



LOUISIANA
CENTER
FOR
NURSING

Louisiana's 2019 Nursing Workforce Demand Report

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Executive Summary

Who would have known that in 2020, the International Year of the Nurse and Midwife, that the world would be in the midst of one of the most unprecedented public health disasters of our lifetime with nurses serving at the forefront, putting their own lives and the lives of their families at risk to save the lives of hundreds of thousands of people that were stricken with COVID-19. We can all agree, that without nurses, our healthcare system would have collapsed and hundreds of thousands of lives would have been lost in the midst of the COVID-19 pandemic. In the midst of what appears to be a resurgence of the coronavirus, and as we move into the 2020 flu season and all the unknowns aligned with it, policymakers are strongly encouraged to fortify Louisiana's nursing workforce so that nurses that are working on the frontlines, as well as those that are supporting the frontline nurses, can have everything that is needed to provide quality nursing care to Louisiana's citizens.

According to the Bureau of Labor Statistics' 2018-2028 Employment Projections (2019), employment of registered nurses (RNs) is projected to grow 12%, faster than the average for all occupations. By 2022, there will be far more registered nurse jobs available than any other profession, at more than 100,000 per year. With more than 500,000 seasoned RNs anticipated to retire by 2022, the U.S. Bureau of Labor Statistics projects the need for 1.1 million new RNs for expansion and replacement of retirees, and to avoid a nursing shortage (ANA, 2020).

In 2019, the Louisiana Center for Nursing (LCN) launched the state's third statewide Nurse Employer Survey (NES) to determine the demand for RNs, advanced practice registered nurses (APRNs), licensed practical nurses (LPNs), and nursing assistants (NAs) in Louisiana based on data obtained from employers. Major healthcare industries employing the vast majority of nurses such as hospitals, long term care (LTC) facilities, home health agencies, hospices, and public health facilities were surveyed to gather information about vacancy rates, turnover rates, and growth rates for the various types of nursing personnel. Additional questions such as the number of licensed beds vs staffed beds; number of nurses hired within the last year; and hourly wage for entry level and experienced nursing personnel were added. A total of 1,405 surveys were sent to health care facilities across the state and 489 were returned resulting in an overall 35% response rate. Findings from the current report were obtained prior to the COVID-19 pandemic and can be used as baseline data as Louisiana moves forward in its efforts to determine the impact of the COVID-19 pandemic on our current and future nursing workforce.

The following are a few highlights from the 2019 LCN-NES. A complete list of major findings can be found at the end of the report.

Highlights from the 2019 Nurse Employer Survey:

- Healthcare facilities that completed the 2019 LCN-NES provided information on 37,029 permanent, full or part-time nursing personnel across nine industry groups. When 1,758 additional temporary personnel were included, the number of nurses employed by responding healthcare industries totaled 38,787.

- In 2019, there was an unmet demand for 1,948 RNs, 1,301 LPNs and 942 NAs based on data obtained from the nine major types of healthcare facilities that participated in the 2019 LCN- NES.
- Although the greatest number of RNs were employed by hospitals (19,774), public health continues to have the largest proportion of RNs among their entire nursing staff. Ninety percent of the entire nursing staff for public health are RNs, followed by hospitals (71%) and ambulatory surgery care centers (69%).
- The greatest proportion of LPNs were employed by home health agencies (44%), rural health clinics (41%) and FQHCs (35%), although the largest number were employed by hospitals (2,873) and LTC facilities (1,828).
- Hospitals and LTC facilities employed the largest number of NAs, 3,933 and 3,841, respectively. Nurse aides represent the largest proportion of the nursing staff for LTCs (62%) followed by dialysis centers (41%).
- Of the 1,587 APRNs employed by responding healthcare facilities, 62.9% were NPs, 34.4% were CRNAs, 1.4% were CNSs, and 1.3% were CNMs. When compared to the other types of healthcare facilities that were surveyed, FQHCs (29.9%), rural health clinics (17.5%) and ambulatory surgery centers (15.5%) had the greatest proportion of APRNs as a part of their nursing workforce.
- In 2018, 1,758 temporary nursing staff were reported by responding employers compared to 5,899 temporary staff reported by responding employers in 2014 which represents a 70% decrease in number.
- When vacancies were imputed for non-responding facilities, the total number of vacancies for all types of nursing personnel increased by 149% (9,284 estimated vacancies). The majority of the RN vacancies were for direct care RNs (4,484) which increased by 79% when compared to 2014 (2,504).
- The highest vacancy rate for direct care RNs was 19.2% for LTC, 10.5% for FQHCs, 9.5% for hospitals and 9.2% for home health.
- In 2018, the median turnover rate for RNs in hospitals in Louisiana, the largest employer of RNs identified in the survey in terms of number of budgeted positions, was 19.4% compared to a median turnover rate of 13.8% in 2014 and 17.0% in 2010. In 2019, the national turnover rate for RNs in hospitals was reported to be 15.9%, a decrease of 0.9 percentage points when compared to the 16.8% turnover rate reported in 2017 (NSI National Healthcare and RN Retention Report, 2020).
- The number of new estimated positions due to job growth in 2019 was 1,622 new RN jobs (1,741 in 2014), 194 NP jobs (59 in 2014), 25 CRNA jobs (10 in 2014), 792 LPN jobs (619 in 2014) and 690 NA jobs (796 in 2014) will be created in 2020.

- RNs were reported as one of the most difficult types of nurses to recruit by hospitals, LTC facilities, home health and hospice. LPNs were identified as being one of the five most difficult types of nurses to recruit by LTC facilities, dialysis centers, rural health clinics and FQHCs. Nurse administrators were identified by five of the three types of healthcare facilities surveyed as being one of the five most difficult types of nurses to recruit.
- As of January 1, 2019, there was a 15-percentage point increase in the proportion of RNs that were prepared at the baccalaureate level in hospitals and a 19-percentage point increase in the proportion employed by public health when compared to data obtained in the 2014 LCN-NES.
- In 2018, a total of 882 new RN grads and 200 new LPN grads were hired by hospitals which represents a nine percent increase in the number of RNs hired by responding hospitals and a 163% increase in the number of new LPN grads hired by hospitals when compared to 2014.
- The percentage of healthcare facilities offering a nurse residency program ranged from 28.9% for hospitals to zero percent for public health.

Recommendations

- Expand and continue capitation funding to postsecondary education institutions to increase the capacity of RN and LPN programs to ensure that there will be a continuous pipeline of new RNs available to meet the ongoing demand for nurses in Louisiana.
- Increase the capacity of nursing programs to ensure a diverse workforce that reflects the racial/ethnic composition of the overall state and provides culturally competent care to racial/ethnic minority populations.
- Support funding opportunities (grants, scholarships, tuition reduction programs, etc.) to decrease tuition costs for nursing students.
- Reinstate the state funded stipend program administered by the Board of Regents which provided up to a maximum of \$40,000 to nurses that agreed to pursue a graduate degree in nursing (Masters and/or Doctorate) and committed to teach in an RN program.
- Increase nurse faculty salaries to a level that will be competitive with that of salaries offered in the clinical setting.
- Develop loan repayment and tax credit programs for nurse educators.
- Remove legislative barriers that are preventing nurse faculty from working as adjunct faculty upon retirement.
- Seek funding to develop nurse residency programs that will prepare new graduates for a seamless and successful transition into practice in both traditional (i.e., acute care) and

nontraditional settings (i.e., LTC/SNF, home health) in an effort to improve nurse retention and increase nurse supply.

- Foster academic and practice partnerships to address the current and future nursing workforce shortage proactively and to prevent continued shortages.
- Implement evidence-based RN retention models across the various health care systems in an effort to decrease consistently high turnover rates, thereby decreasing the cost associated with high turnover rates.
- Provide nurses that are interested in taking on leadership positions within the various healthcare industries with the advanced education and training needed to successfully function as a leader.
- Provide funding for the development of a statewide strategic plan to address the nursing shortage which significantly affects the health outcomes of citizens of Louisiana.

Acknowledgements

LCN is extremely grateful to those chief nursing officers, administrators, human resource personnel and support staff that took time out of their very busy schedules to complete the 2019 LCN-NES. We would also like to thank the Louisiana State Board of Nursing (LSBN) Board Members, Dr. Karen Lyon, LSBN Chief Executive Officer, the Department of Health and Hospitals Health Standards Division, the Nursing Supply and Demand Council, the Louisiana Organization of Nursing Leaders, the Louisiana Hospital Association, the Louisiana HomeCare Association, the Louisiana Long Term Care Association, the Louisiana Office of Public Health, and the Louisiana Action Coalition for your support in conducting this statewide survey. LCN would also like to give special thanks to Dr. Daniel Sarpong, who served as the statistical consultant for the 2019 LCN-NES.

Demand for Nurses in Louisiana: Results of the 2019 Louisiana Center for Nursing (LCN) Nurse Employer Survey (NES)

Introduction

The 2019 LCN-NES represents the third statewide survey of its kind that has been conducted every four years beginning in 2010. Major employers of nurses in Louisiana representing hospitals, long term care facilities, home health agencies, hospices, public health facilities, ambulatory surgery centers, rural health clinics, federally qualified healthcare centers (FQHCs) and dialysis centers were surveyed to determine the demand for nursing personnel (Registered Nurses [RNs], Advanced Practice Registered Nurses [APRNs], Licensed Practical Nurses [LPNs], and Nursing Assistants [NAs]) in Louisiana. Additional questions such as the number of licensed beds vs staffed beds; number of nurses hired within the last year; and hourly wage for entry level and experienced nursing personnel were added to the 2019 LCN-NES to broaden the capacity to describe Louisiana's nursing workforce. In light of the limited resources that are available to employers, healthcare administrators and policy makers, who have the responsibility of determining how economic resources will be used to address nurse supply and demand in Louisiana, the findings from the 2019 LCN-NES will assist them in making more informed, data-driven decisions based on information gained from the employers of Louisiana's nursing workforce.

Methodology

Nurse demand is an economic concept which describes the number of nurses employers wish to hire at the average or prevailing wage for nurses in the local labor market or geographical area (Lacey, Hoover, McKay, O'Grady, & Sechrist, 2005). Chief nursing officers, directors of nursing, administrators, and/or human resource personnel are able to provide the most accurate information on nurse demand. These individuals have vital roles to play within their healthcare facilities and are often bombarded with surveys to complete. LCN is extremely grateful to those employers who took time out of their busy schedules to complete the 2019 LCN-NES.

Survey

The National Forum of State Nursing Workforce Center's Minimum Dataset for Nurse Demand was used as the template for the 2019 LCN-NES. Additional items such as the hiring of new RN and LPN graduates, preference for hiring BSN prepared RNs, pay differential for BSN prepared nurses, and nurse residency programs were included in the survey. LCN would also like to acknowledge the Florida Center for Nursing and the Texas Center for Nursing Workforce Studies for their generosity in sharing their employer surveys with other nursing workforce centers.

Industries Surveyed

An electronic listing of healthcare facilities licensed by the Department of Health Standards at the Louisiana Department of Health (LDH) was obtained by LCN. This list was compared with the list obtained in 2014 and it was noted that some of the healthcare agencies had closed, names

of facilities/agencies had changed, and the contact person's name as listed in the LDH registry may have been incorrect. The process that was used in 2010 and 2014 to contact employers via phone prior to disseminating the surveys was also followed in 2019. Employers were asked to identify the person(s) that would be responsible for completing the NES along with their contact information. Employers were also asked if they preferred receiving the survey electronically, via U.S. mail, or via fax. As in previous surveys, it was very important to give employers the flexibility of deciding how they would like to complete the NES in an effort to increase the response rate.

Launching the Survey

Electronic versions (fillable pdfs) of the 2019 LCN-NES were emailed on Thursday, February 7th, 2019. Paper and pencil versions of the surveys were sent via U.S. mail on Monday, February 11th, 2019 and Monday February 18th, 2019. Over 900 surveys (68%) were emailed and over 400 (29%) were mailed via the U.S. mail. There were a small number of employers (36 = 3%) that requested surveys in two formats (e.g., mail and email). There were also healthcare facilities that had multiple locations but were included under one corporate-level survey.

The surveys remained in the field for approximately eight weeks. Follow-up letters and/or emails were sent out every two weeks for the first six weeks. A copy of the survey was included with the initial mailing and also with the four-week follow-up letter. Although a greater number of completed surveys were returned via email, percentage wise, there was very little difference in response rate based on the type of survey completed; 32% of the surveys that were mailed were returned completed; 35% of those that were emailed were returned completed, and 17 employers chose to return completed surveys via fax although there were no healthcare facilities that requested that we send the surveys to them via fax.

The Office of Public Health

The Office of Public Health (OPH) provides essential healthcare services to the citizens of Louisiana and with the emphasis on public health, community health, and preventative health services, it was very important to LCN to make an effort to capture information about the demand for nurses within OPH. Because of the centralized system in the administration of health care services which controls staffing at the state level and not by individual public health units/clinics, one survey was completed in 2010 and 2014 by the OPH Director of Nursing for the 55 public health units across the state. In 2019, LCN was able to work with the OPH leadership team to obtain completed surveys from each of the nine regional nurse managers and the OPH statewide administrative nursing workforce.

Overall and Statewide Response Rate by Healthcare Industry

A total of 1,405 surveys were sent to actively functioning health care facilities across the state and 489 were returned resulting in an overall 35% response rate (Table 1), which was lower than the 39% response rate obtained in 2014 and the 46% response rate obtained with the first statewide NES in 2010 (Figure 1). The NES is the most challenging survey to conduct because it is voluntary and must be completed by employers of nurses who are extremely busy. In 2015, the

Florida Center for Nursing reported a 20% overall response rate which was down from their 25% response rate in 2013. In a study conducted by Baruch and Holtom (2008), the average expected return rate for organizational surveys was found to be 35.7%. When evaluating response rates based on the types or categories of healthcare facilities surveyed, response rates ranged from a high of 100% for the office of public health to a low of 25% for federally qualified health centers (FQHCs), which represents a four percentage point increase in the response rate for FQHCs when compared to the 21% response rate obtained in 2014. In the current study, approximately 45% of Louisiana’s hospitals, the largest employer of nurses in the state, completed the survey.

Table 1. Overall and Statewide Response Rate by Healthcare Industry

| Type of Facility | # Facilities Surveyed | Total # Surveys Returned | Return Rate |
|---|-----------------------|--------------------------|-------------|
| Hospitals | 206 | 92 | 44.66% |
| LTC | 265 | 83 | 31.32% |
| Home Health | 190 | 70 | 36.84% |
| Hospice | 122 | 38 | 31.15% |
| Public Health | 11 | 11 | 100.0% |
| Generic –Dialysis | 172 | 63 | 36.63% |
| Generic - Rural Health | 142 | 44 | 31.00% |
| Generic - Ambulatory Surgery | 83 | 34 | 40.96% |
| Generic – Federally Qualified Health Centers | 214 | 54 | 25.23% |
| Overall Statewide Response Rate | 1,405 | 489 | 34.80% |

As seen in Figure 1, the response rates for the majority of the healthcare systems that were surveyed have decreased with each NES, yet 25% or greater of the employers within each type of healthcare sector did complete the survey.

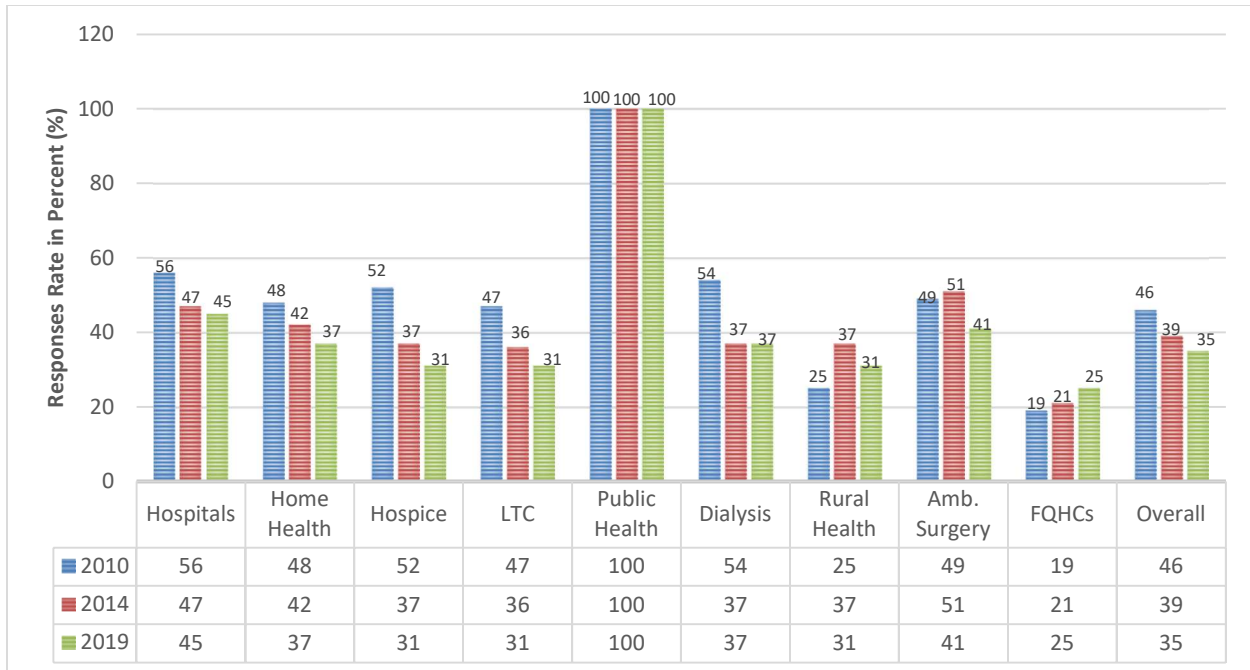


Figure 1. 2010, 2014, and 2019 Response Rates by Healthcare Industry

Regional Response Rates

In an effort to facilitate a comparison of findings from the NES with the occupational projections for all occupations as reported by the Louisiana Workforce Commission (LWC), the decision was made in 2010 with the first statewide NES, to use the eight Regional Labor Market Areas (RLMAs) utilized by LWC. RLMAs are defined as economically integrated areas in which individuals can live and find employment within a reasonable distance or can feasibly change jobs without changing their place of residence (LWC, 2020). A map depicting Louisiana’s sixty-four parishes included within the eight RLMAs can be found in Appendix A. Table 2a depicts response rates by health care industry and RLMA. The regional response rates for many of the healthcare industries were sufficient for future stratified data analysis. For example, over 60% of the hospitals in RLMA 3 (Houma) and RLMA 8 (Monroe) completed the 2019 LCN-NES. In contrast, response rates of nine percent for FQHCs in RLMA 2 (Baton Rouge) and eight percent in home health facilities in RLMA 5 (Lake Charles) do not lend themselves to further stratification at the regional level.

