

**Licensed Practical Nurses in Alabama 2008**

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## **Licensed Practical Nurses in Alabama**

### Introduction

Although licensed practical nurses (LPNs) have been recognized as part of the nursing workforce since 1892 (Ellis and Hartley, 2004) few studies have been conducted that focus on the practice, work environments, manpower needs or demographics of this group of nurses. This paper provides research findings on the state of the licensed practical nurse workforce in Alabama. The purpose of the research was to examine demographics, education characteristics, employment characteristics and issues that may influence the licensed practical nurse work force. The overall aim of the research is to utilize the findings to facilitate assessing work force needs for planning and developing an adequate and qualified supply of licensed practical nurses for the future.

### Research Questions

Prior to developing the survey, several questions were structured to meet the purpose of the research:

1. What are the personal demographics of licensed practical nurses in Alabama (gender, marital status, and race)?
2. What are the educational, work history, economic status, and employment characteristics of Alabama's licensed practical nurses?
3. What is the current workforce employment pattern of Alabama LPNs, including status, position, work location/agency type, type work/specialty, and time employed?
4. How many of Alabama's licensed practical nurses are anticipating retirement within the next 5 years?
5. What issues negatively influence current work situations?
6. What issues positively influence work situations?
7. Are there associations between selected demographic variables as well as work related variables of survey participants, and plans for retiring or leaving nursing?

### Literature Review

An EbscoHost search, across several databases revealed that few research studies have focused on the licensed practical nurse. Especially limited were studies on supply and demand. A major document prepared by the Department of Health and Human Services (DHHS) in 2004 used data on licensed practical nurses from the Bureau of Labor Statistics' Current Population Survey and compared them

to data on registered nurses from 1984 to 2001. In comparison to RNs, the report showed that the mean age of licensed practical nurses in 2001 was 43, while the mean age of RNs was 42. More LPNs were found to live in the South than in any other region of the nation; 34% of LPNs are located in the South in comparison to 27% of RNs. Furthermore, by 2001, the percentage of LPNs working in the private sector was 89% in comparison to 80% for RNs.

The 2004 report showed that 67% of the LPN workforce is Caucasian, with African-Americans comprising the largest minority group at 26% of the national LPN workforce. Hispanics account for only 3% of the LPN workforce nationally, while Asian-Americans are represented by 2% of workers and Native Americans are represented by approximately 1%. According to *Supply, Demand, and Use of Licensed Practical Nurses*, in 2002, the Bureau of Labor Statistics (BLS) estimated the number of jobs held by LPNs as 702,000. The report noted that the actual size of the LPN workforce is unclear because of conflicting available data available from sources such as the BLS, the U.S. Bureau of the Census, and the National Council of State Boards of Nursing.

The Alabama Board of Nursing's Fiscal Year 2007 annual report provided information on the employment status of the State's practical nurses. This document reported a total of 13,801 LPNs employed in nursing in Alabama in 2006. Of that number, 86.8% (n = 11,980) were employed full time; 13.19% (n = 1,821) were employed part-time. The remaining LPNs identified themselves as being either employed in a non-nursing area, not employed, a student, or retired from the nursing profession. The annual report also noted most of Alabama's LPNs to be employed in a nursing home, hospital, or doctor's office. In addition, 7,819 LPNs (52.35%) reported being employed in an urban county, while 47.65% (n = 7,117) reported being employed in rural counties.

## Methodology

### *Research Design and Instrument*

On September 1<sup>st</sup>, 2007, Alabama LPNs were sent an online survey in conjunction with biannual license renewal. Nurses could submit the survey either online or through regular mail service, although they were encouraged to submit online. Surveys were accepted for submission through December 31, 2007. Respondents had the opportunity to add narrative responses to selected questions, although answer selections were primarily multiple choice to expedite coding and statistical analysis. Not all respondents opted to answer each question; therefore findings are reported on a response-per-item basis. Responses per question are reported including the non-responses per item.

