Florida's 2016-2017 Workforce Supply Characteristics and Trends: Registered Nurses (RN)

June 2018

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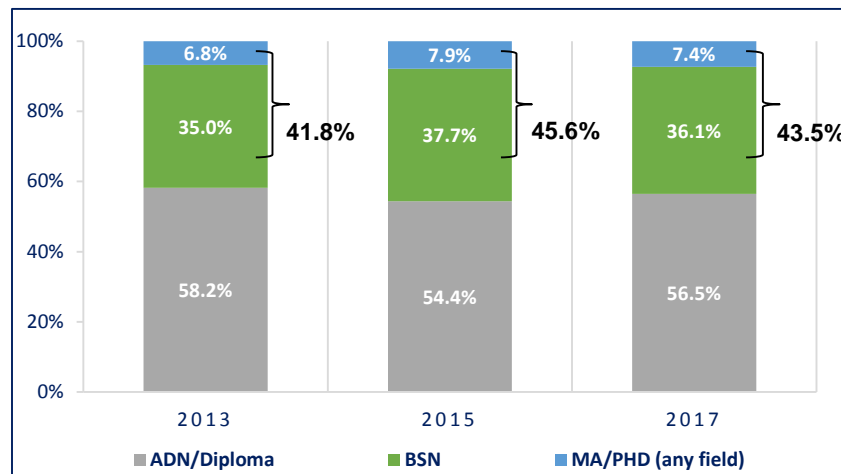# FCN Florida Center for Nursing

KEY FINDINGS

The following information represents **key findings** on Registered Nurse (RN) supply and workforce in Florida as of the 2016-17 renewal cycle. Trend analyses over time are provided when available.
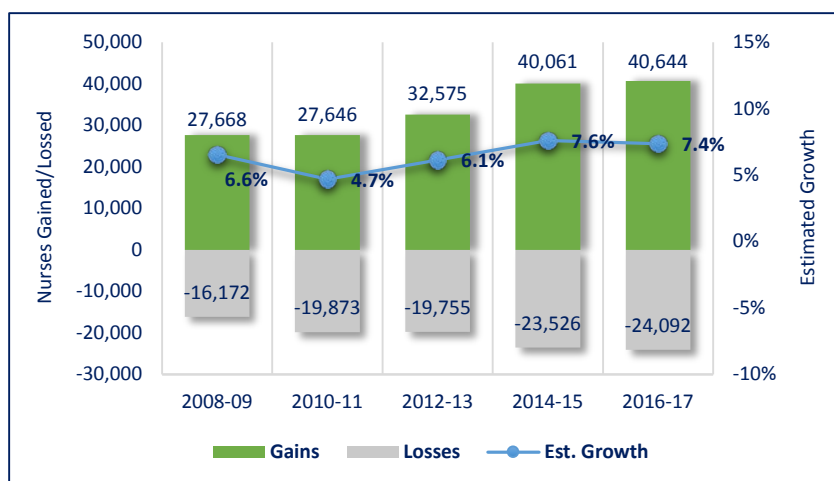
Florida's RN Supply Trend
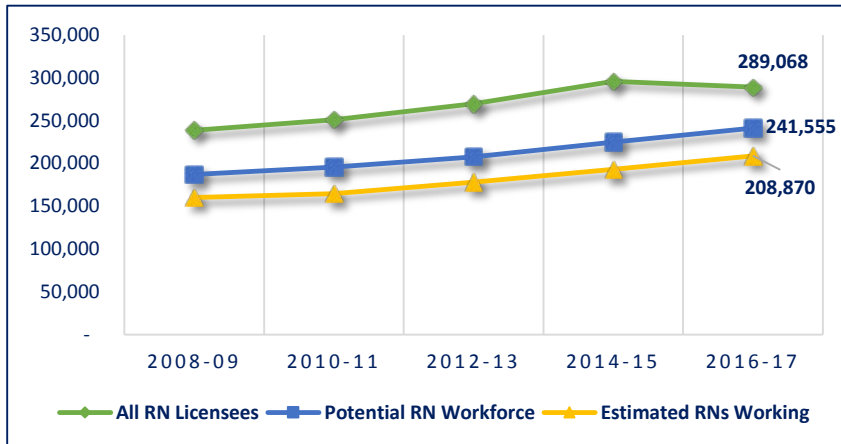
Education Attainment toward IOM Recommendation

RN Workforce Gains and Losses

- Florida's potential RN workforce **grew** about 7.4% from 2014-15.
- More than 32,000 RNs were **newly licensed** in 2016-17.
- 86% of new and renewing RNs are **working in nursing**.
- **Top employment settings** for renewing RNs are hospitals (63%), home health (7%), and extended care (5%).
- The most common **occupational titles** for renewing RNs are staff nurse (66%) and nurse manager (9%).
- Almost 44% of employed RN renewals have at least a **baccalaureate in nursing**.
- Working nurses over the age of 60 have increased by 5% since 2014-15. About 45% of working RNs are over 50 and may begin to **phase out** of the workforce through reduced hours and retirement in the next 5 to 10 years.
- **Retirement** of FL's aging nurse workforce will result in the loss of highly skilled mentors with years of organizational and experiential knowledge. However, younger nurses have increasingly diverse characteristics.

Recommendations

1. Recruit and retain bright, talented, and caring people into the field of nursing.
2. Promote and facilitate educational and career advancement of all nurses and increase the number of nurses working in primary care.
3. Increase initiatives to improve retention of Florida's existing nurse workforce, including accommodating the effects of aging on a nurses' ability to practice.
4. Support the Center's research to assure sufficient collection of data and optimal use of resources.
5. Identify or develop forecasting models to reliably predict future supply and demand.

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INTRODUCTION

The Florida Center for Nursing (Center), in partnership with the Florida Board of Nursing (FBON) and Florida Department of Health Division of Medical Quality Assurance (MQA) has collected nurse workforce data since January 2008 via a voluntary Workforce Survey. The survey is integrated into the online license renewal process for all nurse licensees.

This report provides information on Florida's **registered nurse (RN)** population using data collected during the license renewal cycle of January 2016 – December 2017. Characteristics of Florida's nurse population, such as size, demographics, and employment information are described herein.

Current information is also compared to data from previous license renewal cycles and trends of the changing RN workforce are discussed. Data on the state's supply of nurses provides valuable information to nurse employers, nursing schools, nurse faculty, workforce planners, and policy makers.

