

**Mississippi Office of Nursing Workforce**  
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**Data compiled for publication in the Mississippi State Department of Health's**  
***FY 2008 State Health Plan* by Kim W. Hoover, PhD, RN, Research Consultant**

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 3-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. The decision was made to combine the funds, goals and objectives, advisory boards and staff of the two projects to achieve maximum effectiveness. 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 3-year round of funding 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 in funding 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](http://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](http://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 MSDH, 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 99 Hospitals and 186 Aging and Adult Service facilities. Respondents for hospitals and aging and adult service facilities were well distributed throughout the state (Table 1).

**Table 1**  
**Number and Percent of Hospital and Aging and Adult Service Employers**  
**Responding by Public Health District**

Public Health District	Counties Included in District	Hospital		Aging and Adult Services	
		N	%	N	%
I	Coahoma, DeSoto, Grenada, Panola, Quitman, Tunica, Tate, Tallahatchie, Yalobusha	9	9.1	12	6.5
II	Alcorn, Benton, Itawamba,				

	Lafayette, Lee, Marshall, Pontotoc, Prentiss, Tippah, Tishomingo, Union	9	9.1	27	14.5
III	Attala, Bolivar, Carroll, Holmes, Humphreys, Leflore, Montgomery, Sunflower, Washington	11	11.1	20	10.8
IV	Calhoun, Chickasaw, Choctaw, Clay, Lowndes, Monroe, Noxubee, Okitibbeha, Webster, Winston	11	11.1	15	8.1
V	Claiborne, Copiah, Hinds, Issaquena, Madison, Rankin, Sharkey, Simpson, Warren, Yazoo	19	19.2	44	23.7
VI	Clarke, Jasper, Kemper, Lauderdale, Leake, Neshoba, Newton, Scott, Smith	13	13.1	18	9.7
VII	Adams, Amite, Franklin, Jefferson, Lawrence, Lincoln, Pike, Walthall, Wilkinson	8	8.1	13	7.0
VIII	Covington, Forrest, Greene, Jefferson Davis, Jones, Lamar, Marion, Perry, Wayne	11	11.1	23	12.4
IX	George, Hancock, Harrison, Jackson, Pearl River, Stone	8	8.1	14	7.5
Total	All Counties	99	100	186	100

Source: Office of Nursing Workforce

### Demand for Nursing Personnel in Hospitals

**Registered Nurses (RNs).** The 99 responding hospital employers reported a total of 13,792 budgeted FTEs for 2006. 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, and nurse anesthetist) and other roles. Of the total number of budgeted RN FTEs, 1280 were vacant, resulting in a vacancy rate of 9.3 percent, slightly higher than last year's 7.9 percent.

Among employers reporting total RN FTEs, 88 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: 10,697 in 2006; 11,291 in 2007; and 11,580 in 2008. The intended increase of 883 budgeted RN FTEs represents an overall 8.3 percent increase in budgeted RN FTEs over the three-year period.

A total of 86 employers provided data on the educational level of RN employees in 2006. The greatest percentage of RNs in hospitals holds the associate degree. The percent of RNs employed by hospitals at each educational level in 2006 were: diploma, 3.7 percent; associate degree, 62.4 percent; baccalaureate degree, 29.6 percent; master's degree 4.2 percent; and doctorate, 0.1 percent.

Budgeted 2006 FTEs and vacancy rates were reported for specific categories of RN personnel. For RN staff nurse FTEs, hospital employers reported a 9.6 percent vacancy rate (N=98). Employers reported a 4.8 percent vacancy rate (N=97) for RNs in administrative positions. Employers reported a 6.9 percent vacancy rate (N=71) for RNs in infection control roles, a 7.8 percent vacancy rate (N=67) for inservice educators, a 6.0 percent vacancy rate (N=70) for RNs in quality improvement roles, a 6.5 percent vacancy rate (N=65) for case managers, a 11.0 percent vacancy rate (N= 33) for RNs in patient educator roles, a 9.9 percent vacancy rate (N=17) for RNs in first assistant roles, and a 13.0 percent vacancy rate (N=17) for clinical nurse specialists.

The actual numbers of personnel listed by employers in some categories were too small for further analysis. Budgeted 2006 FTEs as well as intended FTEs for 2007 and 2008 for selected specific categories of RNs employed in hospitals are shown in Table 2. 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 (86.1 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 2006 and 2008. Other growth areas appear to be in the specific RN categories of infection control, quality improvement, first assistant, acute and family nurse practitioners, inservice educators, and certified registered nurse anesthetists. There is minimal intention to increase the number of budgeted FTEs in other categories.