The research project was non-experimental and descriptive in design. An on-line instrument was developed using the research questions as a framework for item construction. Systems staff assisted in designing the format for internet access by participants, and return of the responses by internet for integration with the Statistical Package for the Social Science (SPSS) version 14. A second researcher

provided consultation on the overall project to facilitate validation of content and instrument design and to verify that appropriate variables were selected for analysis. A “mixed method” approach was selected in development of survey items, allowing for both quantitative and qualitative responses.

### *Study Sample*

A sample of convenience was accepted from the full population of licensed practical nurses in Alabama. Of 17,941 LPNs, 14,936 (83.25%) responded to the on-line survey, providing a confidence level of >95%. Of the 14,936 LPNs that responded to the survey, 4,994 (33.44%) submitted the survey by mail rather than completing it on-line. These responses were electronically scanned and integrated with the on-line data. The sample was cross-sectional representing the total population of licensed practical nurses who renewed their licenses in a variety of practice setting throughout the State.

### *Limitations*

Three limitations were found regarding the research project:

- Population specificity to Alabama eliminates generalization to other states.
- Assurance of content validity is limited due to a minimal number of outside reviewers of the survey instrument.
- Analysis was required on a percent response per item basis due to the fact that respondents did not answer every question.

### *Data Analysis*

Statistical analysis was conducted using the Statistical Package for the Social Sciences (SPSS) version 14. As data were received, the quantitative responses were automatically accessed to a special SPSS file for developing frequencies and measures of central tendency where feasible. Non-parametric procedures were applied to determine association between categorical variables. String data were coded and similar trends were organized for qualitative analysis. Additionally, the Alabama Rural Health Association’s (ARHA) definition of “urban” and “rural” were used when analyzing data relative to work and residential locations. The method developed by ARHA to define these terms uses four variables in a formula with each variable accounting for 25 of a possible 100 points. The higher the overall score, the more “rural” a county is considered as being. See Appendix A for a full explanation of the variables.

The ARHA also uses the terms “heavily rural” and “moderately rural”. The Association interprets “heavily” rural as being indicative of counties with the fewest number of persons per square mile, in addition to the other factors that are more fully described in Appendix A. The Association acknowledges that there is not one universally accepted definition of “rural” (Alabama Rural Health Association, 2008).

## Findings

### *Demographics of the Study Group*

Thirty-eight percent (n = 5,778) of Alabama's licensed practical nurses primarily reside and are employed in eight counties: Jefferson, Mobile, Tuscaloosa, Madison, Montgomery, Houston, Calhoun, and Etowah. This is in contrast to the percentage of RNs with 62.06% employed in urban areas and 24.98% employed in rural areas (Terry, 2007). Available data show a ratio of three RNs to one LPN statewide. Table 1 shows comparative data on numbers of LPNs and RNs employed in urban Alabama counties (2007).

Table 1  
*LPNs Employed in Urban Alabama Counties Compared to RNs Employed in Urban Alabama Counties (2007)*

Urban Counties	LPNs (n)	LPNs (%)	RNs (n)	RNs (%)
Calhoun	399	2.7	1,057	2.24
Etowah	387	2.6	1,019	2.15
Houston	557	3.7	401	.85
Jefferson	2,142	14.3	11,114	23.50
Lauderdale	267	1.79	865	1.83
Lee	196	1.31	884	1.87
Madison	782	5.2	3,421	7.23
Mobile	1,022	6.8	4,276	9.04
Montgomery	645	4.3	2,635	5.57
Morgan	313	2.1	859	1.82
Shelby	214	1.43	776	1.64
Tuscaloosa	895	6.0	2,045	4.32
	7,819	52.23	29,352	62.06

Table 2 provides summative data with frequencies of LPNs employed in rural Alabama counties. The rural county with the least employed LPNS (n = 10) is Coosa County (pop. <2,000).

