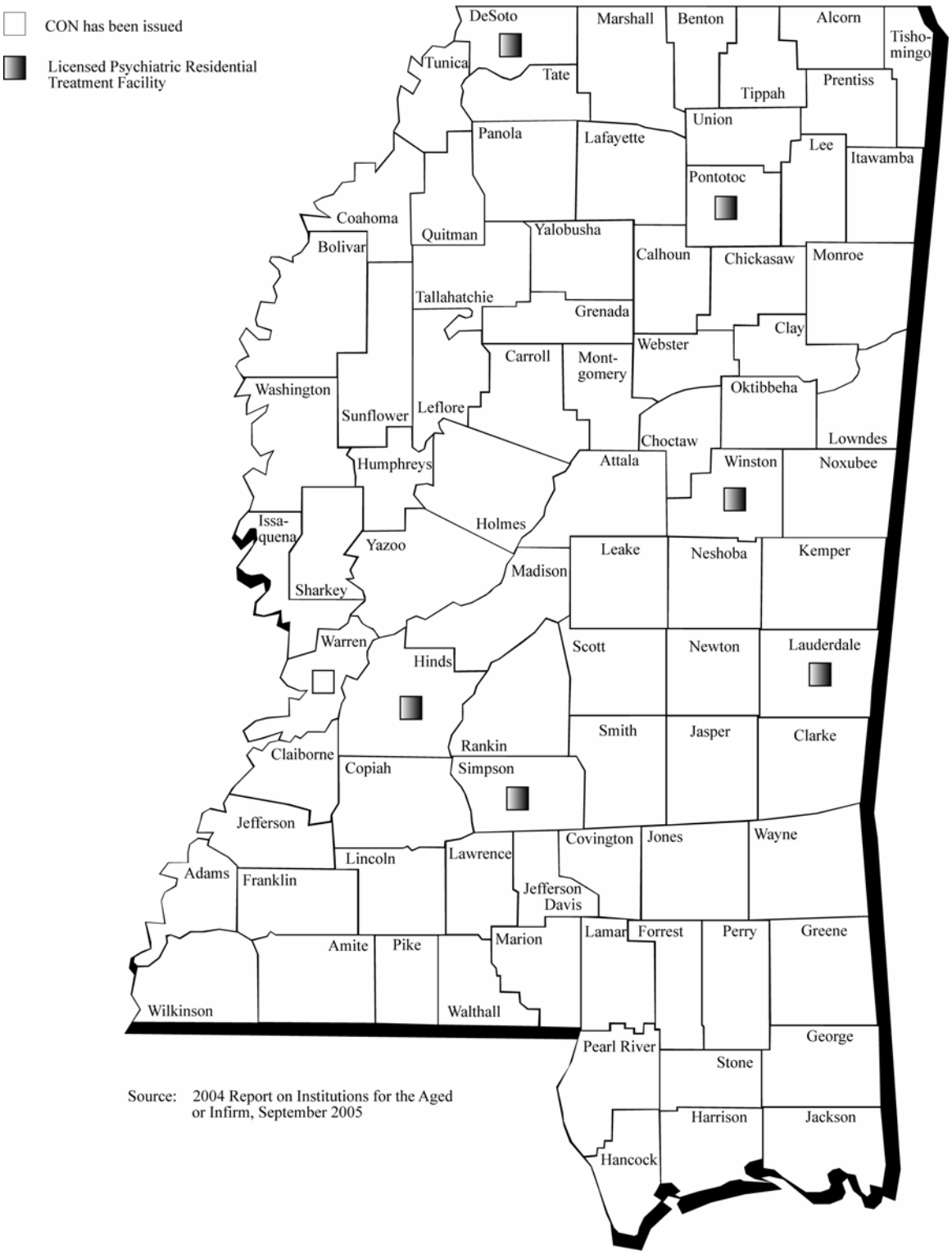
Operational and Proposed Inpatient Facilities Serving Adolescent Acute Psychiatric Patients*



* Does not include general psychiatric services provided by CMHCs.

Source: Mississippi Department of Health 2006: Applications for Renewal of Hospital License for Calendar Year 2006, and FY 2005 Annual Hospital Report.

Map IX - 3
Private Psychiatric Residential Treatment Facilities



Source: 2004 Report on Institutions for the Aged or Infirm, September 2005

Alcohol and Drug Abuse Services

The location of alcohol and drug abuse programs is shown on Maps IX-4 and IX-5. Each of the 15 regional community mental health-mental retardation centers provide a variety of alcohol and drug services, including residential and transitional treatment programs. A total of 36 such residential programs for adults and adolescents are scattered throughout the state. These specialized programs provide alcohol and drug treatment services in a controlled environment with emphasis on group living. Community Residential Treatment Services typically include individual, group, and family counseling; a working relationship with vocational rehabilitation services; and referral to other appropriate community programs and agencies. These programs also provide after-care services to assist individuals in transition from treatment.

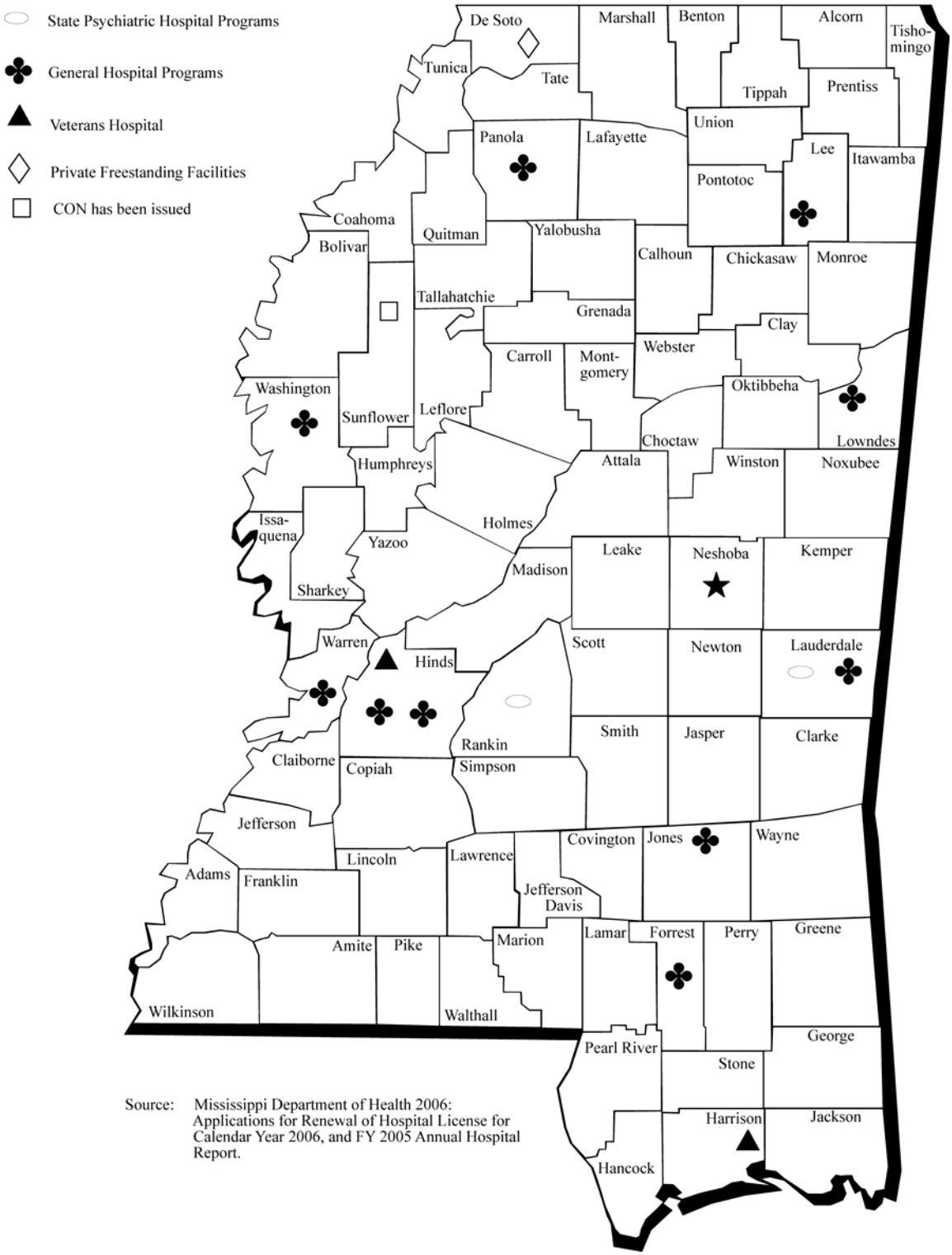
State alcohol funds are generated from a three percent markup on sales of distilled spirits and wine. These funds are specifically earmarked for the support of 19 regional residential treatment programs; 17 transitional treatment programs, aftercare, and detoxification programs; vocational rehabilitation services to alcoholics; the inpatient alcohol unit at State Hospital; and the alcohol program at State Penitentiary at Parchman. Under state law, the three percent monies must be spent for treatment services only, and funds cannot be used for prevention programs.

Eleven general hospitals and one freestanding facility in Mississippi offer alcohol and drug abuse treatment programs or have CON approval to provide such programs. Additionally, the state hospitals at Whitfield and Meridian and the Veterans Administration Hospitals in Jackson and Gulfport provide inpatient services including detoxification, assessment and evaluation, counseling, aftercare, and referral.

Four programs are designed to treat targeted populations: (1) the State Penitentiary at Parchman provides counseling and rehabilitation services to inmates during incarceration and follow-up after their release; (2) the Center for Independent Learning in Jackson, a transitional/residential facility, helps female offenders with a history of alcohol/drug abuse transition from incarceration back into society; (3) the Mississippi Band of Choctaw Indians offers a treatment program on the Neshoba County reservation that includes counseling and referral to other appropriate agencies; and (4) the Alcohol Services Center in Jackson serves low-income groups with crisis intervention, counseling, and referral. All these programs also offer many of the services provided by regular treatment resources.

Map IX - 4

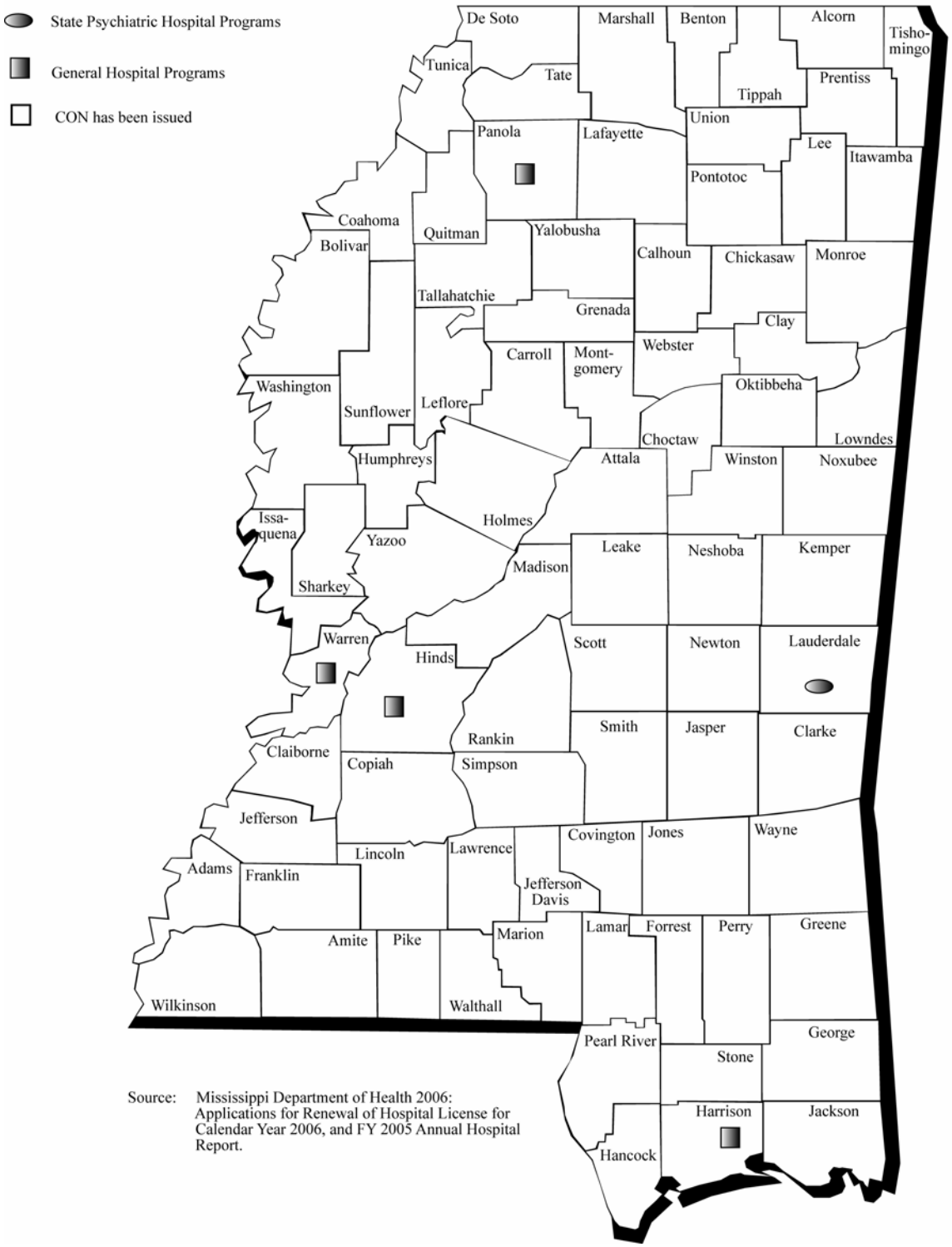
Operational and Proposed Adult Chemical Dependency Programs and Facilities



Source: Mississippi Department of Health 2006: Applications for Renewal of Hospital License for Calendar Year 2006, and FY 2005 Annual Hospital Report.

Map IX - 5

Operational and Proposed Adolescent Chemical Dependency Programs and Facilities



Source: Mississippi Department of Health 2006: Applications for Renewal of Hospital License for Calendar Year 2006, and FY 2005 Annual Hospital Report.

Table IX-3
Chemical Dependency Bed Utilization
FY 2005

Facility	County	Licensed/CON Approved* Beds	Inpatient Days	Occupancy Rate(%)**	Discharges	ALOS
Alliance Health Center	Lauderdale	8	1,625	55.65	279	5.68
Baptist Memorial Hospital - Golden Triangle	Lowndes	21	501	6.54	119	5.25
Delta Regional Medical Center	Washington	7	2,137	83.64	374	5.79
Forrest General Hospital	Forrest	32	7,081	60.63	1,311	5.43
Memorial Hospital at Gulfport						
(Adolescent)	Harrison	20	879	12.04	119	8.97
Miss Baptist Medical Center	Hinds	100	1,027	2.81	232	4.43
(Adolescent)	Hinds	10	N/A	N/A	N/A	N/A
North Miss Medical Center	Lee	33	2,793	23.19	697	3.89
Parkwood Behavioral Health System	DeSoto	14	1,826	35.73	157	7.78
River Region Health System	Warren	28	4,806	47.03	546	8.55
(Adolescent)	Warren	12	1,835	41.89	139	12.83
South Central Regional Medical Center	Jones	10	1,833	50.22	319	5.72
St. Dominic Hospital	Hinds	35	5,207	40.76	689	6.99
Tri-Lakes Medical Center	Panola	13	3,692	77.81	612	6.03
(Adolescent)	Panola	10	1,177	32.25	130	9.05
Total Adult		**301**	**32,528**	**29.61**	**5,335**	**5.90**
Total Adolescent		**52**	**3,891**	**20.50**	**388**	**10.38**

Note: Unless otherwise noted, the above psychiatric beds are designated for adults
Sources: Applications for Renewal of Hospital License for Calendar Year 2006 and FY 2005 Annual Hospital Report

Mental Retardation/Developmental Disabilities Services

Services available through the Department of Mental Health include an array of programs designed to meet the needs of individuals with mental retardation or developmental disabilities. Programs and activities for persons residing in their local communities include diagnostic/evaluation, community living, system coordination and community education, early intervention, assistance technology, case management, work activity services for older adults with mental retardation, and employment. Five state regional centers at Long Beach, Ellisville, Sanatorium, Whitfield, and Oxford offer residential services, as well as direct and auxiliary support, for all services within the regions. The Regional Community Mental Health-Mental Retardation Commissions and a number of independent, non-profit, private service providers offer similar community programs.

The Mississippi Department of Mental Health serves as the designated state agency (DSA) to administer funds available through the federal Developmental Disabilities Program. The Mississippi Council on Developmental Disabilities (MCDD) strives to identify need, plan services and support, and advocate for new services to meet individual needs in various communities. More than 170 public and private agencies, organizations, or programs provide a myriad of services to persons with mental retardation and developmental disabilities; however, the Council recognizes the need for services and support to address what people with developmental disabilities and their families want and need. In May 2005, the Council conducted a statewide needs assessment involving a representation from all service providers and advocacy groups. Results of this needs assessment/strategic planning will be the basis for the Council's five-year State Plan (2006-2011). Hopefully, other providers will be able to use the results as a basis for their service delivery. For information about the statewide needs assessment, refer to the website of the MS Counsel on Developmental Disabilities.

The MCDD funded services are designed to promote community inclusion for people with developmental disability and their families. This funding may include one-time projects, special events, support for training activities, short-term demonstrations (not to exceed three years), product development activities, and special focus investments. MCDD investments must support at least one of the following Administration on Developmental Disabilities (ADD) Areas of Emphasis (Priority Areas): (a) quality assurance (which means that people have control, choice, and flexibility in the services/supports they receive); (b) employment (which refers to individuals getting and keeping employment consistent with their interest, abilities, and needs; (c) community living/housing (which involves adults choosing where and with whom they live); (d) health (referring to individuals being healthy and benefiting from the full range of services); (e) education/child development (resulting in students reaching their educational potential); (f) formal and informal community support (characterized by every individual being a valued, participating member of their community), (g) transportation (which refers to people being able to go and participate in community activities of their choice; and (h) recreation (which refers to people being able to participate in leisure activities of their choice). Regulations require that 65 percent of the federal Developmental Disabilities funds be invested in these Areas of Emphasis. In Mississippi; however, approximately 85 percent of DD funds are spent on programs and services.

The Federal Centers for Medicare and Medicaid Services (CMS) approved a Home and Community-Based Services - MR/DD Waiver Program for Mississippi that began in July 1995 and is now approved until 2008. The program provides services to persons with mental retardation/developmental disabilities that would require the level of care found at an intermediate care facility for the mentally retarded if waiver services were not available. The waiver program is available statewide to persons of all ages, with approval contingent on funding to serve up to 3,300 people. Services available include attendant care, respite (in-home nursing or companion, community, or ICF/MR), day habilitation, residential habilitation (supported or supervised), pre-vocational services, supported employment, behavior support/intervention, specialized medical supplies (diapers, catheters, and pads), physical therapy, occupational therapy,

speech/language/hearing therapy, and support coordination. Each of the five Department of Mental Health Comprehensive Regional Centers employs support coordinators to help eligible individuals with disabilities and their families navigate the evaluation process and monitor the provision of waiver services.

Approximately 44,000 Mississippians may have developmental disabilities and/or mental retardation; the majority of these presently live outside the residential programs. Given the life expectancy of persons with developmental disabilities, combined with the deaths of family members providing primary care to those living at home, the state needs approximately 500 additional state-supported living alternatives. In conjunction with the continued establishment of community living programs, the Bureau of Mental Retardation believes that its employment and work opportunity programs must be continued and expanded. The Bureau is also committed to statewide expansion of early intervention programs for children with developmental disabilities and their families.

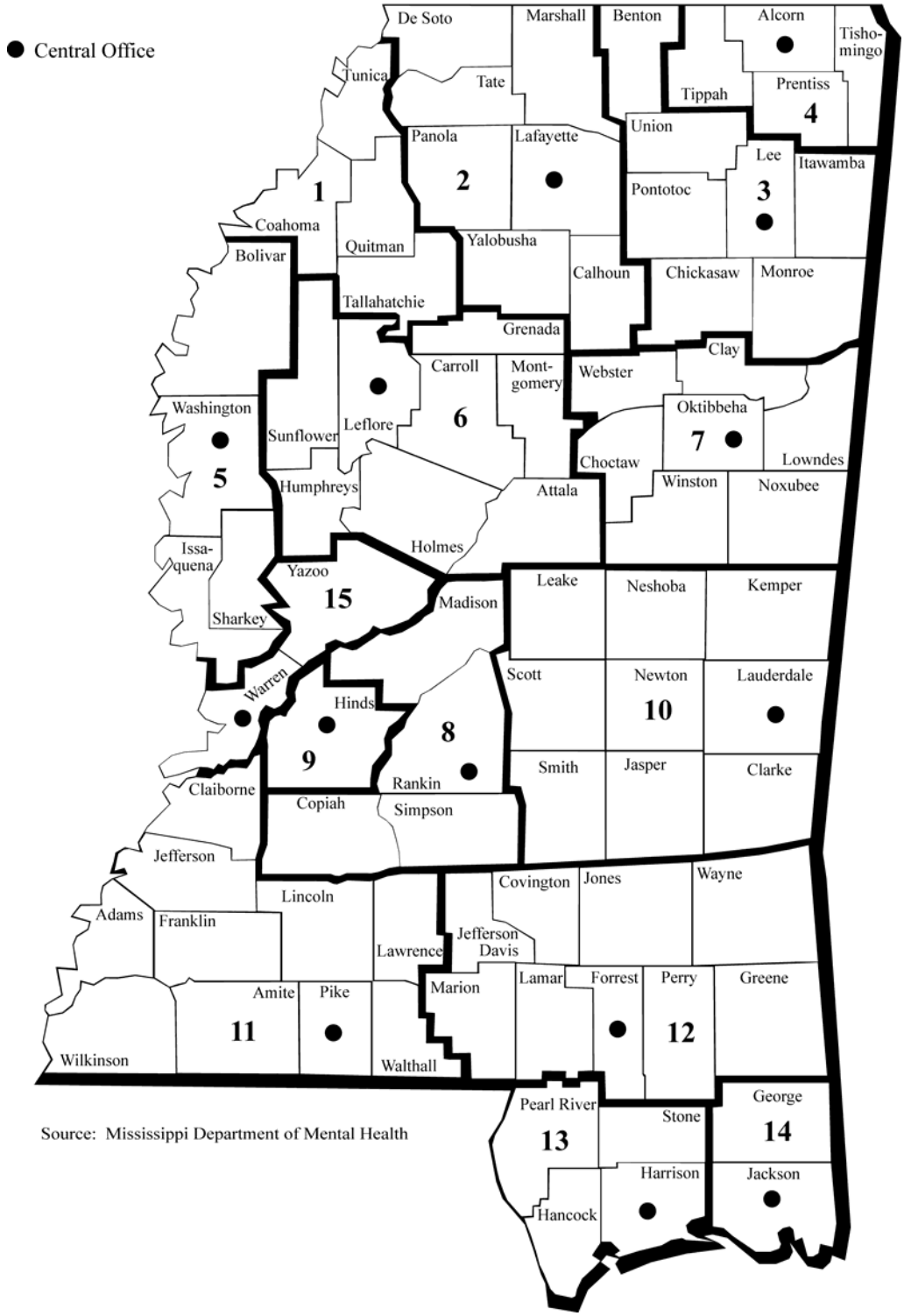
Community-Based Services

Fifteen regional community Mental Health-Mental Retardation Centers provide a wide range of mental health services at the local level. Map IX-6 presents the central office locations of these centers. Each center must meet federal and state program and performance standards. The major objectives of the regional community mental health centers include: (a) providing accessible services to all citizens with mental and emotional problems; (b) reducing the number of initial admissions to the state hospitals; and (c) preventing re-admissions through supportive aftercare services. These centers are a vital element in the plan to provide an integrated system of mental health services to all residents of Mississippi.

The regional community mental health centers are certified to provide emergency services and must have agreements with local providers for short-term inpatient care. The centers themselves do not maintain acute care beds but may make them available through an affiliation agreement with a local hospital which, within certain restrictions, can treat individuals in lieu of admission to the state hospitals. When discussing these beds, one must keep in mind that most of these beds are already listed in the existing inventory and should not be added to those already identified. The number of beds available on an affiliation basis varies from hospital to hospital. Most of these beds are not located in a specialized psychiatric unit, but are scattered throughout the hospital. Most of the hospitals providing beds through an affiliation agreement seldom have adequate or qualified staff and provide services only on an emergency basis. Usually a patient is hospitalized for one to four days and is referred to another hospital when further treatment becomes necessary.

Community mental health centers may provide back-up to hospital staff to ensure appropriate care. However, these agreements are limited in many instances. For example, in some regions the agreement is for general hospital beds on a priority basis, but the beds are in a general ward and no psychiatrist is on the hospital staff. In these cases a local private physician makes the admission, and the mental health center staff works with the physician on a consulting basis. In almost all instances of admission to local hospitals, there must be some method for the mentally ill consumer to pay for the hospitalization. Where there is a psychiatric unit, admissions are many times limited because the consumer has no source of payment. In summary, a system of limited adequacy exists to provide inpatient care for individuals who need this level of treatment in the community; inpatient care for mental illness is generally not available on demand.

Map IX - 6
Regional Community Mental Health/Mental Retardation Centers and Location of Central Office



Source: Mississippi Department of Mental Health

Certificate of Need
Criteria and Standards
for
Acute Psychiatric,
Chemical Dependency,
and
Psychiatric Residential
Treatment Facility Beds/Services

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

105 Policy Statement Regarding Certificate of Need Applications for Acute Psychiatric, Chemical Dependency, and Psychiatric Residential Treatment Facility Beds/Services

1. An applicant must provide a "reasonable amount" of indigent/charity care as described in Chapter I of this *Plan*.

2. Mental Health Planning Areas: The Department of Health shall use the state as a whole to determine the need for acute psychiatric beds/services, chemical dependency beds/ services, and psychiatric residential treatment beds/services. Tables IX-4, IX-5, and IX-6 give the statistical need for each category of beds.

3. Public Sector Beds: Due to the public sector status of the acute psychiatric, chemical dependency, and psychiatric residential treatment facility beds operated directly by the Mississippi Department of Mental Health (MDMH), the number of licensed beds operated by the MDMH shall not be counted in the bed inventory used to determine statistical need for additional acute psychiatric, chemical dependency, and psychiatric residential treatment facility beds.

4. Comments from Department of Mental Health: The Mississippi Department of Health shall solicit and take into consideration comments received from the Mississippi Department of Mental Health regarding any CON application for the establishment or expansion of inpatient acute psychiatric, chemical dependency, and/or psychiatric residential treatment facility beds.

5. Separation of Adults and Children/Adolescents: Child and adolescent patients under 18 years of age must receive treatment in units which are programmatically and physically distinct from adult (18+ years of age) patient units. A single facility may house adults as well as adolescents and children if both physical design and staffing ratios provide for separation.

6. Separation of Males and Females: Facilities must separate males and females age 13 and over for living purposes (e.g., separate rooms and rooms located at separate ends of the halls, etc.).

7. Dually Diagnosed Patients: It is frequently impossible for a provider to totally predict or control short-term deviation in the number of patients with mixed psychiatric/addictive etiology to their illnesses. Therefore, the Department will allow deviations of up to 25 percent of the total licensed beds as "swing-beds" to accommodate patients having diagnoses of both psychiatric and substance abuse disorders. However, the provider must demonstrate to the Division of Licensure and Certification that the "swing-bed" program meets all applicable licensure and certification regulations for each service offered, i.e., acute psychiatric, chemical dependency, and psychiatric residential treatment facility services, before providing such "swing-bed" services.

8. Comprehensive Program of Treatment: Any new mental health beds approved must provide a comprehensive program of treatment that includes, but is not limited to, inpatient, outpatient, and follow-up services, and in the case of children and adolescents, includes an educational component. The facility may provide outpatient and appropriate follow-up services directly or through contractual arrangements with existing providers of these services.

9. Medicaid Participation: An applicant proposing to offer acute psychiatric, chemical dependency, and/or psychiatric residential treatment facility services or to establish, expand and/or convert beds under any of the provisions set forth in this section or in the service specific criteria and standards shall affirm in the application that:

    a. the applicant shall seek Medicaid certification for the facility/program at such time as the facility/program becomes eligible for such certification; and

    b. the applicant shall serve a reasonable number of Medicaid patients when the facility/program becomes eligible for reimbursement under the Medicaid Program. The application shall affirm that the facility will provide the MDH with information regarding services to Medicaid patients.

10. Licensing and Certification: All acute psychiatric, chemical dependency treatment, dual diagnosis beds/services, and psychiatric residential treatment facility beds/services must meet all applicable licensing and certification regulations of the Division of Health Facilities Licensure and Certification. If licensure and certification regulations do not exist at the time the application is approved, the program shall comply with such regulations following their effective date.

11. Psychiatric Residential Treatment Facility: A psychiatric residential treatment facility (PRTF) is a non-hospital establishment with permanent licensed facilities that provides a twenty-four (24) hour program of care by qualified therapists including, but not limited to, duly licensed mental health professionals, psychiatrists, psychologists, psychotherapists, and licensed certified social workers, for emotionally disturbed children and adolescents referred to such facility by a court, local school district, or the Department of Human Services, who are not in an acute phase of illness requiring the services of a psychiatric hospital and who are in need of such restorative treatment services. For purposes of this paragraph, the term "emotionally disturbed" means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree, which adversely affects educational performance:

    a. an inability to learn which cannot be explained by intellectual, sensory, or health factors;

    b. an inability to build or maintain satisfactory relationships with peers and teachers;

    c. inappropriate types of behavior or feelings under normal circumstances;

    d. a general pervasive mood of unhappiness or depression; or

    e. a tendency to develop physical symptoms or fears associated with personal or school problems.

An establishment furnishing primarily domiciliary care is not within this definition.

12. Certified Educational Programs: Educational programs certified by the Department of Education shall be available for all school age patients. Also, sufficient areas suitable to meet the recreational needs of the patients are required.

13. Preference in CON Decisions: Applications proposing the conversion of existing acute care hospital beds to acute psychiatric and chemical dependency beds shall receive preference in CON decisions provided the application meets all other criteria and standards under which it is reviewed.

14. Dedicated Beds for Children's Services: It has been determined that there is a need for specialized beds dedicated for the treatment of children less than 14 years of age. Therefore, of the beds determined to be needed for child/adolescent acute psychiatric services and psychiatric residential treatment facility services, 25 beds under each category for a total of 50 beds statewide shall be reserved exclusively for programs dedicated to children under the age of 14.

15. Effective April 12, 2002, no health care facility shall be authorized to add any beds or convert any beds to another category of beds without a Certificate of Need under the authority of Section 41-7-191(1)(c).

16. Effective March 4, 2003, if a health care facility has voluntarily delicensed some of its existing bed complement, it may later relicense some or all of its delicensed beds without the necessity of having to acquire a Certificate of Need. The Department of Health shall maintain a record of the delicensing health care facility and its voluntarily delicensed beds and continue counting those beds as part of the state's total bed count for health care planning purposes.

106 General Certificate of Need Criteria and Standards for Acute Psychiatric, Chemical Dependency, and/or Psychiatric Residential Treatment Facility Beds/Services

The Mississippi Department of Health will review applications for a Certificate of Need for the establishment, offering, or expansion of acute psychiatric, chemical dependency treatment, and/or psychiatric residential treatment beds/services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the policies in this *Plan*; the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the general and service specific criteria and standards listed below.

The offering of acute psychiatric, chemical dependency treatment, and/or psychiatric residential treatment facility services is reviewable if the proposed provider has not offered those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered. The construction, development, or other establishment of a new health care facility to provide acute psychiatric, chemical dependency treatment, and/or psychiatric residential treatment services requires CON review regardless of capital expenditure.

1. Need Criterion:

a. **New/Existing Acute Psychiatric, Chemical Dependency, and/or Psychiatric Residential Treatment Facility Beds/Services:** The applicant shall document a need for acute psychiatric, chemical dependency, and/or psychiatric residential treatment

facility beds using the appropriate bed need methodology as presented in this section under the service specific criteria and standards.

b. **Projects which do not involve the addition of acute psychiatric, chemical dependency, and/or psychiatric residential treatment facility beds:** The applicant shall document the need for the proposed project. Documentation may consist of, but is not limited to, citing of licensure or regulatory code deficiencies, institutional long-term plans duly adopted by the governing board, recommendations made by consultant firms, and deficiencies cited by accreditation agencies (JCAHO, CAP, etc.).

c. **Projects which involve the addition of beds:** The applicant shall document the need for the proposed project. Exception: Notwithstanding the service specific statistical bed need requirements as stated in "a" above, the Department may approve additional beds for facilities which have maintained an occupancy rate of at least 80 percent for the most recent 12-month licensure reporting period or at least 70 percent for the most recent two (2) years.

d. **Child Psychiatry Fellowship Program:** Notwithstanding the service specific statistical bed need requirements as stated in "a" above, the Department may approve a 15-bed acute child psychiatric unit at the University of Mississippi Medical Center for children aged 4-12 to provide a training site for psychiatric residents.

2. The application shall affirm that the applicant will record and maintain, at a minimum, the following information regarding charity care and care to the medically indigent and make such information available to the Mississippi Department of Health within 15 business days of request:

   a. source of patient referral;

   b. utilization data, e.g., number of indigent admissions, number of charity admissions, and inpatient days of care;

   c. demographic/patient origin data;

   d. cost/charges data; and

   e. any other data pertaining directly or indirectly to the utilization of services by medically indigent or charity patients which the Department may request.

3. A CON applicant desiring to provide or to expand chemical dependency, psychiatric, and/or psychiatric residential treatment facility services shall provide copies of signed memoranda of understanding with Community Mental Health Centers and other appropriate facilities within their patient service area regarding the referral and admission of charity and medically indigent patients.

4. Applicants should also provide letters of comment from the Community Mental Health Centers, appropriate physicians, community and political leaders, and other interested groups that may be affected by the provision of such care.

5. The application shall document that within the scope of its available services, neither the facility nor its participating staff shall have policies or procedures which would exclude patients because of race, color, age, sex, ethnicity, or ability to pay.

The application shall document that the applicant will provide a reasonable amount of charity/indigent care as provided for in Chapter I of this *Plan*.

107 Service Specific Certificate of Need Criteria and Standards for Acute Psychiatric, Chemical Dependency, and/or Psychiatric Residential Treatment Facility Beds/Services

Acute Psychiatric Beds for Adults

1. The Mississippi Department of Health shall base statistical need for adult acute psychiatric beds on a ratio of **0.21 beds per 1,000 population aged 18 and older for 2010** in the state as a whole as projected by the Division of Health Planning and Resource Development. Table IX-4 presents the statistical need for adult psychiatric beds.

2. The applicant shall provide information regarding the proposed size of the facility/unit. Acute psychiatric beds for adults may be located in either freestanding or hospital-based facilities. Freestanding facilities should not be larger than 60 beds. Hospital units should not be larger than 30 beds. Patients treated in adult facilities and units should be 18 years of age or older.

3. The applicant shall provide documentation regarding the staffing of the facility. Staff providing treatment should be specially trained for the provision of psychiatric and psychological services. The staff should include both psychiatrists and psychologists and should provide a multi-discipline psychosocial medical approach to treatment.

Acute Psychiatric Beds for Children and Adolescents

1. The Mississippi Department of Health shall base statistical need for child/adolescent acute psychiatric beds on a ratio of **0.55 beds per 1,000 population aged 7 to 17 for 2010** in the state as a whole as projected by the Division of Health Planning and Resource Development. Table IX-4 presents the statistical need for child/adolescent psychiatric beds. Of the specified beds needed, 25 beds are hereby set aside exclusively for the treatment of children less than 14 years of age.

2. The applicant shall provide information regarding the proposed size of the facility/unit. Acute psychiatric beds for children and adolescents may be located in freestanding or hospital-based units and facilities. A facility should not be larger than 60 beds. All units, whether hospital-based or freestanding, should provide a homelike environment. Ideally, a facility should provide cottage-style living units housing eight to ten patients. Because of the special needs of children and adolescents, facilities or units which are not physically attached to a general hospital are preferred. For the purposes of this *Plan*, an adolescent is defined as a minor who is at least 14 years old but less than 18 years old, and a child is defined as a minor who is at least 7 years old but less than 14 years old.

3. The applicant shall provide documentation regarding the staffing of the facility. Staff should be specially trained to meet the needs of adolescents and children. Staff should include both psychiatrists and psychologists and should provide a multi-discipline psychosocial medical approach to treatment. The treatment program must involve parents and/or significant others. Aftercare services must also be provided.

4. The applicant shall describe the structural design of the facility in providing for the separation of children and adolescents. In facilities where both children and adolescents are housed, the facility should attempt to provide separate areas for each age grouping.

Chemical Dependency Beds for Adults

1. The Mississippi Department of Health shall base statistical need for adult chemical dependency beds on a ratio of **0.14 beds per 1,000 population aged 18 and older for 2010** in the state as a whole as projected by the Division of Health Planning and Resource Development. Table IX-5 presents the statistical need for adult chemical dependency beds.

2. The applicant shall provide information regarding the proposed size of the facility/unit. Chemical dependency treatment programs may be located in either freestanding or hospital-based facilities. Facilities should not be larger than 75 beds, and individual units should not be larger than 30 beds. The bed count also includes detoxification beds. Staff should have specialized training in the area of alcohol and substance abuse treatment, and a multi-discipline psychosocial medical treatment approach which involves the family and significant others should be employed.

3. The applicant shall describe the aftercare or follow-up services proposed for individuals leaving the chemical dependency program. Chemical dependency treatment programs should include extensive aftercare and follow-up services.

4. The applicant shall specify the type of clients to be treated at the proposed facility. Freestanding chemical dependency facilities and hospital-based units should provide services to substance abusers as well as alcohol abusers.

Chemical Dependency Beds for Children and Adolescents

1. The Mississippi Department of Health shall base statistical need for child/adolescent chemical dependency beds on a ratio of **0.44 beds per 1,000 population aged 12 to 17 for 2010** in the state as a whole as projected by the Division of Health Planning and Resource Development. Table IX-5 presents the statistical need for child/adolescent chemical dependency beds.

2. The applicant shall provide information regarding the proposed size of the facility/unit. Chemical dependency beds may be located in either freestanding or hospital-based facilities. Because of the unique needs of the child and adolescent population, facilities shall not be larger than 60 beds. Units shall not be larger than 20 beds. The bed count of a facility or unit will include detoxification beds.

   Facilities or units, whether hospital-based or freestanding, should provide a home-like environment. Ideally, facilities should provide cottage-style living units housing eight to ten patients. Because of the special needs of children and adolescents, facilities or units which are not physically attached to a general hospital are preferred.

3. The applicant shall provide documentation regarding the staffing of the facility. Staff should be specially trained to meet the needs of adolescents and children. Staff should include both psychiatrists and psychologists and should provide a multi-discipline psychosocial medical approach to treatment. The treatment program must involve parents and significant others. Aftercare services must also be provided.

4. The applicant shall describe the structural design of the facility in providing for the separation of the children and adolescents. Child and adolescent patients shall be separated from adult patients for treatment and living purposes.

5. The applicant shall describe the aftercare or follow-up services proposed for individuals leaving the chemical dependency program. Extensive aftercare and follow-up services involving the family and significant others should be provided to clients after discharge from the inpatient program. Chemical dependency facilities and units should provide services to substance abusers as well as alcohol abusers.

Psychiatric Residential Treatment Facility Beds/Services

1. The Mississippi Department of Health shall base statistical need for psychiatric residential treatment beds on a ratio of **0.4 beds per 1,000 population aged 5 to 21 for 2010** in the state as a whole as projected by the Division of Health Planning and Resource Development. Table IX-6 presents the statistical need for psychiatric residential treatment facility beds.

2. The application shall state the age group that the applicant will serve in the psychiatric residential treatment facility and the number of beds dedicated to each age group (5 to 13, 14 to 17, and 18 to 21).

3. The applicant shall describe the structural design of the facility for the provision of services to children less than 14 years of age. Of the beds needed for psychiatric residential treatment facility services, 25 beds are hereby set aside exclusively for the treatment of children less than 14 years of age. An applicant proposing to provide psychiatric residential treatment facility services to children less than 14 years of age shall make provision for the treatment of these patients in units which are programmatically and physically distinct from the units occupied by patients older than 13 years of age. A facility may house both categories of patients if both the physical design and staffing ratios provide for separation.

   This criterion does not preclude more than 25 psychiatric residential treatment facility beds being authorized for the treatment of patients less than 14 years of age. However, the Department shall not approve more than 334 psychiatric residential treatment facility beds statewide unless specifically authorized by legislation. (Note: the 388 licensed and CON approved beds indicated on page IX-37 were the result of both CON approval and legislative actions).

4. The applicant shall provide information regarding the proposed size of the facility/unit. A psychiatric residential treatment facility should provide services in a homelike environment. Ideally, a facility should provide cottage-style living units not exceeding 15 beds. A psychiatric residential treatment facility should not be larger than 60 beds.

5. The applicant shall provide documentation regarding the staffing of the facility. Staff should be specially trained to meet the treatment needs of the age category of patients being served. Staff should include both psychiatrists and psychologists and should provide a multi-discipline psychosocial medical approach to treatment. The treatment program must involve parents and/or significant others. Aftercare/follow-up services must also be provided.

Table IX-4
Statewide Acute Psychiatric Bed Need
2007

Bed Category and Ratio	2010 Projected Population	Projected Bed Need	Licensed/CON Approved/Abeyance Beds	Difference
Adult Psychiatric: 0.21 beds per 1,000 population aged 18+	2,238,274	470	543	-73
Child/Adolescent Psychiatric: 0.55 beds per 1,000 population aged 7 to 17	452,740	249	269	-20

Sources: Applications for Renewal of Hospital License for Calendar Year 2006 and FY 2005 Annual Hospital Report; and Division of Health Planning and Resource Development calculations, March 2006

Table IX-5
Statewide Chemical Dependency Bed Need
2007

Bed Category and Ratio	2010 Projected Population	Projected Bed Need	Licensed/CON Approved Beds	Difference
Adult Chemical Dependency: 0.14 beds per 1,000 population aged 18+	2,238,274	313	301	12
Child/Adolescent Chemical Dependency: 0.44 beds per 1,000 population aged 12 to 17	251,695	111	52	59

Sources: Applications for Renewal of Hospital License for Calendar Year 2006 and FY 2005 Annual Hospital Report; Division of Health Planning and Resource Development calculations, March 2006

Table IX-6
Statewide Psychiatric Residential Treatment Facility Bed Need
2007

Age Cohort	Bed Ratio per 1,000 Population	2010 Projected Population	Projected Bed Need	Licensed/CON Approved Beds	Difference
5 to 21	0.4	704,365	282	358	-76

Sources: Mississippi Department of Health, Division of Health Planning and Resource Development, March 2006

Chapter 09 Mental Health

This chapter addresses mental illness, alcoholism, drug abuse, and developmental disabilities. These conditions result in social problems of such magnitude that mental health ranks as one of the state's priority health issues. The Mississippi Department of Mental Health, regional community Mental Health-Mental Retardation Centers, and licensed private sector facilities provide most of the state's mental health services. Unless otherwise specified, information in this chapter is limited to the programs and services of these entities.

Some providers in the private sector are not licensed under state authority. These entities are not required nor do they voluntarily submit information to any state agency regarding the amount and type of services they render. The lack of data from these facilities makes it difficult to determine the overall impact that the private sector has in delivering mental health services.

100 Mississippi Department of Mental Health

State law designates the Mississippi Department of Mental Health (MDMH) as the agency to coordinate and administer the delivery of public mental health services, alcohol/drug abuse services, and mental retardation services throughout the state, as well as community-based day programs for individuals with Alzheimer's disease and other dementia. Responsibilities of MDMH include: (a) state-level planning and expansion of all types of mental health, mental retardation, and substance abuse services, (b) standard-setting and support for community mental health/mental retardation and alcohol/drug abuse programs, (c) state liaison with mental health training and educational institutions, (d) operation of the state's psychiatric facilities, and (e) operation of the state's facilities for individuals with mental retardation. MDMH consists of three bureaus: Administration, Mental Health, and Mental Retardation. Responsibility for the operation and oversight of specific programs falls to the various divisions within each bureau.

Bureau of Administration

The Bureau of Administration consists of the Divisions of Accounting, Auditing, Planning and Public Information, Professional Development, Information Systems, Human Resources, and Professional Licensure and Certification. These divisions work collectively with bureaus that provide direct service.

Bureau of Mental Health

The Bureau of Mental Health provides a variety of services through several divisions:

a. Responsibility for the development and maintenance of community-based mental health services for adults, addressing a priority population of adults with serious mental illness, belongs to the Division of Community Services. The 15 regional mental health centers and the community service divisions of the state psychiatric hospitals provide an array of treatment and support services. The division focuses its major effort toward providing a network of community-based services offering the support needed by individuals, which may vary across time. Additionally, the Bureau works in conjunction with the Bureau of Mental Retardation to coordinate the emergency/crisis response of the MDMH with the Mississippi Emergency Management Agency (MEMA).

b. The Division of Alcohol and Drug Abuse Services establishes, maintains, monitors, and evaluates a statewide system of alcohol and drug abuse services, including prevention, treatment, and rehabilitation. The division designed a system of services to reflect its philosophy that alcohol and drug abuse are preventable and treatable illnesses. This system provides a continuum of community-based, accessible services including prevention, outpatient, detoxification, community-based primary and transitional treatment, inpatient, and aftercare services. The division provides technical assistance to state agencies and other interested organizations in implementing Employee Assistance Programs. All services are provided through a grant/contract with state agencies, local public agencies, and nonprofit organizations.

c. The Division of Children and Youth Services determines the mental health service needs of children and youth in Mississippi and develops programs to meet those needs. Division staff provide technical assistance and leadership in the implementation of MDMH-certified mental health services and programs for children and youth. The division develops and supervises evaluation procedures to ensure the quality of these programs and oversees the enforcement of certain governmental regulations, including MDMH guidelines and standards for services. The 15 regional community mental health centers and a number of other nonprofit agencies and organizations funded and/or certified by MDMH provide community mental health services for children.

d. The Division of Accreditation and Licensure for Mental Health coordinates and develops certification standards, certification site reviews, and compliance requirements for community mental health and alcohol/drug abuse services operated and/or funded through the MDMH. This division coordinates peer review/quality assurance teams, which may review community programs operated and/or funded by MDMH.

e. The Division of Alzheimer's Disease and Other Dementia develops and implements state plans to assist in the care and treatment of persons with Alzheimer's disease and other dementia, including education and training of caregivers (family and service providers), and development of community-based day programs.

f. The Office of Constituency Services documents, investigates, and resolves all complaints/grievances received from consumers, family members, and the general public regarding state and community mental health/mental retardation facilities. The office also operates and maintains a computerized database and a toll-free helpline to provide information regarding services for persons with mental illness, mental retardation, and substance abuse.

g. The state's two larger psychiatric hospitals - East Mississippi State Hospital (EMSH) at Meridian and Mississippi State Hospital (MSH) at Whitfield - both provide inpatient services, including acute and intermediate psychiatric care, alcohol and drug treatment for adults, acute psychiatric care for adolescents, and skilled nursing care. EMSH provides inpatient acute psychiatric alcohol and drug treatment for adolescent males, and MSH provides acute psychiatric care for children, medical/surgical hospital services, and forensic services. Two 50-bed hospitals, the North Mississippi State Hospital (NMSH) in Tupelo and the South Mississippi State Hospital (SMSH) in Purvis, provide acute psychiatric services for adults for designated service areas. The NMSH serves men and women from 18 counties, and SMSH serves adults from a nine-county area. Both the MSH and EMSH also provide transitional, community-based care for adults with serious mental illness. These services include community-based housing options (such as group homes or supervised apartments), halfway house services, case management, psycho-social rehabilitation services, and specialized services for individuals with mental illness who are homeless. These

services are generally provided in close proximity to the hospitals and/or in areas where a regional mental health/mental retardation center elects not to provide that particular community service.
Mississippi State Hospital, North Mississippi State Hospital, South Mississippi State Hospital, and Central Mississippi Residential Center also operate state crisis intervention centers.

h. The first phase of renovation of the Central Mississippi Residential Center (CMRC) in Newton (formerly the Clarke College property) is complete, and four 12-bed personal care homes located on the campus were opened in the fall of 2003. The CMRC will provide a specialized residential treatment program for adults with long-term mental illness discharged/transferred from the state hospitals. CMRC continues to operate a day- program for persons with Alzheimer's disease/other dementia and a crisis intervention center.

i. The Specialized Treatment Facility for Emotionally Disturbed Youth in Gulfport opened in September 2004 and operated at partial capacity in 2005. In 2006, funds were authorized to increase the operational capacity of this center. This 48-bed facility is designed to serve youth who have come before youth court and have also been diagnosed with a mental disorder. Adolescents appropriate for admission are 13 years, but less than 21 years of age, who present an Axis I diagnosis of a severe emotional disturbance and need psychiatric residential care.

Bureau of Mental Retardation

The Bureau of Mental Retardation supervises three divisions and five comprehensive regional facilities for persons with developmental disabilities/mental retardation.

a. The Division of Community Mental Retardation Services develops community mental retardation programs established with state or federal funds other than Developmental Disability Funds. The division works with the regional community mental health/mental retardation centers, state facilities, and other service providers to develop community programs for persons with mental retardation. The division also develops the *State Plan for Related Services and Support to Individuals With Mental Retardation/Developmental Disabilities,* and supports the Bureau of Mental Retardation State Plan Advisory Council.

The Bureau also provides early intervention services for infants and toddlers with developmental disabilities or potential for developmental delay. The MDMH's Early Intervention Programs and the MDH's First Steps Early Intervention Program cooperate to jointly locate children and families in need of early intervention services and provide linkages to those services. Program sites across the state provide children and families with comprehensive multidisciplinary evaluations, speech/language therapy, occupational therapy, physical therapy, and educational interventions. Each of the five comprehensive regional centers provide community early intervention services.

b. The Bureau of Mental Retardation serves as the designated state agency for the Mississippi Council on Developmental Disabilities (CDD). The CDD funds are used to improve the lives of people with developmental disabilities and their families throughout the state. Service priorities selected by the Council for FY 2001-2006 include employment, community living, transportation, health, and leisure/recreation. Initiatives (service grants) are awarded to programs through an annual Request for Proposal process.

~~c.~~c. The Division of Home and Community-Based MR/DD Waiver (HCBS Waiver) provides services to persons with mental/retardation/developmental disabilities who would require the

level of care found at an intermediate care facility for the mentally retarded (ICF/MR) if these services were not available. Statewide program capacity has increased over time and will continue to expand pending federal approval and appropriation of the state General Fund match. The HCBS-MR/DD Waiver program is available on a statewide basis to eligible persons of all ages. More information about this program appears in the Mental Retardation/Developmental Disabilities section of this chapter.

d. The Division of Accreditation, Licensure, and Quality Assurance for Mental Retardation coordinates the development of certification standards, certification site visits, and compliance requirements for community programs. The division also works with the five regional centers for persons with developmental disabilities, the comprehensive community mental health/mental retardation centers, and other providers to ensure quality of care and compliance with accreditation standards.

e. Mississippi operates five comprehensive regional facilities for individuals with developmental disabilities: Boswell Regional Center, Sanatorium; Hudspeth Regional Center, Whitfield; Ellisville State School, Ellisville; North Mississippi Regional Center, Oxford; and South Mississippi Regional Center, Long Beach. These facilities provide institutional care as licensed intermediate care facilities for the mentally retarded (ICF/MR). Residential services include psychology, social services, medical and nursing services, recreation, special education, speech therapy, occupational therapy, physical therapy, audiology, and vocational or work training. These facilities also provide a primary vehicle for delivering community services throughout Mississippi. In the community setting, the comprehensive regional facilities provide alternative living arrangements, including group homes, supervised apartments, and specialized homes for elderly persons, and shadow-supervised living arrangements. They also provide diagnostic and evaluation services, employment services, early intervention services, case management services, and transitional training services.

f. The Juvenile Rehabilitation Facility is a 48-bed residential facility in Brookhaven, serving youth with mental retardation whose behavior makes it necessary for their treatment to be provided in a specialized treatment facility. Though most youth served are between 13 and 21 years old, persons under age 13 may be considered for services on an individual basis as space is available.

The various bureaus and divisions of the MDMH maintain close working relationships with the 15 regional community mental health centers, the Mississippi Department of Education, Mississippi Department of Rehabilitation Services, Mississippi Department of Human Services, Mississippi Department of Health, and other public and private organizations.

101 Regional Community Mental Health-Mental Retardation Centers

Regional community mental health-mental retardation centers provide a major component of the state's mental health services. Fifteen centers currently operate in the state's mental health service areas, and most centers have satellite offices in other counties. These centers provide a statewide network of services readily available to all Mississippians. Each center provides a number of services to adults and children. The specific services may vary among centers, but generally include the following:

- Outpatient services
- Psychosocial rehabilitative services
- Consultation and education services

- After-care services
- Pre-evaluation screening (prior to civil commitment examination)
- Case management services
- Inpatient referral
- Emergency services
- Access to family education services
- Access to consumer education services
- Mental health therapeutic residential services
- Alcohol abuse prevention/treatment services
- Drug abuse prevention/treatment services
- Mental retardation/developmental disabilities services
- Specialized children's mental health services — crisis intervention, sexual abuse intervention, intensive psychosocial/day treatment rehabilitation, and outpatient therapy.

The Mississippi Legislature established community mental health centers in 1966 with funding from federal staffing grants. To secure the required matching funds for these grants, the Legislature authorized local governments to appropriate up to two mills in tax revenues to be used as match. As federal staffing grants were phased out, the Mississippi State Legislature began to support the community mental health centers with state appropriations for essential mental health and mental retardation services. Since 1986, a significant increase in state appropriated funds for community mental health center services has occurred; however, the need exists for increased appropriations through the Legislature and local governments for centers to continue providing existing services and to expand services.

The Department of Mental Health is prohibited from funding services at any regional community mental health center that does not receive a specified minimum level of support from each county in the region. That minimum level of support is the greater of (1) the proceeds of a ¾ mill tax in 1982, or (2) the actual contribution made in 1984. All counties were in compliance with this provision for 2005; however, the total received from all counties is approximately six percent of total community mental health center receipts.

Each regional community mental health center is a separate legal entity that conforms to federal and state program standards relating to administration, services provided, and staffing. The 1997 Legislature clarified the MDMH's authority to set and enforce minimum standards for community mental health center services and to increase uniformity in the availability and quality of services across mental health center regions. The regional community mental health-mental retardation centers form the core of an integrated system which, if properly funded and utilized, would be capable of delivering needed mental health services to all citizens of Mississippi.

102 Social Services Block Grant

The Department of Human Services administers the Social Services Block Grant (SSBG) monies which come into the state. For the past several years, a portion of the SSBG has been directly allocated to and administered by the MDMH. The MDMH uses these funds for such programs as alcohol/drug residential treatment programs, mental health halfway house programs, residential treatment for chemically dependent adolescents, therapeutic foster care for children with emotional or mental disorders, work activity, child care for children with mental retardation/developmental disabilities, and case management. The MDMH contracts with regional community mental health centers and other public and private nonprofit providers for these programs.

103 Mental Health Problems in Mississippi

Mental Illness

The complexity of mental illness hinders professionals from determining an accurate diagnosis and classification of mental and emotional disorders. This complexity also causes problems in ascertaining the actual number of people who suffer from mental illness and associated problems. In addition, no reliable comprehensive database exists to document the prevalence of mental health problems across age groups.

The National Co-morbidity Survey estimates that 52 million people aged 15 to 54 had some type of alcohol, drug abuse, or mental health disorder within the past year. Of these, an estimated 40 million had some type of mental disorder. According to the United States Substance Abuse and Mental Health Services Administration (SAMHSA), an estimated eight million people, or 4.5 percent, had both a mental disorder and substance abuse/dependence with the past year. (SAMHSA, U.S. Department of Health and Human Services, 1995).

The prevalence of mental illness – although difficult to assess– serves as a good indicator of the volume of need for mental health services in a given population. The negative social stigma associated with the term "mental illness" also obstructs efforts to measure the true incidence/ prevalence of most types of mental illness and behavior disorders and the need for mental health services.

Using the methodology updated by the federal Center for Mental Health Services (CMHS) for estimated prevalence of serious mental illness among adults (*Federal Register*, June 24, 1999) and U.S. Bureau of the Census 2004 population estimates, the MDMH estimates the prevalence of serious mental illness among adults in Mississippi as 5.4 percent or 115,390 individuals. The same methodology estimates the national prevalence for the same age group also as 5.4 percent.

In Fiscal Year 2005, a total of 64,074 adults received services through the public community mental health system, including the regional community mental health centers, and the community service divisions of the state psychiatric hospitals. A total of 53,574 of these adults had a mental illness; of which 47,905 had a serious mental illness (includes adults with a dual diagnosis of mental illness and substance abuse).

Mental Health Needs of Children/Adolescents

Precise data concerning the size of the country's population of children and adolescents with emotional or mental disorders remain difficult to obtain. The methodology issued by the national Center of Mental Health Services (*Federal Register*, July 17,1998) estimates the prevalence of serious emotional disturbance nationally among children and adolescents (9-17 years of age) to be between 9-13 percent. The methodology adjusts for socio-economic differences across states. Given Mississippi's relatively high poverty rate when compared to other states, the estimated prevalence ranges for the state, updated for 2004, were on the highest end of the range, as follows:

(1) Mississippi's estimated prevalence of serious emotional disturbance in children and adolescents (ages 9 to 17) is between 11 and 13 percent, or 42,116 - 49,773 children.
(2) Mississippi's estimated prevalence of the more severely impaired group of children and adolescents (estimated at five to nine percent of the national population), aged 9-17 is between seven and nine percent, or 26,801 - 34,458 Mississippi children.
(3) The MSDMH estimates that the prevalence of serious emotional disturbance among Mississippi youth in the transition age group of 18 to 21 years of age is 12,250.

Note: *As pointed out in the methodology, there are limitations to these estimated prevalence ranges, including the "modest" size of the studies from which these estimates were derived; variation in the population, instruments, methodology, and diagnostic systems across the studies; inadequate data on which to base estimates of prevalence for children under nine; and inadequate data from which to determine potential differences related to race or ethnicity or whether or not the youth lived in urban or rural areas.*

In Fiscal Year 2005, the public community mental health system served 28,220 children and adolescents with serious emotional disturbance. Additionally, 434 youth were served by providers certified, but not funded by, the MDMH (for therapeutic foster care, therapeutic group homes, day-treatment, intensive in-home, or adolescent offender programs certified by MDMH).

Alcohol and Drug Abuse

The abuse of alcohol and other drugs has reached pandemic proportions. Alcohol and other drug problems cause pervasive effects: biological, psychological, and social consequences for the abuser; psychological and social effects on family members and others; increased risk of injury and death to self, family members, and others (especially by accidents, fires, or violence); and derivative social and economic consequences for society at large.

SmartTrack®

SmartTrack®, a web- based data collection tool developed by DREAM, Inc., provides need-assessment data related to the Center for Substance Abuse Prevention core measures. It collects data on severity of substance abuse, risk and protective factors, and identification of the most pressing prevention issues.

These data are collected from schools in communities throughout the state to establish base-line data on prevalence and severity of substance abuse, as well as related behaviors and attitudes. A survey of 109,773 sixth through eleventh grade public school students conducted during the 2004-05 school term reveals the following protective factors among Mississippi youth: Approximately 59 percent of students indicated smoking marijuana regularly posed a great risk and 47 percent stated that consuming four to five alcoholic beverages per day was a great risk. Approximately 35 percent of surveyed students strongly felt that they belonged to their school compared to eight percent that strongly disagreed. The survey found that 24 percent of students indicated that they almost always enjoyed being in school as compared to ten percent that stated the opposite. Approximately 46 percent of students stated that they never have major fights or arguments with their parent/guardian(s), while 41 percent indicated that they could ask their parents for help in dealing with a personal problem. Finally, 60 percent of students indicated that their parents enforce rules at home.

National Survey on Drug Use and Health for Mississippi

According to statistics cited in SAMHSA's *2003-04 National Survey on Drug Use and Health* state estimates, six percent of Mississippians 12 years or older were past-month illicit drug users. By age group, 12-17 year old Mississippians represented nine percent of past-month illicit users; 18-25 year olds represented 13 percent; and persons 26 years or older represented four percent. Past-month marijuana use among Mississippians 12 years and older was four percent. By age group, 12-17 year olds represented six percent of past-month marijuana users; 18-25 year olds represented 11 percent; and persons 26 years or older represented three percent. Approximately 37 percent of Mississippians were past-month alcohol users. By age group, 12-17 year olds represented 14 percent of past-month alcohol users; 18-25 year olds represented 51 percent; and persons 26 years or older represented 37 percent. Past month binge alcohol use among Mississippians was 20 percent.

Mississippi's 2003 Youth Risk Behavior Survey (YRBS)

The Mississippi YRBS measures the incidence and prevalence of behaviors that contribute to the leading causes of mortality and morbidity among youth. The YRBS is part of a larger effort to help communities promote the "resiliency" of young people by reducing high risk behaviors and increasing health behaviors. The U.S. Centers for Disease Control and the nationally recognized survey research firm, Westat, developed the survey and analyzed the data collection. The Mississippi Department of Health conducted the survey and developed the report. A total of 1,488 students in 34 public high schools, grades 9-12, completed the YRBS in the spring of 2003. The school response rate was 76 percent, the student response rate was 89 percent, and the overall response rate was 34 percent. Students completed a voluntary, self administered anonymous, 87-item questionnaire.

Mississippi youth exhibit substance use rates and risk behaviors similar to national rates according to statistics published in the *2003 Youth Risk Behavior Survey (YRBS)*. Table IX-1 illustrates the YRBS trends for Mississippi youth over a ten-year period. Statistics reveal that marijuana use among Mississippi youth increased significantly from a low of nine percent in 1993 to 21 percent in 2003.

