



**Nursing Workforce in the State  
of Delaware: A Current Look  
2014**



Karen L. Panunto, EdD, MSN, RN, APN  
Sarah J. Carmody, MBA

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## Abstract

**Purpose:** Nursing is the largest health care profession in the country, providing care in underserved areas, hospitals, walk-in clinics, schools, prisons, and in the home. A nursing workforce shortage would prove to be detrimental to the health care industry and communities. Recognizing the need to have a sufficient number of registered nurses to meet the health care needs of the population, the Delaware Nurses Association and the Delaware Board of Nursing partnered in a joint research effort to examine the current composition of registered nurses licensed and practicing in the state of Delaware.

**Methods:** For the purpose of this study, the Delaware Board of Nursing sent an email to 14,750 registered nurses licensed in the state of Delaware with a link to an electronic survey questionnaire for voluntary completion. A total of 4,265 (29.98%) registered nurses completed the online survey questionnaire from January 17, 2014 through March 15, 2014. Data were gathered on the age, race, gender, educational level, employment status and location, practice area, wages/salaries, and workplaces of the registered nurses.

**Results:** Of the registered nurses that responded, 77.07% were practicing in the State of Delaware. Of the respondents (74.78%) reported to being  $\geq 40$  years of age with 53.26% of that group being  $\geq 50$  years of age. The following are selected highlights of the study: 33.93% hold a Bachelor of Science in Nursing Degree; 75.43% have been practicing for 11 years or greater, and 44.64% reportedly practice in a hospital setting.

**Conclusion:** With the current aging nursing workforce, results from this study support the need for Delaware leaders to recognize that the priority focus for the future of healthcare in Delaware must be placed on ensuring a sufficient nursing workforce. Efforts should be placed on providing

additional education funding opportunities as support for future nurses and nursing education programs, as well as encouraging hospitals and other employers to hire new nurses in order to maintain adequate staffing levels. In addition, financial assistance should be provided for further research endeavors on the nursing workforce supply.

The issue of whether or not there will be a sufficient number of registered nurses to meet the future health care needs of the population is of particular concern for the health care industry. According to the American Nurses Association (2014), by the year 2020 there will be a need for over 1.1 million new registered nurses to ensure a sufficient nursing workforce. McMnamin (2014) agreed and added that “by 2020 total employment of RNs and APRNs will increase by 574,400 jobs. In fact, with RN retirements also in the mix, the nation will need to have produced 1.13 million new RNs by 2020 to fill those jobs” (p. 8). Auerbach, Staiger, Muench, and Buerhaus (2012) pointed out that there are several factors which will contribute to the demand for health care over the next two decades, such as an aging baby boomer generation, an increase in the overall population, and an increase in the number of people living with chronic health issues. McMnamin (2014) emphasized that the demand will escalate as the Medicare program is stressed by the addition of “two to three million people” (Surviving the Transition, para. 6) every year through the end of this century. In addition, Auerbach et al. (2012) noted that another factor to the increased demand for health care is the millions of Americans to be covered under the Affordable Care Act.

To further complicate the issue of whether there will be a sufficient nursing workforce in the future is the aging population of registered nurses. Buerhaus, Auerbach, Staiger, Muench (2013) pointed out that “nationally, approximately 850,000 RNs are between the ages of 50-64 (a third of the RN workforce)” (pp. 13-14). As many of these nurses begin to retire by the year 2020, it is essential that they be replaced. In addition, it is not only imperative to replace those retiring,

but there will be additional RNs needed to meet the growing population, or as suggested by Dolan (2010) "...a crisis may be looming" (p. 9).

Buerhaus (2012) discussed several large scale endeavors initiated over the past decade in an attempt to draw attention to the nursing profession. Publicity focused on the Johnson & Johnson Campaign for Nursing's Future, the Robert Wood Johnson Foundation, and the Gordon & Betty Moore Foundation have been successful in increasing the number of individuals who have entered the nursing profession. Buerhaus (2012) pointed out that "in fact, the number of young people becoming nurses is so large that it rivals the number of baby boomers who entered the nursing profession back in the 1960s and 1970s" (p. 10).