**Table 2  
Personnel Categories, Number of Hospital Employers Providing FTE Data Across All Three Time Periods and the Percent Change for Selected Categories of RN Personnel**

Personnel Category	Number of Employers	2006 Budgeted FTEs	2007 Intended FTEs	2008 Intended FTEs	Change in FTEs	Percent Change
RN Staff	88	9369	9627	9876	507	5.4
Administrator	87	803	804	810	7	0.9
Case Manager	57	256	278	290	34	13.3
Quality Improvement	59	108	117	118	10	9.3
Clinical Nurse Specialist (CNS)	16	64	66	69	5	7.8
Infection Control	63	60	68	71	11	18.3
Inservice Educator	59	122	139	141	19	15.6

Personnel Category	Number of Employers	2006 Budgeted FTEs	2007 Intended FTEs	2008 Intended FTEs	Change in FTEs	Percent Change
Patient Educator	29	44	46	47	3	6.8
First Assistant	15	36	45	46	10	27.8
Family Nurse Practitioner (FNP)	41	157	170	173	16	10.2
Acute Care NP	15	28	33	36	8	28.6
Certified Registered Nurse Anesthetist (CRNA)	37	187	201	210	23	12.3

Source: Office of Nursing Workforce

Approximately 74 percent of the employers indicated they had difficulty recruiting one or more categories of RNs in 2006. 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 438.5 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, regulatory issues and standards, leadership/management skills and critical care/emergency care.

**Licensed Practical Nurses (LPNs).** Ninety-two employers provided vacancy and total budgeted LPN FTEs in 2005. 6 Respondents reported 2,192 budgeted LPN FTEs and 302 FTE vacancies resulting in an LPN vacancy rate of 13.8 percent, slightly higher than last year's rate of 12.1 percent. Twenty (20 percent) hospital employers indicated they had difficulty recruiting LPNs in 2006.

LPN FTEs were reported for 2006, 2007 and 2008 by 76 employers. The current and intended number of LPN FTEs was reported as: 1,600 in 2006; 1,634 in 2007; and 1,688 in 2008. The intended increase of 88 budgeted LPN FTEs represents an overall 5.5 percent increase in LPN FTEs over the three-year period, an increase over last year's predicted increase of 3.9 percent.

**Ancillary Personnel.** Ancillary personnel vacancy and total budgeted FTEs for 2006 were reported by 94 employers. There were a total of 5,916 budgeted ancillary personnel FTEs and 555 FTE vacancies resulting in a vacancy rate of 9.4 percent for ancillary personnel, slightly higher than last year.

A total of 84 hospital employers reported budgeted FTE data for ancillary personnel for 2006, 2007 and 2008. The current and intended numbers of ancillary personnel FTEs are: 4,666 in 2006; 4,771 in 2007 and 4,808 in 2008. The intended increase of 142 budgeted FTEs represents an

overall 3.0 percent increase in ancillary personnel FTEs over the three-year period, slightly higher than the predicted 2.4 percent last year. .

**Temporary Personnel.** Employers were asked whether they used temporary help to staff their facilities. The majority of employers (N= 60, 61 percent) indicated they do not use temporary help. Of the 39 hospitals reporting the use of temporary nursing service staff, 30 (76.9%) used 20 percent or less. Eighty-nine (90 percent) employers indicated they used part-time staff. Of the 89 hospitals reporting use of part-time personnel, 65 (66%) used 30 percent or less. The number of hospitals reporting the use of temporary personnel and the number reporting use of part-time personnel increased from 2005 to 2006 stayed relatively stable..

### **Demand for Nursing Personnel in Aging and Adult Services**

**Registered Nurses (RNs).** The 186 responding employers reported a total of 1,564 budgeted RN FTEs for 2007. The RN FTEs include all RNs in a variety of roles in addition to staff nurses including administration, quality improvement, inservice education, MDS, care plan coordinator, advanced practice (nurse practitioners, clinical nurse specialist) and other roles. Of the total number of budgeted RN FTEs, 205.5 were vacant resulting in a vacancy rate of 13.1 percent, slightly higher than last year's vacancy rate. Twenty facilities reported the use of a total of 57 RNs licensed under the licensing compact agreement.