Table IX-1
Mississippi Youth Risk Behavior Survey Trends
1993-2003

Substances & Risk Factors	U.S. 2003	MS 2003	2001	1999	1997	1995	1993
Alcohol use, past month	45%	42%	42%	43%	46%	49%	47%
Episodic heavy drinking, past-month	28%	25%	22%	25%	24%	30%	27%
Marijuana use, past month	22%	21%	17%	19%	21%	16%	9%
Ever used cocaine	9%	6%	5%	6%	4%	3%	2%
Ever used inhalants	12%	11%	10%	13%	17%	18%	N/A
Alcohol use before age 13	28%	32%	32%	34%	36%	31%	34%

Source: *2003 Youth Risk Behavior Survey (YRBS)*

Although past-month alcohol use has declined over a ten-year period, the percentage of youth reporting 30-day alcohol use has remained constant since 2001. Binge drinking rates reflect that one in four Mississippi youth (25 percent) report that they have consumed more than five alcoholic beverages in the past 30 days. Approximately one-third of Mississippi youth have consumed alcohol before age 13. This statistic supports the fact that motor vehicle crashes are the leading causes of death among Mississippians 10 to 24 years old, at 36 percent, compared to a national rate of 32 percent. The prevalence of underage drinking is higher among males than females and is higher among white males than black and Hispanic males.

Tobacco Use

Measures of tobacco use among Mississippi students are compared to national numbers in 2003 indicate that:

- 66 percent of Mississippi students have ever smoked cigarettes, compared to 58 percent nationally;
- 25 percent of Mississippi students have smoked cigarettes during the past month, compared to 22 percent nationally;
- 12 percent of Mississippi students have smoked cigarettes on 20 or more of the past 30 days, compared to ten percent nationally;
- 18 percent of Mississippi students have smoked cigars during the past month, compared to 15 percent nationally;
- Eight percent of Mississippi students have used smokeless tobacco during the past month, compared to seven percent nationally.

There has been significant improvement, an overall downward trend, in several measures of tobacco use among Mississippi students:

- The percentage of students who have ever tried cigarette smoking has decreased from 76 percent in 1993 to 66 percent in 2003;
- The percentage of students who have smoked cigarettes during the past 30 days has decreased from 28 percent in 1993 and 35 percent in 1995 to 25 percent in 2003;
- The percentage of students who have smoked cigarettes on school property during the past 30 days has decreased from nine percent in 1993 to six percent in 2003;
- The percentage of students who have used chewing tobacco or snuff during the past 30 days was ten percent in 1995 and eight percent in 2003; and
- The percentage of students who have used any form of tobacco during the past 30 days has decreased from 39 percent in 1999 to 34 percent in 2003.

Developmental Disabilities

In general, the term "developmental disability" means a severe, chronic disability of an individual that:

(1) Is attributable to a mental or physical impairment or a combination of mental and physical impairments;
(2) Is manifested before the person attains age 22;
(3) Is likely to continue indefinitely;
(4) Results in substantial functional limitations in three or more of the following areas of major life activity: self care, receptive and expressive language, learning, mobility, self-direction, capacity for independent living, and economic self-sufficiency; and
(5) Reflects the individual's need for a combination and sequence of special, interdisciplinary, or generic services, individualized supports, or other forms of assistance that are of lifelong or extended duration and are individually planned and coordinated.

Infants And Young Children: An individual from birth to age nine, inclusive, who has a substantial developmental delay of specific congenital or acquired condition, may be considered to have a developmental disability without meeting three or more of the criteria described in (1) through (5) above, if the individual, without services and support, has a high probability of meeting those criteria later in life.

The nationally-accepted prevalence rate for persons with developmental disabilities in the state is estimated at 1.8 percent of the general population. By applying the 1.8 percent prevalence rate to Mississippi's 2010 population projections, the results equal 53,560 individuals who may have a developmental disability.

Based on the 2010 projected population, service need is estimated by age ranges as follows:

Table IX-2
Service Need by Age Range
2005

Ages	0 to 4	5 to 17	18 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 to 74	75 to 84	85 +
Percentage of Population	6.9%	18.9%	10.0%	13.8%	12.5%	13.8%	11.4%	7.2%	3.1%	2.4%

104 Mental Health Services Delivery System

The mental health delivery system in Mississippi includes a wide range of services and settings. Supportive services are impossible to list because these would include any individual or organization providing relief for an emotional problem that impairs the ability of an individual to function normally. Direct services are those whose primary mission involves the detection and treatment of mental illness, substance abuse, and mental retardation/developmental disabilities.

Although quasi-public and private agencies provide an assortment of programs, state government provides or finances the majority of mental health services. This is especially true of residential treatment services. As mentioned previously, Mississippi has four state-operated hospitals for individuals with mental illness: Mississippi State Hospital (MSH) at Whitfield; East Mississippi State Hospital (EMSH) at Meridian; North Mississippi State Hospital (NMSH), an acute psychiatric hospital for adults in Tupelo; and South Mississippi State Hospital (SMSH), an acute psychiatric hospital for adults in Purvis.

Mississippi State Hospital reported a total of 2,093 licensed beds for FY 2005. This total includes two separately-licensed facilities operated by MSH: Oak Circle Center, a 60-bed child-adolescent psychiatric hospital, and Whitfield Medical/Surgical Hospital, a 32-bed acute care hospital, and crisis centers. MSH also had 479 licensed skilled nursing facility (nursing home) beds at the main hospital. East Mississippi State Hospital reported 635 licensed beds for FY 2005, including 228 licensed nursing home beds.

Adult Psychiatric Services

Mississippi's four state-operated hospitals provide the majority of inpatient psychiatric care and services through state crisis centers. MSH reported a total of 1,422 adult psychiatric licensed beds; EMSH reported 332, NMSH reported 82, and SMSH reported 66. The four facilities reported 2,682 admissions to adult psychiatric services in FY 2005— 1,351 to MSH, 461 to EMSH, 381 to NMSH, and 489 to SMSH (162 were also admitted to crisis programs).

In addition to the facilities listed above, Mississippi has 13 hospital-based and two freestanding adult psychiatric facilities, with a capacity of 513 licensed beds for adult psychiatric patients (plus 30 held in abeyance by the MDH) distributed throughout the state. The criteria and standards section of this chapter provides a full description of the services that private facilities must provide. Map IX-1 shows the location of inpatient facilities in Mississippi serving adult acute psychiatric patients, and Table IX-2 shows utilization statistics.

Even though many of the private facilities have low occupancy rates, the state institutions provide the majority of inpatient care for the medically indigent. Medically indigent patients have difficulty gaining access to private psychiatric facilities in their respective communities. To help address the problem, the Legislature provided funding for construction of seven state crisis intervention centers to be operated as satellites to existing facilities operated by the Department of Mental Health.

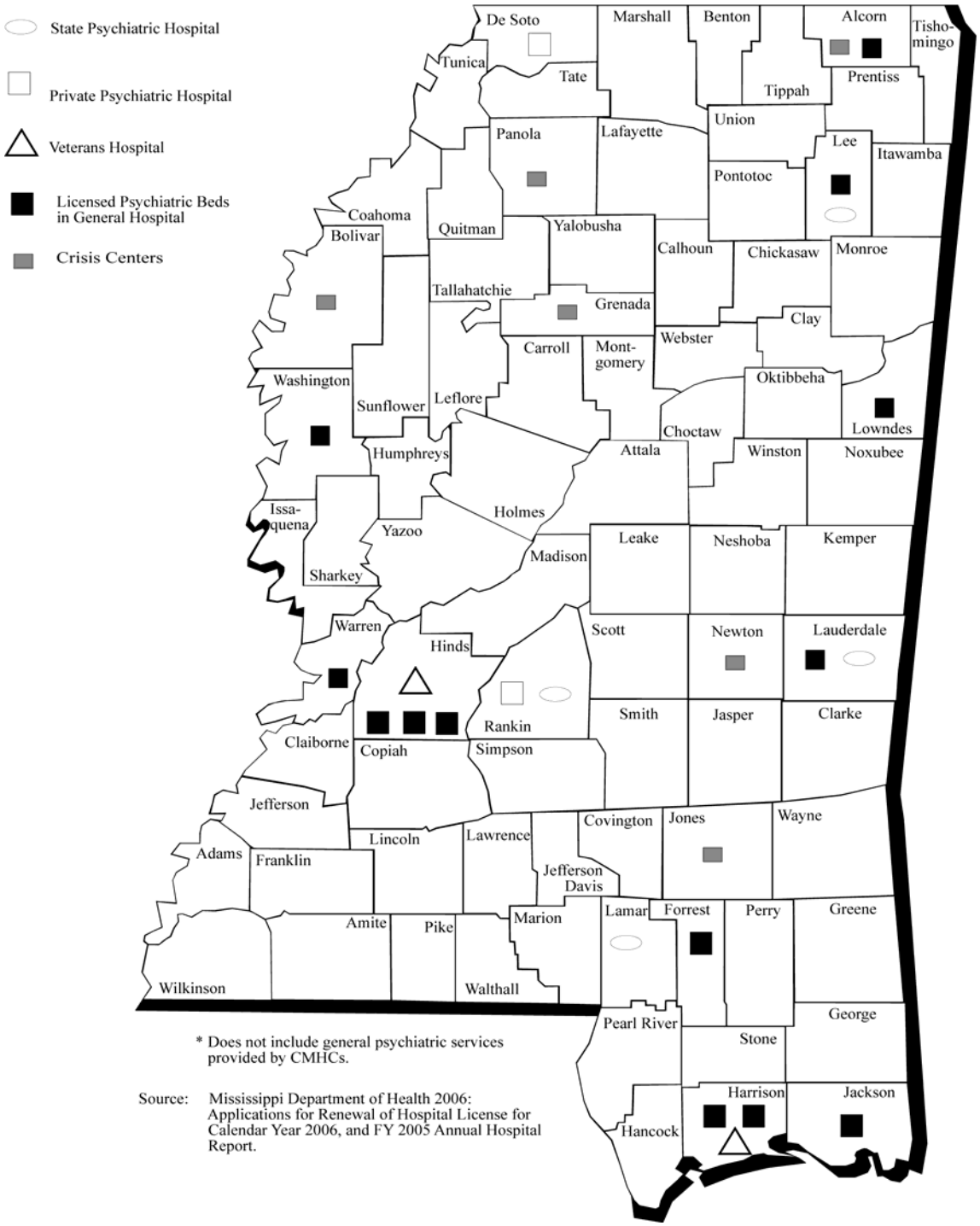
All of the centers are of similar design and function and include 16 beds and one isolation bed. The role of these centers in the regional system is to provide stabilization and treatment services to persons who have been committed to a psychiatric hospital and for whom a bed is not available. It is believed that many of these individuals can be treated in the center and returned to the community without an inpatient admission to the state psychiatric hospital. The more quickly a person receives treatment, the less likely his or her condition will worsen. The centers are located near medical facilities that will accommodate medical emergencies. In addition, plans include establishment of a cooperative relationship with a medical emergency facility so that medical clearance can be obtained for persons who have symptoms that may be indicative of both psychiatric and other medical conditions.

The seven community-based crisis centers were planned for Corinth, Newton, Grenada, Laurel, Cleveland, Batesville, and Brookhaven. The 2004 Legislature appropriated funds to open the center in Corinth at full capacity in FY 2005. Funds were appropriated in 2006 to open the five remaining centers that are constructed (Newton, Grenada, Laurel, Cleveland, and Batesville) at full capacity in 2007.

Development of the Central Mississippi Residential Center (CMRC) began in 1997 after the State of Mississippi purchased the property that was formerly the Clarke College in Newton. The property was renovated to enable the Mississippi Department of Mental Health to provide a specialized treatment program for adults with long-term, serious mental illness, including persons discharged or transferred from the state psychiatric hospitals. The program is based on a bio-psychosocial rehabilitation model and when fully operational will include a total of 168 beds (144 in personal care homes located on the campus and 24 in supervised apartments). In the fall of 2003, 48 personal care home beds for persons with mental illness were opened on campus. CMRC provided a range of services, such as medical care, educational, vocational and recreational services, individual and group therapy, and administrative and physical facility support services. CMRC continues to operate community day programs for adults with Alzheimer’s disease/other dementia near the campus..

Map IX - 1

Operational and Proposed Inpatient Facilities Serving Adult Acute Psychiatric Patients*



* Does not include general psychiatric services provided by CMHCs.

Source: Mississippi Department of Health 2006: Applications for Renewal of Hospital License for Calendar Year 2006, and FY 2005 Annual Hospital Report.

Table IX-2
Acute Psychiatric Bed Utilization
FY 2005

Facility	County	Licensed/CON*/ Abeyance** Beds	Inpatient Days	Occupancy Rate(%)**	Discharges	ALOS
Alliance Health Center	Lauderdale	24	12,289	140.29	1,106	11.09
(Adolescent)	Lauderdale	22	13,639	169.85	790	17.17
Baptist Memorial Hospital - Golden Triangle	Lowndes	22	2,833	35.28	365	7.53
Brentwood Behavioral Health Care	Rankin	48 / 30 **[1]	6,624	37.81	687	9.56
(Adolescent)	Rankin	59 / 12 *	16,573	76.96	1,345	12.22
Central Miss Medical Center	Hinds	29	7,881	74.45	732	10.74
Children's Hospital - Vicksburg						
(Adolescent)	Warren	20*	N/A	N/A	N/A	N/A
Delta Regional Medical Center	Washington	9	N/A	N/A	N/A	N/A
Diamond Grove Center						
(Adolescent)	Winston	20	4,361	59.74	419	10.53
Forrest General Hospital	Forrest	40	11,251	77.06	1,828	6.19
(Adolescent)	Forrest	16	6,585	112.76	843	7.86
Gulf Coast Medical Center	Harrison	34	5,826	46.95	811	7.19
(Adolescent)	Harrison	11	474	11.81	64	9.14
Magnolia Regional Health Center	Alcorn	19	4,513	65.08	536	8.22
Memorial Hospital at Gulfport	Harrison	59	5,077	23.58	773	6.82
(Adolescent)	Harrison	30	7,865	71.83	927	8.34
North Miss Medical Center	Lee	33	10,542	87.52	1,353	7.76
(Adolescent)	Lee	15 *	N/A	N/A	N/A	N/A

Table IX-2 (continued)
Acute Psychiatric Bed Utilization
FY 2005

Facility	County	Licensed/CON*/ Abeyance** Beds	Inpatient Days	Occupancy Rate(%)**	Discharges	ALOS
Parkwood Behavioral Health System	DeSoto	22	9,037	112.54	819	8.35
(Adolescent)	DeSoto	52	14,967	78.86	1,066	10.69
River Region Health System	Warren	40	7,890	54.04	937	8.11
Singing River Hospital	Jackson	30	3,619	33.05	580	7.52
St. Dominic Hospital	Hinds	83	15,359	50.70	1,841	8.80
University Hospital & Clinics	Hinds	21	6,461	84.29	817	7.91
(Adolescent)	Hinds	12	1,836	41.92	246	7.46
Total Adult		**513**	**109,202**	**58.32**	**13,185**	**8.21**
Abeyance		**30 ****				
Total Adolescent		**222 / 47 ***	**66,300**	**81.82**	**5,700**	**10.98**

*CON approved
**Beds held in abeyance by the MDH
Note: Unless otherwise noted, the above psychiatric beds are designated for adults
[1] CON approval has been granted to transfer 10 of these beds to Tri-Lakes Medical Center in Panola County

Sources: Applications for Renewal of Hospital License for Calendar Year 2006 and FY 2005 Annual Hospital Report; and Division of Health Planning and Resource Development Computations

Child/Adolescent Psychiatric Services

Although Mississippi has made progress in addressing the need for specialized services for children and adolescents, significant problems remain. Three freestanding facilities and five hospital-based facilities, with a total of 222 licensed beds, provide acute psychiatric inpatient services for children and adolescents. Two other hospitals and one freestanding facility have received Certificate of Need approval to add an additional 47 beds. Map IX-2 shows the location of inpatient facilities that serve adolescent acute psychiatric patients, and Table IX-2 gives utilization statistics. The criteria and standards section of this chapter provides a further description of the programs that inpatient facilities offering child/adolescent psychiatric services must provide.

The Department of Mental Health operates a separately-licensed 60-bed facility (Oak Circle Center) at Mississippi State Hospital to provide short-term inpatient psychiatric treatment for children and adolescents between the ages of four and 17 years 11 months. East Mississippi State Hospital operates a 50-bed psychiatric and chemical dependency treatment unit for adolescent males. Planning is complete for a 75-bed, long-term psychiatric residential treatment center for adolescents to be operated by EMSH; however, construction funds have not been approved.

The DMH operates a specialized 48-bed treatment facility in Brookhaven for youth with mental retardation who are involved with the criminal justice system. A similar facility is in Harrison County for youth who have come before Youth Court and have also been diagnosed with a mental disorder. Adolescents appropriate for admission are 13 years, but less than 21 years of age who present with an Axis I diagnosis of a severe emotional disturbance and need psychiatric residential care.

The Mississippi Legislature authorized the State Department of Health to establish Certificate of Need criteria and standards for psychiatric residential treatment facilities (PRTF). These facilities serve emotionally disturbed children and adolescents who are not in an acute phase of illness that requires the services of a psychiatric hospital, but who need restorative residential treatment services. "Emotionally disturbed" in this context means a condition exhibiting certain characteristics over a long period of time and to a marked degree. The criteria and standards section of this chapter describes these facilities more fully. A total of 358 PRTF beds are now authorized; six facilities are in operation, with a total of 282 beds; an additional 76 beds have received CON approval. Map IX-3 presents the location of existing and CON-approved private psychiatric residential treatment facilities. Children and adolescents who need psychiatric residential treatment beyond the scope of these residential treatment centers are served in acute psychiatric facilities or sent out of the state to other residential treatment facilities.

In FY 2005, DMH continued to make funds available to support services provided through 14 therapeutic group homes (and also, the ARK, which serves youth with dual disorders), including three transitional therapeutic homes that received DMH support from mental health services for youth; however, in the latter part of 2005, providers of therapeutic group home services funded by DMH closed a home in Columbus. These homes served a total of 260 children and youth during FY 2005. (This total does not include data from four homes that were severely impacted by Hurricane Katrina.) An additional 112 youths were served through therapeutic group homes certified, but not funded, by DMH. Additionally, the DMH continued to fund Catholic Charities, Inc. to help support 22 therapeutic foster care homes which provided therapeutic foster care services for 26 youths. Senior Services, Stepping Stones, United Methodist Ministries, Mississippi Children's Home Society, and Youth Village, non-profit private providers certified but not funded by MDMH, provided therapeutic foster care services to 130 youth in FY 2005.

A Division of Children and Youth Services staff member provides technical assistance and support to the homes, including documentation of site visits, record monitoring, and technical assistance activities. The DMH provided funding for five specialized outpatient intensive crisis intervention projects; these projects served 874 youths with severe emotional disturbances in FY 2005. The DMH also continued to provide funding to four model comprehensive crisis intervention programs for youth with serious emotional disturbance or behavioral disorders who are in crisis or who are identified as at risk for residential placement (operated by Catholic Charities, Inc. in the Jackson Metro area, by Community Counseling Services in the Region VII [east-central area of the state]; by Pine Belt Mental Health Care Services in Region XII [southeastern area of the state]; and Region VIII Community Mental Health Center. Funding was reallocated in FY 2005 to develop a fifth program in the northeast part of the state to be operated by Region IV Timber Hills Mental Health Services.)

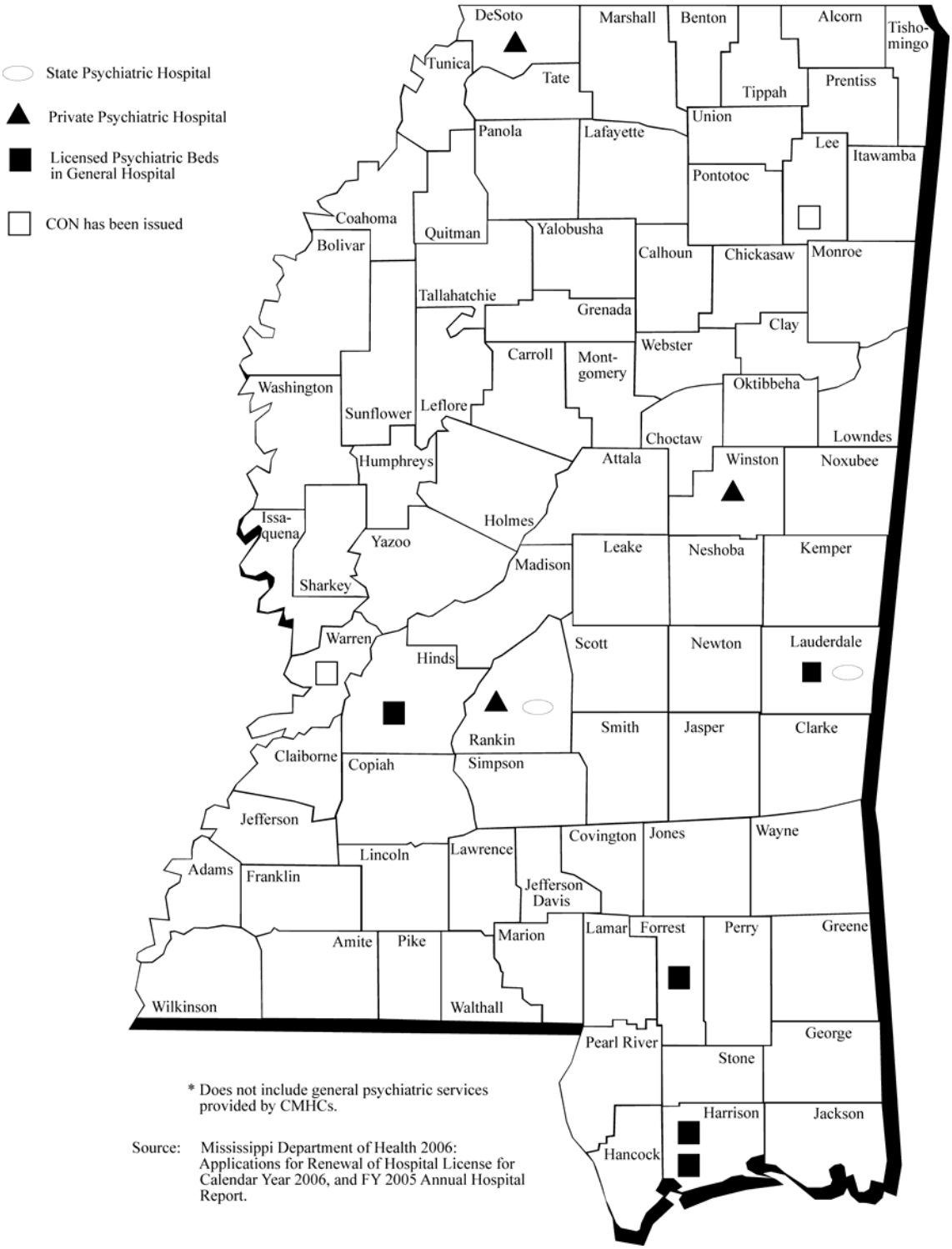
While inpatient services are sometimes necessary, every child/adolescent in the state should have access to appropriate community-based mental health services. This concept would provide an array of regional mental health services, allowing children/adolescents with emotional distress to be given the most appropriate and least restrictive service in or near the home community. Based on availability of adequate funding, regional community mental health centers could provide this array of community-based services.

The development of community-based programs provides many advantages. Such programs are generally less expensive, more family oriented, and frequently more effective than centralized institutional programs. Mississippi's Community Mental Health Plan describes an ideal comprehensive community mental health system for children, which would include the following major components:

- Prevention
- Diagnosis and evaluation/early intervention
- Case management
- Crisis intervention
- Outpatient services
- Day treatment/psychosocial rehabilitation
- Respite services
- Family education/support
- Community-based residential services
- Community residential treatment for alcohol/drug problems
- Protection and advocacy
- Inpatient services
- Therapeutic support services, including staff training and human resource development
- Other support services

Map IX - 2

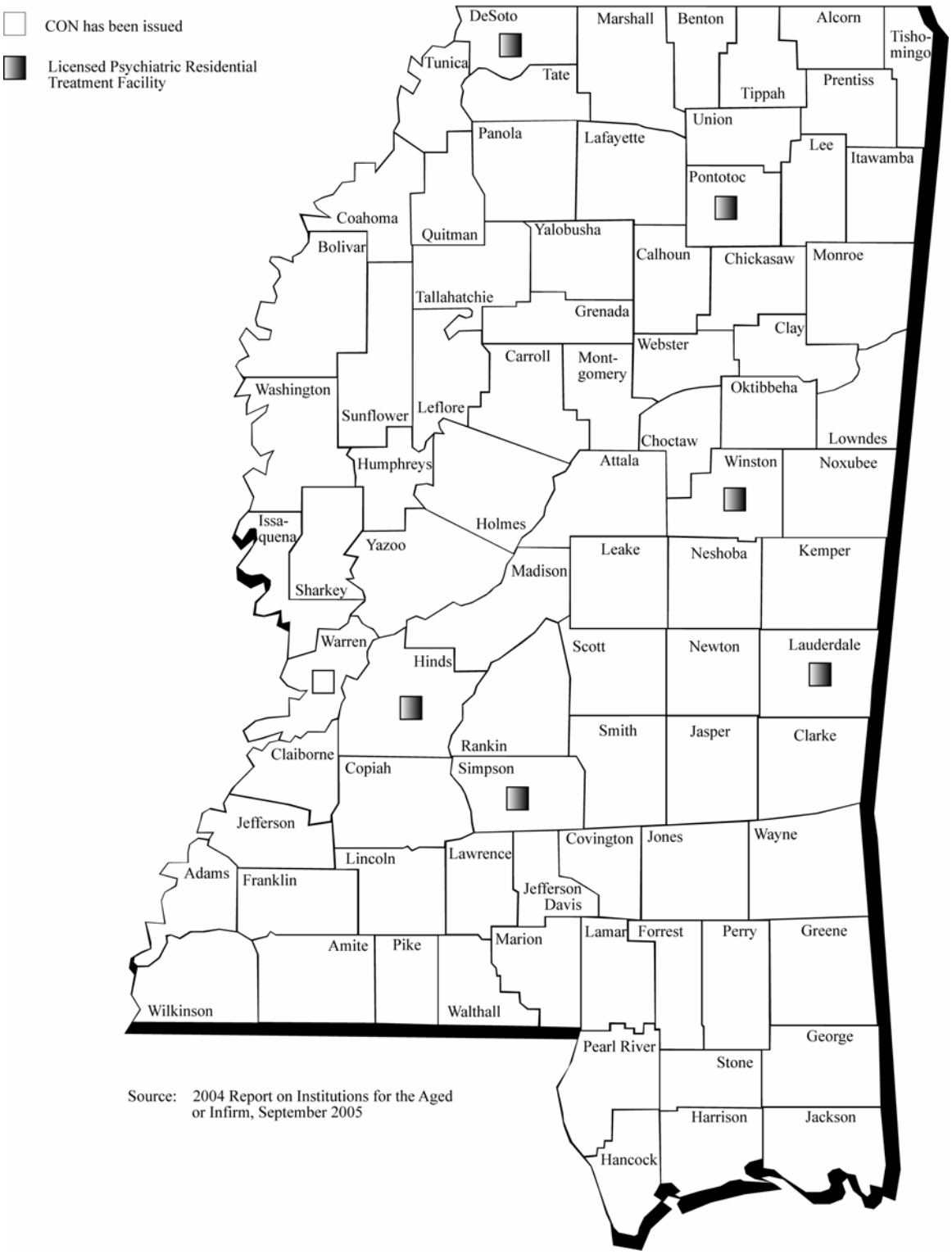
Operational and Proposed Inpatient Facilities Serving Adolescent Acute Psychiatric Patients*



* Does not include general psychiatric services provided by CMHCs.

Source: Mississippi Department of Health 2006: Applications for Renewal of Hospital License for Calendar Year 2006, and FY 2005 Annual Hospital Report.

Map IX - 3
Private Psychiatric Residential Treatment Facilities



Source: 2004 Report on Institutions for the Aged or Infirm, September 2005

Alcohol and Drug Abuse Services

The location of alcohol and drug abuse programs is shown on Maps IX-4 and IX-5. Each of the 15 regional community mental health-mental retardation centers provide a variety of alcohol and drug services, including residential and transitional treatment programs. A total of 36 such residential programs for adults and adolescents are scattered throughout the state. These specialized programs provide alcohol and drug treatment services in a controlled environment with emphasis on group living. Community Residential Treatment Services typically include individual, group, and family counseling; a working relationship with vocational rehabilitation services; and referral to other appropriate community programs and agencies. These programs also provide after-care services to assist individuals in transition from treatment.

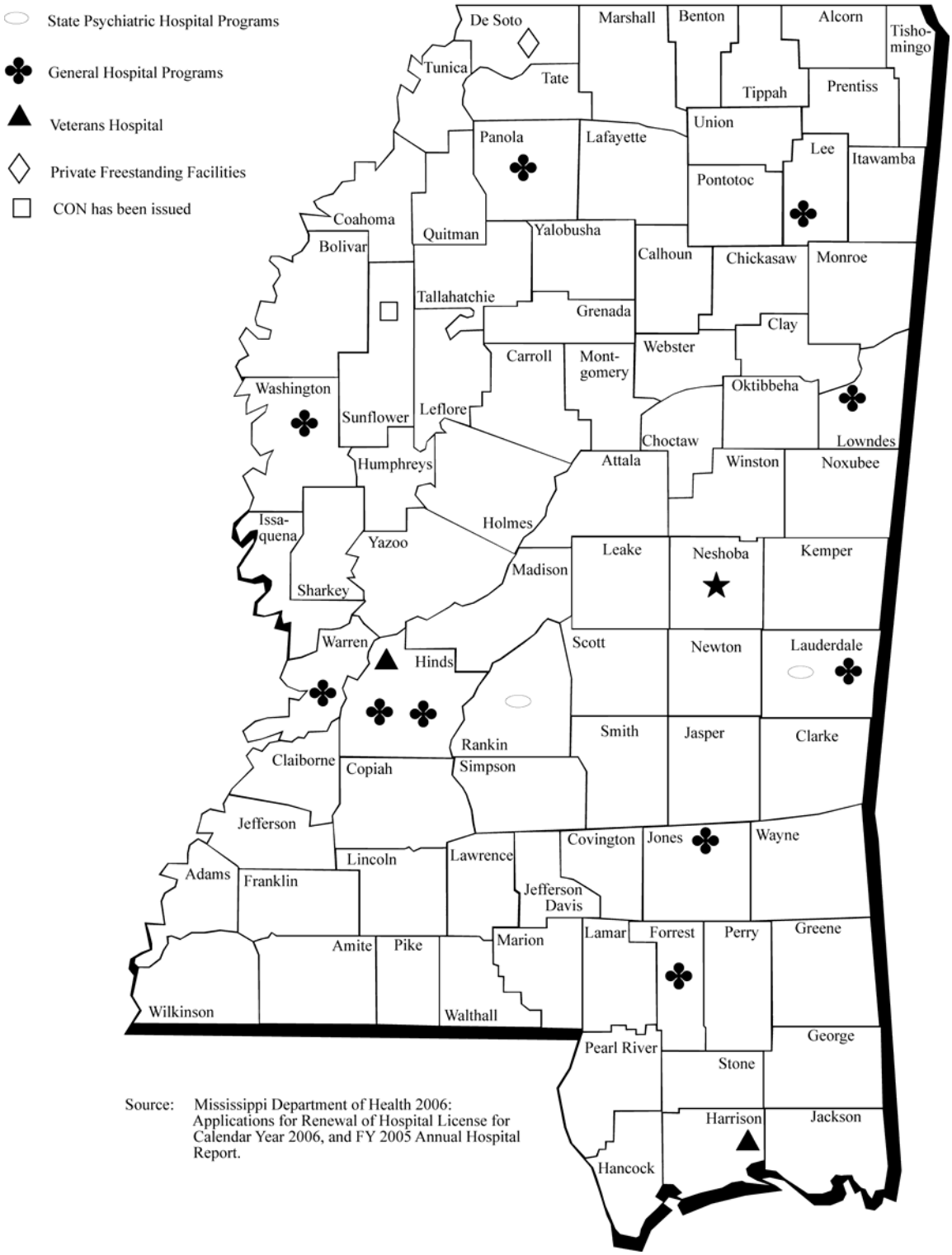
State alcohol funds are generated from a three percent markup on sales of distilled spirits and wine. These funds are specifically earmarked for the support of 19 regional residential treatment programs; 17 transitional treatment programs, aftercare, and detoxification programs; vocational rehabilitation services to alcoholics; the inpatient alcohol unit at State Hospital; and the alcohol program at State Penitentiary at Parchman. Under state law, the three percent monies must be spent for treatment services only, and funds cannot be used for prevention programs.

Eleven general hospitals and one freestanding facility in Mississippi offer alcohol and drug abuse treatment programs or have CON approval to provide such programs. Additionally, the state hospitals at Whitfield and Meridian and the Veterans Administration Hospitals in Jackson and Gulfport provide inpatient services including detoxification, assessment and evaluation, counseling, aftercare, and referral.

Four programs are designed to treat targeted populations: (1) the State Penitentiary at Parchman provides counseling and rehabilitation services to inmates during incarceration and follow-up after their release; (2) the Center for Independent Learning in Jackson, a transitional/residential facility, helps female offenders with a history of alcohol/drug abuse transition from incarceration back into society; (3) the Mississippi Band of Choctaw Indians offers a treatment program on the Neshoba County reservation that includes counseling and referral to other appropriate agencies; and (4) the Alcohol Services Center in Jackson serves low-income groups with crisis intervention, counseling, and referral. All these programs also offer many of the services provided by regular treatment resources.

Map IX - 4

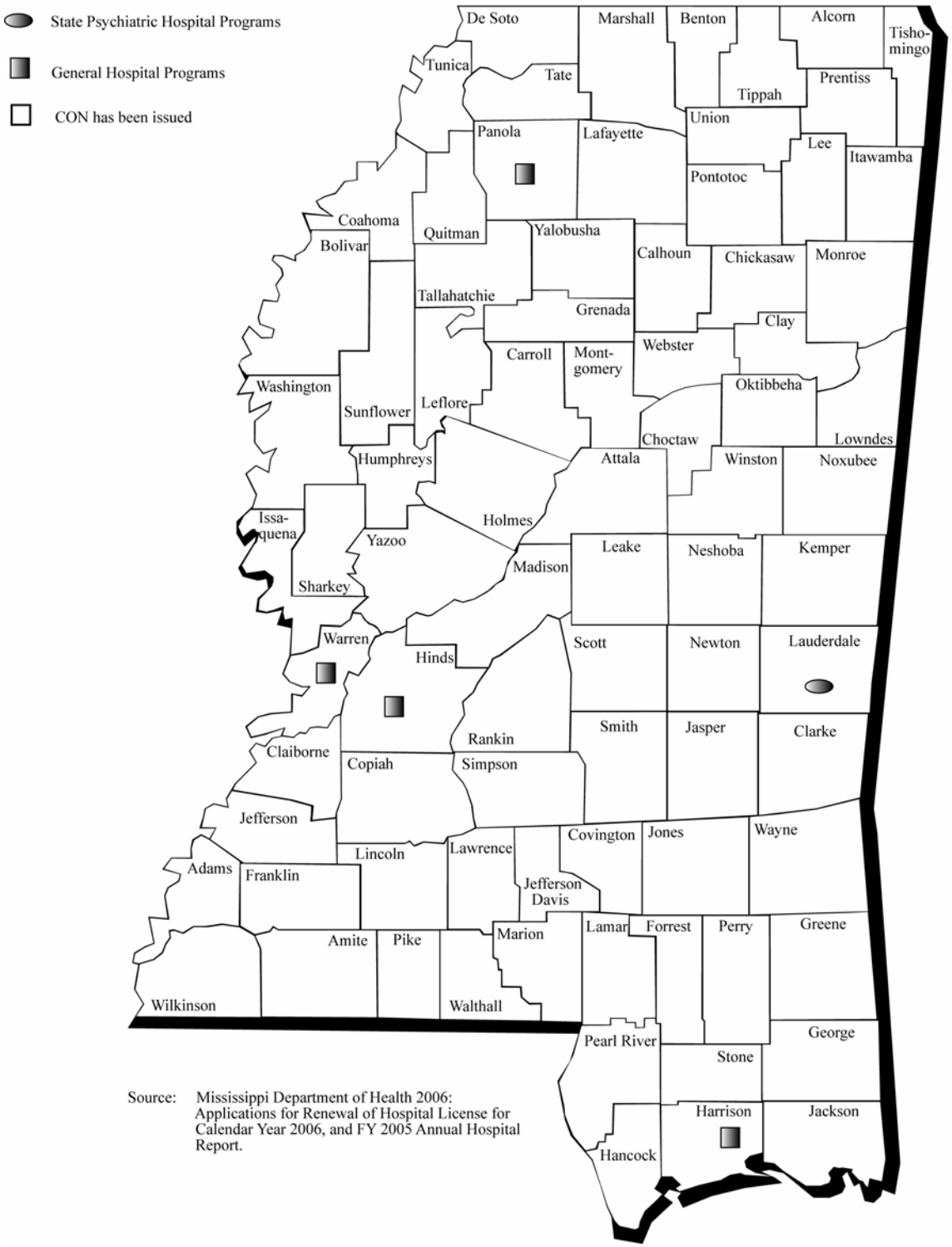
Operational and Proposed Adult Chemical Dependency Programs and Facilities



Source: Mississippi Department of Health 2006: Applications for Renewal of Hospital License for Calendar Year 2006, and FY 2005 Annual Hospital Report.

Map IX - 5

Operational and Proposed Adolescent Chemical Dependency Programs and Facilities



Source: Mississippi Department of Health 2006: Applications for Renewal of Hospital License for Calendar Year 2006, and FY 2005 Annual Hospital Report.

Table IX-3
Chemical Dependency Bed Utilization
FY 2005

Facility	County	Licensed/CON Approved* Beds	Inpatient Days	Occupancy Rate(%)**	Discharges	ALOS
Alliance Health Center	Lauderdale	8	1,625	55.65	279	5.68
Baptist Memorial Hospital - Golden Triangle	Lowndes	21	501	6.54	119	5.25
Delta Regional Medical Center	Washington	7	2,137	83.64	374	5.79
Forrest General Hospital	Forrest	32	7,081	60.63	1,311	5.43
Memorial Hospital at Gulfport						
(Adolescent)	Harrison	20	879	12.04	119	8.97
Miss Baptist Medical Center	Hinds	100	1,027	2.81	232	4.43
(Adolescent)	Hinds	10	N/A	N/A	N/A	N/A
North Miss Medical Center	Lee	33	2,793	23.19	697	3.89
Parkwood Behavioral Health System	DeSoto	14	1,826	35.73	157	7.78
River Region Health System	Warren	28	4,806	47.03	546	8.55
(Adolescent)	Warren	12	1,835	41.89	139	12.83
South Central Regional Medical Center	Jones	10	1,833	50.22	319	5.72
St. Dominic Hospital	Hinds	35	5,207	40.76	689	6.99
Tri-Lakes Medical Center	Panola	13	3,692	77.81	612	6.03
(Adolescent)	Panola	10	1,177	32.25	130	9.05
Total Adult		**301**	**32,528**	**29.61**	**5,335**	**5.90**
Total Adolescent		**52**	**3,891**	**20.50**	**388**	**10.38**

Note: Unless otherwise noted, the above psychiatric beds are designated for adults
Sources: Applications for Renewal of Hospital License for Calendar Year 2006 and FY 2005 Annual Hospital Report

Mental Retardation/Developmental Disabilities Services

Services available through the Department of Mental Health include an array of programs designed to meet the needs of individuals with mental retardation or developmental disabilities. Programs and activities for persons residing in their local communities include diagnostic/evaluation, community living, system coordination and community education, early intervention, assistance technology, case management, work activity services for older adults with mental retardation, and employment. Five state regional centers at Long Beach, Ellisville, Sanatorium, Whitfield, and Oxford offer residential services, as well as direct and auxiliary support, for all services within the regions. The Regional Community Mental Health-Mental Retardation Commissions and a number of independent, non-profit, private service providers offer similar community programs.

The Mississippi Department of Mental Health serves as the designated state agency (DSA) to administer funds available through the federal Developmental Disabilities Program. The Mississippi Council on Developmental Disabilities (MCDD) strives to identify need, plan services and support, and advocate for new services to meet individual needs in various communities. More than 170 public and private agencies, organizations, or programs provide a myriad of services to persons with mental retardation and developmental disabilities; however, the Council recognizes the need for services and support to address what people with developmental disabilities and their families want and need. In May 2005, the Council conducted a statewide needs assessment involving a representation from all service providers and advocacy groups. Results of this needs assessment/strategic planning will be the basis for the Council's five-year State Plan (2006-2011). Hopefully, other providers will be able to use the results as a basis for their service delivery. For information about the statewide needs assessment, refer to the website of the MS Counsel on Developmental Disabilities.

The MCDD funded services are designed to promote community inclusion for people with developmental disability and their families. This funding may include one-time projects, special events, support for training activities, short-term demonstrations (not to exceed three years), product development activities, and special focus investments. MCDD investments must support at least one of the following Administration on Developmental Disabilities (ADD) Areas of Emphasis (Priority Areas): (a) quality assurance (which means that people have control, choice, and flexibility in the services/supports they receive); (b) employment (which refers to individuals getting and keeping employment consistent with their interest, abilities, and needs; (c) community living/housing (which involves adults choosing where and with whom they live); (d) health (referring to individuals being healthy and benefiting from the full range of services); (e) education/child development (resulting in students reaching their educational potential); (f) formal and informal community support (characterized by every individual being a valued, participating member of their community), (g) transportation (which refers to people being able to go and participate in community activities of their choice; and (h) recreation (which refers to people being able to participate in leisure activities of their choice). Regulations require that 65 percent of the federal Developmental Disabilities funds be invested in these Areas of Emphasis. In Mississippi; however, approximately 85 percent of DD funds are spent on programs and services.

The Federal Centers for Medicare and Medicaid Services (CMS) approved a Home and Community-Based Services - MR/DD Waiver Program for Mississippi that began in July 1995 and is now approved until 2008. The program provides services to persons with mental retardation/developmental disabilities that would require the level of care found at an intermediate care facility for the mentally retarded if waiver services were not available. The waiver program is available statewide to persons of all ages, with approval contingent on funding to serve up to 3,300 people. Services available include attendant care, respite (in-home nursing or companion, community, or ICF/MR), day habilitation, residential habilitation (supported or supervised), pre-vocational services, supported employment, behavior support/intervention, specialized medical supplies (diapers, catheters, and pads), physical therapy, occupational therapy,

speech/language/hearing therapy, and support coordination. Each of the five Department of Mental Health Comprehensive Regional Centers employs support coordinators to help eligible individuals with disabilities and their families navigate the evaluation process and monitor the provision of waiver services.

Approximately 44,000 Mississippians may have developmental disabilities and/or mental retardation; the majority of these presently live outside the residential programs. Given the life expectancy of persons with developmental disabilities, combined with the deaths of family members providing primary care to those living at home, the state needs approximately 500 additional state-supported living alternatives. In conjunction with the continued establishment of community living programs, the Bureau of Mental Retardation believes that its employment and work opportunity programs must be continued and expanded. The Bureau is also committed to statewide expansion of early intervention programs for children with developmental disabilities and their families.

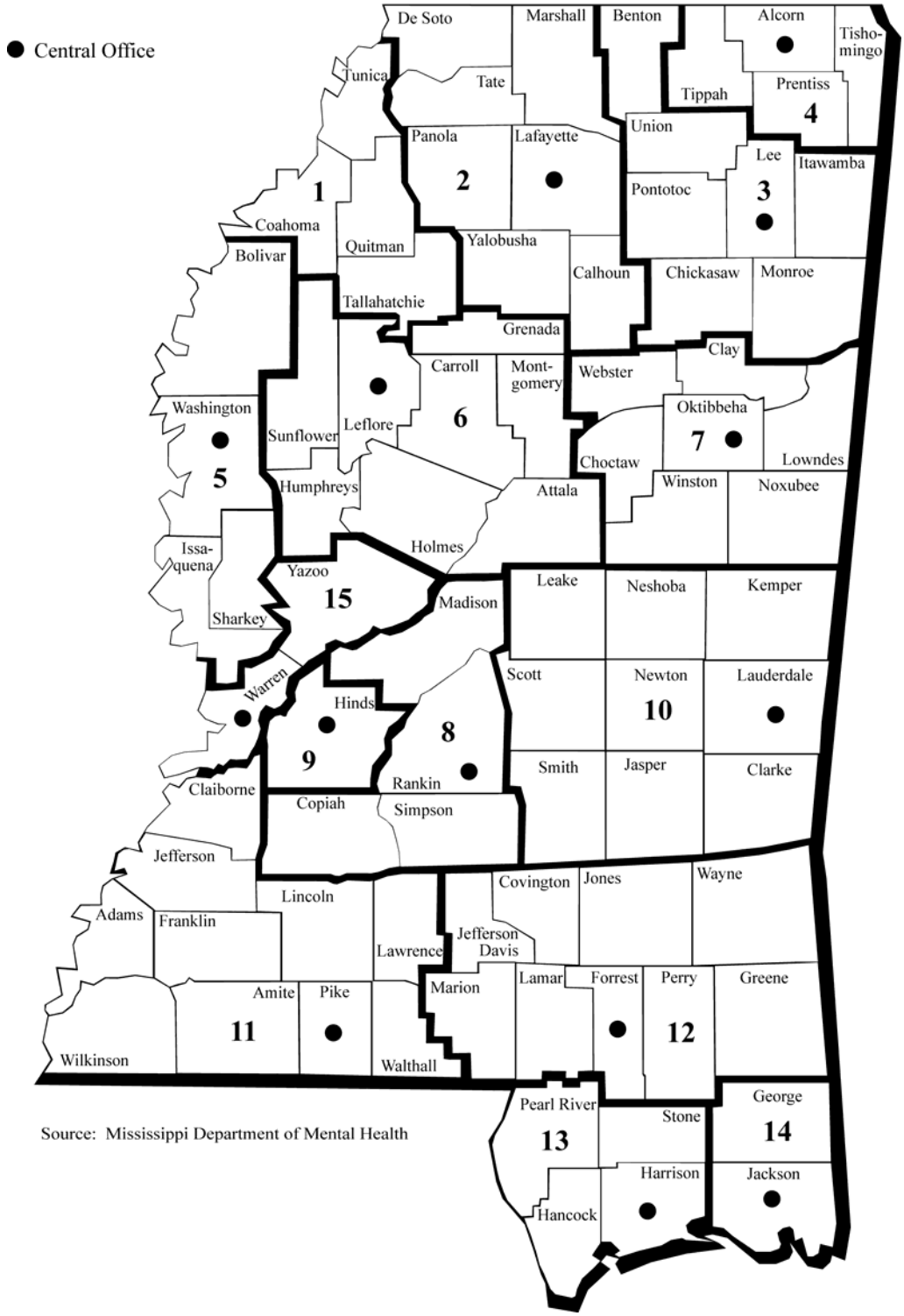
Community-Based Services

Fifteen regional community Mental Health-Mental Retardation Centers provide a wide range of mental health services at the local level. Map IX-6 presents the central office locations of these centers. Each center must meet federal and state program and performance standards. The major objectives of the regional community mental health centers include: (a) providing accessible services to all citizens with mental and emotional problems; (b) reducing the number of initial admissions to the state hospitals; and (c) preventing re-admissions through supportive aftercare services. These centers are a vital element in the plan to provide an integrated system of mental health services to all residents of Mississippi.

The regional community mental health centers are certified to provide emergency services and must have agreements with local providers for short-term inpatient care. The centers themselves do not maintain acute care beds but may make them available through an affiliation agreement with a local hospital which, within certain restrictions, can treat individuals in lieu of admission to the state hospitals. When discussing these beds, one must keep in mind that most of these beds are already listed in the existing inventory and should not be added to those already identified. The number of beds available on an affiliation basis varies from hospital to hospital. Most of these beds are not located in a specialized psychiatric unit, but are scattered throughout the hospital. Most of the hospitals providing beds through an affiliation agreement seldom have adequate or qualified staff and provide services only on an emergency basis. Usually a patient is hospitalized for one to four days and is referred to another hospital when further treatment becomes necessary.

Community mental health centers may provide back-up to hospital staff to ensure appropriate care. However, these agreements are limited in many instances. For example, in some regions the agreement is for general hospital beds on a priority basis, but the beds are in a general ward and no psychiatrist is on the hospital staff. In these cases a local private physician makes the admission, and the mental health center staff works with the physician on a consulting basis. In almost all instances of admission to local hospitals, there must be some method for the mentally ill consumer to pay for the hospitalization. Where there is a psychiatric unit, admissions are many times limited because the consumer has no source of payment. In summary, a system of limited adequacy exists to provide inpatient care for individuals who need this level of treatment in the community; inpatient care for mental illness is generally not available on demand.

Map IX - 6
Regional Community Mental Health/Mental Retardation Centers and Location of Central Office



Source: Mississippi Department of Mental Health

Certificate of Need
Criteria and Standards
for
Acute Psychiatric,
Chemical Dependency,
and
Psychiatric Residential
Treatment Facility Beds/Services

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

105 Policy Statement Regarding Certificate of Need Applications for Acute Psychiatric, Chemical Dependency, and Psychiatric Residential Treatment Facility Beds/Services

1. An applicant must provide a "reasonable amount" of indigent/charity care as described in Chapter I of this *Plan*.

2. Mental Health Planning Areas: The Department of Health shall use the state as a whole to determine the need for acute psychiatric beds/services, chemical dependency beds/ services, and psychiatric residential treatment beds/services. Tables IX-4, IX-5, and IX-6 give the statistical need for each category of beds.

3. Public Sector Beds: Due to the public sector status of the acute psychiatric, chemical dependency, and psychiatric residential treatment facility beds operated directly by the Mississippi Department of Mental Health (MDMH), the number of licensed beds operated by the MDMH shall not be counted in the bed inventory used to determine statistical need for additional acute psychiatric, chemical dependency, and psychiatric residential treatment facility beds.

4. Comments from Department of Mental Health: The Mississippi Department of Health shall solicit and take into consideration comments received from the Mississippi Department of Mental Health regarding any CON application for the establishment or expansion of inpatient acute psychiatric, chemical dependency, and/or psychiatric residential treatment facility beds.

5. Separation of Adults and Children/Adolescents: Child and adolescent patients under 18 years of age must receive treatment in units which are programmatically and physically distinct from adult (18+ years of age) patient units. A single facility may house adults as well as adolescents and children if both physical design and staffing ratios provide for separation.

6. Separation of Males and Females: Facilities must separate males and females age 13 and over for living purposes (e.g., separate rooms and rooms located at separate ends of the halls, etc.).

7. Dually Diagnosed Patients: It is frequently impossible for a provider to totally predict or control short-term deviation in the number of patients with mixed psychiatric/addictive etiology to their illnesses. Therefore, the Department will allow deviations of up to 25 percent of the total licensed beds as "swing-beds" to accommodate patients having diagnoses of both psychiatric and substance abuse disorders. However, the provider must demonstrate to the Division of Licensure and Certification that the "swing-bed" program meets all applicable licensure and certification regulations for each service offered, i.e., acute psychiatric, chemical dependency, and psychiatric residential treatment facility services, before providing such "swing-bed" services.

8. Comprehensive Program of Treatment: Any new mental health beds approved must provide a comprehensive program of treatment that includes, but is not limited to, inpatient, outpatient, and follow-up services, and in the case of children and adolescents, includes an educational component. The facility may provide outpatient and appropriate follow-up services directly or through contractual arrangements with existing providers of these services.

9. Medicaid Participation: An applicant proposing to offer acute psychiatric, chemical dependency, and/or psychiatric residential treatment facility services or to establish, expand and/or convert beds under any of the provisions set forth in this section or in the service specific criteria and standards shall affirm in the application that:

    a. the applicant shall seek Medicaid certification for the facility/program at such time as the facility/program becomes eligible for such certification; and

    b. the applicant shall serve a reasonable number of Medicaid patients when the facility/program becomes eligible for reimbursement under the Medicaid Program. The application shall affirm that the facility will provide the MDH with information regarding services to Medicaid patients.

10. Licensing and Certification: All acute psychiatric, chemical dependency treatment, dual diagnosis beds/services, and psychiatric residential treatment facility beds/services must meet all applicable licensing and certification regulations of the Division of Health Facilities Licensure and Certification. If licensure and certification regulations do not exist at the time the application is approved, the program shall comply with such regulations following their effective date.

11. Psychiatric Residential Treatment Facility: A psychiatric residential treatment facility (PRTF) is a non-hospital establishment with permanent licensed facilities that provides a twenty-four (24) hour program of care by qualified therapists including, but not limited to, duly licensed mental health professionals, psychiatrists, psychologists, psychotherapists, and licensed certified social workers, for emotionally disturbed children and adolescents referred to such facility by a court, local school district, or the Department of Human Services, who are not in an acute phase of illness requiring the services of a psychiatric hospital and who are in need of such restorative treatment services. For purposes of this paragraph, the term "emotionally disturbed" means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree, which adversely affects educational performance:

    a. an inability to learn which cannot be explained by intellectual, sensory, or health factors;

    b. an inability to build or maintain satisfactory relationships with peers and teachers;

    c. inappropriate types of behavior or feelings under normal circumstances;

    d. a general pervasive mood of unhappiness or depression; or

    e. a tendency to develop physical symptoms or fears associated with personal or school problems.

An establishment furnishing primarily domiciliary care is not within this definition.

12. Certified Educational Programs: Educational programs certified by the Department of Education shall be available for all school age patients. Also, sufficient areas suitable to meet the recreational needs of the patients are required.

13. Preference in CON Decisions: Applications proposing the conversion of existing acute care hospital beds to acute psychiatric and chemical dependency beds shall receive preference in CON decisions provided the application meets all other criteria and standards under which it is reviewed.

14. Dedicated Beds for Children's Services: It has been determined that there is a need for specialized beds dedicated for the treatment of children less than 14 years of age. Therefore, of the beds determined to be needed for child/adolescent acute psychiatric services and psychiatric residential treatment facility services, 25 beds under each category for a total of 50 beds statewide shall be reserved exclusively for programs dedicated to children under the age of 14.

15. Effective April 12, 2002, no health care facility shall be authorized to add any beds or convert any beds to another category of beds without a Certificate of Need under the authority of Section 41-7-191(1)(c).

16. Effective March 4, 2003, if a health care facility has voluntarily delicensed some of its existing bed complement, it may later relicense some or all of its delicensed beds without the necessity of having to acquire a Certificate of Need. The Department of Health shall maintain a record of the delicensing health care facility and its voluntarily delicensed beds and continue counting those beds as part of the state's total bed count for health care planning purposes.

106 General Certificate of Need Criteria and Standards for Acute Psychiatric, Chemical Dependency, and/or Psychiatric Residential Treatment Facility Beds/Services

The Mississippi Department of Health will review applications for a Certificate of Need for the establishment, offering, or expansion of acute psychiatric, chemical dependency treatment, and/or psychiatric residential treatment beds/services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the policies in this *Plan*; the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the general and service specific criteria and standards listed below.

The offering of acute psychiatric, chemical dependency treatment, and/or psychiatric residential treatment facility services is reviewable if the proposed provider has not offered those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered. The construction, development, or other establishment of a new health care facility to provide acute psychiatric, chemical dependency treatment, and/or psychiatric residential treatment services requires CON review regardless of capital expenditure.

1. Need Criterion:

a. **New/Existing Acute Psychiatric, Chemical Dependency, and/or Psychiatric Residential Treatment Facility Beds/Services:** The applicant shall document a need for acute psychiatric, chemical dependency, and/or psychiatric residential treatment

facility beds using the appropriate bed need methodology as presented in this section under the service specific criteria and standards.

b. **Projects which do not involve the addition of acute psychiatric, chemical dependency, and/or psychiatric residential treatment facility beds:** The applicant shall document the need for the proposed project. Documentation may consist of, but is not limited to, citing of licensure or regulatory code deficiencies, institutional long-term plans duly adopted by the governing board, recommendations made by consultant firms, and deficiencies cited by accreditation agencies (JCAHO, CAP, etc.).

c. **Projects which involve the addition of beds:** The applicant shall document the need for the proposed project. Exception: Notwithstanding the service specific statistical bed need requirements as stated in "a" above, the Department may approve additional beds for facilities which have maintained an occupancy rate of at least 80 percent for the most recent 12-month licensure reporting period or at least 70 percent for the most recent two (2) years.

d. **Child Psychiatry Fellowship Program:** Notwithstanding the service specific statistical bed need requirements as stated in "a" above, the Department may approve a 15-bed acute child psychiatric unit at the University of Mississippi Medical Center for children aged 4-12 to provide a training site for psychiatric residents.

2. The application shall affirm that the applicant will record and maintain, at a minimum, the following information regarding charity care and care to the medically indigent and make such information available to the Mississippi Department of Health within 15 business days of request:

   a. source of patient referral;

   b. utilization data, e.g., number of indigent admissions, number of charity admissions, and inpatient days of care;

   c. demographic/patient origin data;

   d. cost/charges data; and

   e. any other data pertaining directly or indirectly to the utilization of services by medically indigent or charity patients which the Department may request.

3. A CON applicant desiring to provide or to expand chemical dependency, psychiatric, and/or psychiatric residential treatment facility services shall provide copies of signed memoranda of understanding with Community Mental Health Centers and other appropriate facilities within their patient service area regarding the referral and admission of charity and medically indigent patients.

4. Applicants should also provide letters of comment from the Community Mental Health Centers, appropriate physicians, community and political leaders, and other interested groups that may be affected by the provision of such care.

5. The application shall document that within the scope of its available services, neither the facility nor its participating staff shall have policies or procedures which would exclude patients because of race, color, age, sex, ethnicity, or ability to pay.

The application shall document that the applicant will provide a reasonable amount of charity/indigent care as provided for in Chapter I of this *Plan*.

107 Service Specific Certificate of Need Criteria and Standards for Acute Psychiatric, Chemical Dependency, and/or Psychiatric Residential Treatment Facility Beds/Services

Acute Psychiatric Beds for Adults

1. The Mississippi Department of Health shall base statistical need for adult acute psychiatric beds on a ratio of **0.21 beds per 1,000 population aged 18 and older for 2010** in the state as a whole as projected by the Division of Health Planning and Resource Development. Table IX-4 presents the statistical need for adult psychiatric beds.

2. The applicant shall provide information regarding the proposed size of the facility/unit. Acute psychiatric beds for adults may be located in either freestanding or hospital-based facilities. Freestanding facilities should not be larger than 60 beds. Hospital units should not be larger than 30 beds. Patients treated in adult facilities and units should be 18 years of age or older.

3. The applicant shall provide documentation regarding the staffing of the facility. Staff providing treatment should be specially trained for the provision of psychiatric and psychological services. The staff should include both psychiatrists and psychologists and should provide a multi-discipline psychosocial medical approach to treatment.

Acute Psychiatric Beds for Children and Adolescents

1. The Mississippi Department of Health shall base statistical need for child/adolescent acute psychiatric beds on a ratio of **0.55 beds per 1,000 population aged 7 to 17 for 2010** in the state as a whole as projected by the Division of Health Planning and Resource Development. Table IX-4 presents the statistical need for child/adolescent psychiatric beds. Of the specified beds needed, 25 beds are hereby set aside exclusively for the treatment of children less than 14 years of age.

2. The applicant shall provide information regarding the proposed size of the facility/unit. Acute psychiatric beds for children and adolescents may be located in freestanding or hospital-based units and facilities. A facility should not be larger than 60 beds. All units, whether hospital-based or freestanding, should provide a homelike environment. Ideally, a facility should provide cottage-style living units housing eight to ten patients. Because of the special needs of children and adolescents, facilities or units which are not physically attached to a general hospital are preferred. For the purposes of this *Plan*, an adolescent is defined as a minor who is at least 14 years old but less than 18 years old, and a child is defined as a minor who is at least 7 years old but less than 14 years old.

3. The applicant shall provide documentation regarding the staffing of the facility. Staff should be specially trained to meet the needs of adolescents and children. Staff should include both psychiatrists and psychologists and should provide a multi-discipline psychosocial medical approach to treatment. The treatment program must involve parents and/or significant others. Aftercare services must also be provided.

4. The applicant shall describe the structural design of the facility in providing for the separation of children and adolescents. In facilities where both children and adolescents are housed, the facility should attempt to provide separate areas for each age grouping.

Chemical Dependency Beds for Adults

1. The Mississippi Department of Health shall base statistical need for adult chemical dependency beds on a ratio of **0.14 beds per 1,000 population aged 18 and older for 2010** in the state as a whole as projected by the Division of Health Planning and Resource Development. Table IX-5 presents the statistical need for adult chemical dependency beds.

2. The applicant shall provide information regarding the proposed size of the facility/unit. Chemical dependency treatment programs may be located in either freestanding or hospital-based facilities. Facilities should not be larger than 75 beds, and individual units should not be larger than 30 beds. The bed count also includes detoxification beds. Staff should have specialized training in the area of alcohol and substance abuse treatment, and a multi-discipline psychosocial medical treatment approach which involves the family and significant others should be employed.

3. The applicant shall describe the aftercare or follow-up services proposed for individuals leaving the chemical dependency program. Chemical dependency treatment programs should include extensive aftercare and follow-up services.

4. The applicant shall specify the type of clients to be treated at the proposed facility. Freestanding chemical dependency facilities and hospital-based units should provide services to substance abusers as well as alcohol abusers.

Chemical Dependency Beds for Children and Adolescents

1. The Mississippi Department of Health shall base statistical need for child/adolescent chemical dependency beds on a ratio of **0.44 beds per 1,000 population aged 12 to 17 for 2010** in the state as a whole as projected by the Division of Health Planning and Resource Development. Table IX-5 presents the statistical need for child/adolescent chemical dependency beds.