Table 2a. – Regional Response Rates (%) by Healthcare Industry and RLMA

| Setting | RLMA 1 New Orleans (k/n) % | RLMA 2 Baton Rouge (k/n) % | RLMA 3 Houma (k/n) % | RLMA 4 Lafayette (k/n) % | RLMA 5 Lake Charles (k/n) % | RLMA 6 Alexandria (k/n) % | RLMA 7 Shreveport (k/n) % | RLMA 8 Monroe (k/n) % | Statewide (k/n) % |
|---|----------------------------------|----------------------------------|----------------------------|--------------------------------|--------------------------------------|---------------------------------|---------------------------------|-----------------------------|----------------------|
| Hospitals | (16/40) 40.0% | (15/38) 39.5% | (5/8) 62.5% | (12/31) 38.7% | (8/18) 44.4% | (10/23) 43.5% | (12/26) 46.2% | (14/22) 63.6% | 92/206 44.66% |
| LTC | (14/43) 32.6% | (17/48) 35.4% | (3/10) 30.0% | (11/42) 26.2% | (2/18) 11.1% | (9/28) 32.1% | (13/43) 30.2% | (14/33) 42.4% | 83/265 31.32% |
| Home Health* | (11/35) 31.4% | (10/43) 23.3% | (4/10) 40.0% | (10/27) 37.0% | (1/13) 7.7% | (12/20) 60.0% | (13/25) 52.0% | (9/17) 52.9% | 70/190 36.84% |
| Hospice | (9/25) 36.0% | (7/27) 25.9% | (3/5) 60.0% | (2/16) 12.5% | (3/8) 37.5% | (3/13) 23.1% | (7/17) 41.2% | (4/11) 36.4% | 38/122 31.15% |
| Generic - Dialysis | (13/51) 25.5% | (10/37) 27.0% | (1/6) 16.7% | (7/21) 33.3% | (2/8) 25.0% | (8/8) 100.0% | (8/26) 30.8% | (14/15) 93.3% | 63/172 36.63% |
| Generic - Rural Health | (2/4) 50.0% | (4/18) 22.2% | (1/6) 16.7% | (8/24) 33.3% | (2/14) 14.3% | (9/22) 40.9% | (8/24) 33.3% | (10/30) 33.3% | 44/142 31.00% |
| Generic - Ambulatory Surgery | (12/25) 48.0% | (6/15) 40.0% | (4/5) 80.0% | (4/15) 26.7% | (0/4) 0.0% | (3/4) 75.0% | (4/9) 44.4% | (1/6) 16.7% | (34/83) 40.96% |
| Generic – Federally Qualified Health Centers | (22/70) 31.4% | (6/68) 8.8% | (0/6) 0.0% | (6/16) 37.5% | (2/2) 100.0% | (3/21) 14.3% | (6/8) 75.0% | (9/23) 39.1% | 54/214 25.23% |
| Overall Statewide Response Rate | (99/293) 33.79% | (75/294) 25.51% | (21/56) 37.5% | (60/192) 31.3% | (20/85) 23.5% | (57/139) 41.0% | (71/178) 39.9 | (75/157) 47.8 | 489/1,405 34.8% |

Note: k = number of healthcare facilities that completed the survey and n = number of healthcare facilities that received the survey.

Regional Response Rates for the Office of Public Health

Instead of eight regions, the OPH serves nine regions statewide (see Table 2b). This is the first year that the Regional Nurse Manager for each of the nine regions completed a survey for their regions. One survey was completed by the Chief Public Health Nurse for all nurses in administrative positions and one survey was completed by the Louisiana Department of Health Office of Public Health Bureau of Family Health Maternal, Infant and Early Childhood Home Visiting (MIECHV) Program. One hundred percent of the nurses employed by the OPH were represented in the 2019 LCN-NES. See Appendix B for a map of the nine regions served by the OPH.

Table 2b. – Louisiana Office of Public Health Regional Response Rates

| Setting | DHH 1 Greater New Orleans Area (k/n) % | DHH 2 Capital Area (k/n) % | DHH 3 South Central LA (k/n) % | DHH 4 Acadiana (k/n) % | DHH 5 Southwest LA (k/n) % | DHH 6 Central LA (k/n) % | DHH 7 Northwest LA (k/n) % | DHH 8 Northeast LA (k/n) % | DHH 9 North shore Area (k/n) % |
|---------------|--|----------------------------------|---|------------------------------|-------------------------------------|--------------------------------|----------------------------------|-------------------------------------|--|
| Public Health | (1/1) 100% | (1/1) 100% | (1/1) 100% | (1/1) 100% | (1/1) 100% | (1/1) 100% | (1/1) 100% | (1/1) 100% | (1/1) 100% |

Representativeness – Bias Analysis

It is important to keep in mind when looking at findings from any type of survey, there is the potential for significant bias toward those that responded to the survey when compared to those that did not respond to the survey. When the entire population within an industry does not respond to a survey, a bias analysis can be conducted to determine how similar or how different the responders are when compared to non-responders on variables that are available for the full population of facilities. This process helps to determine if the responders are truly representative of the entire population (Burns and Grove, 2009). It is assumed that similarities between respondents and non-respondents on bias analysis variables translate into similarities in responses to survey items. To determine the representativeness of the responders to the 2019 LCN-NES, bias analysis variables were selected that are known to be related to key metrics from the survey. Two variables, size, based on the number of licensed beds, and rurality, were used to determine the representativeness for hospitals and LTC facilities. Rurality was used to determine the representativeness for the remaining healthcare industries. A bias analysis was unnecessary for public health because 100% of the regional and statewide public health nursing workforce were represented in the survey.

Findings from the Bias Analysis

Bias Analyses Based on Bed Size for Hospitals LTC

The 206 hospitals that were surveyed had a total of 17,159 licensed hospital beds. The 92 hospitals that completed the 2019 LCN-NES had a total of 10,327 beds or 60.2% of the total number of hospital beds in the state. The 265 LTC facilities surveyed had a total of 31,942 licensed LTC beds. The 83 LTC facilities that completed the survey had 9,876 licensed beds or 30.9% of licensed beds in the state.

When classifying hospitals and LTCs as small and large facilities based on number of licensed beds, there was no statistical difference in the response rates for small and large LTC facilities based on the number of beds which suggest very little response bias due to bed size between responding and nonresponding LTC facilities (p-value of 0.89). Although the p-value of 0.07 for hospitals was greater than the set p-value of .05, indicating that there was no statistical difference in the response rates for large and small hospitals, some researchers might interpret the obtained p-value as approaching significance which indicates that there could potentially be some bias toward the larger hospitals.

Table 3a. Response Rates by Facility Size – Hospitals and LTC

| Facility Size | Total in Category | # Responding | Response Rate in Category | P-value |
|------------------|-------------------|--------------|---------------------------|---------|
| Hospitals | | | | |
| Small | 105 | 41 | 39.1% | 0.0738 |
| Large | 97 | 51 | 52.6% | |
| LTC | | | | |
| Small | 131 | 42 | 32.1% | 0.8868 |
| Large | 128 | 39 | 30.5% | |

Note: Hospitals were classified as small if they had 36 beds or less (the median) and large if they had more than 36 beds; LTC facilities were classified as small if they had less than or equal to 121 beds (the median) and large if they had more than 121 beds.

Bias Analyses Based on Rurality for Hospitals and LTC

Geographical location, rural vs urban, was also used to determine the potential bias in responsiveness in responding healthcare industries. The Federal Office of Rural Health Policy (ORHP) defines rural as any geographical area located outside a metropolitan statistical area (MSA). MSAs are defined as a core geographical area containing a substantial population nucleus, together with adjacent communities having a high degree of economic and social integration with that core (U.S. Census, 2018).

When assessing the rurality of responding and non-responding hospitals and LTC facilities, there was no evidence of bias. As seen in Table 3b, differences in the response rates of hospitals in rural (48.2%) and urban (41.9%) settings were not statistically significant (p-value 0.46). Although not found to be statistically significant, the response rate of rural hospitals was slightly higher (6.3 percentage points higher) than urban hospitals. There was a statistically significant difference in the response rate of rural (40.0%) and urban (25.3%) LTC facilities (p-value 0.02) which indicates a potential bias toward those LTC facilities in rural areas of the state. Given that rural LTC facilities would typically be small facilities compared to urban facilities, oversampling rural facilities might mitigate any potential bias in the differential in rural-urban response rates. Additionally, the data suggest that the response rate of small and large facilities within rural and urban settings were comparable.

Table 3b. Response Rate by Rurality – Hospitals and LTC

| Rurality | Total Healthcare Facility Type in Category | # Healthcare Facility Type Responding | Response Rate | P-value |
|------------------|--|---------------------------------------|---------------|---------|
| Hospitals | | | | |
| Rural | 83 | 40 | 48.2% | 0.4561 |
| Urban | 124 | 52 | 41.9% | |
| LTC | | | | |
| Rural | 110 | 44 | 40.0% | 0.0165 |
| Urban | 154 | 39 | 25.3% | |
| Rurality | Healthcare Facility Type | Facility Size | Response Rate | P-value |
| Rural | Hospital | Small (n=50) | 44.0% | 0.4736 |
| | | Large (n=33) | 54.6% | |
| Urban | Hospital | Small (55) | 34.6% | 0.0928 |
| | | Large (n=64) | 51.6% | |
| Rural | LTC | Small (=62) | 40.3% | 1.00000 |
| | | Large (n=46) | 41.3% | |
| Urban | LTC | Small (n=68) | 25.0% | 1.0000 |
| | | Large (n=82) | 24.4% | |

Representativeness of Remaining Healthcare Industries

The bias analysis for the remaining healthcare industries were based on rurality (Figure 2). There were very little differences in the response rates between rural and urban home health, dialysis centers, ambulatory surgery care centers, rural health facilities, and FQHCs. The only rural-urban difference in the response rates that was significant was for hospices (p-value 0.05). Hence, it is possible that the overall rural-urban differences in response rate could be most likely attributable to more urban hospices (n=84) compared to rural hospice (n=38).

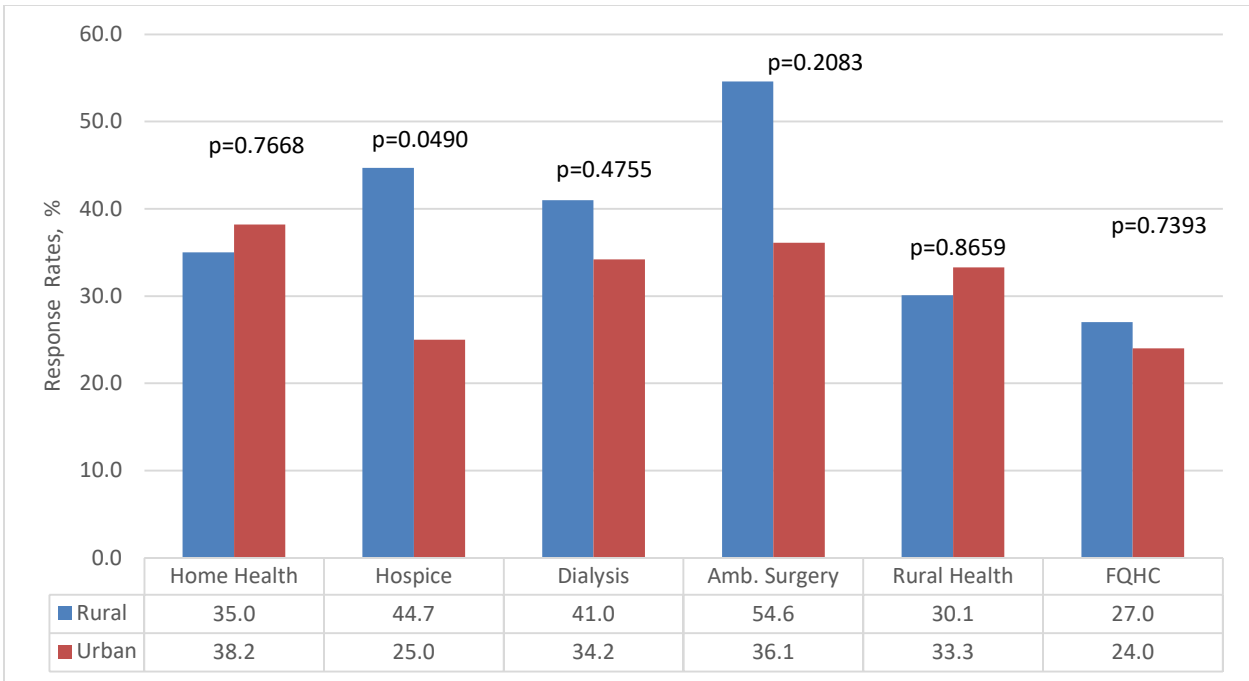


Figure 2. Rural and urban response rates by healthcare industry.

Findings from the Nurse Employer Survey

Healthcare facilities that completed the 2019 LCN-NES provided information on 37,029 permanent, full or part-time nursing personnel across nine industry groups. When 1,758 additional temporary personnel were included, the number of nurses employed by responding healthcare industries totaled 38,787 (Table 4). The Louisiana Workforce Commission’s 2016-2026 employment estimates help to put these numbers into statewide perspective (LWC, 2020). When utilizing estimates from the short-term projections from the LWC for 2016-2019, the current study obtained information on approximately 49% of employed RNs, 44% of NPs, 44% CRNAs, 29% of LPNs, and 36% of NAs in Louisiana. Taking into consideration the non-responders to the 2019 LCN-NES (those healthcare facilities that were surveyed, but did not respond) and the health care industries that were not surveyed (e.g., physician’s offices), findings related to the counts for vacancies, separations, and new jobs to be created through 2020 based on survey respondents only, will underestimate the overall totals for Louisiana substantially.

Nursing Skill Mix According to Type of Healthcare Facility

As seen in Table 4, the skill mix of nurses employed varied by industry group for responding healthcare facilities. Although the greatest number of RNs were employed by hospitals (19,774), public health continues to have the largest proportion of RNs among their entire nursing staff. Ninety percent of the entire nursing staff for public health are RNs, followed by hospitals (71%) and ambulatory surgery care centers (69%). Hospitals employed the greatest number of APRNs amongst responding healthcare facilities (1,187), yet APRNs represent approximately four percent of the hospital’s nursing workforce compared to 30% of the nursing workforce for FQHCs, 18% for rural health clinics and 16% for ambulatory surgery care centers. The greatest proportion of LPNs were employed by home health agencies (44%), rural health clinics (41%) and FQHCs

(35%), although the largest number were employed by hospitals (2,873) and LTC facilities (1,828). Hospitals and LTC facilities also employed the largest number of NAs, 3,933 and 3,841, respectively. Nurse aides represent the largest proportion of the nursing staff for LTCs (62%) followed by dialysis centers (41%).

Table 4. Nursing Personnel Employed by Respondents in Nine Healthcare Industry Groups Including Temporary Agency Personnel (January 1, 2019)

| | Hospitals | LTC | Home Health | Hospice | Dialysis | Ambulatory Surgery | Public Health | Rural Health | FQHC | Total |
|---------------------------|---------------|--------------|--------------|--------------|--------------|--------------------|---------------|--------------|--------------|---------------|
| RNs Direct Care | 16,779 | 318 | 554 | 218 | 213 | 326 | 228 | 140 | 19 | 18,795 |
| RNs Indirect Care | 1,759 | 186 | 202 | 60 | 48 | 28 | 61 | 26 | 27 | 2,397 |
| Temp/ Agency RNs | 1,236 | 6 | 3 | 4 | 2 | 5 | 96 | 1 | 1 | 1,354 |
| Total RNs | 19,774 | 510 | 759 | 282 | 263 | 359 | 385 | 167 | 47 | 22,546 |
| | 71.2% | 8.2% | 42.1% | 45.2% | 54.8% | 68.8% | 90.0% | 26.8% | 14.2% | 58.1% |
| NPs | 652 | 11 | 1 | 39 | 9 | 0 | 21 | 108 | 96 | 937 |
| Temp/ Agency NPs | 41 | 11 | 1 | 6 | 1 | 0 | 0 | 0 | 1 | 61 |
| CRNAs | 423 | | | | | 30 | | | | 453 |
| Temp/ Agency CRNAs | 42 | | | | | 50 | | 1 | | 93 |
| CNSs | 9 | 2 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 14 |
| Temp/ Agency CNSs | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| CNMs | 19 | | | | | | 0 | 0 | 1 | 20 |
| Temp/ Agency CNMs | 1 | | | | | | 0 | 0 | 0 | 1 |
| Total APRNs | 1,187 | 32 | 2 | 45 | 10 | 81 | 22 | 109 | 99 | 1,587 |
| | 4.3% | 0.5% | 0.1% | 7.2% | 2.1% | 15.5% | 5.1% | 17.5% | 29.9% | 4.1% |
| LPNs | 2,774 | 1,808 | 799 | 112 | 11 | 39 | 5 | 255 | 114 | 5,917 |
| Temp/ Agency LPNs | 99 | 20 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 122 |
| Total LPNs | 2,873 | 1,828 | 800 | 113 | 11 | 39 | 5 | 255 | 115 | 6,039 |
| | 10.3% | 29.4% | 44.4% | 18.1% | 2.3% | 7.5% | 1.2% | 41.0% | 34.7% | 15.6% |
| NAs | 3,868 | 3,800 | 241 | 182 | 186 | 43 | 15 | 91 | 70 | 8,496 |
| Temp/ Agency NAs | 65 | 41 | 0 | 2 | 10 | 0 | 1 | 0 | 0 | 119 |
| Total NAs | 3,933 | 3,841 | 241 | 184 | 196 | 43 | 16 | 91 | 70 | 8,615 |
| | 14.2% | 61.8% | 13.4% | 29.5% | 40.8% | 8.2% | 3.7% | 14.6% | 21.1% | 22.2% |
| Total | 27,767 | 6,211 | 1,802 | 624 | 480 | 522 | 428 | 622 | 331 | 38,787 |

Note: Counts include permanent staff (full and part-time) and temporary agency personnel. Healthcare facilities/agencies were asked to report APRNs separately from RNs. The four types of APRNs are: nurse practitioners (NPs); certified registered nurse anesthetists (CRNAs); clinical nurse specialists (CNSs); and certified nurse midwives (CNMs).