Among employers reporting total RN FTEs, 177 provided data for 2007 budgeted FTEs and the total number of RN FTEs they intend to budget in 2008 and 2009. The current and intended numbers of RN FTEs reported by these employers are: 1,520 in 2007; 1,583 in 2008 and 1,600 in 2009. The intended increase of 80 budgeted RN FTEs represents an increase of 5.3 percent in budgeted RN FTEs over the three-year period, approximately 50 percent less than last year's predicted increase of 10.8 percent.

A total of 182 employers provided data on the educational level of RN employees in 2007. The greatest percentage of RNs in aging and adult services holds the associate degree. The percent of RNs employed at each educational level in 2007 were: diploma, 5.6 percent; associate degree, 74.7 percent; baccalaureate degree, 17.1 percent; master's degree, 2.8 percent; and doctoral degree, < 0.1 percent. One hundred sixty two employers reported their intention to increase RNs by educational level through 2009. There is no intent to increase diploma or doctoral prepared RNs. There is intent to increase associate degree nurses by 8.0 percent, baccalaureate nurses by 9.3 percent and master's prepared nurses by 5.5 percent.

Budgeted 2007 FTEs and vacancy rates were reported for specific categories of RN personnel. For RN staff nurse FTEs, employers reported a 18.3 percent vacancy rate. Aging and adult services employers reported 5.7 percent vacancy rate for RNs in administrative positions. Reported vacancy rates were 14.3 percent for quality improvement, 16.2 percent for inservice educator, 10.1 percent for Medicare nurse, 11.7 percent for MDS nurse, and 5.7 percent for care plan coordinator.

The majority of RNs working in aging and adult services are identified by employers as staff nurses (47 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 inservice education and Medicare FTEs between 2007 and 2009. 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. Seven facilities reported use of clinical nurse specialists and 12 reported use or intended use of nurse practitioners. Budgeted 2007 FTEs, as well as intended FTEs for 2008 and 2009 for selected specific categories of RNs employed in aging and adult services are shown in Table 4. 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 4**  
**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	2007 Budgeted FTEs	2008 Intended FTEs	2009 Intended FTEs	Change in FTEs	Percent Change
Staff	158	711	762	766	55	7.7
Administrator	170	297	304	316	19	6.4
Quality Improvement	76	89	98	98	9	10.1
Inservice Educator	76	74	76	76	2	2.7
MDS	112	130	131	130	0	0
Medicare Care Plan Coordinator	61	67	73	74	7	10.5
	44	49	48	48	-1	-2.1

Source: Office of Nursing Workforce

Recruitment difficulties were reported by 140 facilities (79.1 percent). Seventy-nine (43 percent) of aging and adult services employers indicated they had difficulty recruiting RNs in 2007.

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 infection control, leadership/management/supervisory skills and wound care.

**Licensed Practical Nurses (LPNs).** Vacancy and total budgeted LPN FTEs for 2007 were reported by 180 aging and adult services employers. Respondents reported 2,596 budgeted LPN FTEs and 285 FTE vacancies, resulting in an LPN vacancy rate of 11.0 percent and representing a slight decrease from last year's vacancy rate of 12.6%. Of those 186 employers providing data for 2007, a total of 91 (49 percent) indicated difficulty recruiting LPNs. Twenty-three facilities reported the use of a total of 167 LPNs licensed under the compact licensing agreement.

LPN FTEs were reported for 2007, 2008, and 2009 by 172 employers. The current and intended numbers of LPN FTEs are: 2,460 in 2007; 2,518 in 2008; and 2,531 in 2009. The intended increase of 71 budgeted LPN FTEs represents an overall 2.9 percent increase in budgeted LPN FTEs over the three-year period.

**Ancillary Personnel.** Ancillary personnel vacancy rate and total budgeted FTEs for 2007 were reported for 170 aging and adult services employers. There were a total of 7,508 ancillary personnel FTEs and 606 FTE vacancies, resulting in a vacancy rate of 8.1 percent for ancillary personnel. Fifty (27 percent) of the employers indicated difficulty recruiting ancillary personnel.

A total of 164 aging and adult services employers reported budgeted FTE data for ancillary personnel for 2007, 2008 and 2009. The current and intended numbers of ancillary personnel FTEs are: 7,312 in 2007; 7,529 in 2008; and 7,580 in 2009. The intended decrease of 268 budgeted FTEs represents an overall 3.7 percent increase in budgeted ancillary personnel FTEs over the three-year period.

**Temporary Personnel.** A total of 79 aging and adult services employers (43.0 percent) indicated they use temporary nursing personnel. Of the 79 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 159 (85.9 percent) of facilities. The majority of those facilities use 25 percent or less. Seven (3.8 percent) indicated use of foreign trained nurses.