2. The applicant shall provide information regarding the proposed size of the facility/unit. Chemical dependency beds may be located in either freestanding or hospital-based facilities. Because of the unique needs of the child and adolescent population, facilities shall not be larger than 60 beds. Units shall not be larger than 20 beds. The bed count of a facility or unit will include detoxification beds.

   Facilities or units, whether hospital-based or freestanding, should provide a home-like environment. Ideally, facilities should provide cottage-style living units housing eight to ten patients. Because of the special needs of children and adolescents, facilities or units which are not physically attached to a general hospital are preferred.

3. The applicant shall provide documentation regarding the staffing of the facility. Staff should be specially trained to meet the needs of adolescents and children. Staff should include both psychiatrists and psychologists and should provide a multi-discipline psychosocial medical approach to treatment. The treatment program must involve parents and significant others. Aftercare services must also be provided.

4. The applicant shall describe the structural design of the facility in providing for the separation of the children and adolescents. Child and adolescent patients shall be separated from adult patients for treatment and living purposes.

5. The applicant shall describe the aftercare or follow-up services proposed for individuals leaving the chemical dependency program. Extensive aftercare and follow-up services involving the family and significant others should be provided to clients after discharge from the inpatient program. Chemical dependency facilities and units should provide services to substance abusers as well as alcohol abusers.

Psychiatric Residential Treatment Facility Beds/Services

1. The Mississippi Department of Health shall base statistical need for psychiatric residential treatment beds on a ratio of **0.4 beds per 1,000 population aged 5 to 21 for 2010** in the state as a whole as projected by the Division of Health Planning and Resource Development. Table IX-6 presents the statistical need for psychiatric residential treatment facility beds.

2. The application shall state the age group that the applicant will serve in the psychiatric residential treatment facility and the number of beds dedicated to each age group (5 to 13, 14 to 17, and 18 to 21).

3. The applicant shall describe the structural design of the facility for the provision of services to children less than 14 years of age. Of the beds needed for psychiatric residential treatment facility services, 25 beds are hereby set aside exclusively for the treatment of children less than 14 years of age. An applicant proposing to provide psychiatric residential treatment facility services to children less than 14 years of age shall make provision for the treatment of these patients in units which are programmatically and physically distinct from the units occupied by patients older than 13 years of age. A facility may house both categories of patients if both the physical design and staffing ratios provide for separation.

   This criterion does not preclude more than 25 psychiatric residential treatment facility beds being authorized for the treatment of patients less than 14 years of age. However, the Department shall not approve more than 334 psychiatric residential treatment facility beds statewide unless specifically authorized by legislation. (Note: the 388 licensed and CON approved beds indicated on page IX-37 were the result of both CON approval and legislative actions).

4. The applicant shall provide information regarding the proposed size of the facility/unit. A psychiatric residential treatment facility should provide services in a homelike environment. Ideally, a facility should provide cottage-style living units not exceeding 15 beds. A psychiatric residential treatment facility should not be larger than 60 beds.

5. The applicant shall provide documentation regarding the staffing of the facility. Staff should be specially trained to meet the treatment needs of the age category of patients being served. Staff should include both psychiatrists and psychologists and should provide a multi-discipline psychosocial medical approach to treatment. The treatment program must involve parents and/or significant others. Aftercare/follow-up services must also be provided.

Table IX-4
Statewide Acute Psychiatric Bed Need
2007

Bed Category and Ratio	2010 Projected Population	Projected Bed Need	Licensed/CON Approved/Abeyance Beds	Difference
Adult Psychiatric: 0.21 beds per 1,000 population aged 18+	2,238,274	470	543	-73
Child/Adolescent Psychiatric: 0.55 beds per 1,000 population aged 7 to 17	452,740	249	269	-20

Sources: Applications for Renewal of Hospital License for Calendar Year 2006 and FY 2005 Annual Hospital Report; and Division of Health Planning and Resource Development calculations, March 2006

Table IX-5
Statewide Chemical Dependency Bed Need
2007

Bed Category and Ratio	2010 Projected Population	Projected Bed Need	Licensed/CON Approved Beds	Difference
Adult Chemical Dependency: 0.14 beds per 1,000 population aged 18+	2,238,274	313	301	12
Child/Adolescent Chemical Dependency: 0.44 beds per 1,000 population aged 12 to 17	251,695	111	52	59

Sources: Applications for Renewal of Hospital License for Calendar Year 2006 and FY 2005 Annual Hospital Report; Division of Health Planning and Resource Development calculations, March 2006

Table IX-6
Statewide Psychiatric Residential Treatment Facility Bed Need
2007

Age Cohort	Bed Ratio per 1,000 Population	2010 Projected Population	Projected Bed Need	Licensed/CON Approved Beds	Difference
5 to 21	0.4	704,365	282	358	-76

Sources: Mississippi Department of Health, Division of Health Planning and Resource Development, March 2006

Chapter 011 Acute Care

Mississippi had 97 non-federal medical/surgical hospitals in April 2006, with a total of 11,273 licensed acute care beds (plus 50 beds held in abeyance by the MDH). This total includes one rehabilitation hospital with acute care beds and one OB/GYN hospital. Rehabilitation, psychiatric, chemical dependency, long term acute care, and other special purpose beds are not included. In addition, numerous facilities provide specific health care services on an outpatient basis. Some of these facilities are freestanding; others are closely affiliated with hospitals. Such facilities offer an increasingly wider range of services, many of which were once available only in inpatient acute care settings. Examples include diagnostic imaging, therapeutic radiation, and ambulatory surgery.

100 General Medical/Surgical Hospitals

The 97 acute care medical/surgical hospitals reported 10,304 beds set up and staffed during 2005, or 91.4 percent of the total licensed bed capacity. Based on beds set up and staffed, the hospitals experienced an overall occupancy rate of 50.75 percent and an average length of stay of 4.63 days. When calculating the occupancy rate using total licensed bed capacity, the overall occupancy rate drops to 46.4 percent. Using these statistics and 2010 projected population totals, Mississippi had a licensed bed capacity to population ratio of 3.8 per 1,000 and an occupied bed to population ratio of 1.76 per 1,000. Table XI-1 shows the licensed hospital beds by service areas.

These statistics indicate an average daily census in Mississippi hospitals of 5,229, leaving approximately 6,044 unused licensed beds on any given day. Fifty-five of the state's hospitals reported occupancy rates of less than 40 percent during FY 2005. Officials expect the low occupancy rates to continue because of cost-containment pressures and the increased use of outpatient services. This situation places extreme financial burdens on small rural hospitals, and many of them must alter their scope of services if they expect to survive as health care facilities.

Many of Mississippi's general acute care hospitals were built many years ago under the Hill-Burton Program and now need major renovation or replacement. Continual changes in building codes, the increasing competition for patient markets, and other factors have increased the pressure for facility construction, renovation, expansion, or replacement. The migration of specific health care services from inpatient-oriented environments to outpatient/ambulatory facilities has increased the number of projects for new or expanded facilities to house these services. Both freestanding and hospital-affiliated health care facilities now provide therapeutic radiation, diagnostic imaging, ambulatory surgery, and other services in settings other than hospitals.

Mississippi requires Certificate of Need (CON) review for all projects that increase the bed complement of a health care facility or exceed a capital expenditure threshold of $2 million. The law requires Certificate of Need review regardless of capital expenditure for the construction, development, or other establishment of a new health care facility, including a replacement facility; the relocation of a health care facility or any portion of the facility which does not involve a capital expenditure and is more than 5,280 feet from the main entrance of the facility; and a change of ownership of an existing health care facility, unless the MDH receives proper notification at least 30 days in advance. A health care facility that has ceased to treat patients for a period of 60 months or more must receive CON approval prior to reopening. Finally, a CON is required for major medical equipment purchase if the capital expenditure exceeds $1.5 million and is not a replacement of existing medical equipment.

Table XI-1
Licensed Short-Term Acute Care Hospital Beds by Service Area
FY 2005

Facility	# Licensed Beds	# Beds in Abeyance	Average Daily Census	Occupancy Rate	Average Length of Stay
General Hospital Service Area 1	**2,504**	**25**	**1,073**	**42.85**	**4.7**
Alliance Healthcare System	40	0	13.39	33.48	4.82
Baptist Memorial Hospital - Booneville	114	0	24.75	21.71	5.78
Baptist Memorial Hospital - Golden Triangle	285	0	114.35	40.12	5.45
Baptist Memorial Hospital - North Miss	204	0	119.06	58.36	5.24
Baptist Memorial Hospital - Union County	153	0	48.84	31.92	3.92
Calhoun Health Services	30	0	9.48	31.62	5.18
Choctaw County Medical Center	25	0	4.61	18.42	3.46
Gilmore Memorial Hospital, Inc.	95	0	35.72	37.60	3.81
Grenada Lake Medical Center	156	0	52.67	33.77	4.98
Iuka Hospital	48	0	19.52	40.66	4.26
Magnolia Regional Health Center	145	0	73.21	50.49	4.02
North Miss Medical Center	554	0	347.15	62.66	4.91
North Miss Medical Center-West Point	60	0	31.39	52.32	3.08
North Oak Regional Medical Center	76	0	16.39	21.56	4.50
Noxubee General Critical Access Hospital	25	0	4.44	17.76	3.13
Oktibbeha County Hospital	96	0	33.05	34.43	3.71
Pioneer Community Hospital of Monroe County	35	0	10.51	30.04	12.14
Pontotoc Critical Access Hospital	35	0	9.92	28.33	5.84
Tippah County Hospital	45	25	11.93	20.05	4.38
Trace Regional Hospital	84	0	14.94	17.79	4.37
Tri-Lakes Medical Center	70	0	34.96	49.94	5.30
Webster Health Services	38	0	21.49	56.56	4.28
Winston Medical Center	65	0	12.67	19.49	6.17
Yalobusha General Hospital	26	0	8.45	32.49	4.27
General Hospital Service Area 2	**1,300**	**6**	**579.42**	**44.57**	**4.69**
Baptist Memorial Hospital - DeSoto	179	0	153.46	85.73	5.15
Bolivar Medical Center	165	0	59.42	36.01	4.06
Delta Regional Medical Center-West Campus	137	0	1.93	1.41	4.71
Delta Regional Medical Center	221	6	105.23	47.75	5.40
Greenwood Leflore Hospital	188	0	102.49	54.51	4.73
Humphreys County Memorial Hospital	34	0	7.22	21.25	3.93
Kilmichael Hospital	19	0	8.02	42.24	5.39
North Sunflower County Hospital	35	0	9.19	26.25	5.33
Northwest Miss Regional Medical Center	181	0	86.46	47.47	5.12
Quitman County Hospital	33	0	13.40	40.61	4.68
South Sunflower County Hospital	49	0	18.18	37.09	3.06
Tallahatchie General Hospital & ECF	9	0	3.55	39.45	4.10
Tyler Holmes Memorial Hospital	25	0	8.48	33.93	3.64
University Hospital Clinics - Holmes County	25	0	9.27	37.07	2.96

Table XI-1 (continued)
Licensed Short-Term Acute Care Hospital Beds by Service Area
FY 2005

Facility	# Licensed Beds	# Beds in Abeyance	Average Daily Census	Occupancy Rate	Average Length of Stay
General Hospital Service Area 3	**3,343**	**0**	**1,644.27**	**49.19**	**5.03**
Central Miss Medical Center	400	0	136.55	34.14	5.06
Claiborne County Hospital	32	0	7.07	22.08	5.61
Hardy Wilson Memorial Hospital	49	0	24.58	50.15	7.21
Jeff Davis Community Hospital	41	0	11.51	28.08	6.03
King's Daughters Hospital - Yazoo City	25	0	10.42	41.67	3.89
King's Daughters Medical Center - Brookhaven	122	0	42.01	34.43	3.88
Lawrence County Hospital	25	0	6.17	24.68	3.30
Leake Memorial Hospital	25	0	6.66	26.63	10.47
Madison County Medical Center	67	0	18.08	26.99	3.71
Magee General Hospital	64	0	26.00	40.62	4.04
Miss Baptist Medical Center	541	0	275.49	50.92	5.16
Miss Methodist Rehab Center	44	0	1.42	3.24	7.65
Montfort Jones Memorial Hospital	71	0	28.68	40.39	4.75
Rankin Medical Center	134	0	65.81	49.11	5.63
River Oaks Hospital	110	0	86.39	78.53	4.08
River Region Health System	236	0	138.22	58.57	4.96
Scott Regional Hospital	30	0	15.89	52.96	3.73
SE Lackey Memorial Hospital	35	0	10.15	28.99	2.87
Sharkey - Issaquena Community Hospital	29	0	7.83	27.01	5.93
Simpson General Hospital	35	0	12.62	36.07	4.19
St. Dominic Hospital	453	0	266.39	58.80	4.47
University Hospital & Clinics	664	0	422.22	65.56	6.34
Woman's Hospital - River Oaks	111	0	24.13	21.74	3.46
General Hospital Service Area 4	**812**	**19**	**356.43**	**42.89**	**4.68**
Alliance Health Center	55	0	N/A	N/A	N/A
Alliance Laird Hospital	25	0	8.58	34.33	2.95
H.C. Watkins Memorial Hospital, Inc.	25	0	7.54	30.17	4.00
Jeff Anderson Regional Medical Center	260	0	155.86	59.95	5.44
Neshoba General Hospital	82	0	22.70	27.69	4.35
Newton Regional Hospital	30	19	13.91	28.39	4.16
Riley Memorial Hospital	120	0	46.54	38.78	4.41
Rush Foundation Hospital	215	0	93.27	43.38	4.05
General Hospital Service Area 5	**587**	**0**	**267.68**	**45.60**	**4.42**
Beacham Memorial Hospital	37	0	19.32	52.22	5.32
Field Memorial Community Hospital	25	0	7.01	28.01	3.28
Franklin County Memorial Hospital	36	0	13.04	36.22	4.85
Jefferson County Hospital	30	0	23.58	78.59	8.24
Natchez Community Hospital	101	0	39.63	39.24	3.75
Natchez Regional Medical Center	159	0	44.62	28.07	3.84
Southwest Miss Regional Medical Center	150	0	101.16	67.44	4.39
Walthall County General Hospital	49	0	19.32	39.43	4.76

Table XI-1 (continued)
Licensed Short-Term Acute Care Hospital Beds by Service Area
FY 2005

Facility	# Licensed Beds	# Beds in Abeyance	Average Daily Census	Occupancy Rate	Average Length of Stay
General Hospital Service Area 6	**1,172**	**0**	**606.61**	**51.76**	**4.96**
Covington County Hospital	82	0	17.22	21.00	5.27
Forrest General Hospital	400	0	250.95	62.74	4.83
Jasper General Hospital	16	0	0.72	4.49	4.80
Marion General Hospital	79	0	19.75	25.00	4.39
Perry County General Hospital	29	0	8.23	28.37	4.87
South Central Regional Medical Center	275	0	151.17	54.97	5.23
Wayne General Hospital	80	0	33.73	42.16	4.38
Wesley Medical Center	211	0	124.85	59.17	4.99
General Hospital Service Area 7	**1,552**	**0**	**683.87**	**44.06**	**4.78**
Biloxi Regional Medical Center	153	0	84.76	55.40	4.92
Garden Park Medical Center	130	0	58.03	44.64	5.04
George County Hospital	53	0	25.42	47.96	3.73
Gulf Coast Medical Center	144	0	36.17	25.12	4.80
Hancock Medical Center	104	0	48.00	46.15	4.39
L.O. Crosby Memorial Hospital	95	0	18.27	19.23	2.46
Memorial Hospital at Gulfport	303	0	206.64	68.20	5.32
Ocean Springs Hospital	136	0	97.28	71.53	4.81
Pearl River Hospital & NH	24	0	1.36	5.66	2.88
Singing River Hospital	385	0	108.12	28.08	4.89
Stone County Hospital	25	0	3.77	15.10	3.98
TOTAL	**11,270**	**50**	**5,211**	**46.16**	**4.82**

Source: Application for Renewal of Hospital License for Calendar Year 2006;
Office of Health Policy and Planning

Long-Term Acute Care Hospitals

A long-term acute care (LTAC) hospital is a free-standing, Medicare-certified acute care hospital with an average length of inpatient stay greater than 25 days that is primarily engaged in providing chronic or long-term medical care to patients who do not require more than three hours of rehabilitation or comprehensive rehabilitation per day. As of March 2006, nine long-term acute care hospitals are in operation. One additional facility, Select Specialty Hospital-Biloxi, operated prior to Hurricane Katrina. The hurricane destroyed the hospital building, and Select Specialty now has CON authority to renovate the former Garden Park Hospital building in Gulfport to house all 80 of its authorized beds. New facilities in Tupelo and Jackson also hold CON authority, but are not yet operational. Listed below are the LTAC facilities name, bed capacity, percent occupancy rate (OR), number of discharges, and average length of stay (ALOS).

Table XI-2
Long-Term Acute Care Hospitals
2005

Facility	Location	Authorized Beds	Licensed Beds	OR%	Discharges	ALOS
General Hospital Service Area 1		**62**	**29**	**0**	**0**	**0**
Batesville Specialty Hospital	- Batesville[1]	35	29	0	0	0
Lee County Specialty	- Tupelo	27	CON			
General Hospital Service Area 2		**40**	**40**	**31.16**	**183**	**20.95**
Greenwood Specialty Hospital	- Greenwood	40	40	31.16	183	20.95
General Hospital Service Area 3		**149**	**113**	**66.32**	**919**	**27.16**
Miss Hospital for Restorative Care	- Jackson	25	25	79.59	247	29.41
Promise Specialty Hospital of Vicksburg	- Vicksburg	35	35	57.73	286	24.90
Regency Hospital of Jackson	- Jackson	36	CON			
Select Specialty Hospital of Jackson	- Jackson	53	53	65.73	386	27.39
General Hospital Service Area 4		**89**	**89**	**81.20**	**1,004**	**24.71**
Regency Hospital of Meridian	- Meridian	40	40	72.74	414	26.00
Specialty Hospital of Meridian	- Meridian	49	49	88.10	590	23.81
General Hospital Service Area 6		**33**	**33**	**80.04**	**317**	**30.16**
Regency Hospital of Hattiesburg	- Hattiesburg	33	33	80.04	317	30.16
General Hospital Service Area 7		**80**	**20**	**89.05**	**245**	**27.42**
Select Specialty Hospital-MS Gulf Coast	- Gulfport[2]	80	20	89.05	245	27.42
TOTAL		**417**	**324**	**62.93**	**2,668**	**26.19**

Source: Application for Renewal of Hospital License for Calendar Year 2006
[1] Opened after 2005 reporting period
[2] Includes 42 beds to be relocated from Select Specialty -Biloxi

Rural Acute Care Hospitals

Currently, 70 of the 97 non-federal acute care hospitals in the state are in rural areas (located outside of Metropolitan Statistical Areas). These 70 hospitals represented 55.5 percent of the total number of licensed acute care beds in 2005. Of these 70 rural hospitals, 21 (30 percent) have 100 or more beds; 13 (18.6 percent) have 50-99 beds; and 36 (51.4 percent) have fewer than 50 beds.

The pressures of a rapidly changing health care environment affect the financial viability of many rural hospitals. These hospitals face limited revenues, inadequate population bases, and regulatory constraints. A limited scope of services and fewer technological resources make it difficult to compete for patients and physicians, causing low patient volume which results in higher costs per case. Federal studies show that the risk of hospital closure is highest among hospitals that operate fewer than 100 beds, have occupancy rates of 40 percent or less, or have a large percentage of Medicaid days (11 percent or more). The studies did not find Medicare reimbursement, in itself, a significant risk factor.

The studies also found that hospitals with fewer than 50 beds and occupancy rates of less than 20 percent face a higher risk of closure. In 2005, 35 of Mississippi's 49 rural hospitals with fewer than 100 beds (71.4 percent) reported occupancy rates of less than 40 percent. Twenty-seven of the 36 rural hospitals with fewer than 50 beds (75 percent) reported occupancy rates of less than 40 percent, and four of these hospitals (11.1 percent) had rates under 20 percent.

A number of alternatives have emerged as administrators and hospital boards attempt to cope with the increasing distress experienced by the nation's rural hospitals, particularly the smaller ones. One possibility is to diversify a hospital's activities by adding new services to offset dwindling inpatient

demand. Another alternative is forming alliances of rural hospitals to achieve better economies of scale in areas such as purchasing or acquisition of new resources, while maintaining individual autonomy. A number of rural hospitals have entered into more formal multi-hospital arrangements where the hospital is owned, leased, or managed by another larger hospital or parent corporation. This arrangement usually diminishes the autonomy of the individual hospital. Six such networks existed in the spring of 2006, with 45 member hospitals; 36 of these are rural.

The federal government took several actions to help rural hospitals, such as increasing reimbursement through changes in the Medicare prospective payment system. Other actions include programs to use excess hospital beds, modify services, recruit physicians, and encourage participation in consortia with other local providers to expand, improve, or initiate new services. A number of these activities specifically target rural hospitals: the swing-bed program, the small Medicare-dependent hospitals provision, Rural Health Outreach grants, and Rural Health Network grants. These grants encourage hospitals to form consortia with other providers to deliver new services to unserved rural populations. Congress changed the Rural Health Clinic Act to encourage the establishment of freestanding or hospital-based clinics using mid-level practitioners, with services reimbursed on a cost basis for hospitals under 50 beds. Congress also increased funding for the National Health Service Corps, which could increase inpatient physician referrals to hospitals located in Health Professional Shortage Areas.

In addition, the federal government established a new classification of small rural hospitals, called Critical Access Hospitals. The critical access hospital, or CAH, is eligible to receive cost-based reimbursement for services provided to Medicare patients. In return, the facility is limited in the number of inpatient beds that can be operated and the length of time that a patient can stay in that hospital. A more detailed description of the CAH program is found in the following section.

Responsibility for the difficulties of small rural hospitals lies with no single factor. However, the inability to retain primary care physicians or find replacements for retiring physicians can devastate hospitals already experiencing a low inpatient census. Possible ways to help recruit and retain physicians include: (a) new methods of medical student selection and education that encourage students to consider practice in rural areas; (b) incentives to help physicians start a rural medical practice; (c) incentives to practice in an economically depressed area; and (4) providing coverage for physicians during leave.

In rural areas where demographics will not support the necessary physicians, officials should consider restructuring the hospital to provide continued access to primary care and referral. There are growing examples throughout the country of local community initiatives and state legislative action to encourage the elimination of acute care services in small rural hospitals, converting the facilities to provide other types of health care services.

Individual small rural hospitals will continue to experience multiple pressures in the foreseeable future, which will affect their ability to provide acute inpatient care. Mississippi needs increased collaborative efforts by health care providers, local communities, the state, and the federal government to assure that rural citizens have reasonable access to a full range of health care services. This goal may be best achieved through systems of health care in which the small rural hospital is one component, though not necessarily the inpatient component.

History of Limited Service Hospitals and the Evolution of Critical Access Hospitals

A limited service hospital provides an alternative for rural communities that can no longer support a full service hospital. Through relaxed staffing, service, and hours of operation requirements, it provides regulatory relief to facilities that obtain certification as a limited service hospital. Critical to the financial feasibility of this model, and what is most attractive to rural hospital stakeholders, is cost-based reimbursement from Medicare for inpatient and outpatient services.

Congress authorized a limited service hospital model for all states with the Medicare Rural Hospital Flexibility Program, established through the Balanced Budget Act of 1997 (P.L.105-33 Section 4201) and the Balanced Budget Refinement Act of 1999. This program allows states that develop a comprehensive rural health care plan approved by the Centers for Medicare and Medicaid Services (CMS) to designate applicant rural hospitals that meet certain criteria as Critical Access Hospitals (CAH). Minimum requirements for CAHs are as follows:

Location and Status:

- Hospital must be rural (non-metropolitan statistical area).
- Hospital must be either more than 35 miles from a hospital or another CAH or more than 15 miles in areas with mountainous terrain or accessible only by secondary roads. The provision that allowed for designation by a state as a necessary provider of services to a community was eliminated December 31, 2005.
- Hospital must have a current participation agreement with Medicare.

Service Limits:

- Patients may not stay for longer than an average of 96 hours (except under certain conditions). Patients requiring a longer stay must be transferred to a full-service hospital.
- Hospital may have no more than 25 acute care beds and may offer swing bed services up to the 25-bed limitation.

Medical Staff:

- At least one physician (doctor of medicine or osteopathy) must be on staff. Mid-level practitioners may be the primary provider of care, but only under the supervision of the physician.
- Nursing staff must be on duty in the facility when the CAH has one or more patients.
- Staff must be sufficient to provide the services essential to the operation of the CAH.

Services Required:

- Inpatient and emergency care, laboratory and x-ray services are required. Some ancillary (lab, radiology) may be provided part-time off-site.
- Emergency services are required 24 hours a day, seven days a week. Staff in the emergency room must have emergency services training/experience.
- A system must be in place with the local emergency medical system so that emergency medical personnel are aware of who is on call and how to contact them.
- A doctor of medicine or osteopathy must be available by phone or radio 24 hours a day, seven days a week.

Networks:

- Each CAH must be a member of a network including a larger facility, with agreements maintained for patient referral and transfer, emergency and non-emergency transportation, and development and use of a communication system between the network members.
- Additional arrangements must be in place.

The 1998 session of the Mississippi Legislature authorized the MDH to develop a state rural health care plan, to adopt rules and regulations for the designation of CAHs and rural health networks, and to provide for insurance reimbursement for services provided by CAHs if such services would be covered if provided in a full service hospital. The legislation states that "it is the policy of the State of Mississippi to provide improved access to hospitals and other services for rural residents of the State of Mississippi and to promote regionalization of rural health services in Mississippi."

The *Mississippi Rural Health Care Plan* identifies 28 rural Mississippi hospitals as potential candidates for conversion to a CAH. These hospitals were identified as necessary providers of services to their community and were identified as at risk of closure due to falling into at least one of the following criteria: smaller hospital size, lower inpatient occupancy rates, lower Medicare days, higher Medicaid days, higher area wages, and more local competition. Twenty-eight CAHs are operational.

Swing-Bed Programs and Extended Care Services

Rural hospitals once routinely provided both acute and long-term care, but the practice largely disappeared with the inception of Medicare and Medicaid in the mid-1960s. Regulatory requirements for Medicare and Medicaid reimbursement mandated that a hospital providing extended or long-term care do so in a physically distinct part of the institution exclusively designated for such care. The regulations also required certain specialized services and used the reimbursement mechanism to impose financial restraints. Therefore, many rural hospitals discontinued long-term care unless they also operated separate nursing homes.

In 1980 Congress amended the Social Security Act to allow rural hospitals of fewer than 50 beds to provide extended or long-term care in acute care beds and receive reimbursement from Medicare and Medicaid at long-term care rates. In 1988 Congress expanded the provisions to include hospitals of up to 100 beds. The program allows participating hospitals to use designated beds for both acute care and nursing facility patients. In effect, the beds "swing" between the two types of care, thus creating the term "swing-beds".

The swing-bed concept does not refer to beds designated as nursing home beds and does not necessarily involve moving beds or patients into separate areas of the hospital. Nursing home beds are generally occupied for periods ranging from a few months to years. Swing-beds, on the other hand, alternate between acute and long-term care. Patients occupy swing-beds for a few days to several weeks. For that reason, care provided through the swing-bed concept is often referred to as extended care.

Although Congress intended to reduce regulatory restraints that limited the use of swing-beds, hospitals must meet several requirements for certification as swing-beds under Medicare and Medicaid. Federal certification requirements focus on eligibility, skilled nursing facility services, and coverage requirements. Eligibility criteria include the following:

- A hospital must be located in a rural area (any geographic area not designated as "urban" by the most recent census);
- A hospital must operate fewer than 100 beds, excluding bassinets and intensive-care beds;
- A hospital must obtain a Certificate of Need if required by the state; and
- A hospital may not have in effect a 24-hour nursing waiver granted under the flexibility of personnel standards.

In addition to meeting acute care standards, swing-bed hospitals must also meet six standards for nursing facility services. These standards involve patients' rights, dental services, specialized

rehabilitative services, social services, patient activities, and discharge planning. Swing-bed hospitals have the same Medicare coverage requirements and coinsurance provisions as nursing facilities, as follows:

- Nursing facility days in a swing-bed hospital are counted against the total number of nursing facility benefit days available to Medicare beneficiaries;

- A nursing facility swing-bed patient must have three consecutive calendar days of inpatient hospital care prior to transfer to nursing facility care; and

- Medicare beneficiaries must receive nursing facility care within 30 days of discharge from inpatient acute care.

Patients who are ready for discharge from the hospital often experience difficulty finding a nursing home where they can continue recuperation. This situation causes hospital costs to be higher than necessary when nursing home transfers are delayed due to a lack of available beds. Mississippi has very few Medicare-certified nursing home beds; therefore, many patients are unable to utilize the Medicare nursing facility benefit. Moreover, the state may have to pay for nursing facility care through the Medicaid program that could otherwise be funded through Medicare. The use of swing beds could help alleviate such problems without new construction and with mostly Medicare funds.

Additionally, the swing-bed concept could reduce some of the future need for dedicated nursing home beds, thus reducing the need for new construction. Many patients, particularly elderly patients, no longer need acute hospital care but are not well enough to go home. Swing-beds enable the hospital to provide nursing care, rehabilitation, and social services with a goal of returning patients to their homes. Many of these patients would become nursing home residents without the extended period of care received in a swing-bed.

Swing-beds provide a link between inpatient acute care and home or community-based services in a continuum of care for the elderly and others with long-term needs. If return to the community is not possible, the swing-bed hospital assists the patient and family with nursing home placement. The swing-bed concept may help alleviate the problem of low utilization in small rural hospitals and provide a new source of revenue with few additional expenses. Additionally, swing-beds allow hospitals to better utilize staff during periods of low occupancy in acute care beds.

Swing-Bed Utilization

The number of hospitals participating in the swing-bed program has increased from four in 1982 to 53 in 2006. These hospitals reported 6,322 admissions to swing beds during Fiscal Year 2005, with 80,206 patient days of care and an average length of stay of 12.82 days. The number of days of care provided in swing beds was equivalent to approximately 220 nursing home beds.

The swing-bed program offers a viable alternative to placement in a nursing home for short-term convalescence. Only about 15.71 percent of the patients who were discharged from a swing-bed during 2005 went to a nursing home; 63.7 percent went home; and 31.84 percent were referred to home health. Many more of these patients may well have ended up in a nursing home if swing-bed services had not been available.

101 Therapeutic Radiation Services

Radiation therapy uses ionizing radiation to treat disease, primarily cancer. It may be used in combination with surgery and/or chemotherapy, depending on the characteristics of the tumor or neoplasm. Approximately 50 to 60 percent of new cancer patients undergo some type of radiation therapy, either alone or combined with other treatments.

There are two categories of radiation therapy: a) brachytherapy, which uses sealed radioactive sources to deliver radiations at short distances by interstitial, intracavitary, or surface applications; and b) external beam radiation therapy through the use of megavoltage x-ray therapy units, such as linear accelerators, or Cobalt-60 teletherapy units, such as Gamma Knife or heavy-ion accelerators.

"Gamma Knife or Gamma unit" means a specialized type of equipment used to perform stereotactic radiosurgery on small brain tumors and vascular malformations using multiple Cobalt-60 gamma radiation sources focused through a collimator helmet and arrayed in a semicircular arc so that they may be very precisely focused and the radiation dose may be very precisely distributed, permitting treatment in neurosurgical cases where the site is inaccessible or otherwise unsuitable for other invasive methods.

"Gamma knife procedure" means a single treatment of a patient using the unit. Usually only one procedure is performed per patient, but it is possible that the procedure could be repeated if deemed clinically necessary.

"Stereotactic radiosurgery" means a non-invasive therapeutic procedure in which narrow beams of radiant energy are directed at the treatment target in the head so as to produce tissue destruction, using computerized tomography (CT), radiography, magnetic resonance imaging (MRI), and angiography for localization. Central Mississippi Medical Center (CMMC), the only hospital within the state with a CON to provide Gamma Knife Stereotactic Radiosurgery, reported 110 procedures during 2005. Brachytherapy radiation implantation was performed on 2,824 patients in 15 of the state's hospitals.

Mississippi law requires Certificate of Need review for therapeutic radiation services regardless of the capital expenditure if the proposed provider has not offered these services on a regular basis within 12 months prior to the time the provider proposes to offer such services. The acquisition or otherwise control of therapeutic radiation equipment is reviewable if the equipment costs in excess of $1.5 million. For health planning and CON purposes, a Cobalt-60 unit (other than Gamma Knife), when operated in conjunction with therapeutic radiation modalities in a comprehensive cancer treatment center, will be counted as one-half equivalent to a linear accelerator. When a Cobalt-60 unit is the single modality of radiation therapy offered at a cancer treatment center, the Cobalt-60 equipment shall not be counted in the inventory relative to need determination.

Table XI-3 presents the facilities offering megavoltage therapeutic radiation therapy.

Table XI-3
Facilities Reporting Megavoltage Therapeutic Radiation Services
By General Hospital Service Area
FY 2004 and FY 2005

Facility	Number and Type of Unit	Number of Treatments (Visits)	
		2004	2005
General Hospital Service Area 1		**35,863**	**34,899**
Baptist Memorial Hospital - Golden Triangle	1 - Lin-Acc (6-18MV)	7,194	7,312
Baptist Memorial Hospital - North Miss	1 - Lin-Acc (6-18MV)	13,144	12,725
Magnolia Radiation Oncology Center	1 - Lin-Acc (6-15MV)	3,515	3,715
North Miss Medical Center	2 - Lin-Acc (6MV & 18MV)	12,010	11,147
General Hospital Service Area 2		**19,184**	**21,716**
Baptist Memorial Hospital - DeSoto	2 - Lin-Acc (6-18MV)	5,764	6,375
Bethesda Regional Cancer Center of NW	1 - Lin-Acc (6MV)	3,091	3,429
Delta Cancer Institute	2 - Lin-Acc (6-18MV)	6,304	6,481
North Central Miss Cancer Center	1 - Lin-Acc (6MV)	4,025	5,431
General Hospital Service Area 3		**42,229**	**50,831**
Cancer Center of Vicksburg (freestanding)	1 - Lin-Acc (6-15MV)	5,320	5,320
Central Miss Medical Center	2 - Lin-Acc (6MV& 18MV)	7,132	11,823
Miss Baptist Medical Center	2 - Lin-Acc (6-18MV)	13,028	13,943
St. Dominic Hospital	2 - Lin-Acc (6-18MV)	10,199	8,872
University Hospital & Clinics	2 - Lin-Acc (6-18MV)	6,550	10,873
General Hospital Service Area 4		**8,658**	**10,615**
Anderson Cancer Center	3 - Lin-Acc (6-25, 10, 6MV)	8,658	10,615
General Hospital Service Area 5		**9,504**	**8,833**
Cancer Care & Diagnostic Center	1 - Lin-Acc (6MV)	4,928	5,710
Southwest Miss Regional Medical Center	1 - Lin-Acc (6-18MV)	4,576	3,123
General Hospital Service Area 6		**15,698**	**16,951**
Forrest General Hospital	2 - Lin-Acc (6MV)	12,420	13,505
South Central Miss Cancer Center	0 - Lin-Acc (6 & 15MV)	3,278	3,446
General Hospital Service Area 7		**15,805**	**15,849**
Biloxi Radiation Oncology Center	1 - Lin-Acc (6MV)	2,852	2,937
Memorial Hospital at Gulfport	2 - Lin-Acc (6-18 & 15MV)	8,987	8,309
Singing River Hospital	1 - Lin-Acc (6-18MV)	3,966	4,603
State Total		**146,941**	**159,694**

Sources: Applications for Renewal of Hospital License for Calendar Years 2005 and 2006; and Fiscal Years 2004 and 2005 Annual Hospital Reports

102 Diagnostic Imaging Services

Diagnostic imaging equipment and services, except for magnetic resonance imaging and invasive digital angiography, are reviewable under the state's Certificate of Need law only when the capital expenditure for the acquisition of the equipment and related costs exceeds $1.5 million. The provision of invasive diagnostic imaging services, i.e., invasive digital angiography, and the provision of magnetic

resonance imaging services require a Certificate of Need if the proposed provider has not offered the services on a regular basis within 12 months prior to the time the services would be offered, regardless of the capital expenditure.

Equipment in this category includes, but is not limited to: ultrasound, diagnostic nuclear medicine, digital radiography, angiography equipment, computed tomographic scanning equipment, magnetic resonance imaging equipment, and position emission tomography.

Computed Tomographic (CT) Scanning

Should the capital expenditure for the acquisition of fixed or mobile CT scanning services, equipment, and related costs exceed $1.5 million, the CON proposal will be reviewed under the general review criteria outlined in the most recent *Certificate of Need Review Manual* adopted by the Mississippi Department of Health and the following utilization standards:

- A proposed unit must be able to generate a minimum of 2,000 HECTs (See Table XI-4 for HECT conversion table) by the second year of operation.

- Providers desiring CT capability must be properly utilizing 20,000 general radiographic imaging procedures per year.

Table XI-4
Head Equivalent Conversion Table (HECT)

Type of Scan	Yearly Number of Patients	Conversion Factor	HECTs*
Head without Contrast	500	1.00	500
Head with Contrast	500	1.25	625
Head with and without Contrast	200	1.75	350
Body without Contrast	100	1.50	150
Body with Contrast	200	1.75	350
Body with and without Contrast	300	2.75	825

*** Formula: Yearly Number of Patients X Conversion Factor = HECTs**

Magnetic Resonance Imaging (MRI)

Magnetic resonance imaging (MRI) is a diagnostic imaging technique that employs magnetic and radio-frequency fields to produce images of the body non-invasively. Magnetic resonance imaging is similar to CT scanning in that it produces cross-sectional and sagittal images without potentially harmful ionizing radiation, producing an image not distorted by bone mass. The equipment and its operational specifications continue to be refined.

Forty-three facilities (hospitals and free-standing) in Mississippi operated fixed MRI units in FY 2005; another 43 facilities offered the service on a mobile basis (one or two days each week); and six facilities operated both fixed and mobile units. These 92 facilities performed a total of 225,604 MRI procedures during 2005. Four additional facilities received Certificate of Need approval to provide MRI services. Table XI-5 presents the location, type (fixed or mobile), and utilization of MRI equipment throughout the state in 2004 and 2005.

Digital Subtraction Angiography (DSA)

Digital Subtraction Angiography (DSA) is a diagnostic imaging procedure that combines a digital processing unit with equipment similar to that used for standard fluoroscopic procedures. A radiopaque dye is injected into the patient; a computer then compares the pre-injection and post-injection images and subtracts any interfering bone and tissue structures obscuring the arteries. The X-ray pictures are converted to a digital form, which can be electronically manipulated and stored. Through the electronic manipulation, the images can be enhanced and further refined to give detailed information about the patient's vascular anatomy without additional X-ray exposure.

In some cases, the use of DSA may eliminate the need for arterial catheterization, which many times carries a higher risk factor. Because the digital method is more sensitive to contrast materials, a lesser amount is generally needed in a given area, and intravenous injection of contrast may be sufficient. When required, intra-arterial injection can be done using less contrast per study.

Due to its relative safety and good patient acceptance, DSA may be performed on a repeat basis in cases where risk and cost of conventional angiography might otherwise preclude a series of follow-up studies. Such studies can provide valuable information regarding the natural history of a variety of vascular diseases and the long-term results of various therapeutic interventions. DSA also allows safer screening of the elderly, who have a high risk of cerebrovascular disease.

Most DSA studies can be performed in less than one hour and are appropriate as an outpatient procedure, whereas conventional angiography usually requires a hospital stay of one or two days. Twenty-five hospitals in the state provide DSA and reported 51,450 procedures during 2005.

DSA equipment performs several types of procedures. These procedures include examination of the carotid arteries, intracranial arteries, renal arteries, aortic arch, and peripheral leg arteries. A variety of anatomical and functional studies of the heart and coronary arteries are also performed.

Table XI-5
Location and Number of MRI Procedures by General Hospital Service Area
FY 2004 and FY 2005

Facility	Location	Type of Equipment	Number of MRI Procedures		Days/Wk Operation	Hours/Wk Operation
			2004	2005	2005	2005
General Hospital Service Area 1			**46,139**	**49,697**		
Baptist Memorial Hospital - Booneville	Booneville	F	756	838	M-F	8
Baptist Memorial Hospital - Golden Triangle	Columbus	2F	4,507	4,025	M-F	80
Baptist Memorial Hospital - North Miss	Oxford	2F	3,676	4,025	M-F	90
Baptist Memorial Hospital - Union County	New Albany	F	2,251	1,972	M-F	40
Clay County Medical Center	West Point	M	678	778	M-F	40
Gilmore Memorial Hospital, Inc.	Amory	M	1,461	1,461	M-F	36
Grenada Lake Medical Center	Grenada	F	2,502	3,023	M-F	40
Imaging Center of Columbus	Columbus	2F	1,928	4,243	M-F	80
Iuka Hospital	Tishomingo	M	820	946	M,W,F	24
Magnolia Regional Health Center	Corinth	2F	4,216	4,616	M-F	100
Mississippi State University	Starkville	F		CON	CON	0
North Mississippi Sports Medicine	Tupelo	M		181	M-F	40
Tupelo Imiging Center at Gloster Creek	Tupelo	F	3,751	3,908	M-F	65
North Miss Medical Center	Tupelo	4F	16,136	16,009	M-F	160
Oktibbeha County Hospital	Starkville	F/M	1,525	1,817	M-F	80
SMI - North Oak Regional Hospital*	Senatobia	M	96	72	M	4
Preferred Imaging	Batesville	M	723	1,023	M,Tu,Th	16
SMI-Yalobusha Hospital	Water Valley	M	463	416	W	6
SMI - Winston Medical Center*	Louisville	M	CON	0	N/A	0
Trace Regional Hospital	Houston	M	CON	226	F	8
Tri-Lakes Medical Center	Batesville	M	650	118	F	4
General Hospital Service Area 2			**17,825**	**20,264**		
Baptist Memorial Hospital - DeSoto	Southhaven	2F	4,973	5,268	M-Su	32
Bolivar Medical Center	Cleveland	M	2,602	1,611	M-F	40
Carvel Imaging	Olive Branch	F	2,933	3,326	M-F	80
Delta Regional Medical Center	Greenville	2F	1,544	2,543	M-F	40
Delta Regional Medical Center-West C'us	Greenwville	M	674	282	M-F	40
Greenwood Leflore Hospital	Greenwood	F	3,195	3,596	M-F	40
H.C. Watkins Memorial Hospital, Inc.	Quitman	M	CON	143	N/A	8
Northwest Miss Regional Medical Center	Clarksdale	M	1,233	2,264	M-F	40
SMI - South Sunflower County Hospital*	Indianola	M	388	347	W	6
SMI - Tyler Holmes Memorial Hospital*	Winona	M	CON	75	M	4
Southaven Diagnostic Imaging, LLC	Southaven	M	CON	390	M-F	8
University Hospital Clinics - Holmes County	Lexington	M	283	419	F	8

Table XI-5 (continued)

Location and Number of MRI Procedures by General Hospital Service Area

FY 2004 and FY 2005

Facility	Location	Type of Equipment	Number of MRI Procedures		Days/Wk Operation	Hours/Wk Operation
			2004	2005	2005	2005
General Hospital Service Area 3			**67,346**	**67,808**		
Baptist Madison Imaging Center	Madison	M	CON	CON	CON	0
Central Miss Diagnostics	Jackson	F	2,156	2,437	M-F	45
Central Miss Medical Center	Jackson	F	4,762	4,715	M-F	14
HRG - Prentiss Regional Hospital**	Prentiss	M	103	33	Th	4
SMI-Prentiss Regional Hospital*	Prentiss	M	0	33	Th	4
King's Daughters Medical Center	Brookhaven	M	1,013	935	M-F	40
Kosciusko Medical Center	Kosciusko	F	2,279	2,383	M-F	40
Lawrence County Hospital	Monticello	M	CON	200	N/A	4
Madison Imaging	Madison	F	CON	CON	CON	0
Magee General Hospital	Magee	M	724	784	Tu, Th	8
Miss Diagnostic Imaging Center	Flowood	2F	8,507	7,792	M-F	40
Miss Sports Medicine & Orthopedic	Jackson	2F	3,434	3,420	M-F	100
Miss Baptist Medical Center	Jackson	2F/M	11,867	10,513	M-F	144
Open MRI of Jackson	Jackson	M	1,715	1,703	M-F	45
Open MRI - Hardy Wilson Hospital	Hazlehurst	M	583	561	M & F	20
Rankin Medical Center	Brandon	F	1,732	1,341	M-F	40
Ridgeland Diagnostic Center	Ridgeland	M	377	462	W, F	12
River Oaks Hospital	Flowood	F	0	758	M-F	40
River Region Health System	Vicksburg	F	3,296	3,464	M-F	60
SMI - Lawrence County Hospital*	Monticello	M	149	200	Tu	4
SMI - Sharkey - Issaquena Hospital*	Rolling Fork	M	134	161	Tu	4
SMI - Simpson General Hospital*	Mendenhall	M	106	155	W	4
Scott Regional Hospital	Morton	M	230	306	M & F	8
SE Lackey Memorial Hospital	Forrest	M	222	361	W	8
Southern Diagnostic Imaging	Flowood	F	4,192	4,221	M-F	55
St. Dominic Hospital	Jackson	2F/M	9,828	9,607	M-F	80
University Hospital & Clinics	Jackson	3F/M	9,427	10,606	M-F	64
Vicksburg Diagnostic Imaging	Vicksburg	M	510	657	Tu & Th	16
General Hospital Service Area 4			**14,219**	**15,532**		
H. C. Watkins Memorial Hospital	Quitman	M	**CON**	143	Th	**8**
Neshoba General Hospital	Philadelphia	M	1,598	1,402	Tu & Th	24
Newton Regional Hospital	Newton	M	357	351	M	4
Regional Medical Support Center, Inc.	Meridian	3F	7,564	7,011	M-F	45
Rush Medical Group	Meridian	2F	4,700	6,768	M-F	140
General Hospital Service Area 5			**6,249**	**6,529**		
HRG - Walthall County Hospital**	Tylertown	M	83	24	Tu	7
Natchez Community Hospital	Natchez	M	241	316	Tu & F	16
Open Air of Miss Lou-Natchez Regional	Natchez	F	3,209	3,138	M-F	40
Southwest Miss Regional Medical Center	McComb	F	2,716	3,051	M-F	70

Table XI-5 (continued)
Location and Number of MRI Procedures by General Hospital Service Area
FY 2004 and FY 2005

Facility	Location	Type of Equipment	Number of MRI Procedures		Days/Wk Operation	Hours/Wk Operation
			2004	2005	2005	2005
General Hospital Service Area 6			**29,862**	**31,971**		
Forrest General Hospital	Hattiesburg	2F	6,793	6,748	M-Sa	128
Hattiesburg Clinic, P.A.	Hattiesburg	F	6,841	7,550	M-Su	112
HRG - Covington County Hospital**	Collins	M	9	3	W	3
Open Air MRI of Laurel	Laurel	F	2,031	3,386	M-F	60
HRG-Marion General Hospital	Columbia	M	180	33	W	7
South Central Regional Medical Center	Laurel	F	4,002	3,572	M-F	50
Southern Bone & Joint Specialist, PA	Hattiesburg	F	4,462	5,306	M-Sa	96
Southern Medical Imaging	Hattiesburg	F	1,599	1,781	M-F	40
Wesley Medical Center	Hattiesburg	F	3,945	3,592	M-F	50
General Hospital Service Area 7			**33,705**	**33,803**		
Biloxi Regional Medical Center	Biloxi	F	4,384	5,050	M-F	52
Coastal MRI - Bienville Orthopaedic	Bienville	M	1,647	0	N/A	0
Garden Park Medical Center	Gulfport	F	1,520	1,461	M-F	60
George County Hospital	Lucedale	F	598	631	M-F	40
Gulf Coast Medical Center	Biloxi	F	1,578	1,254	M-F	44
Hancock Medical Center	Bay St. Louis	F	2,159	2,599	M-Su	40
L.O. Crosby Memorial Hospital	Pearl River	M	964	838	M-F	16
Memorial Hospital at Gulfport	Gulfport	F/M	5,961	5,952	M-F	150
Memorial Hospital at Gulfport	Orange Grove	F	CON	CON	CON	0
Ocean Springs Hospital	Ocean Springs	F	2,975	3,466	M-F	60
Open MRI - Cedar Lake	Gulfport	F/M	2,662	3,373	M-F	48
Open MRI - Compass Site	Gulfport	F	3,882	3,182	M-Sa	78
OMRI, Inc. dba Open MRI	Gulfport	2M	1,240	2,046	M-Th	30
Singing River Hospital	Pascagoula	F	4,135	3,951	M-F	60
State Total			**215,345**	**225,604**		

F – Fixed Unit
M – Mobile Unit
* Scott Medical Imaging
** Hattiesburg Radiological Group
Sources: Applications for Renewal of Hospital License for Calendar Years 2005 and 2006, and Fiscal Years 2004 and 2005 Annual Hospital Reports

Positron Emission Tomography (PET)

Positron emission tomography (PET) is a minimally invasive imaging procedure in which positron-emitting radionuclides, produced either by a cyclotron or by a radio-pharmaceutical producing generator, and a gamma camera are used to create pictures of organ function rather than structure. PET scans provide physicians a crucial assessment of the ability of specific tissues to function normally.

PET can provide unique clinical information in an economically viable manner, resulting in a diagnostic accuracy that affects patient management. PET scans provide diagnostic and prognostic patient

information regarding cognitive disorders; for example, identifying the differences between Alzheimer's, Parkinson's, dementia, depression, cerebral disorders, and mild memory loss. PET scans also provide information regarding psychiatric disease, brain tumors, epilepsy, cardiovascular disease, movement disorders, and ataxia. Research shows that clinical PET may obviate the need for other imaging procedures.

PET installations generally take one of two forms: a scanner using only generator-produced tracers (basic PET unit) or a scanner with a cyclotron (enhanced PET unit). The rubidium-82 is the only generator approved by the FDA to produce radiopharmaceuticals. Rubidium limits PET services to cardiac perfusion imaging.

A PET scanner supported by a cyclotron can provide the capabilities for imaging a broader range of PET services, such as oncology, neurology, and cardiology. Manufacturers of PET equipment are providing more user-friendly cyclotrons, radiopharmaceutical delivery systems, and scanners which have drastically reduced personnel and maintenance requirements. These changes have made the cost of PET studies comparable to those of other high-technology studies.

Table XI-6 presents the location, type (fixed or mobile), and utilization of PET equipment throughout the state in 2005. Nineteen hospitals and three free-standing clinics provided a total of 7,354 PET procedures during FY 2005; an additional five hospitals hold CON authority to provide PET imaging services.

103 Extracorporeal Shock Wave Lithotripsy (ESWL)

The lithotripter is a medical device which disintegrates kidney or biliary stones (gallstones) by using shock waves. ESWL treatment is noninvasive and therefore avoids surgical intervention. The FDA has approved ESWL for the treatment of kidney stones, but has not approved an ESWL machine for the treatment of biliary stones. Twenty-seven Mississippi hospitals and three free-standing facilities provided renal ESWL services during FY 2005. Nine additional hospitals have CON authority to provide ESWL services. Table XI-7 presents the location, type (fixed or mobile), and utilization of renal ESWL equipment by facility by hospital service areas.

Utilization of ESWL equipment has been considerably less than expected. When first approved, officials estimated that each machine would perform approximately 700 procedures per year. The 30 sites providing ESWL service in 2005 reported an average of only 112 procedures per machine, with a total of 3,576 procedures. The Mississippi Legislature removed ESWL services from CON review during the 2006 Legislative Session.

Table XI-6

Location and Number of PET Procedures by General Hospital Service Area

FY 2005

Facility	Location	Type of Equipment	Number of PET Procedures
General Hospital Service Area 1			**2,437**
Baptist Memorial Hospital - Golden Triangle	Columbus	M	345
Baptist Memorial Hospital - North Miss	Oxford	M	419
Grenada Diagnostics Radiology, LLC	Grenada	M	193
Magnolia Regional Health Center	Corinth	M	231
North Miss Medical Center	Tupelo	F	1,200
The Imaging Center at Gloster Creek Village	Tupelo	M	49
General Hospital Service Area 2			**298**
Baptist Memorial Hospital - DeSoto	Southhaven	M	191
Bolivar Medical Center	Cleveland	M	0
Delta Regional Medical Center	Greenville	M	0
Greenwood Leflore Hospital	Greenwood	M	107
General Hospital Service Area 3			**2,632**
Central Miss Medical Center	Jackson	F	398
Miss Baptist Medical Center	Jackson	F	804
River Region Health System	Vicksburg	M	0
St. Dominic Hospital	Jackson	F	322
University Hospital & Clinics	Jackson	F	1,108
General Hospital Service Area 4			**315**
Jeff Anderson Regional Medical Center	Meridan	M	315
Rush Foundation Hospital	Meridian	M	0
General Hospital Service Area 5			**132**
Natchez Regional Medical Center	Natchez	M	132
General Hospital Service Area 6			**756**
Hattiesburg Clinic, P.A.	Hattiesburg	M	418
South Central Regional Medical Center	Laurel	M	209
Wesley Medical Center	Hattiesburg	F	129
General Hospital Service Area 7			**784**
Biloxi Regional Medical Center	Biloxi	M	74
Garden Park Medical Center	Gulfport	M	13
Gulf Coast Medical Center	Biloxi	M	0
Memorial Hospital at Gulfport	Gulfport	M	320
Ocean Springs Hospital	Ocean Springs	M	32
Singing River Hospital	Pascagoula	M	345
State Total			**7,354**

F – Fixed Unit
M – Mobile Unit
Sources: Applications for Renewal of Hospital License for Calendar Year 2006 and Fiscal Year 2005 Annual Hospital Report

Table XI-7
Extracorporeal Shock Wave Lithotripsy Utilization
by General Hospital Service Area
FY 2005

Facility	County	Type of Equipment	Renal Procedures
General Hospital Service Area 1			**1,017**
Baptist Memorial Hospital - Booneville	Prentiss	F	CON
Baptist Memorial Hospital - Golden Triangle	Lowndes	M	153
Baptist Memorial Hospital - North Miss	Lafayette	M	192
Baptist Memorial Hospital - Union County	Union	M	CON
Magnolia Regional Health Center	Alcorn	M	22
North Miss Ambulatory Surgery Center	Lee	M	61
North Miss Medical Center	Lee	F	446
Oktibbeha County Hospital	Oktibbeha	M	143
Tri-Lakes Medical Center	Panola	M	CON
General Hospital Service Area 2			**169**
Baptist Memorial Hospital - DeSoto	DeSoto	M	0
Bolivar Medical Center	Bolivar	M	37
Delta Regional Medical Center	Washington	M	51
Greenwood Leflore Hospital	Leflore	M	81
Northwest Miss Regional Medical Center	Coahoma	M	0
General Hospital Service Area 3			**953**
Central Miss Medical Center	Hinds	M	185
King's Daughters Medical Center - Brookhaven	Lincoln	M	0
Miss Baptist Medical Center	Hinds	M	259
River Oaks Hospital	Rankin	M	42
River Region Health System	Warren	M	304
St. Dominic Hospital	Hinds	M	91
University Hospital & Clinics	Hinds	M	72
General Hospital Service Area 4			**263**
Jeff Anderson Regional Medical Center	Lauderdale	M	135
Riley Memorial Hospital	Lauderdale	M	28
Rush Foundation Hospital	Lauderdale	M	100
General Hospital Service Area 5			**74**
Natchez Community Hospital	Adams	M	47
Natchez Regional Medical Center	Adams	M	0
Southwest Miss Regional Medical Center	Pike	F	27
General Hospital Service Area 6			**745**
Forrest General Hospital	Forrest	M	179
Hattiesburg Clinic, P.A.	Forrest	M	349
South Central Regional Medical Center	Jones	M	75
Wesley Medical Center	Lamar	F	142
General Hospital Service Area 7			**355**
Biloxi Regional Medical Center	Harrison	2M	60
Garden Park Medical Center	Harrison	M	0
Gulf Coast Medical Center	Harrison	M	0
Hancock Medical Center	Hancock	M	4
Memorial Hospital at Gulfport	Harrison	F/M	142
Miss Coast Endoscopy Center	Jackson	M	2
Ocean Springs Hospital	Jackson	M	80
Singing River Hospital	Jackson	M	67
State Total			**3,576**

F – Fixed Unit; M – Mobile Unit

Source: Applications for Renewal of Hospital License for Calendar Year 2006 and Fiscal Year 2005 Annual Hospital Report

104 Cardiac Catheterization

Cardiac catheterization, predominately a diagnostic tool that is an integral part of cardiac evaluation, brings together two disciplines: cardiac catheterization (the evaluation of cardiac function) and angiography (X-ray demonstration of cardiac anatomy). Cardiac catheterization includes various therapeutic interventions: dilation of coronary obstructions by percutaneous transluminal coronary angioplasty (PTCA), acute lysis of coronary clots in evolving myocardial infarctions by injection of intracoronary streptokinase, electrical ablation of abnormal conduction pathways, and closure of patent ductus arteriosus in infants.

Any facility performing diagnostic cardiac catheterizations without open-heart surgery capability must maintain formal referral agreements with a nearby facility to provide emergency cardiac services, including open-heart surgery. Such a facility must also delineate the steps it will take to ensure that high-risk or unstable patients are not catheterized in the facility. Additionally, a facility without open-heart surgery capability must document that more complex procedures are not performed in the facility. Such procedures include, but are not limited to: PTCA, transseptal puncture, transthoracic left ventricular puncture, and myocardial biopsy.

Note: **Percutaneous Transluminal Coronary Angioplasty (PTCA)** is an angiographic technique to improve myocardial blood flow by dilating focal atherosclerotic stenoses in coronary arteries. The technique consists of mechanically induced coronary vasodilation and recanalization. It is expected to result in the restoration of blood flow through segmentally diseased coronary arteries. PTCA involves the passage of a balloon-tipped flexible catheter into a site of arterial narrowing. The balloon is inflated in situ to dilate and recanalize the obstructed vessel. Specially trained physicians perform the procedure on hospitalized patients with symptomatic coronary artery disease (CAD) who meet the required patient selection criteria.

Section 41-7-191(1)(d), Mississippi Code of 1972, as amended, requires Certificate of Need review for the establishment and/or offering of cardiac catheterization services if the proposed provider has not offered such services on a regular basis within 12 months prior to the time the services would be offered. Table XI-8 presents the utilization of cardiac catheterization services in 2005.

105 Open-Heart Surgery

Open-heart surgery, defined as any surgical procedure in which a heart-lung machine is used to maintain cardiopulmonary functioning, involves a number of procedures, including valve replacement, repair of cardiac defects, coronary bypass, heart transplantation, and artificial heart implant.

Section 41-7-191(1)(d), Mississippi Code of 1972, as amended, requires Certificate of Need review for the establishment and/or offering of open-heart surgery services if the proposed provider has not offered such services on a regular basis within 12 months prior to the time the services would be offered.

Table XI-9 presents the utilization of existing facilities. Map XI-2 in the criteria and standards section of this chapter shows the Cardiac Catheterization/Open-Heart Surgery Planning Areas (CC/OHSPAs) and the location of existing services.

Table XI-8
Number of Cardiac Catheterizations by Facility and Type
FY 2004 and FY 2005

Facility	County	Total Adult Procedures		Total Pediatric Procedures		Total PTCA Procedures		# Labs
		2004	2005	2004	2005	2004	2005	2005
Baptist Memorial - DeSoto	DeSoto	1,728	1,583	0	0	17	28	2
Baptist Memorial - Golden Triangle	Lowndes	805	980	0	0	14	154	1
Baptist Memorial - North Mississippi	Lafayette	1,176	1,131	0	0	241	289	2
Biloxi Regional Medical Center	Harrison	963	194	0	0	1	0	1
Central Miss Medical Center	Hinds	568	659	0	0	45	182	2
Delta Regional Medical Center	Washington	2,341	961	0	0	139	82	2
Forrest General Hospital	Forrest	3,139	2,628	0	0	1,149	979	4
Greenwood Leflore Hospital	Leflore	0	0	0	0	0	0	1
Grenada Lake Medical Center*	Grenada	367	323	0	0	0	0	1
Jeff Anderson Regional Medical Center	Lauderdale	1,383	1,224	0	0	459	416	3
Magnolia Regional Health Center	Alcorn	1,181	1,401	0	0	271	248	2
Memorial Hospital at Gulfport	Harrison	4,623	3,237	0	0	2,205	2,161	4
Miss Baptist Medical Center	Hinds	3,748	4,310	0	0	1,262	1,418	3
Natchez Regional Medical Center	Adams	13	337	0	0	1	0	1
North Miss Medical Center	Lee	8,261	7,485	0	0	233	152	4
Northwest Miss Regional Medical Center	Coahoma	1,618	1,805	0	0	0	0	1
Ocean Springs Hospital	Jackson	958	859	0	0	430	360	1
Rankin Cardiology Center*•	Rankin	91	100	0	0	0	0	0
River Oaks Hospital	Rankin	0	478	0	0	0	0	1
River Region Health System	Warren	1,384	1,584	0	0	270	270	3
Rush Foundation Hospital	Lauderdale	1,003	915	0	0	500	240	2
St. Dominic Hospital	Hinds	2,403	2,433	0	0	736	756	4
Singing River Hospital	Jackson	987	1,034	0	0	416	450	2
South Central Regional Medical Center*	Jones	727	551	0	0	0	0	1
Southwest Miss Regional Medical Center	Pike	907	1,207	0	0	331	374	2
University Hospital & Clinics	Hinds	2,773	2,652	443	367	324	348	3
Wesley Medical Center	Lamar	992	868	0	0	322	327	2
Total		**44,139**	**40,939**	**443**	**367**	**9,366**	**9,234**	**55**

*Diagnostic Catheterizations only
•Provides Diagnostic Cardiac Catheterizations for Rankin Medical Center, Women's Hospital, and River Oaks Hospital patients, at River Oaks Hospital Campus
Sources: Applications for Renewal of Hospital License for Calendar Years 2005 and 2006, and Fiscal Years 2004 and 2005 Annual Hospital Reports.