As illustrated in Figure 3, the greatest proportion of the nursing personnel employed by public health, hospitals and ambulatory surgery centers have consistently been RNs between 2010 and 2018. Between 2014 and 2018 there was a 10-percentage point decrease in the percentage of RNs employed by home health agencies and a seven-percentage point increase by dialysis centers. Data was not available for rural health clinics and FQHCs in 2010 and 2014, but in 2018 RNs represented approximately 27% and 14%, respectively, of the nursing personnel employed by these healthcare facilities.

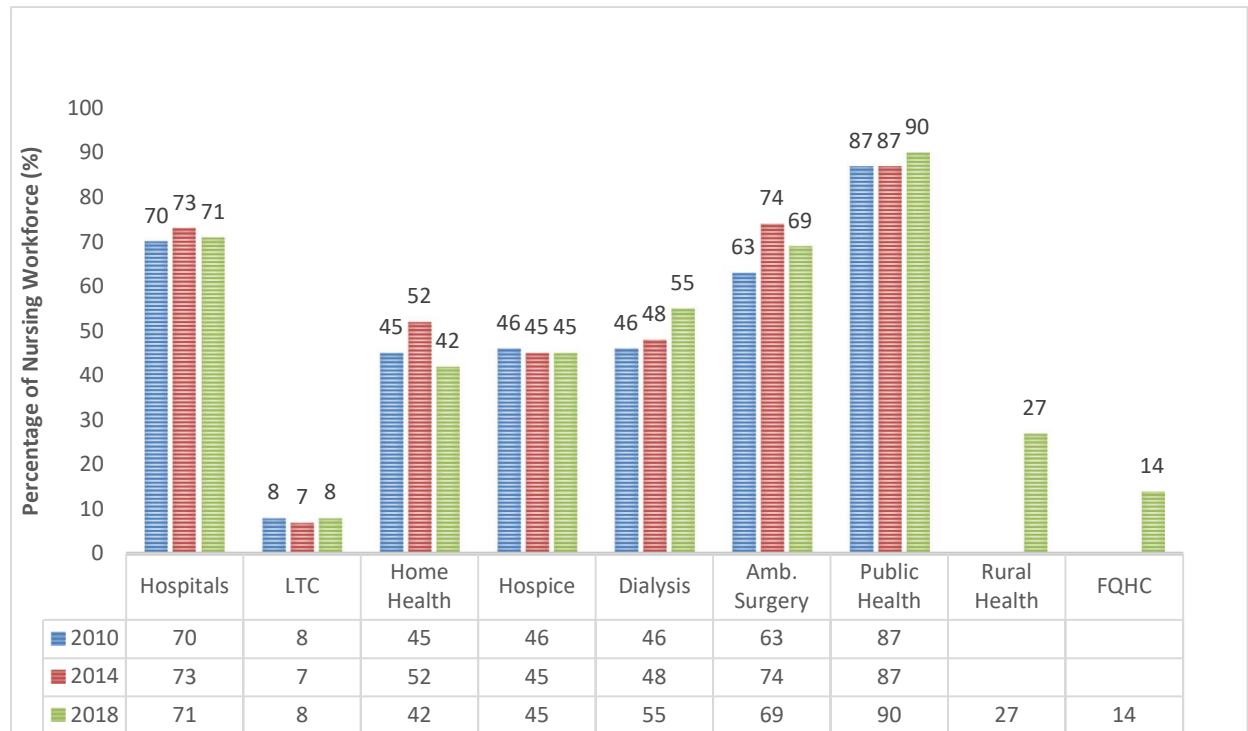


Figure 3. RNs as a percentage of the nursing workforce by healthcare industry; 2010 and 2014 data not available for rural health clinics and FQHCs.

RNs Providing Direct Patient Care

According to the 2018 LSBN Annual Report, 81% of employed RNs in Louisiana provide direct care to their patients/clients. In the 2019 LCN-NES, direct care RNs were defined as those RNs spending 74-100% of their scheduled workday providing care to patients, and indirect care RNs were those that spent 25% or less of their scheduled work time providing direct care to patients and 75% or more of their time performing administrative or supervisory duties. Figure 4 depicts the percentage of RNs providing direct patient care to patients according to the type of healthcare setting. Responding employers reported that 92% of the RNs employed by ambulatory surgery centers and 90% of the RNs employed by hospitals provide direct patient care.

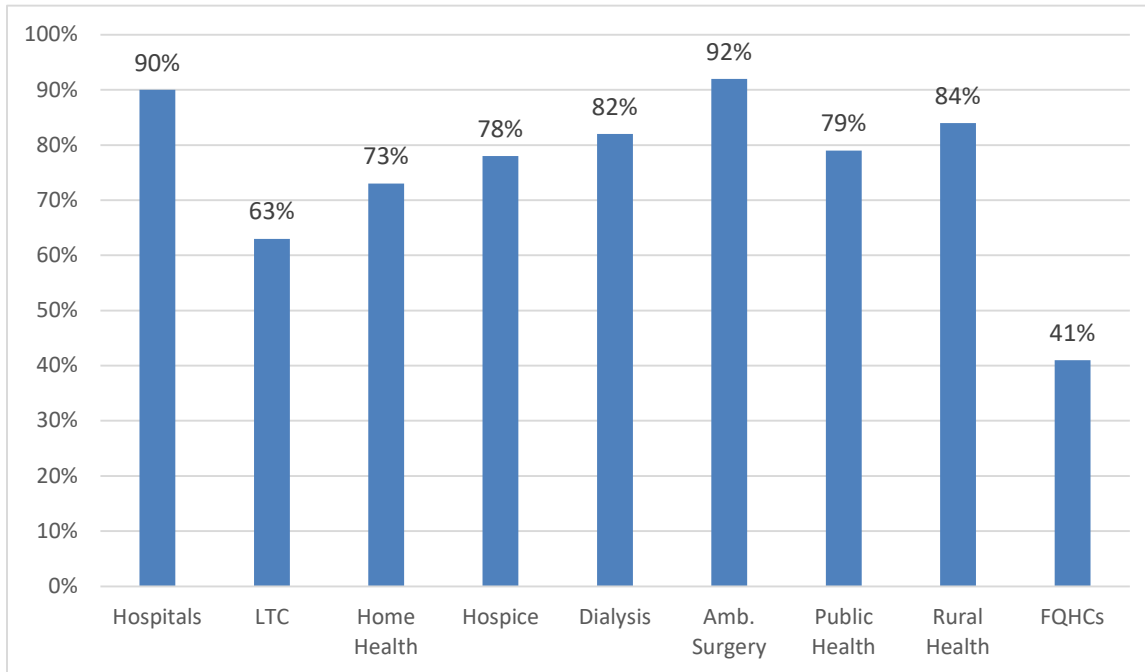


Figure 4. Percentage of RNs providing direct patient care according to type of healthcare facility.

Of the 1,587 APRNs employed by responding healthcare facilities, 62.9% were NPs, 34.4% were CRNAs, 1.4% were CNSs, and 1.3% were CNMs. When compared to the other types of healthcare facilities that were surveyed, FQHCs (29.9%), rural health clinics (17.5%) and ambulatory surgery centers (15.5%) had the greatest proportion of APRNs as a part of their nursing workforce (Figure 5). The greatest increase in the proportion of APRNs employed in 2018 when compared to 2014 was in ambulatory surgery centers (a two and a half percentage point increase) and a one percentage point increase for hospitals and dialysis centers.

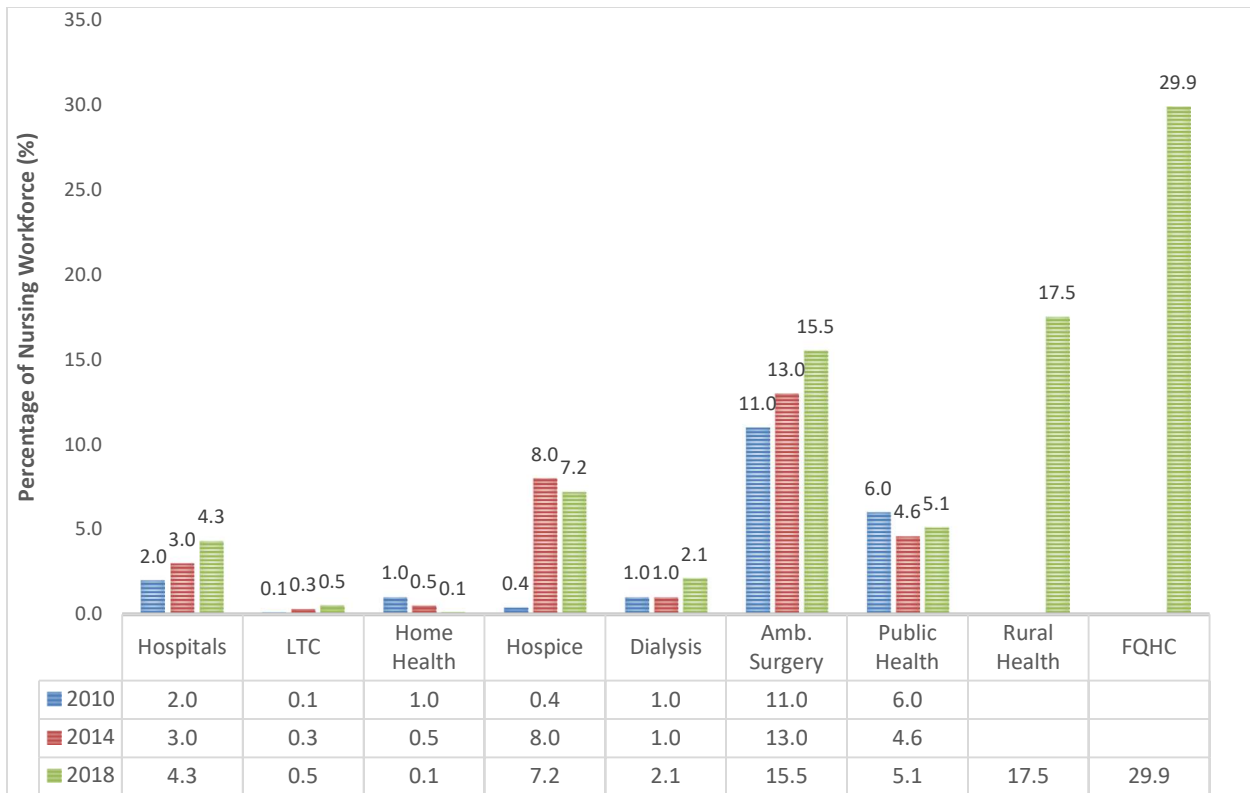


Figure 5. APNs as a percentage of the nursing workforce by healthcare industry; 2010 and 2014 data were not available for rural health clinics and FQHCs.

As depicted in Figure 6, when compared to other healthcare facilities, LPNs represent the greatest proportion of the nursing workforce in home health (44.4%), rural health clinics (41.0%) and FQHCs (34.7%). The greatest increase in the proportion of the LPN workforce in 2018 was the 14.4 percentage point increase in home health when compared to 2014. Although there was a small decrease in the overall proportion of LPNs represented in the LTC workforce, responding LTC facilities employed 1,828 LPNs. There was also a slight decrease in the proportion of LPNs employed by public health, hospitals, LTC and ambulatory surgery centers.

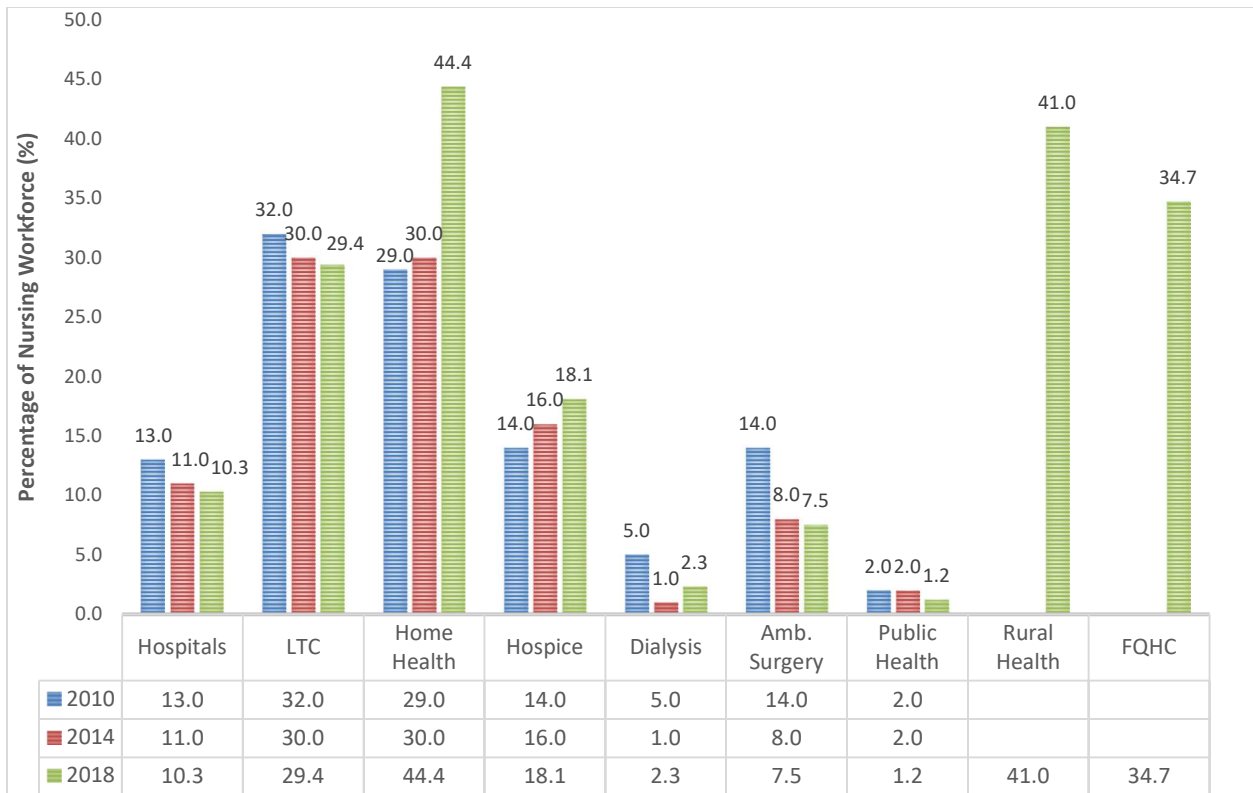


Figure 6. LPNs as a percentage of the nursing workforce by healthcare industry; 2010 and 2014 data not available for rural health clinics and FQHCs.

NAs continue to be the largest proportion of the nursing workforce employed by LTC facilities followed by dialysis centers and hospice (Figure 7). Of the responding healthcare facilities, public health has the smallest proportion of their nursing workforce that are NAs.

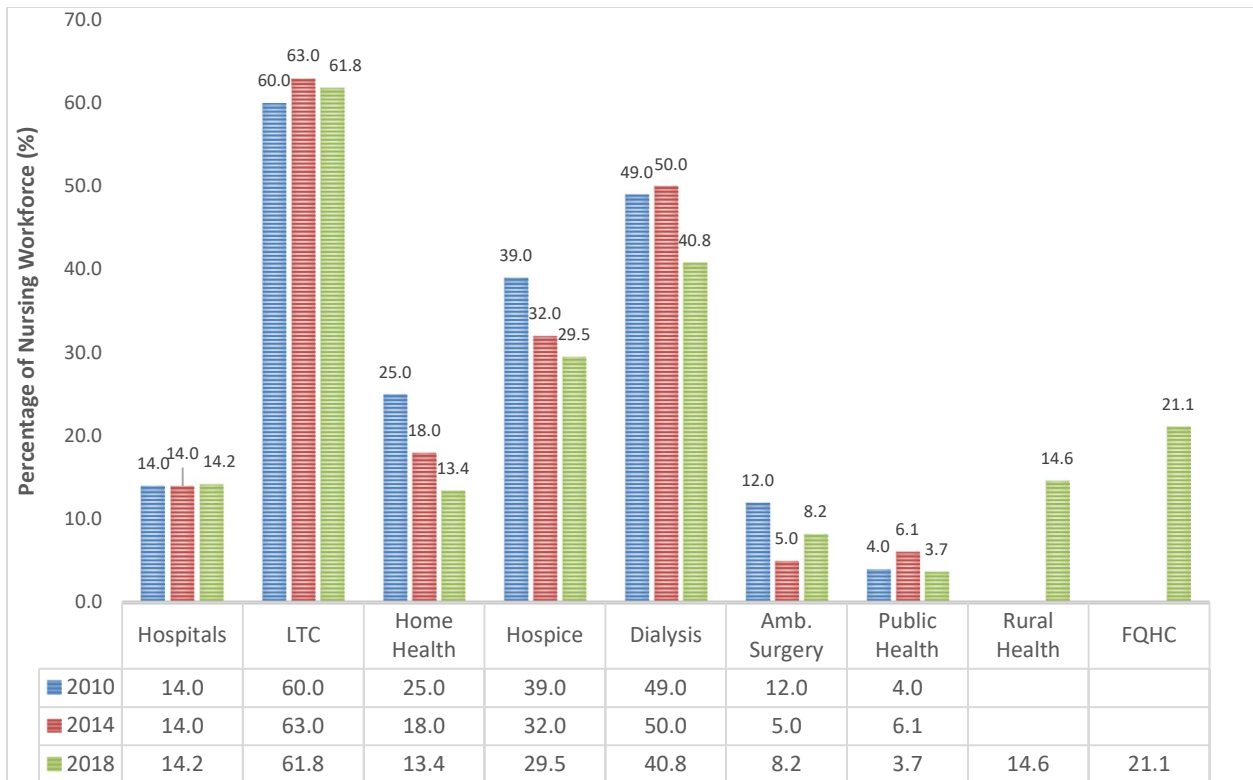


Figure 7. NAs as a percentage of the nursing workforce by healthcare industry.

Nursing Staff Skill Mix Within the Various Types of Healthcare Facilities

A depiction of the percentages of the different types of nursing personnel employed by the healthcare systems surveyed in the current study can be seen in Figure 8.

