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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 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 105 Hospitals, 27 Home Health Agencies and 186 Aging and Adult Service facilities. Respondents for hospitals and aging and adult service facilities were well distributed throughout the state (Table 1). Because of the lack of response from home health agencies, valid data were not available for inclusion in the state health plan.

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	7	6.7	10	5.4
II	Alcorn, Benton, Itawamba, Lafayette, Lee, Marshall, Pontotoc, Prentiss, Tippah, Tishomingo, Union	10	9.5	24	12.9
III	Attala, Bolivar, Carroll, Holmes, Humphreys, Leflore, Montgomery, Sunflower, Washington	11	10.5	16	8.6
IV	Calhoun, Chickasaw, Choctaw, Clay, Lowndes, Monroe, Noxubee, Okitibbeha, Webster, Winston	11	10.5	21	11.3
V	Claiborne, Copiah, Hinds, Issaquena, Madison, Rankin, Sharkey, Simpson, Warren, Yazoo	21	20.0	41	22.0
VI	Clarke, Jasper, Kemper, Lauderdale, Leake, Neshoba, Newton, Scott, Smith	15	14.3	21	11.3
VII	Adams, Amite, Franklin, Jefferson, Lawrence, Lincoln, Pike, Walthall, Wilkinson	8	7.6	13	7.0
VIII	Covington, Forrest, Greene, Jefferson Davis, Jones, Lamar, Marion, Perry, Wayne	11	10.5	20	10.8
IX	George, Hancock, Harrison, Jackson, Pearl River, Stone	11	10.5	17	9.1
Missing	No County Listed	0	0	3	1.6
Total	All Counties	105	100	186	100

Source: Office of Nursing Workforce

Demand for Nursing Personnel in Hospitals

Registered Nurses (RNs). The 105 responding hospital employers reported a total of 13,097 budgeted FTEs for 2004. 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, 1,008 were vacant, resulting in a vacancy rate of 7.7 percent, a decrease from last year's 9.3 percent.

Among employers reporting total RN FTEs, 95 provided data for 2004 budgeted FTEs and the total number of RN FTEs they intend to budget in 2005 and 2006. The current and intended numbers of RN FTEs reported by these employers are: 10,640 in 2004; 11,249 in 2005; and 11,446 in 2006. The intended increase of 806 budgeted RN FTEs represents an overall 7.6 percent increase in budgeted RN FTEs over the three-year period.

A total of 98 employers provided data on the educational level of RN employees in 2004. The greatest percentage of RNs in hospitals holds the associate degree. The percent of RNs employed by hospitals at each educational level in 2004 were: diploma, 3.8 percent; associate degree, 63.4 percent; baccalaureate degree, 28.8 percent; master's degree 3.9 percent; and doctorate, 0.1 percent.

Budgeted 2004 FTEs and vacancy rates were reported for specific categories of RN personnel. For RN staff nurse FTEs, hospital employers reported an 8.3 percent vacancy rate (N=104). Employers reported a 4.0 percent vacancy rate (N=100) for RNs in administrative positions. Employers reported a 9.6 percent vacancy rate (N=23) for clinical nurse specialists, a 5.2 percent vacancy rate (N=23) for RNs in first assistant roles, a 5.1 percent vacancy rate (N=87) for RNs in infection control roles, a 3.4 percent vacancy rate (N=74) for case managers, a 2.6 percent vacancy rate (N=79) for inservice educators, a 1.8 percent vacancy rate (N= 42) for RNs in patient educator roles, and a 1.0 percent vacancy rate (N=73) for RNs in quality improvement roles. The actual numbers of personnel listed by employers in some categories were too small for further analysis. Budgeted 2004 FTEs as well as intended FTEs for 2005 and 2006 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 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 2004 and 2006. Other growth areas appear to be in the specific RN categories of case managers, inservice educators, clinical nurse specialists, first assistants, 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	2004 Budgeted FTEs	2005 Intended FTEs	2006 Intended FTEs	Change in FTEs	Percent Change
RN						
Staff	94	8899	9435	9607	708	8.0
Administrator	94	641	659	665	24	3.8
Case Manager	70	274	291	300	26	9.3
Quality Improvement	68	95	98	100	5	5.3
Clinical Nurse Specialist (CNS)	22	39	42	43	4	10.3
Infection Control	81	80	81	85	5	6.2
Inservice Educator	73	129	141	146	17	13.2
Patient Educator	38	78	78	80	2	2.5
First Assistant	22	57	60	60	3	5.3
Family Nurse Practitioner (FNP)	37	139	157	157	18	13.1
Certified Registered Nurse Anesthetist (CRNA)	35	170	176	184	14	8.2

Source: Office of Nursing Workforce

Approximately 68 percent of the employers, a 10 percent decrease from last year, indicated they had difficulty recruiting one or more categories of RNs in 2004. Areas of need listed most frequently were: medical/surgical units, all areas, critical care areas, emergency room, labor and delivery/obstetrics, senior care and psychiatric units.