Table XI-9
Number of Open-Heart Surgeries by Facility and Type
FY 2004 and FY 2005

Facility	County	Number of Adult Open-Heart Procedures		Number of Pediatric Open-Heart Procedures		Number of Pediatric Heart Procedures (Excluding Open-Heart)	
		2004	2005	2004	2005	2004	2005
Baptist Memorial Hospital - DeSoto	DeSoto	223	271	0	0	0	0
Baptist Memorial Hospital - Golden Triangle	Lowndes	69	72	0	0	0	0
Baptist Memorial Hospital - North Miss	Lafayette	56	43	0	0	0	0
Central Miss Medical Center	Hinds	119	95	0	0	0	0
Delta Regional Medical Center	Washington	4	70	0	0	0	0
Forrest General Hospital	Forrest	535	514	0	0	0	0
Greenwood Leflore Hospital	Leflore	0	0	0	0	0	0
Jeff Anderson Regional Medical Center	Lauderdale	283	213	0	0	0	0
Memorial Hospital at Gulfport	Harrison	308	256	0	0	0	0
Miss Baptist Medical Center	Hinds	318	278	0	0	0	0
North Miss Medical Center	Lee	1,067	857	0	0	0	0
Ocean Springs Hospital	Jackson	63	82	0	0	0	0
River Region Health System	Warren	91	90	0	0	0	0
Rush Foundation Hospital	Lauderdale	175	134	0	0	0	0
St. Dominic Hospital	Hinds	528	392	0	0	0	0
Singing River Hospital	Jackson	118	85	0	0	0	0
Southwest Miss Regional Medical Center	Pike	82	355	0	0	0	0
University Hospital & Clinics	Hinds	198	164	21	51	21	9
Wesley Medical Center	Lamar	71	65	0	0	0	0
Total		**4,308**	**4,036**	**21**	**51**	**21**	**9**

Sources: Applications for Renewal of Hospital License for Calendar Years 2005 and 2006, and Fiscal Years 2004 and 2005 Annual Hospital Reports

Certificate of Need
Criteria and Standards
for
Acute Care

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

106 Policy Statement Regarding Certificate of Need Applications for General Acute Care Hospitals and General Acute Care Beds

1. Acute Care Hospital Need Methodology: With the exception of psychiatric, chemical dependency, and rehabilitation hospitals, the Mississippi Department of Health (MDH) will use the following methodologies to project the need for general acute care hospitals:

   a. **Counties Without a Hospital -** The MDH shall determine hospital need by multiplying the state's average annual occupied beds (1.75 in FY 2005) per 1,000 population by the estimated 2010 county population to determine the number of beds the population could utilize. A hospital with a maximum of 100 beds may be considered for approval if: (a) the number of beds needed is 100 or more; (b) there is strong community support for a hospital; and (c) a hospital can be determined to be economically feasible.

   b. **Counties With Existing Hospitals -** The MDH shall use the following formula to determine the need for an additional hospital in a county with an existing hospital:

   $$\mathbf{ADC + K(\sqrt{ADC})}$$

   Where:
   ADC = Average Daily Census
   K = Confidence Factor of 2.57

   The formula is calculated for each facility within a given General Hospital Service Area (GHSA); then beds available and beds needed under the statistical application of the formula are totaled and subtracted to determine bed need or excess within each GHSA. Map XI-1 delineates the GHSAs. The MDH may consider approval of a hospital with a maximum of 100 beds if: (a) the number of beds needed is 100 or more; (b) there is strong community support for a hospital; and (c) a hospital can be determined to be economically feasible.

2. Need in Counties Without a Hospital: Eight counties in Mississippi do not have a hospital: Amite, Benton, Carroll, Issaquena, Itawamba, Kemper, Smith, and Tunica. Most of these counties do not have a sufficient population base to indicate a potential need for the establishment of a hospital, and all appear to receive sufficient inpatient acute care services from hospitals in adjoining counties.

3. Expedited Review: The MDH may consider an expedited review for Certificate of Need applications that address only license code deficiencies, project cost overruns, and relocation of facilities or services.

4. Capital Expenditure: For the purposes of Certificate of Need review, transactions which are separated in time but planned to be undertaken within 12 months of each other and which are components of an overall long-range plan to meet patient care objectives shall be reviewed in their entirety without regard to their timing. For the purposes of this policy, the governing board of the facility must have duly adopted the long-range plan at least 12 months prior to the submission of the CON application.

5. No health care facility shall be authorized to add any beds or convert any beds to another category of beds without a Certificate of Need.

6. If a health care facility has voluntarily delicensed some of its existing bed complement, it may later relicense some or all of its delicensed beds without the necessity of having to acquire a Certificate of Need. The Department of Health shall maintain a record of the delicensing health care facility and its voluntarily delicensed beds and continue counting those beds as part of the state's total bed count for health care planning purposes.

107 Certificate of Need Criteria and Standards for the Establishment of a General Acute Care Hospital

The Mississippi Department of Health (MDH) will review applications for a Certificate of Need to construct, develop, or otherwise establish a new hospital under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the MDH; and the specific criteria and standards listed below.

1. **Need Criterion: The applicant shall document a need for a general acute care hospital using the appropriate need methodology as presented in this section of the *Plan*. In addition, the applicant must meet the other conditions set forth in the need methodology.**

2. The application shall document that the applicant will provide a "reasonable amount" of indigent/charity care as described in Chapter I of this *Plan*.

108 Certificate of Need Criteria and Standards for Construction, Renovation, Expansion, Capital Improvements, placement of Health Care Facilities, and Addition of Hospital Beds

The Mississippi Department of Health (MDH) will review applications for a Certificate of Need for the addition of beds to a health care facility and projects for construction, renovation, expansion, or capital improvement involving a capital expenditure in excess of $2,000,000 under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the (MDH); and the specific criteria and standards listed below.

The construction, development, or other establishment of a new health care facility; the replacement and/or relocation of a health care facility or portion thereof; and changes of ownership of existing health care facilities are reviewable regardless of capital expenditure.

1. **Need Criterion:**

   a. **Projects which do not involve the addition of any acute care beds:** The applicant shall document the need for the proposed project. Documentation may consist of, but is not limited to, citing of licensure or regulatory code deficiencies, institutional long-term plans (duly adopted by the governing board), recommendations made by consultant firms, and deficiencies cited by accreditation agencies (JCAHO, CAP, etc.). In addition, for projects which involve construction, renovation, or expansion of emergency department facilities, the applicant shall include a statement indicating

whether the hospital will participate in the statewide trauma system and describe the level of participation, if any.

b. **Projects which involve the addition of beds:** The applicant shall document the need for the proposed project. In addition to the documentation required as stated in Need Criterion (1)(a), the applicant shall document that the facility in question has maintained an occupancy rate of at least 70 percent for the most recent two (2) years.

2. Bed Service Transfer/Reallocation/Relocation: Applications proposing the transfer, reallocation, and/or relocation of a specific category or sub-category of bed/service from another facility as part of a renovation, expansion, or replacement project shall document that the applicant will meet all regulatory/licensure requirements for the type of bed/service being transferred/reallocated/relocated.

3. Charity/Indigent Care: The application shall affirm that the applicant will provide a "reasonable amount" of indigent/charity care as described in Chapter I of this *Plan*.

4. The application shall demonstrate that the cost of the proposed project, including equipment, is reasonable in comparison with the cost of similar projects in the state.

   a. The applicant shall document that the cost per square foot (per bed if applicable) does not exceed the median construction costs, as determined by the MDH, for similar projects in the state within the most recent 12-month period by more than 15 percent. The Glossary of this *Plan* provides the formulas to be used by MDH staff in calculating the cost per square foot for construction and/or construction/renovation projects.

   b. If equipment costs for the project exceed the median costs for equipment of similar quality by more than 15 percent, the applicant shall provide justification for the excessive costs. The median costs shall be based on projects submitted during the most recent six-month period and/or estimated prices provided by acceptable vendors.

5. The applicant shall specify the floor areas and space requirements, including the following factors:

   a. The gross square footage of the proposed project in comparison to state and national norms for similar projects.

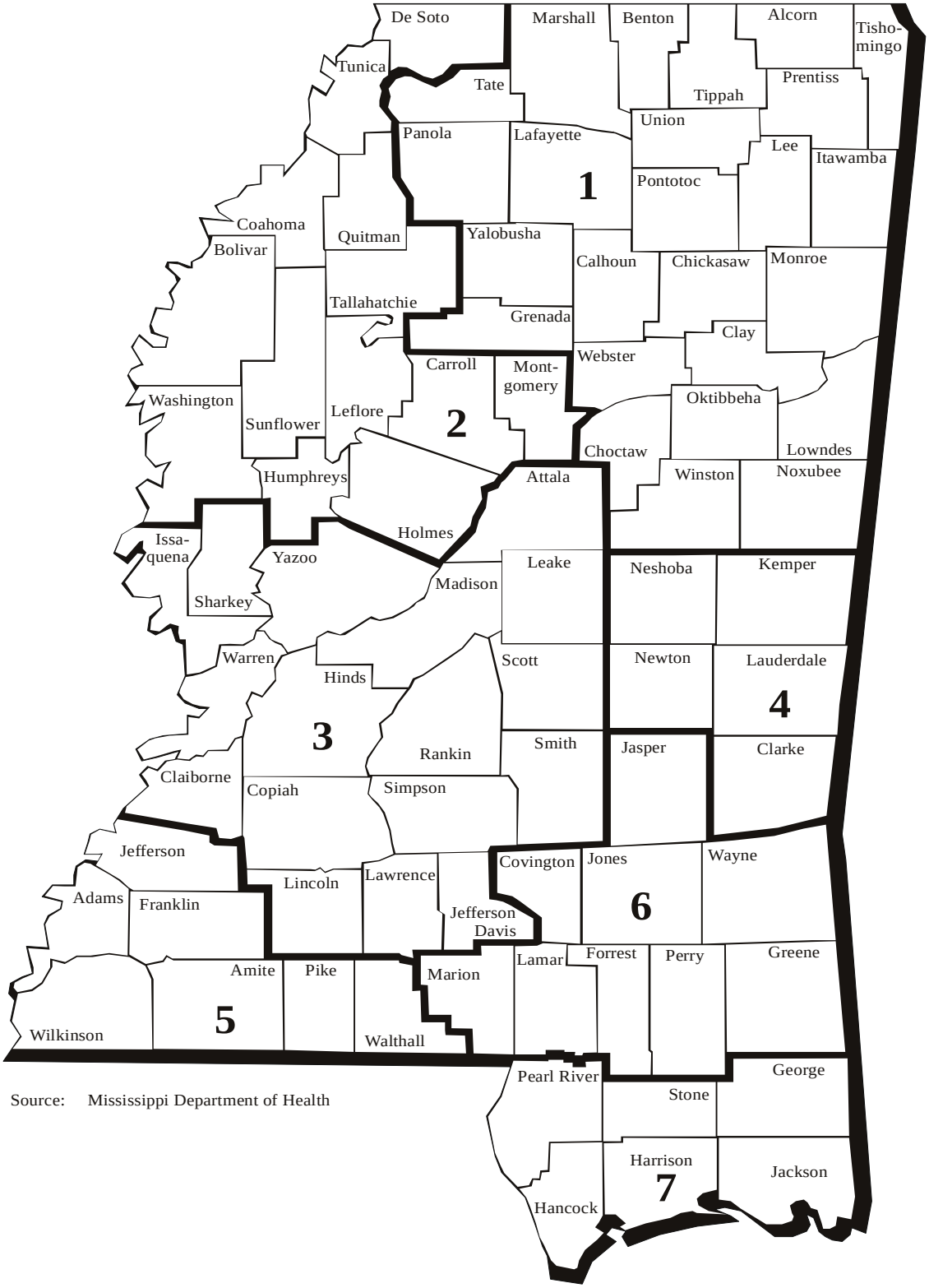
   b. The architectural design of the existing facility if it places restraints on the proposed project.

   c. Special considerations due to local conditions.

6. If the cost of the proposed renovation or expansion project exceeds 85 percent of the cost of a replacement facility, the applicant shall document their justification for rejecting the option of replacing said facility.

7. The applicant shall document the need for a specific service (i.e. perinatal, ambulatory care, psychiatric, etc.) using the appropriate service specific criteria as presented in this and other sections of the *Plan*.

Map XI - 1
General Hospital Service Areas



Source: Mississippi Department of Health

109 Certificate of Need Criteria and Standards for Swing-Bed Services

The Mississippi Department of Health will review applications for a Certificate of Need to establish swing-bed services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

1. **Need Criterion: The application shall document that the hospital will meet all federal regulations regarding the swing-bed concept.** However, a hospital may have more licensed beds or a higher average daily census (ADC) than the maximum number specified in federal regulations for participation in the swing-bed program.

2. The applicant shall provide a copy of the Resolution adopted by its governing board approving the proposed participation.

3. If the applicant proposes to operate and staff more than the maximum number of beds specified in federal regulations for participation in the swing-bed program, the application shall give written assurance that only private pay patients will receive swing-bed services.

4. The application shall affirm that upon receiving CON approval and meeting all federal requirements for participation in the swing-bed program, the applicant shall render services provided under the swing-bed concept to any patient eligible for Medicare (Title XVIII of the Social Security Act) who is certified by a physician to need such services.

5. The application shall affirm that upon receiving CON approval and meeting all federal requirements for participation in the swing-bed program, the applicant shall not permit any patient who is eligible for both Medicaid and Medicare or is eligible only for Medicaid to stay in the swing-beds of a hospital for more than 30 days per admission unless the hospital receives prior approval for such patient from the Division of Medicaid.

6. The application shall affirm that if the hospital has more licensed beds or a higher average daily census (ADC) than the maximum number specified in federal regulations for participation in the swing-bed program, the applicant will develop a procedure to ensure that, before a patient is allowed to stay in the swing-beds of the hospital, there are no vacant nursing home beds available for that patient within a 50-mile radius (geographic area) of the hospital. The applicant shall also affirm that if the hospital has a patient staying in the swing-beds of the hospital and the hospital receives notice from a nursing home located within a 50-mile radius that there is a vacant bed available for that patient, the hospital shall transfer the swing-bed patient to the nursing home within five days, exclusive of holidays and weekends, unless the patient's physician certifies that the transfer is not medically appropriate.

7. The applicant shall provide copies of transfer agreements entered into with each nursing facility within the applicant's geographic area.

8. An applicant subject to the conditions stated in Criterion #5 shall affirm in the application that they will be subject to suspension from participation in the swing-bed program for a reasonable period of time by the Department of Health if the Department, after a hearing complying with due process, determines that the hospital has failed to comply with any of those requirements.

Certificate of Need
Criteria and Standards
for
Therapeutic Radiation Services

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

110 Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of Therapeutic Radiation Equipment and/or the Offering of Therapeutic Radiation Services other Than Gamma Knife)

1. Service Areas: The Mississippi Department of Health shall determine the need for therapeutic radiation services/units/equipment by using the General Hospital Service Areas as presented in this chapter of the *Plan*. The MDH shall determine the need for therapeutic radiation services/units/equipment within a given service area independently of all other service areas. Map XI-1 shows the General Hospital Service Areas.

2. Equipment to Population Ratio: The need for therapeutic radiation units (as defined) is determined to be one unit per 139,983 population (see methodology in this section of the *Plan*). The MDH will consider out-of-state population in determining need only when the applicant submits adequate documentation acceptable to the Mississippi Department of Health, such as valid patient origin studies.

3. Limitation of New Services: When the therapeutic radiation unit-to-population ratio reaches one to 139,982 in a given general hospital service area, no new therapeutic radiation services may be approved unless the utilization of all the existing machines in a given hospital service area averaged 8,000 treatment procedures or 320 patients per year for the two most recent consecutive years as reported on the "Renewal of Hospital License and Annual Hospital Report." For the purposes of this policy Cesium-137 teletherapy units, Cobalt-60 teletherapy units designed for use at less than 80 cm SSD (source to skin distance), old betatrons and van de Graaf Generators, unsuitable for modern clinical use, shall not be counted in the inventory of therapeutic radiation units located in a hospital service area.

4. Expansion of Existing Services: The MDH may consider a CON application for the acquisition or otherwise control of an additional therapeutic radiation unit by an existing provider of such services when the applicant's existing equipment has exceeded the expected level of patient service, i.e., 320 patients per year or 8,000 treatments per year for the two most recent consecutive years as reported on the facility's "Renewal of Hospital License and Annual Hospital Report."

5. Equipment Designated for Backup: Therapeutic radiation equipment designated by an applicant as "backup" equipment shall not be counted in the inventory for CON purposes. Any procedures performed on the "backup" equipment shall be attributed to the primary equipment for CON purposes.

6. Definition of a Treatment Procedure: For health planning and CON purposes a patient "treatment" is defined as one individual receiving radiation therapy during a visit to a facility which provides megavoltage radiation therapy regardless of the complexity of the procedure or the number of "fields" treated during the visit.

7. Use of Equipment or Provision of Service: Before the equipment or service can be utilized or provided, the applicant desiring to provide the therapeutic radiation equipment or service shall have CON approval or written evidence that the equipment or service is exempt from CON approval, as determined by the Mississippi Department of Health.

111 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Therapeutic Radiation Equipment and/or the Offering of Therapeutic Radiation Services other Than Gamma Knife)

The Mississippi Department of Health will review Certificate of Need applications for the acquisition or otherwise control of therapeutic radiation equipment and/or the offering of therapeutic radiation services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of therapeutic radiation equipment is reviewable if the equipment cost exceeds $1,500,000. The offering of therapeutic radiation services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. Need Criterion: The applicant shall document a need for therapeutic radiation equipment/service by complying with any one of the following methodologies:

a. **the need methodology as presented in this section of the *Plan*;**

b. **demonstrating that all existing machines in the service area in question have averaged 8,000 procedures per year or all machines have treated an average of 320 patients per year for the two most recent consecutive years; or**

c. **demonstrating that the applicant's existing therapeutic equipment has exceeded the expected level of patients service, i.e. 320 patients per year/unit, or 8,000 treatments per year/unit for the most recent 24-month period; or**

d. **demonstrating to the satisfaction of the MDH staff that the applicant (i) is a hospital having a minimum of 175 licensed acute care beds as of January 1, 2001; (ii) is located more than a forty (40) mile radius from an existing provider of therapeutic radiation services; and (iii) has the patient base needed to sustain a viable therapeutic radiation program, as defined by the Therapeutic Radiation Need Methodology. Policy Criterion # 3 does not apply to this Need Criterion #1 (d).**

2. The applicant must document that access to diagnostic X-ray, CT scan, and ultrasound services is readily available within 15 minutes normal driving time of the therapeutic radiation unit's location.

3. An applicant shall document the following:

a. The service will have, at a minimum, the following full-time dedicated staff:

i. One board-certified radiation oncologist-in-chief
ii. One dosimetrist
iii. One certified radiation therapy technologist certified by the American Registry of Radiation Technologists
iv. One registered nurse

b. The service will have, at a minimum, access to a radiation physicist certified or eligible for certification by the American Board of Radiology.

Note: One individual may act in several capacities. However, the application shall affirm that when a staff person acts in more than one capacity, that staff person shall meet, at a minimum, the requirements for each of the positions they fill.

4. The applicant shall affirm that access will be available as needed to brachytherapy staff, treatment aides, social workers, dietitians, and physical therapists.

5. Applicants shall document that all physicians who are responsible for therapeutic radiation services in a facility, including the radiation oncologist-in-chief, shall reside within 60 minutes normal driving time of the facility.

6. The application shall affirm that the applicant will have access to a modern simulator capable of precisely producing the geometric relationships of the treatment equipment to a patient. This simulator must produce high quality diagnostic radiographs. The applicant shall also affirm that the following conditions will be met as regards the use of the simulator:

   a. If the simulator is located at a site other than where the therapeutic radiation equipment is located, protocols will be established which will guarantee that the radiation oncologist who performs the patient's simulation will also be the same radiation oncologist who performs the treatments on the patient.

   b. If the simulator uses fluoroscopy, protocols will be established to ensure that the personnel performing the fluoroscopy have received appropriate training in the required techniques related to simulation procedures.

   Note: X-rays produced by diagnostic X-ray equipment and photon beams produced by megavoltage therapy units are unsuitable for precise imaging of anatomic structures within the treatment volume and do not adequately substitute for a simulator.

7. The application shall affirm that the applicant will have access to a computerized treatment planning system with the capability of simulation of multiple external beams, display isodose distributions in more than one plane, and perform dose calculations for brachytherapy implants.

   Note: It is highly desirable that the system have the capability of performing CT based treatment planning.

8. The applicant shall affirm that all treatments will be under the control of a board certified or board eligible radiation oncologist.

9. The applicant shall affirm that the proposed site, plans, and equipment shall receive approval from the Division of Radiological Health before service begins.

10. The application shall affirm that the applicant will establish a quality assurance program for the service, as follows:

    a. The therapeutic radiation program shall meet, at a minimum, the physical aspects of quality assurance guidelines established by the American College of Radiology (ACR) within 12 months of initiation of the service.

b. The service shall establish a quality assurance program which meets, at a minimum, the standards established by the American College of Radiology.

11. The applicant shall affirm understanding and agreement that failure to comply with criterion #10 (a) and (b) may result in revocation of the CON (after due process) and subsequent termination of authority to provide therapeutic radiation services.

112 Therapeutic Radiation Equipment/Service Need Methodology

The methodology used to project the need for therapeutic radiation equipment/service is based, generally, upon recommendations of the 1990 Therapeutic Radiation Task Force and the guidelines contained in the publication *Radiation Oncology in Integrated Cancer Management*, a report of the Inter-Society Council for Radiation Oncology published in 1986. The publication is more commonly referred to as the "Blue Book."

1. Treatment/Patient Load: A realistic treatment/patient load for a therapeutic radiation unit is 8,000 treatments or 320 patients per year.

2. Incidence of Cancer: The UMMC Cancer Registry estimates that Mississippi will experience 15,120 new cancer patients in 2006. Based on a population of 2,975,551 (year 2010) as estimated by the Center for Policy Research and Planning, the cancer rate of Mississippi is 5.08 cases per 1,000 population.

3. Patients to Receive Treatment: The number of cancer patients expected to receive therapeutic radiation treatment is set at 45 percent.

4. Population to Equipment Ratio: Using the above stated data, a population of 100,000 will generate 508 new cancer cases each year. Assuming that 45 percent will receive radiation therapy, a population of 139,983 will generate approximately 320 patients who will require radiation therapy. Therefore, a population of 139,983 will generate a need for one therapeutic radiation unit.

113 Therapeutic Radiation Equipment Need Determination Formula

1. Project annual number of cancer patients.

General Hospital Service 5.08 cases*
Area Population X 1,000 population = New Cancer Cases

*Mississippi cancer incidence rate

2. Project the annual number of radiation therapy patients.

New Cancer Cases X 45% = Patients Who Will Likely Require Radiation Therapy

3. Estimate number of treatments to be performed annually.

Radiation Therapy Patients X 25 Treatments per Patient (Avg.) = Estimated Number of Treatments

4. Project number of megavoltage radiation therapy units needed.

   Est. # of Treatments = Projected Number of Units Needed
   8,000 Treatments per Unit

5. Determine unmet need (if any) Projected Number of Units Needed — Number of Existing Units = Number of Units Required (Excess)

114 Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of Gamma Knife Therapeutic Radiation Equipment and/or the Offering of Gamma Knife Therapeutic Radiation Services

1. Service Areas: The Mississippi Department of Health shall determine the need for Gamma Knife intracranial stereotactic radiosurgery services/units/equipment by using the state as a whole as a single state Gamma Knife service area.

2. Equipment to Population Ratio: The need for Gamma Knife therapeutic radiation units is determined to be one unit per 2,800,000 population. The MDH will consider out-of-state population in determining need only when the applicant submits adequate documentation acceptable to the Mississippi Department of Health, such as valid patient origin studies. The Gamma Knife will not be included in the inventory of other therapeutic radiation treatment equipment, and the presence of a Gamma Knife will not be used in the determination of the need for other therapeutic radiation equipment, such as additional linear accelerators.

3. Accessibility: The state's population will limit the availability of Gamma Knives to one. The single Gamma Knife should be located in or near a Jackson hospital with close associations with the University of Mississippi School of Medicine and the University Medical Center. Nothing contained in these CON criteria and standards shall preclude the University of Mississippi School of Medicine from acquiring and operating Gamma Knife therapeutic radiation equipment, provided the acquisition and use of such equipment is justified by the School's teaching and/or research mission. However, the requirements listed under the section regarding the granting of "appropriate scope of privileges for access to the Gamma Knife equipment to any qualified physician" must be met.

4. Expansion of Existing Services: The MDH may consider a CON application for the acquisition or otherwise control of an additional therapeutic radiation unit by an existing provider of such services when the applicant's existing equipment has exceeded the expected level of patient service, i.e., 200 patients per year for the two most recent consecutive years as reported on the facility's "Renewal of Hospital License and Annual Hospital Report."

5. Facilities requesting approval to add Gamma Knife services should have an established neurosurgery program and must be able to demonstrate previous radiosurgery service experience.

6. All Gamma Knife surgery services should have written procedures and policies for discharge planning and follow-up care for the patient and family as part of the institution's overall discharge planning program.

7. All Gamma Knife surgery services should have established protocols for referring physicians to assure adequate post-operative diagnostic evaluation for radiosurgery patients.

8. The total cost of providing Gamma Knife surgery services projected by prospective providers should be comparable to the cost of other similar services provided in the state.

9. The usual and customary charge to the patient for Gamma Knife surgery should be commensurate with cost.

115 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Gamma Knife Therapeutic Radiation Equipment and/or the Offering of Gamma Knife Radiosurgery

The Mississippi Department of Health will review Certificate of Need applications for the acquisition or otherwise control of Gamma Knife radiosurgery equipment and/or the offering of Gamma Knife radiosurgery services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of Gamma Knife radiosurgery equipment is reviewable if the equipment cost exceeds $1,500,000. The offering of Gamma Knife radiosurgery services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. Need Criterion: The applicant shall document a need for Gamma Knife radiosurgery equipment/service by reasonably projecting that the proposed new service will perform at least 200 Gamma Knife surgeries in the third year of operation. No additional new Gamma Knife surgery services should be approved unless the number of surgeries performed with existing units in the state average more than 475 per year.

2. Staffing:

   a. The Gamma Knife surgery programs must be established under the medical direction of two co-directors, one with specialty training and board certification in neurosurgery and the other with specialty training and board certification in radiation oncology, with experience in all phases of Gamma Knife surgical procedures.

   b. In addition to the medical co-directors, all Gamma Knife surgery programs should have a radiation physicist who is certified in radiology, or who holds an advanced degree in physics with two to three years experience working under the direction of a radiation oncologist, and a registered nurse present for each Gamma Knife surgery performed.

   c. The applicant shall document that the governing body of the entity offering Gamma Knife therapeutic radiation services will grant an appropriate scope of privileges for access to the Gamma Knife therapeutic radiation equipment to any qualified physician who applies for privileges. For the purpose of this criterion, "Qualified Physician" means a doctor of medicine or osteopathic medicine licensed by the State of Mississippi who possesses training in Gamma Knife intracranial stereotactic radiosurgery and other qualifications established by the governing body.

3. Equipment:

   a. Facilities providing Gamma Knife surgery services should have dosimetry and calibration equipment and a computer with the appropriate software for performing Gamma Knife surgery.

   b. The facility providing Gamma Knife surgery services should also have access to magnetic resonance imaging, computed tomography, and angiography services.

Certificate of Need
Criteria and Standards
for
Diagnostic Imaging Services

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

116 Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of Magnetic Resonance Imaging (MRI) Equipment and/or the Offering of MRI Services

1. CON Review Requirements: The Certificate of Need process regarding the acquisition or otherwise control of MRI equipment and/or the offering of MRI services involves separate requirements for CON review: (a) an entity proposing to acquire or otherwise control MRI equipment must obtain a CON to do so if the capital expenditure for the MRI unit and related equipment exceeds $1,500,000; and (b) an entity proposing to offer MRI services must obtain a CON before providing such services.

2. CON Approval Preference: The Mississippi Department of Health shall give preference to those applicants proposing to enter into joint ventures utilizing mobile and/or shared equipment. However, the applicant must meet the applicable CON criteria and standards provided herein and the general criteria and standards contained in the currently approved *Mississippi Certificate of Need Review Manual*.

3. Procedures Estimation Methodology: The applicant shall use the procedures estimation methodology appearing in this section of the *Plan* to project the annual patient service volume for MRI services/equipment. The DRG disease classification system to be used for MRI is available from the Mississippi Department of Health Division of Health Planning and Resource Development.

4. Addition of a Health Care Facility: An equipment vendor who proposes to add a health care facility to an existing or proposed route must obtain an amendment to the original Certificate of Need before providing such service. Additionally, an equipment vendor must inform the Department of any proposed changes, i.e. additional health care facilities or route deviations, from those presented in the Certificate of Need application prior to such change.

117 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Magnetic Resonance Imaging (MRI) Equipment and/or the Offering of MRI Services

The Mississippi Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of MRI equipment and/or the offering of MRI services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of MRI equipment is reviewable if the equipment cost is in excess of $1,500,000; if the equipment and/or service is relocated; and if the proposed provider of MRI services has not provided such services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of MRI Equipment

1. **Need Criterion: The entity desiring to acquire or otherwise control the MRI equipment must document that the specified equipment shall perform a minimum of 1,700 procedures per year by the end of the second year of operation. The applicant shall use the procedures estimation methodology appearing in this section of the *Plan* to project the annual patient service volume of the proposed equipment. This criterion includes both fixed and mobile MRI equipment.**

   Applicants for non-hospital based MRI facilities may submit affidavits from referring physicians in lieu of the estimation methodology required for hospital-based facilities. MRI procedures projected in affidavits shall be based on actual MRI procedures referred during the year.

   It is recognized that an applicant desiring to acquire or otherwise control an MRI unit may make or propose to make the MRI unit available to more than one provider of MRI services; some of which may be located outside of Mississippi. In such cases all existing or proposed users of the MRI unit must jointly meet the required service volume of 1,700 procedures annually. If the MRI unit in question is presently utilized by other providers of MRI services, the actual number of procedures performed by them during the most recent 12-month period may be used instead of the formula projections.

2. In order to receive CON approval to acquire or otherwise control MRI equipment, the applicant shall provide a copy of the proposed contract and document the following:

   a. that the equipment is FDA approved;

   b. that only qualified personnel will be allowed to operate the equipment; and

   c. that if the equipment is to be rented, leased, or otherwise used by other qualified providers on a contractual basis, no fixed/minimum volume contracts will be permitted.

3. Applicants shall provide written assurance that they will record and maintain, at a minimum, the following information and make it available to the Mississippi Department of Health:

   a. all facilities which have access to the equipment;

   b. utilization by each facility served by the equipment, e.g., days of operation, number of procedures, and number of repeat procedures;

   c. financial data, e.g., copy of contracts, fee schedule, and cost per scan; and

   d. demographic and patient origin data for each facility.

   In addition, if required by the Department, the above referenced information and other data pertaining to the use of MRI equipment will be made available to the MDH within 15 business days of request. The required information may also be requested for entities outside of Mississippi that use the MRI equipment in question.

4. The entity desiring to acquire or otherwise control the MRI equipment must be a registered entity authorized to do business in Mississippi.

5. Before the specified equipment can be utilized, the applicant desiring to provide the MRI equipment shall have CON approval or written evidence that the equipment is exempt from CON approval, as determined by the Mississippi Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

Certificate of Need Criteria and Standards for the Offering of MRI Services

An entity proposing to offer MRI services shall obtain Certificate of Need (CON) approval before offering such services.

1. **Need Criterion: The entity desiring to offer MRI services must document that the equipment shall perform a minimum of 1,700 procedures per year. The applicant shall use the procedures estimation methodology appearing in this section of the *Plan* to project the annual patient service volume for the applicant hospital. This criterion includes both fixed and mobile MRI equipment.**

   Applicants for non-hospital based MRI facilities may submit affidavits from referring physicians in lieu of the estimation methodology required for hospital-based facilities. MRI procedures projected in affidavits shall be based on actual MRI procedures referred during the year.

   It is recognized that a particular MRI unit may be utilized by more than one provider of MRI services; some of which may be located outside of Mississippi. In such cases all existing or proposed providers of MRI services must jointly meet the required service volume of 1,700 procedures annually. If the MRI unit in question is presently utilized by other providers of MRI services, the actual number of procedures performed by them during the most recent 12-month period may be used instead of the formula projections.

2. An applicant desiring to offer MRI services must document that a full range of diagnostic imaging modalities for verification and complementary studies will be available at the time MRI services begin. These modalities shall include, but not be limited to, computed tomography (full body), ultrasound, angiography, nuclear medicine, and conventional radiology.

3. All applicants proposing to offer MRI services shall give written assurance that, within the scope of its available services, neither the facility where the service is provided nor its participating medical personnel shall have policies or procedures which would exclude patients because of race, color, age, sex, ethnicity, or ability to pay.

4. The applicant must document that the following staff will be available:

   a. Director - A full-time, board eligible radiologist or nuclear medicine imaging physician, or other board eligible licensed physician whose primary responsibility during the prior three years has been in the acquisition and interpretation of clinical images. The Director shall have knowledge of MRI through training, experience, or documented post-graduate education. The Director shall document a minimum of one week of full-time training with a functional MRI facility.

b. One full-time MRI technologist-radiographer or a person who has had equivalent education, training, and experience, who shall be on-site at all times during operating hours. This individual must be experienced in computed tomography or other cross-sectional imaging methods, or must have equivalent training in MRI spectroscopy.

5. The applicant shall document that when an MRI unit is to be used for experimental procedures with formal/approved protocols, a full-time medical physicist or MRI scientist (see definition in Glossary) with at least one year of experience in diagnostic imaging shall be available in the facility.

6. The applicant shall provide assurances that the following data regarding its use of the MRI equipment will be kept and made available to the Mississippi Department of Health upon request:

   a. Total number of procedures performed
   b. Number of inpatient procedures
   c. Number of outpatient procedures
   d. Average MRI scanning time per procedure
   e. Average cost per procedure
   f. Average charge per procedure
   g. Demographic/patient origin data
   h. Days of operation

   In addition to the above data recording requirements, the facility should maintain the source of payment for procedures and the total amounts charged during the fiscal year when it is within the scope of the recording system.

7. Before the service can be provided, the CON applicant desiring to offer MRI services shall provide written evidence that the specified MRI equipment provider has received CON approval or is exempt from CON approval as determined by the Mississippi Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

Procedures Estimation Methodology for MRI Equipment

MRI patient service volume shall be based on a DRG disease classification system of all inpatients of the hospital, other participating hospitals, and the number of outpatients in receipt of CT scans from the respective hospitals. Under this system, the DRGs are classified and ranked in relation to the expected applicability of MRI imaging. Diagnoses for which MRI imaging is not likely to be useful in current application fall into Category 1. Category 2 includes those diagnoses for which MRI imaging may be a useful secondary imaging modality in some cases. Category 3 encompasses diagnoses for which MRI is likely to be a useful secondary imaging modality. Category 4 includes those diagnoses for which MRI is expected to be the primary imaging modality. The listing of DRG categories to be used in establishing the need for MRI services may be obtained from the Mississippi Department of Health Division of Health Planning and Resource Development.

First, the methodology classifies the total number of inpatient admissions into the four categories. The admission total for each category is zero, five, 15, and 50 percent, respectively. This derives the estimated number of inpatients most likely to benefit from MRI services. Secondly, the methodology identifies the total number of outpatients referred for CT scanning during the previous fiscal year. A 25 percent utilization factor is applied to that total in order to derive the number of outpatients most likely to benefit from MRI imaging. Inpatient and outpatient estimates are summed to derive the total MRI volume for the first year of operation. The mathematical formula for calculating volume estimates is as follows:

$$\mathbf{EC = .50\,(TN_4) + .15\,(TN_3) + .05\,(TN_2) + .25\,(TN_{ct})}$$

Where:

EC = Estimated MRI patient service volume for the first or next year of operation.

TN_4 = Total number of inpatient hospital admissions in DRG Category 4 for the preceding fiscal year.

TN_3 = Total number of inpatient hospital admissions in DRG Category 3 for the preceding fiscal year.

TN_2 = Total number of inpatient hospital admissions in DRG Category 2 for the preceding fiscal year.

TN_{ct} = Total number of outpatients who received CT scans for the preceding fiscal year.

If the hospital projects a greater number of procedures for the end of the second year than the formula estimates, this projection must be based on the actual increases in the number of diagnoses within each category over the past three years.

118 Certificate of Need Criteria and Standards for Digital Subtraction Angiography

The Mississippi Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of Digital Subtraction Angiography (DSA) equipment and associated costs under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

Certificate of Need review is required when the capital expenditure for the purchase of Digital Subtraction Angiography equipment and associated costs exceed $1,500,000, or when the equipment is to be used for invasive procedures, i.e., the use of catheters. The offering of diagnostic imaging services of an invasive nature, i.e. invasive digital angiography, is reviewable if those services have not been provided on a regular basis by the proposed provider of such services within the period of twelve (12) months prior to the time such services would be offered.

1. **Need Criterion: The applicant for DSA services shall demonstrate that proper protocols for screening, consultation, and medical specialty backup are in place before services are rendered by personnel other than those with specialized training.**

   For example, if a radiologist without specialized training in handling cardiac arrhythmia is to perform a procedure involving the heart, a cardiologist/cardiosurgeon must be available for consultation/backup.

   The protocols shall include, but are not limited to, having prior arrangements for consultation/backup from:

   a. a cardiologist/cardiosurgeon for procedures involving the heart;

   b. a neurologist/neurosurgeon for procedures involving the brain; and

   c. a vascular surgeon for interventional peripheral vascular procedures.

2. Before utilizing or providing the equipment or service, the applicant desiring to provide the digital subtraction angiography equipment or service shall have CON approval or written evidence that the equipment or service is exempt from CON approval as determined by the Mississippi Department of Health.

119 Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of a Positron Emission Tomography (PET) Scanner and Related Equipment

1. CON Review Requirements: Applicants proposing the acquisition or otherwise control of a PET scanner shall obtain a CON to do so if the capital expenditure for the scanner and related equipment exceeds $1,500,000.

2. Indigent/Charity Care: An applicant shall be required to provide a "reasonable amount" of indigent/charity care as described in Chapter I of this *Plan*.

3. Service Areas: The state as a whole shall serve as a single service area in determining the need for a PET scanner.

4. Equipment to Population Ratio: The need for a PET scanner is estimated to be one scanner per 300,000 population. The MDH will consider out-of-state population in determining need only when the applicant submits adequate documentation acceptable to the MDH, such as valid patient origin studies.

5. Access to Supplies: Applicants must have direct access to appropriate radio-pharmaceuticals.

6. Services and Medical Specialties Required: The proposed PET unit must function as a component of a comprehensive inpatient or outpatient diagnostic service. The proposed PET unit must have the following modalities (and capabilities) on-site or through contractual arrangements:

   a. Computed tomography - (whole body)

   b. Magnetic resonance imaging - (brain and whole body)

   c. Nuclear medicine - (cardiac, SPECT)

   d. Conventional radiography

   e. The following medical specialties during operational hours:
      i. Cardiology
      ii. Neurology
      iii. Neurosurgery
      iv. Oncology
      v. Psychiatry
      vi. Radiology

7. Hours of Operation: PET facilities should have adequate scheduled hours to avoid an excessive backlog of cases.

8. CON Approval Preference: The MDH may approve applicants proposing to enter joint ventures utilizing mobile and/or shared equipment.

9. CON Requirements: The criteria and standards contained herein pertain to both fixed and/or mobile PET scanner equipment.

10. CON Exemption: Nothing contained in these CON criteria and standards shall preclude the University of Mississippi School of Medicine from acquiring and operating a PET scanner, provided the acquisition and use of such equipment is justified by the School's teaching and/or research mission. However, the requirements listed under the section regarding the granting of "appropriate scope of privileges for access to the scanner to any qualified physician" must be met. The MDH shall not consider utilization of equipment/services at any hospital owned and operated by the state or its agencies when reviewing CON applications.

11. Addition to a Health Care Facility: An equipment vendor who proposes to add a health care facility to an existing or proposed route must amend the original Certificate of Need before providing such service. Additionally, an equipment vendor must inform the Department of any proposed changes from those presented in the Certificate of Need application prior to such change, i.e., additional health care facilities or route deviations.

12. Equipment Registration: The applicant must provide the Department with the registration/serial number of the CON-approved PET scanner.

13. Certification: If a mobile PET scanner, the applicant must certify that only the single authorized piece of equipment and related equipment vendor described in the CON application will be utilized for the PET service by the authorized facility/facilities.

120 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of a Positron Emission Tomography (PET) Scanner and Related Equipment

The Mississippi Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of a PET scanner and related equipment under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general review criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of a PET scanner and related equipment is reviewable if the equipment cost is in excess of $1,500,000, or if the equipment is relocated. The offering of PET services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. Need Criterion:

a. **The entity desiring to acquire or to otherwise control the PET scanner must project a minimum of 750 clinical procedures per year and must show the methodology used for the projection.**

b. **The applicant shall document a minimum population of 300,000 per PET scanner unit. The Division of Health Planning and Resource Development population projections shall be used.**

2. The entity desiring to acquire or otherwise control the PET equipment must be a registered entity authorized to do business in Mississippi.

3. The MDH will approve additional PET equipment in an area with existing equipment only when it is demonstrated that the existing PET equipment is performing 1,500 clinical procedures per PET unit per year (six clinical procedures per day x 250 working days per year).

4. An applicant proposing to provide new or expanded PET services must include written assurances in the application that the service will be offered in a physical environment that conforms to federal standards, manufacturer's specifications, and licensing agencies' requirements. The following areas are to be addressed:

    a. quality control and assurance of radiopharmaceutical production of generator or cyclotron-produced agents;

    b. quality control and assurance of PET tomograph and associated instrumentation;

    c. radiation protection and shielding; and

    d. radioactive emissions to the environment.

5. The application shall affirm that the applicant shall receive approval from the Division of Radiological Health for the proposed site, plans, and equipment before service begins.

6. The applicant shall document provision of an on-site medical cyclotron for radionuclide production and a chemistry unit for labeling radiopharmaceuticals; or an on-site rubidium-82 generator; or access to a supply of cyclotron-produced radiopharmaceuticals from an off-site medical cyclotron and a radiopharmaceutical production facility within a two-hour air transport radius.

7. The applicant must provide evidence that the proposed PET equipment has been cleared for marketing by the U.S. Food and Drug Administration or will be operated under an institutional review board whose membership is consistent with U.S. Department of Health and Human Services regulations.

8. Applicants for PET shall document that the necessary qualified staff are available to operate the proposed unit. The applicant shall document the PET training and experience of the staff. The following minimum staff shall be available to the PET unit:

    a. One or more nuclear medicine imaging physician(s) available to the PET unit on a full-time basis (e.g., radiologist, nuclear cardiologist) who have been licensed by the state for the handling of medical radionuclides and whose primary responsibility for at least a one-year period prior to submission of the Certificate of Need application has been in acquisition and interpretation of tomographic images. This individual shall have knowledge of PET through training, experience, or documented postgraduate education. The individual shall also have training with a functional PET facility.

    b. If operating a cyclotron on site, a qualified PET radiochemist or radiopharmacist personnel, available to the facility during PET service hours, with at least one year of training and experience in the synthesis of short-lived positron emitting

radiopharmaceuticals. The individual(s) shall have experience in the testing of chemical, radiochemical, and radionuclidic purity of PET radiopharmaceutical syntheses.

c. Qualified engineering and physics personnel, available to the facility during PET service hours, with training and experience in the operation and maintenance of the PET equipment.

d. Qualified radiation safety personnel, available to the facility at all times, with training and experience in the handling of short-lived positron emitting nuclides. If a medical cyclotron is operated on-site, personnel with expertise in radiopharmacy, radiochemistry, and medical physics would also be required.

e. Certified nuclear medicine technologists with expertise in computed tomographic nuclear medicine imaging procedures, at a staff level consistent with the proposed center's expected PET service volume.

f. Other appropriate physicians shall be available during PET service hours which may include certified nuclear medicine technologists, computer programmers, nurses, and radio-chemistry technicians.

9. The applicant shall demonstrate how medical emergencies within the PET unit will be managed in conformity with accepted medical practice.

10. The applicant shall affirm that, in addition to accepting patients from participating institutions, facilities performing clinical PET procedures shall accept appropriate referrals from other local providers. These patients shall be accommodated to the extent possible by extending the hours of service and by prioritizing patients according to standards of need and appropriateness rather than source of referral.

11. The applicant shall affirm that protocols will be established to assure that all clinical PET procedures performed are medically necessary and cannot be performed as well by other, less expensive, established modalities.

12. Applicants will be required to maintain current listings of appropriate PET procedures for use by referring physicians.

13. The applicant shall provide assurances that the following data regarding the PET equipment will be kept and made available to the Mississippi Department of Health upon request:

a. total number of procedures performed;

b. total number of inpatient procedures (indicate type of procedure);

c. total number of outpatient procedures (indicate type of procedure);

d. average charge per specific procedure;

e. hours of operation of the PET unit;

f. days of operation per year; and

g. total revenue and expense for the PET unit for the year.

14. The applicant shall provide a copy of the proposed contract and document that if the equipment is to be rented, leased, or otherwise used by other qualified providers on a contractual basis, no fixed/minimum volume contracts will be permitted.

15. Before the specified equipment can be utilized, the applicant desiring to provide the PET equipment shall have CON approval or written evidence that the equipment is exempt from CON approval as determined by the Mississippi Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

Certificate of Need
Criteria and Standards
for
Long-Term Care Hospitals/Beds

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

121 Policy Statement Regarding Certificate of Need Applications for Long-Term Care Hospitals and Long-Term Care Hospital Beds

1. Restorative Care Admissions: Restorative care admissions shall be identified as patients with one or more of the following conditions or disabilities:

   a. Neurological Disorders

      i. Head Injury
      ii. Spinal Cord Trauma
      iii. Perinatal Central Nervous System Insult
      iv. Neoplastic Compromise
      v. Brain Stem Trauma
      vi. Cerebral Vascular Accident
      vii. Chemical Brain Injuries

   b. Central Nervous System Disorders

      i. Motor Neuron Diseases
      ii. Post Polio Status
      iii. Developmental Anomalies
      iv. Neuromuscular Diseases (e.g. Multiple Sclerosis)
      v. Phrenic Nerve Dysfunction
      vi. Amyotrophic Lateral Sclerosis

   c. Cardio-Pulmonary Disorders

      i. Obstructive Diseases
      ii. Adult Respiratory Distress Syndrome
      iii. Congestive Heart Failure
      iv. Respiratory Insufficiency
      v. Respiratory Failure
      vi. Restrictive Diseases
      vii. Broncho-Pulmonary Dysplasia
      viii. Post Myocardial Infarction
      ix. Central Hypoventilation

   d. Pulmonary Cases

      i. Presently Ventilator-Dependent/Weanable
      ii. Totally Ventilator-Dependent/Not Weanable
      iii. Requires assisted or partial ventilator support
      iv. Tracheostomy that requires supplemental oxygen and bronchial hygiene

2. Bed Licensure: All beds designated as long-term care hospital beds shall be licensed as general acute care.

3. Average Length of Stay: Patients' average length of stay in a long-term care hospital must be 25 days or more.

4. Size of Facility: Establishment of a long-term care hospital shall not be for less than 20 beds.

5. Long-Term Medical Care: A long-term care hospital shall provide chronic or long-term medical care to patients who do not require more than three (3) hours of rehabilitation or comprehensive rehabilitation per day.

6. Transfer Agreement: A long-term care hospital shall have a transfer agreement with an acute care medical center and a comprehensive medical rehabilitation facility.

7. Effective July 1, 1994, no health care facility shall be authorized to add any beds or convert any beds to another category of beds without a Certificate of Need under the authority of Section 41-7-191(1)(c), unless there is a projected need for such beds in the planning district in which the facility is located.

122 Certificate of Need Criteria and Standards for the Establishment of a Long-Term Care Hospital and Addition of Long-Term Care Hospital Beds

The Mississippi Department of Health will review applications for a Certificate of Need for the construction, development, or otherwise establishment of a long-term care hospital and bed additions under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

1. Need Criterion: The applicant shall document a need for the proposed project. Documentation shall consist of the following:

a. **a minimum of 450 clinically appropriate restorative care admissions with an average length of stay of 25 days; and**

b. **a projection of financial feasibility by the end of the third year of operation.**

2. The applicant shall document that any beds which are constructed/converted will be licensed as general acute care beds offering long-term care hospital services.

3. Applicants proposing the transfer/reallocation/relocation of a specific category or sub-category of bed/service from another facility as part of a renovation, expansion, or replacement project shall document that they will meet all regulatory and licensure requirements for the type of bed/service proposed for transfer/reallocation/relocation.

4. The application shall affirm that the applicant will provide a "reasonable amount" of indigent/charity care as described in Chapter I of this *Plan*.

5. The application shall demonstrate that the cost of the proposed project, including equipment, is reasonable in comparison with the cost of similar projects in the state.

   The applicant shall document that the cost per square foot (per bed if applicable) does not exceed the median construction costs, as determined by the MDH, for similar projects in the state within the most recent 12-month period by more than 15 percent.

The Glossary of this *Plan* provides the formulas MDH staff shall use to calculate the cost per square foot of space for construction and/or construction-renovation projects. The applicant shall specify the floor areas and space requirements, including the following factors:

a. The gross square footage of the proposed project in comparison to state and national norms for similar projects.

b. The architectural design of the existing facility if it places restraints on the proposed project.

c. Special considerations due to local conditions.

6. The applicant shall provide copies of transfer agreements entered into with an acute care medical center and a comprehensive medical rehabilitation facility.

Certificate of Need
Criteria and Standards
for
Cardiac Catheterization Services
and
Open-Heart Surgery Services

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

123 Joint Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of Cardiac Catheterization Equipment and/or the Offering of Cardiac Catheterization Services and the Acquisition of Open-Heart Surgery Equipment and/or the Offering of Open-Heart Surgery Services

Mississippi ranks first in the nation in cardiovascular death rate. Heart disease remains the leading cause of death in the state as incidence rates continue to increase, particularly among the African-American population. Studies show that minorities have a higher cardiovascular death rate than whites and are less likely to receive cardiac catheterization and open-heart surgery services than are whites. The disproportionate impact on minorities' health status in general is recognized elsewhere in this *State Health Plan*.

Innovative approaches to address these problems in the cardiac area are needed. It has been shown that statistical methods, such as population base and optimum capacity at existing providers, are not accurate indicators of the needs of the underserved, nor do they address the accessibility of existing programs to the underserved. The goal of these revisions to the *State Health Plan* is to improve access to cardiac care and to encourage the establishment of additional cardiac catheterization and open-heart surgery programs within the state that can serve the poor, minorities, and the rural population in greater numbers.

To further this goal, the MDH adopted the following standards:

1. A minimum population base standard of 100,000;

2. The establishment of diagnostic cardiac catheterization services with a caseload of 300 diagnostic catheterization procedures;

3. The establishment of therapeutic cardiac catheterization services with a caseload of 450 diagnostic and therapeutic catheterization procedures;

4. The establishment of open-heart surgery programs with a caseload of 150 open-heart surgeries; and,

5. A minimum utilization of equipment/services at existing providers of 450 cardiac catheterizations, diagnostic and therapeutic, and when applicable, 150 open-heart surgeries.

The MDH also adopted a provision that it shall not consider utilization of equipment/services at any hospital owned and/or operated by the state or its agencies when reviewing CON applications. The MDH further adopted standards requiring an applicant to report information regarding catheterization and open-heart programs so as to monitor the provision of care to the medically underserved and the quality of that care.

The MDH shall interpret and implement all standards in this *Plan* in recognition of the stated findings and so as to achieve the stated goal.

124 Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of Cardiac Catheterization Equipment and/or the Offering of Cardiac Catheterization Services

1. Cardiac Catheterization Services: For purposes of the following CON criteria and standards, the term "cardiac catheterization services" or "catheterization services" shall include diagnostic cardiac catheterization services and therapeutic cardiac catheterization services.

   a. "Diagnostic cardiac catheterization" services are defined as, and refer to, cardiac catheterization services which are performed for the purpose of diagnosing, identifying, or evaluating cardiac related illness or disease. Diagnostic cardiac catheterization services include, but are not limited to, left heart catheterizations, right heart catheterizations, left ventricular angiography, coronary procedures, and other cardiac catheterization services of a diagnostic nature. Diagnostic cardiac catheterization services do **not** include percutaneous transluminal coronary angioplasty (PTCA), transseptal puncture, transthoracic left ventricular puncture, myocardial biopsy, and other cardiac catheterization procedures performed specifically for therapeutic, as opposed to diagnostic, purposes.

   b. "Therapeutic cardiac catheterization" services are defined as, and refer to, cardiac catheterization services which are performed for the purpose of actively treating, as opposed to merely diagnosing, cardiac-related illness or disease. Therapeutic cardiac catheterization services include, but are not limited to, PTCA, transseptal puncture, transthoracic left ventricular puncture and myocardial biopsy.

2. Open-Heart Surgery Capability: The MDH shall not approve CON applications for the establishment of therapeutic cardiac catheterization services at any facility that does not have open-heart surgery capability; i.e., new therapeutic cardiac catheterization services may not be established and existing therapeutic cardiac catheterization services may not be extended without approved and operational open-heart surgery services in place. This policy does not preclude approval of a Certificate of Need application proposing the concurrent establishment of both therapeutic cardiac catheterization and open-heart surgery services.

3. Service Areas: The need for cardiac catheterization equipment/services shall be determined using the seven designated Cardiac Catheterization/Open-Heart Surgery Planning Areas (CC/OHSPAs) presented in this chapter of the *Plan*. Map XI-2 shows the CC/OHSPAs.

4. CC/OHSPA Need Determination: The need for cardiac catheterization equipment/ services within a given CC/OHSPA shall be determined independently of all other CC/OHSPAs.

5. Pediatric Cardiac Catheterization: Because the number of pediatric patients requiring study is relatively small, the provision of cardiac catheterization for neonates, infants, and young children shall be restricted to those facilities currently providing the service. National standards indicate that a minimum of 150 cardiac catheterization cases should be done per year and that catheterization of infants should not be performed in facilities which do not have active pediatric cardiac-surgical programs.

6. Present Utilization of Cardiac Catheterization Equipment/Services: The MDH shall consider utilization of existing equipment/services and the presence of valid CONs for equipment/services within a given CC/OHSPA when reviewing CON applications. The MDH shall not consider utilization of equipment/services at any hospital owned and/or

operated by the state or its agencies when reviewing CON applications. The Mississippi Department of Health may collect and consider any additional information it deems essential, including information regarding access to care, to render a decision regarding any application.

7. CON Application Analysis: At its discretion, the Department of Health may use market share analysis and other methodologies in the analysis of a CON application for the acquisition or otherwise control of cardiac catheterization equipment and/or the offering of cardiac catheterization services. The Department shall not rely upon market share analysis or other statistical evaluations if they are found inadequate to address access to care concerns.

8. Minimum CC/OHSPA Population: A minimum population base of 100,000 is required for applications proposing the establishment of cardiac catheterization services. The total population within a given CC/OHSPA shall be used when determining the need for services. Population outside an applicant's CC/OHSPA will be considered in determining need only when the applicant submits adequate documentation acceptable to the Mississippi Department of Health, such as valid patient origin studies.

9. Minimum Caseload: Applicants proposing to offer adult diagnostic cardiac catheterization services must be able to project a caseload of at least 300 diagnostic catheterizations per year. Applicants proposing to offer adult therapeutic cardiac catheterization services must be able to project a caseload of at least 450 catheterizations, diagnostic and therapeutic, per year.

10. Residence of Medical Staff: Cardiac catheterizations must be under the control of and performed by personnel living and working within the specific hospital area. No site shall be approved for the provision of services by traveling teams.

11. Hospital-Based: All cardiac catheterizations and open-heart surgery services shall be located in acute care hospitals. The MDH shall not approve Certificate of Need applications proposing the establishment of cardiac catheterization/open-heart surgery services in freestanding facilities or in freestanding ambulatory surgery facilities.

125 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Diagnostic Cardiac Catheterization Equipment and/or the Offering of Diagnostic Cardiac Catheterization Services

The Mississippi Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of diagnostic cardiac catheterization equipment and/or the offering of diagnostic cardiac catheterization services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of diagnostic cardiac catheterization equipment is reviewable if the equipment costs exceed $1,500,000. The offering of diagnostic cardiac catheterization services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. **<u>Need Criterion</u>: The applicant shall document a minimum population base of 100,000 in the CC/OHSPA where the proposed diagnostic cardiac catheterization equipment/service is to be located. Division of Health Planning and Resource Development population projections shall be used.**

2. <u>Minimum Procedures</u>: An applicant proposing the establishment of diagnostic cardiac catheterization services only shall demonstrate that the proposed equipment/service utilization will be a minimum of 300 diagnostic cardiac catheterizations per year by its third year of operation.

3. <u>Impact on Existing Providers:</u> An applicant proposing to acquire or otherwise control diagnostic cardiac catheterization equipment and/or offer diagnostic cardiac catheterization services shall document that each existing unit, which is (a) in the CC/OHSPA and (b) within forty-five (45) miles of the applicant, has been utilized for a minimum of 450 procedures (both diagnostic and therapeutic) per year for the two most recent years as reflected in data supplied to and/or verified by the Mississippi Department of Health. No hospital owned and/or operated by the state or its agencies shall be considered an existing unit in the CC/OHSPA under this section. The Mississippi Department of Health may collect and consider any additional information it deems essential, including information regarding access to care, to render a decision regarding any application.

4. <u>Staffing Standards</u>: The applicant shall document that it has, or can obtain, the ability to administer the proposed services, provide sufficiently trained and experienced professional staff, and evaluate the performance of the programs. Mississippi Department of Health staff shall use guidelines presented in *Optimal Resources for Examination of the Heart and Lungs: Cardiac Catheterization and Radiographic Facilities*, published under the auspices of the Inter-Society Commission for Heart Disease Resources, as resource materials when reviewing these items in an application.

5. <u>Staff Residency</u>: The applicant shall certify that medical staff performing diagnostic cardiac catheterization procedures shall reside within forty-five (45) minutes normal driving time of the facility.

6. Recording and Maintenance of Data: Applicants shall provide, as required under licensure standards, written assurance that they will record and maintain utilization data for diagnostic cardiac catheterization procedures (e.g., morbidity data, number of diagnostic cardiac catheterization procedures performed, and mortality data, all reported by race, sex, and payor status) and make such data available to the Mississippi Department of Health annually.

7. Referral Agreement: An applicant proposing the establishment of diagnostic cardiac catheterization services only shall document that a formal referral agreement with a facility for the provision of emergency cardiac services (including open-heart surgery) will be in place and operational at the time of the inception of cardiac catheterization services.

8. Patient Selection: An applicant proposing to provide diagnostic cardiac catheterization services must (a) delineate the steps which will be taken to insure that high-risk or unstable patients are not catheterized in the facility, and (b) certify that therapeutic cardiac catheterization services will not be performed in the facility unless and until the applicant has received CON approval to provide therapeutic cardiac catheterization services.

9. Regulatory Approval: Before utilizing or providing the equipment or service, the applicant desiring to provide the diagnostic cardiac catheterization equipment or service shall have CON approval or written evidence that the equipment or service is exempt from CON approval as determined by the Mississippi Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

126 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Therapeutic Cardiac Catheterization Equipment and/or the Offering Of Therapeutic Cardiac Catheterization Services

The Mississippi Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of therapeutic cardiac catheterization equipment and/or the offering of therapeutic cardiac catheterization services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of therapeutic cardiac catheterization equipment is reviewable if the equipment costs exceed $1,500,000. The offering of therapeutic cardiac catheterization services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. **<u>Need Criterion</u>: The applicant shall document a minimum population base of 100,000 in the CC/OHSPA where the proposed therapeutic cardiac catheterization equipment/service is to be located. Division of Health Planning and Resource Development population projections shall be used.**

2. <u>Minimum Procedures</u>: An applicant proposing the establishment of therapeutic cardiac catheterization services shall demonstrate that the proposed equipment/service utilization will be a minimum of 450 cardiac catheterizations, both diagnostic and therapeutic, per year by its third year of operation. An applicant proposing the establishment of therapeutic cardiac catheterization services who presently offers only diagnostic cardiac catheterization may include in its demonstration of a minimum of 450 cardiac catheterizations per year the number of diagnostic catheterizations that it performs.

3. <u>Impact on Existing Providers:</u> An applicant proposing to acquire or otherwise control therapeutic cardiac catheterization equipment and/or offer therapeutic cardiac catheterization services shall document that each existing unit which is (a) in the CC/OHSPA and (b) within 45 miles of the applicant, has been utilized for a minimum of 450 procedures (both diagnostic and therapeutic) per year for the two most recent years as reflected in data supplied to and/or verified by the Mississippi Department of Health. No hospital owned and/or operated by the state or its agencies shall be considered an existing unit in the CC/OHSPA under this section. The Mississippi Department of Health may collect and consider any additional information it deems essential, including information regarding access to care, to render a decision regarding any application.

4. <u>Staffing Standards</u>: The applicant shall document that it has, or can obtain, the ability to administer the proposed services, provide sufficiently trained and experienced professional staff, and evaluate the performance of the programs. Mississippi Department of Health staff shall use guidelines presented in *Optimal Resources for Examination of the Heart and Lungs: Cardiac Catheterization and Radiographic Facilities*, published under the auspices of the Inter-Society Commission for Heart Disease Resources, as resource materials when reviewing these items in an application.