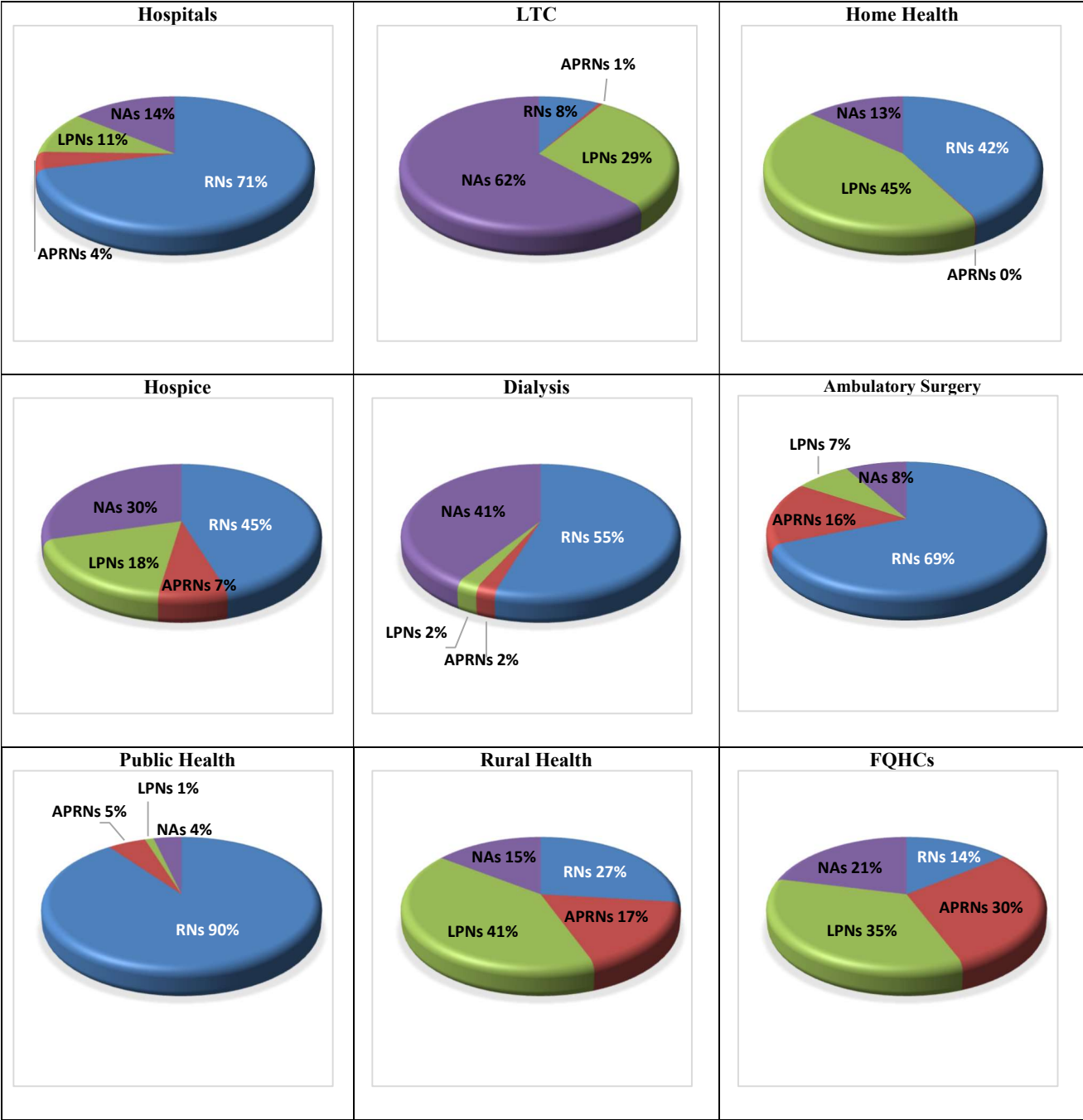


Figure 8. Distribution of nursing staff within the various healthcare industries.

Staff Size in Small, Medium and Large Hospitals

The nine health care industries vary in nursing staff size, with hospitals clearly having the largest nursing staff. Because of the wide range in the number of staffed beds reported by the responding hospitals (minimum of eight beds, maximum of 693 beds), staff size was analyzed for small, medium and large hospitals (Table 5). Small hospitals were defined as hospitals with less than or equal to 24 beds (25th percentile), medium hospitals were defined as hospitals with greater than 24

beds but less than 124 beds (50th percentile) and large hospitals were defined as those hospitals with greater than 124 beds (75th percentile). Although the largest percentage of the nursing workforce in the small, medium and large hospitals were direct care RNs, over half of the nursing staff in large hospitals were direct care RNs (53%). The largest percentage of CRNAs were employed by small hospitals, but there were no CNSs and CNMs reported as working in small hospitals. The greatest percentage of LPNs were found in medium size hospitals and the greatest percentage of NAs were working in small hospitals. Regardless, of size, substantially more part-time nurses were employed by hospitals when compared to temporary/per diem nursing staff.

Table 5. Nursing Staff for Small, Medium and Large Hospitals

| | RNs DC | RNs IC | NPs | CRNAs | CNS | CNM | LPNs | NAs | Temp Staff | Part time Staff |
|--|---------------|-----------|-----------|-------------|------------|------------|-------------|--------------|---------------|--------------------|
| Small Hospital Less than or equal to 24 beds (n=24) 25th percentile | 440 31% | 100 7% | 23 2% | 40 3% | 0 0% | 0 0% | 162 11% | 202 14% | 34 2% | 413 29% |
| Medium Hospital Greater than 24 beds and less than 124 beds (n=43) 50th percentile | 2,780 41% | 590 9% | 188 3% | 31 0.45% | 2 0.03% | 7 0.10% | 876 13% | 714 10% | 297 4% | 1,355 20% |
| Large Hospital Greater than or equal to 124 beds (n=22) 75th percentile (n=21) | 10,189 53% | 948 5% | 347 2% | 280 1% | 7 0.04% | 9 0.05% | 1,327 7% | 2,137 11% | 2,830 15% | 1,153 6% |

Note: Total full-time, part-time, and temporary nursing staff for small hospitals =1,414; total nursing staff for medium hospitals = 6,840; total nursing staff for large hospitals = 19,227.

Part-time and Temporary Nursing Staff Across Types of Healthcare Facilities

The percentage of temporary or per diem and part-time nursing staff utilized varied across healthcare industries (Table 6). As seen in Table 6, healthcare facilities overall used a higher percentage of part-time employees than temporary or agency staff except for public health. A little over 50% of the home health agencies' nursing workforce were part-time employees followed by 31% employed by ambulatory surgery care centers, 29% employed by hospices and 23% employed by rural health clinics. The percentage of temporary or per diem nursing staff ranged from a low of less than one percent for home health, rural health clinics and FQHCs to a high of approximately 23% in public health. In 2018, 1,758 temporary nursing staff were reported by responding employers compared to 5,899 temporary staff reported by responding employers in 2014 which represents a 70% decrease in number.

Table 6. Part-time and Temporary Nursing Staff

| Healthcare Industry | % of Part-Time Employees | % of Temporary or Per Diem Employees |
|----------------------|--------------------------|--------------------------------------|
| Hospitals | 17.2% | 5.4% |
| LTC | 9.2% | 1.4% |
| Home Health | 50.3% | 0.3% |
| Hospice | 29.3% | 2.1% |
| Public Health | 0.5% | 22.7% |
| Dialysis | 11.9% | 2.7% |
| Ambulatory Surgery | 30.5% | 10.5% |
| Rural Health Clinics | 23.0% | 0.3% |
| FQHCs | 10.6% | 0.9% |

The use of part-time nursing staff utilized by home health went from 20% of their nursing workforce in 2014 to over 50% in 2018 (Figure 9). The number of part-time nurses employed by hospices increased each year the employer survey was conducted beginning with eight percent in 2010, 16% in 2014 and 29% in 2018. There was very little change in the percentage of part-time nurses employed by ambulatory surgery centers and hospitals between 2014 and 2018.

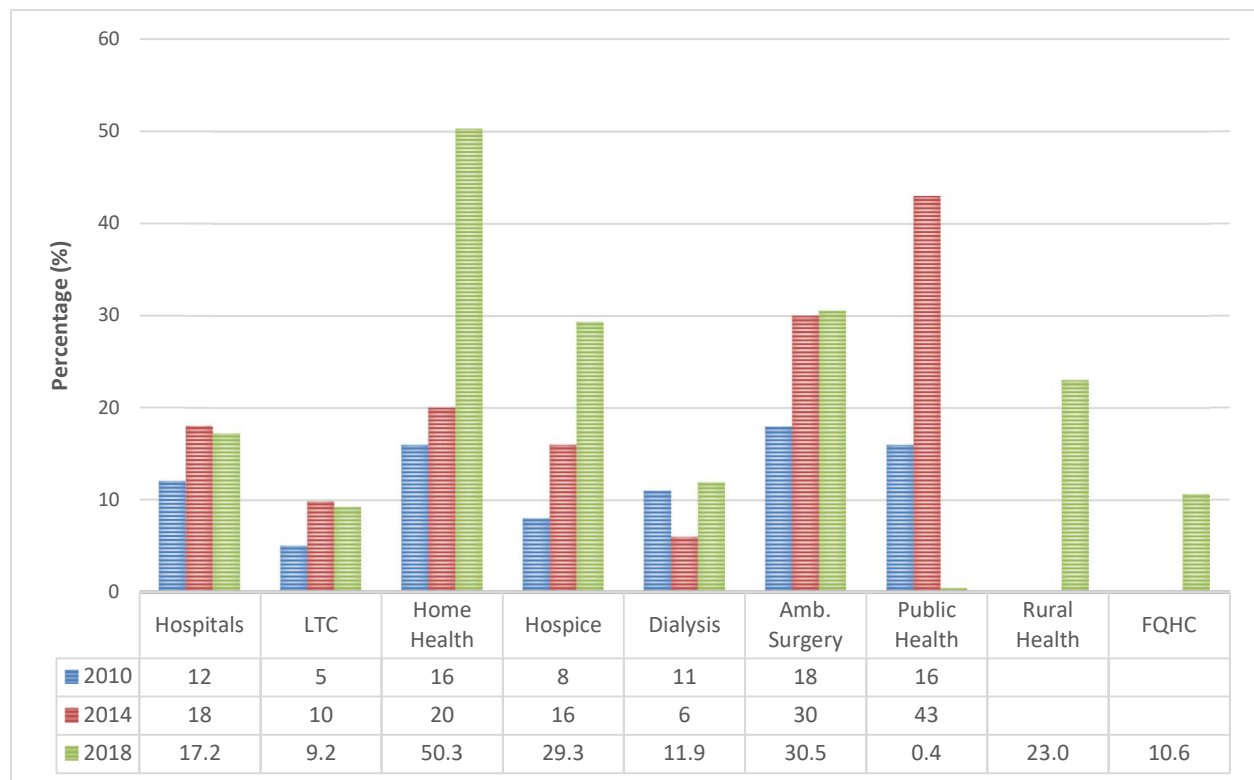


Figure 9. Part-time nursing staff hired in 2010, 2014 and 2018. Data was not available for rural health clinics and FQHCs in 2010 and 2014.

Between 2010 and 2018, the highest percentage of temporary nursing staff utilized by all of the healthcare industries that were surveyed, except for dialysis centers, took place in 2014 with a

high of 43% in public health and a low of six percent in dialysis centers (Figure 10). The percentage of temporary/per diem nurses employed by the healthcare facilities surveyed in this study declined substantially between 2014 and 2018. In 2014, the number of temporary nursing staff reported by responding employers was 5,899 which is a 70% decrease in number when compared to the 1,758 temporary staff reported by responding employers in 2018.

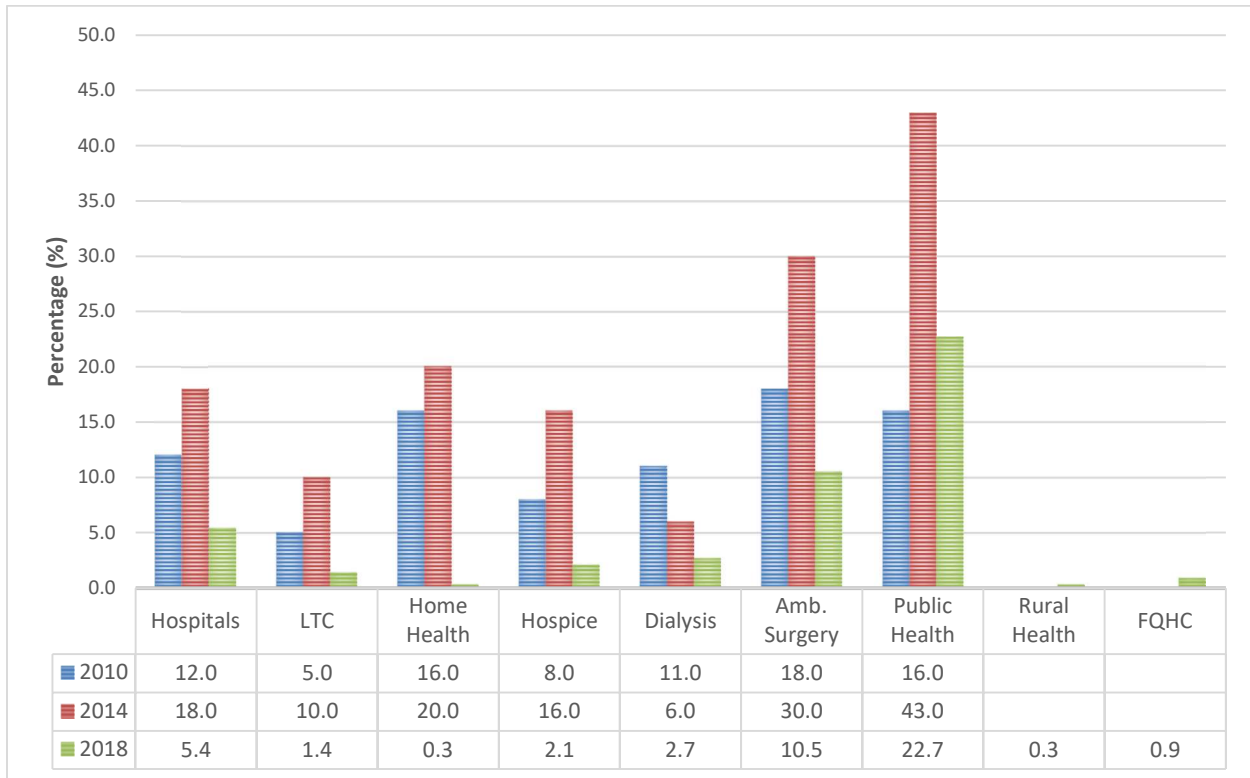


Figure 10. Temporary or per diem nursing staff hired in 2010, 2014 and 2018. Data was not available for rural health clinics and FQHCs in 2010 and 2014.

Vacancies

As shown in Table 7, the nursing workforce vacancies reported by responding healthcare facilities totaled 3,727 in 2018 compared to 2,399 in 2014 which is a 55.4% increase in the number of reported vacancies with the majority being RN vacancies; 2,042 in 2018 compared to 1,178 in 2014, a 73.5% increase in number. There was a 212% increase in NP vacancies (26 in 2014; 81 in 2018), a 133% increase in CRNA vacancies (six in 2014; 14 in 2018), a 200% increase in CNS vacancies (two in 2014; six in 2018), a 70% increase in LPN vacancies (362 in 2014; 616 in 2018); and a 17% increase in NA vacancies (825 in 2014; 969 in 2018). The majority of RN, NP, CRNA, CNS and LPN vacancies were in hospitals. The majority of NA vacancies were in LTC (473 vacancies) followed closely by hospitals (421 vacancies). There were no reported CNM vacancies reported in 2014 but two were reported in 2018.

Table 7. Full and Part-Time Vacancies Reported by Respondents as of January 1, 2019

| Healthcare Industry | RNs | NPs | CRNAs | CNSs | CNMs | LPNs | NAs | Total | |
|----------------------------|---------------|------------|--------------|-------------|-------------|-------------|------------|--------------|-------|
| Hospitals | Direct Care | 1,752 | 61 | 14 | 5 | 2 | 284 | 421 | 2,602 |
| | Indirect Care | 63 | | | | | | | |
| LTC | Direct Care | 69 | 0 | 0 | 1 | 0 | 187 | 473 | 739 |
| | Indirect Care | 9 | | | | | | | |
| Home Health | Direct Care | 63 | 0 | 0 | 0 | 0 | 112 | 11 | 199 |
| | Indirect Care | 13 | | | | | | | |
| Hospice | Direct Care | 21 | 2 | 0 | 0 | 0 | 6 | 8 | 38 |
| | Indirect Care | 1 | | | | | | | |
| Dialysis | Direct Care | 16 | 0 | 0 | 0 | 0 | 2 | 35 | 55 |
| | Indirect Care | 2 | | | | | | | |
| Ambulatory Surgery | Direct Care | 11 | 0 | 0 | 0 | 0 | 0 | 1 | 12 |
| | Indirect Care | 0 | | | | | | | |
| Public Health | Direct Care | 10 | 2 | 0 | 0 | 0 | 0 | 0 | 15 |
| | Indirect Care | 3 | | | | | | | |
| Rural Health | Direct Care | 4 | 4 | 0 | 0 | 0 | 17 | 7 | 32 |
| | Indirect Care | 0 | | | | | | | |
| FQHC | Direct Care | 2 | 12 | 0 | 0 | 0 | 13 | 5 | 35 |
| | Indirect Care | 3 | | | | | | | |
| Totals | | 2,042 | 81 | 14 | 6 | 2 | 616 | 969 | 3,727 |

Estimated vacancies

Estimated vacancies were obtained by inputting the mean value of respondents for the non-respondent healthcare facilities, and then obtaining the estimate for all healthcare facility types in the state. When vacancies were imputed for non-responding facilities, the total number of vacancies for all types of nursing personnel increased by 149% (9,284 estimated vacancies). The majority of the RN vacancies were for direct care RNs (4,484) which increased by 79% when

compared to 2014 (2,504) (Table 8). There was no need to estimate vacancies for public health because of the 100% response rate (vacancies were reported on one survey for all public health units/clinics). The 9,284 estimated vacancies noted in Table 8 reflect a substantial need for nursing personnel in Louisiana and are likely underestimates of the true number of nursing vacancies because not all employers of Louisiana’s nursing workforce (i.e., physicians’ offices) were surveyed.