In addition to strategies focused on increasing the RN population, the recession has also played a part in bringing registered nurses either back into the workforce, or has led them to change from being part-time employees to full-time employees (Singleton, 2010; Buerhaus, 2012). Indeed, Buerhaus pointed out that during the recession that started in December 2007 and ended in June 2009 there was a rise in health care related jobs. Buerhaus explained that "in 2007 and 2008, RN employment increased by an estimated 243,000, the largest employment increase during any 2 year period in the past four decades" (2012, p. 11). Singleton (2010) shared that "the 2014 Bureau of Labor Statistics (BLS) places registered nursing as the occupation with the most robust growth compared to other occupations for 2008-2018. Projected growth of 22%, or more than 580,000 employment opportunities is expected for RNs" (p. 209). McMennamin (2014) explained that the economic recovery affecting market changes as well as employer changes and care coordination will also contribute to the demand. Currently, the concern being raised is that with an improvement in the economy, there will be a large number of nurses leaving the workforce. Buerhaus (2012)

concluded that, “while the surge in young people entering nursing is very promising and welcome news, the big question remains: will it be enough?” (Buerhaus, 2012, p. 11).

The ANA (2014) suggested that in order to ensure a sufficient number of registered nurses, strategies need to focus on providing resources, such as federal funding to support future nurses and nursing education programs, as well as addressing employer hiring practices. According to the ANA, federal funding has decreased an average of 2 percent over the past several years. This is a concern with the future demands that will be placed on the nursing profession. The ANA has proposed an increase of 12 percent in Title VIII federal funding for the year 2015. The ANA reported that in 2012, there were roughly 80,000 applicants turned away from nursing education programs due largely to an insufficient number of faculty. Lack of sufficient faculty and clinical training experiences has a negative impact on the future RN workforce. Unfortunately, this is not a new trend. In 2006, Dienno pointed out that schools were limiting student admissions into nursing programs to compensate for an insufficient number of qualified nursing faculty. Further, with many faculty leaving the academic environment due to stressors from overwork or reaching retirement age, existing faculty are left to carry on the burden of meeting additional curricular demands; this compounds an already unhealthy, stressful environment (Dienno, 2006). Also, results from a 2013 survey indicated that a majority (72%) of faculty who teach in nursing education programs are over 50 years of age (ANA, 2014). McMenacin (2014) pointed out that this could be detrimental to the nursing profession with such a large number of nursing faculty on the verge of retirement and contends that by 2022 there will be a need for over 30,000 new nursing faculty.

Over the next two decades, the health care industry will be challenged as an aging population of registered nurses progress to retirement. As pointed out by the ANA (2014), nurses

are pivotal members of the health care team and strategies to maintain an adequate nursing workforce need to be a priority focus for the future. Emphasis should be placed on ensuring adequate funding for nursing education programs in efforts to provide potential students with the opportunity to pursue a nursing degree as well as provide continued support for nursing faculty to teach the next generation of RNs. Hospitals and other health care agencies need to recognize their role in ensuring an adequate nursing workforce by embracing the concept of hiring new graduates to work alongside experienced RNs currently in the workplace.

### **Methodology**

The purpose of this study was to examine the current composition of registered nurses licensed in the state of Delaware. This study was conducted in partnership between the Delaware Nurses Association and the Delaware Board of Nursing. The researchers conducted a non-experimental study. The tool utilized for the study was an online survey questionnaire with categories that included demographics, education, employment (status and location), practice area, wages/salaries, and workplace. The questionnaire took approximately 5 minutes to complete.

The Delaware Board of Nursing sent an email with a link to the electronic survey questionnaire to 14,750 registered nurses in Delaware. Of those emails sent, 523 were returned undeliverable. The email included an explanation of the purpose of the study, that answers were optional, and that all responses were anonymous. Delaware registered nurses were informed of the workforce study via the DNA website and Listserve, Facebook, and the DNA quarterly publication, *The Reporter*. The first email was sent January 17, 2014 with a reminder email sent on February 19, 2014. The deadline for participating in the study was March 15, 2014. Participants were not asked identifying information such as their names or places of employment. Implied consent was given by the voluntary completion of the questionnaire. Data was analyzed using the online survey software, SurveyMonkey.