5. Staff Residency: The applicant shall certify that medical staff performing therapeutic cardiac catheterization procedures shall reside within forty-five (45) minutes normal driving time of the facility.

6. Recording and Maintenance of Data: Applicants shall provide, as required under licensure standards, written assurance that they will record and maintain separate utilization data for diagnostic and therapeutic cardiac catheterization procedures (e.g., morbidity data, number of diagnostic and therapeutic cardiac catheterization procedures performed and mortality data, all reported by race, sex and payor status) and make that data available to the Mississippi Department of Health annually.

7. Open-Heart Surgery: An applicant proposing the establishment of therapeutic cardiac catheterization services shall document that open-heart surgery services are available or will be available on-site where the proposed therapeutic cardiac catheterization services are to be offered before such procedures are performed.

8. Regulatory Approval: Before utilizing or providing the equipment or service, the applicant desiring to provide the cardiac catheterization equipment or service shall have CON approval or written evidence that the equipment or service is exempt from CON approval as determined by the Mississippi Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

9. Applicants Providing Diagnostic Catheterization Services: An applicant proposing the establishment of therapeutic cardiac catheterization services, who is already an existing provider of diagnostic catheterization services, shall demonstrate that its diagnostic cardiac catheterization unit has been utilized for a minimum of 300 procedures per year for the two most recent years as reflected in the data supplied to and/or verified by the Mississippi Department of Health.

127 Policy Statement Regarding Certificate of Need Applications for the Acquisition of Open-Heart Surgery Equipment and/or the Offering of Open-Heart Surgery Services

1. Service Areas: The need for open-heart surgery equipment/services shall be determined using the seven designated Cardiac Catheterization/Open-Heart Surgery Planning Areas (CC/OHSPAs) presented in this chapter of the *Plan*. Map XI-2 shows the CC/OHSPAs.

2. CC/OHSPA Need Determination: The need for open-heart surgery equipment/services within a given CC/OHSPA shall be determined independently of all other CC/OHSPAs.

3. Pediatric Open-Heart Surgery: Because the number of pediatric patients requiring open-heart surgery is relatively small, the provision of open-heart surgery for neonates, infants, and young children shall be restricted to those facilities currently providing the service.

4. Present Utilization of Open-Heart Surgery Equipment/Services: The Mississippi Department of Health shall consider utilization of existing open-heart surgery equipment/services and the presence of valid CONs for open-heart surgery equipment/services within a given CC/OHSPA when reviewing CON applications. The MDH shall not consider utilization of equipment/services at any hospital owned and/or operated by the state or its agencies when reviewing CON applications. The Mississippi Department of Health may collect and consider any additional information it deems essential, including information regarding access to care, to render a decision regarding any application.

5. CON Application Analysis: At its discretion, the Department of Health may use market share analysis and other methodologies in the analysis of a CON application for the acquisition or otherwise control of open-heart surgery equipment and/or the offering of open-heart surgery services. The Department shall not rely upon market share analysis or other statistical evaluations if they are found inadequate to address access to care concerns.

6. Minimum CC/OHSPA Population: A minimum population base of 100,000 in a CC/OHSPA (as projected by the Division of Health Planning and Resource Development) is required before such equipment/services may be considered. The total population within a given CC/OHSPA shall be used when determining the need for services. Population outside an applicant's CC/OHSPA will be considered in determining need only when the applicant submits adequate documentation acceptable to the Mississippi Department of Health, such as valid patient origin studies.

7. Minimum Caseload: Applicants proposing to offer adult open-heart surgery services must be able to project a caseload of at least 150 open-heart surgeries per year.

8. Residence of Medical Staff: Open-heart surgery must be under the control of and performed by personnel living and working within the specific hospital area. No site shall be approved for the provision of services by traveling teams.

128 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Open-Heart Surgery Equipment and/or the Offering of Open-Heart Surgery Services

The Mississippi Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of open-heart surgery equipment and/or the offering of open-heart surgery services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of open-heart surgery equipment is reviewable if the equipment cost in excess of $1,500,000. The offering of open-heart surgery services is reviewable if the proposed provider has not provided those services on a regular basis within twelve (12) months prior to the time such services would be offered.

1. **<u>Need Criterion</u>: The applicant shall document a minimum population base of 100,000 in the CC/OHSPA where the proposed open-heart surgery equipment/service is to be located. Division of Health Planning and Resource Development population projections shall be used.**

2. <u>Minimum Procedures</u>: The applicant shall demonstrate that it will perform a minimum of 150 open-heart surgeries per year by its third year of operation.

3. <u>Impact on Existing Providers:</u> An applicant proposing to acquire or otherwise control open-heart surgery equipment and/or offer open-heart surgery services shall document that each facility offering open-heart surgery services which is (a) in the CC/OHSPA and (b) within 45 miles of the applicant, has performed a minimum of 150 procedures per year for the two most recent years as reflected in data supplied to and/or verified by the Mississippi Department of Health. No hospital owned and/or operated by the state or its agencies shall be considered an existing unit in the CC/OHSPA under this section. The Mississippi Department of Health may collect and consider any additional information it deems essential, including information regarding access to care, to render a decision regarding any application.

4. <u>Staffing Standards</u>: The applicant shall document that it has, or can obtain, the ability to administer the proposed services, provide sufficiently trained and experienced professional staff, and evaluate the performance of the programs. Department of Health staff shall use guidelines presented in *Optimal Resources for Examination of the Heart and Lungs: Cardiac Catheterization and Radiographic Facilities*, published under the auspices of the Inter-Society Commission for Heart Disease Resources, and *Guidelines and Indications for Coronary Artery Bypass Graft Surgery: A Report of the American College of Cardiology/American Heart Association Task Force on Assessment of Diagnostic and Therapeutic Cardiovascular Procedures (Subcommittee on Coronary Artery Bypass Graft Surgery)*, published under the auspices of the American College of Cardiology, as resource materials when reviewing these items in an application.

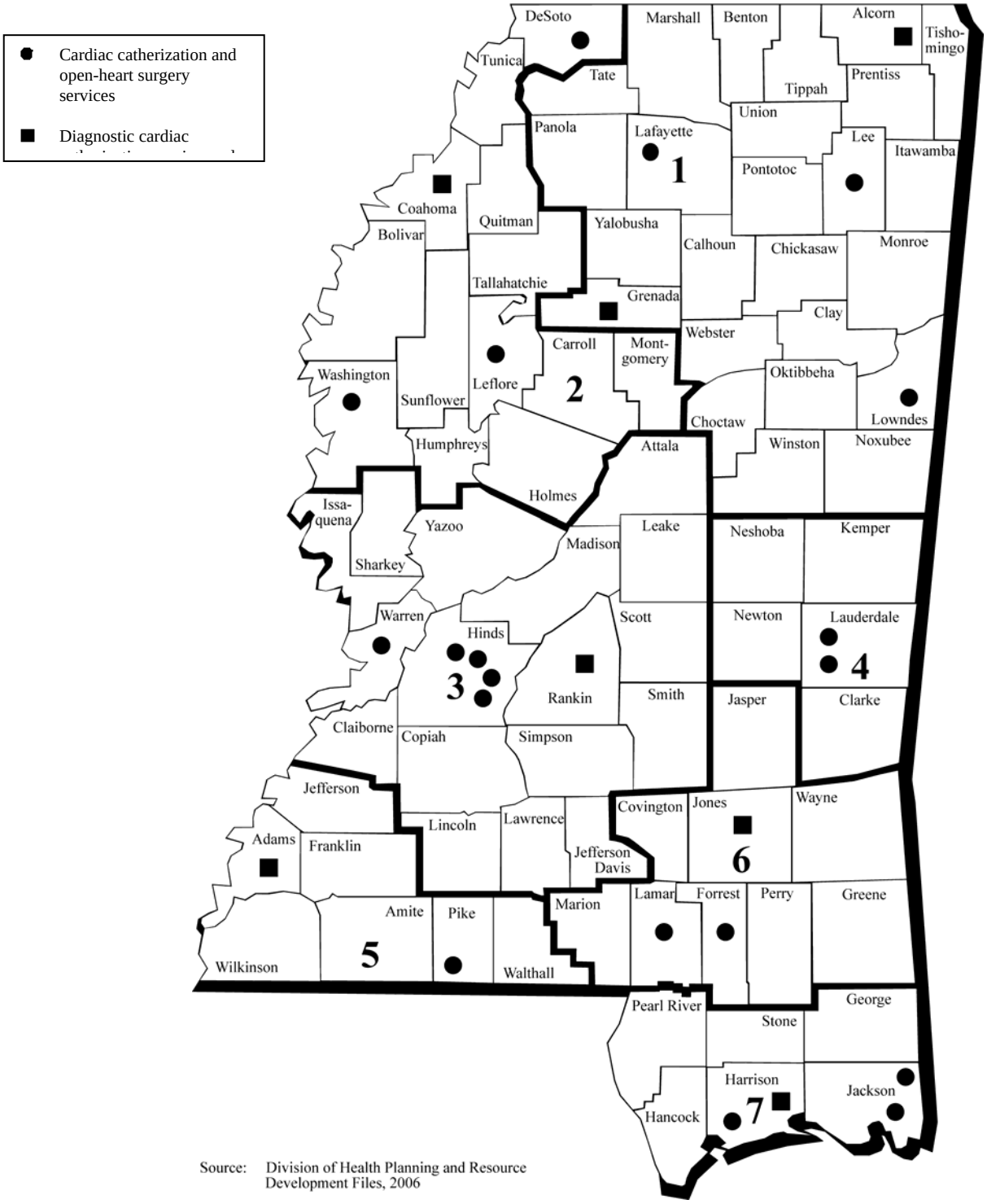
5. <u>Staff Residency</u>: The applicant shall certify that medical staff performing open-heart surgery procedures shall reside within forty-five (45) minutes normal driving time of the facility. The

applicant shall document that proposed open-heart surgery procedures shall not be performed by traveling teams.

6. Recording and Maintenance of Data: Applicants shall provide, as required under licensure standards, written assurance that they will record and maintain utilization data for open-heart surgeries (e.g., morbidity data, number of open-heart surgeries performed and mortality data, all reported by race, sex and payor status) and make such data available to the Mississippi Department of Health annually.

7. Regulatory Approval: Before utilizing or providing the equipment or service, the applicant desiring to provide the open-heart surgery equipment or service shall have CON approval or written evidence that the equipment or service is exempt from CON approval as determined by the Mississippi Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

Map XI - 2
Cardiac Catheterization/Open-Heart Surgery Planning Areas (CC/OHSPA) and Location of Existing/CON-Approved Services



Source: Division of Health Planning and Resource Development Files, 2006

Chapter 011 Acute Care

Mississippi had 97 non-federal medical/surgical hospitals in April 2006, with a total of 11,273 licensed acute care beds (plus 50 beds held in abeyance by the MDH). This total includes one rehabilitation hospital with acute care beds and one OB/GYN hospital. Rehabilitation, psychiatric, chemical dependency, long term acute care, and other special purpose beds are not included. In addition, numerous facilities provide specific health care services on an outpatient basis. Some of these facilities are freestanding; others are closely affiliated with hospitals. Such facilities offer an increasingly wider range of services, many of which were once available only in inpatient acute care settings. Examples include diagnostic imaging, therapeutic radiation, and ambulatory surgery.

100 General Medical/Surgical Hospitals

The 97 acute care medical/surgical hospitals reported 10,304 beds set up and staffed during 2005, or 91.4 percent of the total licensed bed capacity. Based on beds set up and staffed, the hospitals experienced an overall occupancy rate of 50.75 percent and an average length of stay of 4.63 days. When calculating the occupancy rate using total licensed bed capacity, the overall occupancy rate drops to 46.4 percent. Using these statistics and 2010 projected population totals, Mississippi had a licensed bed capacity to population ratio of 3.8 per 1,000 and an occupied bed to population ratio of 1.76 per 1,000. Table XI-1 shows the licensed hospital beds by service areas.

These statistics indicate an average daily census in Mississippi hospitals of 5,229, leaving approximately 6,044 unused licensed beds on any given day. Fifty-five of the state's hospitals reported occupancy rates of less than 40 percent during FY 2005. Officials expect the low occupancy rates to continue because of cost-containment pressures and the increased use of outpatient services. This situation places extreme financial burdens on small rural hospitals, and many of them must alter their scope of services if they expect to survive as health care facilities.

Many of Mississippi's general acute care hospitals were built many years ago under the Hill-Burton Program and now need major renovation or replacement. Continual changes in building codes, the increasing competition for patient markets, and other factors have increased the pressure for facility construction, renovation, expansion, or replacement. The migration of specific health care services from inpatient-oriented environments to outpatient/ambulatory facilities has increased the number of projects for new or expanded facilities to house these services. Both freestanding and hospital-affiliated health care facilities now provide therapeutic radiation, diagnostic imaging, ambulatory surgery, and other services in settings other than hospitals.

Mississippi requires Certificate of Need (CON) review for all projects that increase the bed complement of a health care facility or exceed a capital expenditure threshold of $2 million. The law requires Certificate of Need review regardless of capital expenditure for the construction, development, or other establishment of a new health care facility, including a replacement facility; the relocation of a health care facility or any portion of the facility which does not involve a capital expenditure and is more than 5,280 feet from the main entrance of the facility; and a change of ownership of an existing health care facility, unless the MDH receives proper notification at least 30 days in advance. A health care facility that has ceased to treat patients for a period of 60 months or more must receive CON approval prior to reopening. Finally, a CON is required for major medical equipment purchase if the capital expenditure exceeds $1.5 million and is not a replacement of existing medical equipment.

Table XI-1
Licensed Short-Term Acute Care Hospital Beds by Service Area
FY 2005

Facility	# Licensed Beds	# Beds in Abeyance	Average Daily Census	Occupancy Rate	Average Length of Stay
General Hospital Service Area 1	**2,504**	**25**	**1,073**	**42.85**	**4.7**
Alliance Healthcare System	40	0	13.39	33.48	4.82
Baptist Memorial Hospital - Booneville	114	0	24.75	21.71	5.78
Baptist Memorial Hospital - Golden Triangle	285	0	114.35	40.12	5.45
Baptist Memorial Hospital - North Miss	204	0	119.06	58.36	5.24
Baptist Memorial Hospital - Union County	153	0	48.84	31.92	3.92
Calhoun Health Services	30	0	9.48	31.62	5.18
Choctaw County Medical Center	25	0	4.61	18.42	3.46
Gilmore Memorial Hospital, Inc.	95	0	35.72	37.60	3.81
Grenada Lake Medical Center	156	0	52.67	33.77	4.98
Iuka Hospital	48	0	19.52	40.66	4.26
Magnolia Regional Health Center	145	0	73.21	50.49	4.02
North Miss Medical Center	554	0	347.15	62.66	4.91
North Miss Medical Center-West Point	60	0	31.39	52.32	3.08
North Oak Regional Medical Center	76	0	16.39	21.56	4.50
Noxubee General Critical Access Hospital	25	0	4.44	17.76	3.13
Oktibbeha County Hospital	96	0	33.05	34.43	3.71
Pioneer Community Hospital of Monroe County	35	0	10.51	30.04	12.14
Pontotoc Critical Access Hospital	35	0	9.92	28.33	5.84
Tippah County Hospital	45	25	11.93	20.05	4.38
Trace Regional Hospital	84	0	14.94	17.79	4.37
Tri-Lakes Medical Center	70	0	34.96	49.94	5.30
Webster Health Services	38	0	21.49	56.56	4.28
Winston Medical Center	65	0	12.67	19.49	6.17
Yalobusha General Hospital	26	0	8.45	32.49	4.27
General Hospital Service Area 2	**1,300**	**6**	**579.42**	**44.57**	**4.69**
Baptist Memorial Hospital - DeSoto	179	0	153.46	85.73	5.15
Bolivar Medical Center	165	0	59.42	36.01	4.06
Delta Regional Medical Center-West Campus	137	0	1.93	1.41	4.71
Delta Regional Medical Center	221	6	105.23	47.75	5.40
Greenwood Leflore Hospital	188	0	102.49	54.51	4.73
Humphreys County Memorial Hospital	34	0	7.22	21.25	3.93
Kilmichael Hospital	19	0	8.02	42.24	5.39
North Sunflower County Hospital	35	0	9.19	26.25	5.33
Northwest Miss Regional Medical Center	181	0	86.46	47.47	5.12
Quitman County Hospital	33	0	13.40	40.61	4.68
South Sunflower County Hospital	49	0	18.18	37.09	3.06
Tallahatchie General Hospital & ECF	9	0	3.55	39.45	4.10
Tyler Holmes Memorial Hospital	25	0	8.48	33.93	3.64
University Hospital Clinics - Holmes County	25	0	9.27	37.07	2.96

Table XI-1 (continued)
Licensed Short-Term Acute Care Hospital Beds by Service Area
FY 2005

Facility	# Licensed Beds	# Beds in Abeyance	Average Daily Census	Occupancy Rate	Average Length of Stay
General Hospital Service Area 3	**3,343**	**0**	**1,644.27**	**49.19**	**5.03**
Central Miss Medical Center	400	0	136.55	34.14	5.06
Claiborne County Hospital	32	0	7.07	22.08	5.61
Hardy Wilson Memorial Hospital	49	0	24.58	50.15	7.21
Jeff Davis Community Hospital	41	0	11.51	28.08	6.03
King's Daughters Hospital - Yazoo City	25	0	10.42	41.67	3.89
King's Daughters Medical Center - Brookhaven	122	0	42.01	34.43	3.88
Lawrence County Hospital	25	0	6.17	24.68	3.30
Leake Memorial Hospital	25	0	6.66	26.63	10.47
Madison County Medical Center	67	0	18.08	26.99	3.71
Magee General Hospital	64	0	26.00	40.62	4.04
Miss Baptist Medical Center	541	0	275.49	50.92	5.16
Miss Methodist Rehab Center	44	0	1.42	3.24	7.65
Montfort Jones Memorial Hospital	71	0	28.68	40.39	4.75
Rankin Medical Center	134	0	65.81	49.11	5.63
River Oaks Hospital	110	0	86.39	78.53	4.08
River Region Health System	236	0	138.22	58.57	4.96
Scott Regional Hospital	30	0	15.89	52.96	3.73
SE Lackey Memorial Hospital	35	0	10.15	28.99	2.87
Sharkey - Issaquena Community Hospital	29	0	7.83	27.01	5.93
Simpson General Hospital	35	0	12.62	36.07	4.19
St. Dominic Hospital	453	0	266.39	58.80	4.47
University Hospital & Clinics	664	0	422.22	65.56	6.34
Woman's Hospital - River Oaks	111	0	24.13	21.74	3.46
General Hospital Service Area 4	**812**	**19**	**356.43**	**42.89**	**4.68**
Alliance Health Center	55	0	N/A	N/A	N/A
Alliance Laird Hospital	25	0	8.58	34.33	2.95
H.C. Watkins Memorial Hospital, Inc.	25	0	7.54	30.17	4.00
Jeff Anderson Regional Medical Center	260	0	155.86	59.95	5.44
Neshoba General Hospital	82	0	22.70	27.69	4.35
Newton Regional Hospital	30	19	13.91	28.39	4.16
Riley Memorial Hospital	120	0	46.54	38.78	4.41
Rush Foundation Hospital	215	0	93.27	43.38	4.05
General Hospital Service Area 5	**587**	**0**	**267.68**	**45.60**	**4.42**
Beacham Memorial Hospital	37	0	19.32	52.22	5.32
Field Memorial Community Hospital	25	0	7.01	28.01	3.28
Franklin County Memorial Hospital	36	0	13.04	36.22	4.85
Jefferson County Hospital	30	0	23.58	78.59	8.24
Natchez Community Hospital	101	0	39.63	39.24	3.75
Natchez Regional Medical Center	159	0	44.62	28.07	3.84
Southwest Miss Regional Medical Center	150	0	101.16	67.44	4.39
Walthall County General Hospital	49	0	19.32	39.43	4.76

Table XI-1 (continued)
Licensed Short-Term Acute Care Hospital Beds by Service Area
FY 2005

Facility	# Licensed Beds	# Beds in Abeyance	Average Daily Census	Occupancy Rate	Average Length of Stay
General Hospital Service Area 6	**1,172**	**0**	**606.61**	**51.76**	**4.96**
Covington County Hospital	82	0	17.22	21.00	5.27
Forrest General Hospital	400	0	250.95	62.74	4.83
Jasper General Hospital	16	0	0.72	4.49	4.80
Marion General Hospital	79	0	19.75	25.00	4.39
Perry County General Hospital	29	0	8.23	28.37	4.87
South Central Regional Medical Center	275	0	151.17	54.97	5.23
Wayne General Hospital	80	0	33.73	42.16	4.38
Wesley Medical Center	211	0	124.85	59.17	4.99
General Hospital Service Area 7	**1,552**	**0**	**683.87**	**44.06**	**4.78**
Biloxi Regional Medical Center	153	0	84.76	55.40	4.92
Garden Park Medical Center	130	0	58.03	44.64	5.04
George County Hospital	53	0	25.42	47.96	3.73
Gulf Coast Medical Center	144	0	36.17	25.12	4.80
Hancock Medical Center	104	0	48.00	46.15	4.39
L.O. Crosby Memorial Hospital	95	0	18.27	19.23	2.46
Memorial Hospital at Gulfport	303	0	206.64	68.20	5.32
Ocean Springs Hospital	136	0	97.28	71.53	4.81
Pearl River Hospital & NH	24	0	1.36	5.66	2.88
Singing River Hospital	385	0	108.12	28.08	4.89
Stone County Hospital	25	0	3.77	15.10	3.98
TOTAL	**11,270**	**50**	**5,211**	**46.16**	**4.82**

Source: Application for Renewal of Hospital License for Calendar Year 2006;
Office of Health Policy and Planning

Long-Term Acute Care Hospitals

A long-term acute care (LTAC) hospital is a free-standing, Medicare-certified acute care hospital with an average length of inpatient stay greater than 25 days that is primarily engaged in providing chronic or long-term medical care to patients who do not require more than three hours of rehabilitation or comprehensive rehabilitation per day. As of March 2006, nine long-term acute care hospitals are in operation. One additional facility, Select Specialty Hospital-Biloxi, operated prior to Hurricane Katrina. The hurricane destroyed the hospital building, and Select Specialty now has CON authority to renovate the former Garden Park Hospital building in Gulfport to house all 80 of its authorized beds. New facilities in Tupelo and Jackson also hold CON authority, but are not yet operational. Listed below are the LTAC facilities name, bed capacity, percent occupancy rate (OR), number of discharges, and average length of stay (ALOS).

Table XI-2
Long-Term Acute Care Hospitals
2005

Facility	Location	Authorized Beds	Licensed Beds	OR%	Discharges	ALOS
General Hospital Service Area 1		**62**	**29**	**0**	**0**	**0**
Batesville Specialty Hospital	- Batesville[1]	35	29	0	0	0
Lee County Specialty	- Tupelo	27	CON			
General Hospital Service Area 2		**40**	**40**	**31.16**	**183**	**20.95**
Greenwood Specialty Hospital	- Greenwood	40	40	31.16	183	20.95
General Hospital Service Area 3		**149**	**113**	**66.32**	**919**	**27.16**
Miss Hospital for Restorative Care	- Jackson	25	25	79.59	247	29.41
Promise Specialty Hospital of Vicksburg	- Vicksburg	35	35	57.73	286	24.90
Regency Hospital of Jackson	- Jackson	36	CON			
Select Specialty Hospital of Jackson	- Jackson	53	53	65.73	386	27.39
General Hospital Service Area 4		**89**	**89**	**81.20**	**1,004**	**24.71**
Regency Hospital of Meridian	- Meridian	40	40	72.74	414	26.00
Specialty Hospital of Meridian	- Meridian	49	49	88.10	590	23.81
General Hospital Service Area 6		**33**	**33**	**80.04**	**317**	**30.16**
Regency Hospital of Hattiesburg	- Hattiesburg	33	33	80.04	317	30.16
General Hospital Service Area 7		**80**	**20**	**89.05**	**245**	**27.42**
Select Specialty Hospital-MS Gulf Coast	- Gulfport[2]	80	20	89.05	245	27.42
TOTAL		**417**	**324**	**62.93**	**2,668**	**26.19**

Source: Application for Renewal of Hospital License for Calendar Year 2006
[1] Opened after 2005 reporting period
[2] Includes 42 beds to be relocated from Select Specialty -Biloxi

Rural Acute Care Hospitals

Currently, 70 of the 97 non-federal acute care hospitals in the state are in rural areas (located outside of Metropolitan Statistical Areas). These 70 hospitals represented 55.5 percent of the total number of licensed acute care beds in 2005. Of these 70 rural hospitals, 21 (30 percent) have 100 or more beds; 13 (18.6 percent) have 50-99 beds; and 36 (51.4 percent) have fewer than 50 beds.

The pressures of a rapidly changing health care environment affect the financial viability of many rural hospitals. These hospitals face limited revenues, inadequate population bases, and regulatory constraints. A limited scope of services and fewer technological resources make it difficult to compete for patients and physicians, causing low patient volume which results in higher costs per case. Federal studies show that the risk of hospital closure is highest among hospitals that operate fewer than 100 beds, have occupancy rates of 40 percent or less, or have a large percentage of Medicaid days (11 percent or more). The studies did not find Medicare reimbursement, in itself, a significant risk factor.

The studies also found that hospitals with fewer than 50 beds and occupancy rates of less than 20 percent face a higher risk of closure. In 2005, 35 of Mississippi's 49 rural hospitals with fewer than 100 beds (71.4 percent) reported occupancy rates of less than 40 percent. Twenty-seven of the 36 rural hospitals with fewer than 50 beds (75 percent) reported occupancy rates of less than 40 percent, and four of these hospitals (11.1 percent) had rates under 20 percent.

A number of alternatives have emerged as administrators and hospital boards attempt to cope with the increasing distress experienced by the nation's rural hospitals, particularly the smaller ones. One possibility is to diversify a hospital's activities by adding new services to offset dwindling inpatient

demand. Another alternative is forming alliances of rural hospitals to achieve better economies of scale in areas such as purchasing or acquisition of new resources, while maintaining individual autonomy. A number of rural hospitals have entered into more formal multi-hospital arrangements where the hospital is owned, leased, or managed by another larger hospital or parent corporation. This arrangement usually diminishes the autonomy of the individual hospital. Six such networks existed in the spring of 2006, with 45 member hospitals; 36 of these are rural.

The federal government took several actions to help rural hospitals, such as increasing reimbursement through changes in the Medicare prospective payment system. Other actions include programs to use excess hospital beds, modify services, recruit physicians, and encourage participation in consortia with other local providers to expand, improve, or initiate new services. A number of these activities specifically target rural hospitals: the swing-bed program, the small Medicare-dependent hospitals provision, Rural Health Outreach grants, and Rural Health Network grants. These grants encourage hospitals to form consortia with other providers to deliver new services to unserved rural populations. Congress changed the Rural Health Clinic Act to encourage the establishment of freestanding or hospital-based clinics using mid-level practitioners, with services reimbursed on a cost basis for hospitals under 50 beds. Congress also increased funding for the National Health Service Corps, which could increase inpatient physician referrals to hospitals located in Health Professional Shortage Areas.

In addition, the federal government established a new classification of small rural hospitals, called Critical Access Hospitals. The critical access hospital, or CAH, is eligible to receive cost-based reimbursement for services provided to Medicare patients. In return, the facility is limited in the number of inpatient beds that can be operated and the length of time that a patient can stay in that hospital. A more detailed description of the CAH program is found in the following section.

Responsibility for the difficulties of small rural hospitals lies with no single factor. However, the inability to retain primary care physicians or find replacements for retiring physicians can devastate hospitals already experiencing a low inpatient census. Possible ways to help recruit and retain physicians include: (a) new methods of medical student selection and education that encourage students to consider practice in rural areas; (b) incentives to help physicians start a rural medical practice; (c) incentives to practice in an economically depressed area; and (4) providing coverage for physicians during leave.

In rural areas where demographics will not support the necessary physicians, officials should consider restructuring the hospital to provide continued access to primary care and referral. There are growing examples throughout the country of local community initiatives and state legislative action to encourage the elimination of acute care services in small rural hospitals, converting the facilities to provide other types of health care services.

Individual small rural hospitals will continue to experience multiple pressures in the foreseeable future, which will affect their ability to provide acute inpatient care. Mississippi needs increased collaborative efforts by health care providers, local communities, the state, and the federal government to assure that rural citizens have reasonable access to a full range of health care services. This goal may be best achieved through systems of health care in which the small rural hospital is one component, though not necessarily the inpatient component.

History of Limited Service Hospitals and the Evolution of Critical Access Hospitals

A limited service hospital provides an alternative for rural communities that can no longer support a full service hospital. Through relaxed staffing, service, and hours of operation requirements, it provides regulatory relief to facilities that obtain certification as a limited service hospital. Critical to the financial feasibility of this model, and what is most attractive to rural hospital stakeholders, is cost-based reimbursement from Medicare for inpatient and outpatient services.

Congress authorized a limited service hospital model for all states with the Medicare Rural Hospital Flexibility Program, established through the Balanced Budget Act of 1997 (P.L.105-33 Section 4201) and the Balanced Budget Refinement Act of 1999. This program allows states that develop a comprehensive rural health care plan approved by the Centers for Medicare and Medicaid Services (CMS) to designate applicant rural hospitals that meet certain criteria as Critical Access Hospitals (CAH). Minimum requirements for CAHs are as follows:

Location and Status:

- Hospital must be rural (non-metropolitan statistical area).
- Hospital must be either more than 35 miles from a hospital or another CAH or more than 15 miles in areas with mountainous terrain or accessible only by secondary roads. The provision that allowed for designation by a state as a necessary provider of services to a community was eliminated December 31, 2005.
- Hospital must have a current participation agreement with Medicare.

Service Limits:

- Patients may not stay for longer than an average of 96 hours (except under certain conditions). Patients requiring a longer stay must be transferred to a full-service hospital.
- Hospital may have no more than 25 acute care beds and may offer swing bed services up to the 25-bed limitation.

Medical Staff:

- At least one physician (doctor of medicine or osteopathy) must be on staff. Mid-level practitioners may be the primary provider of care, but only under the supervision of the physician.
- Nursing staff must be on duty in the facility when the CAH has one or more patients.
- Staff must be sufficient to provide the services essential to the operation of the CAH.

Services Required:

- Inpatient and emergency care, laboratory and x-ray services are required. Some ancillary (lab, radiology) may be provided part-time off-site.
- Emergency services are required 24 hours a day, seven days a week. Staff in the emergency room must have emergency services training/experience.
- A system must be in place with the local emergency medical system so that emergency medical personnel are aware of who is on call and how to contact them.
- A doctor of medicine or osteopathy must be available by phone or radio 24 hours a day, seven days a week.

Networks:

- Each CAH must be a member of a network including a larger facility, with agreements maintained for patient referral and transfer, emergency and non-emergency transportation, and development and use of a communication system between the network members.
- Additional arrangements must be in place.

The 1998 session of the Mississippi Legislature authorized the MDH to develop a state rural health care plan, to adopt rules and regulations for the designation of CAHs and rural health networks, and to provide for insurance reimbursement for services provided by CAHs if such services would be covered if provided in a full service hospital. The legislation states that "it is the policy of the State of Mississippi to provide improved access to hospitals and other services for rural residents of the State of Mississippi and to promote regionalization of rural health services in Mississippi."

The *Mississippi Rural Health Care Plan* identifies 28 rural Mississippi hospitals as potential candidates for conversion to a CAH. These hospitals were identified as necessary providers of services to their community and were identified as at risk of closure due to falling into at least one of the following criteria: smaller hospital size, lower inpatient occupancy rates, lower Medicare days, higher Medicaid days, higher area wages, and more local competition. Twenty-eight CAHs are operational.

Swing-Bed Programs and Extended Care Services

Rural hospitals once routinely provided both acute and long-term care, but the practice largely disappeared with the inception of Medicare and Medicaid in the mid-1960s. Regulatory requirements for Medicare and Medicaid reimbursement mandated that a hospital providing extended or long-term care do so in a physically distinct part of the institution exclusively designated for such care. The regulations also required certain specialized services and used the reimbursement mechanism to impose financial restraints. Therefore, many rural hospitals discontinued long-term care unless they also operated separate nursing homes.

In 1980 Congress amended the Social Security Act to allow rural hospitals of fewer than 50 beds to provide extended or long-term care in acute care beds and receive reimbursement from Medicare and Medicaid at long-term care rates. In 1988 Congress expanded the provisions to include hospitals of up to 100 beds. The program allows participating hospitals to use designated beds for both acute care and nursing facility patients. In effect, the beds "swing" between the two types of care, thus creating the term "swing-beds".

The swing-bed concept does not refer to beds designated as nursing home beds and does not necessarily involve moving beds or patients into separate areas of the hospital. Nursing home beds are generally occupied for periods ranging from a few months to years. Swing-beds, on the other hand, alternate between acute and long-term care. Patients occupy swing-beds for a few days to several weeks. For that reason, care provided through the swing-bed concept is often referred to as extended care.

Although Congress intended to reduce regulatory restraints that limited the use of swing-beds, hospitals must meet several requirements for certification as swing-beds under Medicare and Medicaid. Federal certification requirements focus on eligibility, skilled nursing facility services, and coverage requirements. Eligibility criteria include the following:

- A hospital must be located in a rural area (any geographic area not designated as "urban" by the most recent census);
- A hospital must operate fewer than 100 beds, excluding bassinets and intensive-care beds;
- A hospital must obtain a Certificate of Need if required by the state; and
- A hospital may not have in effect a 24-hour nursing waiver granted under the flexibility of personnel standards.

In addition to meeting acute care standards, swing-bed hospitals must also meet six standards for nursing facility services. These standards involve patients' rights, dental services, specialized

rehabilitative services, social services, patient activities, and discharge planning. Swing-bed hospitals have the same Medicare coverage requirements and coinsurance provisions as nursing facilities, as follows:

- Nursing facility days in a swing-bed hospital are counted against the total number of nursing facility benefit days available to Medicare beneficiaries;

- A nursing facility swing-bed patient must have three consecutive calendar days of inpatient hospital care prior to transfer to nursing facility care; and

- Medicare beneficiaries must receive nursing facility care within 30 days of discharge from inpatient acute care.

Patients who are ready for discharge from the hospital often experience difficulty finding a nursing home where they can continue recuperation. This situation causes hospital costs to be higher than necessary when nursing home transfers are delayed due to a lack of available beds. Mississippi has very few Medicare-certified nursing home beds; therefore, many patients are unable to utilize the Medicare nursing facility benefit. Moreover, the state may have to pay for nursing facility care through the Medicaid program that could otherwise be funded through Medicare. The use of swing beds could help alleviate such problems without new construction and with mostly Medicare funds.

Additionally, the swing-bed concept could reduce some of the future need for dedicated nursing home beds, thus reducing the need for new construction. Many patients, particularly elderly patients, no longer need acute hospital care but are not well enough to go home. Swing-beds enable the hospital to provide nursing care, rehabilitation, and social services with a goal of returning patients to their homes. Many of these patients would become nursing home residents without the extended period of care received in a swing-bed.

Swing-beds provide a link between inpatient acute care and home or community-based services in a continuum of care for the elderly and others with long-term needs. If return to the community is not possible, the swing-bed hospital assists the patient and family with nursing home placement. The swing-bed concept may help alleviate the problem of low utilization in small rural hospitals and provide a new source of revenue with few additional expenses. Additionally, swing-beds allow hospitals to better utilize staff during periods of low occupancy in acute care beds.

Swing-Bed Utilization

The number of hospitals participating in the swing-bed program has increased from four in 1982 to 53 in 2006. These hospitals reported 6,322 admissions to swing beds during Fiscal Year 2005, with 80,206 patient days of care and an average length of stay of 12.82 days. The number of days of care provided in swing beds was equivalent to approximately 220 nursing home beds.

The swing-bed program offers a viable alternative to placement in a nursing home for short-term convalescence. Only about 15.71 percent of the patients who were discharged from a swing-bed during 2005 went to a nursing home; 63.7 percent went home; and 31.84 percent were referred to home health. Many more of these patients may well have ended up in a nursing home if swing-bed services had not been available.

101 Therapeutic Radiation Services

Radiation therapy uses ionizing radiation to treat disease, primarily cancer. It may be used in combination with surgery and/or chemotherapy, depending on the characteristics of the tumor or neoplasm. Approximately 50 to 60 percent of new cancer patients undergo some type of radiation therapy, either alone or combined with other treatments.

There are two categories of radiation therapy: a) brachytherapy, which uses sealed radioactive sources to deliver radiations at short distances by interstitial, intracavitary, or surface applications; and b) external beam radiation therapy through the use of megavoltage x-ray therapy units, such as linear accelerators, or Cobalt-60 teletherapy units, such as Gamma Knife or heavy-ion accelerators.

"Gamma Knife or Gamma unit" means a specialized type of equipment used to perform stereotactic radiosurgery on small brain tumors and vascular malformations using multiple Cobalt-60 gamma radiation sources focused through a collimator helmet and arrayed in a semicircular arc so that they may be very precisely focused and the radiation dose may be very precisely distributed, permitting treatment in neurosurgical cases where the site is inaccessible or otherwise unsuitable for other invasive methods.

"Gamma knife procedure" means a single treatment of a patient using the unit. Usually only one procedure is performed per patient, but it is possible that the procedure could be repeated if deemed clinically necessary.

"Stereotactic radiosurgery" means a non-invasive therapeutic procedure in which narrow beams of radiant energy are directed at the treatment target in the head so as to produce tissue destruction, using computerized tomography (CT), radiography, magnetic resonance imaging (MRI), and angiography for localization. Central Mississippi Medical Center (CMMC), the only hospital within the state with a CON to provide Gamma Knife Stereotactic Radiosurgery, reported 110 procedures during 2005. Brachytherapy radiation implantation was performed on 2,824 patients in 15 of the state's hospitals.

Mississippi law requires Certificate of Need review for therapeutic radiation services regardless of the capital expenditure if the proposed provider has not offered these services on a regular basis within 12 months prior to the time the provider proposes to offer such services. The acquisition or otherwise control of therapeutic radiation equipment is reviewable if the equipment costs in excess of $1.5 million. For health planning and CON purposes, a Cobalt-60 unit (other than Gamma Knife), when operated in conjunction with therapeutic radiation modalities in a comprehensive cancer treatment center, will be counted as one-half equivalent to a linear accelerator. When a Cobalt-60 unit is the single modality of radiation therapy offered at a cancer treatment center, the Cobalt-60 equipment shall not be counted in the inventory relative to need determination.

Table XI-3 presents the facilities offering megavoltage therapeutic radiation therapy.

Table XI-3
Facilities Reporting Megavoltage Therapeutic Radiation Services
By General Hospital Service Area
FY 2004 and FY 2005

Facility	Number and Type of Unit	Number of Treatments (Visits)	
		2004	2005
General Hospital Service Area 1		**35,863**	**34,899**
Baptist Memorial Hospital - Golden Triangle	1 - Lin-Acc (6-18MV)	7,194	7,312
Baptist Memorial Hospital - North Miss	1 - Lin-Acc (6-18MV)	13,144	12,725
Magnolia Radiation Oncology Center	1 - Lin-Acc (6-15MV)	3,515	3,715
North Miss Medical Center	2 - Lin-Acc (6MV & 18MV)	12,010	11,147
General Hospital Service Area 2		**19,184**	**21,716**
Baptist Memorial Hospital - DeSoto	2 - Lin-Acc (6-18MV)	5,764	6,375
Bethesda Regional Cancer Center of NW	1 - Lin-Acc (6MV)	3,091	3,429
Delta Cancer Institute	2 - Lin-Acc (6-18MV)	6,304	6,481
North Central Miss Cancer Center	1 - Lin-Acc (6MV)	4,025	5,431
General Hospital Service Area 3		**42,229**	**50,831**
Cancer Center of Vicksburg (freestanding)	1 - Lin-Acc (6-15MV)	5,320	5,320
Central Miss Medical Center	2 - Lin-Acc (6MV& 18MV)	7,132	11,823
Miss Baptist Medical Center	2 - Lin-Acc (6-18MV)	13,028	13,943
St. Dominic Hospital	2 - Lin-Acc (6-18MV)	10,199	8,872
University Hospital & Clinics	2 - Lin-Acc (6-18MV)	6,550	10,873
General Hospital Service Area 4		**8,658**	**10,615**
Anderson Cancer Center	3 - Lin-Acc (6-25, 10, 6MV)	8,658	10,615
General Hospital Service Area 5		**9,504**	**8,833**
Cancer Care & Diagnostic Center	1 - Lin-Acc (6MV)	4,928	5,710
Southwest Miss Regional Medical Center	1 - Lin-Acc (6-18MV)	4,576	3,123
General Hospital Service Area 6		**15,698**	**16,951**
Forrest General Hospital	2 - Lin-Acc (6MV)	12,420	13,505
South Central Miss Cancer Center	0 - Lin-Acc (6 & 15MV)	3,278	3,446
General Hospital Service Area 7		**15,805**	**15,849**
Biloxi Radiation Oncology Center	1 - Lin-Acc (6MV)	2,852	2,937
Memorial Hospital at Gulfport	2 - Lin-Acc (6-18 & 15MV)	8,987	8,309
Singing River Hospital	1 - Lin-Acc (6-18MV)	3,966	4,603
State Total		**146,941**	**159,694**

Sources: Applications for Renewal of Hospital License for Calendar Years 2005 and 2006; and Fiscal Years 2004 and 2005 Annual Hospital Reports

102 Diagnostic Imaging Services

Diagnostic imaging equipment and services, except for magnetic resonance imaging and invasive digital angiography, are reviewable under the state's Certificate of Need law only when the capital expenditure for the acquisition of the equipment and related costs exceeds $1.5 million. The provision of invasive diagnostic imaging services, i.e., invasive digital angiography, and the provision of magnetic

resonance imaging services require a Certificate of Need if the proposed provider has not offered the services on a regular basis within 12 months prior to the time the services would be offered, regardless of the capital expenditure.

Equipment in this category includes, but is not limited to: ultrasound, diagnostic nuclear medicine, digital radiography, angiography equipment, computed tomographic scanning equipment, magnetic resonance imaging equipment, and position emission tomography.

Computed Tomographic (CT) Scanning

Should the capital expenditure for the acquisition of fixed or mobile CT scanning services, equipment, and related costs exceed $1.5 million, the CON proposal will be reviewed under the general review criteria outlined in the most recent *Certificate of Need Review Manual* adopted by the Mississippi Department of Health and the following utilization standards:

- A proposed unit must be able to generate a minimum of 2,000 HECTs (See Table XI-4 for HECT conversion table) by the second year of operation.

- Providers desiring CT capability must be properly utilizing 20,000 general radiographic imaging procedures per year.

Table XI-4
Head Equivalent Conversion Table (HECT)

Type of Scan	Yearly Number of Patients	Conversion Factor	HECTs*
Head without Contrast	500	1.00	500
Head with Contrast	500	1.25	625
Head with and without Contrast	200	1.75	350
Body without Contrast	100	1.50	150
Body with Contrast	200	1.75	350
Body with and without Contrast	300	2.75	825

*** Formula: Yearly Number of Patients X Conversion Factor = HECTs**

Magnetic Resonance Imaging (MRI)

Magnetic resonance imaging (MRI) is a diagnostic imaging technique that employs magnetic and radio-frequency fields to produce images of the body non-invasively. Magnetic resonance imaging is similar to CT scanning in that it produces cross-sectional and sagittal images without potentially harmful ionizing radiation, producing an image not distorted by bone mass. The equipment and its operational specifications continue to be refined.

Forty-three facilities (hospitals and free-standing) in Mississippi operated fixed MRI units in FY 2005; another 43 facilities offered the service on a mobile basis (one or two days each week); and six facilities operated both fixed and mobile units. These 92 facilities performed a total of 225,604 MRI procedures during 2005. Four additional facilities received Certificate of Need approval to provide MRI services. Table XI-5 presents the location, type (fixed or mobile), and utilization of MRI equipment throughout the state in 2004 and 2005.

Digital Subtraction Angiography (DSA)

Digital Subtraction Angiography (DSA) is a diagnostic imaging procedure that combines a digital processing unit with equipment similar to that used for standard fluoroscopic procedures. A radiopaque dye is injected into the patient; a computer then compares the pre-injection and post-injection images and subtracts any interfering bone and tissue structures obscuring the arteries. The X-ray pictures are converted to a digital form, which can be electronically manipulated and stored. Through the electronic manipulation, the images can be enhanced and further refined to give detailed information about the patient's vascular anatomy without additional X-ray exposure.

In some cases, the use of DSA may eliminate the need for arterial catheterization, which many times carries a higher risk factor. Because the digital method is more sensitive to contrast materials, a lesser amount is generally needed in a given area, and intravenous injection of contrast may be sufficient. When required, intra-arterial injection can be done using less contrast per study.

Due to its relative safety and good patient acceptance, DSA may be performed on a repeat basis in cases where risk and cost of conventional angiography might otherwise preclude a series of follow-up studies. Such studies can provide valuable information regarding the natural history of a variety of vascular diseases and the long-term results of various therapeutic interventions. DSA also allows safer screening of the elderly, who have a high risk of cerebrovascular disease.

Most DSA studies can be performed in less than one hour and are appropriate as an outpatient procedure, whereas conventional angiography usually requires a hospital stay of one or two days. Twenty-five hospitals in the state provide DSA and reported 51,450 procedures during 2005.

DSA equipment performs several types of procedures. These procedures include examination of the carotid arteries, intracranial arteries, renal arteries, aortic arch, and peripheral leg arteries. A variety of anatomical and functional studies of the heart and coronary arteries are also performed.

Table XI-5
Location and Number of MRI Procedures by General Hospital Service Area
FY 2004 and FY 2005

Facility	Location	Type of Equipment	Number of MRI Procedures		Days/Wk Operation	Hours/Wk Operation
			2004	2005	2005	2005
General Hospital Service Area 1			**46,139**	**49,697**		
Baptist Memorial Hospital - Booneville	Booneville	F	756	838	M-F	8
Baptist Memorial Hospital - Golden Triangle	Columbus	2F	4,507	4,025	M-F	80
Baptist Memorial Hospital - North Miss	Oxford	2F	3,676	4,025	M-F	90
Baptist Memorial Hospital - Union County	New Albany	F	2,251	1,972	M-F	40
Clay County Medical Center	West Point	M	678	778	M-F	40
Gilmore Memorial Hospital, Inc.	Amory	M	1,461	1,461	M-F	36
Grenada Lake Medical Center	Grenada	F	2,502	3,023	M-F	40
Imaging Center of Columbus	Columbus	2F	1,928	4,243	M-F	80
Iuka Hospital	Tishomingo	M	820	946	M,W,F	24
Magnolia Regional Health Center	Corinth	2F	4,216	4,616	M-F	100
Mississippi State University	Starkville	F		CON	CON	0
North Mississippi Sports Medicine	Tupelo	M		181	M-F	40
Tupelo Imiging Center at Gloster Creek	Tupelo	F	3,751	3,908	M-F	65
North Miss Medical Center	Tupelo	4F	16,136	16,009	M-F	160
Oktibbeha County Hospital	Starkville	F/M	1,525	1,817	M-F	80
SMI - North Oak Regional Hospital*	Senatobia	M	96	72	M	4
Preferred Imaging	Batesville	M	723	1,023	M,Tu,Th	16
SMI-Yalobusha Hospital	Water Valley	M	463	416	W	6
SMI - Winston Medical Center*	Louisville	M	CON	0	N/A	0
Trace Regional Hospital	Houston	M	CON	226	F	8
Tri-Lakes Medical Center	Batesville	M	650	118	F	4
General Hospital Service Area 2			**17,825**	**20,264**		
Baptist Memorial Hospital - DeSoto	Southhaven	2F	4,973	5,268	M-Su	32
Bolivar Medical Center	Cleveland	M	2,602	1,611	M-F	40
Carvel Imaging	Olive Branch	F	2,933	3,326	M-F	80
Delta Regional Medical Center	Greenville	2F	1,544	2,543	M-F	40
Delta Regional Medical Center-West C'us	Greenwville	M	674	282	M-F	40
Greenwood Leflore Hospital	Greenwood	F	3,195	3,596	M-F	40
H.C. Watkins Memorial Hospital, Inc.	Quitman	M	CON	143	N/A	8
Northwest Miss Regional Medical Center	Clarksdale	M	1,233	2,264	M-F	40
SMI - South Sunflower County Hospital*	Indianola	M	388	347	W	6
SMI - Tyler Holmes Memorial Hospital*	Winona	M	CON	75	M	4
Southaven Diagnostic Imaging, LLC	Southaven	M	CON	390	M-F	8
University Hospital Clinics - Holmes County	Lexington	M	283	419	F	8

Table XI-5 (continued)

Location and Number of MRI Procedures by General Hospital Service Area

FY 2004 and FY 2005

Facility	Location	Type of Equipment	Number of MRI Procedures		Days/Wk Operation	Hours/Wk Operation
			2004	2005	2005	2005
General Hospital Service Area 3			**67,346**	**67,808**		
Baptist Madison Imaging Center	Madison	M	CON	CON	CON	0
Central Miss Diagnostics	Jackson	F	2,156	2,437	M-F	45
Central Miss Medical Center	Jackson	F	4,762	4,715	M-F	14
HRG - Prentiss Regional Hospital**	Prentiss	M	103	33	Th	4
SMI-Prentiss Regional Hospital*	Prentiss	M	0	33	Th	4
King's Daughters Medical Center	Brookhaven	M	1,013	935	M-F	40
Kosciusko Medical Center	Kosciusko	F	2,279	2,383	M-F	40
Lawrence County Hospital	Monticello	M	CON	200	N/A	4
Madison Imaging	Madison	F	CON	CON	CON	0
Magee General Hospital	Magee	M	724	784	Tu, Th	8
Miss Diagnostic Imaging Center	Flowood	2F	8,507	7,792	M-F	40
Miss Sports Medicine & Orthopedic	Jackson	2F	3,434	3,420	M-F	100
Miss Baptist Medical Center	Jackson	2F/M	11,867	10,513	M-F	144
Open MRI of Jackson	Jackson	M	1,715	1,703	M-F	45
Open MRI - Hardy Wilson Hospital	Hazlehurst	M	583	561	M & F	20
Rankin Medical Center	Brandon	F	1,732	1,341	M-F	40
Ridgeland Diagnostic Center	Ridgeland	M	377	462	W, F	12
River Oaks Hospital	Flowood	F	0	758	M-F	40
River Region Health System	Vicksburg	F	3,296	3,464	M-F	60
SMI - Lawrence County Hospital*	Monticello	M	149	200	Tu	4
SMI - Sharkey - Issaquena Hospital*	Rolling Fork	M	134	161	Tu	4
SMI - Simpson General Hospital*	Mendenhall	M	106	155	W	4
Scott Regional Hospital	Morton	M	230	306	M & F	8
SE Lackey Memorial Hospital	Forrest	M	222	361	W	8
Southern Diagnostic Imaging	Flowood	F	4,192	4,221	M-F	55
St. Dominic Hospital	Jackson	2F/M	9,828	9,607	M-F	80
University Hospital & Clinics	Jackson	3F/M	9,427	10,606	M-F	64
Vicksburg Diagnostic Imaging	Vicksburg	M	510	657	Tu & Th	16
General Hospital Service Area 4			**14,219**	**15,532**		
H. C. Watkins Memorial Hospital	Quitman	M	**CON**	143	Th	**8**
Neshoba General Hospital	Philadelphia	M	1,598	1,402	Tu & Th	24
Newton Regional Hospital	Newton	M	357	351	M	4
Regional Medical Support Center, Inc.	Meridian	3F	7,564	7,011	M-F	45
Rush Medical Group	Meridian	2F	4,700	6,768	M-F	140
General Hospital Service Area 5			**6,249**	**6,529**		
HRG - Walthall County Hospital**	Tylertown	M	83	24	Tu	7
Natchez Community Hospital	Natchez	M	241	316	Tu & F	16
Open Air of Miss Lou-Natchez Regional	Natchez	F	3,209	3,138	M-F	40
Southwest Miss Regional Medical Center	McComb	F	2,716	3,051	M-F	70

Table XI-5 (continued)
Location and Number of MRI Procedures by General Hospital Service Area
FY 2004 and FY 2005

Facility	Location	Type of Equipment	Number of MRI Procedures		Days/Wk Operation	Hours/Wk Operation
			2004	2005	2005	2005
General Hospital Service Area 6			**29,862**	**31,971**		
Forrest General Hospital	Hattiesburg	2F	6,793	6,748	M-Sa	128
Hattiesburg Clinic, P.A.	Hattiesburg	F	6,841	7,550	M-Su	112
HRG - Covington County Hospital**	Collins	M	9	3	W	3
Open Air MRI of Laurel	Laurel	F	2,031	3,386	M-F	60
HRG-Marion General Hospital	Columbia	M	180	33	W	7
South Central Regional Medical Center	Laurel	F	4,002	3,572	M-F	50
Southern Bone & Joint Specialist, PA	Hattiesburg	F	4,462	5,306	M-Sa	96
Southern Medical Imaging	Hattiesburg	F	1,599	1,781	M-F	40
Wesley Medical Center	Hattiesburg	F	3,945	3,592	M-F	50
General Hospital Service Area 7			**33,705**	**33,803**		
Biloxi Regional Medical Center	Biloxi	F	4,384	5,050	M-F	52
Coastal MRI - Bienville Orthopaedic	Bienville	M	1,647	0	N/A	0
Garden Park Medical Center	Gulfport	F	1,520	1,461	M-F	60
George County Hospital	Lucedale	F	598	631	M-F	40
Gulf Coast Medical Center	Biloxi	F	1,578	1,254	M-F	44
Hancock Medical Center	Bay St. Louis	F	2,159	2,599	M-Su	40
L.O. Crosby Memorial Hospital	Pearl River	M	964	838	M-F	16
Memorial Hospital at Gulfport	Gulfport	F/M	5,961	5,952	M-F	150
Memorial Hospital at Gulfport	Orange Grove	F	CON	CON	CON	0
Ocean Springs Hospital	Ocean Springs	F	2,975	3,466	M-F	60
Open MRI - Cedar Lake	Gulfport	F/M	2,662	3,373	M-F	48
Open MRI - Compass Site	Gulfport	F	3,882	3,182	M-Sa	78
OMRI, Inc. dba Open MRI	Gulfport	2M	1,240	2,046	M-Th	30
Singing River Hospital	Pascagoula	F	4,135	3,951	M-F	60
State Total			**215,345**	**225,604**		

F – Fixed Unit
M – Mobile Unit
* Scott Medical Imaging
** Hattiesburg Radiological Group
Sources: Applications for Renewal of Hospital License for Calendar Years 2005 and 2006, and Fiscal Years 2004 and 2005 Annual Hospital Reports

Positron Emission Tomography (PET)

Positron emission tomography (PET) is a minimally invasive imaging procedure in which positron-emitting radionuclides, produced either by a cyclotron or by a radio-pharmaceutical producing generator, and a gamma camera are used to create pictures of organ function rather than structure. PET scans provide physicians a crucial assessment of the ability of specific tissues to function normally.

PET can provide unique clinical information in an economically viable manner, resulting in a diagnostic accuracy that affects patient management. PET scans provide diagnostic and prognostic patient

information regarding cognitive disorders; for example, identifying the differences between Alzheimer's, Parkinson's, dementia, depression, cerebral disorders, and mild memory loss. PET scans also provide information regarding psychiatric disease, brain tumors, epilepsy, cardiovascular disease, movement disorders, and ataxia. Research shows that clinical PET may obviate the need for other imaging procedures.

PET installations generally take one of two forms: a scanner using only generator-produced tracers (basic PET unit) or a scanner with a cyclotron (enhanced PET unit). The rubidium-82 is the only generator approved by the FDA to produce radiopharmaceuticals. Rubidium limits PET services to cardiac perfusion imaging.

A PET scanner supported by a cyclotron can provide the capabilities for imaging a broader range of PET services, such as oncology, neurology, and cardiology. Manufacturers of PET equipment are providing more user-friendly cyclotrons, radiopharmaceutical delivery systems, and scanners which have drastically reduced personnel and maintenance requirements. These changes have made the cost of PET studies comparable to those of other high-technology studies.

Table XI-6 presents the location, type (fixed or mobile), and utilization of PET equipment throughout the state in 2005. Nineteen hospitals and three free-standing clinics provided a total of 7,354 PET procedures during FY 2005; an additional five hospitals hold CON authority to provide PET imaging services.

103 Extracorporeal Shock Wave Lithotripsy (ESWL)

The lithotripter is a medical device which disintegrates kidney or biliary stones (gallstones) by using shock waves. ESWL treatment is noninvasive and therefore avoids surgical intervention. The FDA has approved ESWL for the treatment of kidney stones, but has not approved an ESWL machine for the treatment of biliary stones. Twenty-seven Mississippi hospitals and three free-standing facilities provided renal ESWL services during FY 2005. Nine additional hospitals have CON authority to provide ESWL services. Table XI-7 presents the location, type (fixed or mobile), and utilization of renal ESWL equipment by facility by hospital service areas.

Utilization of ESWL equipment has been considerably less than expected. When first approved, officials estimated that each machine would perform approximately 700 procedures per year. The 30 sites providing ESWL service in 2005 reported an average of only 112 procedures per machine, with a total of 3,576 procedures. The Mississippi Legislature removed ESWL services from CON review during the 2006 Legislative Session.

Table XI-6

Location and Number of PET Procedures by General Hospital Service Area

FY 2005

Facility	Location	Type of Equipment	Number of PET Procedures
General Hospital Service Area 1			**2,437**
Baptist Memorial Hospital - Golden Triangle	Columbus	M	345
Baptist Memorial Hospital - North Miss	Oxford	M	419
Grenada Diagnostics Radiology, LLC	Grenada	M	193
Magnolia Regional Health Center	Corinth	M	231
North Miss Medical Center	Tupelo	F	1,200
The Imaging Center at Gloster Creek Village	Tupelo	M	49
General Hospital Service Area 2			**298**
Baptist Memorial Hospital - DeSoto	Southhaven	M	191
Bolivar Medical Center	Cleveland	M	0
Delta Regional Medical Center	Greenville	M	0
Greenwood Leflore Hospital	Greenwood	M	107
General Hospital Service Area 3			**2,632**
Central Miss Medical Center	Jackson	F	398
Miss Baptist Medical Center	Jackson	F	804
River Region Health System	Vicksburg	M	0
St. Dominic Hospital	Jackson	F	322
University Hospital & Clinics	Jackson	F	1,108
General Hospital Service Area 4			**315**
Jeff Anderson Regional Medical Center	Meridan	M	315
Rush Foundation Hospital	Meridian	M	0
General Hospital Service Area 5			**132**
Natchez Regional Medical Center	Natchez	M	132
General Hospital Service Area 6			**756**
Hattiesburg Clinic, P.A.	Hattiesburg	M	418
South Central Regional Medical Center	Laurel	M	209
Wesley Medical Center	Hattiesburg	F	129
General Hospital Service Area 7			**784**
Biloxi Regional Medical Center	Biloxi	M	74
Garden Park Medical Center	Gulfport	M	13
Gulf Coast Medical Center	Biloxi	M	0
Memorial Hospital at Gulfport	Gulfport	M	320
Ocean Springs Hospital	Ocean Springs	M	32
Singing River Hospital	Pascagoula	M	345
State Total			**7,354**

F – Fixed Unit
M – Mobile Unit
Sources: Applications for Renewal of Hospital License for Calendar Year 2006 and Fiscal Year 2005 Annual Hospital Report

Table XI-7
Extracorporeal Shock Wave Lithotripsy Utilization
by General Hospital Service Area
FY 2005

Facility	County	Type of Equipment	Renal Procedures
General Hospital Service Area 1			**1,017**
Baptist Memorial Hospital - Booneville	Prentiss	F	CON
Baptist Memorial Hospital - Golden Triangle	Lowndes	M	153
Baptist Memorial Hospital - North Miss	Lafayette	M	192
Baptist Memorial Hospital - Union County	Union	M	CON
Magnolia Regional Health Center	Alcorn	M	22
North Miss Ambulatory Surgery Center	Lee	M	61
North Miss Medical Center	Lee	F	446
Oktibbeha County Hospital	Oktibbeha	M	143
Tri-Lakes Medical Center	Panola	M	CON
General Hospital Service Area 2			**169**
Baptist Memorial Hospital - DeSoto	DeSoto	M	0
Bolivar Medical Center	Bolivar	M	37
Delta Regional Medical Center	Washington	M	51
Greenwood Leflore Hospital	Leflore	M	81
Northwest Miss Regional Medical Center	Coahoma	M	0
General Hospital Service Area 3			**953**
Central Miss Medical Center	Hinds	M	185
King's Daughters Medical Center - Brookhaven	Lincoln	M	0
Miss Baptist Medical Center	Hinds	M	259
River Oaks Hospital	Rankin	M	42
River Region Health System	Warren	M	304
St. Dominic Hospital	Hinds	M	91
University Hospital & Clinics	Hinds	M	72
General Hospital Service Area 4			**263**
Jeff Anderson Regional Medical Center	Lauderdale	M	135
Riley Memorial Hospital	Lauderdale	M	28
Rush Foundation Hospital	Lauderdale	M	100
General Hospital Service Area 5			**74**
Natchez Community Hospital	Adams	M	47
Natchez Regional Medical Center	Adams	M	0
Southwest Miss Regional Medical Center	Pike	F	27
General Hospital Service Area 6			**745**
Forrest General Hospital	Forrest	M	179
Hattiesburg Clinic, P.A.	Forrest	M	349
South Central Regional Medical Center	Jones	M	75
Wesley Medical Center	Lamar	F	142
General Hospital Service Area 7			**355**
Biloxi Regional Medical Center	Harrison	2M	60
Garden Park Medical Center	Harrison	M	0
Gulf Coast Medical Center	Harrison	M	0
Hancock Medical Center	Hancock	M	4
Memorial Hospital at Gulfport	Harrison	F/M	142
Miss Coast Endoscopy Center	Jackson	M	2
Ocean Springs Hospital	Jackson	M	80
Singing River Hospital	Jackson	M	67
State Total			**3,576**

F – Fixed Unit; M – Mobile Unit

Source: Applications for Renewal of Hospital License for Calendar Year 2006 and Fiscal Year 2005 Annual Hospital Report

104 Cardiac Catheterization

Cardiac catheterization, predominately a diagnostic tool that is an integral part of cardiac evaluation, brings together two disciplines: cardiac catheterization (the evaluation of cardiac function) and angiography (X-ray demonstration of cardiac anatomy). Cardiac catheterization includes various therapeutic interventions: dilation of coronary obstructions by percutaneous transluminal coronary angioplasty (PTCA), acute lysis of coronary clots in evolving myocardial infarctions by injection of intracoronary streptokinase, electrical ablation of abnormal conduction pathways, and closure of patent ductus arteriosus in infants.