Table 8. Estimated Full and Part-time Vacancies as of January 1, 2019

| Healthcare Industry | RNs | NPs | CRNAs | CNSs | CNMs | LPNs | NAs | Total | |
|----------------------------|---------------|------------|--------------|-------------|-------------|-------------|------------|--------------|-------|
| Hospitals | Direct Care | 3924 | 137 | 31 | 11 | 4 | 636 | 943 | 5,827 |
| | Indirect Care | 141 | | | | | | | |
| LTC | Direct Care | 220 | 0 | 0 | 3 | 0 | 597 | 1509 | 2,370 |
| | Indirect Care | 41 | | | | | | | |
| Home Health | Direct Care | 171 | 0 | 0 | 0 | 0 | 304 | 30 | 529 |
| | Indirect Care | 24 | | | | | | | |
| Hospice | Direct Care | 67 | 6 | 0 | 0 | 0 | 19 | 26 | 121 |
| | Indirect Care | 3 | | | | | | | |
| Dialysis | Direct Care | 44 | 0 | 0 | 0 | 0 | 5 | 96 | 150 |
| | Indirect Care | 5 | | | | | | | |
| Ambulatory Surgery | Direct Care | 27 | 0 | 0 | 0 | 0 | 0 | 2 | 29 |
| | Indirect Care | 0 | | | | | | | |
| *Public Health | Direct Care | 10 | 2 | 0 | 0 | 0 | 0 | 0 | 15 |
| | Indirect Care | 3 | | | | | | | |
| Rural Health | Direct Care | 13 | 13 | 0 | 0 | 0 | 55 | 23 | 104 |
| | Indirect Care | 0 | | | | | | | |
| FQHC | Direct Care | 8 | 48 | 0 | 0 | 0 | 51 | 20 | 139 |
| | Indirect Care | 12 | | | | | | | |
| Totals | | 4,713 | 206 | 31 | 14 | 4 | 1,667 | 2,649 | 9,284 |

*No need for estimations due to 100% response rate.

Estimated vacancies in Hospitals and LTC

Between 2014 and 2018, the number of estimated vacancies for RNs, NPs, CRNAs, LPNs, and NAs increased substantially (Table 9a). The number of estimated RN vacancies in hospitals doubled, going from 2,033 in 2014 to 4,065 in 2018, an increase of 99.95%. The number of LPN and NA estimated vacancies increased by 135% and 70%, respectively. In terms of the APRN workforce, there was a 169% increase in the number of estimated NP vacancies and a 182% increase in the number of estimated CRNA vacancies.

Table 9a. Estimated vacancies in hospitals between 2014 and 2018

| Report Year | RNs | NPs | CRNAs | LPNs | NAs |
|-----------------|-------|-------|-------|-------|------|
| 2014 | 2,033 | 51 | 11 | 271 | 556 |
| 2018 | 4,065 | 137 | 31 | 636 | 943 |
| 4 Year Variance | ↑100% | ↑169% | ↑182% | ↑135% | ↑70% |

Note: Too few facilities provided data for estimation for CNSs and CNMs.

Although smaller in actual number, there was a 94.78% increase in the number of estimated vacancies for RNs in LTC between 2018 (261 estimated RN vacancies) and 2014 (134 estimated RN vacancies) and, a 35% increase in estimated vacancies for LPNs and a 15% increase in estimated vacancies for NAs (Table 9b).

Table 9b. Estimated vacancies in LTC between 2014 and 2018

| Report Year | RNs | LPNs | NAs |
|-----------------|------|------|-------|
| 2014 | 134 | 443 | 1,309 |
| 2018 | 261 | 597 | 1,509 |
| 4 Year Variance | ↑95% | ↑35% | ↑15% |

Note: Too few facilities provided data for estimation for CNSs and CNMs.

There was a 220% increase in the number of estimated vacancies for LPNs in home health agencies when compared to the number in 2014 (304 in 2018; 95 in 2014) and 140% increase in the number of estimated vacancies for NAs in dialysis centers (96 in 2018; 40 in 2014). Dialysis centers also went from an estimated vacancy of 29 RNs in 2014 to 44 in 2018, a 52% increase in number. In contrast, the number of estimated RN vacancies in hospices and ambulatory surgery centers decreased by 42% (67 in 2018; 115 in 2014) and 25% (27 in 2018; 36 in 2014), respectively. The actual number of RN vacancies for public health decreased by 52% (10 in 2018; 21 in 2014).

The estimated vacancies for indirect care RNs, usually those that are in administrative or managerial positions, increased by 86% for LTC (41 in 2018; 22 in 2014) and 66% for hospitals (141 in 2018; 85 in 2014). There were zero indirect vacancies reported by public health in 2014 and three positions were reported in 2018.

Vacancy Rates

Full-time equivalent (FTE) position vacancy rates were computed from the reported number of vacancies. FTE vacancy rates are the standard metric used by workforce planners to understand the amount of nursing labor that is currently demanded by employers. Position vacancy rates represent the proportion of FTE positions, by industry group and personnel type, that were vacant

as of January 1, 2019. The position vacancy rate removes the influence of individual facilities with very high vacancy rates because filled and vacant positions are summed across facilities before the rate is constructed. One FTE was used for full-time nursing positions and 0.5 FTEs was used for part-time positions, although we must take into consideration when interpreting the findings that all part-time positions may not be equivalent to 0.5 FTE. Vacancy rates were not computed for CRNAs, CNSs and CNMs because the numbers were too small to produce a meaningful vacancy rate.

RN FTE vacancy rates for each industry are presented in Table 10. Vacancy rates for RNs were presented in terms of direct care RNs (RNs spending 74-100% of their scheduled workday providing care to patients) and indirect care RNs (RNs spending 25% or less of their scheduled work time providing direct care to patients and 75% or more of their time performing administrative or supervisory duties). The highest vacancy rate for direct care RNs was 19.2% percent for LTC, 10.5% for FQHCs, 9.5% for hospitals and 9.2% for home health. The healthcare industry with the highest vacancy rate for indirect care RNs (11.1%) and NPs (11.5%) was FQHCs. The highest LPN vacancy rates were for dialysis centers (18.2%), home health (11.0%), hospitals (9.3%), LTC/SNF (9.1%) and FQHCs (8.8%). Dialysis centers had the highest vacancy rate for NAs (15.9%), followed by LTC (11.1%) and hospitals (9.3%).

It is important to note that the vacancy rate for direct care RNs in Louisiana hospitals was 9.5% in 2018 compared to 6.6% in 2014 (Nurse Demand Report, 2014), which represents an increase of approximately three percentage points. Hospitals are the largest employers of RNs and the vast majority of RNs in the hospital setting provide direct patient care. According to the 2020 National Healthcare Retention and RN Staffing Report, the national RN vacancy rate for hospitals is 9.0% compared to 7.2% in 2014, an increase of 2.2%. In our neighboring state of Texas, the RN vacancy rate was 5.9% in 2019 (Texas Center for Nursing Workforce Analysis, 2019).

Table 10. Full-time Equivalent (FTE) Vacancy Rates by Healthcare Industry Type as of January 1, 2019 (All values represent percentages)

| Healthcare Industry | | RNs | NPs | LPNs | NAs |
|---------------------------|---------------|------|------|------|------|
| Hospitals | Direct Care | 9.5 | 8.7 | 9.3 | 9.3 |
| | Indirect Care | 3.4 | | | |
| LTC | Direct Care | 19.2 | 0 | 9.1 | 11.1 |
| | Indirect Care | 4.3 | | | |
| Home Health | Direct Care | 9.2 | 0 | 11.0 | 2.7 |
| | Indirect Care | 6.2 | | | |
| Hospice | Direct Care | 6.9 | 2.6 | 5.4 | 2.7 |
| | Indirect Care | 1.7 | | | |
| Public Health | Direct Care | 4.3 | 9.5 | 0 | 0 |
| | Indirect Care | 4.9 | | | |
| Ambulatory Surgery | Direct Care | 2.5 | * | 0 | 1.2 |
| | Indirect Care | 0.0 | | | |
| Dialysis | Direct Care | 6.8 | 0 | 18.2 | 15.9 |
| | Indirect Care | 4.1 | | | |
| Rural Health | Direct Care | 1.8 | 3.7 | 5.5 | 6.6 |
| | Indirect Care | 0.0 | | | |
| FQHC | Direct Care | 10.5 | 11.5 | 8.8 | 7.1 |
| | Indirect Care | 11.1 | | | |

*Too few on staff to produce a meaningful vacancy rate.

Vacancy Rates Over Time – 2010, 2014, and 2018

Between 2010 and 2018 there were substantial increases in direct care RN vacancy rates in LTC and hospitals (Figure 11). LTC went from a seven percent RN vacancy rate in 2010 to a 19% vacancy rate in 2018, an increase in vacancy rate by 12% over the last eight years. Hospitals went from a four percent RN vacancy rate in 2010 to a 10% vacancy rate in 2018, an increase of six percentage points. In contrast, there was a 12% RN FTE vacancy rate for public health in 2014 compared to a four percent vacancy rate in 2018, a decrease of eight percentage points. Because of the increase in the response rates for rural health clinics and FQHCs for the 2019 LCN-NES, vacancy rates were able to be computed. As seen in Figure 10, the RN FTE vacancy rate for FQHCs in 2018 was 11% and two percent for rural health clinics.

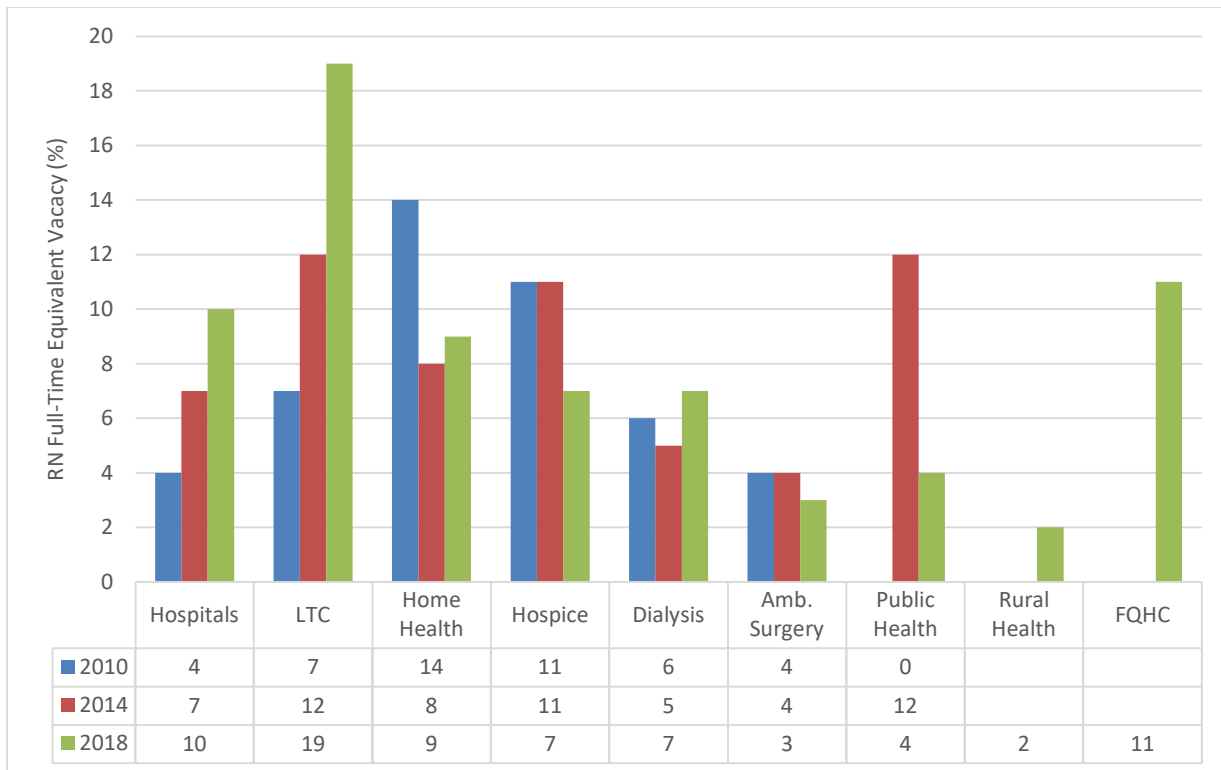


Figure 11. RN Full-Time Equivalent Vacancy Rates by Industry for 2010, 2014, and 2018.

Note: 2018 was the first year that there was sufficient data reported to obtain meaningful vacancy rates for rural health clinics and FQHCs.

As illustrated in Figure 12, there has been an increase in the LPN FTE vacancy rate in dialysis centers, going from 12% in 2010 to a zero percent vacancy rate in 2014, up to an 18% vacancy rate in 2018. There was also an increase in the LPN FTE vacancy rate for home health, hospitals and LTC in 2018 when compared to 2014. There has been a substantial decrease in the LPN FTE vacancy rates in ambulatory surgery centers and hospices over the past eight years, by 16 and 14 percentage points, respectively. There was a nine percent vacancy rate in public health and a five percent vacancy rate in rural health clinics for FTE LPNs in 2018. There were no LPN vacancies reported for public health.

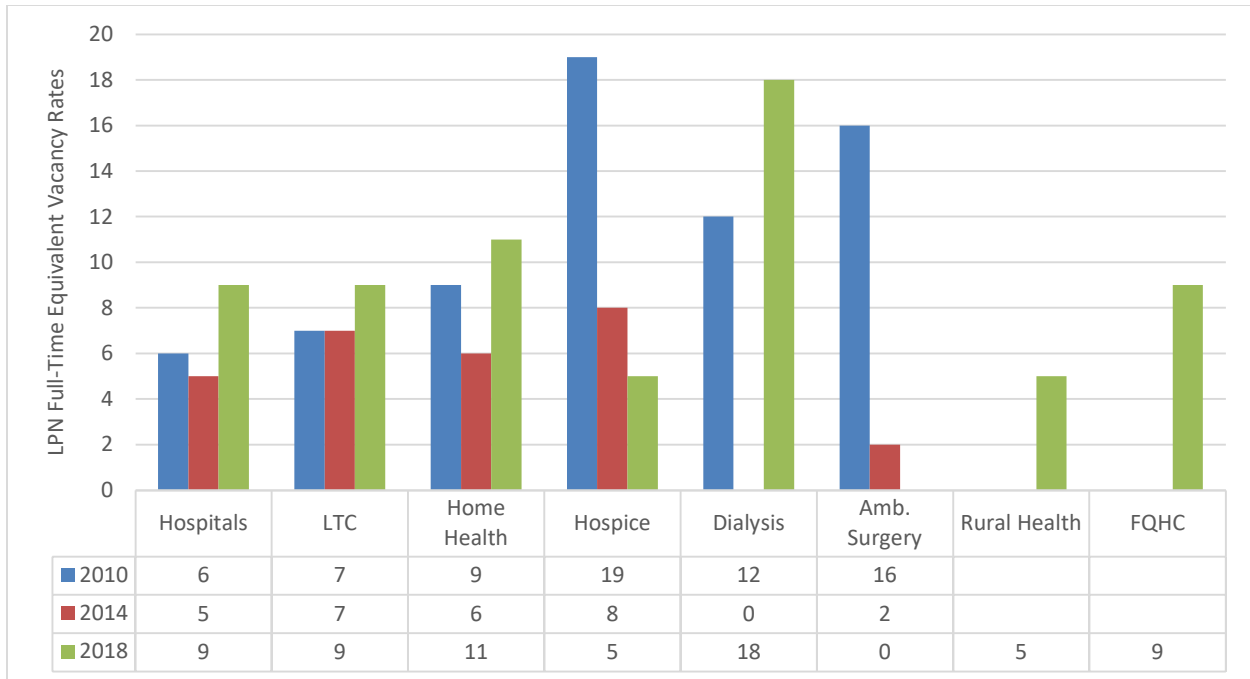


Figure 12. LPN Full-Time Equivalent Vacancy Rates by Industry for 2010, 2014, and 2018.

Note: 2018 was the first year that there was sufficient data reported to obtain meaningful vacancy rates for rural health clinics and FQHCs. There were zero LPN vacancies reported for public health.

In terms of NAs, dialysis centers had a substantial increase in the NA FTE vacancy rate in 2018, going from a vacancy rate of four percent in 2014 to a vacancy rate of 16% in 2018 (Figure 13). LTC also had an increase in the NA FTE vacancy rates when compared to 2014, going from nine percent in 2014 to 11% in 2018. There was no change in the nine percent NA FTE vacancy rate for hospitals when compared to 2014 but there was a decrease in the NA FTE vacancy rates in home health and hospices between 2014 and 2018.

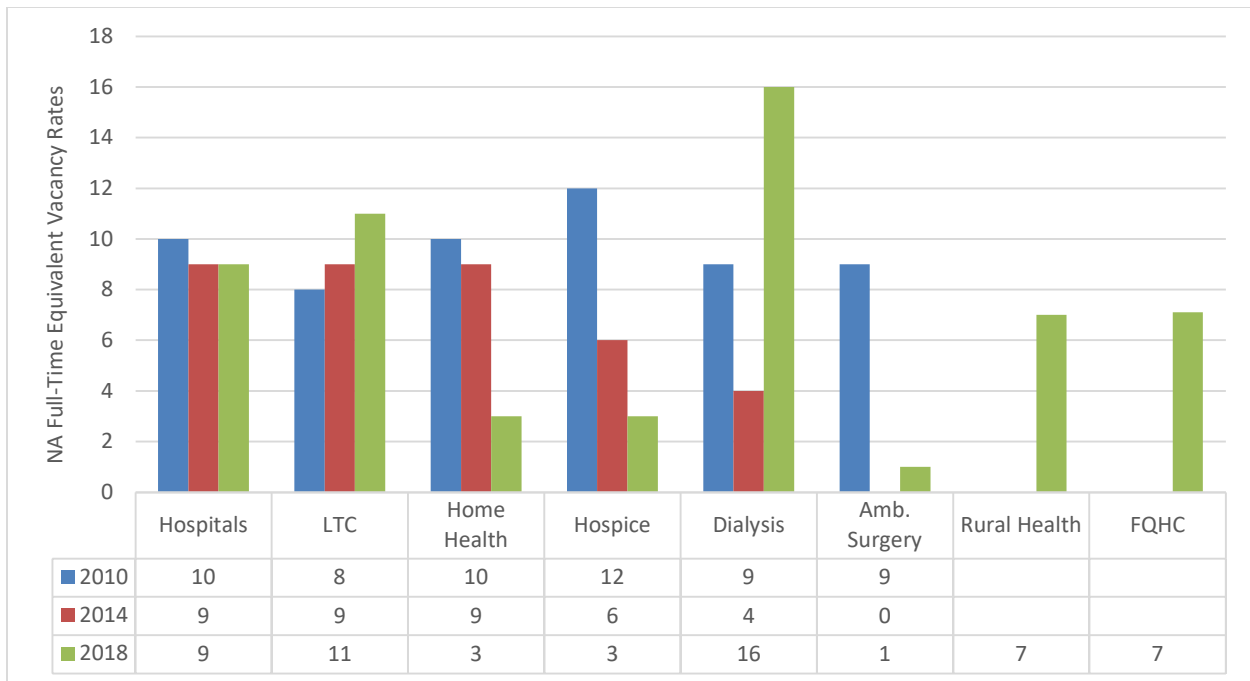


Figure 13. NA Full-Time Equivalent Vacancy Rates by Industry for 2010, 2014, and 2018. Zero NA vacancy rates for ambulatory surgery in 2014 and 2018.