FLORIDA'S RN SUPPLY AS OF DECEMBER 2017

Figure 1: Florida's RN Supply Trend, 2008-09 to 2016-17
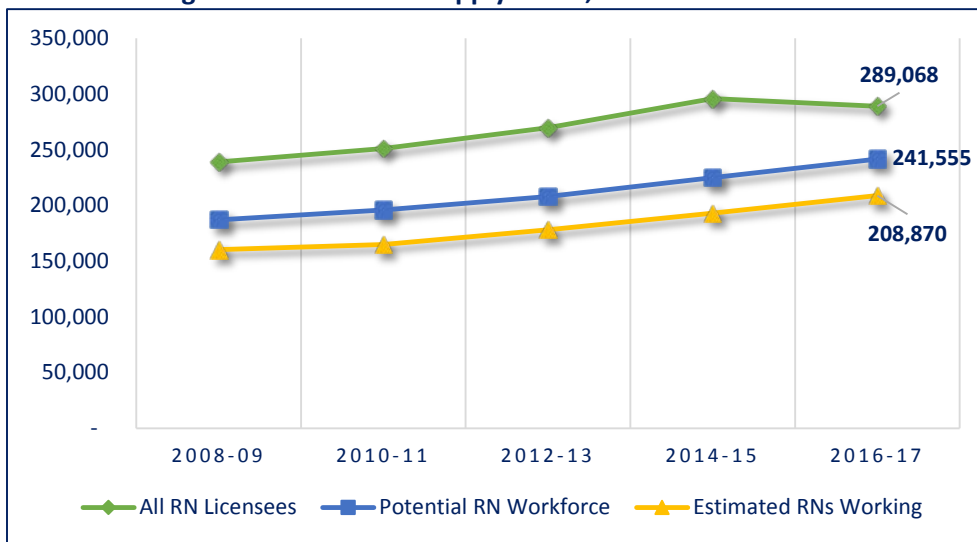
The nurse license renewal cycle is completed every two years, with the most recent renewal cycle from January 2016 through December 2017. The data used for this report represents the best approximation of nurses' renewal status as of December 31, 2017 in order to describe the current population of licensees.

Florida's license database had nearly 239,000 renewing RN licensees and slightly more than 50,000 newly licensed RNs as of December 2017. Overall, 241,555 licensees (87% of renewals and 65% of newly licensed RNs) met the criteria to be counted in the *potential* **RN workforce: an active license, Florida address, and no disciplinary restrictions**. This group of RNs is capable of providing nursing labor in Florida. Among them, 208,870 new and renewing RNs are estimated to be employed.

Trend analysis shows a slight decrease in the total number of all RN licenses compared to the 2014-15 cohort. On the other hand, the proportion of licensees in the potential workforce and number of working nurses continues to increase, compared to previous years (Figure 1).

241,555 *Renewing RNs & New Licensees in the Potential Workforce*

RN WORKFORCE GAINS AND LOSSES

An exploration of changes to the potential RN nurse workforce highlights the distinction between individual licensees into and out of the workforce during the 2016-17 renewal cycle (Figure 2) to account for overall growth trends. **The 2016-17 cohort gained 40,644 RNs, but lost slightly more than 24,000** during the same period. This resulted in a net increase of about 16,552 RNs (7.4%) compared to the previous cohort.

The estimated growth of the RN workforce is defined as the overall difference between a given renewal cycle's potential workforce and the previous group's potential workforce. In the current renewal cycle (2016-17), the growth of the RN potential workforce is lower than that of the 2014-15 cohort (8.2%). However, the past three renewal cycles indicate a relatively steady growth in the potential RN workforce, overall.

Figure 2: Florida's Potential RN Workforce Gains, Losses, and Estimated Growth 2008-09 to 2016-17
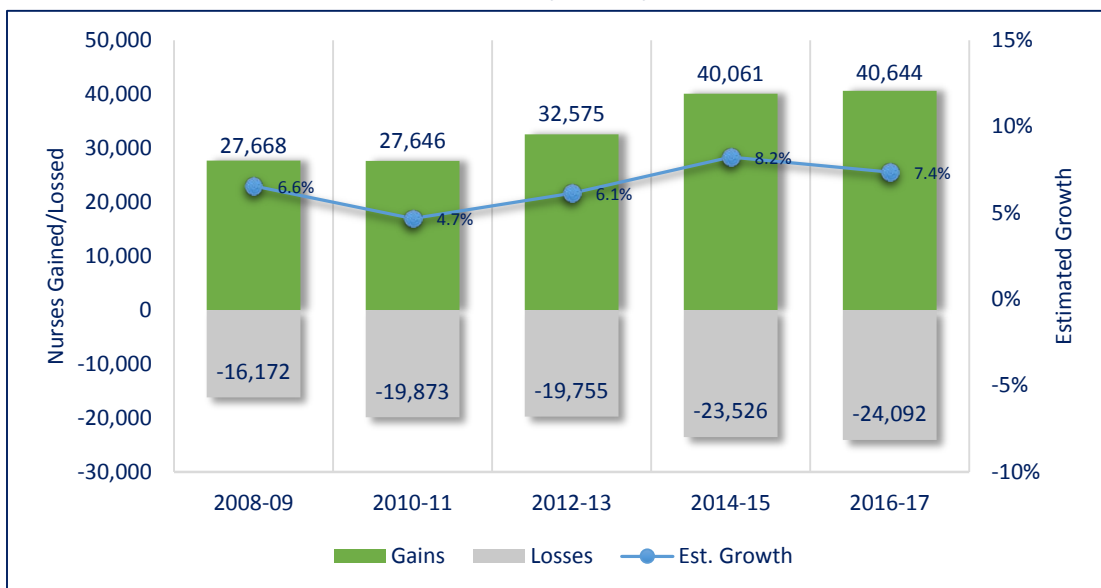
The 2016-17 cohort lost about 1,500 more RNs than were lost in the 2014-15 potential workforce. However, almost 600 more RNs were gained to the potential workforce than were added in 2014-15. The 2010-11 renewal cycle experienced the lowest growth (4.7%), compared to other recent renewal cycle cohorts.

The sections below provide additional details into the explanations for the changing potential workforce…

Potential RN Workforce Gains

The potential RN workforce gained 40,644 additional nurses in 2016-17 (Table 1). About 80% of the additions to the potential workforce were newly licensed RNs.[1] The number of nurses newly licensed by exam increased from the previous cohort by about 1,100 new nurses. Despite the overall increase, the rate of increase is lower than the growth between 2012-13 and 2014-15, when 2,500 new nurses were licensed by exam.