## Results

There were 4,265 completed questionnaire responses to the online survey questionnaire. The population sample size for this study represented a 29.98% response rate of registered nurses licensed in the state of Delaware. Data were analyzed using the online survey software, SurveyMonkey.

### Demographics

The sample of registered nurses for this study yielded the following demographic information:

- 3, 867 (91.83%) females
- 344 (8.17%) male

(54 participants did not respond to this question)

The ages of the registered nurses ranged from 20-29 years through 70 years and older with the largest responses (32.87%) from nurses between the ages of 50-59 years. The second largest responses (21.52%) were between 40-49 years old, and the third largest (18.11%) were 60-69 years of age. (See Table I, Age of Registered Nurses)

Table I: Age of Registered Nurses							
Age	20-29 years	30-39 years	40-49 years	50-59 years	60-69 years	70 and over	Total
Percentage	9.65%	15.56%	21.52%	32.87%	18.11%	2.28%	
Response N=	410	661	914	1,396	769	97	4,247
Missing: N=18							

Race/ethnicity was also collected for this study. The largest group, 86.65% of participants were White. The second largest (7.56%) were African American, and the third largest (2.01%) were Asian/Pacific Highlander. (See Table II, Race/Ethnic Group)

Table II: Race/Ethnic Group								
Demographics	American Indian/Alaska Native	Asian/Pacific Islander	African American, not of Hispanic Origin	Hispanic	Multi-racial	White, not of Hispanic origin	Other	Total
Percentage	0.21%	2.01%	7.56%	1.23%	1.23%	86.65%	1.11%	
Response N=	9	85	320	52	52	3,667	47	4,232
Missing: N=33								

The largest group of participants (46.61%) reported residing in New Castle County. The second largest group (20.3%) reported residing in Sussex County, and (13.76%) Kent County. A total of 781 respondents (19.33%) indicated not residing in Delaware. (See Table III, State/County of Residency)

Table III: County/State of Residency							
	New Castle County	Kent County	Sussex County	Maryland	New Jersey	Pennsylvania	Total
Percentage	46.61%	13.76%	20.30%	1.29%	3.71%	14.33%	
Response N=	1,883	556	820	52	150	579	4,040
Missing N= 225							

### Education

The largest proportion of participants (33.93%) hold a Baccalaureate degree in nursing, the second highest (22.74%) hold an Associate degree, and (20.88%) have an earned Master’s Degree in Nursing. A small percentage of respondents (3.17%) hold a doctoral degree, and 1.67% hold a doctoral degree in nursing. (See Table IV, Highest Level of Education). A majority of respondents (60.95%) reported that they are certified.

Slightly more than fourteen percent of participants were currently enrolled in a nursing education program. When asked how participants were continuing their education, 52.77% specified a traditional program and 18.95% indicated an online program. A large majority (80.26%) reported nursing as a first career choice.

Table IV: Highest level of Education									
Vocational Practical certificate	Diploma	Associate Degree	Bachelor’s Degree-Nursing	Bachelor’s Degree-Other	Master’s Degree-Nursing	Master’s Degree-other	Doctoral Degree-Nursing	Doctoral Degree-other	Total
0.05%	8.77%	22.74%	33.93%	4.94%	20.88%	5.53%	1.67%	1.50%	
N=2	N=373	N=967	N=1,443	N=210	N=888	N=235	N=71	N=64	4,253
Missing N=12									

### Practice/Employment Status

The greatest number of registered nurses (24.57%) have practiced less than 10 years. The second largest (23.51%) between 31-40 years, and the third largest (21.57%) between 21-30 years. (See Table V, Years of Practice)



<b>Table V: Years of Practice</b>					
<b>Less than 10</b>	<b>11-20</b>	<b>21-30</b>	<b>31-40</b>	<b>More than 40</b>	<b>Total</b>
24.57%	21.17%	21.57%	23.51%	9.18%	
N=1,039	N=895	N=912	N=994	N=388	4,228
Missing N=37					

Participants were asked how long they plan to continue the practice of nursing. The average response was 27.8% for those who anticipated practicing nursing between 11-20 years and 27.79% for greater than 20 years.. Of the remaining participants, 26.38% reportedly plan to practice 5-10 more years, 15.08% less than 5 years, and 2.93% for less than a year. (See Table VI, Continued Practice)