Any facility performing diagnostic cardiac catheterizations without open-heart surgery capability must maintain formal referral agreements with a nearby facility to provide emergency cardiac services, including open-heart surgery. Such a facility must also delineate the steps it will take to ensure that high-risk or unstable patients are not catheterized in the facility. Additionally, a facility without open-heart surgery capability must document that more complex procedures are not performed in the facility. Such procedures include, but are not limited to: PTCA, transseptal puncture, transthoracic left ventricular puncture, and myocardial biopsy.

Note: **Percutaneous Transluminal Coronary Angioplasty (PTCA)** is an angiographic technique to improve myocardial blood flow by dilating focal atherosclerotic stenoses in coronary arteries. The technique consists of mechanically induced coronary vasodilation and recanalization. It is expected to result in the restoration of blood flow through segmentally diseased coronary arteries. PTCA involves the passage of a balloon-tipped flexible catheter into a site of arterial narrowing. The balloon is inflated in situ to dilate and recanalize the obstructed vessel. Specially trained physicians perform the procedure on hospitalized patients with symptomatic coronary artery disease (CAD) who meet the required patient selection criteria.

Section 41-7-191(1)(d), Mississippi Code of 1972, as amended, requires Certificate of Need review for the establishment and/or offering of cardiac catheterization services if the proposed provider has not offered such services on a regular basis within 12 months prior to the time the services would be offered. Table XI-8 presents the utilization of cardiac catheterization services in 2005.

105 Open-Heart Surgery

Open-heart surgery, defined as any surgical procedure in which a heart-lung machine is used to maintain cardiopulmonary functioning, involves a number of procedures, including valve replacement, repair of cardiac defects, coronary bypass, heart transplantation, and artificial heart implant.

Section 41-7-191(1)(d), Mississippi Code of 1972, as amended, requires Certificate of Need review for the establishment and/or offering of open-heart surgery services if the proposed provider has not offered such services on a regular basis within 12 months prior to the time the services would be offered.

Table XI-9 presents the utilization of existing facilities. Map XI-2 in the criteria and standards section of this chapter shows the Cardiac Catheterization/Open-Heart Surgery Planning Areas (CC/OHSPAs) and the location of existing services.

Table XI-8
Number of Cardiac Catheterizations by Facility and Type
FY 2004 and FY 2005

Facility	County	Total Adult Procedures		Total Pediatric Procedures		Total PTCA Procedures		# Labs
		2004	2005	2004	2005	2004	2005	2005
Baptist Memorial - DeSoto	DeSoto	1,728	1,583	0	0	17	28	2
Baptist Memorial - Golden Triangle	Lowndes	805	980	0	0	14	154	1
Baptist Memorial - North Mississippi	Lafayette	1,176	1,131	0	0	241	289	2
Biloxi Regional Medical Center	Harrison	963	194	0	0	1	0	1
Central Miss Medical Center	Hinds	568	659	0	0	45	182	2
Delta Regional Medical Center	Washington	2,341	961	0	0	139	82	2
Forrest General Hospital	Forrest	3,139	2,628	0	0	1,149	979	4
Greenwood Leflore Hospital	Leflore	0	0	0	0	0	0	1
Grenada Lake Medical Center*	Grenada	367	323	0	0	0	0	1
Jeff Anderson Regional Medical Center	Lauderdale	1,383	1,224	0	0	459	416	3
Magnolia Regional Health Center	Alcorn	1,181	1,401	0	0	271	248	2
Memorial Hospital at Gulfport	Harrison	4,623	3,237	0	0	2,205	2,161	4
Miss Baptist Medical Center	Hinds	3,748	4,310	0	0	1,262	1,418	3
Natchez Regional Medical Center	Adams	13	337	0	0	1	0	1
North Miss Medical Center	Lee	8,261	7,485	0	0	233	152	4
Northwest Miss Regional Medical Center	Coahoma	1,618	1,805	0	0	0	0	1
Ocean Springs Hospital	Jackson	958	859	0	0	430	360	1
Rankin Cardiology Center*•	Rankin	91	100	0	0	0	0	0
River Oaks Hospital	Rankin	0	478	0	0	0	0	1
River Region Health System	Warren	1,384	1,584	0	0	270	270	3
Rush Foundation Hospital	Lauderdale	1,003	915	0	0	500	240	2
St. Dominic Hospital	Hinds	2,403	2,433	0	0	736	756	4
Singing River Hospital	Jackson	987	1,034	0	0	416	450	2
South Central Regional Medical Center*	Jones	727	551	0	0	0	0	1
Southwest Miss Regional Medical Center	Pike	907	1,207	0	0	331	374	2
University Hospital & Clinics	Hinds	2,773	2,652	443	367	324	348	3
Wesley Medical Center	Lamar	992	868	0	0	322	327	2
Total		**44,139**	**40,939**	**443**	**367**	**9,366**	**9,234**	**55**

*Diagnostic Catheterizations only
•Provides Diagnostic Cardiac Catheterizations for Rankin Medical Center, Women's Hospital, and River Oaks Hospital patients, at River Oaks Hospital Campus
Sources: Applications for Renewal of Hospital License for Calendar Years 2005 and 2006, and Fiscal Years 2004 and 2005 Annual Hospital Reports.

Table XI-9
Number of Open-Heart Surgeries by Facility and Type
FY 2004 and FY 2005

Facility	County	Number of Adult Open-Heart Procedures		Number of Pediatric Open-Heart Procedures		Number of Pediatric Heart Procedures (Excluding Open-Heart)	
		2004	2005	2004	2005	2004	2005
Baptist Memorial Hospital - DeSoto	DeSoto	223	271	0	0	0	0
Baptist Memorial Hospital - Golden Triangle	Lowndes	69	72	0	0	0	0
Baptist Memorial Hospital - North Miss	Lafayette	56	43	0	0	0	0
Central Miss Medical Center	Hinds	119	95	0	0	0	0
Delta Regional Medical Center	Washington	4	70	0	0	0	0
Forrest General Hospital	Forrest	535	514	0	0	0	0
Greenwood Leflore Hospital	Leflore	0	0	0	0	0	0
Jeff Anderson Regional Medical Center	Lauderdale	283	213	0	0	0	0
Memorial Hospital at Gulfport	Harrison	308	256	0	0	0	0
Miss Baptist Medical Center	Hinds	318	278	0	0	0	0
North Miss Medical Center	Lee	1,067	857	0	0	0	0
Ocean Springs Hospital	Jackson	63	82	0	0	0	0
River Region Health System	Warren	91	90	0	0	0	0
Rush Foundation Hospital	Lauderdale	175	134	0	0	0	0
St. Dominic Hospital	Hinds	528	392	0	0	0	0
Singing River Hospital	Jackson	118	85	0	0	0	0
Southwest Miss Regional Medical Center	Pike	82	355	0	0	0	0
University Hospital & Clinics	Hinds	198	164	21	51	21	9
Wesley Medical Center	Lamar	71	65	0	0	0	0
Total		**4,308**	**4,036**	**21**	**51**	**21**	**9**

Sources: Applications for Renewal of Hospital License for Calendar Years 2005 and 2006, and Fiscal Years 2004 and 2005 Annual Hospital Reports

Certificate of Need
Criteria and Standards
for
Acute Care

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

106 Policy Statement Regarding Certificate of Need Applications for General Acute Care Hospitals and General Acute Care Beds

1. Acute Care Hospital Need Methodology: With the exception of psychiatric, chemical dependency, and rehabilitation hospitals, the Mississippi Department of Health (MDH) will use the following methodologies to project the need for general acute care hospitals:

   a. **Counties Without a Hospital -** The MDH shall determine hospital need by multiplying the state's average annual occupied beds (1.75 in FY 2005) per 1,000 population by the estimated 2010 county population to determine the number of beds the population could utilize. A hospital with a maximum of 100 beds may be considered for approval if: (a) the number of beds needed is 100 or more; (b) there is strong community support for a hospital; and (c) a hospital can be determined to be economically feasible.

   b. **Counties With Existing Hospitals -** The MDH shall use the following formula to determine the need for an additional hospital in a county with an existing hospital:

   $$\mathbf{ADC + K(\sqrt{ADC})}$$

   Where:
   ADC = Average Daily Census
   K = Confidence Factor of 2.57

   The formula is calculated for each facility within a given General Hospital Service Area (GHSA); then beds available and beds needed under the statistical application of the formula are totaled and subtracted to determine bed need or excess within each GHSA. Map XI-1 delineates the GHSAs. The MDH may consider approval of a hospital with a maximum of 100 beds if: (a) the number of beds needed is 100 or more; (b) there is strong community support for a hospital; and (c) a hospital can be determined to be economically feasible.

2. Need in Counties Without a Hospital: Eight counties in Mississippi do not have a hospital: Amite, Benton, Carroll, Issaquena, Itawamba, Kemper, Smith, and Tunica. Most of these counties do not have a sufficient population base to indicate a potential need for the establishment of a hospital, and all appear to receive sufficient inpatient acute care services from hospitals in adjoining counties.

3. Expedited Review: The MDH may consider an expedited review for Certificate of Need applications that address only license code deficiencies, project cost overruns, and relocation of facilities or services.

4. Capital Expenditure: For the purposes of Certificate of Need review, transactions which are separated in time but planned to be undertaken within 12 months of each other and which are components of an overall long-range plan to meet patient care objectives shall be reviewed in their entirety without regard to their timing. For the purposes of this policy, the governing board of the facility must have duly adopted the long-range plan at least 12 months prior to the submission of the CON application.

5. No health care facility shall be authorized to add any beds or convert any beds to another category of beds without a Certificate of Need.

6. If a health care facility has voluntarily delicensed some of its existing bed complement, it may later relicense some or all of its delicensed beds without the necessity of having to acquire a Certificate of Need. The Department of Health shall maintain a record of the delicensing health care facility and its voluntarily delicensed beds and continue counting those beds as part of the state's total bed count for health care planning purposes.

107 Certificate of Need Criteria and Standards for the Establishment of a General Acute Care Hospital

The Mississippi Department of Health (MDH) will review applications for a Certificate of Need to construct, develop, or otherwise establish a new hospital under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the MDH; and the specific criteria and standards listed below.

1. **Need Criterion: The applicant shall document a need for a general acute care hospital using the appropriate need methodology as presented in this section of the *Plan*. In addition, the applicant must meet the other conditions set forth in the need methodology.**

2. The application shall document that the applicant will provide a "reasonable amount" of indigent/charity care as described in Chapter I of this *Plan*.

108 Certificate of Need Criteria and Standards for Construction, Renovation, Expansion, Capital Improvements, placement of Health Care Facilities, and Addition of Hospital Beds

The Mississippi Department of Health (MDH) will review applications for a Certificate of Need for the addition of beds to a health care facility and projects for construction, renovation, expansion, or capital improvement involving a capital expenditure in excess of $2,000,000 under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the (MDH); and the specific criteria and standards listed below.

The construction, development, or other establishment of a new health care facility; the replacement and/or relocation of a health care facility or portion thereof; and changes of ownership of existing health care facilities are reviewable regardless of capital expenditure.

1. **Need Criterion:**

   a. **Projects which do not involve the addition of any acute care beds:** The applicant shall document the need for the proposed project. Documentation may consist of, but is not limited to, citing of licensure or regulatory code deficiencies, institutional long-term plans (duly adopted by the governing board), recommendations made by consultant firms, and deficiencies cited by accreditation agencies (JCAHO, CAP, etc.). In addition, for projects which involve construction, renovation, or expansion of emergency department facilities, the applicant shall include a statement indicating

whether the hospital will participate in the statewide trauma system and describe the level of participation, if any.

b. **Projects which involve the addition of beds:** The applicant shall document the need for the proposed project. In addition to the documentation required as stated in Need Criterion (1)(a), the applicant shall document that the facility in question has maintained an occupancy rate of at least 70 percent for the most recent two (2) years.

2. Bed Service Transfer/Reallocation/Relocation: Applications proposing the transfer, reallocation, and/or relocation of a specific category or sub-category of bed/service from another facility as part of a renovation, expansion, or replacement project shall document that the applicant will meet all regulatory/licensure requirements for the type of bed/service being transferred/reallocated/relocated.

3. Charity/Indigent Care: The application shall affirm that the applicant will provide a "reasonable amount" of indigent/charity care as described in Chapter I of this *Plan*.

4. The application shall demonstrate that the cost of the proposed project, including equipment, is reasonable in comparison with the cost of similar projects in the state.

   a. The applicant shall document that the cost per square foot (per bed if applicable) does not exceed the median construction costs, as determined by the MDH, for similar projects in the state within the most recent 12-month period by more than 15 percent. The Glossary of this *Plan* provides the formulas to be used by MDH staff in calculating the cost per square foot for construction and/or construction/renovation projects.

   b. If equipment costs for the project exceed the median costs for equipment of similar quality by more than 15 percent, the applicant shall provide justification for the excessive costs. The median costs shall be based on projects submitted during the most recent six-month period and/or estimated prices provided by acceptable vendors.

5. The applicant shall specify the floor areas and space requirements, including the following factors:

   a. The gross square footage of the proposed project in comparison to state and national norms for similar projects.

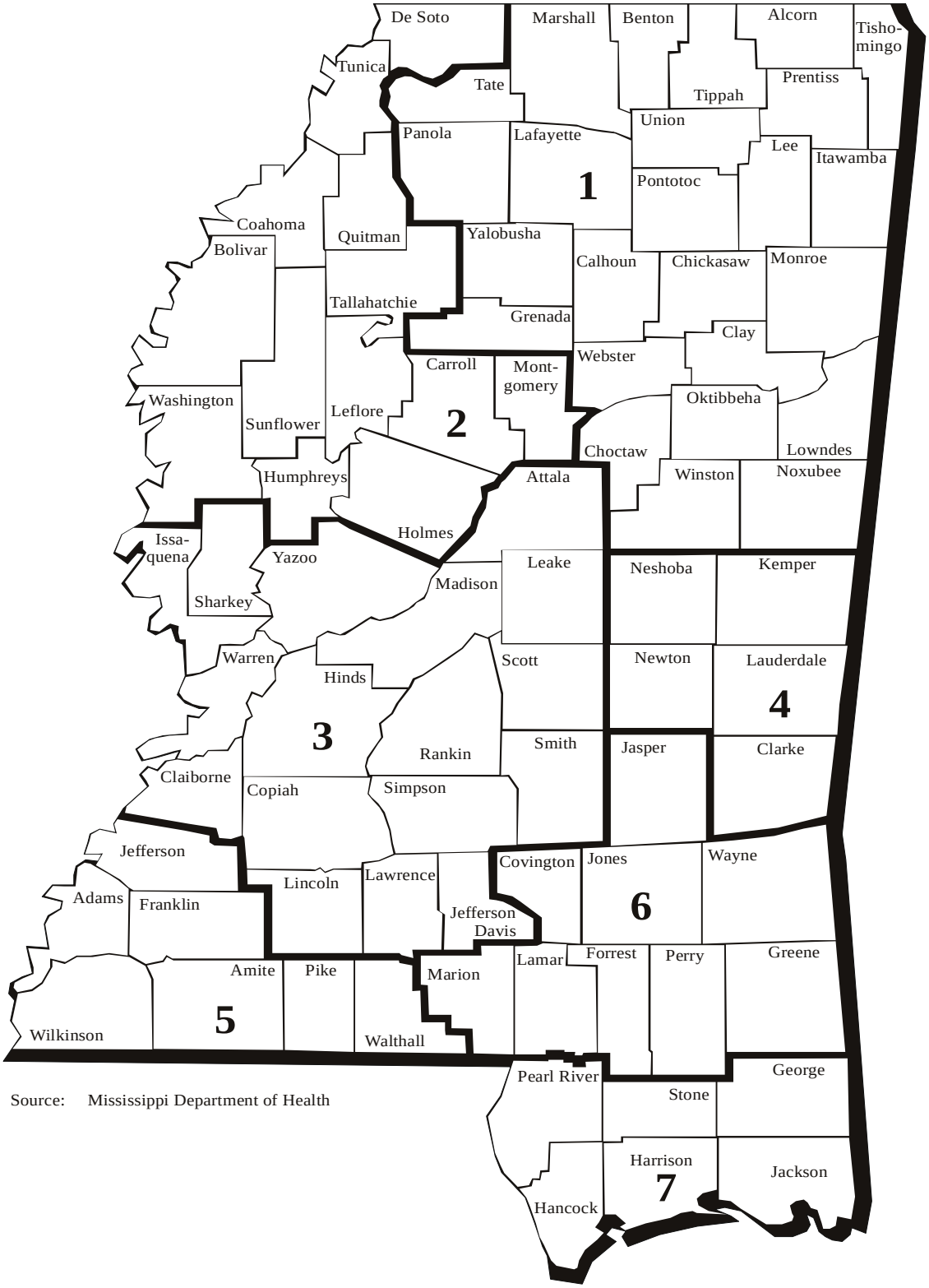
   b. The architectural design of the existing facility if it places restraints on the proposed project.

   c. Special considerations due to local conditions.

6. If the cost of the proposed renovation or expansion project exceeds 85 percent of the cost of a replacement facility, the applicant shall document their justification for rejecting the option of replacing said facility.

7. The applicant shall document the need for a specific service (i.e. perinatal, ambulatory care, psychiatric, etc.) using the appropriate service specific criteria as presented in this and other sections of the *Plan*.

Map XI - 1
General Hospital Service Areas



Source: Mississippi Department of Health

109 Certificate of Need Criteria and Standards for Swing-Bed Services

The Mississippi Department of Health will review applications for a Certificate of Need to establish swing-bed services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

1. **Need Criterion: The application shall document that the hospital will meet all federal regulations regarding the swing-bed concept.** However, a hospital may have more licensed beds or a higher average daily census (ADC) than the maximum number specified in federal regulations for participation in the swing-bed program.

2. The applicant shall provide a copy of the Resolution adopted by its governing board approving the proposed participation.

3. If the applicant proposes to operate and staff more than the maximum number of beds specified in federal regulations for participation in the swing-bed program, the application shall give written assurance that only private pay patients will receive swing-bed services.

4. The application shall affirm that upon receiving CON approval and meeting all federal requirements for participation in the swing-bed program, the applicant shall render services provided under the swing-bed concept to any patient eligible for Medicare (Title XVIII of the Social Security Act) who is certified by a physician to need such services.

5. The application shall affirm that upon receiving CON approval and meeting all federal requirements for participation in the swing-bed program, the applicant shall not permit any patient who is eligible for both Medicaid and Medicare or is eligible only for Medicaid to stay in the swing-beds of a hospital for more than 30 days per admission unless the hospital receives prior approval for such patient from the Division of Medicaid.

6. The application shall affirm that if the hospital has more licensed beds or a higher average daily census (ADC) than the maximum number specified in federal regulations for participation in the swing-bed program, the applicant will develop a procedure to ensure that, before a patient is allowed to stay in the swing-beds of the hospital, there are no vacant nursing home beds available for that patient within a 50-mile radius (geographic area) of the hospital. The applicant shall also affirm that if the hospital has a patient staying in the swing-beds of the hospital and the hospital receives notice from a nursing home located within a 50-mile radius that there is a vacant bed available for that patient, the hospital shall transfer the swing-bed patient to the nursing home within five days, exclusive of holidays and weekends, unless the patient's physician certifies that the transfer is not medically appropriate.

7. The applicant shall provide copies of transfer agreements entered into with each nursing facility within the applicant's geographic area.

8. An applicant subject to the conditions stated in Criterion #5 shall affirm in the application that they will be subject to suspension from participation in the swing-bed program for a reasonable period of time by the Department of Health if the Department, after a hearing complying with due process, determines that the hospital has failed to comply with any of those requirements.

Certificate of Need
Criteria and Standards
for
Therapeutic Radiation Services

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

110 Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of Therapeutic Radiation Equipment and/or the Offering of Therapeutic Radiation Services other Than Gamma Knife)

1. Service Areas: The Mississippi Department of Health shall determine the need for therapeutic radiation services/units/equipment by using the General Hospital Service Areas as presented in this chapter of the *Plan*. The MDH shall determine the need for therapeutic radiation services/units/equipment within a given service area independently of all other service areas. Map XI-1 shows the General Hospital Service Areas.

2. Equipment to Population Ratio: The need for therapeutic radiation units (as defined) is determined to be one unit per 139,983 population (see methodology in this section of the *Plan*). The MDH will consider out-of-state population in determining need only when the applicant submits adequate documentation acceptable to the Mississippi Department of Health, such as valid patient origin studies.

3. Limitation of New Services: When the therapeutic radiation unit-to-population ratio reaches one to 139,982 in a given general hospital service area, no new therapeutic radiation services may be approved unless the utilization of all the existing machines in a given hospital service area averaged 8,000 treatment procedures or 320 patients per year for the two most recent consecutive years as reported on the "Renewal of Hospital License and Annual Hospital Report." For the purposes of this policy Cesium-137 teletherapy units, Cobalt-60 teletherapy units designed for use at less than 80 cm SSD (source to skin distance), old betatrons and van de Graaf Generators, unsuitable for modern clinical use, shall not be counted in the inventory of therapeutic radiation units located in a hospital service area.

4. Expansion of Existing Services: The MDH may consider a CON application for the acquisition or otherwise control of an additional therapeutic radiation unit by an existing provider of such services when the applicant's existing equipment has exceeded the expected level of patient service, i.e., 320 patients per year or 8,000 treatments per year for the two most recent consecutive years as reported on the facility's "Renewal of Hospital License and Annual Hospital Report."

5. Equipment Designated for Backup: Therapeutic radiation equipment designated by an applicant as "backup" equipment shall not be counted in the inventory for CON purposes. Any procedures performed on the "backup" equipment shall be attributed to the primary equipment for CON purposes.

6. Definition of a Treatment Procedure: For health planning and CON purposes a patient "treatment" is defined as one individual receiving radiation therapy during a visit to a facility which provides megavoltage radiation therapy regardless of the complexity of the procedure or the number of "fields" treated during the visit.

7. Use of Equipment or Provision of Service: Before the equipment or service can be utilized or provided, the applicant desiring to provide the therapeutic radiation equipment or service shall have CON approval or written evidence that the equipment or service is exempt from CON approval, as determined by the Mississippi Department of Health.

111 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Therapeutic Radiation Equipment and/or the Offering of Therapeutic Radiation Services other Than Gamma Knife)

The Mississippi Department of Health will review Certificate of Need applications for the acquisition or otherwise control of therapeutic radiation equipment and/or the offering of therapeutic radiation services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of therapeutic radiation equipment is reviewable if the equipment cost exceeds $1,500,000. The offering of therapeutic radiation services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. Need Criterion: The applicant shall document a need for therapeutic radiation equipment/service by complying with any one of the following methodologies:

a. **the need methodology as presented in this section of the *Plan*;**

b. **demonstrating that all existing machines in the service area in question have averaged 8,000 procedures per year or all machines have treated an average of 320 patients per year for the two most recent consecutive years; or**

c. **demonstrating that the applicant's existing therapeutic equipment has exceeded the expected level of patients service, i.e. 320 patients per year/unit, or 8,000 treatments per year/unit for the most recent 24-month period; or**

d. **demonstrating to the satisfaction of the MDH staff that the applicant (i) is a hospital having a minimum of 175 licensed acute care beds as of January 1, 2001; (ii) is located more than a forty (40) mile radius from an existing provider of therapeutic radiation services; and (iii) has the patient base needed to sustain a viable therapeutic radiation program, as defined by the Therapeutic Radiation Need Methodology. Policy Criterion # 3 does not apply to this Need Criterion #1 (d).**

2. The applicant must document that access to diagnostic X-ray, CT scan, and ultrasound services is readily available within 15 minutes normal driving time of the therapeutic radiation unit's location.

3. An applicant shall document the following:

a. The service will have, at a minimum, the following full-time dedicated staff:

i. One board-certified radiation oncologist-in-chief
ii. One dosimetrist
iii. One certified radiation therapy technologist certified by the American Registry of Radiation Technologists
iv. One registered nurse

b. The service will have, at a minimum, access to a radiation physicist certified or eligible for certification by the American Board of Radiology.

Note: One individual may act in several capacities. However, the application shall affirm that when a staff person acts in more than one capacity, that staff person shall meet, at a minimum, the requirements for each of the positions they fill.

4. The applicant shall affirm that access will be available as needed to brachytherapy staff, treatment aides, social workers, dietitians, and physical therapists.

5. Applicants shall document that all physicians who are responsible for therapeutic radiation services in a facility, including the radiation oncologist-in-chief, shall reside within 60 minutes normal driving time of the facility.

6. The application shall affirm that the applicant will have access to a modern simulator capable of precisely producing the geometric relationships of the treatment equipment to a patient. This simulator must produce high quality diagnostic radiographs. The applicant shall also affirm that the following conditions will be met as regards the use of the simulator:

   a. If the simulator is located at a site other than where the therapeutic radiation equipment is located, protocols will be established which will guarantee that the radiation oncologist who performs the patient's simulation will also be the same radiation oncologist who performs the treatments on the patient.

   b. If the simulator uses fluoroscopy, protocols will be established to ensure that the personnel performing the fluoroscopy have received appropriate training in the required techniques related to simulation procedures.

   Note: X-rays produced by diagnostic X-ray equipment and photon beams produced by megavoltage therapy units are unsuitable for precise imaging of anatomic structures within the treatment volume and do not adequately substitute for a simulator.

7. The application shall affirm that the applicant will have access to a computerized treatment planning system with the capability of simulation of multiple external beams, display isodose distributions in more than one plane, and perform dose calculations for brachytherapy implants.

   Note: It is highly desirable that the system have the capability of performing CT based treatment planning.

8. The applicant shall affirm that all treatments will be under the control of a board certified or board eligible radiation oncologist.

9. The applicant shall affirm that the proposed site, plans, and equipment shall receive approval from the Division of Radiological Health before service begins.

10. The application shall affirm that the applicant will establish a quality assurance program for the service, as follows:

    a. The therapeutic radiation program shall meet, at a minimum, the physical aspects of quality assurance guidelines established by the American College of Radiology (ACR) within 12 months of initiation of the service.

b. The service shall establish a quality assurance program which meets, at a minimum, the standards established by the American College of Radiology.

11. The applicant shall affirm understanding and agreement that failure to comply with criterion #10 (a) and (b) may result in revocation of the CON (after due process) and subsequent termination of authority to provide therapeutic radiation services.

112 Therapeutic Radiation Equipment/Service Need Methodology

The methodology used to project the need for therapeutic radiation equipment/service is based, generally, upon recommendations of the 1990 Therapeutic Radiation Task Force and the guidelines contained in the publication *Radiation Oncology in Integrated Cancer Management*, a report of the Inter-Society Council for Radiation Oncology published in 1986. The publication is more commonly referred to as the "Blue Book."

1. Treatment/Patient Load: A realistic treatment/patient load for a therapeutic radiation unit is 8,000 treatments or 320 patients per year.

2. Incidence of Cancer: The UMMC Cancer Registry estimates that Mississippi will experience 15,120 new cancer patients in 2006. Based on a population of 2,975,551 (year 2010) as estimated by the Center for Policy Research and Planning, the cancer rate of Mississippi is 5.08 cases per 1,000 population.

3. Patients to Receive Treatment: The number of cancer patients expected to receive therapeutic radiation treatment is set at 45 percent.

4. Population to Equipment Ratio: Using the above stated data, a population of 100,000 will generate 508 new cancer cases each year. Assuming that 45 percent will receive radiation therapy, a population of 139,983 will generate approximately 320 patients who will require radiation therapy. Therefore, a population of 139,983 will generate a need for one therapeutic radiation unit.

113 Therapeutic Radiation Equipment Need Determination Formula

1. Project annual number of cancer patients.

General Hospital Service 5.08 cases*
Area Population X 1,000 population = New Cancer Cases

*Mississippi cancer incidence rate

2. Project the annual number of radiation therapy patients.

New Cancer Cases X 45% = Patients Who Will Likely Require Radiation Therapy

3. Estimate number of treatments to be performed annually.

Radiation Therapy Patients X 25 Treatments per Patient (Avg.) = Estimated Number of Treatments

4. Project number of megavoltage radiation therapy units needed.

   Est. # of Treatments = Projected Number of Units Needed
   8,000 Treatments per Unit

5. Determine unmet need (if any) Projected Number of Units Needed — Number of Existing Units = Number of Units Required (Excess)

114 Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of Gamma Knife Therapeutic Radiation Equipment and/or the Offering of Gamma Knife Therapeutic Radiation Services

1. Service Areas: The Mississippi Department of Health shall determine the need for Gamma Knife intracranial stereotactic radiosurgery services/units/equipment by using the state as a whole as a single state Gamma Knife service area.

2. Equipment to Population Ratio: The need for Gamma Knife therapeutic radiation units is determined to be one unit per 2,800,000 population. The MDH will consider out-of-state population in determining need only when the applicant submits adequate documentation acceptable to the Mississippi Department of Health, such as valid patient origin studies. The Gamma Knife will not be included in the inventory of other therapeutic radiation treatment equipment, and the presence of a Gamma Knife will not be used in the determination of the need for other therapeutic radiation equipment, such as additional linear accelerators.

3. Accessibility: The state's population will limit the availability of Gamma Knives to one. The single Gamma Knife should be located in or near a Jackson hospital with close associations with the University of Mississippi School of Medicine and the University Medical Center. Nothing contained in these CON criteria and standards shall preclude the University of Mississippi School of Medicine from acquiring and operating Gamma Knife therapeutic radiation equipment, provided the acquisition and use of such equipment is justified by the School's teaching and/or research mission. However, the requirements listed under the section regarding the granting of "appropriate scope of privileges for access to the Gamma Knife equipment to any qualified physician" must be met.

4. Expansion of Existing Services: The MDH may consider a CON application for the acquisition or otherwise control of an additional therapeutic radiation unit by an existing provider of such services when the applicant's existing equipment has exceeded the expected level of patient service, i.e., 200 patients per year for the two most recent consecutive years as reported on the facility's "Renewal of Hospital License and Annual Hospital Report."

5. Facilities requesting approval to add Gamma Knife services should have an established neurosurgery program and must be able to demonstrate previous radiosurgery service experience.

6. All Gamma Knife surgery services should have written procedures and policies for discharge planning and follow-up care for the patient and family as part of the institution's overall discharge planning program.

7. All Gamma Knife surgery services should have established protocols for referring physicians to assure adequate post-operative diagnostic evaluation for radiosurgery patients.

8. The total cost of providing Gamma Knife surgery services projected by prospective providers should be comparable to the cost of other similar services provided in the state.

9. The usual and customary charge to the patient for Gamma Knife surgery should be commensurate with cost.

115 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Gamma Knife Therapeutic Radiation Equipment and/or the Offering of Gamma Knife Radiosurgery

The Mississippi Department of Health will review Certificate of Need applications for the acquisition or otherwise control of Gamma Knife radiosurgery equipment and/or the offering of Gamma Knife radiosurgery services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of Gamma Knife radiosurgery equipment is reviewable if the equipment cost exceeds $1,500,000. The offering of Gamma Knife radiosurgery services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. Need Criterion: The applicant shall document a need for Gamma Knife radiosurgery equipment/service by reasonably projecting that the proposed new service will perform at least 200 Gamma Knife surgeries in the third year of operation. No additional new Gamma Knife surgery services should be approved unless the number of surgeries performed with existing units in the state average more than 475 per year.

2. Staffing:

   a. The Gamma Knife surgery programs must be established under the medical direction of two co-directors, one with specialty training and board certification in neurosurgery and the other with specialty training and board certification in radiation oncology, with experience in all phases of Gamma Knife surgical procedures.

   b. In addition to the medical co-directors, all Gamma Knife surgery programs should have a radiation physicist who is certified in radiology, or who holds an advanced degree in physics with two to three years experience working under the direction of a radiation oncologist, and a registered nurse present for each Gamma Knife surgery performed.

   c. The applicant shall document that the governing body of the entity offering Gamma Knife therapeutic radiation services will grant an appropriate scope of privileges for access to the Gamma Knife therapeutic radiation equipment to any qualified physician who applies for privileges. For the purpose of this criterion, "Qualified Physician" means a doctor of medicine or osteopathic medicine licensed by the State of Mississippi who possesses training in Gamma Knife intracranial stereotactic radiosurgery and other qualifications established by the governing body.

3. Equipment:

   a. Facilities providing Gamma Knife surgery services should have dosimetry and calibration equipment and a computer with the appropriate software for performing Gamma Knife surgery.

   b. The facility providing Gamma Knife surgery services should also have access to magnetic resonance imaging, computed tomography, and angiography services.

Certificate of Need
Criteria and Standards
for
Diagnostic Imaging Services

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

116 Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of Magnetic Resonance Imaging (MRI) Equipment and/or the Offering of MRI Services

1. CON Review Requirements: The Certificate of Need process regarding the acquisition or otherwise control of MRI equipment and/or the offering of MRI services involves separate requirements for CON review: (a) an entity proposing to acquire or otherwise control MRI equipment must obtain a CON to do so if the capital expenditure for the MRI unit and related equipment exceeds $1,500,000; and (b) an entity proposing to offer MRI services must obtain a CON before providing such services.

2. CON Approval Preference: The Mississippi Department of Health shall give preference to those applicants proposing to enter into joint ventures utilizing mobile and/or shared equipment. However, the applicant must meet the applicable CON criteria and standards provided herein and the general criteria and standards contained in the currently approved *Mississippi Certificate of Need Review Manual*.

3. Procedures Estimation Methodology: The applicant shall use the procedures estimation methodology appearing in this section of the *Plan* to project the annual patient service volume for MRI services/equipment. The DRG disease classification system to be used for MRI is available from the Mississippi Department of Health Division of Health Planning and Resource Development.

4. Addition of a Health Care Facility: An equipment vendor who proposes to add a health care facility to an existing or proposed route must obtain an amendment to the original Certificate of Need before providing such service. Additionally, an equipment vendor must inform the Department of any proposed changes, i.e. additional health care facilities or route deviations, from those presented in the Certificate of Need application prior to such change.

117 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Magnetic Resonance Imaging (MRI) Equipment and/or the Offering of MRI Services

The Mississippi Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of MRI equipment and/or the offering of MRI services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of MRI equipment is reviewable if the equipment cost is in excess of $1,500,000; if the equipment and/or service is relocated; and if the proposed provider of MRI services has not provided such services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of MRI Equipment

1. **Need Criterion: The entity desiring to acquire or otherwise control the MRI equipment must document that the specified equipment shall perform a minimum of 1,700 procedures per year by the end of the second year of operation. The applicant shall use the procedures estimation methodology appearing in this section of the *Plan* to project the annual patient service volume of the proposed equipment. This criterion includes both fixed and mobile MRI equipment.**

   Applicants for non-hospital based MRI facilities may submit affidavits from referring physicians in lieu of the estimation methodology required for hospital-based facilities. MRI procedures projected in affidavits shall be based on actual MRI procedures referred during the year.

   It is recognized that an applicant desiring to acquire or otherwise control an MRI unit may make or propose to make the MRI unit available to more than one provider of MRI services; some of which may be located outside of Mississippi. In such cases all existing or proposed users of the MRI unit must jointly meet the required service volume of 1,700 procedures annually. If the MRI unit in question is presently utilized by other providers of MRI services, the actual number of procedures performed by them during the most recent 12-month period may be used instead of the formula projections.

2. In order to receive CON approval to acquire or otherwise control MRI equipment, the applicant shall provide a copy of the proposed contract and document the following:

   a. that the equipment is FDA approved;

   b. that only qualified personnel will be allowed to operate the equipment; and

   c. that if the equipment is to be rented, leased, or otherwise used by other qualified providers on a contractual basis, no fixed/minimum volume contracts will be permitted.

3. Applicants shall provide written assurance that they will record and maintain, at a minimum, the following information and make it available to the Mississippi Department of Health:

   a. all facilities which have access to the equipment;

   b. utilization by each facility served by the equipment, e.g., days of operation, number of procedures, and number of repeat procedures;

   c. financial data, e.g., copy of contracts, fee schedule, and cost per scan; and

   d. demographic and patient origin data for each facility.

   In addition, if required by the Department, the above referenced information and other data pertaining to the use of MRI equipment will be made available to the MDH within 15 business days of request. The required information may also be requested for entities outside of Mississippi that use the MRI equipment in question.

4. The entity desiring to acquire or otherwise control the MRI equipment must be a registered entity authorized to do business in Mississippi.

5. Before the specified equipment can be utilized, the applicant desiring to provide the MRI equipment shall have CON approval or written evidence that the equipment is exempt from CON approval, as determined by the Mississippi Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

Certificate of Need Criteria and Standards for the Offering of MRI Services

An entity proposing to offer MRI services shall obtain Certificate of Need (CON) approval before offering such services.

1. **Need Criterion: The entity desiring to offer MRI services must document that the equipment shall perform a minimum of 1,700 procedures per year. The applicant shall use the procedures estimation methodology appearing in this section of the *Plan* to project the annual patient service volume for the applicant hospital. This criterion includes both fixed and mobile MRI equipment.**

   Applicants for non-hospital based MRI facilities may submit affidavits from referring physicians in lieu of the estimation methodology required for hospital-based facilities. MRI procedures projected in affidavits shall be based on actual MRI procedures referred during the year.

   It is recognized that a particular MRI unit may be utilized by more than one provider of MRI services; some of which may be located outside of Mississippi. In such cases all existing or proposed providers of MRI services must jointly meet the required service volume of 1,700 procedures annually. If the MRI unit in question is presently utilized by other providers of MRI services, the actual number of procedures performed by them during the most recent 12-month period may be used instead of the formula projections.

2. An applicant desiring to offer MRI services must document that a full range of diagnostic imaging modalities for verification and complementary studies will be available at the time MRI services begin. These modalities shall include, but not be limited to, computed tomography (full body), ultrasound, angiography, nuclear medicine, and conventional radiology.

3. All applicants proposing to offer MRI services shall give written assurance that, within the scope of its available services, neither the facility where the service is provided nor its participating medical personnel shall have policies or procedures which would exclude patients because of race, color, age, sex, ethnicity, or ability to pay.

4. The applicant must document that the following staff will be available:

   a. Director - A full-time, board eligible radiologist or nuclear medicine imaging physician, or other board eligible licensed physician whose primary responsibility during the prior three years has been in the acquisition and interpretation of clinical images. The Director shall have knowledge of MRI through training, experience, or documented post-graduate education. The Director shall document a minimum of one week of full-time training with a functional MRI facility.

b. One full-time MRI technologist-radiographer or a person who has had equivalent education, training, and experience, who shall be on-site at all times during operating hours. This individual must be experienced in computed tomography or other cross-sectional imaging methods, or must have equivalent training in MRI spectroscopy.

5. The applicant shall document that when an MRI unit is to be used for experimental procedures with formal/approved protocols, a full-time medical physicist or MRI scientist (see definition in Glossary) with at least one year of experience in diagnostic imaging shall be available in the facility.

6. The applicant shall provide assurances that the following data regarding its use of the MRI equipment will be kept and made available to the Mississippi Department of Health upon request:

   a. Total number of procedures performed
   b. Number of inpatient procedures
   c. Number of outpatient procedures
   d. Average MRI scanning time per procedure
   e. Average cost per procedure
   f. Average charge per procedure
   g. Demographic/patient origin data
   h. Days of operation

   In addition to the above data recording requirements, the facility should maintain the source of payment for procedures and the total amounts charged during the fiscal year when it is within the scope of the recording system.

7. Before the service can be provided, the CON applicant desiring to offer MRI services shall provide written evidence that the specified MRI equipment provider has received CON approval or is exempt from CON approval as determined by the Mississippi Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

Procedures Estimation Methodology for MRI Equipment

MRI patient service volume shall be based on a DRG disease classification system of all inpatients of the hospital, other participating hospitals, and the number of outpatients in receipt of CT scans from the respective hospitals. Under this system, the DRGs are classified and ranked in relation to the expected applicability of MRI imaging. Diagnoses for which MRI imaging is not likely to be useful in current application fall into Category 1. Category 2 includes those diagnoses for which MRI imaging may be a useful secondary imaging modality in some cases. Category 3 encompasses diagnoses for which MRI is likely to be a useful secondary imaging modality. Category 4 includes those diagnoses for which MRI is expected to be the primary imaging modality. The listing of DRG categories to be used in establishing the need for MRI services may be obtained from the Mississippi Department of Health Division of Health Planning and Resource Development.

First, the methodology classifies the total number of inpatient admissions into the four categories. The admission total for each category is zero, five, 15, and 50 percent, respectively. This derives the estimated number of inpatients most likely to benefit from MRI services. Secondly, the methodology identifies the total number of outpatients referred for CT scanning during the previous fiscal year. A 25 percent utilization factor is applied to that total in order to derive the number of outpatients most likely to benefit from MRI imaging. Inpatient and outpatient estimates are summed to derive the total MRI volume for the first year of operation. The mathematical formula for calculating volume estimates is as follows:

$$\mathbf{EC = .50\,(TN_4) + .15\,(TN_3) + .05\,(TN_2) + .25\,(TN_{ct})}$$

Where:

EC = Estimated MRI patient service volume for the first or next year of operation.

TN_4 = Total number of inpatient hospital admissions in DRG Category 4 for the preceding fiscal year.

TN_3 = Total number of inpatient hospital admissions in DRG Category 3 for the preceding fiscal year.

TN_2 = Total number of inpatient hospital admissions in DRG Category 2 for the preceding fiscal year.

TN_{ct} = Total number of outpatients who received CT scans for the preceding fiscal year.

If the hospital projects a greater number of procedures for the end of the second year than the formula estimates, this projection must be based on the actual increases in the number of diagnoses within each category over the past three years.

118 Certificate of Need Criteria and Standards for Digital Subtraction Angiography

The Mississippi Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of Digital Subtraction Angiography (DSA) equipment and associated costs under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

Certificate of Need review is required when the capital expenditure for the purchase of Digital Subtraction Angiography equipment and associated costs exceed $1,500,000, or when the equipment is to be used for invasive procedures, i.e., the use of catheters. The offering of diagnostic imaging services of an invasive nature, i.e. invasive digital angiography, is reviewable if those services have not been provided on a regular basis by the proposed provider of such services within the period of twelve (12) months prior to the time such services would be offered.

1. **Need Criterion: The applicant for DSA services shall demonstrate that proper protocols for screening, consultation, and medical specialty backup are in place before services are rendered by personnel other than those with specialized training.**

   For example, if a radiologist without specialized training in handling cardiac arrhythmia is to perform a procedure involving the heart, a cardiologist/cardiosurgeon must be available for consultation/backup.

   The protocols shall include, but are not limited to, having prior arrangements for consultation/backup from:

   a. a cardiologist/cardiosurgeon for procedures involving the heart;

   b. a neurologist/neurosurgeon for procedures involving the brain; and

   c. a vascular surgeon for interventional peripheral vascular procedures.

2. Before utilizing or providing the equipment or service, the applicant desiring to provide the digital subtraction angiography equipment or service shall have CON approval or written evidence that the equipment or service is exempt from CON approval as determined by the Mississippi Department of Health.

119 Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of a Positron Emission Tomography (PET) Scanner and Related Equipment

1. CON Review Requirements: Applicants proposing the acquisition or otherwise control of a PET scanner shall obtain a CON to do so if the capital expenditure for the scanner and related equipment exceeds $1,500,000.

2. Indigent/Charity Care: An applicant shall be required to provide a "reasonable amount" of indigent/charity care as described in Chapter I of this *Plan*.

3. Service Areas: The state as a whole shall serve as a single service area in determining the need for a PET scanner.

4. Equipment to Population Ratio: The need for a PET scanner is estimated to be one scanner per 300,000 population. The MDH will consider out-of-state population in determining need only when the applicant submits adequate documentation acceptable to the MDH, such as valid patient origin studies.

5. Access to Supplies: Applicants must have direct access to appropriate radio-pharmaceuticals.

6. Services and Medical Specialties Required: The proposed PET unit must function as a component of a comprehensive inpatient or outpatient diagnostic service. The proposed PET unit must have the following modalities (and capabilities) on-site or through contractual arrangements:

   a. Computed tomography - (whole body)

   b. Magnetic resonance imaging - (brain and whole body)

   c. Nuclear medicine - (cardiac, SPECT)

   d. Conventional radiography

   e. The following medical specialties during operational hours:
      i. Cardiology
      ii. Neurology
      iii. Neurosurgery
      iv. Oncology
      v. Psychiatry
      vi. Radiology

7. Hours of Operation: PET facilities should have adequate scheduled hours to avoid an excessive backlog of cases.

8. CON Approval Preference: The MDH may approve applicants proposing to enter joint ventures utilizing mobile and/or shared equipment.

9. CON Requirements: The criteria and standards contained herein pertain to both fixed and/or mobile PET scanner equipment.

10. CON Exemption: Nothing contained in these CON criteria and standards shall preclude the University of Mississippi School of Medicine from acquiring and operating a PET scanner, provided the acquisition and use of such equipment is justified by the School's teaching and/or research mission. However, the requirements listed under the section regarding the granting of "appropriate scope of privileges for access to the scanner to any qualified physician" must be met. The MDH shall not consider utilization of equipment/services at any hospital owned and operated by the state or its agencies when reviewing CON applications.

11. Addition to a Health Care Facility: An equipment vendor who proposes to add a health care facility to an existing or proposed route must amend the original Certificate of Need before providing such service. Additionally, an equipment vendor must inform the Department of any proposed changes from those presented in the Certificate of Need application prior to such change, i.e., additional health care facilities or route deviations.

12. Equipment Registration: The applicant must provide the Department with the registration/serial number of the CON-approved PET scanner.

13. Certification: If a mobile PET scanner, the applicant must certify that only the single authorized piece of equipment and related equipment vendor described in the CON application will be utilized for the PET service by the authorized facility/facilities.

120 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of a Positron Emission Tomography (PET) Scanner and Related Equipment

The Mississippi Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of a PET scanner and related equipment under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general review criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of a PET scanner and related equipment is reviewable if the equipment cost is in excess of $1,500,000, or if the equipment is relocated. The offering of PET services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. Need Criterion:

a. **The entity desiring to acquire or to otherwise control the PET scanner must project a minimum of 750 clinical procedures per year and must show the methodology used for the projection.**

b. **The applicant shall document a minimum population of 300,000 per PET scanner unit. The Division of Health Planning and Resource Development population projections shall be used.**

2. The entity desiring to acquire or otherwise control the PET equipment must be a registered entity authorized to do business in Mississippi.

3. The MDH will approve additional PET equipment in an area with existing equipment only when it is demonstrated that the existing PET equipment is performing 1,500 clinical procedures per PET unit per year (six clinical procedures per day x 250 working days per year).

4. An applicant proposing to provide new or expanded PET services must include written assurances in the application that the service will be offered in a physical environment that conforms to federal standards, manufacturer's specifications, and licensing agencies' requirements. The following areas are to be addressed:

    a. quality control and assurance of radiopharmaceutical production of generator or cyclotron-produced agents;

    b. quality control and assurance of PET tomograph and associated instrumentation;

    c. radiation protection and shielding; and

    d. radioactive emissions to the environment.

5. The application shall affirm that the applicant shall receive approval from the Division of Radiological Health for the proposed site, plans, and equipment before service begins.

6. The applicant shall document provision of an on-site medical cyclotron for radionuclide production and a chemistry unit for labeling radiopharmaceuticals; or an on-site rubidium-82 generator; or access to a supply of cyclotron-produced radiopharmaceuticals from an off-site medical cyclotron and a radiopharmaceutical production facility within a two-hour air transport radius.

7. The applicant must provide evidence that the proposed PET equipment has been cleared for marketing by the U.S. Food and Drug Administration or will be operated under an institutional review board whose membership is consistent with U.S. Department of Health and Human Services regulations.

8. Applicants for PET shall document that the necessary qualified staff are available to operate the proposed unit. The applicant shall document the PET training and experience of the staff. The following minimum staff shall be available to the PET unit:

    a. One or more nuclear medicine imaging physician(s) available to the PET unit on a full-time basis (e.g., radiologist, nuclear cardiologist) who have been licensed by the state for the handling of medical radionuclides and whose primary responsibility for at least a one-year period prior to submission of the Certificate of Need application has been in acquisition and interpretation of tomographic images. This individual shall have knowledge of PET through training, experience, or documented postgraduate education. The individual shall also have training with a functional PET facility.

    b. If operating a cyclotron on site, a qualified PET radiochemist or radiopharmacist personnel, available to the facility during PET service hours, with at least one year of training and experience in the synthesis of short-lived positron emitting

radiopharmaceuticals. The individual(s) shall have experience in the testing of chemical, radiochemical, and radionuclidic purity of PET radiopharmaceutical syntheses.

c. Qualified engineering and physics personnel, available to the facility during PET service hours, with training and experience in the operation and maintenance of the PET equipment.

d. Qualified radiation safety personnel, available to the facility at all times, with training and experience in the handling of short-lived positron emitting nuclides. If a medical cyclotron is operated on-site, personnel with expertise in radiopharmacy, radiochemistry, and medical physics would also be required.

e. Certified nuclear medicine technologists with expertise in computed tomographic nuclear medicine imaging procedures, at a staff level consistent with the proposed center's expected PET service volume.

f. Other appropriate physicians shall be available during PET service hours which may include certified nuclear medicine technologists, computer programmers, nurses, and radio-chemistry technicians.

9. The applicant shall demonstrate how medical emergencies within the PET unit will be managed in conformity with accepted medical practice.

10. The applicant shall affirm that, in addition to accepting patients from participating institutions, facilities performing clinical PET procedures shall accept appropriate referrals from other local providers. These patients shall be accommodated to the extent possible by extending the hours of service and by prioritizing patients according to standards of need and appropriateness rather than source of referral.

11. The applicant shall affirm that protocols will be established to assure that all clinical PET procedures performed are medically necessary and cannot be performed as well by other, less expensive, established modalities.

12. Applicants will be required to maintain current listings of appropriate PET procedures for use by referring physicians.

13. The applicant shall provide assurances that the following data regarding the PET equipment will be kept and made available to the Mississippi Department of Health upon request:

a. total number of procedures performed;

b. total number of inpatient procedures (indicate type of procedure);

c. total number of outpatient procedures (indicate type of procedure);

d. average charge per specific procedure;

e. hours of operation of the PET unit;

f. days of operation per year; and

g. total revenue and expense for the PET unit for the year.

14. The applicant shall provide a copy of the proposed contract and document that if the equipment is to be rented, leased, or otherwise used by other qualified providers on a contractual basis, no fixed/minimum volume contracts will be permitted.

15. Before the specified equipment can be utilized, the applicant desiring to provide the PET equipment shall have CON approval or written evidence that the equipment is exempt from CON approval as determined by the Mississippi Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

Certificate of Need
Criteria and Standards
for
Long-Term Care Hospitals/Beds

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

121 Policy Statement Regarding Certificate of Need Applications for Long-Term Care Hospitals and Long-Term Care Hospital Beds

1. Restorative Care Admissions: Restorative care admissions shall be identified as patients with one or more of the following conditions or disabilities:

   a. Neurological Disorders

      i. Head Injury
      ii. Spinal Cord Trauma
      iii. Perinatal Central Nervous System Insult
      iv. Neoplastic Compromise
      v. Brain Stem Trauma
      vi. Cerebral Vascular Accident
      vii. Chemical Brain Injuries

   b. Central Nervous System Disorders

      i. Motor Neuron Diseases
      ii. Post Polio Status
      iii. Developmental Anomalies
      iv. Neuromuscular Diseases (e.g. Multiple Sclerosis)
      v. Phrenic Nerve Dysfunction
      vi. Amyotrophic Lateral Sclerosis

   c. Cardio-Pulmonary Disorders

      i. Obstructive Diseases
      ii. Adult Respiratory Distress Syndrome
      iii. Congestive Heart Failure
      iv. Respiratory Insufficiency
      v. Respiratory Failure
      vi. Restrictive Diseases
      vii. Broncho-Pulmonary Dysplasia
      viii. Post Myocardial Infarction
      ix. Central Hypoventilation

   d. Pulmonary Cases

      i. Presently Ventilator-Dependent/Weanable
      ii. Totally Ventilator-Dependent/Not Weanable
      iii. Requires assisted or partial ventilator support
      iv. Tracheostomy that requires supplemental oxygen and bronchial hygiene

2. Bed Licensure: All beds designated as long-term care hospital beds shall be licensed as general acute care.

3. Average Length of Stay: Patients' average length of stay in a long-term care hospital must be 25 days or more.

4. Size of Facility: Establishment of a long-term care hospital shall not be for less than 20 beds.

5. Long-Term Medical Care: A long-term care hospital shall provide chronic or long-term medical care to patients who do not require more than three (3) hours of rehabilitation or comprehensive rehabilitation per day.

6. Transfer Agreement: A long-term care hospital shall have a transfer agreement with an acute care medical center and a comprehensive medical rehabilitation facility.

7. Effective July 1, 1994, no health care facility shall be authorized to add any beds or convert any beds to another category of beds without a Certificate of Need under the authority of Section 41-7-191(1)(c), unless there is a projected need for such beds in the planning district in which the facility is located.

122 Certificate of Need Criteria and Standards for the Establishment of a Long-Term Care Hospital and Addition of Long-Term Care Hospital Beds

The Mississippi Department of Health will review applications for a Certificate of Need for the construction, development, or otherwise establishment of a long-term care hospital and bed additions under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

1. Need Criterion: The applicant shall document a need for the proposed project. Documentation shall consist of the following:

a. **a minimum of 450 clinically appropriate restorative care admissions with an average length of stay of 25 days; and**

b. **a projection of financial feasibility by the end of the third year of operation.**

2. The applicant shall document that any beds which are constructed/converted will be licensed as general acute care beds offering long-term care hospital services.

3. Applicants proposing the transfer/reallocation/relocation of a specific category or sub-category of bed/service from another facility as part of a renovation, expansion, or replacement project shall document that they will meet all regulatory and licensure requirements for the type of bed/service proposed for transfer/reallocation/relocation.

4. The application shall affirm that the applicant will provide a "reasonable amount" of indigent/charity care as described in Chapter I of this *Plan*.

5. The application shall demonstrate that the cost of the proposed project, including equipment, is reasonable in comparison with the cost of similar projects in the state.

   The applicant shall document that the cost per square foot (per bed if applicable) does not exceed the median construction costs, as determined by the MDH, for similar projects in the state within the most recent 12-month period by more than 15 percent.

The Glossary of this *Plan* provides the formulas MDH staff shall use to calculate the cost per square foot of space for construction and/or construction-renovation projects. The applicant shall specify the floor areas and space requirements, including the following factors:

a. The gross square footage of the proposed project in comparison to state and national norms for similar projects.

b. The architectural design of the existing facility if it places restraints on the proposed project.

c. Special considerations due to local conditions.

6. The applicant shall provide copies of transfer agreements entered into with an acute care medical center and a comprehensive medical rehabilitation facility.

Certificate of Need
Criteria and Standards
for
Cardiac Catheterization Services
and
Open-Heart Surgery Services

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

123 Joint Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of Cardiac Catheterization Equipment and/or the Offering of Cardiac Catheterization Services and the Acquisition of Open-Heart Surgery Equipment and/or the Offering of Open-Heart Surgery Services

Mississippi ranks first in the nation in cardiovascular death rate. Heart disease remains the leading cause of death in the state as incidence rates continue to increase, particularly among the African-American population. Studies show that minorities have a higher cardiovascular death rate than whites and are less likely to receive cardiac catheterization and open-heart surgery services than are whites. The disproportionate impact on minorities' health status in general is recognized elsewhere in this *State Health Plan*.

Innovative approaches to address these problems in the cardiac area are needed. It has been shown that statistical methods, such as population base and optimum capacity at existing providers, are not accurate indicators of the needs of the underserved, nor do they address the accessibility of existing programs to the underserved. The goal of these revisions to the *State Health Plan* is to improve access to cardiac care and to encourage the establishment of additional cardiac catheterization and open-heart surgery programs within the state that can serve the poor, minorities, and the rural population in greater numbers.

To further this goal, the MDH adopted the following standards:

1. A minimum population base standard of 100,000;

2. The establishment of diagnostic cardiac catheterization services with a caseload of 300 diagnostic catheterization procedures;

3. The establishment of therapeutic cardiac catheterization services with a caseload of 450 diagnostic and therapeutic catheterization procedures;

4. The establishment of open-heart surgery programs with a caseload of 150 open-heart surgeries; and,

5. A minimum utilization of equipment/services at existing providers of 450 cardiac catheterizations, diagnostic and therapeutic, and when applicable, 150 open-heart surgeries.

The MDH also adopted a provision that it shall not consider utilization of equipment/services at any hospital owned and/or operated by the state or its agencies when reviewing CON applications. The MDH further adopted standards requiring an applicant to report information regarding catheterization and open-heart programs so as to monitor the provision of care to the medically underserved and the quality of that care.

The MDH shall interpret and implement all standards in this *Plan* in recognition of the stated findings and so as to achieve the stated goal.

124 Policy Statement Regarding Certificate of Need Applications for the Acquisition or Otherwise Control of Cardiac Catheterization Equipment and/or the Offering of Cardiac Catheterization Services

1. Cardiac Catheterization Services: For purposes of the following CON criteria and standards, the term "cardiac catheterization services" or "catheterization services" shall include diagnostic cardiac catheterization services and therapeutic cardiac catheterization services.

   a. "Diagnostic cardiac catheterization" services are defined as, and refer to, cardiac catheterization services which are performed for the purpose of diagnosing, identifying, or evaluating cardiac related illness or disease. Diagnostic cardiac catheterization services include, but are not limited to, left heart catheterizations, right heart catheterizations, left ventricular angiography, coronary procedures, and other cardiac catheterization services of a diagnostic nature. Diagnostic cardiac catheterization services do **not** include percutaneous transluminal coronary angioplasty (PTCA), transseptal puncture, transthoracic left ventricular puncture, myocardial biopsy, and other cardiac catheterization procedures performed specifically for therapeutic, as opposed to diagnostic, purposes.

   b. "Therapeutic cardiac catheterization" services are defined as, and refer to, cardiac catheterization services which are performed for the purpose of actively treating, as opposed to merely diagnosing, cardiac-related illness or disease. Therapeutic cardiac catheterization services include, but are not limited to, PTCA, transseptal puncture, transthoracic left ventricular puncture and myocardial biopsy.

2. Open-Heart Surgery Capability: The MDH shall not approve CON applications for the establishment of therapeutic cardiac catheterization services at any facility that does not have open-heart surgery capability; i.e., new therapeutic cardiac catheterization services may not be established and existing therapeutic cardiac catheterization services may not be extended without approved and operational open-heart surgery services in place. This policy does not preclude approval of a Certificate of Need application proposing the concurrent establishment of both therapeutic cardiac catheterization and open-heart surgery services.

3. Service Areas: The need for cardiac catheterization equipment/services shall be determined using the seven designated Cardiac Catheterization/Open-Heart Surgery Planning Areas (CC/OHSPAs) presented in this chapter of the *Plan*. Map XI-2 shows the CC/OHSPAs.

4. CC/OHSPA Need Determination: The need for cardiac catheterization equipment/ services within a given CC/OHSPA shall be determined independently of all other CC/OHSPAs.

5. Pediatric Cardiac Catheterization: Because the number of pediatric patients requiring study is relatively small, the provision of cardiac catheterization for neonates, infants, and young children shall be restricted to those facilities currently providing the service. National standards indicate that a minimum of 150 cardiac catheterization cases should be done per year and that catheterization of infants should not be performed in facilities which do not have active pediatric cardiac-surgical programs.

6. Present Utilization of Cardiac Catheterization Equipment/Services: The MDH shall consider utilization of existing equipment/services and the presence of valid CONs for equipment/services within a given CC/OHSPA when reviewing CON applications. The MDH shall not consider utilization of equipment/services at any hospital owned and/or

operated by the state or its agencies when reviewing CON applications. The Mississippi Department of Health may collect and consider any additional information it deems essential, including information regarding access to care, to render a decision regarding any application.

7. CON Application Analysis: At its discretion, the Department of Health may use market share analysis and other methodologies in the analysis of a CON application for the acquisition or otherwise control of cardiac catheterization equipment and/or the offering of cardiac catheterization services. The Department shall not rely upon market share analysis or other statistical evaluations if they are found inadequate to address access to care concerns.

8. Minimum CC/OHSPA Population: A minimum population base of 100,000 is required for applications proposing the establishment of cardiac catheterization services. The total population within a given CC/OHSPA shall be used when determining the need for services. Population outside an applicant's CC/OHSPA will be considered in determining need only when the applicant submits adequate documentation acceptable to the Mississippi Department of Health, such as valid patient origin studies.

9. Minimum Caseload: Applicants proposing to offer adult diagnostic cardiac catheterization services must be able to project a caseload of at least 300 diagnostic catheterizations per year. Applicants proposing to offer adult therapeutic cardiac catheterization services must be able to project a caseload of at least 450 catheterizations, diagnostic and therapeutic, per year.

10. Residence of Medical Staff: Cardiac catheterizations must be under the control of and performed by personnel living and working within the specific hospital area. No site shall be approved for the provision of services by traveling teams.