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[1] Based on original licensure date. However, this date may be 'reset' if a nurse allows their license to expire but later becomes relicensed in the state. This number may include some nurses that have been in the workforce at some point in the past.

Additionally, slightly more nurses with licenses from other states were endorsed in Florida, compared to the previous cohort,[2] and almost twice as many renewing RNs were added to the potential workforce by the addition of a valid Florida working and/or mailing address, compared to the 2014-15 renewal cycle.[3]

Close to 1,000 renewing nurses became eligible to practice and/or transitioned to an active license status. A small number of RNs were newly licensed in some other capacity (i.e. military endorsement), and about 90 renewing nurses were added to the potential workforce for other or unknown reasons.

Table 1: Gains to Potential RN Workforce, 2016-17

	N
New Licensee by Exam	22,712
New Licensee by Endorsement	9,717
Valid Florida Address	7,020
Changed to Eligible	905
New Licensee - Other	130
Other Addition Reason	90
Changed to Active	70
Total Gains	**40,644**

Potential RN Workforce Losses

The potential workforce lost slightly more than 24,000 RNs that were active during the 2014-15 cycle (Table 2). About 48% of them became delinquent, or failed to renew their license. About 19% were no longer living and/or working in Florida, a slight decrease from the RNs lost for this reason in the previous year.

Additionally, 4,294 nurses that were RNs in the 2014-15 cohort upgraded their license to ARNP or CNS by their 2016-17 renewal. Slightly more than 1,000 RNs (4%) transitioned to a Retired license status. Disciplinary and other reasons were the least common reasons for attrition in the 2016-17 cohort, affecting less than 1% of the nurses no longer in the potential workforce.

Table 2: Losses from Potential Workforce, 2016-17

Reason for Attrition	N
Failed to Renew (Delinquent)	11,588
No longer living and/or working in FL	4,563
RN Upgrade to ARNP or CNS	4,294
Changed to Inactive	1,339
Changed to Retired	1,048
License went Null and Void	1,026
Obligations/Probation	118
Disciplinary Action	70
Other Reason for Attrition	46
Total Attrition	**24,092**

Characteristics of Newly Licensed Nurses

More than 50,000 RNs newly licensed in the state of Florida between 2016 and 2017 held a valid license as of December 31, 2017. Among them, **32,559 newly licensed RNs were added to the potential workforce in the 2016-17 renewal cycle.** This includes nurses who (a) received their original license by exam, endorsement, or other method (i.e. military vet expedited initial licensure) between January 1, 2016 and December 31, 2017, (b) maintain an active license, (c) have no disciplinary restrictions, and (d) have a valid Florida address.

NEWLY LICENSED RNs
in the potential workforce are increasingly diverse

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[2] 9,712 (2016-17) compared to 9,020 (2014-15) new licenses by endorsement
[3] This number may be attributed, in part, to changes in the method used to clean address typos in licensure data

Table 3: Characteristics of Newly Licensed RNs by License Type

	Newly Licensed, by…			
	Endorse	Exam	Other	Total
Race/Ethnicity (%)				
Asian	7.5	4.6	4.7	**5.4**
Black	13.9	16.6	6.2	**15.7**
Hispanic	16.6	21.5	10.0	**20.0**
Other	1.9	2.6	0.8	**2.3**
White	53.9	46.5	66.7	**48.8**
Gender (%)				
Female	84.7	80.5	85.4	**81.8**
Male	12.8	16.2	8.5	**15.1**
Age Group (%)				
21-30	18.9	54.0	30.2	**43.4**
31-40	26.4	28.0	37.2	**27.6**
41-50	23.9	13.6	23.8	**16.7**
51-60	19.3	4.0	6.2	**8.6**
61-70	10.3	0.3	2.3	**3.3**
71 or older	1.2	< 0.01	0.8	**0.4**
Est. Working (%)				
No	19.7	30.6	26.4	**27.3**
Yes	79.4	69.1	73.8	**72.2**
Average Age	43.4	32.1	37.0	**35.5**

Note: Proportions may not equal 100% due to missing data

Overall, the 2016-17 newly licensed RNs are representative of increasing diversity among new nurses in the potential workforce. Approximately 15% of newly licensed nurses in the potential workforce were male, and 43% were non-white (Table 3).

The average age of new nurses in the potential workforce was 35.5. Almost three-quarters (71%) were 40 or younger and 43% were between the ages of 19 and 30.

New RNs in the potential workforce who became licensed by exam were somewhat more diverse, overall, compared to nurses previously licensed in other states, who received their initial Florida licensure by endorsement in 2016-17. New licensees by endorsement have a broader range of ages compared to other newly licensed nurses.

An estimated 72% of all newly licensed nurses in the potential workforce are working in the state of Florida.[4]

Aside from the characteristics above, little is known about RNs newly licensed in the state of Florida, particularly as it pertains to the information gained through the Center's Workforce Survey.

When Florida nurses renew their licenses online, they are invited to participate in the Center's *Workforce Survey*. RNs newly licensed in Florida are able to complete the survey, although they are not directly exposed it, and participation requires extra effort. While small portions of newly licensed RNs participated in the survey in the past, there were **no newly licensed survey participants during the 2016-17 cycle.**

As a result, the remainder of this report will focus on renewing RNs, only…[5]

In total, 164,460 renewing RNs participated in the Nurse Workforce Survey. This represents about 69% of all renewing nurses who maintain a Florida license,[6] and a 79% response rate among renewing RNs in the potential workforce.[7]

[4] This value should be interpreted with caution. There is no survey information available for new nurses, so employment status is estimated using licensees' input of a valid practicing address in the state of Florida in their licensure application.
[5] Includes nurses with an original license date prior to January 1, 2016, who renewed, or were expected to renew, during the 2016-2017 cycle.
[6] Based on the Florida Department of Health Division of Medical Quality Assurance (2018) License Status Definitions
[7] Response rate is somewhat lower than rates reported for previous cohorts. Overall, the total number of RNs participating in the survey (n=164,460) has decreased compared to the previous cohort (n = 184,188).

Florida's RN license database had nearly 239,000 renewing licensees as of December 2017. Approximately 209,000 (87%) have an active license with no disciplinary restrictions, and maintain a valid Florida address. These nurses represent the *potential* workforce of renewing RNs as they are capable of providing nursing labor in Florida. Among them, an estimated 185,364 (89%) are employed in nursing in Florida. [8]

> *An estimated* **185,364** *renewing RNs are working in Florida*

The following sections explore characteristics of the 2016-17 RN nursing workforce, based on licensure data and survey responses of renewing RNs.