### **School of Nursing Data**

Data for the following section were extracted from annual 2007 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 University

All programs other than doctoral programs reported having qualified students who were not admitted. Associate degree programs reported 2,621 qualified applicants were not admitted. Baccalaureate programs reported 263 qualified applicants were not admitted. And, master's programs reported 45 qualified applicants were not admitted. Only one of the associate degree programs and three of the baccalaureate programs could have accepted more students.

Associate degree programs listed (1) limited clinical sites for interactive learning experiences; (2) lack of qualified faculty applicants; and (3) lack of campus resources, e.g., classroom/lab space, budget constraints as the top three factors preventing acceptance of more students in the program.

Baccalaureate programs listed (1) lack of qualified faculty applicants; (2) lack of campus resources, e.g., classroom/lab space, budget constraints; and (3) lack of funds to hire faculty as the top three factors preventing acceptance of more students in the program.

Four of the six masters programs could have accepted more students. Most programs reported a lack of qualified applicants and lack of qualified faculty applicants as factors preventing acceptance of more students

The total number of full-time and part-time students reported by participating schools is 4,743 (see Table 5). Of those 4,735 students, 1,981 are expected to graduate by August 2007. Approximately 687 (14.5 percent) students currently enrolled in participating programs are male (a decrease of 354 as compared to last year) and the majority is Caucasian (see Table 6).

**Table 5**  
**Nursing Student Status and Gender as of September 2006\***

<b>Program Type</b>	<b>Full-Time</b>	<b>Part-Time</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>	<b>Expect to Graduate August 07</b>
ADN	2982	125	3107	447	2657	1290

	(96.0%)	(4.0%)	(100%)			(182 LPN)
BSN	1147 (95.0%)	61 (5.0%)	1208 (100%)	198	1009	541 (90 RN-BSN)
MSN	202 (50.9%)	195 (49.1%)	397 (100%)	37	330	145
PHD	17 (43.6%)	22 (56.4%)	39 (100%)	5	34	5

\* 33 students not identified by gender.

**Table 6**  
**Number of Students by Ethnic/Racial Group**

Program Type	African-American	American Indian/Alaskan Native	Asian	Caucasian (non-Hispanic)	Hispanic (non-white)	Other
ADN	632	3	20	2423	26	3
BSN	267	0	11	917	8	5
MSN	99	0	2	283	5	0
PHD	9	0	0	29	0	1
total	1007	3	33	3652	39	9
percent	(21.2%)	(0.1%)	(0.7%)	(77.0%)	(0.8%)	(0.2%)

Participants reported 446 budgeted full time positions in the nursing education units September 2006. This number represents a decrease of 13 budgeted full time positions as compared to September 2005. Of those 446, 21 (4.7percent) were unfilled. Eight educators returned to work full time and three returned to work part time.

Fourteen nurse educators resigned during the 2006-2007 academic year for various reasons. The primary reasons cited for resignation were salary and return to clinical practice. Seven nurse educators are expected to resign during the 2007-2008 academic year.

Six nurse educators retired during the 2006-2007 academic year with 9 retirements projected for the 2007-2008 academic year, 32 retirements predicted for the 2008-2009 academic year and 40 retirements predicted for the 2009-2010 academic year. Eighty-seven retirements and 21 resignations through the 2009-2010 academic year in conjunction with the 21 unfilled nurse educator positions would result in a vacancy rate of 28.9% (129) in three years if these faculty are full time faculty. Thirty-three 2007 graduates of masters and doctoral programs

are expected to complete courses to teach nursing, a 42 percent decrease in graduates prepared to teach as compared to the numbers reported last year.

Seventy-eight faculty were reported to have doctorates in nursing or related fields. Approximately 15.5 percent of nursing faculty are prepared at the doctoral level.

For two years, 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 through a statewide task force 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 two consecutive years successfully raising nurse educator salaries in state institutions to a more competitive level. Additionally, a white paper addressing the faculty shortage was made available last year. Public service announcement material was distributed and used as common talking points for legislators, health care administrators and providers, educational administration, potential students and other stakeholders.

The aforementioned task force is committed to providing adequate numbers of nurses to care for Mississippians. To this end, the group continues to make strategic recommendations regarding nursing faculty losses and providing additional faculty for increasing capacity. Strategies will now focus on increasing capacity through partnerships and enhancing the image of nursing and nursing education as attractive careers.