<b>Table VI: Continued Practice</b>					
<b>&lt;1 year</b>	<b>&lt;5 years</b>	<b>5-10 years</b>	<b>11-20 years</b>	<b>&gt;20 years</b>	<b>Total</b>
2.93%	15.08%	26.38%	27.82%	27.79%	
N=120	N=618	N=1,081	N=1,140	N=1,139	4,098
Missing N= 167					

The largest percentage of registered nurses (91.12%) were employed in nursing, 2.95% were seeking employment, 1.75% were neither working nor seeking employment, and 2.53% were retired and do not plan to return to the workforce. A small percentage (1.65%) of participants worked in a field other than nursing. For those participants who were unemployed, 5.57% were having difficulty finding a position, 2.75% were taking care of home and family, 1.49% were disabled, and 0.16% indicated that it was due to inadequate salary.

**Employment Location**

The majority of registered nurses (49.43%) were employed in New Castle County. The second largest group (15.05%) were employed in Sussex County, followed by 12.59% who were employed in Kent County. A total of 13.68% of participants indicated they were not employed in Delaware. Of those participants, 7.48% worked in Pennsylvania, 1.43% in New Jersey, and 4.92% in Maryland.

## Practice Setting

The largest number of registered nurses (44.64%) were employed in a hospital setting. The ambulatory care setting was the second highest (9.03%), and nursing homes were the third highest setting (6.65%). (See Table VII, Practice Setting of Registered Nurses)

Table VII: Practice Setting of Registered Nurses		
Practice Setting	Percentage	Response N=
Academic Setting	4.10%	172
Ambulatory Setting	9.03%	379
Assistant Living	0.62%	26
Community Health	2.57%	108
Correctional Health	0.60%	25
Home Health	3.81%	160
Hospice	1.67%	70
Hospital	44.64%	1,874
Insurance claims/Benefits	2.83%	119
Nursing home/extended care	6.65%	279
Occupational Health	1.07%	45
Total N=3,257		
Missing N=1,008		

## Nursing Practice

The largest number of registered nurses (71.50%) reported providing direct care to patients. The majority of the participants (41.65%) noted their practice role as being staff/general duty nurses with the second highest roles (12.46%) as Nurse Practitioners/Certified Nurse Midwife/Certified Nurse Specialist/Nurse Anesthetist. (See Table VIII Nursing Practice)

Table VIII: Nursing Practice								
My nursing role is best described as								
Department Administrator/Supervisor	Discharge Planner/Case Manager	Educator	Faculty	Nurse Practitioner/certified Nurse Midwife CNS/Nurse Anesthetist	Quality Assurance/Infection Control	Researcher/Consultant	Staff/General Duty Nurse	Total
6.75%	3.66%	5.53%	2.11%	12.46%	1.48%	1.87%	41.65%	
N=282	N=153	N=231	N=88	N=521	N=62	N=78	N=1741	3156
Missing N=1,109								

## Workplace

This portion of the study attempted to identify the perception Delaware nurses had of their workplace and the support they received from employers. The range for responses was 0-5 with 5 being the highest and 0 being the least. A majority (33.39%) gave their employers the highest

ranking in feeling appreciated in the workplace with almost the same percentage (32.25%) who experienced a positive environment working with other nurses. When asked about employer support 20.51%, ranked employers the highest in the area of workload support and 18.60% ranked their employers the highest in staffing ratios. In both areas, a relatively high percentage (21.0% and 21.72% respectively) indicated a neutral position. (See Table IX, Workplace Environment)