Table 2

*LPNs Employed in Rural Alabama Counties Compared to RNs Employed in Rural Alabama Counties (2007)*

Heavily Rural Counties	LPNs (n)	LPNs (%)	RNs (n)	RNs (%)
Barbour	115	.77	86	.18
Bibb	62	.42	46	.10
Blount	57	.38	147	.31
Bullock	49	.33	30	.06
Butler	96	.64	117	.28
Cherokee	55	.37	79	.17
Choctaw	33	.22	49	.10
Clarke	120	.80	164	.35
Clay	63	.42	70	.15
Cleburne	25	.17	14	.03
Coffee	195	1.31	265	.56
Conecuh	43	.29	62	.13
Coosa	10	.07	16	.03
Covington	192	1.29	231	.49
Crenshaw	45	.30	36	.08
Cullman	233	1.56	589	1.25
Dallas	142	.95	285	.60
DeKalb	117	.78	318	.67
Escambia	162	1.08	269	.57
Fayette	72	.48	124	.26
Franklin	120	.80	231	.49
Geneva	67	.45	82	.17
Greene	22	.15	21	.04
Hale	45	.30	30	.06
Henry	38	.25	31	.07
Jackson	131	.88	302	.64
Lamar	54	.36	35	.07
Lawrence	57	.38	124	.26

Lowndes	18	.12	31	.07
Macon	98	.66	119	.25
Marengo	84	.56	168	.35
Marion	151	1.01	216	4.57
Marshall	196	1.31	489	1.03
Monroe	90	.60	144	.30
Perry	34	.23	24	.05
Pickens	66	.44	76	.16
Pike	81	.54	179	.38
Randolph	51	.34	98	.21
Sumter	35	.23	37	.08
Washington	41	.27	40	.08
Wilcox	28	.18	33	.07
Winston	75	.50	95	.20
<u>Moderately Rural Counties</u>				
Autauga	64	.43	150	.32
Baldwin	294	1.97	1,173	2.48
Chambers	89	.60	164	.35
Chilton	47	.31	109	.23
Colbert	186	1.25	525	1.11
Dale	113	.76	150	.32
Elmore	149	1.00	183	.39
Limestone	152	1.02	285	.60
Russell	90	.60	164	.35
St. Clair	121	.81	168	.36
Talladega	269	1.80	395	.84
Tallapoosa	167	1.12	286	.60
Walker	286	1.91	503	1.06
	2,027	13.58%	4,255	9.01%

Using the AHRA definitions, 55 Alabama counties are classified as "rural" and 12 are classified as "urban." A map of the residential distribution of LPNs according to counties classified as rural is included in Figure 1.



Table 3

*Marital Status of Alabama LPNs (2007) (n=14,936)*

Marital Status	n	%
Married	8,813	59.01
Divorced/separated	3,527	23.61
Single	1,682	11.26
Widowed	677	4.53
No response	237	1.59%

Of the licensed practical nurses who responded to the question of ethnic origin, race was weighted to Caucasians with 62.96% (n = 9,404/14,936). Given this information, the racial characteristics of the Alabama LPNs reflect national figures with Caucasians comprising the greatest percentage. Health Resources and Services Administration (HRSA) data (2004) shows the national Caucasian LPN population as 67%.

Table 4

*Race of Alabama LPNs (2007) (n=14,936)*

Race	n	%
African-American	4,759	31.86
Caucasian	9,404	62.96
Hispanic	67	.49
Multi-racial	101	.67
Native American	133	.22
Other	170	1.14
Asian	47	.31
no response	249	1.67

Exact figures on race for Alabama's licensed practical nurses are incomplete because 1.67% (n = 249) did not respond to this question.

### *Health Related Experience, Educational Preparation and Future Plans for Education*

The licensed practical nurses were queried regarding prior experience in the health care industry. A majority (n = 12,969/14,685; 88.31%) responded affirmatively. Of these, 36.35% (n = 5,338/14,685) specified having worked as a nursing assistant or nurse's aide prior to entering their LPN educational program.