EMPLOYMENT CHARACTERISTICS

An estimated 89% of renewing RNs in the potential workforce are working, while 11% are not employed in nursing.

An estimated 4% of renewing RN survey participants were not seeking work at all (Figure 3). An additional 2.7% indicated they were retired (but still have an active license and remain in the potential workforce), and 2% (about 4,000 renewing RNs) were seeking work as a nurse. 1.7% of RNs indicated they were not working as a nurse but described their unemployment status as "Not Applicable (I am employed for pay)". This may indicate that the nurse is employed outside of nursing.

Work status proportions are similar to the 2014-15 RN cohort although minor differences exist as this report is the first to include non-response proportions and population weighting.

Figure 3: Work Status of Renewing RNs, 2016-17
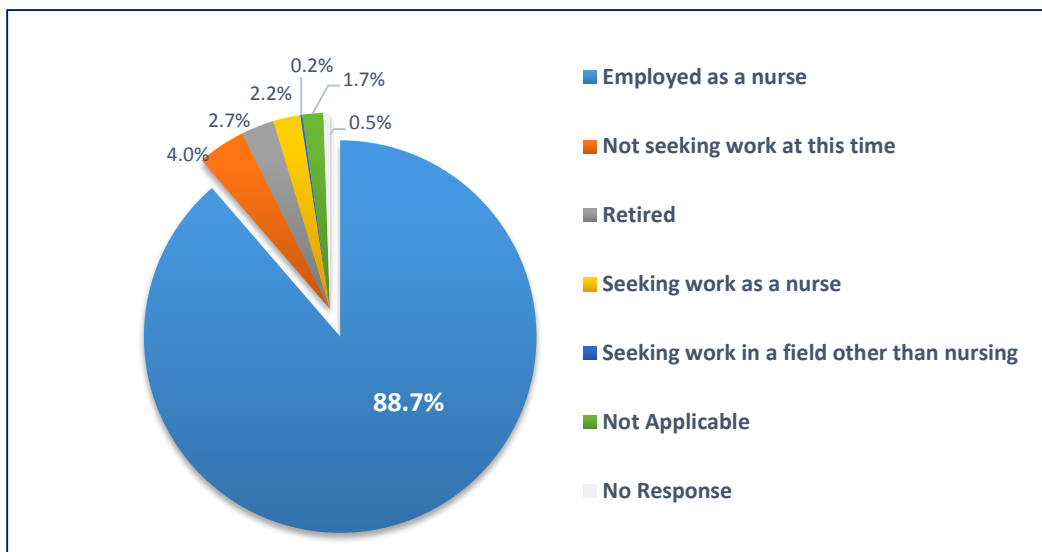
Note: Proportions are weighted to match population of all renewing RNs

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[8] The Center uses responses to the workforce survey to estimate the number of nurses working in Florida. Because response rates were lower than 100%, this estimate was calculated by extrapolating survey results for certain questions to nurses who did not respond to the Workforce Survey. More information about data processes can be found in the Center's 2018 technical report.

Unemployment Reasons

Additionally, when survey participants indicated they were not employed for pay in nursing, they were also asked to describe reason(s) *why* they are not working. Overall, **taking care of home and family (35%) was the most commonly reported reason for unemployment** among renewing nurses not employed in nursing. The proportion of nurses not employed for family reasons decreased from the 2014-15 cohort by 9%. A considerable portion of nurses not employed in nursing (24%) stated they were unemployed for "other" reasons.

Approximately 18% indicated they were employed, which suggests that those not employed in nursing may be employed elsewhere. An additional 12% reported they were unemployed due to disability or illness, and 5% (772 nurses) stated they were experiencing difficulty finding nursing positions.

There are some differences in the reasons RNs are not working by age group (Figure 4). For instance, 20-30 year old unemployed RN renewals were more likely to be in school (25%), compared to other groups. This group was also more likely to report difficulty finding nursing jobs, compared to RNs of other ages. RNs between 31 and 40 were the most likely to report family and home obligations as their reason for unemployment. Nurses over 60 were the most likely to select "other" or "not applicable", categories which most likely represent retirement, in addition to reasons not listed. Very few respondents reported inadequate salary as the reason they are not working in nursing.

Figure 4: Reasons RNs are Not Working in Nursing, by Age Group
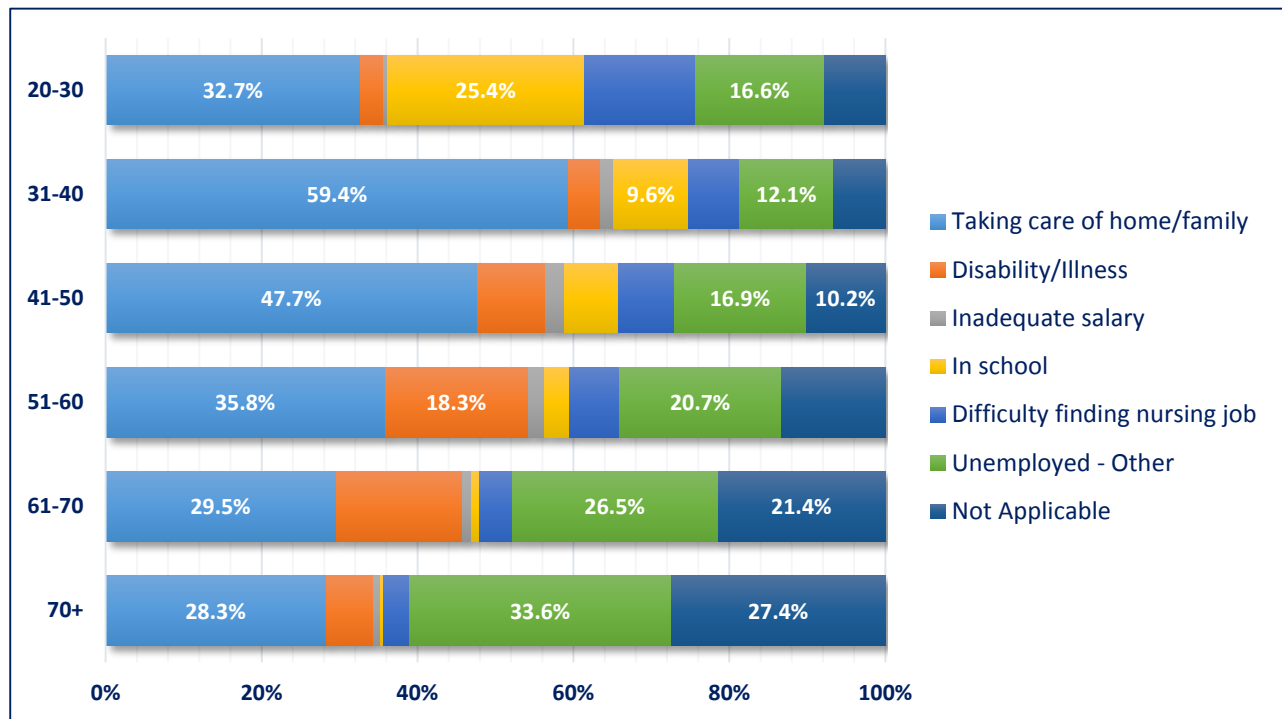
Note: Proportions are weighted to match population of all renewing RNs; Participants were able to select multiple options