11. Hospital-Based: All cardiac catheterizations and open-heart surgery services shall be located in acute care hospitals. The MDH shall not approve Certificate of Need applications proposing the establishment of cardiac catheterization/open-heart surgery services in freestanding facilities or in freestanding ambulatory surgery facilities.

125 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Diagnostic Cardiac Catheterization Equipment and/or the Offering of Diagnostic Cardiac Catheterization Services

The Mississippi Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of diagnostic cardiac catheterization equipment and/or the offering of diagnostic cardiac catheterization services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of diagnostic cardiac catheterization equipment is reviewable if the equipment costs exceed $1,500,000. The offering of diagnostic cardiac catheterization services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. **<u>Need Criterion</u>: The applicant shall document a minimum population base of 100,000 in the CC/OHSPA where the proposed diagnostic cardiac catheterization equipment/service is to be located. Division of Health Planning and Resource Development population projections shall be used.**

2. <u>Minimum Procedures</u>: An applicant proposing the establishment of diagnostic cardiac catheterization services only shall demonstrate that the proposed equipment/service utilization will be a minimum of 300 diagnostic cardiac catheterizations per year by its third year of operation.

3. <u>Impact on Existing Providers:</u> An applicant proposing to acquire or otherwise control diagnostic cardiac catheterization equipment and/or offer diagnostic cardiac catheterization services shall document that each existing unit, which is (a) in the CC/OHSPA and (b) within forty-five (45) miles of the applicant, has been utilized for a minimum of 450 procedures (both diagnostic and therapeutic) per year for the two most recent years as reflected in data supplied to and/or verified by the Mississippi Department of Health. No hospital owned and/or operated by the state or its agencies shall be considered an existing unit in the CC/OHSPA under this section. The Mississippi Department of Health may collect and consider any additional information it deems essential, including information regarding access to care, to render a decision regarding any application.

4. <u>Staffing Standards</u>: The applicant shall document that it has, or can obtain, the ability to administer the proposed services, provide sufficiently trained and experienced professional staff, and evaluate the performance of the programs. Mississippi Department of Health staff shall use guidelines presented in *Optimal Resources for Examination of the Heart and Lungs: Cardiac Catheterization and Radiographic Facilities*, published under the auspices of the Inter-Society Commission for Heart Disease Resources, as resource materials when reviewing these items in an application.

5. <u>Staff Residency</u>: The applicant shall certify that medical staff performing diagnostic cardiac catheterization procedures shall reside within forty-five (45) minutes normal driving time of the facility.

6. Recording and Maintenance of Data: Applicants shall provide, as required under licensure standards, written assurance that they will record and maintain utilization data for diagnostic cardiac catheterization procedures (e.g., morbidity data, number of diagnostic cardiac catheterization procedures performed, and mortality data, all reported by race, sex, and payor status) and make such data available to the Mississippi Department of Health annually.

7. Referral Agreement: An applicant proposing the establishment of diagnostic cardiac catheterization services only shall document that a formal referral agreement with a facility for the provision of emergency cardiac services (including open-heart surgery) will be in place and operational at the time of the inception of cardiac catheterization services.

8. Patient Selection: An applicant proposing to provide diagnostic cardiac catheterization services must (a) delineate the steps which will be taken to insure that high-risk or unstable patients are not catheterized in the facility, and (b) certify that therapeutic cardiac catheterization services will not be performed in the facility unless and until the applicant has received CON approval to provide therapeutic cardiac catheterization services.

9. Regulatory Approval: Before utilizing or providing the equipment or service, the applicant desiring to provide the diagnostic cardiac catheterization equipment or service shall have CON approval or written evidence that the equipment or service is exempt from CON approval as determined by the Mississippi Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

126 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Therapeutic Cardiac Catheterization Equipment and/or the Offering Of Therapeutic Cardiac Catheterization Services

The Mississippi Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of therapeutic cardiac catheterization equipment and/or the offering of therapeutic cardiac catheterization services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of therapeutic cardiac catheterization equipment is reviewable if the equipment costs exceed $1,500,000. The offering of therapeutic cardiac catheterization services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. **<u>Need Criterion</u>: The applicant shall document a minimum population base of 100,000 in the CC/OHSPA where the proposed therapeutic cardiac catheterization equipment/service is to be located. Division of Health Planning and Resource Development population projections shall be used.**

2. <u>Minimum Procedures</u>: An applicant proposing the establishment of therapeutic cardiac catheterization services shall demonstrate that the proposed equipment/service utilization will be a minimum of 450 cardiac catheterizations, both diagnostic and therapeutic, per year by its third year of operation. An applicant proposing the establishment of therapeutic cardiac catheterization services who presently offers only diagnostic cardiac catheterization may include in its demonstration of a minimum of 450 cardiac catheterizations per year the number of diagnostic catheterizations that it performs.

3. <u>Impact on Existing Providers:</u> An applicant proposing to acquire or otherwise control therapeutic cardiac catheterization equipment and/or offer therapeutic cardiac catheterization services shall document that each existing unit which is (a) in the CC/OHSPA and (b) within 45 miles of the applicant, has been utilized for a minimum of 450 procedures (both diagnostic and therapeutic) per year for the two most recent years as reflected in data supplied to and/or verified by the Mississippi Department of Health. No hospital owned and/or operated by the state or its agencies shall be considered an existing unit in the CC/OHSPA under this section. The Mississippi Department of Health may collect and consider any additional information it deems essential, including information regarding access to care, to render a decision regarding any application.

4. <u>Staffing Standards</u>: The applicant shall document that it has, or can obtain, the ability to administer the proposed services, provide sufficiently trained and experienced professional staff, and evaluate the performance of the programs. Mississippi Department of Health staff shall use guidelines presented in *Optimal Resources for Examination of the Heart and Lungs: Cardiac Catheterization and Radiographic Facilities*, published under the auspices of the Inter-Society Commission for Heart Disease Resources, as resource materials when reviewing these items in an application.

5. Staff Residency: The applicant shall certify that medical staff performing therapeutic cardiac catheterization procedures shall reside within forty-five (45) minutes normal driving time of the facility.

6. Recording and Maintenance of Data: Applicants shall provide, as required under licensure standards, written assurance that they will record and maintain separate utilization data for diagnostic and therapeutic cardiac catheterization procedures (e.g., morbidity data, number of diagnostic and therapeutic cardiac catheterization procedures performed and mortality data, all reported by race, sex and payor status) and make that data available to the Mississippi Department of Health annually.

7. Open-Heart Surgery: An applicant proposing the establishment of therapeutic cardiac catheterization services shall document that open-heart surgery services are available or will be available on-site where the proposed therapeutic cardiac catheterization services are to be offered before such procedures are performed.

8. Regulatory Approval: Before utilizing or providing the equipment or service, the applicant desiring to provide the cardiac catheterization equipment or service shall have CON approval or written evidence that the equipment or service is exempt from CON approval as determined by the Mississippi Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

9. Applicants Providing Diagnostic Catheterization Services: An applicant proposing the establishment of therapeutic cardiac catheterization services, who is already an existing provider of diagnostic catheterization services, shall demonstrate that its diagnostic cardiac catheterization unit has been utilized for a minimum of 300 procedures per year for the two most recent years as reflected in the data supplied to and/or verified by the Mississippi Department of Health.

127 Policy Statement Regarding Certificate of Need Applications for the Acquisition of Open-Heart Surgery Equipment and/or the Offering of Open-Heart Surgery Services

1. Service Areas: The need for open-heart surgery equipment/services shall be determined using the seven designated Cardiac Catheterization/Open-Heart Surgery Planning Areas (CC/OHSPAs) presented in this chapter of the *Plan*. Map XI-2 shows the CC/OHSPAs.

2. CC/OHSPA Need Determination: The need for open-heart surgery equipment/services within a given CC/OHSPA shall be determined independently of all other CC/OHSPAs.

3. Pediatric Open-Heart Surgery: Because the number of pediatric patients requiring open-heart surgery is relatively small, the provision of open-heart surgery for neonates, infants, and young children shall be restricted to those facilities currently providing the service.

4. Present Utilization of Open-Heart Surgery Equipment/Services: The Mississippi Department of Health shall consider utilization of existing open-heart surgery equipment/services and the presence of valid CONs for open-heart surgery equipment/services within a given CC/OHSPA when reviewing CON applications. The MDH shall not consider utilization of equipment/services at any hospital owned and/or operated by the state or its agencies when reviewing CON applications. The Mississippi Department of Health may collect and consider any additional information it deems essential, including information regarding access to care, to render a decision regarding any application.

5. CON Application Analysis: At its discretion, the Department of Health may use market share analysis and other methodologies in the analysis of a CON application for the acquisition or otherwise control of open-heart surgery equipment and/or the offering of open-heart surgery services. The Department shall not rely upon market share analysis or other statistical evaluations if they are found inadequate to address access to care concerns.

6. Minimum CC/OHSPA Population: A minimum population base of 100,000 in a CC/OHSPA (as projected by the Division of Health Planning and Resource Development) is required before such equipment/services may be considered. The total population within a given CC/OHSPA shall be used when determining the need for services. Population outside an applicant's CC/OHSPA will be considered in determining need only when the applicant submits adequate documentation acceptable to the Mississippi Department of Health, such as valid patient origin studies.

7. Minimum Caseload: Applicants proposing to offer adult open-heart surgery services must be able to project a caseload of at least 150 open-heart surgeries per year.

8. Residence of Medical Staff: Open-heart surgery must be under the control of and performed by personnel living and working within the specific hospital area. No site shall be approved for the provision of services by traveling teams.

128 Certificate of Need Criteria and Standards for the Acquisition or Otherwise Control of Open-Heart Surgery Equipment and/or the Offering of Open-Heart Surgery Services

The Mississippi Department of Health will review applications for a Certificate of Need for the acquisition or otherwise control of open-heart surgery equipment and/or the offering of open-heart surgery services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

The acquisition or otherwise control of open-heart surgery equipment is reviewable if the equipment cost in excess of $1,500,000. The offering of open-heart surgery services is reviewable if the proposed provider has not provided those services on a regular basis within twelve (12) months prior to the time such services would be offered.

1. **<u>Need Criterion</u>: The applicant shall document a minimum population base of 100,000 in the CC/OHSPA where the proposed open-heart surgery equipment/service is to be located. Division of Health Planning and Resource Development population projections shall be used.**

2. <u>Minimum Procedures</u>: The applicant shall demonstrate that it will perform a minimum of 150 open-heart surgeries per year by its third year of operation.

3. <u>Impact on Existing Providers:</u> An applicant proposing to acquire or otherwise control open-heart surgery equipment and/or offer open-heart surgery services shall document that each facility offering open-heart surgery services which is (a) in the CC/OHSPA and (b) within 45 miles of the applicant, has performed a minimum of 150 procedures per year for the two most recent years as reflected in data supplied to and/or verified by the Mississippi Department of Health. No hospital owned and/or operated by the state or its agencies shall be considered an existing unit in the CC/OHSPA under this section. The Mississippi Department of Health may collect and consider any additional information it deems essential, including information regarding access to care, to render a decision regarding any application.

4. <u>Staffing Standards</u>: The applicant shall document that it has, or can obtain, the ability to administer the proposed services, provide sufficiently trained and experienced professional staff, and evaluate the performance of the programs. Department of Health staff shall use guidelines presented in *Optimal Resources for Examination of the Heart and Lungs: Cardiac Catheterization and Radiographic Facilities*, published under the auspices of the Inter-Society Commission for Heart Disease Resources, and *Guidelines and Indications for Coronary Artery Bypass Graft Surgery: A Report of the American College of Cardiology/American Heart Association Task Force on Assessment of Diagnostic and Therapeutic Cardiovascular Procedures (Subcommittee on Coronary Artery Bypass Graft Surgery)*, published under the auspices of the American College of Cardiology, as resource materials when reviewing these items in an application.

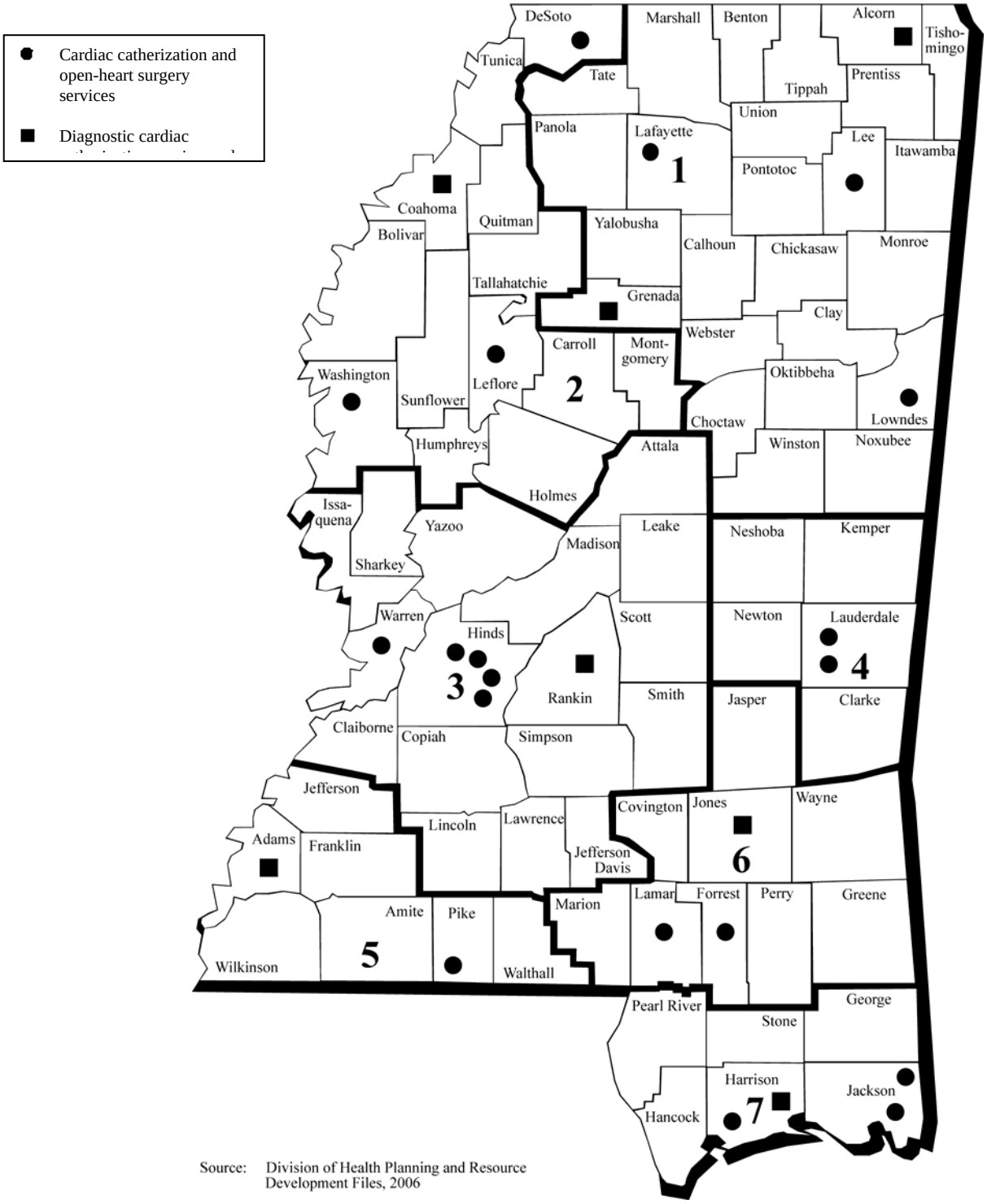
5. <u>Staff Residency</u>: The applicant shall certify that medical staff performing open-heart surgery procedures shall reside within forty-five (45) minutes normal driving time of the facility. The

applicant shall document that proposed open-heart surgery procedures shall not be performed by traveling teams.

6. Recording and Maintenance of Data: Applicants shall provide, as required under licensure standards, written assurance that they will record and maintain utilization data for open-heart surgeries (e.g., morbidity data, number of open-heart surgeries performed and mortality data, all reported by race, sex and payor status) and make such data available to the Mississippi Department of Health annually.

7. Regulatory Approval: Before utilizing or providing the equipment or service, the applicant desiring to provide the open-heart surgery equipment or service shall have CON approval or written evidence that the equipment or service is exempt from CON approval as determined by the Mississippi Department of Health. Each specified piece of equipment must be exempt from or have CON approval.

Map XI - 2
Cardiac Catheterization/Open-Heart Surgery Planning Areas (CC/OHSPA) and Location of Existing/CON-Approved Services



Source: Division of Health Planning and Resource Development Files, 2006

Chapter 012 Habilitation and Rehabilitation Services

100 Comprehensive Medical Habilitation and Rehabilitation Services

Habilitation Services

Habilitation defines the coordinated use of medical, social, educational, and vocational measures to train individuals born with limitations in functional ability. This contrasts with retraining people who have lost abilities due to disease or injuries, which involves rehabilitation. The Blair E. Batson Children's Hospital (BEBCH) at the University of Mississippi Medical Center serves as the primary facility in Mississippi providing both habilitation and rehabilitation services for physically and developmentally disabled children, adolescents through 20 years of age, and adults. The hospital contains 98 beds, 25 of which are licensed as comprehensive medical rehabilitation inpatient beds.

Rehabilitation Services

Fifty-seven Mississippi certified rehabilitation agencies offer various services, such as physical therapy, speech therapy, and social services, on an outpatient basis. Other facilities offer comprehensive medical rehabilitation (CMR) services, defined as intensive care providing a coordinated multidisciplinary approach to patients with severe physical disabilities that require an organized program of integrated services. Level I facilities offer a full range of CMR services to treat disabilities such as spinal cord injury, brain injury, stroke, congenital deformity, amputations, major multiple trauma, polyarthritis, fractures of the femur, and neurological disorders, including multiple sclerosis, cerebral palsy, muscular dystrophy, Parkinson's Disease, and others. Level II facilities offer CMR services to treat disabilities other than spinal cord injury, congenital deformity, and brain injury.

Seven hospital-based units offer Level I CMR services and eight hospital-based units offer Level II limited CMR services. Mississippi's Level l CMR units are located at Baptist Memorial Hospital-DeSoto in Southaven, Delta Regional Medical Center in Greenville, Forrest General Hospital in Hattiesburg, Memorial Hospital at Gulfport, Mississippi Methodist Rehabilitation Center in Jackson, North Mississippi Medical Center in Tupelo, and University Hospital and Clinics in Jackson.

Level II CMR units are located at Baptist Memorial Hospital-North Mississippi in Oxford, Greenwood Leflore Hospital in Greenwood, Natchez Regional Medical Center in Natchez, Northwest Mississippi Regional Medical Center in Clarksdale, Riley Memorial Hospital in Meridian, River Region Health Systems in Vicksburg, Singing River Hospital in Pascagoula, and Southwest Mississippi Medical Center in McComb. Magnolia Regional Medical Center in Corinth ceased offering CMR services in June of 2005. Tables XII-1 and XII-2 list bed capacity, discharges, average lengths of stay, and occupancy rates of Mississippi's Level I and Level II comprehensive medical rehabilitation units, respectively. Map XII-1 at the end of this chapter shows the location of these units. Table XII-3 outlines the need for CMR beds.

Table XII-1
Hospital-Based Level I CMR Units
FY 2005

Facility	Number of Beds	Number of Discharges	Average Length of Stay	Occupancy Rate
North Miss Medical Center[1]	30	556	16.16	81.16
Baptist Memorial Hospital - DeSoto[2]	20	383	11.67	60.29
Delta Regional Medical Center[3]	24	396	11.93	53.98
University Hospital & Clinics	25	437	14.26	68.31
Miss Methodist Rehab Center	80	1,437	14.43	70.48
Forrest General Hospital	20	520	12.01	70.87
Memorial Hospital at Gulfport	33	557	15.05	67.85
TOTALS	**232**	**4,286**	**13.44**	**68.80**

Source: Application for Renewal of Hospital License for Calendar Year 2005
[1] CON approval for 30 additional beds
[2] CON approval for 10 additional beds
[3] CON approval for 8 additional beds

Table XII-2
Hospital-Based Level II CMR Units
FY 2005

Facility	Number of Beds	Number of Discharges	Average Length of Stay	Occupancy Rate
Baptist Memorial Hospital - North Miss	13	166	12.98	48.26
Magnolia Regional Health Center[1]	13	143	9.32	40.37
Northwest Miss Regional Med Center	14	146	12.82	36.40
Greenwood Leflore Hospital	20	355	11.24	54.53
River Region Health System	25	331	13.03	50.33
Riley Memorial Hospital	20	398	12.76	69.37
Natchez Regional Medical Center	20	335	13.70	62.86
Singing River Hospital	20	374	14.31	74.74
Southwest Miss Regional Med Center	20	246	12.85	43.59
TOTALS	**165**	**2,494**	**12.77**	**53.37**

Source: Application for Renewal of Hospital License for Calendar Year 2005
[1] Ceased providing CMR services in June 2005

Rehabilitation Reimbursement

The Medicare program reimburses inpatient rehabilitation services based on a patient's diagnostic classification. This payment methodology resembles the diagnostic related groups (DRG) reimbursement system used for medical/surgical hospitals. Rehabilitation facilities usually have patient mix populations of more than 50 percent Medicare. With the strict controls and regulations of the Medicare program, a facility may have large disallowances of Medicare billings. Such disallowances can damage a facility's cash flow position – especially if it cannot pass the costs on to other payors and must write them off as charity care. Despite this problem, however, no indications exist that Medicare patients are hindered in obtaining inpatient rehabilitation services.

A different situation exists for patients who must depend solely on Medicaid coverage. Medicaid limits adult patients to 30 days of inpatient hospital stay per year. A 30-day inpatient stay for long-term rehabilitative care would leave no eligible days for an acute care hospital stay should the need arise.

Mississippi's Medicaid program allows unlimited hospital days for eligible persons under the age of 21 that physicians identify as requiring medically necessary diagnostic and treatment services, including habilitation and rehabilitation. The state program implemented this change in 1990, following congressional legislation to ensure the availability of early and periodic screening, diagnosis, and treatment (EPSDT) services for Medicaid-eligible children.

101 Other Habilitation and Rehabilitation Providers

Comprehensive Outpatient Rehabilitation Facilities (CORF)

The acronym "CORF" is a Medicare reimbursement term. Comprehensive Outpatient Rehabilitation Facilities actually operate under various names and may be public or private institutions and non-profit or for-profit. They provide diagnostic, therapeutic, and restorative services to outpatients and meet specified federal Medicare conditions of participation. Medicare certified CORFs provide physician services, physical therapy, occupational therapy, respiratory therapy, prosthetic/orthotic services, psychological services, rehabilitation nursing, speech pathology, and social work/counseling. CORFs have the ability to carry out a treatment plan for each patient under one roof, ensuring timely and cost-effective treatment. Six Medicare-certified CORFs operate in Mississippi.

Mississippi Department of Health Children's Medical Program

The Children's Medical Program (CMP) provides medical and surgical assistance to low and middle income families of children with eligible special health-care needs. Eligibility for program participation depends upon diagnosis, anticipated level of care required, and family income. Services may include: medical and surgical, nursing, nutritional, social, developmental, pharmaceutical, feeding, durable medical equipment, physical therapy, occupational therapy, speech therapy, case management, care coordination, and informational and referral services. Eligible medical conditions may include:

- Spina Bifida
- Hydrocephalus
- Cerebral Palsy
- Orthopedic Problems (non-traumatic)
- Congenital Heart Problems Requiring Surgery
- Head and Neck Deformities

- Cleft Palate
- Seizure Disorders
- Urinary and Intestinal System Defects Requiring Surgery

Services are also provided through special programs for patients diagnosed with hemophilia, cystic fibrosis, sickle cell disease, and adrenoleukodystrophy. The program provides services to children from birth to age 20 who have certain chronic problems requiring repeated surgical interventions and/or long-term follow-up.

Blake Clinic for Children, located in Jackson, Mississippi, is the program's principle multi-specialty facility. The program coordinates pediatric multi-specialty services through the University of Mississippi Medical Center and other state-wide specialists. County health departments provide community-based follow-up and satellite specialty clinics.

First Steps Early Intervention System for Infants and Toddlers with Disabilities

The Mississippi Department of Health serves as the lead agency for the First Steps Early Intervention System for Infants and Toddlers with Disabilities. This interagency program coordinates services among many agencies to help meet the developmental needs of young children with developmental or physical conditions causing disability. The system follows federal regulations under Part C of the Individuals with Disabilities Education Act. Mississippi used federal and state funds to fully implement the statewide system as an entitlement for children with disabilities and their families.

State and federal laws mandate this collaborative system to identify all children with developmental needs and to provide services for them and their families. As the lead agency, MDH serves as the single point of intake for the system and coordinates services through staff positions distributed according to need in all nine public health districts. District early intervention system coordinators supervise these service coordinators and work to maintain and expand the service provider network through local interagency coordination councils.

A database of all children referred to the system supplies service tracking, monitoring, and demographic information used for resource allocation. Early intervention services are provided by individual private providers, agencies, and local programs. MDH serves as the payor of last resort to reimburse providers for needed services if no other payment source was identified.

Early Hearing Detection and Intervention in Mississippi

Early Hearing Detection and Intervention in Mississippi (EHDI-M) functions as part of the First Steps Infant and Toddler Early Intervention Program. EHDI-M seeks to ensure that all Mississippi neonates born with a congenital hearing impairment are identified through an appropriate hearing screen prior to hospital discharge. The EHDI-M program strives to provide appropriate family-centered diagnostic audiological assessment/evaluation and amplification to ensure that all hearing impaired infants receive developmentally appropriate early intervention in accordance with parents' informed choice.

Mississippi Department of Rehabilitation Services

The Mississippi Department of Rehabilitation Services (MDRS) divides its operations into the Office of Vocational Rehabilitation, Office of Vocational Rehabilitation for the Blind, Office of

Special Disability Programs, Office of Disability Determination Services, and Office of Support Services.

Office of Vocational Rehabilitation

The Office of Vocational Rehabilitation (OVR) assists physically or mentally disabled individuals of employment age who meet the following criteria: (1) the individual must have a physical or mental impairment that substantially hinders employment; and (2) the individual must have the potential of getting and keeping a job as a result of vocational rehabilitation. No financial criteria for acceptance exist. OVR provides the services necessary to help eligible individuals achieve employment. Once eligibility has been established, the client and counselor develop an Individual Plan for Employment (IPE). Services include vocational evaluation, job readiness training, educational assistance, assistive technology, physical restoration, and job placement - all designed to enhance employability for the client.

Several federally funded grant programs offer a number of specialized vocational rehabilitation service programs through the OVR. First, the Mississippi Partners for Informed Choice (M-PIC) program provides all Social Security Administration (SSA) beneficiaries with disabilities (including transition-to-work aged youth) access to benefits planning and assistance services. The goal of the M-PIC program is to better enable SSA beneficiaries with disabilities to make informed choices about work. Next, the Mississippi Model Youth Transition Innovation Project (MYTI) is a demonstration project for students 10 to 25 years old currently receiving Childhood Disability Benefits, Supplemental Security Income (SSI), Social Security Disability Insurance (SSDI), and youth at risk of receiving these benefits. The MYTI project provides services to help these students maximize their economic self-sufficiency as they transition from school to work through the elimination of barriers, the development of natural and new/innovative supports, and through the collaboration of resources. Finally, the Project START (Success Through Assistive/Rehabilitative Technology) mission is to ensure the provision of appropriate technology-related services for Mississippians with disabilities by increasing awareness of and access to assistive technology and by helping the existing service systems to become more consumer responsive so that all Mississippians with disabilities will receive appropriate technology-related services and devices. Through specialized programs and grants, OVR also provides services that maximize the ability of each individual to participate in the community.

Additionally, the Office of Vocational Rehabilitation operates AbilityWork, Inc., a statewide system of community rehabilitation programs, to provide clients vocational assessment, job readiness services, job training, and actual work experience. An Employability Skills Training Program, housed at AbilityWork locations, works with the OVR counselor to help clients with job readiness skills, resume writing, interviewing techniques, and arranging real interviews or job tryout situations. The office has developed a statewide job development and placement program designed to enhance employment outcomes for clients. OVR also provides assistive technology specialists trained in barrier removal, accessibility laws and guidelines, job site modification, and specific assistive devices. These personnel assist employers, clients, service providers, and other interested parties to help persons with disabilities access their environment. The Supported Employment (SE) program offers specialized training and support services for the most severely disabled who have not attained competitive employment. Finally, OVR employs rehabilitation transition counselors to work directly with secondary education students to help make the transition from high school to work.

Office of Special Disability Programs

The Office of Special Disability Programs (OSDP) provides Independent Living Services to individuals with the most severe impairments. The services offered will significantly assist the individual to improve their ability to function more independently in the home and community.

MDRS receives federal grant funds through Title VII to provide independent living services. Services offered significantly assist the individual to improve their ability to function more independently in the home and community. Services include specialized medical equipment and supplies, home modifications, vehicle modifications, and other services indicated in the State Plan for Independent Living.

The Office of Special Disability Program administers other programs that assist in providing independent living services. The State Attendant Care Program within OSDP provides personal care services for people who are severely disabled. An attendant assisting in the home may mean that a person is able to live more independently, become employable, or become sufficiently independent to enable other family members to work. In some cases, attendant care means the difference between a person being able to live at home or being institutionalized. In the long-term, this service is far less expensive than nursing home care and allows families to remain intact and functional.

In 1994, MDRS implemented an Independent Living Waiver program through a cooperative agreement with the Mississippi Division of Medicaid. MDRS provides the state funds to match the federal share from the U.S. Department of Health and Human Services and the Center for Medicare and Medicaid Services (CMS). This program allows MDRS to provide personal care services to individuals with severe orthopedic and/or neurological impairments and who would otherwise be at risk of nursing home placement. Individuals in this waiver must be capable of directing their own care and possess rehabilitative potential. Beneficiaries of this waiver must be Medicaid eligible as SSI recipients or meet the requirements of the handicapped coverage group which allows an income level up to 300 percent of the SSI federal benefit rate. The responsibility for the administration of the waiver lies with the Department of Rehabilitation Services. The Department, in addition to administering the waiver program, also provides case management services, using registered nurses and rehabilitation counselors who provide the necessary support for individuals in this waiver. The case managers are responsible for coordinating and monitoring services.

The Mississippi Legislature established a Traumatic Brain Injury and Spinal Cord Injury Trust Fund Program (TBI/SCI) to enable individuals who are severely disabled by spinal cord injury or traumatic brain injury to resume activities of daily living and reintegrate into the community with as much dignity and independence as possible. Funds are generated by assessment and surcharges on moving traffic violations and violations of the Implied Consent Law.

In 2001, MDRS and the Mississippi Division of Medicaid implemented a TBI/SCI waiver program, through a cooperative agreement. The program utilizes matching dollars from the Spinal Cord and Head Injury Trust Fund to match federal dollars to extend services to more individuals, specifically those with traumatic brain and spinal cord injuries. Services available under this waiver may include: case management, in-home nursing respite, in-community respite, institutional respite, attendant care services, environmental accessibility adaptations, and specialized medical equipment and supplies.

Office of Disability Determination Services

The Office of Disability Determination Services (DDS) determines medical eligibility of applicants for Social Security Disability Insurance and Supplemental Security Income (SSI) Disability to receive the assistance provided through these programs. DDS bases its decisions on medical reports and the criteria, standards, and regulations established by the U.S. Social Security Administration.

Office of Vocational Rehabilitation for the Blind

The Office of Vocational Rehabilitation for the Blind (OVRB) provides an array of specialized services to blind and visually impaired adults in Mississippi. These services include vocational and psychological evaluation, physical restoration, personal adjustment/independent living training, transportation, college training, aids and appliances, counseling and guidance, supported employment, and job placement. Mississippi's per capita incidence of blindness exceeds that of the nation – with an estimated 50 percent of such vision loss being preventable – a fact that enhances the value of the OVRB program.

OVRB cooperates with various facilities to offer services. Examples include: Addie McBryde Rehabilitation Center, which primarily trains clients in adaptive skills for independent living; the REACH Center of Tupelo, which offers in-depth diagnostic and evaluative services to blind and severely disabled individuals; and Mississippi Industries for the Blind. OVRB also offers independent living services for elderly persons with legal blindness and persons with legal blindness and a significant secondary disability.

Mississippi State Department of Education

The Mississippi State Department of Education operates both the Mississippi School for the Blind and School for the Deaf. Legislative appropriations support both schools, requiring no tuition from parents or guardians.

Mississippi School for the Blind

The Mississippi School for the Blind (MSB) provides residential and day programs to enhance the intellectual, social, physical, and vocational development of visually impaired children and youth. MSB provides its students the training they need for the fullest possible participation in a sighted world. Campus-based instruction programs include elementary and secondary education, a Pre-vocational Program, a Deaf/Blind Program, and a Life Skills Program. Children may enroll in campus programs at five years of age and continue their matriculation until the age of 21. MSB served a total of 80 students on the main campus during School Year 2005-2006.

The curriculum for elementary and secondary education meets graduation standards set by the State Board of Education and includes core and elective courses compatible with those offered by most public schools. It also includes specialized courses which address the particular needs of visually impaired students. The Life Skills Program provides instruction for students who will not earn a regular academic diploma. This program emphasizes skill development and equips students for independent living in society.

The Pre-vocational program addresses the needs of children with visual impairments and additional disabilities. The program strives to provide appropriate services and curricula that are designed to aid the students in reaching their highest potential for living and working as independently as possible within their local communities. The Deaf-Blind Program delivers appropriate services for those students with dual sensory impairment of vision and hearing.

Other services MSB offers include the Jackson Central Lions Low Vision Clinic and the Mississippi Instructional Resources Center. The Low Vision Clinic provides consultative services for any child in Mississippi between the ages of birth and 21 years. The child must be a legal resident of the state and have a vision problem that cannot be corrected by prescription lenses alone. The program provides visual evaluation, loans for low vision aids, training and follow-up support in using these aids, and vision reports giving specific suggestions for parents and teachers. During the 2005-

2006 school year, the Clinic served more than 175 students who were not enrolled at MSB. These students were from counties throughout Mississippi.

MSB also provides a Preschool/Homebased Early Intervention Program for any eligible child between birth and the age of five. The program provides services in the home, at no cost to the family, with the goal of properly preparing the visually impaired child for entrance into a classroom setting. Three certified vision teachers served 65 children during 2005-2006.

Through its Mississippi Instructional Resources Center, MSB provides large print and Braille textbooks to visually impaired students enrolled in public and private schools throughout the state. The Center served 268 students residing in 75 different school districts during the 2005-2006 school year.

The Outreach Program provides inservice training to teachers, teaching assistants, administrators, and other service providers of local school districts and agencies. During the 2005-2006 school year, individuals from 15 school districts or agencies were served. Additionally, MSB provides informational training as part of community services training offered by various medical training programs in the Jackson area. The program served 300 individuals in school year 2005-2006.

The MSB not only provides for the education of its students, but also provides housing, meals, and basic health care for students who live in the dormitories. Every effort is made to assure a pleasant home-like atmosphere in the attractive new dormitories. Students are under the supervision of Residential Education Parents. Senior level students spend at least one semester in the independent living house, which allows them to experience more real life situations and helps to foster decision-making and independent living.

Students have opportunities to participate in and enjoy a variety of activities, both on the campus and at other locations in and near Jackson. Favorite after-school activities of MSB students include skating, shopping, playing, and attending sports activities. Parties and other programs are provided for each special occasion, many through the efforts of volunteer organizations and friends.

Mississippi School for the Deaf

The Mississippi School for the Deaf (MSD) provides all hearing impaired students an opportunity to reach their fullest potential educationally, physically, socially, emotionally, and vocationally. Students reach this goal through involvement in academic, vocational, residence, and support service programs. MSD attains this goal by helping the hearing impaired student overcome communication barriers.

MSD provides a residential/day school setting to serve the educational needs of hearing impaired students from birth to age 21. Students from birth through three years of age receive services in their homes through the Ski-Hi program, which prepares hearing impaired children for entrance into a classroom. Thirty-seven students participated in the program during 2005-2006. The pre-school/kindergarten program serves students from three through six years of age. Eight students participated in this program during 2005-2006.

MSD enrollment during 2005-2006 included 39 students in the elementary school program, 43 students in the junior high school program, and 44 students in the high school program. Placement of students within the academic program depends on communication and academic ability rather than age. Therefore, the transition ages within the academic and residence programs may differ among students.

High school students may pursue vocational, academic, or certificate programs. Vocational students receive certification in the chosen area upon completion of requirements. The vocational programs involved 42 students during 2005-2006. Programs include graphic and print communications, food services, grounds maintenance/horticulture, and business technology.

Academic programs follow State Department of Education guidelines. MSD follows a state testing program, coordinated by the Academic Guidance Counselor, which provides information concerning a student's academic ability in comparison with hearing-impaired students.

The residence program provides development of study skills, set study hours, development of social skills, and development of communication skills. Most students come from homes where family members have little or no formal signing skills. The school also provides a student work program which gives students the opportunity to work for local businesses. The student receives compensation and gets a better insight into the world of work.

Both the residence and academic programs use a support services program, which provides assessment, speech, audiology, social welfare, and counseling services. A special coordinator helps each student through an Individualized Educational Program and encourages parents to become actively involved in their child's education.

MSD provides students the opportunity to participate in such activities as Student Council, yearbook committee, and various clubs. The school also offers an athletic program based on requirements of the Mississippi High School Activities Association and including football, basketball, track, cheerleading, and volley ball.

102 The Need for Comprehensive Medical Rehabilitation Services

A total of 280 Level I (232 set up and staffed beds) and 152 Level II rehabilitation beds are operational or have CON approval in Mississippi. Map XII-1 at the end of this chapter shows the location of all CMR facilities in the state. The state as a whole serves as a single service area when determining the need for comprehensive medical rehabilitation beds/services. Based on the bed need formula found in the criteria and standards section of this chapter, Mississippi is currently over-bedded by 42 Level I beds but needs 33 additional Level II CMR beds. This number includes 13 beds formerly operated by Magnolia Regional Health Center in Corinth which ceased providing Level II CMR services in June 2005.

103 The Need for Children's Comprehensive Medical Rehabilitation Services

No universally accepted methodology exists for determining the need of children's comprehensive medical rehabilitation services. The bed need methodology in the previous section addresses need for all types of comprehensive medical rehabilitation beds, including those for children.

Certificate of Need
Criteria and Standards
for
Comprehensive Medical
Rehabilitation Beds/Services

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

104 Policy Statement Regarding Certificate of Need Applications for Comprehensive Medical Rehabilitation

Beds/Services

1. Definition: Comprehensive Medical Rehabilitation Services provided in a freestanding comprehensive medical rehabilitation hospital or comprehensive medical rehabilitation distinct part unit are defined as intensive care providing a coordinated multidisciplinary approach to patients with severe physical disabilities that require an organized program of integrated services. These disabilities include: stroke, spinal cord injury, congenital deformity, amputation, major multiple trauma, fractures or the femur (hip fracture), brain injury, polyarthritis, including rheumatoid arthritis, or neurological disorders, including multiple sclerosis, motor neuron disease, polyneuropathy, muscular dystrophy, and Parkinson's Disease.

2. Planning Areas: The state as a whole shall serve as a single planning area for determining the need of comprehensive medical rehabilitation beds/services.

3. Comprehensive Medical Rehabilitation Services:

   Level I - Level I comprehensive medical rehabilitation providers may provide treatment services for all rehabilitation diagnostic categories.

   Level II - Level II comprehensive medical rehabilitation providers may provide treatment services for all rehabilitation diagnostic categories except: (1) spinal cord injuries, (2) congenital deformity, and (3) brain injury.

4. CMR Need Determination: The Mississippi Department of Health shall determine the need for Level I comprehensive rehabilitation beds/services based upon a formula of 0.08 beds per 1,000 population for the state as a whole.

   The Mississippi Department of Health shall determine need for Level II comprehensive medical rehabilitation beds/services based upon a formula of 0.0623 beds per 1,000 population for the state as a whole. Table XII-1 shows the current need for comprehensive medical rehabilitation beds.

5. Present Utilization of Rehabilitation Services: When reviewing CON applications, the MDH shall consider the utilization of existing services and the presence of valid CONs for services.

6. Minimum Sized Facilities/Units: Freestanding comprehensive medical rehabilitation facilities shall contain not less than 60 beds. Hospital-based Level I comprehensive medical rehabilitation units shall contain not less than 20 beds. If the established formula reveals a need for more than ten beds, the MDH may consider a 20-bed (minimum sized) unit for approval. Hospital-based Level II comprehensive medical rehabilitation facilities are limited to a maximum of twenty (20) beds. New Level II rehabilitation units shall not be located within a forty-five (45) mile radius of any other CMR facility.

7. Expansion of Existing CMR Beds: Before any additional CMR beds, for which CON review is required, are approved for any facility presently having CMR beds, the currently licensed CMR beds at said facility shall have maintained an occupancy rate of at least 80 percent for the most recent 12-month licensure reporting period or at least 70 percent for the most recent two (2) years.

8. Priority Consideration: When reviewing two or more competing CON applications, the MDH shall use the following factors in the selection process, including, but not limited to, a hospital having a minimum of one hundred sixty (160) licensed acute care beds as of January 1, 2000; the highest average daily census of the competing applications; location of more than forty-five (45) mile radius from an existing provider of comprehensive medical rehabilitation services; proposed comprehensive range of services; and the patient base needed to sustain a viable comprehensive medical rehabilitation service.

9. Children's Beds/Services: Should a CON applicant intend to serve children, the application shall include a statement to that effect.

10. Other Requirements: Applicants proposing to provide CMR beds/services shall meet all requirements set forth in CMS regulations as applicable, except where additional or different requirements, as stated in the *State Health Plan* or in the licensure regulations, are required. Level II comprehensive medical rehabilitation units are limited to a maximum size of twenty (20) beds and must be more than a forty-five (45) mile radius from any other Level I or Level II rehabilitation facility.

11. Enforcement: In any case in which the MDH finds a Level II Provider has failed to comply with the diagnosis and admission criteria as set forth above, the provider shall be subject to the sanctions and remedies as set forth in Section 41-7-209 of the Mississippi Code of 1972, as amended, and other remedies available to the MDH in law or equity.

12. Effective July 1, 1994, no health care facility shall be authorized to add any beds or convert any beds to another category of beds without a Certificate of Need under the authority of Section 41-7-191(1)(c), unless there is a projected need for such beds in the planning district in which the facility is located.

13. Effective March 4, 2003, if a health care facility has voluntarily delicensed some of its existing bed complement, it may later relicense some or all of its delicensed beds without the necessity of having to acquire a certificate of need. The Department of Health shall maintain a record of the delicensing health care facility and its voluntarily delicensed beds and continue counting those beds as part of the state's total bed count for health care planning purposes.

105 Certificate of Need Criteria and Standards for Comprehensive Medical Rehabilitation Beds/Services

The MDH will review applications for a CON for the establishment, offering, or expansion of comprehensive medical rehabilitation beds and/or services under the statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code 1972, Annotated, as amended. The MDH will also review applications for Certificate of Need according to the general criteria listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

In addition, comprehensive rehabilitation services are reviewable if the proposed provider has not provided such services on a regular basis within twelve (12) months prior to the time such services would be offered. The twenty (20) bed hospital-based comprehensive medical rehabilitation facilities which are operational or approved on January 1, 2001, are *grandfathered* and shall not be required to obtain a Certificate of Need as long as the services are provided continuously by those facilities and are limited to the diagnoses set forth below for Level II comprehensive medical rehabilitation facilities.

1. **Need Criterion:**

   a. **New/Existing Comprehensive Medical Rehabilitation Beds/Services:** The need for Level I comprehensive medical rehabilitation beds in the state shall be determined using a methodology of 0.08 beds per 1,000 population. The state as a whole shall be considered as a single planning area.

      The need for Level II comprehensive medical rehabilitation beds in the state shall be determined using a methodology of 0.0623 comprehensive medical rehabilitation beds per 1,000 population. The state as a whole shall be considered a planning area.

   b. **Projects which do not involve the addition of any CMR beds:** The applicant shall document the need for the proposed project. Documentation may consist of, but is not necessarily limited to, citing of licensure or regulatory code deficiencies, institutional long-term plans (duly adopted by the governing board) recommendations made by consultant firms, and deficiencies cited by Accreditation Agencies (JCAHO, CAP).

   c. **Projects which involve the addition of beds:** The applicant shall document the need for the proposed project. Exception: Notwithstanding the service specific need requirements as stated in "a" above, the MDH may approve additional beds for facilities which have maintained an occupancy rate of at least 80 percent for the most recent 12-month licensure reporting period or at least 70 percent for the most recent two (2) years.

   d. **Level II Trauma Centers:** The applicant shall document the need for the proposed CMR project. Exception: Notwithstanding the forty-five (45) mile radius distance requirement from an existing CMR provider, the MDH may approve the establishment of a 20-bed Level II CMR unit for any hospital without CMR beds which holds Level II Trauma care designation on July 1, 2003, as well as on the date the Certificate of Need application is filed.

2. Applicants proposing to establish Level I comprehensive medical rehabilitation services shall provide treatment and programs for one or more of the following conditions:

   a. stroke,
   b. spinal cord injury,
   c. congenital deformity,
   d. amputation,
   e. major multiple trauma,
   f. fractures of the femur (hip fracture),
   g. brain injury,
   h. polyarthritis, including rheumatoid arthritis, or
   i. neurological disorders, including multiple sclerosis, motor neuron disease, polyneuropathy, muscular dystrophy, and Parkinson's Disease.

Applicants proposing to establish Level II comprehensive medical rehabilitation services shall be prohibited from providing treatment services for the following rehabilitation diagnostic categories: (1) spinal cord injury, (2) congenital deformity, and (3) brain injury.

Facilities providing Level I and Level II comprehensive medical rehabilitation services shall include on their *Annual Report of Hospitals* submitted to the MDH the following information: total admissions, average length of stay by diagnosis, patient age, sex, race, zip code, payor source, and length of stay by diagnosis.

3. Staffing and Services
   a. Freestanding Level I Facilities
      i. Shall have a Director of Rehabilitation who:
         1. provides services to the hospital and its inpatient clientele on a full-time basis;
         2. is a Doctor of Medicine or Osteopathy licensed under state law to practice medicine or surgery; and
         3. has had, after completing a one-year hospital internship, at least two years of training in the medical management of inpatients requiring rehabilitation services.
      ii. The following services shall be provided by full-time designated staff:
         1. speech therapy
         2. occupational therapy
         3. physical therapy
         4. social services
      iii. Other services shall be provided as required, but may be by consultant or on a contractual basis.
   b. Hospital-Based Units
      i. Both Level I and Level II hospital-based units shall have a Director of Rehabilitation who:
         1. is a Doctor of Medicine or Osteopathy licensed under state law to practice medicine or surgery;
         2. has had, after completing a one-year hospital internship, at least two years of training or experience in the medical management of inpatients requiring rehabilitation services; and
         3. provides services to the unit and its inpatients for at least 20 hours per week.
      ii. The following services shall be available full time by designated staff:
         1. physical therapy
         2. occupational therapy
         3. social services
      iii. Other services shall be provided as required, but may be by consultant or on a contractual basis.

106 Certificate of Need Criteria and Standards for Children's Comprehensive Medical Rehabilitation Beds/Services

Until such time as specific criteria and standards are developed, the MDH will review CON applications for the establishment of children's comprehensive medical rehabilitation services under the general criteria and standards listed in the *Mississippi Certificate of Need Review Manual* in effect at the time of submission of the application, and the preceding criteria and standards listed.

107 Comprehensive Medical Rehabilitation Bed Need Methodology

The determination of need for Level I CMR beds/services will be based on 0.08 beds per 1,000 population in the state as a whole for the year 2010. Table XII-3 presents Level I CMR bed need.

The determination of need for Level II CMR beds/services will be based on 0.0623 beds per 1,000 population in the state as a whole for the year 2010. Table XII-3 presents Level II CMR bed need.

Table XII-3
Comprehensive Medical Rehabilitation Bed Need
2007

Level	Estimated Population 2010	Number Licensed/CON-Approved CMR Beds	Number of CMR Beds Needed	Difference
Level I	2,975,551	280	238	-42
Level II	2,975,551	152	185	33

Source: Applications for renewal of hospital license for Calendar Year 2006; *Mississippi Population Projections 2010, 2015, and 2020.* Center for Policy Research and Planning, Mississippi Institute of Higher Learning, August 2005.

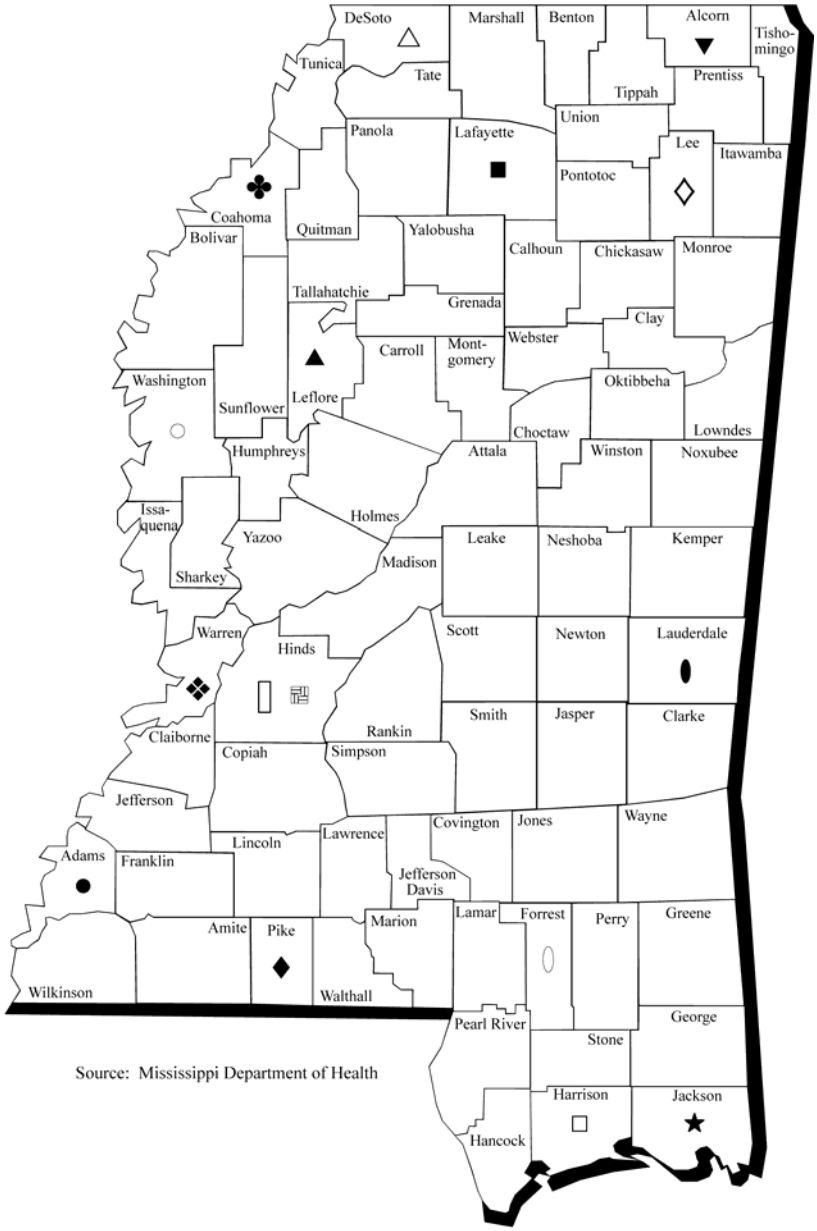
Map XII - 1
Location of Comprehensive Medical Rehabilitation Facilities
Level I and Level II

Level I

- Baptist Memorial Hospital DeSoto County 30 Bed Unit [20 Operational; 10 CON Approved]
- University Hospital & Clinics Blair E. Batson Children's Hospital 25 Bed Unit
- Delta Medical Center 24 Bed Unit [8 CON Approved]
- Forrest General Hospital 20 Bed Unit
- Memorial Hospital at Gulfport 33 Bed Unit
- Mississippi Methodist Hospital and Rehabilitation Center 80 Bed Unit
- North Mississippi Medical Center 60 Bed Unit [30 Operational; 30 CON Approved]

Level II

- Baptist Memorial Hospital North Mississippi 13 Bed Unit
- Greenwood Leflore Hospital 20 Bed Unit
- Magnolia Regional Health Center 13 Bed Unit (ceased operation 6/2005)
- Natchez Regional Medical Center 20 Bed Unit
- Northwest Mississippi Regional Medical Center 14 Bed Unit
- Riley Memorial Hospital 20 Bed Unit
- River Region Health System 25 Bed Unit
- Southwest MS Regional Medical Center 20 Bed Unit
- Singing River Hospital 20 Bed Unit



Source: Mississippi Department of Health

Chapter 013 Other Health Services

Other ambulatory health services consist of primary, specialty, and supportive medical services provided on an outpatient basis, in contrast to services provided in the home or to persons who are inpatients. The term ambulatory care implies that patients must travel to a location outside the home to receive services that do not require an overnight hospital stay. This chapter describes several organizations which provide ambulatory care in Mississippi. In addition, the chapter discusses home health services in Mississippi.

100 Community Health Centers

Community Health Centers (CHCs) are private, non-profit community-based health care organizations established to provide preventive and primary health care services to people who face significant access barriers to the health care system. The centers receive federal grant funds from the Department of Health and Human Services under Section 330 of the Public Health Service Act. This federal support subsidizes the cost of care for indigent and uninsured individuals and covers the cost of non-reimbursable services such as preventive care and health education. The overall health status and special health needs of the CHC service area population determine the federal funding level. A community-based governing body provides direction and grant fund accountability for each CHC.

Community Health Centers provide access to medical care for residents who are plagued by a shortage of medical services, financial restrictions, and other social or economic barriers. The centers coordinate federal, state, and local resources to effectively deliver health care services in rural and underserved areas and provide a true health care "safety net" for the medically disadvantaged.

CHC staff include primary care physicians, dentists, nurse practitioners, physician assistants, and other health care providers. The centers provide comprehensive health services, including medical, dental, radiology, pharmacy, nutrition, health education, social services, and transportation. The CHC program began in 1965 and developed into a national network of more than 1,029 primary health care centers in 3,600 different locations serving approximately 15 million poor and underserved individuals in the United States. For millions of disadvantaged Americans, community health centers are increasingly becoming the only source of affordable care.

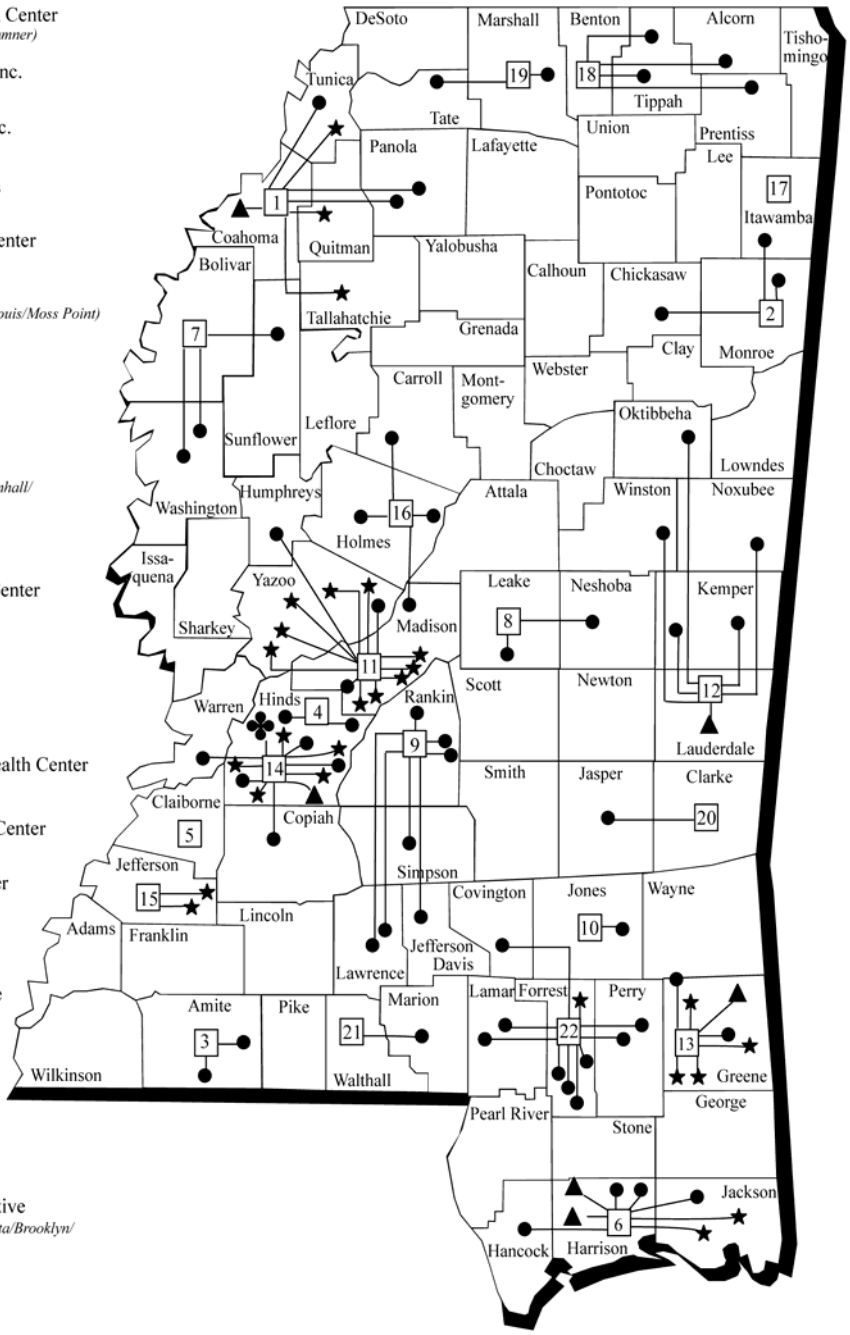
CHCs meet a great need in Mississippi. The increase in the number of families living in poverty, without health insurance, and the number of elderly Mississippians unable to afford the high cost of medical care makes the centers extremely valuable to the communities they serve. The past decade brought much progress in the publicly supported health care system. CHCs are located in 19 rural areas and 3 urban areas across the state. Mississippi now has 22 Community Health Centers with 128 satellite clinics including more than 100 primary care delivery sites. CHC's provide health services through school-based clinics and mobile units and are staffed by board certified employees as well as other auxiliary providers.

Map XIII-1 shows the location of the community health centers and satellite clinics. During calendar year 2004, these centers provided medical, dental, and other services to 310,807 Mississippians and recorded 996,564 patient visits; 44.1 percent of community health center patients serviced in 2004 were uninsured.

Map XIII - 1

Mississippi Community Health Centers (Section 330)
Main Sites and Satellite Locations

1. Aaron E. Henry Community Health Center
   (Clarksdale/Tunica/Marks/Batesville/Como/Sumner)
2. ACCESS Family Health Services, Inc.
   (Smithville/Houlka/Tremont)
3. Amite County Medical Services, Inc.
   (Liberty/Gloster)
4. Central Mississippi Health Services
   (Jackson/Tougaloo)
5. Claiborne County Family Health Center
   (Port Gibson)
6. Coastal Family Health Center
   (Biloxi/Gulfport/Saucier/Vancleave/Bay St. Louis/Moss Point)
7. Delta Health Center
   (Mound Bayou/Greenville/Moorhead)
8. East Central MS Health Care
   (Sebastopol/Walnut Grove/Philadelphia)
9. Family Health Care Clinic
   (Brandon/Pelahatchie/Pearl/Prentiss/Mendenhall/ Monticello/New Hebron/Flowood)
10. Family Health Center
    (Laurel/Sandersville)
11. G. A. Carmichael Family Health Center
    (Canton/Belzoni/Yazoo City)
12. Greater Meridian Health Clinic
    (DeKalb/Louisville/Scooba/Starkville)
13. Greene Area Medical Extenders
    (Leakesville/State Line/McLain/Richton)
14. Jackson-Hinds Comprehensive Health Center
    (Jackson/Utica/Vicksburg/Hazelhurst)
15. Jefferson Comprehensive Health Center
    (Fayette)
16. Mallory Community Health Center
    (Lexington/Tchula/Vaiden/Durant/Canton)
17. Mantachie Clinic
    (Mantachie/Marietta)
18. North Benton County Health Care
    (Ashland/Walnut/Ripley/Booneville)
19. Northeast MS Health Care
    (Byhalia/Mt. Pleasant/Cold Water)
20. Outreach Health Services
    (Shubuta/Heidelberg)
21. SHARP Family Care Center
    (Tylertown/Columbia)
22. Southeast MS Rural Health Initiative
    (Hattiesburg/Seminary/Sumrall/New Augusta/Brooklyn/ Lumberton/Beaumont)



Main Site ● Satellite Clinic ★ School-Based Clinic ♣ Homeless Clinic ▲ Mobile Unit

101 Hospital Outpatient Services

Seventy Mississippi hospitals reported having organized outpatient services during Fiscal Year 2005. Table XIII-1 shows the number of hospital outpatient departments and outpatient visits in the state by general hospital service area.

During FY 2005, there were 1,674,009 visits to hospital emergency rooms and an additional 2,262,596 visits to hospital outpatient clinics, for a total of 3,936,605 visits. These statistics represent a decrease over 2004's total of 4,153,278 visits to hospital emergency rooms and outpatient clinics.