<b>Table IX: Workplace Environment</b>								
	<b>0 Low</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5 High</b>	<b>N/A</b>	<b>Total</b>
Do you feel valued/respected/appreciated in the workplace?	3.29% N=138	4.91% N=206	8.11% N=340	18.03% N=756	28.64% N=1,201	33.39% N=1,400	3.79% N=159	4,193 Missing N=72
Do you feel the RN to RN treatment in your workplace is positive?	1.48% N=62	3.06% N=128	5.55% N=232	17.51% N=732	31.41% N=1,313	32.25% N=1,348	9.09% N=380	4,180 Missing N= 85
How would you rank employer support with respect to workload?	6.44% N=269	7.75% N=324	11.78% N=492	20.99% N=877	27.64% N=1,155	20.51% N=857	5.19% N=217	4,178 Missing N=87
How would you rank staffing ratios in your place of employment?	5.32% N=222	7.00% N=292	10.02% N=418	21.71% N=906	26.82% N=1,119	18.60% N=776	11.36% N=474	4,173 Missing N=92

## Discussion

### Age

The predominate age range of 50-59 represented 32.87% of responding registered nurses in the state of Delaware with the majority of respondents (74.78%) who were 40 years or greater. Registered nurses of 29 years of age or less represented 9.65% of responses. These finding were consistent with the national age of the nursing workforce which demonstrated a distribution to be highest over the age of 46 years (Nooney et al., 2013), and reflected a third of the nursing workforce or approximately 850,000 nurses (ages 50-64) nearing retirement age with many expected to retire by 2020 (Buerhaus, 2013). According to a 2013 survey conducted by the

National Council of State Boards of Nursing and The Forum of State Nursing Workforce Centers, 53% of the RN workforce were age 50 or older (Budden, Zhong, Moulton, & Cimiotti, 2013). Future projections have indicated that more than 1 million registered nurses will reach retirement age within the next 10 to 15 years (Health Resource and Service Administration [HRSA], 2013).

### **Race/Ethnicity**

Delaware data related to Race/Ethnicity of registered nurses were compared with national statistics obtained from Minority Nurse (2014). A large proportion (86.65%) of Delaware registered nurses identified as being White (not of Hispanic origin) which was higher than the national percentage (75.45%) of registered nurses who reported being White. Delaware registered nurses (7.56%) identified as African American (not of Hispanic origin) was slightly lower than the national statistic (9.9%). In Delaware, 2.01% of registered nurses identified themselves as Asian/Pacific Islander which was significantly lower than the national percentage of 8.3%. The Hispanic population of registered nurses in Delaware was reported to be 1.23% which was significantly lower than the national number of 4.8%. American Indian, Alaska Native, and Multi-racial ethnic groups represented 1.44% of registered nurses in Delaware. Nationally, 0.4% of registered nurses were reportedly American Indian or Alaskan Native, and 1.3% categorized themselves as two or more races.

### **Gender**

Of those registered nurses who responded to the survey, 91.83% were female and 8.17% were male. This was fairly consistent with national numbers in that 9.1% of registered nurses were reportedly male (Minority Nurse, 2014). Overall, the population of registered nurses who are male has significantly increased as in 2008 the percentage was reported to be at 6.6% having demonstrated an upward trend in the RN male population (U.S. Department of Health and Human Services, Health and Resource Service Administration [HRSA], 2010).

## **Education**

Data for the educational level of registered nurses in Delaware was compared with data reported by the Health and Resource Service Administration [HRSA] report in 2013 based on the 2008-2010 American Community Survey (ACS).

The number of Diploma graduates reported in Delaware was 8.77%, which was greater than the national average of 6.9%. There were reportedly 22.74% of registered nurses working in Delaware educated at the Associate Degree level compared to the national average of 37.9%. Reportedly 33.93% of registered nurses in Delaware who were educated with a Baccalaureate in Nursing Degree compared with 44.6% nationally. Of the total Delaware respondents, 20.88% hold a Master's Degree in Nursing, and 1.67% hold a Doctorate in Nursing. Nationally, 10.3% of registered nurses hold a Master's Degree in Nursing, and 0.4% hold a Doctorate degree in nursing.

A total of 14.17% of registered nurses in Delaware reported being enrolled in a nursing educational program with 52.77% enrolled in a traditional program and 18.95% who participated in online classes. This is fairly consistent with findings from the 2008 National Sample Survey of Registered Nurses (HRSA, 2010) which reported that slightly over 15% of registered nurses pursuing a higher degree were enrolled in a distance education program.