Employment Settings

The overall proportion of RNs employed within each care setting industry has remained relatively steady across the past four Nurse Workforce Survey cycles (see Table 4).

Consistent with previous years, **hospitals employ the majority of RNs (63%)**. The second largest setting for RN employment is home health care (6.6%) followed by nursing homes, extended care, or assisted living facilities (5.0%). Ambulatory care is also a relatively common employment setting for RNs (4.7%).

TOP 3 INDUSTRIES	
63%	Hospitals
7%	Home Health
5%	Extended Care, Assisted Living

The fewest number of RNs reported working in policy and planning settings, staffing agencies, occupational health, or urgent care settings. About 5% of survey respondents were working in some other setting not listed.

Although the proportion of RNs employed in various settings has remained consistent, the number of RNs describing their work setting in the Nurse Workforce Survey has decreased since the 2014-15 cycle. This decrease was observed across all employment settings, and likely reflects a decrease in survey participation.

Table 4. RNs Employed by Setting, 2010-11 to 2016-17

| Employment Setting	2010-11		2012-13		2014-15		2016-17 [a]	
Academic Setting	2,626	1.6%	2,976	1.7%	3,455	1.8%	**2,410**	**1.7%**
Ambulatory Care	7,544	4.5%	8,377	4.7%	8,493	4.4%	**6,827**	**4.7%**
Corrections Facility	1,422	0.9%	1,372	0.8%	1,988	1.0%	**1,038**	**0.7%**
Healthcare Consulting / Product Sales	803	0.5%	980	0.6%	1,274	0.7%	**742**	**0.5%**
Home Health Care	14,318	8.6%	14,383	8.1%	12,412	6.4%	**9,437**	**6.6%**
Hospice †	-	-	-	-	6,119	3.2%	**4,277**	**3.0%**
Hospital	106,515	63.7%	113,908	63.9%	122,590	63.5%	**89,990**	**62.6%**
Insurance Claims/Benefits	2,542	1.5%	3,137	1.8%	4,497	2.3%	**2,916**	**2.0%**
Nursing Home, Extended Care [b], Assisted Living	9,032	5.4%	9,482	5.3%	9,323	4.8%	**7,234**	**5.0%**
Occupational Health	535	0.3%	570	0.3%	1,370	0.7%	**432**	**0.3%**
Other	10,989	6.6%	12,013	6.7%	9,960	5.2%	**7,881**	**5.5%**
Physician or other Health Provider Office	5,102	3.1%	5,258	3.0%	4,961	2.6%	**3,761**	**2.6%**
Policy, Planning, Regulatory, Licensing Agency †	-	-	-	-	347	0.2%	**206**	**0.1%**
Public/Community Health	3,613	2.2%	3,511	2.0%	3,108	1.6%	**2,388**	**1.7%**
School Health	1,823	1.1%	1,836	1.0%	1,930	1.0%	**1,467**	**1.0%**
Temporary / Staffing Agency	418	0.3%	428	0.2%	521	0.3%	**299**	**0.2%**
Urgent Care/Walk-in Clinic †	-	-	-	-	676	0.4%	**491**	**0.3%**

†Data not available prior to 2014-15 renewal cycle, [a] Data represents working survey respondents only, proportions may not equal 100% due to missing data/non-response, [b] Previously 'Long Term Care',

Occupational Titles and Practice Areas

Survey participants were also asked about other employment details, including occupational titles, area of practice, hours worked, and full-time/part-time status.

Two-thirds (66%) of working RNs were Staff Nurses (see Figure 5) and 9% were Nurse Managers. An additional 8% are employed in other health related occupations, including consultants, non-faculty researchers, quality or risk management, utilization review/ infection control, and all other unspecified health occupations.

**Figure 5: Occupational Titles of Working RNs**
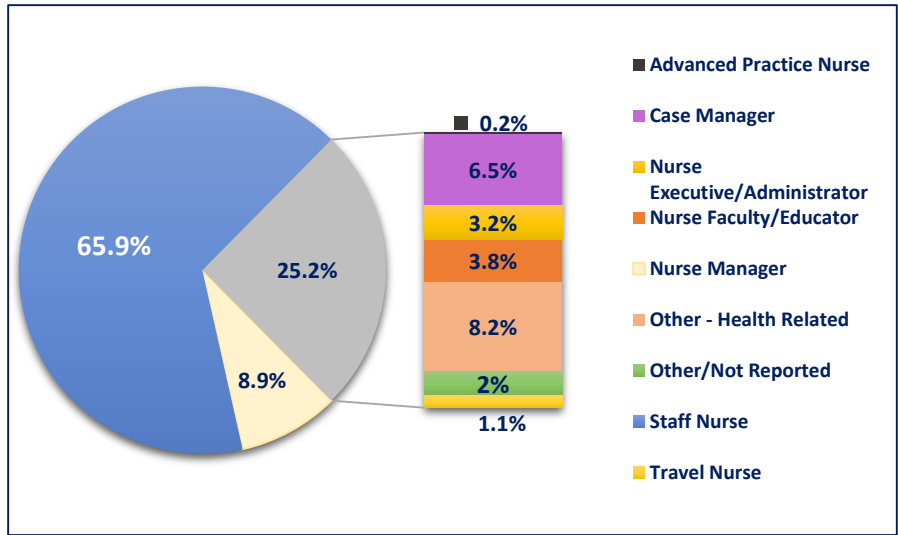
Note: Data includes responses from working survey participants only

The most frequently reported specialty areas were Medical Surgical (14%) and Critical Care (13%). Additionally, 13% of RN survey participants indicated a specialty area of "Other" (see Figure 6).