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, quality improvement, critical thinking, documentation (particularly legal aspects), regulatory issues and standards, leadership/management skills and medications.

Licensed Practical Nurses (LPNs). Ninety-eight employers provided vacancy and total budgeted LPN FTEs in 2004. Respondents reported 2310 budgeted LPN FTEs and 269 FTE vacancies resulting in an LPN vacancy rate of 11.6 percent, approximately 2 percent higher than last

year's rate of 9.7 percent. Nineteen (18 percent) hospital employers indicated they had difficulty recruiting LPNs in 2004.

LPN FTEs were reported for 2004, 2005 and 2006 by 89 employers. The current and intended number of LPN FTEs was reported as: 1879 in 2004; 1957 in 2005; and 1996 in 2006. The intended increase of 118 budgeted LPN FTEs represents an overall 5.9 percent increase in LPN FTEs over the three-year period, a substantial decrease from last year's predicted increase of 13.7 percent.

Ancillary Personnel. Ancillary personnel vacancy and total budgeted FTEs for 2004 were reported by 83 employers. There were a total of 5529 budgeted ancillary personnel FTEs and 484 FTE vacancies resulting in a vacancy rate of 8.8 percent for ancillary personnel, 3.3 percent higher than last year. No employers reported difficulty recruiting ancillary personnel.

A total of 75 hospital employers reported budgeted FTE data for ancillary personnel for 2004, 2005 and 2006. The current and intended numbers of ancillary personnel FTEs are: 4464 in 2004; 4851 in 2005 and 4936 in 2006. The intended increase of 272 budgeted FTEs represents an overall 5.8 percent increase in ancillary personnel FTEs over the three-year period.

Temporary Personnel. Employers were asked whether they used temporary help to staff their facilities. The majority of employers (N= 63, 61 percent) indicated they do not use temporary help. Of the 40 hospitals reporting the use of temporary nursing service staff, most used 10 percent or less. Sixty-two (60 percent) employers indicated they used part-time staff. The number of hospitals reporting the use of temporary personnel increased and the number reporting use of part-time personnel decreased from 2003 to 2004.

Demand for Nursing Personnel in Aging and Adult Services

Registered Nurses (RNs). The 186 responding employers reported a total of 1476 budgeted RN FTEs for 2005. 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 176.2 were vacant resulting in a vacancy rate of 11.9 percent, slightly lower than last year's vacancy rate.

Among employers reporting total RN FTEs, 181 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: 1448 in 2005; 1483 in 2006; and 1495 in 2007. The intended increase of 46 budgeted RN FTEs represents an increase of 3.2 percent in budgeted RN FTEs over the three-year period.

A total of 181 employers provided data on the educational level of RN employees in 2005. The greatest percentage of RNs in aging and adult services holds the associate degree. The percent of RNs employed at each educational level in 2005 were: diploma, 6.3 percent; associate degree, 74.6 percent; baccalaureate degree 16.3 percent; master's degree, 2.7 percent; and doctoral degree 0.1 percent.

Budgeted 2005 FTEs and vacancy rates were reported for specific categories of RN personnel. For RN staff nurse FTEs, employers reported a 16.1 percent vacancy rate. Aging and adult services employers reported 7.1 percent vacancy rate for RNs in administrative positions. Reported vacancy rates were 3.7 percent for quality improvement FTEs and 7.8 percent for inservice educator FTEs. Budgeted 2005 FTEs, as well as intended FTEs for 2006 and 2007 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

Personnel Category	Number of Employers	2005 Budgeted FTEs	2006 Intended FTEs	2007 Intended FTEs	Change in FTEs	Percent Change
RN						
Staff	168	769	823	828	59	7.7
Administrator	145	268	278	282	14	5.2
Quality Improvement	107	172	175	176	4	2.3
Inservice Educator	89	80	88	89	9	11.3

Source: Office of Nursing Workforce

The majority of RNs working in aging and adult services are identified by employers as staff nurses (57.7 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 2005 and 2007. 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. Fourteen facilities reported use of clinical nurse specialists and fifteen reported use or intended use of nurse practitioners.

Recruitment difficulties were reported by 128 facilities (68.8 percent). Eighty-three (45 percent) of aging and adult services employers indicated they had difficulty recruiting RNs in 2005.

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, infection control and medication administration.