Note: 2018 was the first year that there was sufficient data reported to obtain meaningful vacancy rates for rural health clinics and FQHCs.

Separations and Turnover Rates

The number of separations is very important when addressing the economic impact of high turnover rates within health care facilities. Nursing turnover is a major issue impacting healthcare industries across the country. Highly trained, stable, and fully engaged nursing staff are needed to provide high quality, patient centered, and cost-effective care (Hunt, 2009). The Nursing Turnover Cost Calculation Methodology shows that each nurse that leaves his or her position costs the hospital approximately \$88,000 (Krsek, 2011). Nurses are critical to the provision of healthcare and when there is high turnover among nursing staff the impact is felt in a variety of ways: decreased quality of patient care; loss of patients; further increase in nursing staff turnover; and increased accident and absenteeism rates, all of which has a spiraling effect on the bottom line for the healthcare industry (Hunt, 2009). Turnover rates are highest when jobs are plentiful, the economy is doing well, and nurses who are unhappy with their present positions have more options. On the other hand, turnover is lowest when the economy is not doing well and employers have cut back on hiring, therefore nursing positions are not as readily available (Kovner, Brewer, & Fatehi, 2014).

In the current study, employers were asked to report the number of separations that occurred between January 1, 2018 and December 31, 2018 (Table 11). Separations are defined as the number of nursing personnel, full and part-time, that were employed by a health care facility within a specified time frame and left the facility either voluntarily or involuntarily. Separations do not include nursing personnel that moved from one position to another within a facility or persons hired but never reporting for work. Healthcare facilities completing the 2019 LCN-NES reported 2,925 (2,864 in 2014) RN separations (two percent increase); 1,471 (1,365 in 2014)

LPN separations (eight percent increase); and 3,716 (3,647 in 2014) NA separations (two percent increase) between January 1, 2018 and December 31, 2018. These numbers exclude non-respondents and healthcare industries that were not surveyed. Because of the small numbers reported, separations for all APRNs were reported together. As seen in Table 11, there were 110 APRN separations reported by responding healthcare facilities.

Table 11. Number of Separations Reported by Respondents between 1/1/2018 and 12/31/2018

| Healthcare Industry | RNs | APRNs | LPNs | NAs | Total |
|----------------------------|--------------|--------------|--------------|--------------|--------------|
| Hospitals | 2,380 | 75 | 552 | 952 | 3,959 |
| LTC | 125 | 0 | 645 | 2,634 | 3,404 |
| Home Health | 205 | 1 | 156 | 34 | 396 |
| Hospice | 102 | 8 | 30 | 39 | 179 |
| Dialysis | 34 | 0 | 3 | 20 | 57 |
| Ambulatory Surgery | 36 | 5 | 13 | 2 | 57 |
| Public Health | 13 | 2 | 0 | 3 | 18 |
| Rural Health | 29 | 8 | 47 | 26 | 111 |
| FQHC | 1 | 11 | 25 | 6 | 43 |
| Total | 2,925 | 110 | 1,471 | 3,716 | 8,224 |

When data were imputed for non-respondents, the estimated separations reported for all types of nursing workforce personnel more than doubled and in some instances, almost tripled in number (Table 12). Between January 1, 2018 and December 31, 2018, there were an estimated 6,905 RN separations, 4,103 LPN separations and 10,922 NA separations. The majority of the RN separations were in hospitals, whereas the majority of the separations for LPNs and NAs were in LTC. There were 281 APRN separations with the majority being NPs which occurred in hospitals.

Table 12. Number of Estimated Separations between 1/1/2018 and 12/31/2018

| Healthcare Industry | RNs | APRNs | LPNs | NAs | Total |
|---------------------|--------------|------------|--------------|---------------|---------------|
| Hospitals | 5,331 | 168 | 1,236 | 2,132 | 8,868 |
| LTC | 399 | 0 | 2,058 | 8,402 | 10,859 |
| Home Health | 556 | 3 | 423 | 92 | 1,073 |
| Hospice | 327 | 26 | 96 | 125 | 574 |
| Dialysis | 93 | 0 | 8 | 55 | 156 |
| Ambulatory Surgery | 88 | 12 | 32 | 5 | 137 |
| Public Health* | 13 | 2 | 0 | 3 | 18 |
| Rural Health | 94 | 26 | 151 | 84 | 355 |
| FQHC | 4 | 44 | 99 | 24 | 171 |
| Total | 6,905 | 281 | 4,103 | 10,922 | 22,211 |

* Data not imputed due to 100% response rate.

Estimated Separations over Time

The number of estimated separations for RNs, LPNs and NAs increased by five percent, 17% and 11%, respectively between 2014 and 2018 (Figure 14).

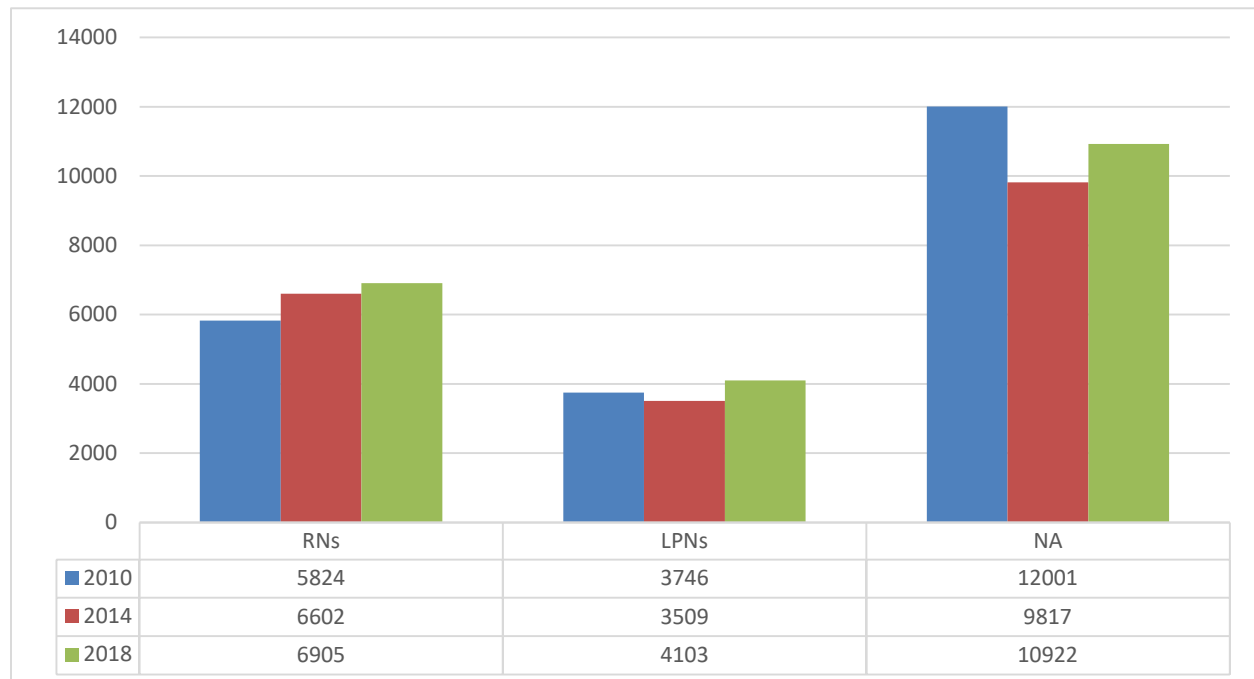


Figure 14. Estimated separations for RNs, LPNs, and NAs for 2010, 2014, and 2018.

Turnover Rates

Table 13 presents turnover rates by industry group and personnel type. Turnover rates were based on the number of nursing personnel (RNs, APRNs, LPNs, NAs) leaving a healthcare facility between January 1, 2018 and December 31, 2018 divided by the average number of personnel employed by the facility during the year, estimated by averaging the number employed on the first and last day of the calendar year. Average turnover rates can be heavily skewed by facilities with very high (or very low) turnover rates. For this reason, both average and median facility rates are presented in Table 13. The median turnover rate describes a rate at which half of the facilities fall below the rate and half fall above the rate, which removes the influence of outliers.

In 2018, the median turnover rate for RNs in hospitals in Louisiana, the largest employer of RNs identified in the survey in terms of the number of budgeted positions, was 19.4% over the course of one year compared to a median turnover rate of 13.8% in 2014 and 17.0% in 2010. In 2019, the national turnover rate for RNs in hospitals was reported to be 15.9%, a decrease of 0.9 percentage points when compared to the 16.8% turnover rate reported in 2017. Hospices had the highest median turnover rates for RNs (56.2%), followed by LTC (26.1%), home health (22.2%) and hospitals (19.4%). The highest median turnover rate for LPNs occurred in LTC and FQHCs, both having a 33.3% median turnover rate with rural health clinics following close behind with a 25.5% turnover rate. Because of the small numbers for each type of APRN, all types of APRNs were combined to calculate the turnover rate and for the majority of the various types of healthcare facilities, at least half reported zero turnovers for the year, resulting in a median turnover rate of zero percent.

Table 13. Turnover Rates Reported by Respondents, by Industry Group and Personnel Type (January 1, 2018 – December 31, 2018)

| Type of Healthcare Facility | RNs | | APRNs | | LPNs | | NAs | |
|-----------------------------|------|------|-------|------|------|------|------|------|
| | Avg. | Med. | Avg. | Med. | Avg. | Med. | Avg. | Med. |
| Hospitals | 20.2 | 19.4 | 11.2 | 5.9 | 28.8 | 23.3 | 36.7 | 29.4 |
| LTC | 31.9 | 26.1 | 0.0 | 0.0 | 47.3 | 33.3 | 97.7 | 67.4 |
| Home Health | 33.0 | 22.2 | 21.6 | * | 22.7 | 14.3 | 27.5 | 0.0 |
| Hospice | 52.2 | 52.2 | 26.4 | 0.0 | 37.9 | 0.0 | 32.4 | 20.2 |
| Dialysis | 21.3 | 0.0 | 18.5 | 0.0 | 40.0 | * | 21.7 | 25.0 |
| Ambulatory Surgery | 13.0 | 8.7 | 13.7 | 0.0 | 46.7 | 0.0 | 8.9 | 0.0 |
| Public Health | 8.5 | 6.4 | 10.3 | 0.0 | 0.0 | 0.0 | 20.5 | 0.0 |
| Rural Health | 27.8 | 0.0 | 14.3 | 0.0 | 23.1 | 25.5 | 46.8 | 36.7 |
| FQHCs | 3.7 | 0.0 | 16.9 | 3.8 | 13.6 | 33.3 | 14.6 | 22.2 |

Note: A zero percent median turnover rate indicates that at least half of the facilities had a zero percent turnover rate. The much higher average rates indicate the presence of outliers that skew the average higher.

*Numbers too small to calculate reliable or realistic turnover rates.

Projected One-Year Growth in Budgeted Positions (2019)

Employers were asked to report the total number of new positions they intended to create over the next year. The actual numbers reported by responding healthcare industries can be seen in Table

14. The number of new positions due to job growth in 2019 reported by respondents alone was 652 RNs (737 in 2014), 278 LPNs (255 in 2014), and 278 NAs (316 in 2014). These numbers do not include estimates for non-responding health care facilities. The number of new APRN positions that new employees planned to create in 2019 included 54 NPs (29 in 2014), 11 CRNAs (7 in 2014), one CNM (one in 2014) and five CNSs (two in 2014).

Table 14. One-Year Growth in Positions for Nursing Staff (2019) Reported by Respondents

| Healthcare Industry | RNs | NPs | CRNAs | CNMs | CNSs | LPNs | NAs | |
|----------------------------|---------------|------------|--------------|-------------|-------------|-------------|------------|------------|
| Hospitals | Direct Care | 367 | 20 | 10 | 1 | 2 | 37 | 65 |
| | Indirect Care | 24 | | | | | | |
| LTC | Direct Care | 25 | 1 | | | 1 | 34 | 72 |
| | Indirect Care | 4 | | | | | | |
| Home Health | Direct Care | 113 | 1 | | | 0 | 153 | 26 |
| | Indirect Care | 24 | | | | | | |
| Hospice | Direct Care | 45 | 6 | | | 0 | 18 | 32 |
| | Indirect Care | 5 | | | | | | |
| Dialysis | Direct Care | 10 | 1 | | | 0 | 4 | 25 |
| | Indirect Care | 1 | | | | | | |
| Ambulatory Surgery | Direct Care | 27 | 0 | 1 | 0 | 0 | 1 | 3 |
| | Indirect Care | 1 | | | | | | |
| Rural Health | Direct Care | 3 | 11 | 0 | 0 | 0 | 11 | 9 |
| | Indirect Care | 0 | | | | | | |
| Public Health | Direct Care | 2 | 0 | | 0 | 0 | 0 | 1 |
| | Indirect Care | 0 | | | | | | |
| FQHC | Direct Care | 0 | 14 | | | 2 | 20 | 9 |
| | Indirect Care | 1 | | | | | | |
| Totals | | 652 | 54 | 11 | 1 | 5 | 278 | 242 |

Table 15 shows the estimated expected growth in nursing jobs through January 1, 2020 when data is imputed for non-respondents. If non-responders expect similar growth as their responding counterparts, 1,622 new RN jobs (1,741 in 2014), 194 NP jobs (59 in 2014), 25 CRNA jobs (10 in 2014), 792 LPN jobs (619 in 2014) and 690 NA jobs (796 in 2014) will be created in 2020.

Table 15. Estimated One-Year Growth in Positions (2019)

| Healthcare Industry | RNs | NPs | CRNAs | CNSs | CNMs | LPNs | NAs |
|----------------------------|-------------------------------------|------------|--------------|-------------|-------------|-------------|------------|
| Hospitals | Direct Care 826 Indirect Care 54 | 45 | 23 | 2* | 5* | 83 | 146 |
| LTC | Direct Care 80 Indirect Care 13 | 36 | | 1* | | 108 | 230 |
| Home Health | Direct Care 307 Indirect Care 65 | 3 | | | | 415 | 70 |
| Hospice | Direct Care 144 Indirect Care 16 | 19 | | | | 58 | 103 |
| Dialysis | Direct Care 27 Indirect Care 3 | 3 | | | | 11 | 68 |
| Ambulatory Surgery | Direct Care 66 Indirect Care 2 | | 2 | | | 2 | 7 |
| Rural Health | Direct Care 10 Indirect Care 3 | 36 | | | | 36 | 29 |
| Public Health | Direct Care 2 Indirect Care 0 | 0 | | 0 | 0 | 0 | 1 |
| FQHC | Direct Care 0 Indirect Care 4 | 55 | | | 8 | 79 | 36 |
| Totals | 1,622 | 194 | 25 | 3 | 13 | 792 | 690 |

*Too few facilities provided data for calculation of estimates, therefore respondent reports are provided.

The Louisiana Workforce Commission’s long-term projections for annual growth rates for RNs, NPs, CRNAs and NAs were in line with the actual number of new jobs to be created reported by the healthcare facilities that responded to the survey, yet the numbers reported for LPNs (278) was significantly different from LWC’s projections (Table 16). When estimated projections for new jobs to be created in 2019 were based on responding employers and imputed values for non-responding employers to the 2019 LCN NES, substantial differences in projections were noted when compared to those reported by LWC. The differences in projections may be attributable to different methodologies used and/or the source of the data obtained (chief nursing officers, administrators and human resource staff).

Table 16. Number of New Jobs to be Created in 2019 by Employers

| | New jobs employers planned to create in 2019 based on findings from the 2019 LCN-NES | Annual new growth (# of projected new jobs) reported by the Louisiana Workforce Commission 2016-2026 Long-term Projections | Estimated new jobs employers planned to create in 2019 based on responding employers and imputed values for non-responding employers to the 2019 LCN-NES |
|--------------|---|---|---|
| RNs | 652 | 610 | 1,622 |
| NPs | 54 | 60 | 194 |
| CRNAs | 11 | 10 | 25 |
| CNMs | 1 | | 13 |
| CNSs | 5 | | 3 |
| LPNs | 278 | 60 | 792 |
| NAs | 242 | 240 | 690 |

Annual Growth Rate

In 2019, the healthcare industry group with the greatest overall one-year growth rate for direct care RNs was hospice with a 20.6% one-year growth rate (29.1% in 2014), followed closely by home health with a 20.4% one-year growth rate (16.2% in 2014). Dialysis centers projected a 36.4% growth rate over the next year for LPNs and public health anticipated a 20% increase in the number of NAs employed over the next year followed by a 17.4% growth rate for hospice. As depicted in Table 17, although small in numbers, 100% and 50% one-year growth rates were projected for NPs in hospices and dialysis centers, respectively (an expected increase of six NPs employed by hospices and one NP employed by dialysis centers). Hospitals planned to increase the number of CRNAs by two percent.

Created positions reported by respondents reflect the healthcare facility’s desire to expand but may not reflect the reality of the facility’s ability to expand in an era of budget constraints. Expectations may be revised based upon current economic pressures or if the current wages for nursing personnel increase considerably.