Since the proportion of "Other" specialty RNs was quite substantial, we explored some characteristics of these nurses in more detail. Many of these participants worked in hospitals (41%) or some other, unspecified setting (21%). Additionally, 40% were staff nurses, and 11% were case managers. In the future, the specialty area question in the Nurse Workforce Survey should be examined to consider selections more fitting of those selecting "Other".

Figure 6: Top Clinical Practice Specialty Areas for Working RNs
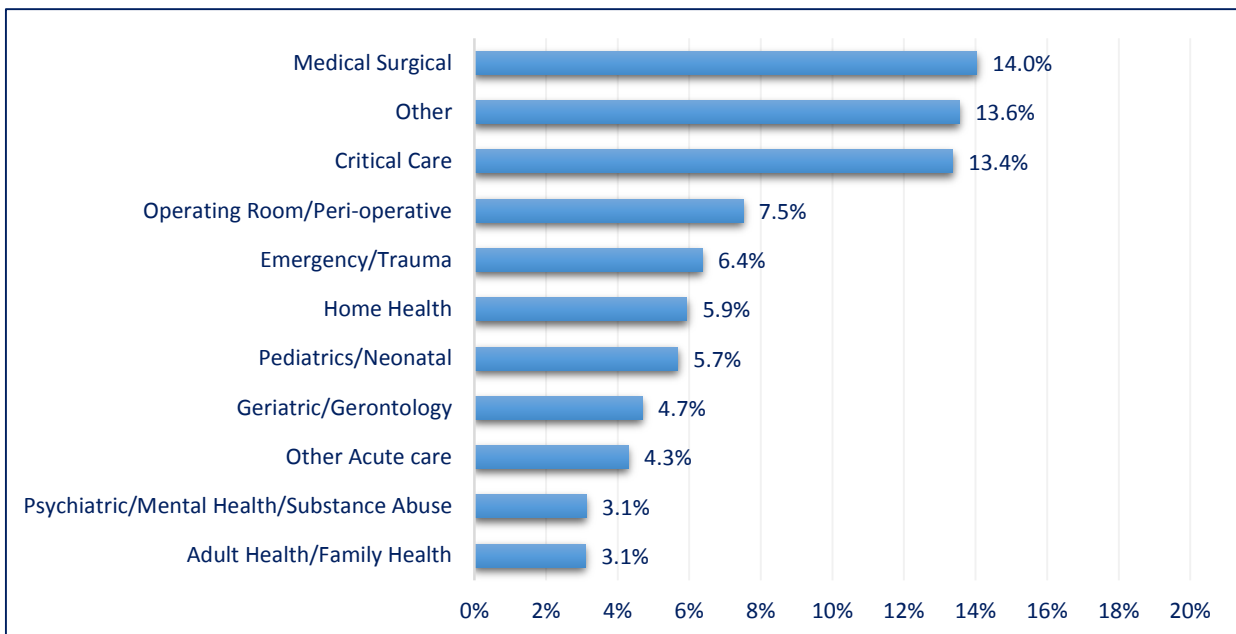
Operating room (7.5%), Emergency/Trauma (6%), and Home Health (6%) were also commonly selected specialty areas among RNs in this cohort. The less commonly selected practice specialty areas (not outlined in Figure 6) include oncology (2.9%), women's health (2.5%), maternal-child health (2.5%), non-psychiatric rehabilitation (2.4%), palliative care (2.2%) and five categories with less than 2% of nurses represented in each.

Table 5: Employment Detail for Working RNs, 2010-11 to 2016-17

	2010-11	2012-13	2014-15	2016-17
Employment Status (%)				
Full-Time	82.5	82.7	83.0	**83.7**
Part-Time	9.5	9.2	8.6	**8.4**
Per Diem/Agency	8.1	8.2	8.4	**8.0**
Multiple Jobs? (%)				
Yes	12.0	11.5	11.5	**11.4**
No	88.0	88.5	88.5	**87.0**
Hours Per Week (%)				
20 or fewer	6.7	6.6	6.6	**5.9**
21-30	7.6	7.5	7.3	**7.0**
31-35	4.1	3.9	3.5	**3.5**
36-40	60.3	61.8	61.8	**60.8**
41-50	16.3	15.5	15.9	**16.0**
51 or more	5.1	4.8	4.9	**5.0**
Average FTE	0.88	0.89	0.89	**0.93**

Other Employment Characteristics

The proportion of RNs working full-time has increased slightly (83.7%). This percentage continues to be much higher than the national estimate of 62.9%.[9] Similarly, the **full-time equivalency (FTE) has increased** from the 2014-15 cohort, to an average of 0.93. [10]

The majority of RNs (61%) work between 36 and 40 hours per week. Most working RNs participating in the survey indicated that they held one job (87%), although 11% worked two or more jobs. These proportions are similar to previous years, although the current report is the first to include missing data in the proportions.

DEMOGRAPHICS

RN Workforce Diversity

Demographic characteristics of all renewing RNs that are working in nursing are shown in Table 6. Overall, the renewing nurse workforce is predominately white (63%) and female (88%), although the proportions of each have decreased slightly since the last renewal cohort. The average age of working RNs (48.3) has also increased slightly from the previous cohort, which is consistent with an aging Baby Boomer population.

Approximately 20% of working RN renewals were at least 61 years old, and slightly more than 5,000 are 71 or older. As a result, **more than 37,000 renewing RN in the potential workforce may be likely to leave the workforce within 5 years.** [11] This is an increase of about 1% since the previous cohort, once again highlighting an aging of the nursing workforce and increasing proportions of nurses within retirement-eligible age, each year.