Licensed Practical Nurses (LPNs). Vacancy and total budgeted LPN FTEs for 2005 were reported by 182 aging and adult services employers. Respondents reported 2571 budgeted LPN FTEs and 321 FTE vacancies, resulting in an LPN vacancy rate of 12.5 percent. Of those 182 employers providing data for 2005, a total of 103 (55.4 percent) indicated difficulty recruiting LPNs in 2005.

LPN FTEs were reported for 2005, 2006, and 2007 by 176 employers. The current and intended numbers of LPN FTEs are: 2482 in 2005; 2590 in 2006; and 2600 in 2007. The intended increase of 118 budgeted LPN FTEs represents an overall 4.8 percent increase in budgeted LPN FTEs over the three-year period.

Ancillary Personnel. Ancillary personnel vacancy rate and total budgeted FTEs for 2005 were reported for 175 aging and adult services employers. There were a total of 7873 ancillary personnel FTEs and 512 FTE vacancies, resulting in a vacancy rate of 6.5 percent for ancillary personnel. Thirty-four (18.3 percent) of the employers indicated difficulty recruiting ancillary personnel.

A total of 169 aging and adult services employers reported budgeted FTE data for ancillary personnel for 2005, 2006 and 2007. The current and intended numbers of ancillary personnel FTEs are: 7675 in 2005; 8321 in 2006; and 8219 in 2007. The intended increase of 544 budgeted FTEs represents an overall 7.1 percent increase in budgeted ancillary personnel FTEs over the three-year period.

Temporary Personnel. A total of 71 aging and adult services employers (38.2 percent) indicated they use temporary nursing personnel. Of the 71 employers indicating a percent of temporary help, the majority indicated use of 25 percent or less for their nursing personnel requirements. Use of part-time staff was reported by 122 (65.6 percent) of facilities. The majority of those facilities use 20 percent or less. Only five (2.7 percent) indicated use of foreign trained nurses.

School of Nursing Data

Data for the following section were extracted from annual 2005 surveys administered to the Deans and Directors of Schools of Nursing by the Southern Regional Education Board (SREB) Council on Collegiate Education for Nursing. 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, master's and doctoral programs subsequently enrolled. Additionally, all programs other than doctoral reported having qualified students who were not admitted. All but one associate degree program could not have accepted more students, while no baccalaureate programs could have accepted more students. Half of the master's programs could have accepted more students.

Associate degree programs listed (1) limited clinical sites for interactive learning experiences, (2) lack of campus resources, e.g., classroom/lab space, and (3) lack of faculty to teach students 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 experiences as the top three factors preventing acceptance of more students in the program. Only one indicated that lack of qualified applicants prevented acceptance of more students to the program. Master's programs cited lack of lack of faculty to teach students and lack of qualified applicants 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 4,413 (see Table 5). Of those 4,413 students, 1,668 are expected to graduate by August 2005. Approximately 13.3 percent (587) of students currently enrolled in participating programs are male 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 05
ADN*	2831 (96.5%)	103 (3.5%)	2934 (100%)	381	2440	993
BSN	981 (90.8%)	99 (9.2%)	1080 (100%)	160	920	520
MSN	209 (57.1%)	157 (42.9%)	366 (100%)	41	326	146
PHD	22 (66.7%)	11 (33.3%)	33 (100%)	5	28	9

*113 (5.0 %) 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	Other
ADN	547	4	18	2197	22	4
BSN	278	2	6	685	8	1
MSN	74	2	2	285	4	0
PHD	7	0	0	26	0	0
total	906	8	26	3193	34	5
percent	(20.5%)	(0.2%)	(0.6%)	(72.4%)	(0.7%)	(0.1%)

* 241 (5.5%) students not identified in ethnic/racial groups.

Participants reported 410 budgeted full time positions in the nursing education units. Of those 410, 9.5 (2.3%) were unfilled. Twenty-eight nurse educators resigned during the 2004-2005 academic year for various reasons. The primary reasons for resignation were salary, family responsibilities and return to clinical practice. Seven nurse educators are expected to resign during the 2005-2006 academic year.

Seven nurse educators retired during the 2004-2005 academic year with 13 retirements projected for the 2005-2006 academic year, 18 retirements predicted for the 2006-2007 academic year and 24 retirements predicted for the 2007-2008 academic year. Over half of the nurse educators who retired during the 2004-2005 academic year were in the 55 years or less age group. Sixty-two retirements and 35 resignations through the 2007-2008 academic year in conjunction with the 9.5 unfilled nurse educator positions would result in a vacancy rate of 26% in three years. Thirty-eight 2005 graduates of master's programs are expected to complete courses to teach nursing.