

Mississippi Office of Nursing Workforce
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FY 2007 State Health Plan

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.

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 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 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 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	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, Okitibbeha, 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
Missing	No County Listed	0	0		
Total	All Counties	93	100	186	100

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 holds 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 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 (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 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	2005 Budgeted FTEs	2006 Intended FTEs	2007 Intended FTEs	Change in FTEs	Percent Change
RN						
Staff	85	8305	8283	8422	117	1.4
Administrator	84	735	746	760	25	3.4
Case Manager	45					
Quality Improvement						
Quality Improvement	56	106	106	106	0	0.0
Clinical Nurse Specialist (CNS)						
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 (FNP)						
Family Nurse Practitioner (FNP)	44	167	169	171	4	2.4
Acute Care NP						
Acute Care NP	12	20	25	26	6	30.0
Certified Registered Nurse Anesthetist (CRNA)						
Certified Registered Nurse Anesthetist (CRNA)	37	174	186	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. Fourteen 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 2160 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 (17 percent) hospital employers 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: 1670 in 2005; 1704 in 2006; and 1737 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 5300 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: 4213 in 2005; 4278 in 2006 and 4314 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%) 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%) 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 1442 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: 1423 in 2006; 1495 in 2007; and 1577 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 holds the associate degree. The percent 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. One hundred sixty six 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 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 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	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 RNs (Ex: MDS/Care Plan Coordinator)	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 2654 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%. Of those 186 employers providing data for 2006, a total of 106 (57 percent) indicated difficulty recruiting LPNs in 2006. Twenty five 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: 2619 in 2006; 2737 in 2007; and 2756 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. There were a total of 7635 ancillary personnel FTEs and 615 FTE vacancies, 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: 7524 in 2006; 7737 in 2007; and 7719 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.

Associate degree programs listed (1) lack of faculty to teach or supervise students in academic and clinical settings, (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.

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

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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 5). Of those 5,188 students, 1,861 are expected to graduate by August 2006. Approximately 20.1 percent (1041) of students currently enrolled in participating programs are male (a seven percent increase as compared to last year) and the majority is Caucasian (see Table 6).

Table 5
Nursing Student Status and Gender*

Program Type	Full-Time	Part-Time	Total	Male	Female	Expect to Graduate August 06
ADN*	3478 (98.6%)	49 (1.4%)	3527 (100%)	782	2656	1130
BSN	1148 (93.0%)	86 (7.0%)	1234 (100%)	217	1017	496
MSN	250 (64.1%)	140 (35.9%)	390 (100%)	36	354	175
PHD	21 (56.8%)	16 (43.2%)	37 (100%)	6	31	10

*89 (1.7 %) 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	721	6	27	2647	30	7
BSN	277	4	14	924	9	6
MSN	100	0	3	283	4	0
PHD	8	0	0	28	0	1
total	1106	10	44	3882	43	14
percent	(21.3%)	(0.2%)	(0.9%)	(74.8%)	(0.8%)	(0.3%)

* 89 (1.7%) students not identified in ethnic/racial groups.

Participants reported 459 budgeted full time positions in the nursing education units. Of those 459, 40 (8.7%) 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% (163) in three years. This vacancy rate is approximately 10% 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 to address the faculty shortage which will be available later this year. 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.

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