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[9] According to the National Council of State Board of Nursing (2016) National RN Workforce Survey
[10] The ratio of total number of paid hours worked per year/standard number of hours indicating full time employment. FTE is capped at 1.0
[11] Includes survey respondents and non-participant renewals (n=208,996)

Table 6: Demographics of RNs Working in Nursing

	Total Workforce	Survey Respondents
Race/Ethnicity	%	%
Asian	**6.9%**	7.3%
Black	**14.0%**	13.3%
Hispanic	**12.5%**	11.3%
Other	**2.1%**	1.9%
White	**63.3%**	65.1%
Gender	%	%
Female	**88.4%**	89.1%
Male	**11.5%**	10.9%
Age Group	%	%
21-30	**10.0%**	6.0%
31-40	**21.2%**	19.4%
41-50	**23.4%**	24.2%
51-60	**25.4%**	28.0%
61-70	**17.4%**	19.7%
71 or older	**2.7%**	2.7%
Average Age	**48.3**	49.9

Similarly, 25% of working RN renewals are between the age of 51 and 60, indicating that more than 47,000 RNs will be approaching retirement age within the next 5-10 years. Combined, these two groups account for **more than 84,000 working RNs who may begin to phase out of the workforce** in the next decade.

Survey participation was less common among younger, non-traditional RNs. Working nurses who participated in the Nurse Workforce Survey were slightly older than the total potential workforce, with an average age of about 50 years. Survey participants were also slightly more likely to be female (89%) and white (65%).

Compared to state level Census data (2017). RN demographics highlight the overrepresentation of whites and the under-representation of people of color among working RNs. In Florida, non-Hispanic whites comprise 55% and blacks comprise another 17% of the state population, while whites represent 63% of working RNs, and 14% of working RNs identified as Black/African American.
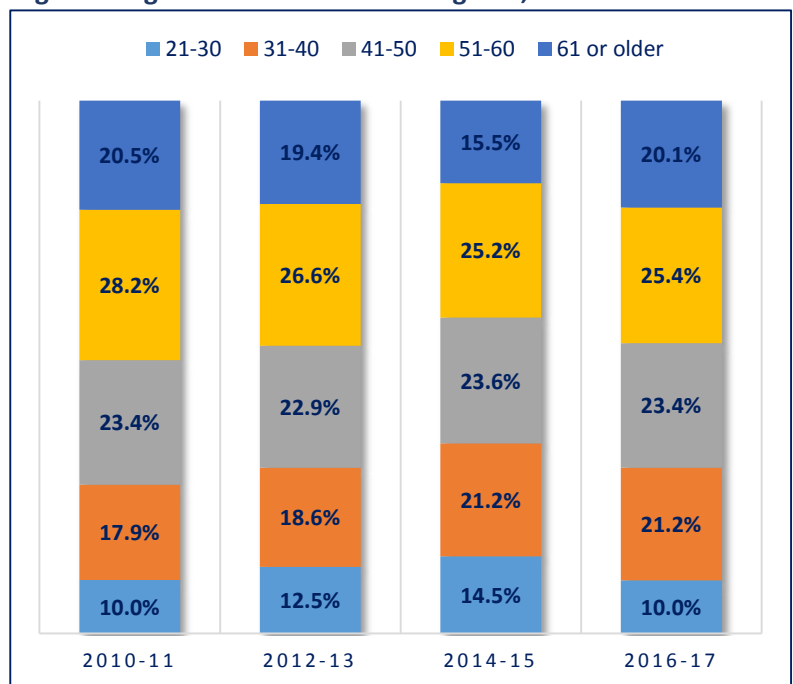
About 25% of Floridians are Hispanic (US Census Bureau, 2017), although a direct comparison to the RN population is not possible given distinctions between race and ethnicity at the state level not included in the licensure database. State level Census data (2017) also highlights the overrepresentation of women in the RN workforce, as females comprise about 51% of Florida's total population and 63% of the RN workforce.

Age Distribution

The age distribution of working RNs has remained relatively constant across the past four cohorts (see Figure 7). In 2016-17, nurses between 21 and 30 comprise the smallest portion of RNs. This may be expected, however, since the youngest working RNs are more likely to have been newly licensed during this cycle.
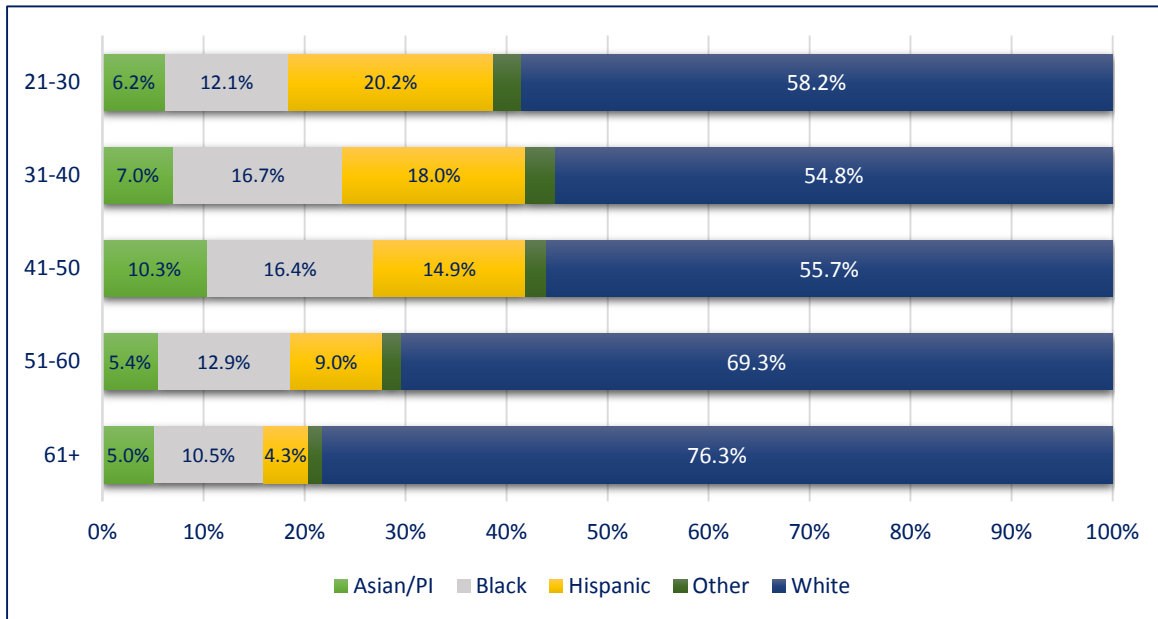
Compared to the 2014-15 renewal cycle, the proportion of **working RNs over the age of 60 has increased by 4.6%**. As Florida's workforce ages, the retirement of highly experienced

Figure 7: Age Distribution of Working RNs, 2010-11 to 2016-17

	21-30	31-40	41-50	51-60	61 or older
2010-11	10.0%	17.9%	23.4%	28.2%	20.5%
2012-13	12.5%	18.6%	22.9%	26.6%	19.4%
2014-15	14.5%	21.2%	23.6%	25.2%	15.5%
2016-17	10.0%	21.2%	23.4%	25.4%	20.1%

nurses will result in a loss of skilled mentors with years of organizational and experiential knowledge. The nurse workforce must recruit and retain substantial numbers of younger and newly licensed nurses, as the older cohorts retire.