Almost 52% (n = 7,631/14,685) of LPNs specified having been employed in another type of health-related position other than a nursing assistant, allied health technician, manager, or clerk prior to entering a nursing education program. Table 5 delineates the respondents' employment experience prior to entering an educational program to prepare them as LPNs.

Table 5

#### *Employment in Health-Related Position Before Enrolling in LPN Educational Program (2007). (n=14,688)*

Position of Employment	n	%
Nursing asst./aide	5,338	36.34
Allied Health technician	74	.50
Manager in health care setting	593	4.04
Clerk in health care setting	936	6.27
Another type of health-related position	7,631	51.95
None are applicable	113	.77

Data regarding the number of LPNs who completed educational degrees prior to enrolling in their LPN educational programs and since graduation are incomplete based on conflicting responses. However, it is known that 153 LPNs currently maintain active dual licensure as both an RN and an LPN (Alabama Board of Nursing, 2007).

#### *Work Status and History as Licensed Practical Nurses*

More than half of the respondents provided data on their employment status. Fifty-four percent (n = 3,626/6,713) reported being employed full-time in nursing. Of remaining respondents, 45.99% (n = 3,087/6,713) stated being employed part-time in nursing, retired, and unemployed, or not employed in nursing. Participating LPNs who indicated being employed in nursing and gave information regarding the length of time that they have worked with their primary nursing employers stated they have been employed with the same company or group for one to five years (n = 5,557/14,501; 38.32%). Almost 39% (n = 5,627/14,501) have been employed with the same company or group for five years or longer. Table 6 delineates respondents' employment status and length of time with their primary employer.

Table 6

*Employment Status/Length of Time with Primary Employer (2007).*

<u>Employment Status in Nsg. (n=6,713)</u>	<u>n</u>	<u>%</u>
Full-time	3,626	54.01
Part-time	1,768	26.34
Retired	269	4.01
Unemployed	586	8.73
Not employed in nursing	464	6.91
<u>Time Worked for Primary Nsg. Employer (n=14,501)</u>	<u>n</u>	<u>%</u>
<1 year	2,977	20.53
1-5 years	5,557	38.32
5 years or longer	5,627	38.80
Not applicable	340	2.34

The non-parametric chi-square test for independence evidenced a significant association between respondents' employment status and length of time worked with their primary employer ( $\chi^2 = 11847.693$ ;  $p = .000$ ). Thus, using the data provided by the responding LPNs, there is a considerable likelihood that full-time employees stay with their primary nursing employer for longer than part-time employees do. It should be noted however, 6,713 LPNs responded to the question on employment status in nursing, but more than twice as many (n=14,501) responded to the question on the amount of time worked for primary nursing employer.

*Income*

Approximately 21% (n = 2,873/13,408) reported that they receive \$25,001-\$30,000 from nursing employment, while 20.82% (n = 2,791/13,408) receive \$30,001-\$35,000 from employment as an LPN. Regarding respondents' household gross annual income, 12.41% (n = 1,622/13,073) of LPNs reported an annual income of \$30,001-\$35,000. Table 7 provides a breakdown of respondents' annual gross income as an LPN and total household gross annual income.

Table 7

*Gross Annual Income of Respondents (2007).*

<u>Gross Annual Income from Nsg. (n=13,408)</u>	<u>n</u>	<u>%</u>
<\$15,000	912	6.80
\$15,001-\$20,000	1,080	8.05
\$20,001-\$25,000	2,222	16.57
\$25,001-\$30,000	2,873	21.43
\$30,001-\$35,000	2,791	20.82
\$35,001-\$40,000	1,829	13.64
\$40,001-\$45,000	887	6.62
\$45,001-\$50,000	416	3.10
>\$50,000	398	2.97
<u>Household Gross Annual Income (n=13,073)</u>	<u>n</u>	<u>%</u>
<\$15,000	255	1.95
\$15,001-\$20,000	386	2.95
\$20,001-\$25,000	920	7.04
\$25,001-\$30,000	1,410	10.79
\$30,001-\$35,000	1,622	12.41
\$35,001-\$40,000	1,509	11.54
\$40,001-\$45,000	1,087	8.31
\$45,001-\$50,000	1,364	10.43
>\$50,000	4,520	34.58