## **Nursing Practice**

Current to this study, the majority of registered nurses in Delaware (44.64%) reported working in a hospital setting. This number was significantly lower than the national number which was reported to be 63.2% (HRSA, 2013). The second ranking category for employment in Delaware was ambulatory care (9.03%) which was slightly lower than the national reported number reported at 10.5% (HRSA, 2010). Nursing home/extended care was the third ranked employment location at 6.65% for Delaware registered nursing which was slightly lower than the national average of 7.4% (HRSA, 2013). A small percentage (4.1%) of registered nurses in

Delaware responded that they work in an Academic setting. Nationally it is reported that 0.6% of registered nurses were employed in colleges/university (HRSA, 2013). Employment in Home Health was reported by 3.81% of Delaware respondents. This was significantly lower than nationally where 6% responded as practicing in Home Health (Bureau of Labor Statistics, 2014). Working in the Community Health setting was 2.57% of Delaware respondents. Nationally, 7.8% of registered nurses in 2008 were employed in the public health setting to include school and occupational health (HRSA, 2010).

### **Practice Area**

Of the total respondents, 6.75% of Delaware registered nurses reported practicing as a department administrator/supervisor. This is significantly lower than the national average which was reported to be at 12.5% (HRSA, 2010). A small number (5.53%) of registered nurses reported practicing in the role of an educator with 2.11% that reported being in a faculty role. Nationally, 3.38% of registered nurses were identified as practicing in an academic education setting (HRSA, 2010). Current to this study, 41.65% of registered nurses in Delaware reported practicing as a staff/general duty nurse. This is significantly lower than the national average where 63.2% of nurses reported practicing in this area (HRSA, 2013).

### **Continuing to Practice**

A majority of Delaware registered nurses anticipated practicing eleven or more years (27.82% for 11-20 years and 27.79% more than 20 years). The second highest response (26.38%) was from those who anticipated practicing five to 10 years. Those registered nurses who reportedly plan to work less than five years were 15.08%, and 2.93% plan to work one year or less. As reported in the Health Resources Service Administration report [HRSA] 2013, it is predicted that over the next two decades one million registered nurses will leave the workforce due to advancing

age. As these nurses leave the workforce there will be a “loss of experiential knowledge and leadership brought to the workforce by seasoned RNs” (HRSA, 2013, p. 22).

### **Limitations**

The researchers recognized two limitations to this study. First, the response rate of registered nurses in the state of Delaware was lower than expected. The use of an online survey questionnaire may have contributed to the small representation of the sample due to a shortened time period available for response to the study. The researchers have discussed providing a longer period for registered nurses to respond to the survey questionnaire during future data collection. Second, although data was collected related to wages/salary of nurses in the state of Delaware, there appeared to be a large number of participants who made a double entry in that focus area. Registered nurses holding an advanced practice nursing license were instructed to respond to a separate set of questions related to wages/salary than the general RN population. For this reason, wages/salary of nurses was not included with the results or discussion. The researchers have discussed the possibility of emailing a separate survey questionnaire to those nurses holding an advance practice nursing license for future studies.

### **Conclusions and Recommendations for Future Study**

This study was conducted in order to provide the state of Delaware with current data related to the workforce supply of Delaware registered nurses at this point in time. The literature indicates that over the next two decades the health care industry will be stressed as it strives to meet the health care needs of the population. Factors such as a growing population, an aging generation of baby boomers, an increased number of people living with chronic health conditions, and a large number of people covered by the Affordable Care Act will all contribute to the demands placed on the health care industry. Of particular concern will be the large number of nurses leaving the profession over the next two decades due to retirement. As nursing is the largest health care

profession in the country, a nursing workforce shortage could prove to be detrimental to the safety and quality of US healthcare.

With 44.39% of registered nurses who participated in this study reporting that they plan to continue working ten years or less, Delaware leaders must recognize that providing the state with an adequate supply of registered nurses is essential in meeting future health care needs. Efforts should be placed on providing additional funding opportunities that will provide support for future nurses, nursing education programs, as well as encouraging hospitals and other employers to hire new nurses in order to maintain adequate staffing levels.

The researchers who conducted this study feel that future studies are needed to examine the age of Delaware registered nurses and their practice settings. This will provide the state with trended data on the nursing workforce supply in key areas of need in order to plan for future nursing deficits.



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