Table 17. One-year Industry Growth Rate (%) for Nursing Personnel (2019)

| Healthcare Industry | | RNs | NPs | CRNAs | LPNs | NAs |
|---------------------------|---------------|------|-------|-------|------|------|
| Hospitals | Direct Care | 2.2 | 3.1 | 2.2 | 1.3 | 1.7 |
| | Indirect Care | 1.3 | | | | |
| LTC | Direct Care | 7.9 | 8.3 | | 1.9 | 1.9 |
| | Indirect Care | 2.2 | | | | |
| Home Health | Direct Care | 20.4 | | | 19.1 | 10.8 |
| | Indirect Care | 11.9 | | | | |
| Hospice | Direct Care | 20.6 | 100.0 | | 15.9 | 17.4 |
| | Indirect Care | 8.3 | | | | |
| Dialysis | Direct Care | 4.7 | 50.0 | | 36.4 | 12.8 |
| | Indirect Care | 2.1 | | | | |
| Ambulatory Surgery | Direct Care | 8.3 | | 0.0 | 2.6 | 7.0 |
| | Indirect Care | 3.6 | | | | |
| Rural Health | Direct Care | 2.1 | 10.2 | | 4.3 | 9.9 |
| | Indirect Care | 0.0 | | | | |
| Public Health | Direct Care | 0.9 | 0.0 | | 0.0 | 20.0 |
| | Indirect Care | 0.0 | | | | |
| FQHCs | Direct Care | 0.0 | 14.6 | | 17.4 | 12.9 |
| | Indirect Care | 3.7 | | | | |

Note: Did not include temporary staff in calculation of growth rates.

Clinical or Administrative Specialties in High Demand

Employers were asked about their experience in recruiting nursing personnel in a number of clinical and administrative specialty positions. Rankings were based on the employer’s level of difficulty in recruiting (very easy to recruit [1] to very difficult to recruit [5]). Because the industry groups employed nurses with different specialties, surveys were tailored to each industry.

The top five most difficult nursing positions to recruit in each healthcare industry group can be found in Table 18. Registered nurses were reported as one of the most difficult types of nurses to recruit by hospitals, LTC facilities, home health and hospice. LPNs were identified as being one of the five most difficult types of nurses to recruit by LTC facilities, dialysis centers, rural health clinics and FQHCs. Nurse administrators were identified by five of the three types of healthcare facilities surveyed as being one of the five most difficult types of nurses to recruit. There were a number of respondents to the employer survey that based on the numbers they provided, either felt that it was relatively easy to hire certain types of nursing personnel or the numbers were too small to accurately determine a difficulty in recruiting index.

Table 18. Top Five Most Difficult Nursing Positions to Fill, by Type of Healthcare Facility (January 1, 2018 – December 31, 2018)

| | Hospitals | LTC | Home Health | Hospice | Dialysis | Amb. Surgery | Rural Health | FQHC | Public Health |
|----------|----------------------|---|----------------------------------|-------------------------|----------------------|--------------|--------------|-----------------------------------|---------------|
| 1 | RNs | RNs | Homecare Staff RNs | Home Hospice Staff RNs | Nurse Administrators | * | LPNs | LPNs | * |
| 2 | Nurse Managers | LPNs | Nurse Administrators | Nurse Administrators | CNSs | * | * | Nurse Administrators | * |
| 3 | CNSs | NAs | CNSs | Inpatient Staff RNs | LPNs | * | * | CNSs | * |
| 4 | CNLs | Case Manager/ Discharge Planners | Case Manager/ Discharge Planners | 'Other' types of nurses | * | * | * | Quality/ Infection Control Nurses | * |
| 5 | Nurse Administrators | Quality/ Infection Control Nurses AND Unit Level Nurse Managers | Oncology Specialists | CNSs | * | * | * | Inservice Educators | * |

Note: Rankings are based on the respondents' level of difficulty in recruiting various types of nursing personnel.
*The number of respondents for these healthcare facilities were too small for analysis.

Educational Preparation of RNs Employed by Healthcare Facilities

The majority of the RNs employed in all of the healthcare industries listed in Table 19 were prepared at the associate and baccalaureate level, with baccalaureate prepared nurses being the majority in hospitals, hospice, ambulatory surgery centers and public health. Over 63% of the RNs employed by dialysis centers are prepared at the AD level. Approximately 43% of the nurses employed by FQHCs are prepared at the Masters' level. FQHCs also reported the highest percentage of doctoral prepared nurses (approximately eight percent) when compared to the other types of healthcare facilities that responded to the nurse employer survey.

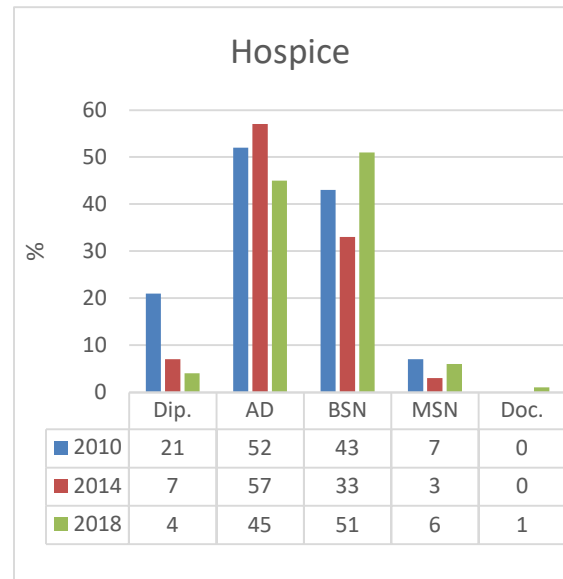
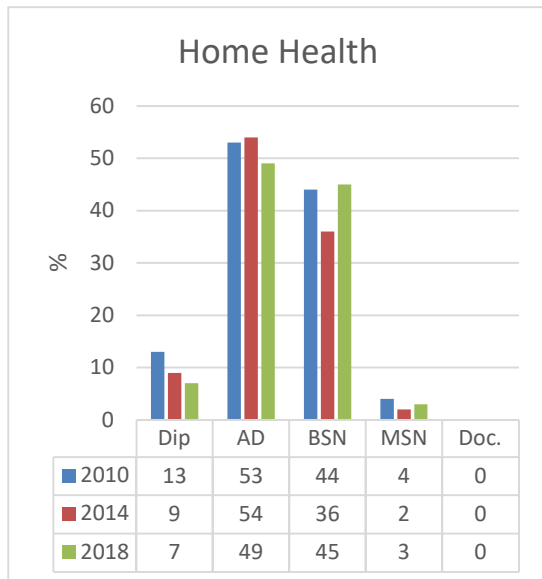
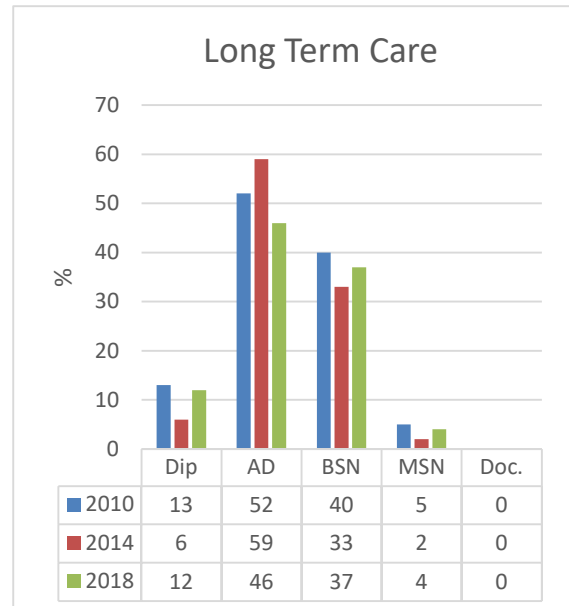
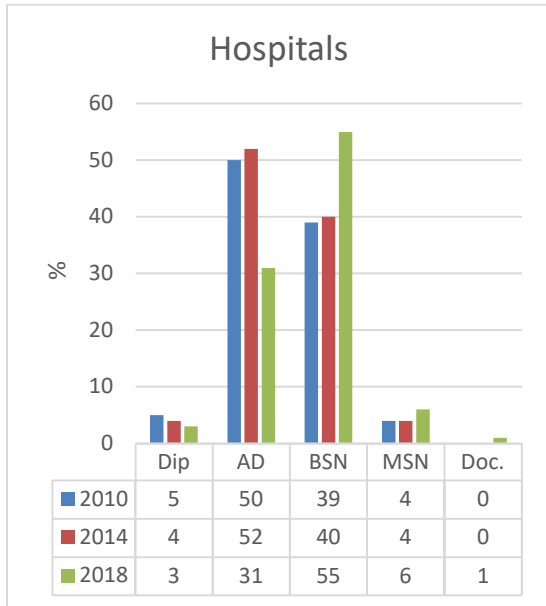
Table 19. Educational Preparation of RNs in Louisiana according to Health Care Industry Group (2018)

| Type of Degree | Hospitals n=67 % | LTC n=75 % | Home Health n=56 % | Hospice n=32 % | Dialysis n=61 % | Amb. Surgery n=31 % | Rural Health n=26 % | Public Health n=11 % | FQHC n=15 % |
|------------------|------------------------|------------------|--------------------------|----------------------|-----------------------|---------------------------|---------------------------|----------------------------|-------------------|
| Diploma | 2.6% | 12.0% | 7.1% | 4.1% | 3.4% | 6.8% | 1.8% | 2.4% | 18.2% |
| AD | 31.2% | 45.8% | 49.0% | 45.4% | 63.4% | 30.4% | 45.8% | 23.6% | 15.6% |
| BSN | 55.4% | 36.5% | 45.0% | 50.5% | 44.7% | 56.8% | 22.0% | 65.3% | 23.4% |
| Masters | 6.4% | 4.0% | 2.6% | 5.6% | 4.9% | 4.3% | 16.1% | 8.4% | 42.9% |
| Doctorate | 0.5% | 0.3% | 0.2% | 0.5% | 0.0% | 0.0% | 1.2% | 1.3% | 7.8% |

Educational Progression of RNs Employed between 2010 and 2018

Figure 14 illustrates the educational preparation of registered nurses employed by the various healthcare facilities that responded to LCN-NES between 2010 and 2018. For many of the healthcare facilities, there was a progression over the eight-year period in terms of the educational preparation of the nurses that were employed. For example, hospitals and public health had a

substantial shift in the percentage of their RNs that were prepared at the baccalaureate level between 2014 and 2018. There was a 15-percentage point increase in the proportion of RNs that were prepared at the baccalaureate level in hospitals and a 19-percentage point increase in the proportion employed by public health. There was a decrease in the percentage of AD prepared nurses employed by all of the reporting healthcare facilities except for dialysis centers which had a 13-percentage point increase between 2010 and 2018.



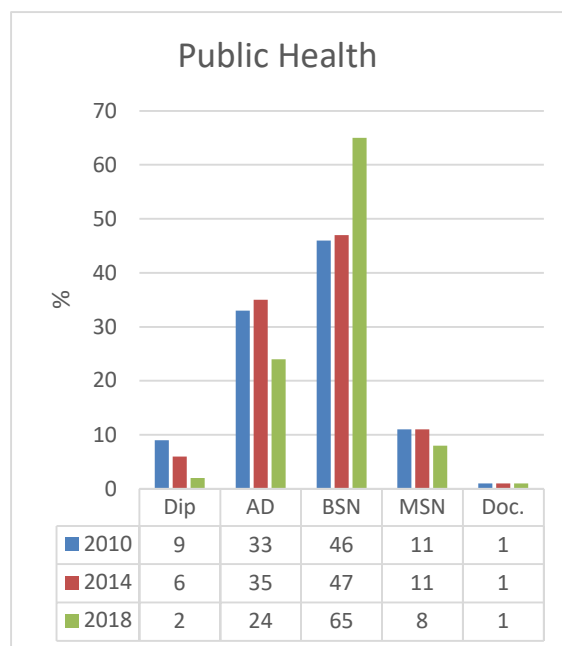
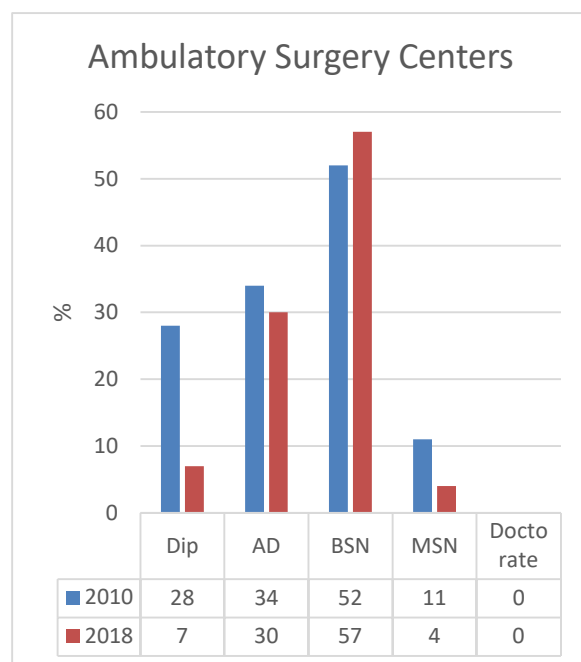
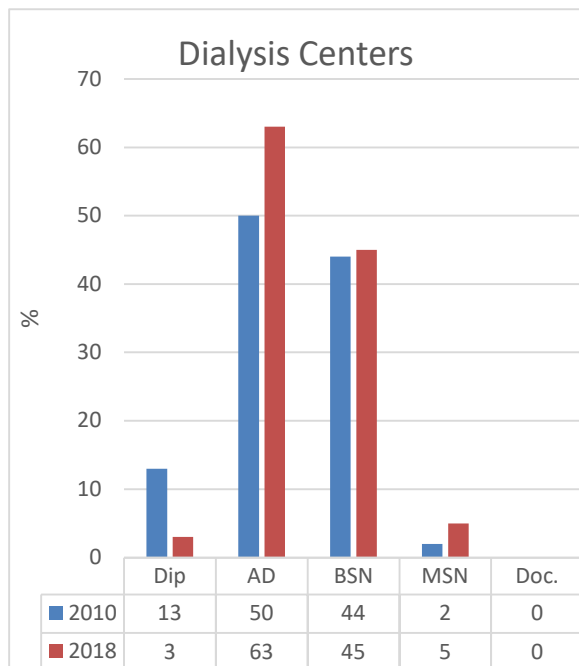


Figure 14. Educational preparation of RNs employed by responding healthcare facilities in 2010, 2014, and 2018 (2014 data was not available for dialysis centers and ambulatory surgery care centers).

Hiring of New Graduates, Nurse Residency, Pay Differential, and Educational Support

Beginning with the 2014 LCN-NES, employers were asked questions about hiring practices related to new graduates, residency programs, pay differentials, and support for nurses to advance their education (Table 20). In 2018, a total of 882 new RN grads and 200 new LPN grads were hired by hospitals compared to 812 RNs and 76 LPNs, respectively, hired by responding hospitals in 2014.

This represents a nine percent increase in the number of RNs hired by responding hospitals and a 163% increase in the number of new LPN grads hired by hospitals. Sixty-six percent of the hospitals reported hiring new RN graduates (64% in 2014) and 42% hired new LPN graduates (38% in 2014). Fifty percent of the public health regional clinics preferred hiring RNs with BSNs. The percentage of healthcare facilities offering a nurse residency program ranged from 28.9% for hospitals to zero percent for public health. The percentage of healthcare facilities paying a differential for nurses with a BSN ranged from 22.2% of the rural health clinics, 20% of the FQHCs and 17% of the hospitals to zero percent of the ambulatory surgery centers and public health. A percentage of all of the various types of healthcare agencies responding to the 2019 LCN-NES reported that they supported nurses with advancement of their education ranging from 80% of the dialysis centers and 72% of LTC facilities to a low of 15% of the ambulatory surgery centers.

Table 20. New RN and LPN Graduates Hired in the Last year by Responding Health Care Industries (2018)

| | Hospitals | LTC | Home Health | Hospice | Dialysis | Amb. Surgery | Rural Health | Public Health | FQHC |
|---------------------------------|-----------|-------|-------------|---------|----------|--------------|--------------|---------------|-------|
| Hire New RN Grads | 66.3% | 10.1% | 2.9% | 2.6% | 6.6% | 3.0% | 13.5% | 0.0% | 5.6% |
| How Many RN Grads Hired | 882 | 7 | 1 | 2 | 4 | 1 | 7 | -- | 2 |
| Prefer RNs with BSNs | 27.3% | 8.6% | 7.1% | 18.4% | 6.7% | 15.2% | 8.6% | 50.0% | 18.8% |
| Hire New LPN Grads | 42.1% | 58.5% | -- | -- | -- | 20.0% | 28.6% | -- | 50.0% |
| How Many LPN Grads Hired | 200 | 111 | -- | -- | 0 | 5 | 8 | -- | 9 |
| Nurse Residency Program | 28.9% | 6.1% | 1.4% | 2.7% | 3.3% | 3.0% | 8.1% | 0.0% | 5.9% |
| Pay Diff for BSN | 17.4% | 9.8% | 5.7% | 5.6% | 4.9% | 0.0% | 22.2% | 0.0% | 20.0% |
| Support Nurses in School | 71.6% | 50.0% | 29.0% | 39.5% | 80.3% | 15.2% | 54.1% | 40.0% | 40.0% |

Entry level and maximum hourly wages for nurses working in hospitals and LTC facilities

Because of the variation in wages and salaries in Louisiana reported by newly licensed RNs, a question was added to the 2019 LCN-NES to obtain data about both the entry level and maximum hourly wage for nurses. The findings for this question can be found in Table 21a and 21b for hospitals and LTC facilities, respectively. When the hourly wages obtained from employers via the 2019 LCN-NES were compared with the maximum hourly wages reported by the LWC (2020), the maximum LWC wages for RNs, LPNs, NPs, and NAs were higher than those reported by employers completing the 2019 LCN-NES. For example, the maximum wage for RNs reported by LWC is \$39.91, which is greater than the maximum hourly wage for direct care RNs working in hospitals or LTC facilities, \$35.10 and \$32.12, respectively. The maximum hourly wage of \$42.00 reported for indirect care RNs serving in managerial or administrative positions in hospitals was greater than the \$39.91. The maximum hourly wage for LPNs reported by LWC is \$23.93 which is also higher than the maximum wage reported by employers completing the survey. In terms of APRNs, CRNAs were the only nurses whose hourly wage was in alignment with LWC's of >\$90.00.