Salaries ranged from less than \$15,000 to greater than \$50,000 annually. The modal salary range of the participants was \$25,000 to \$35,000 annually. Selected job related variables were subjected to chi-square analysis. A significant association was evidenced between salary derived from nursing position and position title ( $\chi^2 = 940.080$ ;  $p = .000$ ). Given the information available, this may indicate a high potential for a nurse's salary may increase in conjunction with a change in position title.

### *Primary Nursing Position, Employing Agencies and Clinical Areas of Practice*

LPNs were surveyed regarding their primary nursing position, agencies in which they were employed and their clinical areas of practice. Table 8 is divided into the three components and delineates frequencies of the data provided.

Eighty per cent (n = 11,470/14,361) of the respondents identified four dominate titles as their positions. In descending order, these were charge nurse, staff nurse, administrator and compliance officer. Almost 32% (n = 4,595/14,608) reported their title as “charge nurse,” with “staff nurse” (n = 4,203, 28.77%) closely following. “Administrator” was selected as position title by 1,391 respondents (9.52%), “compliance officer” by 1,281 (8.77).

The dominating clinical areas in which the study sample worked were geriatrics, emergency care and medical-surgical patient care units. Over 30.80% (n = 4,436/14,403) of LPNs stated that the clinical area for their primary nursing position was that of geriatrics or long-term care. Almost 14% (n = 2,007) worked in emergency care and slightly over 10% (n = 1,443) worked on medical surgical units. Again a significant number of the participants listed “other” (n = 2,060; 14.30%) as their clinical areas. These included areas such as allergy and asthma clinics, drug treatment facilities, outpatient clinics, and internal and family medical practice settings. Table 8 provides information on LPNs’ primary nursing position.

Table 8

*Primary Nursing Position, Clinical Areas of Practice and Employing Agencies (2007).*

<b><u>Position Title (n=14,608)</u></b>	<b><u>n</u></b>	<b><u>%</u></b>
Administrator	1,391	9.52
Case manager	188	1.29
Charge nurse	4,595	31.46
Compliance officer	1,281	8.77
Consultant	38	.26
School nurse	428	2.93
Staff nurse	4,203	28.77
Other	2,036	13.94
Student	174	1.19
Not applicable	274	1.88
<b><u>Clinical Area (n=14,403)</u></b>		
Community/public health	62	.44
Critical care	193	1.34
Emergency	2,007	13.93
Geriatrics/long-term care	4,436	30.80
Home health	234	1.62
Medical-surgical	1,443	10.02
Neonatal	175	1.22
OB/GYN, Perinatal	388	2.69
Occupational health	221	1.53
Oncology	6	.04
Orthopedics	391	2.71
Pediatrics	628	4.36
Post-anesthesia/recovery room	1,124	7.80
Psych/mental health	440	3.05

Operating room/Surgery	213	1.48
Other	2,060	14.30
Neuroscience	39	.27
Not applicable	343	2.38
<b><u>Type Agency (n=14,554)</u></b>		
Assisted living	479	3.29
Community mental health	244	1.68
Doctor's office	1,463	10.05
Government agency	978	6.72
Home health agency	51	.35
Hospice	923	6.34
Hospital	2,138	14.69
Insurance/drug company	1,487	10.22
Nursing home	3,409	23.42
Outpatient center/clinic	493	3.39
School/college of nursing	41	.28
School K-12	985	6.77
Special care assisted living	84	.58
Other	1,291	8.87
Correctional facility	235	1.61
Not applicable	253	1.74