Table XIII-1
Selected Data for Hospital-Based or Affiliated Outpatient Clinics by General Hospital Service Area
FY 2005

General Hospital Service Area	Number with Emergency Departments	Number of Emergency Room Visits	Number of Hospitals with Organized Outpatient Departments	Number of Outpatient Clinic Visits	Total Outpatient Visits
Mississippi	**87**	**1,674,009**	**70**	**2,262,596**	**3,936,605**
1	23	372,253	17	506,571	878,824
2	12	195,404	10	215,567	410,971
3	22	427,124	18	550,566	977,690
4	7	109,488	6	111,841	221,329
5	6	73,513	4	53,848	127,361
6	7	220,656	6	237,846	458,502
7	10	275,571	9	586,357	861,928

Source: Applications for Renewal of Hospital License for Calendar Year 2006 and FY 2005 Annual Hospital Report, Mississippi Department of Health

102 Ambulatory Surgery Services

In 1977, the federal government established reimbursement policies with ambulatory surgery incentives. Insurance companies also realized the potential for savings in using outpatient services and began to encourage ambulatory surgery. The number of freestanding ambulatory surgery centers grew rapidly as a result of these factors.

However, more hospitals began to establish ambulatory surgery facilities, and subsequent changes in reimbursement methods favored hospitals. Consequently, the growth of freestanding facilities slowed, and the number of ambulatory surgeries performed in hospital-based facilities increased.

Through its licensure program, Mississippi ensures that ambulatory surgery providers are capable of giving quality health care. Providers must comply with quality assurance requirements and allow on-site inspections by the state's licensing authority. In addition, ambulatory surgery centers participating in the Medicare program must meet federal quality assurance standards.

Present Status

During FY 2005, 72 of the state's 97 medical/surgical hospitals reported a total of 266,555 general surgical procedures. This number included 147,702 ambulatory surgeries, a slight increase of 3.42 percent over the 142,816 ambulatory surgeries performed in hospitals during 2004. The percentage of surgeries performed on an outpatient basis in hospitals has risen from 6.6 percent in 1981 to 55.4 percent in 2005. Table XIII-2 displays by general hospital service area the number of total surgeries performed in hospitals, the number of ambulatory surgeries performed in hospitals, the number of operating rooms, and the average number of procedures per day per operating room.

Mississippi licenses 24 freestanding ambulatory surgery facilities. Table XIII-3 shows, by county, the distribution of facilities, the number of ambulatory surgeries performed in the freestanding facilities, the number of operating rooms/suites, and the average number of surgical procedures per day per operating room. The 24 freestanding ambulatory surgical facilities reported 89,707 procedures during calendar year 2005, a 7.3 percent decrease in the 96,752 procedures performed in these facilities during 2004.

In 2005, total outpatient surgeries (hospitals and freestanding facilities combined) comprised 66.6 percent of all surgeries performed in the state, compared to 66.2 percent in 2004. The total number of outpatient surgeries decreased slightly from 239,568 in 2004 to 237,409 in 2005. Freestanding ambulatory surgeries accounted for 37.8 percent of all the ambulatory surgeries performed in 2005, compared to 40 percent in 2004. The number of procedures performed in freestanding facilities was 25.2 percent of total surgeries in 2005 and 26.8 percent in 2004.

In 2005, there were 379 operating suites located in the state's general acute care hospitals and 86 operating suites in the freestanding facilities. The average usage rate of operating suites in hospitals increased from 2.79 procedures per day in 2004 to 2.81 procedures per day in 2005. For freestanding facilities, the average usage rate increased from 4.50 procedures per day in 2004 to 4.17 procedures in 2005. **Note:** These usage rates are based on 250 working days per year (five days per week for 50 weeks).

Table XIII-2
Selected Hospital Affiliated Ambulatory Surgery Data by General Hospital Service Area
FY 2005

General Hospital Service Area	Total Number of Surgeries	Number of Hospitals	Number of Ambulatory Surgeries	Ambulatory Surgeries / Total Surgeries (Percent of)	Number of Operating Rooms / Suites	Average[1] Number of Surgical Procedures per Day / Suite
Mississippi	**266,555**	**72**	**147,702**	**55.4**	**379**	**2.81**
1	53,570	17	29,736	55.5	78	2.75
2	25,406	8	16,235	63.9	41	2.48
3	86,561	18	45,567	52.6	120	2.89
4	23,436	7	15,650	66.8	34	2.76
5	10,568	6	6,634	62.8	16	2.64
6	21,720	6	9,523	43.8	36	2.41
7	45,294	10	24,357	53.8	54	3.36

[1]Based on 250 working days per year
Source: Applications for Renewal of Hospital License for Calendar Year 2006 and FY 2005 Annual Hospital Report

Table XIII-3
Selected Freestanding Ambulatory Surgery Data by County
CY 2005

County (General Hospital Service Area)	Number of Freestanding Ambulatory Surgery Centers	Number of Ambulatory Surgeries Performed	Number of Operating Rooms/Suites	Number[1] of Surgical Procedures Per Day/O.R. Suite
Mississippi	**24**	**89,707**	**86**	**4.17**
Alcorn (1)	1	3,493	3	4.66
Lafayette (1)	1	2,774	3	3.70
Lee (1)	1	5,971	6	3.98
DeSoto (2)	1	1,116	2	2.23
Hinds (3)	4	19,762	19	4.16
Rankin (3)	1	4,255	4	4.26
Pike (5)	1	3,200	3	4.27
Forrest (6)	5	16,896	20	3.38
Jones (6)	1	2,301	2	4.60
Harrison (7)	5	17,708	15	4.72
Jackson (7)	3	12,231	9	5.44

[1]Based on 250 working days per year
Source: Survey of individual ambulatory surgery centers conducted April 2006; Division of Health Planning and Resource Development, Mississippi Department of Health

Certificate of Need
Criteria and Standards
for
Ambulatory Surgery Services

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

103 Policy Statement Regarding Certificate of Need Applications for Ambulatory Surgery Services

1. Ambulatory Surgery Planning Areas (ASPAs): The Mississippi Department of Health (MDH) shall use the ASPAs as outlined on Map XIII-2 of this *Plan* for planning and Certificate of Need (CON) decisions. The need for ambulatory surgery facilities in any given ASPA shall be calculated independently of all other ASPAs.

2. Ambulatory Surgery Facility Service Areas: An applicant's Ambulatory Surgery Facility Service Area must have a population base of approximately 60,000 within 30 minutes normal driving time or 25 miles, whichever is greater, of the proposed/established facility. **Note:** Licensure standards require a freestanding facility to be within 15 minutes traveling time of an acute care hospital and a transfer agreement with said hospital must be in place before a CON may be issued. Additionally, the ambulatory surgery facility service area must have a stable or increasing population.

3. Definitions: The Glossary of this *Plan* includes the definitions in the state statute regarding ambulatory surgery services.

4. Surgeries Offered: The MDH shall not approve single service ambulatory surgery centers. Only multi-specialty ambulatory surgery center proposals may be approved for a CON.

5. Minimum Surgical Operations: The minimum of 1,000 surgeries required to determine need is based on five (5) surgeries per operating room per day x 5 days per week x 50 weeks per year x 80 percent utilization rate.

6. Present Utilization of Ambulatory Surgery Services: The MDH shall consider the utilization of existing services and the presence of valid CONs for services within a given ASPA when reviewing CON applications.

7. Optimum Capacity: The optimum capacity of an ambulatory surgery facility is 800 surgeries per operating room per year. The MDH shall not issue a CON for the establishment or expansion of an additional facility(ies) unless the existing facilities within the ASPA have performed in aggregate at least 800 surgeries per operating room per year for the most recent 12-month reporting period, as reflected in data supplied to and/or verified by the MDH. The MDH may collect additional information it deems essential to render a decision regarding any application. Optimum capacity is based on four (4) surgeries per operating room per day x 5 days per week x 50 weeks per year x 80 percent utilization rate.

8. Conversion of Existing Service: Applications proposing the conversion of existing inpatient capacity to hospital-affiliated ambulatory surgical facilities located within the hospital shall receive approval preference over detached or freestanding ambulatory surgical facilities if the applicant can show that such conversion is less costly than new construction and if the application substantially meets other adopted criteria.

9. Construction/Expansion of Facility: Any applicant proposing to construct a new facility or major renovation to provide ambulatory surgery must propose to build/renovate no fewer than two operating rooms.

10. Indigent/Charity Care: The applicant shall be required to provide a “reasonable amount” of indigent/charity care as described in Chapter I of this *Plan*.

104 Certificate of Need Criteria and Standards for Ambulatory Surgery Services

The MDH will review applications for a CON for new ambulatory surgery facilities, as defined in Mississippi law, under the statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972 Annotated, as amended. The MDH will also review applications submitted for Certificate of Need in accordance with the rules and regulations in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

The offering of ambulatory surgery services is reviewable if the proposed provider has not provided those services on a regular basis within twelve (12) months prior to the time such services would be offered. In addition, ambulatory surgery services require CON review when the establishment or expansion of the services involve a capital expenditure in excess of $2,000,000.

1. **Need Criterion: The applicant shall demonstrate that the proposed ambulatory surgery facility shall perform a minimum average of 1,000 surgeries per operating room per year.**

2. The applicant must document that the proposed Ambulatory Surgery Facility Service Area has a population base of approximately 60,000 within 30 minutes travel time.

3. An applicant proposing to offer ambulatory surgery services shall document that the existing facilities in the ambulatory surgery planning area have been utilized for a minimum of 800 surgeries per operating room per year for the most recent 12-month reporting period as reflected in data supplied to and/or verified by the Mississippi Department of Health. The MDH may collect additional information it deems essential to render a decision regarding any application.

4. The applicant must document that the proposed program shall provide a full range of surgical services in general surgery.

5. The applicant must provide documentation that the facility will be economically viable within two years of initiation.

6. The proposed facility must show support from the local physicians who will be expected to utilize the facility.

7. Medical staff of the facility must live within a 25-mile radius of the facility.

8. The proposed facility must have a formal agreement with a full service hospital to provide services which are required beyond the scope of the ambulatory surgical facility's programs. The facility must also have a formal process for providing follow-up services to the patients (e.g., home health care, outpatient services) through proper coordination mechanisms.

9. Indigent/Charity Care: The applicant shall affirm that the applicant will provide a "reasonable amount" of indigent/charity care by stating the amount of indigent/charity care the applicant intends to provide.

105 Home Health Care

Home health care describes health services and personal care rendered to an individual in the home. Properly administered, home health care may reduce the length of hospital stays and may delay or preclude entry into a nursing home. With Medicare and other payors limiting reimbursement for inpatient care, hospitals routinely discharge patients earlier than in past years, resulting in a greater demand for home health care and an expansion of the type of care home health agencies deliver. These agencies now provide high technology services such as intravenous therapy, hyperalimentation, and oncology chemotherapy, in addition to more traditional services such as skilled nursing.

Mississippi licensure regulations define a home health agency as: "a public or privately owned agency or organization, or a subdivision of such an agency or organization, properly authorized to conduct business in Mississippi, which is primarily engaged in providing to individuals at the written direction of a licensed physician, in the individual's place of residence, skilled nursing services provided by or under the supervision of a registered nurse licensed to practice in Mississippi, and one or more of the following additional services or items:

1. physical, occupational, or speech therapy
2. medical social services
3. home health aide services
4. other services as approved by the licensing agency
5. medical supplies, other than drugs and biologicals, and the use of medical appliances
6. medical services provided by a resident in training at a hospital under a teaching program of such hospital."

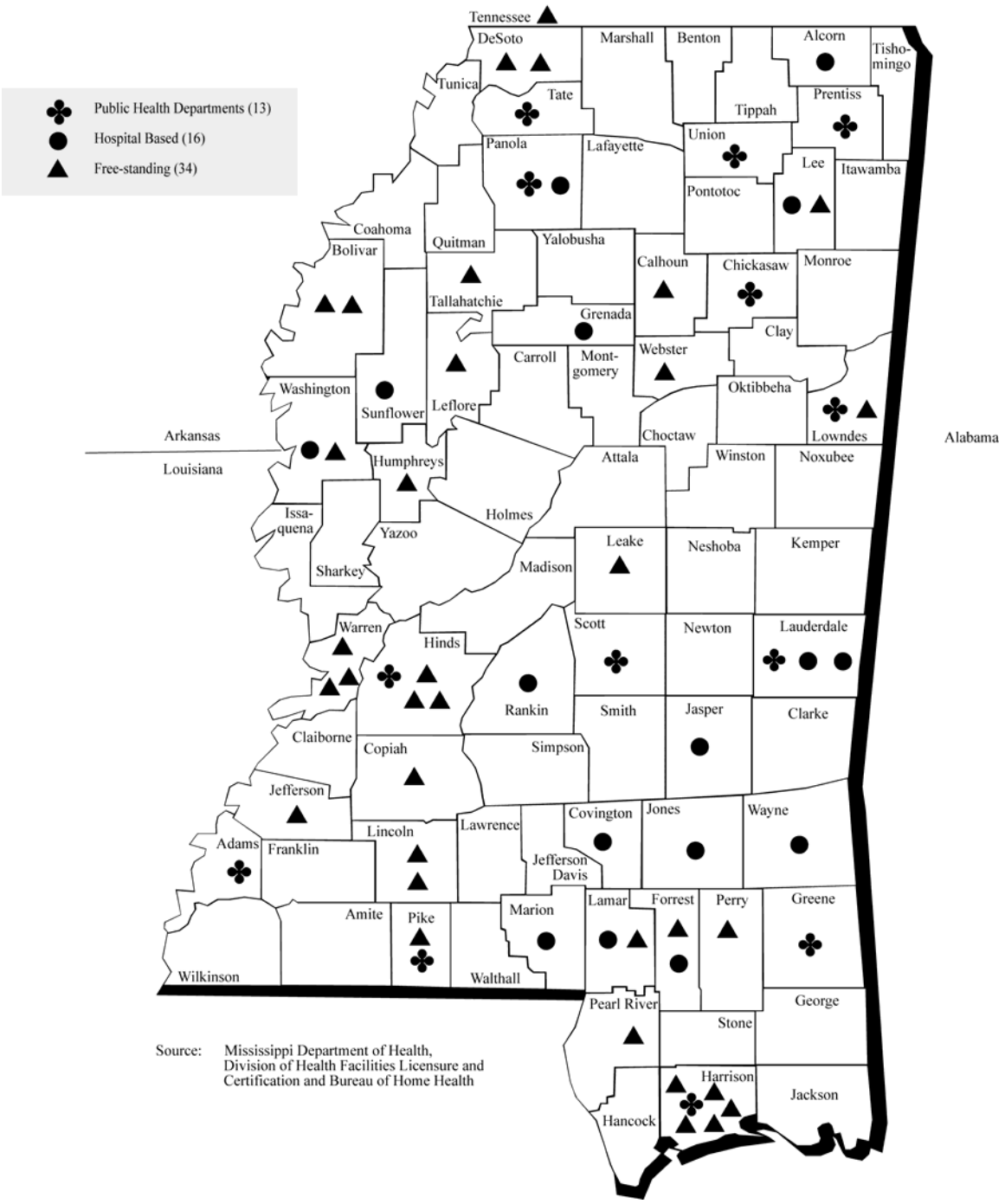
All skilled nursing services and the services listed in items a. through d. must be provided directly by the licensed home health agency. For the purposes of this *Plan*, "directly" means either through an agency employee or by an arrangement with another individual not defined as a health care facility in Section 41-7-173 (h), Mississippi Code 1972, as amended. The requirements of this paragraph do not apply to health care facilities which had contracts for the above services with a home health agency on January 1, 1990.

Existing Situation

Mississippi's *2004 Report on Home Health Agencies* (the latest available) indicated that 62,700 Mississippians received home health services during the year, an increase of 4.9 percent from the 59,769 patients served in 2003.There were 2,352,343 home health care visits made in 2004. Each patient (all payor sources) received an average of 38 visits, the same as in 2003. Mississippi has 16 hospital-based home health agencies, 34 freestanding agencies, and 13 regional home health agencies operated by the MDH.

Map XIII-3 shows the central office locations, by type, of all home health agencies in Mississippi — hospital-based, freestanding, and Department of Health agencies.

Map XIII - 3
Location of Home Health Agencies



Source: Mississippi Department of Health, Division of Health Facilities Licensure and Certification and Bureau of Home Health

Certificate of Need
Criteria and Standards
for
Home Health Agencies/Services

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

106 Policy Statement Regarding Certificate of Need Applications for the Establishment of a Home Health Agency and/or the Offering of Home Health Services

1. Service Areas: The need for home health agencies/services shall be determined on a county by county basis.

2. Determination of Need: A possible need for home health services may exist in a county if for the most recent calendar year available that county had fewer home health care visits per 1,000 elderly (65+) population than the average number of visits received per 1,000 elderly (65+) in the "ten-state region" consisting of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee.

3. Unmet Need: If it is determined that an unmet need exists in a given county, the unmet need must be equivalent to 50 patients in each county proposed to be served. Based on 2004 data 1,450 visits approximates 50 patients.

4. All CON applications for the establishment of a home health agency and/or the offering of home health services shall be considered substantive and will be reviewed accordingly.

107 Certificate of Need Criteria and Standards for the Establishment of a Home Health Agency and/or the Offering of Home Heath Services

If the present moratorium were removed or partially lifted, the MDH would review applications for a CON for the establishment of a home health agency and/or the offering of home health services under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications submitted for CON according to the general criteria as listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the MDH; and the specific criteria and standards listed below.

The development or otherwise establishment of a home health agency requires CON. The offering of home health services is reviewable if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

1. **Need Criterion: The applicant shall document that a possible need for home health services exists in each county proposed to be served using the methodology contained in this section of the *Plan*.**

2. The applicant shall state the boundaries of the proposed home health service area in the application.

3. The applicant shall document that each county proposed to be served has an unmet need equal to 50 patients, using a ratio of **1,450 patient visits equals 50 patients**.

4. The applicant shall document that the home office of a new home health agency shall be located in a county included in the approved service area of the new agency. An existing agency receiving CON approval for the expansion of services may establish a sub-unit or branch office if such meets all licensing requirements of the Division of Licensure.

5. The application shall document the following for each county to be served:

   a. Letters of intent from physicians who will utilize the proposed services.

   b. Information indicating the types of cases physicians would refer to the proposed agency and the projected number of cases by category expected to be served each month for the initial year of operation.

   c. Information from physicians who will utilize the proposed service indicating the number and type of referrals to existing agencies over the previous 12 months.

   d. Evidence that patients or providers in the area proposed to be served have attempted to find services and have not been able to secure such services.

   e. Projected operating statements for the first three years, including:

      i. total cost per licensed unit;
      ii. average cost per visit by category of visit; and
      iii. average cost per patient based on the average number of visits per patient.

   f. Information concerning whether proposed agencies would provide services different from those available from existing agencies.

108 Statistical Need Methodology for Home Health Services

The methodology used to calculate the average number of visits per 1,000 elderly (65+) in the 10-state region is:

1. The 10-state region consists of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee.

2. The 2010 projected population aged 65 and older are estimates from each state.

3. Table XIII-4 shows the average number of Medicare paid home health visits per 1,000 elderly (65+) for the 10-state region, according to 2004 data from Palmetto GBA - Medicare Statistical Analysis Department of the Centers for Medicare and Medicaid Services. Figure XIII-1 shows the total number of Medicare paid home health visits per 1,000 elderly in the 10-state region.

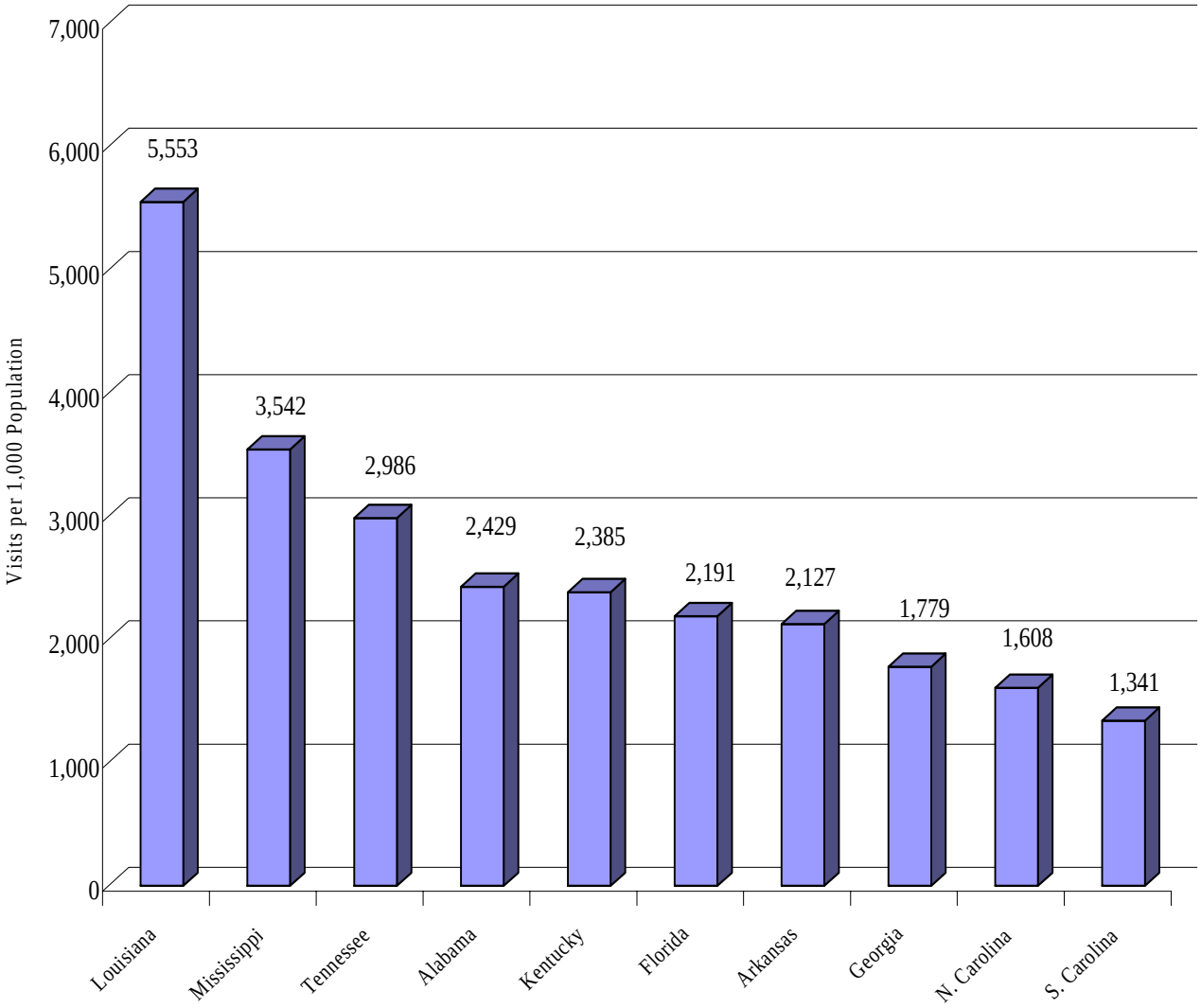
4. In 2004, the region average of home health visits per 1,000 population aged 65 and older was 2,375. An average patient in the region received 29 home health visits. Therefore 1,450 visits equal 50 patients. **Note:** The Mississippi average for 2004 was 3,542 visits (Medicare reimbursed) per 1,000 population aged 65 and older, and an average patient received 33 visits.

Table XIII-4
Medicare Home Health Statistics
In the Ten-State Region
January 1, 2004 – December 31, 2004

	2010 Population 65+	2004 Total Medicare-Paid Home Health Visits	Medicare-Paid Home Health Visits per 1,000 Population 65+	Total Medicare Reimbursement	Total Medicare Home Health Patients	Average Reimbursement per Patient	Average Visits per Patient
Region Total	**9,575,245**	**22,746,812**	**2375.59**	**3,155,173,532**	**773,063**	**$4,081.39**	**29.42**
Alabama	648,889	1,576,061	2,429	$219,853,225	54,011	$4,071	29
Arkansas	412,152	876,565	2,127	$102,124,579	28,931	$3,530	30
Florida	3,418,697	7,489,576	2,191	$993,284,693	259,714	$3,825	29
Georgia	980,824	1,744,457	1,779	$265,474,320	68,881	$3,854	25
Kentucky	557,471	1,329,291	2,385	$181,134,956	48,981	$3,698	27
Louisiana	582,340	3,233,750	5,553	$407,044,745	67,357	$6,043	48
Mississippi	379,025	1,342,691	3,542	$188,537,160	40,995	$4,599	33
North Carolina	1,161,164	1,867,043	1,608	$304,600,614	89,707	$3,396	21
South Carolina	605,660	812,187	1,341	$145,396,971	40,345	$3,604	20
Tennessee	829,023	2,475,191	2,986	$347,722,269	74,141	$4,690	33

Source: Palmetto GBA – Medicare Statistical Analysis Department, HCIS (Health Care Information System), April 20, 2006

Figure XIII-1
Total Medicare Paid Home Health Visits Per 1,000 Population
Aged 65+ in the Ten-State Region
2004



Note: 2004 Average Home Health Visits per 1,000 Population Aged 65+ in the Ten-State Region is 2,375.59

109 End Stage Renal Disease

End stage renal disease (ESRD) describes the loss of kidney function from chronic renal failure to the extent that the remaining kidney function will no longer sustain life. The kidney's function of filtering waste products from the blood and removing fluid and salts from the body is essential for life; consequently, if untreated, end stage renal disease results in death.

Treatment generally consists of either transplantation or dialysis which consists of either peritoneal dialysis or hemodialysis. In peritoneal dialysis, the patient's own abdominal membrane is part of the "equipment". A dialyzing fluid is placed in the abdominal cavity through a plastic tube, and waste products (fluid and salts) exchange across the peritoneal membrane between the patient's blood and the dialyzing fluid. Hemodialysis is the process by which an artificial kidney machine "washes" metabolic waste products from the bloodstream and removes fluids and salts.

The kidney machine or peritoneal dialysis mimics the function normally done by the kidney. Dialysis can be done either by the patient and an assistant in the home, in a facility, or by professional staff in a hospital or limited care facility. Mississippi had 70 ESRD facilities providing maintenance dialysis services as of April 2006, and four additional facilities CON-approved but not yet operational. Map XIII-4 shows the facility locations and Table XIII-5 shows the number of existing and CON approved ESRD facilities by county.

Kidney transplantation is the treatment of choice for most patients with end stage renal failure. Unfortunately, suitable kidneys will probably never be available in the number that would be required to treat everyone with this mode of therapy. In kidney transplantation, a healthy kidney is removed from a donor and placed into an ESRD patient. Donors for kidney transplantation may come either from a close relative, such as a sibling or parent, or from an emotionally connected donor, such as a spouse or close associate. Kidneys may also be obtained from cadaver donors who have the closest matching tissue type. Living donors are preferred because they function longer than cadaver kidneys – 30 years for a living donor versus 15 years for a cadaver kidney.

The University of Mississippi Medical Center, the only transplant program in the state, performed 14 cadaver transplants during the calendar year 2005. It is certified by membership in the United Network of Organ Sharing, a private agency under contract from the Health Care Financing Administration. Transplant results are comparable to those with transplant programs with similar population basis and can be viewed on the Internet under www.unos.net. An equal number of transplants in Mississippi residents are performed in neighboring states.

Table XIII-5
Number of Existing and CON Approved ESRD Facilities by County

ESRD Facilities by County	Number of Certified and CON Approved Stations
Adams	**31**
RCG of Natchez	31
Alcorn	**19**
FMC of Corinth	19
Attala	**14**
Central Dialysis Unit-Koscuisko	14
Bolivar	**31**
RCG of Cleveland	31
Claiborne	**10**
Renex Dialysis Facility of Port Gibson - Port Gibson	10
Clarke	**9**
Pachuta Dialysis[1]	9
Coahoma	**40**
RCG of Clarksdale	40
Copiah	**27**
FMC of Hazlehurst	10
RCG of Hazlehurst	17
Covington	**21**
Collins Dialysis Unit - Collins	21
DeSoto	**40**
RCG of Southaven	40
Forrest	**46**
Hattiesburg Clinic Dialysis Unit	46
Franklin	**4**
Magnolia Dialysis	4
George	**16**
Lucedale Dialysis	16
Grenada	**25**
RCG of Grenada	25
Hancock	**14**
BMA - South Miss Kidney Center - Bay St. Louis	14

[1] CON Approved but not yet licensed

Table XIII-5 (con't)
Number of Existing and CON Approved ESRD Facilities by County

ESRD Facilities by County	Number of Certified and CON Approved Stations
Harrison	**80**
BMA - South Miss Kidney Center - Biloxi	20
BMA - South Miss Kidney Center - Gulfport	24
BMA - South Miss Kidney Center - Orange Grove	16
BMA - South Miss Kidney Center - D'Iberville	4
BMA - South Miss Kidney Center - North Gulfport	16
Hinds	**221**
FMC - Jackson	37
FMC of Southwest Jackson	29
RCG of North Jackson	46
RCG of South Jackson	35
Renex Dialysis Facility of Speights Memorial - Jackson	18
University of Miss Medical Center - Jackson	21
University Hospital & Clinics Transplantation	35
Holmes	**17**
RCG of Lexington	17
Humphreys	**6**
RCG of Belzoni[1]	6
Issaquena	**10**
RCG of Mayersville	10
Jackson	**45**
Ocean Springs Dialysis	17
Pascagoula Dialysis	28
Jasper	**15**
Bay Springs Dialysis Unit - Bay Springs	15
Jones	**30**
Laurel Dialysis Center - Laurel	30
Lafayette	**28**
FMC of Oxford	28
Lauderdale	**54**
RCG of Meridian	54
Lawrence	**6**
Silver Creek Dialysis[1]	6
Leake	**15**
FMC of Carthage	15
Lee	**28**
FMC of Tupelo	28

[1] CON Approved but not yet licensed

Table XIII-5 (con't)
Number of Existing and CON Approved ESRD Facilities by County

ESRD Facilities by County	Number of Certified and CON Approved Stations
Leflore	**27**
RCG of Greenwood	27
Lincoln	**25**
RCG of Brookhaven	25
Lowndes	**35**
RCG of Columbus	35
Madison	**40**
FMC of Canton	18
RCG of Canton	22
Marion	**30**
Columbia Dialysis Unit - Columbia	30
Marshall	**17**
FMC of Holly Springs	17
Monroe	**26**
FMC of Aberdeen	26
Montgomery	**6**
RCG of Montgomery County[1]	6
Neshoba	**30**
RCG of Philadelphia	30
Newton	**16**
RCG of Newton	16
Noxubee	**14**
RCG of Macon	14
Oktibbeha	**18**
RCG of Starkville	18
Panola	**24**
FMC of Sardis	24
Pearl River	**17**
Pearl River Dialysis Center - Picayune	17
Perry	**16**
Richton Dialysis Unit	16
Pike	**28**
RCG of McComb	28

[1] CON Approved but not yet licensed

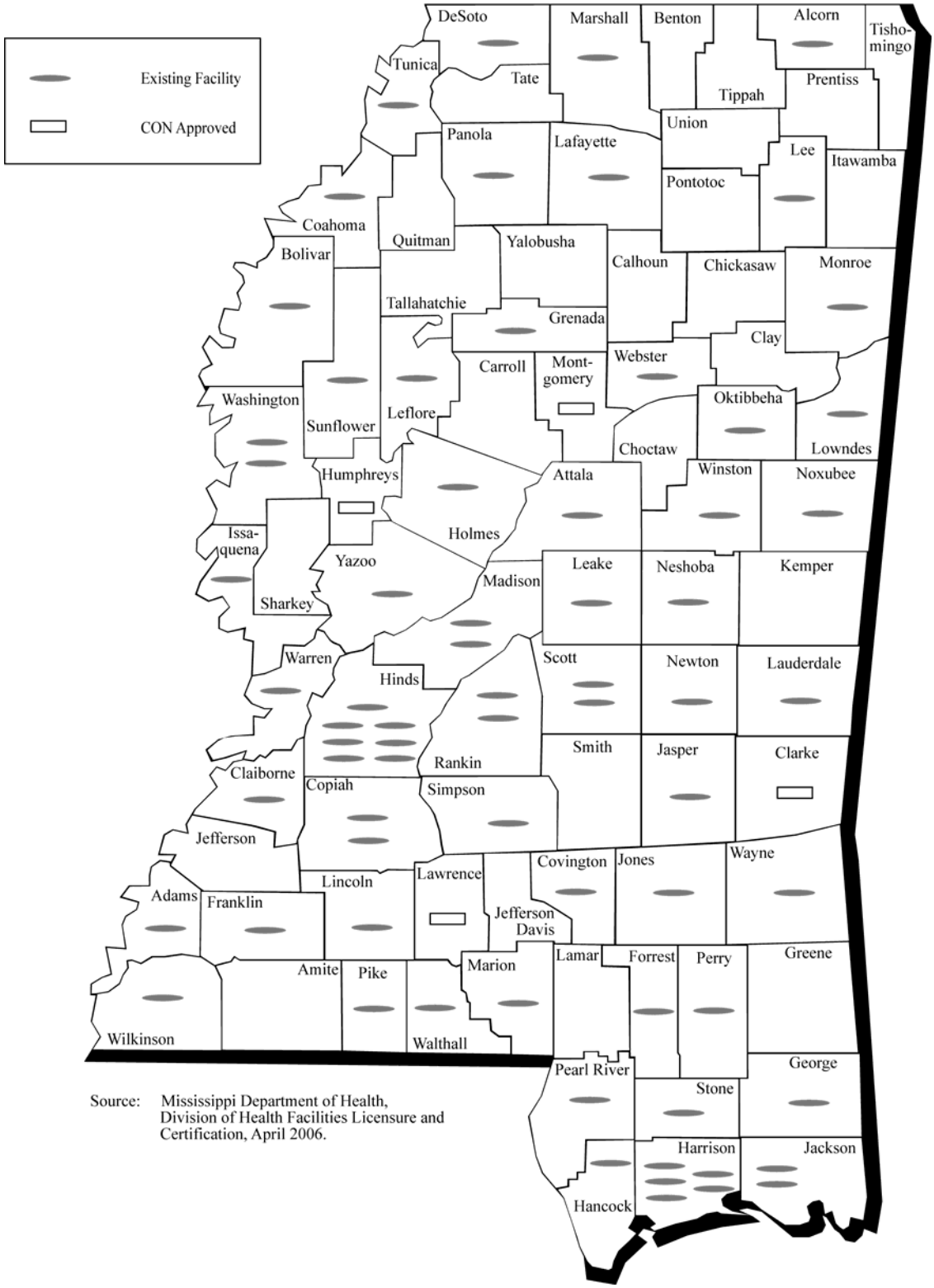
Table XIII-5 (con't)

Number of Existing and CON Approved ESRD Facilities by County

ESRD Facilities by County	Number of Certified and CON Approved Stations
Rankin	**29**
RCG of Brandon	15
FMC of Brandon	14
Scott	**53**
FMC - Forest	41
Central Dialysis Unit of Forest	12
Simpson	**15**
FMC - Magee	15
Stone	**12**
Wiggins Dialysis Unit - Wiggins	12
Sunflower	**21**
RCG of Indianola	21
Tunica	**12**
RCG of Tunica - Tunica	12
Walthall	**20**
Tylertown Dialysis Unit - Tylertown	20
Warren	**23**
RCG of Vicksburg	23
Washington	**35**
Mid-Delta Kidney Center, Inc	0
RCG of Greenville	35
Wayne	**15**
Waynesboro Renal Dialysis Unit - Waynesboro	15
Webster	**13**
FMC of Europa	13
Wilkinson	**17**
RCG of Centerville	17
Winston	**17**
RCG of Louisville	17
Yazoo	**14**
FMC - Yazoo City	14
State Total	**1,567**

[1] CON Approved but not yet licensed

Map XIII - 4
End Stage Renal Disease Facilities



Source: Mississippi Department of Health, Division of Health Facilities Licensure and Certification, April 2006.

Certificate of Need
Criteria and Standards
for
End Stage Renal Disease Facilities

Should the Mississippi Department of Health receive a Certificate of Need application regarding the acquisition and/or otherwise control of major medical equipment or the provision of a service for which specific CON criteria and standards have not been adopted, the application shall be deferred until the Department of Health has developed and adopted CON criteria and standards. If the Department has not developed CON criteria and standards within 180 days of receiving a CON application, the application will be reviewed using the general CON review criteria and standards presented in the *Mississippi Certificate of Need Review Manual* and all adopted rules, procedures, and plans of the Mississippi Department of Health.

110 Policy Statement Regarding Certificate of Need Applications for the Establishment of End Stage Renal Disease (ESRD) Facilities

1. Establishment of an ESRD Facility: The provision or proposed provision of maintenance dialysis services constitutes the establishment of an ESRD facility if the proposed provider has not provided those services on a regular basis within the period of twelve (12) months prior to the time such services would be offered.

2. Annual Review Cycle: The MDH shall accept and process CON applications proposing the establishment of ESRD facilities in accordance with the following review cycle:

   a. Applications may be submitted only during the period beginning July 1 and ending September 1 (5:00 p.m.) each year.

   b. All applications received during this period (July 1 through September 1 each year) which are deemed "complete" by October 1 of the year of submission, will be entered into the 90-day review cycle (October-December cycle).

   c. The State Health Officer will make CON decisions on "complete" applications in the month of December each year.

   d. Any CON application received other than in accordance with the above review cycle shall not be accepted by the Department, but shall be returned to the applicant.

3. Type of Review: CON applications for ESRD services shall be considered substantive as defined under the appropriate *Mississippi State Health Plan*, and "complete" competing applications from the same ESRD Facility Service Area shall be batched.

4. ESRD Facility Service Area: An ESRD Facility Service Area is defined as the area within thirty (30) highway miles of an existing or proposed ESRD facility. ESRD Facility Service Areas, including the Service Areas of existing facilities which overlap with the proposed Service Area, shall be used for planning purposes.

5. CON Approval: A CON application for the establishment of an ESRD facility shall be considered for approval only when each individual facility within an applicant's proposed ESRD Facility Service Area has maintained, at a minimum, an annual or prorated utilization rate of 80 percent as verified by the MDH. The 12 months prior to the month of submission of the CON application shall be used to determine utilization, if such information is available and verifiable by the Department.

6. Need Threshold: For planning and CON purposes a need for an additional ESRD facility may exist when each individual operational ESRD station within a given ESRD Facility Service Area has maintained an annual utilization rate of 80 percent, i.e. an average of 749 dialyses per station per year.

7. Utilization Definitions:

   a. Full Utilization: For planning and CON purposes, full (100 percent) utilization is defined as an average of 936 dialyses per station per year.

b. Optimum Utilization: For planning and CON purposes, optimum (75 percent) utilization is defined as an average of 702 dialyses per station per year.

c. Need Utilization: For planning and CON purposes, need (80 percent) utilization is defined as an average of 749 dialyses per station per year.

These utilization definitions are based upon three (3) shifts per day six (6) days per week, or eighteen (18) shifts per week. Only equipment (peritoneal or hemodialysis) that requires staff assistance for dialysis and is in operation shall be counted in determining the utilization rate. Utilization of equipment in operation less than twelve (12) months shall be prorated for the period of time in actual use.

8. Outstanding CONs: ESRD facilities that have received CON approval but are not operational shall be considered to be operating at 50 percent, which is the minimum utilization rate for a facility the first year of operation.

9. Utilization Data: The Department may use any source of data, subject to verification by the Department, it deems appropriate to determine current utilization or projected utilization of services in existing or proposed ESRD facilities. The source of data may include, but is not limited to, Medicare Certification records maintained by the Division of Health Facilities Licensure and Certification, ESRD Network #8 data, and Centers for Medicare and Medicaid Services (CMS) data.

10. Minimum Expected Utilization: It is anticipated that a new ESRD facility may not be able to reach optimum utilization (75 percent) of four ESRD stations during the initial phase of operation. Therefore, for the purposes of CON approval, an application must demonstrate how the applicant can reasonably expect to have 50 percent utilization of a minimum of four ESRD stations by the end of the first full year of operation; 65 percent utilization by the end of the second full year of operation; and 75 percent utilization by the end of the third full year of operation.

11. Minimum Size Facility: No CON application for the establishment of a new ESRD facility shall be approved for less than four (4) stations.

12. Non-Discrimination: An applicant shall affirm that within the scope of its available services, neither the facility nor its staff shall have policies or procedures which would exclude patients because of race, color, age, sex, ethnicity, or ability to pay.

13. Indigent/Charity Care: An applicant shall be required to provide a "reasonable amount" of indigent/charity care as described in Chapter I of this *Plan*.

14. Staffing: The facility must meet, at a minimum, the requirements and qualifications for staffing as contained in 42 CFR 405.2100. In addition, the facility must meet all staffing requirements and qualifications contained in the service specific criteria and standards.

15. Federal Definitions: The definitions contained in 42 CFR 405.2100 through 405.2310 shall be used as necessary in conducting health planning and CON activities.

16. Affiliation with a Renal Transplant Center: ESRD facilities shall be required to enter into a written affiliation agreement with a renal transplant center.

111 Certificate of Need Criteria and Standards for End Stage Renal Disease (ESRD) Facilities

The Mississippi Department of Health will review applications for a Certificate of Need for the establishment of an ESRD facility under the applicable statutory requirements of Sections 41-7-173, 41-7-191, and 41-7-193, Mississippi Code of 1972, as amended. The MDH will also review applications for Certificate of Need according to the general criteria as listed in the *Mississippi Certificate of Need Review Manual*; all adopted rules, procedures, and plans of the Mississippi Department of Health; and the specific criteria and standards listed below.

When a provider proposes to offer ESRD services in an ESRD facility service area where he does not currently provide services or proposes to transfer an existing ESRD unit(s) from a current location into a different ESRD facility service area, it will constitute the establishment of a new ESRD health care facility. (**Note**: The transfer of dialysis stations from an existing ESRD facility to any other location is a relocation of a health care facility or portion thereof and requires Certificate of Need review. Likewise, new dialysis stations placed into service at a site separate and distinct from an existing ESRD facility constitutes the establishment of a new health care facility and requires Certificate of Need review. Dialysis stations placed into service in an individual patient's home or residence, solely for the treatment of the individual patient concerned, are exempt from this regulation.)

Establishment of an End Stage Renal Disease (ESRD) Facility

1. **Need Criterion: An applicant proposing the establishment of a limited care renal dialysis facility or the relocation of a portion of an existing ESRD facility's dialysis stations to another location shall demonstrate, subject to verification by the Mississippi Department of health, that each individual existing ESRD facility in the proposed ESRD Facility Service Area has (a) maintained a minimum annual utilization rate of eighty (80) percent, or (b) that the location of the proposed ESRD facility is in a county which does not currently have an existing ESRD facility but whose ESRD relative risk score using current ESRD Network 8 data is 1.5 or higher. Note: ESRD Policy Statements 2, 4, 5, and 6 do not apply to criterion 1(b).**

2. Number of Stations: The applicant shall state the number of ESRD stations that are to be located in the proposed facility. No new facility shall be approved for less than four (4) dialysis stations.

3. Minimum Utilization: The application shall demonstrate that the applicant can reasonably expect to meet the minimum utilization requirements as stated in ESRD Policy Statement #10.

4. Minimum Services: The application shall affirm that the facility will provide, at a minimum, social, dietetic, and rehabilitative services. Rehabilitative services may be provided on a referral basis.

5. Access to Needed Services: The application shall affirm that the applicant will provide for reasonable access to equipment/facilities for such needs as vascular access and transfusions required by stable maintenance ESRD patients.

6. Hours of Operation: The application shall state the facility's hours of operation each day of the week. The schedule should accommodate patients seeking services after normal working hours.

7. Home Training Program: The application shall affirm that the applicant will make a home training program available to those patients who are medically eligible and receptive to such a program. The application shall affirm that the applicant will counsel all patients on the availability of and eligibility requirements to enter the home/self-dialysis program.

8. Indigent/Charity Care: The application shall affirm that the applicant will provide a "reasonable amount" of indigent/charity care. The application shall also state the amount of indigent/charity care the applicant intends to provide.

9. Facility Staffing: The application shall describe the facility's staffing by category (i.e., registered nurse, technologist, technician, social worker, dietician) as follows:

   a. Qualifications (minimum education and experience requirements)

   b. Specific Duties

   c. Full Time Equivalents (FTE) based upon expected utilization

10. Staffing Qualifications: The applicant shall affirm that the staff of the facility will meet, at a minimum, all requirements and qualifications as stated in 42 CFR, Chapter IV, Subpart U.

11. Staffing Time:

   a. The applicant shall affirm that when the unit is in operation, at least one (1) R.N. will be on duty. There shall be a minimum of two (2) persons for each dialysis shift, one of which must be an R.N.

   b. The applicant shall affirm that the medical director or a designated physician will be on-site or on-call at all times when the unit is in operation. It is desirable to have one other physician to supplement the services of the medical director.

   c. The applicant shall affirm that when the unit is not in operation, the medical director or designated physician and a registered nurse will be on-call.

12. Data Collection: The application shall affirm that the applicant will record and maintain, at a minimum, the following utilization data and make this data available to the Mississippi Department of Health as required. The time frame for the submission of the utilization data shall be established by the Department.

   a. Utilization data, e.g., days of operation, shifts, inventory and classification of all stations, number of patients in dialysis, transplanted, or expired.

   b. The number of charity/indigent patients (as defined in this *Plan*) served by the facility and the number of dialysis procedures provided to these patients free of charge or at a specified reduced rate.

13. Staff Training: The application shall affirm that the applicant will provide an ongoing program of training in dialysis techniques for nurses and technicians at the facility.

14. Scope of Privileges: The applicant shall affirm that the facility shall provide access to doctors of medicine or osteopathic medicine licensed by the State of Mississippi who possess qualifications established by the governing body of the facility.

15. Affiliation with a Renal Transplant Center: The applicant shall affirm that within one year of commencing operation the facility will enter into an affiliation agreement with a transplantation center. The written agreement shall describe the relationship between the transplantation facility and the ESRD facility and the specific services that the transplantation center will provide to patients of the ESRD facility. The agreement must include at least the following:

    a. time frame for initial assessment and evaluation of patients for transplantation,

    b. composition of the assessment/evaluation team at the transplant center,

    c. method for periodic re-evaluation,

    d. criteria by which a patient will be evaluated and periodically re-evaluated for transplantation, and

    e. signatures of the duly authorized persons representing the facilities and the agency providing the services.

    f. Furthermore, the application shall affirm that the applicant understands and agrees that failure to comply with this criterion may (after due process) result in revocation of the Certificate of Need.

Establishment of a Renal Transplant Center

1. **Need Criterion: The applicant shall document that the proposed renal transplant center will serve a minimum population of 3.5 million people.**

2. The applicant shall document that the proposed facility will provide, at a minimum, the following:

    a. medical-surgical specialty services required for the care of ESRD transplant patients;

    b. acute dialysis services;

    c. an organ procurement system;

    d. an organ preservation program; and

    e. a tissue typing laboratory.

3. The applicant shall document that the facility will perform a minimum of 25 transplants annually.

Glossary

Accessibility—a measure of the degree to which the health care delivery system inhibits or facilitates an individual's ability to receive its services, including geographic, architectural, transportation, social, time, and financial considerations.

Ambulatory Surgery—surgical procedures that are more complex than office procedures performed under local anesthesia but less complex than major procedures requiring prolonged post-operative monitoring and hospital care to ensure safe recovery and desirable results. General anesthesia is used in most cases. The patient must arrive at the facility and expect to be discharged on the same day. Ambulatory surgery shall be performed only by physicians or dentists licensed to practice in the State of Mississippi.

Examples of procedures performed include, but are not limited to:

- Tonsillectomies and adenoidectomies
- Nasal polypectomy
- Submucosa resection
- Some cataract procedures
- Cosmetic procedures
- Breast biopsy
- Augmentation mammoplasty
- Hand surgery
- Cervical conization
- Laparoscopy and tubal sterilization
- Circumcision
- Urethral dilation
- Simple hernia repairs
- Stripping and ligation of varicose veins

Ambulatory Surgical Facility—a publicly or privately owned institution which is primarily organized, constructed, renovated, or otherwise established for the purpose of providing elective surgical treatment of outpatients whose recovery, under normal and routine circumstances, will not require inpatient care. Such facility as herein defined does not include the offices of private physicians or dentists whether practicing individually or in groups, but does include organizations or facilities primarily engaged in such outpatient surgery, whether using the name "ambulatory surgical facility" or a similar or different name. Such organization or facility, if in any manner considered to be operated or owned by a hospital or a hospital holding, leasing, or management company, either for-profit or not-for-profit, is required to comply with all Mississippi Department of Health ambulatory surgical licensure standards governing a hospital affiliated facility as adopted under Section 41-9-1 et seq., Mississippi Code of 1972; provided that such organization or facility does not intend to seek federal certification as an ambulatory surgical facility as provided for 42 CFR, Parts 405 and 416. Further, if such organization or facility is to be operated or owned by a hospital or a hospital holding, leasing, or management company and intends to seek federal certification as an ambulatory facility, then such facility is considered to be freestanding and must comply with all Mississippi State Department of Health ambulatory surgical licensure standards governing a freestanding facility. If such organization or facility is to be owned or operated by an entity or person other than a hospital or hospital holding, leasing, or management company, then such organization or facility must comply with all Mississippi Department of Health ambulatory surgical facility standards governing a freestanding facility.

Bed Need Methodologies—quantitative approaches to determining present and future needs for inpatient beds.

Capital Improvements—costs other than construction which will yield benefits over a period of years. Examples of capital improvements are painting, refurbishing, and land improvements, such as improving driveways, fences, parking lots, and sprinkler systems.

Capitalized Interest—interest incurred during the construction period, which is included in debt borrowing.

Construction Formulas—

New Construction/Renovation
(Prorated Project): Cost/square foot = $\frac{A+C+D+(E+F+G(A\%^{*})}{\text{New Const. Square Feet}}$

Cost/square foot = $\frac{B+(E+F+G(B\%)^{**}+H}{\text{Renov. Square Feet}}$

New Construction
(No Renovation Involved): Cost/square foot = $\frac{A+C+D+E+F+G}{\text{Square Feet}}$

Renovation
(No New Construction): Cost/square foot = $\frac{B+C+E+F+G+H}{\text{Square Feet}}$

When:
A = New Construction
B = Renovation
C = Fixed Equipment
D = Site Preparation
E = Fees
F = Contingency
G = Capitalized Interest
H = Capital Improvement

*A% - refers to the percentage of square feet allocated to new construction.

**B% - refers to the percentage of square feet allocated to renovation.

Example: ABC Health Care's project for construction/renovation consists of 10,000 square feet of new construction and 9,000 square feet of renovation, for a total of 19,000 square feet.

A% = $\frac{10,000}{19,000}$ or 53%

B% = $\frac{9,000}{19,000}$ or 47%

Continuing Care Retirement Community—a comprehensive, cohesive living arrangement for the elderly which is offered under a contract that lasts for more than one year or for the life of the resident and describes the service obligations of the CCRC and the financial obligations of the resident. The contract must obligate the CCRC to provide, at a minimum, room, board, and nursing care to an individual not related by consanguinity or affinity to the provider furnishing such care. The contract explicitly provides for full lifetime nursing home care as required by the resident. The

resident may be responsible for the payment of some portion of the costs of his/her nursing home care, and the CCRC sponsor is responsible for the remaining costs as expressly set forth in the contract. Depletion of the contractee's personal resources does not affect the contribution of the CCRC sponsor.

Conversion—describes a major or proportional change that a health care facility undertakes in its overall mission, such as the change from one licensure category to another, from one organizational tax status to another, or from one type of health care facility to another, etc.

Cost Containment—the control of the overall costs of health care services within the health care delivery system.

Criteria—guidelines or pre-determined measurement characteristics on which judgment or comparison of need, appropriateness, or quality of health services may be made.

Existing Provider—an entity that has provided a service on a regular basis during the most recent 12-month period.

Facilities—collectively, all buildings constructed for the purpose of providing health care (including hospitals, nursing homes, clinics, or health centers, but not including physician offices); encompasses physical plant, equipment, and supplies used in providing health services.

Feasibility Study—a report prepared by the chief financial officer, CPA or an independent recognized firm of accountants demonstrating that the cash flow generated from the operation of the facility will be sufficient to complete the project being financed and to pay future annual debt service. The study includes the financial analyst's opinion of the ability of the facility to undertake the debt obligation and the probable effect of the expenditure on present and future operating costs

Freestanding Ambulatory Surgical Facility—a separate and distinct facility or a separate and distinct organized unit of a hospital owned, leased, rented, or utilized by a hospital or other persons for the primary purpose of performing ambulatory surgery procedures. Such facility must be separately licensed as herein defined and must comply with all licensing standards promulgated by the Mississippi State Department of Health regarding a freestanding ambulatory surgical facility. Further, such facility must be a separate, identifiable entity and must be physically, administratively, and financially independent and distinct from other operations of any other health facility and shall maintain a separate organized medical and administrative staff. Furthermore, once licensed as a freestanding ambulatory surgical facility, such facility shall not become a component of any other health facility without securing a Certificate of Need to do so.

Group Home—a single dwelling unit whose primary function is to provide a homelike residential setting for a group of individuals, generally 8 to 20 persons, who neither live in their own home nor require institutionalization. Group homes are used as a vehicle for normalization.

Habilitation—the combined and coordinated use of medical, social, educational, and vocational measures for training individuals who are born with limited functional ability as contrasted with people who have lost abilities because of disease or injury.

Home Health Agency—certain services must be provided directly by a licensed home health agency and must include all skilled nursing services; physical, occupational, or speech therapy; medical social services; part-time or intermittent services of a home health aide; and other services as approved by the licensing agency for home health agencies. In this instance, "directly" means either through an agency employee or by an arrangement with another individual not defined as a health care facility.

Hospital Affiliated Ambulatory Surgical Facility—a separate and distinct organized unit of a hospital or a building owned, leased, rented, or utilized by a hospital and located in the same county in which the hospital is located for the primary purpose of performing ambulatory surgery procedures. Such facility is not required to be separately licensed and may operate under the hospital's license in compliance with all applicable requirements of Section 41-9-1 et seq.

Limited Care Renal Dialysis Facility—a health care facility which provides maintenance or chronic dialysis services on an ambulatory basis for stable ESRD patients. The limited care renal dialysis facility is considered a substitute for home dialysis to be used by patients who cannot dialyze at home. The facility provides follow-up and back-up services for home dialysis patients.

Magnetic Resonance Imaging (MRI) Scientist—a professional with similar skills and job qualifications as a medical physicist, who holds a comparable degree in an allied science, such as chemistry or engineering, and shows similar experience as the medical physicist with medical imaging and MRI imaging spectroscopy.

Market Share—historical data used to define a primary or secondary geographic service area, i.e. patient origin study, using counties, zip codes, census tracts, etc.

Occupancy Rate—measure of average percentage of hospital beds occupied; determined by dividing available bed-days (bed capacity) by patient days actually used during a specified time period.

Outpatient Facility—a medical institution designed to provide a limited or full spectrum of health and medical services (including health education and maintenance services, preventive services, diagnosis, treatment, and rehabilitation) to individuals who do not require hospitalization or institutionalization.

Pediatric Skilled Nursing Facility–a pediatric skilled nursing facility is an institution or a distinct part of an institution that is primarily engaged in providing to inpatients skilled nursing care and related services for persons under 21 years of age who require medical, nursing care, or rehabilitation services for the rehabilitation of injured, disabled, or sick persons.

Policy Statement—a definite course of action selected in light of given conditions to guide and determine present and future decisions.

Positron Emission Tomography (PET)— a non-invasive imaging procedure in which positron-emitting radionuclides, that are produced either by a cyclotron or a radiopharmaceutical producing generator, and a nuclear camera are used to create pictures of organ function rather than structure. PET, therefore, has the potential for providing unique, clinically important information about disease processes. Key applications for PET are in coronary artery disease and myocardial infarction, epilepsy, cerebral gliomas, and dementia.

Radiation Therapy—the use of ionizing radiations for the treatment of tumors.

Renal Dialysis Center—a health care facility which provides dialysis services to hospital patients who require such services. The dialysis provided in a renal dialysis center functions primarily as a backup program for ESRD patients dialyzing at home or in a limited care facility who are placed in a hospital. A renal dialysis center may also serve as an initial dialysis setting for newly diagnosed ESRD patients who are in the hospital. A center may also provide acute dialysis services as needed.

Renal Transplant Center—a health care facility which provides direct transplant and other medical-surgical specialty services required for the care of the ESRD transplant patient. Services provided include, but are not limited to, acute renal dialysis, organ procurement system, organ preservation program, and tissue typing laboratory.

Standard—a quantitative level to be achieved regarding a particular criterion to represent acceptable performance as judged by the agency establishing the standard.

Therapeutic Radiation Services—therapeutic radiation treatments/procedures delivered through the use of a linear accelerator or 60Co teletherapy unit.

Therapeutic Radiation Unit/Equipment—a linear accelerator or 60Co teletherapy unit. This equipment is also commonly referred to as a "megavoltage therapeutic radiation unit/equipment."

Guidelines for the Operation of Perinatal Units
(Obstetrics and Newborn Nursery)

ORGANIZATION

Obstetrics and newborn nursery services shall be under the direction of a member of the staff of physicians who has been duly appointed for this service and who has experience in maternity and newborn care.

There shall be a qualified professional registered nurse responsible at all times for the nursing care of maternity patients and newborn infants.

Provisions shall be made for pre-employment and annual health examinations for all personnel on this service.

Physical facilities for perinatal care in hospitals shall be conducive to care that meets the normal physiologic and psychosocial needs of mothers, neonates and their families. The facilities provide for deviations from the norm consistent with professionally recognized standards/guidelines.

The obstetrical service should have facilities for the following components:

A. Antepartum care and testing.

B. Fetal diagnostic services.

C. Admission/observation/waiting.

D. Labor.

E. Delivery/cesarean birth.

F. Newborn nursery.

G. Newborn intensive care (Specialty and Subspecialty care only).

H. Recovery and postpartum care.

I. Visitation.

STAFFING

The facility is staffed to meet its patient care commitments consistent with professionally recognized guidelines. There must be a registered nurse immediately available for direct patient care.

LEVELS OF CARE

Basic Care

A. Surveillance and care of all patients admitted to the obstetric service, with an established triage system for identifying high-risk patients who should be transferred to a facility that provides specialty or sub-specialty care.

B. Proper detection and supportive care of unanticipated maternal-fetal problems that occur during labor and delivery.

C. Capability to begin an emergency cesarean delivery within 30 minutes of the decision to do so.

D. Availability of blood bank services on a 24-hour basis.

E. Availability of anesthesia, radiology, ultrasound, and laboratory services available on a 24-hour basis.

F. Care of postpartum conditions.

G. Evaluation of the condition of healthy neonates and continuing care of these neonates until their discharge.

H. Resuscitation and stabilization of all neonates born in hospital.

I. Stabilization of small or ill neonates before transfer to a specialty or sub-specialty facility.

J. Consultation and transfer agreement.

K. Nursery care.

L. Parent-sibling-neonate visitation.

M. Data collection and retrieval.

Specialty Care

A. Performance of basic care services as described above.

B. Care of high-risk mothers and fetuses both admitted and transferred from other facilities.

C. Stabilization of ill newborns prior to transfer.

D. Care of preterm infants with a birth weight of 1,500 grams or more.

E. Treatment of moderately ill larger preterm and term newborns

Sub-specialty Care

A. Provision of comprehensive perinatal care services for both admitted and transferred mothers and neonates of all risk categories, including basic and specialty care services as described above.

B. Research and educational support.

C. Analysis and evaluation of regional data, including those on complications.

D. Evaluation of new technologies and therapies.

E. Maternal and neonate transport.

PERINATAL CARE SERVICES

Antepartum Care

There should be policies for the care of pregnant patients with obstetric, medical, or surgical complications and for maternal transfer.

Intra-partum Services: Labor and Delivery

Intra-partum care should be both personalized and comprehensive for the mother and fetus. There should be written policies and procedures in regard to:

1. Assessment.

2. Admission.

3. Medical records (including complete prenatal history and physical).

4. Consent forms.

5. Management of labor including assessment of fetal well-being:
   a. Term patients.
   b. Preterm patients.
   c. Premature rupture of membranes.
   d. Preeclampsia/eclampsia.
   e. Third trimester hemorrhage.
   f. Pregnancy Induced Hypertension (PIH).

6. Patients receiving oxytocics or tocolytics.

7. Patients with stillbirths and miscarriages.

8. Pain control during labor and delivery

9. Management of delivery.

10. Emergency cesarean delivery (capability within 30 minutes.)

11. Assessment of fetal maturity prior to repeat cesarean delivery or induction of labor.

12. Vaginal birth after cesarean delivery.

13. Assessment and care of neonate in the delivery room.

14. Infection control in the obstetric and newborn areas.

15. A delivery room record shall be kept that will indicate:
    a. The name of the patient.
    b. Date of delivery.
    c. Sex of infant.
    d. Apgar.
    e. Weight.
    f. Name of physician.
    g. Name of persons assisting.
    h. What complications, if any, occurred?
    i. Type of anesthesia used.
    j. Name of person administering anesthesia.

16. Maternal transfer.

17. Immediate postpartum/recovery care.

18. Housekeeping.

<u>New Born Care</u>

There shall be policies and procedures for providing care of the neonate including:

1. Immediate stabilization period.

2. Neonate identification and security.

3. Assessment of neonatal risks.

4. Cord blood, Coombs, and serology testing.

5. Eye care.

6. Subsequent care.

7. Administration of Vitamin K.

8. Neonatal screening.

9. Circumcision.

10. Parent education.

11. Visitation.

12. Admission of neonates born outside of facility.

13. Housekeeping.

14. Care of or stabilization and transfer of high-risk neonates.

Postpartum Care

There shall be policies and procedures for postpartum care of mother:

1. Assessment.

2. Subsequent care (bed rest, ambulation, diet, care of the vulva, care of the bowel and bladder functions, bathing, care of the breasts, temperature elevation).

3. Postpartum sterilization.

4. Immunization: RHIG and Rubella.

5. Discharge planning.

Source: Guidelines for Perinatal Care, Second and Fourth Editions, American Academy of Pediatrics and the American College of Obstetricians and Gynecologists, 1988, 1992, and 1997.