Table 21a. Entry and Maximum Hourly Wages for Nurses employed by hospitals in Louisiana in 2019

| | N | Mean | Median |
|----------------|----------|-------------|---------------|
| RN-DC Entry | 83 | \$24.36 | \$23.25 |
| RN-DC Max | 79 | \$35.03 | \$35.10 |
| RN-Admin Entry | 57 | \$30.94 | \$30.00 |
| RN-Admin Max | 54 | \$45.69 | \$42.00 |
| LPN-Entry | 77 | \$16.17 | \$15.50 |
| LPN-Max | 73 | \$22.82 | \$22.90 |
| NP Entry | 39 | \$43.11 | \$40.00 |
| NP-Max | 34 | \$62.93 | \$61.23 |
| CNS-Entry | 10 | \$35.29 | \$37.50 |
| CNS-Max | 10 | \$56.88 | \$60.58 |
| CRNA-Entry | 20 | \$67.05 | \$67.00 |
| CRNA-Max | 19 | \$93.18 | \$92.77 |
| CNM-Entry | 4 | \$37.50 | \$37.50 |
| CNM-Max | 4 | \$60.58 | \$60.58 |
| CNL-Entry | 31 | \$32.66 | \$32.00 |
| CNL-Max | 31 | \$53.05 | \$52.01 |
| NA-Entry | 66 | \$9.86 | \$10.00 |
| NA-Max | 63 | \$14.13 | \$14.24 |

Note: DC=Direct Care; IC = Indirect Care (Managerial or Administrative)

Table 21b. Entry and Maximum Hourly Wages for Nurses employed by LTC facilities in Louisiana in 2019

| | N | Mean | Median |
|--------------|----------|-------------|---------------|
| RN-DC Entry | 69 | \$25.35 | \$25.50 |
| RN-DC Max | 50 | \$31.01 | \$32.12 |
| RN-IC | 54 | \$27.71 | \$28.00 |
| RN-IC | 43 | \$35.65 | \$35.00 |
| LPN-DC Entry | 76 | \$17.78 | \$18.00 |
| LPN-DC Max | 56 | \$20.93 | \$21.00 |
| LPN-IC Entry | 49 | \$18.87 | \$18.50 |
| LPN-IC Max | 41 | \$22.56 | \$22.00 |
| NA-Entry | 78 | \$9.24 | \$9.20 |
| NA-Max | 57 | \$10.78 | \$10.75 |

Note: DC=Direct Care; IC = Indirect Care (Managerial or Administrative)

Calculation of Nurse Supply and Demand

An estimate of demand for RNs in 2019 for the healthcare industries surveyed can be computed by adding the estimated number of vacancies in 2018 to the projected growth over the next year, which equals the demand. This is the number of new nurses needed to fill all vacant positions in these healthcare industries along with the new positions they plan to create in 2019. A rough estimate of supply would be the number of new graduates entering the profession and the number of new endorsements for RNs, APRNs and LPNs (There is no available record of NA endorsements into the state). A final rough estimate for demand is determined by subtracting supply from demand. This is considered a rough estimate because there are many assumptions

related to the numbers that cannot be validated. First of all, the number of vacancies and projected growth are estimates based on imputed data for nonresponding healthcare facilities. Secondly, the calculation for supply assumes that there are a certain number of nurses that endorsed into the state in 2019. It could not be determined at the time of the publication of this report the impact of the Nurse Licensure Compact (NLC) that was implemented on July 1, 2019 on the number of endorsements into the state. Accurate data reflective of the impact of the NLC on the number of nurses that endorse into Louisiana may not be available until 2021. Yet, in light of these limitations, statistically sound processes were used to determine the estimates used in the demand calculations which gives a certain level of validity to the findings presented.

Major Findings

➤ *Demand for Additional Nursing Personnel in Louisiana in 2019*

As depicted in Table 19, the estimated number of new RNs, LPNs and CNAs do not meet the estimated demand, and in light of the fact that all employers of nurses in the state were not surveyed (e.g., physician’s offices), the demand may be substantially higher for all types of nurses, even those that are showing a surplus in the current report. Based on these findings, Louisiana is experiencing a nursing shortage and in light of the COVID-19 pandemic the shortage will be exponentially increased as we move into the future. If the nursing shortage is not immediately addressed, the ability of facilities to handle today’s complex patient load, may deteriorate. An estimate for the demand for APRNs was not calculated due to the fact that healthcare agencies that hire a substantial number of APRNs such as physicians’ offices, urgent care facilities and anesthesiology groups were not surveyed, thus, the estimates would have been skewed toward the demand for APRNs working only in the healthcare agencies that were surveyed in the current study.

Table 19. Estimated Demand for Nurses in Louisiana in 2019

| | RNs | LPNs | CNAs |
|--------------------------|--------------|--------------|--------------|
| Est. Vacancies | 4,713 | 1,667 | 2,649 |
| Projected Growth | 1,622 | 792 | 690 |
| Total Est. Demand | 6,335 | 2,459 | 3,339 |
| New Grads. | 2,009 | 1,037 | 2,397 |
| Endorsements | 2,378 | 121 | |
| Total Est. Supply | 4,387 | 1,158 | 2,397 |
| Unmet Demand | 1,948 | 1,301 | 942 |

➤ *Nursing Skill Mix*

Healthcare facilities that completed the 2019 LCN-NES provided information on 37,029 permanent, full or part-time nursing personnel across nine industry groups. When 1,758 additional temporary personnel were included, the number of nurses employed by responding healthcare industries totaled 38,787.

Although the greatest number of RNs were employed by hospitals (19,774), public health continues to have the largest proportion of RNs among their entire nursing staff. Ninety

percent of the entire nursing staff for public health are RNs, followed by hospitals (71%) and ambulatory surgery care centers (69%).

Hospitals employed the greatest number of APRNs amongst responding healthcare facilities (1,187), yet APRNs represent approximately four percent of the hospital's nursing workforce compared to 30% of the nursing workforce for FQHCs, 18% for rural health clinics and 16% for ambulatory surgery care centers.

The greatest proportion of LPNs were employed by home health agencies (44%), rural health clinics (41%) and FQHCs (35%), although the largest number were employed by hospitals (2,873) and LTC facilities (1,828).

Hospitals and LTC facilities employed the largest number of NAs, 3,933 and 3,841, respectively. Nurse aides represent the largest proportion of the nursing staff for LTCs (62%) followed by dialysis centers (41%).

Between 2014 and 2018 there was a 10-percentage point decrease in the percentage of RNs employed by home health agencies and a seven-percentage point increase by dialysis centers.

Responding employers reported that 92% of the RNs employed by ambulatory surgery centers and 90% of the RNs employed by hospitals provide direct patient care.

Of the 1,587 APRNs employed by responding healthcare facilities, 62.9% were NPs, 34.4% were CRNAs, 1.4% were CNSs, and 1.3% were CNMs. When compared to the other types of healthcare facilities that were surveyed, FQHCs (29.9%), rural health clinics (17.5%) and ambulatory surgery centers (15.5%) had the greatest proportion of APRNs as a part of their nursing workforce.

LPNs represent the greatest proportion of the nursing workforce in home health (44.4%), rural health clinics (41.0%) and FQHCs (34.7%).

The greatest increase in the proportion of the LPN workforce in 2018 was the 14.4 percentage point increase in home health when compared to 2014.

NAs continue to be the largest proportion of the nursing workforce employed by LTC facilities followed by dialysis centers and hospice.

➤ *Temporary and Part-time Nursing Staff*

Overall, the various healthcare facilities used a higher percentage of part-time employees than temporary or agency staff except for public health.

A little over 50% of the home health agencies' nursing workforce were part-time employees followed by 31% employed by ambulatory surgery care centers, 29% employed by hospices and 23% employed by rural health clinics.

The use of part-time nursing staff utilized by home health went from 20% of their nursing workforce in 2014 to over 50% in 2018. The number of part-time nurses employed by hospices increased each year the employer survey was conducted beginning with eight percent in 2010, 16% in 2014 and 29% in 2018.

The percentage of temporary or per diem nursing staff ranged from a low of less than one percent for home health, rural health clinics and FQHCs to a high of approximately 23% in public health.

In 2018, 1,758 temporary nursing staff were reported by responding employers compared to 5,899 temporary staff reported by responding employers in 2014 which represents a 70% decrease in number.

➤ ***Vacancies and Vacancy Rates***

The nursing workforce vacancies reported by responding healthcare facilities totaled 3,727 in 2018 compared to 2,399 in 2014 which is a 55.4% increase in the number of reported vacancies with the majority being RN vacancies; 2,042 in 2018 compared to 1,178 in 2014, a 73.5% increase in number.

There was a 212% increase in NP vacancies (26 in 2014; 81 in 2018), a 133% increase in CRNA vacancies (six in 2014; 14 in 2018), a 200% increase in CNS vacancies (two in 2014; six in 2018), a 70% increase in LPN vacancies (362 in 2014; 616 in 2018); and a 17% increase in NA vacancies (825 in 2014; 969 in 2018).

The majority of NA vacancies were in LTC (473 vacancies) followed closely by hospitals (421 vacancies).

When vacancies were imputed for non-responding facilities, the total number of vacancies for all types of nursing personnel increased by 149% (9,284 estimated vacancies). The majority of the RN vacancies were for direct care RNs (4,484) which increased by 79% when compared to 2014 (2,504).

The number of estimated RN vacancies in hospitals doubled, going from 2,033 in 2014 to 4,065 in 2018, an increase of 99.95%.

The number of LPN and NA estimated vacancies increased by 135% and 70%, respectively.

There was a 94.78% increase in the number of estimated vacancies for RNs in LTC between 2018 (261 estimated RN vacancies) and 2014 (134 estimated RN vacancies) and, a 35% increase in estimated vacancies for LPNs and a 15% increase in estimated vacancies for NAs.

There was a 220% increase in the number of estimated vacancies for LPNs in home health agencies when compared to the number in 2014 (304 in 2018; 95 in 2014) and

140% increase in the number of estimated vacancies for NAs in dialysis centers (96 in 2018; 40 in 2014).

The highest vacancy rate for direct care RNs was 19.2% percent for LTC, 10.5% for FQHCs, 9.5% for hospitals and 9.2% for home health.

The healthcare industry with the highest vacancy rate for indirect care RNs (11.1%) and NPs (11.5%) was FQHCs.

Dialysis centers had the highest vacancy rate for LPNs (18.2%) followed by home health agencies (11.0%).

➤ *Separations and Turnover Rates*

Healthcare facilities completing the 2019 LCN-NES reported 2,925 (2,864 in 2014) RN separations (two percent increase); 1,471 (1,365 in 2014) LPN separations (eight percent increase); and 3,716 (3,647 in 2014) NA separations (two percent increase) between January 1, 2018 and December 31, 2018. These numbers exclude non-respondents and healthcare industries that were not surveyed.

When data were imputed for non-respondents, the estimated separations reported for all types of nursing workforce personnel more than doubled and in some instances, almost tripled in number.

Between January 1, 2018 and December 31, 2018, there were an estimated 6,905 RN separations, 4,103 LPN separations and 10,922 NA separations. The majority of the RN separations were in hospitals, whereas the majority of the separations for LPNs and NAs were in LTC. There were 281 APRN separations with the majority being NPs which occurred in hospitals.

The number of estimated separations for RNs, LPNs and NAs increased by five percent, 17% and 11%, respectively between 2014 and 2018.

In 2018, the median turnover rate for RNs in hospitals in Louisiana, the largest employer of RNs identified in the survey in terms of the number of budgeted positions, was 19.4% compared to a median turnover rate of 13.8% in 2014 and 17.0% in 2010. In 2019, the national turnover rate for RNs in hospitals was reported to be 15.9%, a decrease of 0.9 percentage points when compared to the 16.8% turnover rate reported in 2017 (NSI National Healthcare and RN Retention Report, 2020).

Hospices had the highest median turnover rates for RNs (56.2%), followed by LTC (26.1%), home health (22.2%) and hospitals (19.4%).

The highest median turnover rate for LPNs occurred in LTC and FQHCs, both having a 33.3% median turnover rate with rural health clinics following close behind with a 25.5% turnover rate.

➤ ***Projected One Year Growth Rate for 2019***

The number of new positions due to job growth in 2019 reported by respondents alone was 652 RNs (737 in 2014), 278 LPNs (255 in 2014), and 278 NAs (316 in 2014). These numbers do not include estimates for non-responding health care facilities.

The number of new APRN positions that new employees planned to create in 2019 included 54 NPs (29 in 2014), 11 CRNAs (seven in 2014), one CNM (one in 2014) and five CNSs (two in 2014).

If non-responders expect similar growth as their responding counterparts, 1,622 new RN jobs (1,741 in 2014), 194 NP jobs (59 in 2014), 25 CRNA jobs (10 in 2014), 792 LPN jobs (619 in 2014) and 690 NA jobs (796 in 2014) will be created in 2020.

In 2019, the healthcare industry group with the greatest overall one-year growth rate for direct care RNs was hospice with a 20.6% one-year growth rate (29.1% in 2014), followed closely by home health with a 20.4% one-year growth rate (16.2% in 2014).

Dialysis centers projected a 36.4% growth rate over the next year for LPNs and public health anticipated a 20% increase in the number of NAs employed over the next year followed by a 17.4% growth rate for hospice.

➤ ***Difficult Clinical or Administrative Positions to Fill***

Registered nurses were reported as one of the most difficult types of nurses to recruit by hospitals, LTC facilities, home health and hospice.

LPNs were identified as being one of the five most difficult types of nurses to recruit by LTC facilities, dialysis centers, rural health clinics and FQHCs.

Nurse administrators were identified by five of the three types of healthcare facilities surveyed as being one of the five most difficult types of nurses to recruit.

➤ ***Educational Preparation and Progression of RNs***

The majority of the RNs employed in all of the healthcare industries surveyed were prepared at the associate and baccalaureate level, with baccalaureate prepared nurses being the majority in hospitals, hospice, ambulatory surgery centers and public health.

Over 63% of the RNs employed by dialysis centers were prepared at the AD level.

Approximately 43% of the nurses employed by FQHCs were prepared at the Masters' level. FQHCs also reported the highest percentage of doctoral prepared nurses (approximately eight percent).

As of January 1, 2019, there was a 15-percentage point increase in the proportion of RNs that were prepared at the baccalaureate level in hospitals and a 19-percentage point increase in the proportion employed by public health when compared to data obtained in the 2014 LCN-NES.

There was a decrease in the percentage of AD prepared nurses employed by all of the reporting healthcare facilities except for dialysis centers which had a 13-percentage point increase between 2010 and 2018.

➤ ***Hiring of New Graduates, Nurse Residency, Pay Differential, and Educational Support***

In 2018, a total of 882 new RN grads and 200 new LPN grads were hired by hospitals which represents a nine percent increase in the number of RNs hired by responding hospitals and a 163% increase in the number of new LPN grads hired by hospitals when compared to 2014.

Sixty-six percent of the hospitals reported hiring new RN graduates (64% in 2014) and 42% reported hiring new LPN graduates (38% in 2014).

Fifty percent of the public health regional clinics preferred hiring RNs with BSNs, 27% of hospitals, 19% of FQHCs, 18% of hospices and 15% of ambulatory surgery centers.

The percentage of healthcare facilities offering a nurse residency program ranged from 28.9% for hospitals to zero percent for public health.

The percentage of healthcare facilities paying a differential for nurses with a BSN ranged from 22.2% of the rural health clinics, 20% of the FQHCs and 17% of the hospitals to zero percent of the ambulatory surgery centers and public health.

A percentage of all of the various types of healthcare agencies responding to the 2019 LCN-NES reported that they supported their nurses with advancement of their education ranging from 80% of the dialysis centers, 72% of the hospitals, to a low of 15% of the ambulatory surgery care centers.

Recommendations

- Obtain federal, state, and private funding to ensure that there will be a continuous pipeline of new RNs available to meet the ongoing demand for nurses in Louisiana.
- Expand and continue capitation funding to postsecondary education institutions to increase the capacity of RN and LPN programs to ensure that there will be a continuous pipeline of new RNs available to meet the ongoing demand for nurses in Louisiana.

- Increase the capacity of nursing programs to ensure a diverse workforce that reflects the racial/ethnic composition of the overall state and provides culturally competent care to racial/ethnic minority populations.
- Support funding opportunities (grants, scholarships, tuition reduction programs, etc.) to decrease tuition costs for nursing students.
- Reinstate the state funded stipend program administered by the Board of Regents which provided up to a maximum of \$40,000 to nurses that agreed to pursue a graduate degree in nursing (Masters and/or Doctorate) and committed to teach in an RN program.
- Increase nurse faculty salaries to a level that will be competitive with that of salaries offered in the clinical setting.
- Develop loan repayment and tax credit programs for nurse educators.
- Remove legislative barriers that are preventing nurse faculty from working as adjunct faculty upon retirement.
- Seek funding to develop nurse residency programs that will prepare new graduates for a seamless and successful transition into practice in both traditional (i.e., acute care) and nontraditional settings (i.e., LTC/SNF, home health) in an effort to improve nurse retention and increase nurse supply.
- Foster academic and practice partnerships to address the current and future nursing workforce shortage proactively and to prevent continued shortages.
- Implement evidence-based RN retention models across the various health care systems in an effort to decrease consistently high turnover rates, thereby decreasing the cost associated with high turnover rates.
- Provide nurses that are interested in taking on leadership positions within the various healthcare industries with the advanced education and training needed to successfully function as a leader.
- Provide funding for the development of a statewide strategic plan to address the nursing shortage which significantly affects the health outcomes of citizens of Louisiana.

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Appendix A

Louisiana Workforce Commission's Eight Regional Labor Market Areas



Louisiana's Eight Regional Labor Market Areas

- Region 1** Jefferson, Orleans, Plaquemines, St. Bernard, St. Charles, St. James, St. John the Baptist and St. Tammany Parishes
- Region 2** Ascension, East Baton Rouge, East Feliciana, Iberville, Livingston, Pointe Coupee, St. Helena, Tangipahoa, Washington, West Baton Rouge and West Feliciana Parishes
- Region 3** Assumption, Lafourche and Terrebonne Parishes
- Region 4** Acadia, Evangeline, Iberia, Lafayette, St. Landry, St. Martin, St. Mary and Vermilion Parishes
- Region 5** Allen, Beauregard, Calcasieu, Cameron and Jefferson Davis Parishes
- Region 6** Avoyelles, Catahoula, Concordia, Grant, LaSalle, Rapides, Vernon and Winn Parishes
- Region 7** Bienville, Bossier, Caddo, Claiborne, DeSoto, Lincoln, Natchitoches, Red River, Sabine and Webster Parishes
- Region 8:** Caldwell, East Carroll, Franklin, Jackson, Madison, Morehouse, Quachita, Richland, Tensas, Union and West Carroll Parishes

Appendix B

Louisiana Department of Health Nine Administrative Regions