Almost 60% (n = 8,497/14,554) worked in four specific types employing agencies: nursing homes, hospitals, insurance or drug companies and doctors' offices. Over 23% of LPNs (n = 3,409/14,554) stated that their position was localized to a nursing home. Another 2,138 (14.69%) indicated hospitals. Insurance or drug companies and physicians' offices each employed over 1,000 LPNs (slightly greater than 10%). When subjected to chi-square analysis, significant associations were demonstrated between "salary" and "location of nursing position" ( $\chi^2 = 1522.291$ ;  $p = .000$ ). Numerous factors could relate to this phenomenon, such as job availability, salaries and benefits, and job satisfaction. While not explored here, recommendations will be made for additional explorations.

### *Job Satisfaction and Retirement Plans*

Overall, respondents reported being satisfied with their primary nursing positions. A total of 90.79% (n = 13,155/14,490) of LPNs stated that they were moderately or extremely satisfied with their primary nursing positions. In comparison, 6.20% (n = 899/14,490) of the responding LPNs reported being moderately or extremely dissatisfied with their positions.

Effort was made to determine relations or associations between work related variables and plans for their future relative to additional nursing education and retirement. Accordingly, statistical analysis was conducted using the chi-square test for independence. A significant association was determined between the categorical variables, "job satisfaction" and "intent to enroll in an RN program" ( $\chi^2 = 71.836$ ;  $p = .000$ ), suggesting that nurses who are satisfied in their current positions may be more inclined to obtain more education in nursing. A total of 14,455 survey respondents (96.8%) were both satisfied with their current positions and indicated a plan to obtain additional education.

In relation to retirement plans, 19.25% (n = 2,797/14,530) respondents reported they were anticipating retiring from their primary nursing positions or leaving the nursing workforce within the next twenty years. However, 12.05% of LPNs reported anticipating retirement within the next five years (n = 1,751/14,530). Table 7 delineates respondents' level of satisfaction with their positions as well as the approximate date of anticipated retirement from the nursing workforce.

The number of LPNs planning to retire in five years was less than the LPNs planning to retire in twenty years. The reason for this discrepancy is not known. Data were not available to determine if the smaller number planning to retire in five years is composed of nurses new to healthcare in Alabama or is made up of nurses who simply do not consider retirement to be an option for them. The nonparametric chi-square test for independence was run using "level of satisfaction" as the independent variable and "length of time employed by primary nursing employer" as the dependent variable. It was found that Pearson chi-square was 6557.145 at a .000 significance level, thus indicating that an LPN's satisfaction with his or her nursing employer has a positive association with the length of time that the nurse remains employed with that employer.

Table 9

*Job Satisfaction & Retirement from LPN Nursing Workforce (2007)*

<u>Satisfaction with Position (n=14,490)</u>	<u>n</u>	<u>%</u>
Extremely satisfied	5,501	37.96%
Moderately satisfied	7,654	52.82%
Moderately dissatisfied	677	4.67%
Extremely dissatisfied	222	1.53%
Not applicable	436	3.01%
<u>Anticipated Retirement (n=14,530)</u>	<u>n</u>	<u>%</u>
Within 5 years	1,751	12.05%
Within 10 years	2,001	13.77%
Within 15 years	2,026	13.94%
Within 20 years	2,797	19.25%
More than 20 years from now	5,587	38.45%
Do not anticipate retiring/leaving workforce	368	2.53%

*Factors Positively and Negatively Influencing Current Work Situation*

LPNs were surveyed regarding factors that they believed positively and negatively influenced their current work situations. Regarding positive-influencing factors, LPNs responded that a “reasonable degree of autonomy and good interdependent working relations” made the most positive impact on their current work situations (n = 10,232/12,947; 79.03%).

Table 10 delineates factors that LPNs reported were positively and negatively influencing their current work situations.

Table 10

*Factors Influencing Current Work Situation (2007)*

Factor Impacting Current Work Situation	n	%
<u>Positively Impacting Factors (n=12,947)</u>		
Reasonable degree of autonomy/good interdependent working relations	10,232	79.03
Security in present position	9,992	77.18
Good administrative support	8,785	67.85
Sufficient support staff for non-nursing duties	7,970	61.56
Reasonable work hours	7,863	60.73
Cooperation to manage family emergencies	5,597	43.23
Adequate benefits	4,965	38.35
Travel convenience	4,818	37.21
Sufficient staffing for safe care	4,710	36.38
Opportunities to maintain health	4,683	36.17
Reasonable work shifts	4,102	31.68
Good relationship with peers	3,775	29.16
Educational opportunities	338	2.61
<u>Negatively Impacting Factors (n=8,949)</u>		
Extensive travel commute to work	4,727	52.82
Lack of choice in work shift	3,028	33.84
Lack of autonomy	2,740	30.62
Family responsibilities	2,483	27.75
Inadequate benefits	2,460	27.49
Excessive work hours	1,364	15.24
Job uncertainty (potential cutbacks)	1,289	14.40
Staffing inadequate to assure safe level of care	842	9.41
Poor relationship with peers	720	8.05
Poor health	340	3.80
Poor nursing administrative support	259	2.89

In descending order, the top five factors that LPNs reported making a positive impact on their current work situations were:

- Reasonable degree of autonomy/good interdependent working relations (n = 10,232/12,947, 79.03%)
- Security in present position (n = 9,992/12,947, 77.18%)
- Good administrative support (n = 8,785/12,947, 67.85%)
- Sufficient support staff for non-nursing duties (n = 7,970/12,947, 61.56%)
- Reasonable work hours (n = 7,863/12,947, 60.73%)

Regarding negatively influencing factors, LPNs responded that an “extensive travel commute to work” most negatively influenced their current work situation (n = 4,727/8,949, 52.82%). A much smaller population of LPNs delineated negatively impacting factors (n = 8,949) in comparison to positively influencing factors (n = 12,947). In descending order, the top five factors that LPNs reported negatively influencing their current work situations were:

- Extensive travel commute to work (n = 4,727/8,949, 52.82%)
- Lack of choice in work shift (n = 3,028/8,949, 33.84%)
- Lack of autonomy (n = 2,740/8,949, 30.62%)
- Family responsibilities (n = 2,483/8,949, 27.75%)
- Inadequate benefits (n = 2,460/8,949, 27.49%)

### *Implications*

A review of the findings generated through statistical analysis of the data produced the following implications based on the original research questions:

Of the 13,314 respondents to the survey question on employment, 7,819 (58.73%) reported being employed in an urban county and 5,495 (41.27%) of Alabama’s LPNs are employed in rural counties. Further study is recommended on the adequacy of the distribution of LPNs to the population of health care consumers in rural and urban areas.

According to the U.S. Census Bureau, Alabama’s population of consumers of health care is becoming much more diverse, both ethnically and culturally, and there is a need for the nursing population to be reflective of the population it serves. A focus for future research could be an evaluation of the influence of marital status and race on choice of location for employment.

Review of the data provided by respondents on their income derived from nursing revealed that 21.34% (n = 2,873/13,408) reported a gross annual income of \$25,001-\$30,000 from nursing. In addition, 31.42% of respondents (n = 4,214/13,408) reported an annual income derived from employment in nursing of \$25,000 or less. According to the U.S. Census Bureau’s Housing and Household Economic Statistics Division, the poverty threshold for a family unit of four that includes two adults and two children is \$21,027. With the modal range of salary for

LPNs at \$25,000-\$35,000, this has implications for the economic incentives that may be needed to keep these employees in the healthcare arena, or to recruit others into nursing.

Respondents reported that 31.46% of them were titled as “charge nurse” (n = 4,595/14,608), with 30.80% (n = 4,436/14,403) employed in geriatrics and 23.42% (n = 3,409/14,554) employed specifically in nursing homes. Although geriatrics has been a traditional job market for LPNs, consideration should be given to evaluating need and potential for using this group of workers effectively in line with their preparation in comprehensive health care delivery across a variety of settings.

Keeping an experienced, competent LPN employed in his or her current position could potentially save thousands of dollars annually for a nursing employer who would otherwise need to recruit, orient, and retain a new employee. It was found that an LPN’s satisfaction with his or her nursing employer is associated with the length of time that the nurse remains employed with that employer, and a nurse’s planning for retirement. These point to an indication for research to analyze leadership qualities that tend to positively affect LPNs. There is also an indication to consider the overall length of time the LPN has served in the workforce and to be proactive in plans for recruitment to replace these nurses when they have reached a certain age or span of time in the profession. This is an area for considerable statewide planning with educators and the health care market.

Factors that had a positive impact on LPNs’ work may have influenced the high number of LPNs who reported at least moderate satisfaction with their primary nursing positions (90.8% (n = 13,155/14,487)). These included degree of autonomy, security, administrative support, support staff, and work hours. Factors making a negative impact included travel commute, lack of choice in work shift, lack of autonomy, family responsibilities, and inadequate benefits. To nursing employers, this could mean that this population of nurses might value benefits more than salary, job security more than opportunities for advancement, and the opportunity to exercise critical thinking and nursing judgment more than providing custodial nursing care. However, such assumptions must be clarified through further research to ascertain specifics of the general terms of the positive and negative factors before proposing recommendations for work force planning.

### *Conclusion*

What ultimately was revealed by this research project? The focus of research for this study was primarily on the current state of the Licensed Practical Nurses in Alabama, their demographics relative to age, gender, residence, economics and educational preparation; and, their work experience, work force patterns, and issues that affect their satisfaction in work as well as their future plans for work or retirement. The data from licensed practical nurses in Alabama who participated in the study indicated a workforce composed of individuals who are, for the most part, satisfied with their nursing positions, which are frequently in the field of geriatrics. That said, these nurses, despite their reported level of job satisfaction,

frequently are not employed full-time in nursing. This particular phenomenon opens an opportunity to investigate the reason and its relation to supply and demand. The data further reveal a greater number of LPNs are employed in urban rather than rural areas. Attention should be given to determine if those numbers are sufficient to meet rural health care needs, or if there is need to enhance recruitment of LPNs to the areas outside the urban setting. Information on job satisfaction was also obtained. Sharing this information, such as incentives that enhance employment, with leaders in health care employers could greatly enhance recruitment and retention efforts.

As the data were analyzed, more questions arose than could be derived solely from this study. It may be concluded that the study is foundational to facilitate future research on this valuable group of health care workers. Subjects for future research are broad, but priorities were identified as investigating issues that have a regulatory impact for LPN practice. Included in these are matters of competence, scope of authority, actual work force needs for LPNs, consumer expectations of services provided by LPNs, and professional support needed to enhance LPN practice to the end of public safety and welfare.

## Appendix A

### Alabama Rural Health Association's Factors Defining "Rural"

The four variables used by the Alabama Rural Health Association to define the term "rural" are:

- the percentage of total employment in the county that is comprised by those employed by the public elementary and secondary school systems. Since the local school system is the largest single employer in many rural counties, the higher the percentage of employment in school system(s) in relation to total employment, the more rural a county is considered.
- the dollar value of agricultural production per square mile of land. The greater the value of agricultural production per square acre, the more rural the county is considered to be.
- the population per square mile of land. The fewer the number of persons per square mile, the more rural a county is considered to be.
- an index is used to assign a score to a county that considers the population of the largest city in the county, the populations of other cities in the county, and the population of cities that are in more than one county. Counties where the largest incorporated place has a population of under 2,500 are assigned the highest index score of 25. Counties where the largest incorporated place has a population of 50,000 or more are assigned the lowest index score of 0.

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