Figure 8: Race/Ethnicity of Working RNs by Age Group, 2016-17

In the 2016-17 renewal cycle, there were distinct demographic differences between age groups (Figure 8). **Older RNs were more likely to be white**, compared to the younger groups. Representation of Hispanic or Latino/a RNs also increased among younger groups. Working RN renewals who identify as Black or African American were most represented among 31-40 year olds, and those identifying as Asian or Pacific Islander were most represented among the 41-50 year old RNs.

ACADEMIC ACHIEVEMENT

The 2010 Institute of Medicine's (IOM) report, "The Future of Nursing: Leading Change, Advancing Health" sparked national interest regarding the educational attainment of nurses. In their report, IOM provided a recommendation to increase the proportion of RNs with a Bachelor of Science in Nursing (BSN) or a higher degree (i.e. MS, MPH, PhD, etc.) in nursing or a related field to 80% of the employed workforce by 2020.

The Future of Nursing - Highest Education (IOM Categories)

In Florida, **43.5% of working RN renewals have a BSN or graduate level degree in nursing or related field**. Specifically, about 36% of working RNs have a Bachelor of Science in Nursing (BSN) and 7% hold a Master's or

44% *of working RN renewals have a BSN or graduate level degree*

Figure 9: Education Achievement toward IOM Recommendation
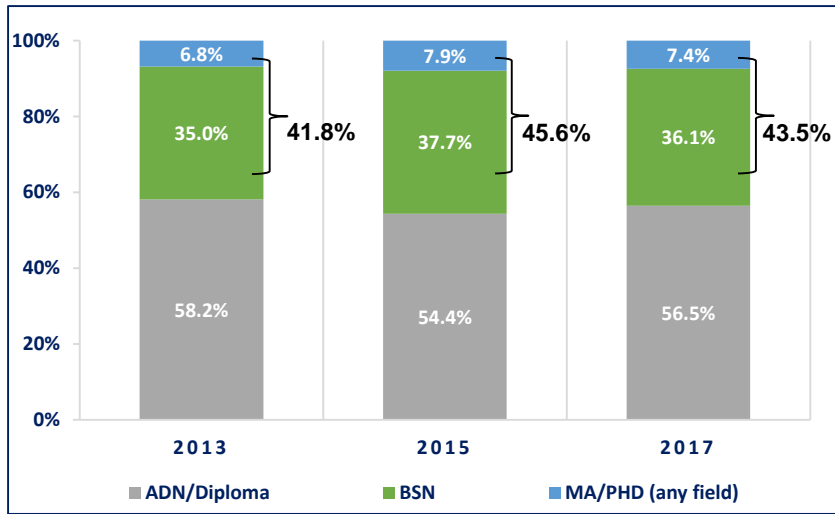
Doctorate degree in nursing or another field. The highest reported degree for the remaining 56% of working RN renewals is a diploma or Associate's Degree in Nursing (ADN) (Figure 9).[12]

Among RNs with graduate level degrees (n=10,586), 69% hold an MSN, and 4% hold nursing doctoral degrees (e.g. PhD, DNP). These proportions represent 5% and 0.3% of all working survey respondents, respectively. The remaining RN graduate degree holders have non-nursing Master's or Doctorate degrees, in addition to their nursing diploma or ADN.

The proportion of renewing nurses whose highest degree was less than a Bachelor's increased from 2014-15 by about 2%. The proportion of nurses with a BSN decreased by 1.5%. The smaller proportion of nurses with BSNs may relate to the lack of newly licensed nurses in this survey sample, as this group may be more directly affected by industry BSN hiring preferences. Other minor variations between 2015 and 2017 may be explained by revised handling of missing data in the 2016-17 cohort.[13]

Highest Education (All Degrees)

Education attainment was distributed somewhat differently when considering *all* degrees held. In total, 48% of working RN respondents held a highest degree of ADN or diploma (Table 7). Another 41% were baccalaureate degree holders. Only 7% of the total sample of working RN renewals had a bachelor's degree in a field other than nursing, in addition to the minimum nursing certifications, and 33% of working RNs had a BSN.

10% of working RN renewals have a Master's degree or higher in any field. Master's degrees in nursing (MSN) are slightly more common than non-nursing master's degrees. On the other hand, while working RNs with doctoral degrees only represent 1.4% of the total sample, they were much more likely to hold non-nursing doctorates. Only 0.1% of working RN renewals held a DNP.

Table 7: Highest Education of Working RN Renewals

Highest Education (All Degrees)	2016-2017
ADN or Diploma	**48.3%**
Baccalaureate Degrees	**40.7%**
BSN	33.3%
Non-Nursing Bachelors	7.4%
Masters Degrees	**8.7%**
MSN	4.9%
Non-Nursing Masters	3.8%
Doctoral Degrees	**1.4%**
DNP	0.1%
PhD or Other Nursing Doctorate	0.2%
Non-Nursing Doctorate	1.1%

NOTE: Proportions may not equal 100% due to missing data; Non-Nursing Bachelor degrees shown here were grouped with ADN/Diplomas when reporting IOM percentages

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[12] Initial degree in nursing was substituted for highest degree in nursing when the highest degree was left blank but initial degree was provided (n=604). This may result in a slight overestimation of less advanced degrees but is likely to affect less than 1% of the sample.

[13] Particularly, the lack of newly licensed nurses in the survey sample, the substitution of initial degree or defaulting to 'ADN' level degree when highest degree was not reported, and different methodology to estimate 'working' respondents. The 2016-17 value in Figure 9 does not represent weighting or imputation techniques for employment status. Other reasons for changes should not be ruled out, however. Investigation is needed to determine if some highly educated nurses are leaving the state of Florida, etc.

In this sample, 12% of working RNs had a higher degree outside of nursing than their highest nursing degree. About 16% of RNs whose highest nursing degree was a diploma or ADN had a higher degree outside of nursing. Seven percent (7%) of survey participants with a BSN also have a master's or doctorate in another field, and 3% of those with an MSN degree also have a doctorate outside of nursing, including medical doctorates (DO, MD).

Nationally, about 54% of nurses have a bachelor's degree or higher in nursing (Campaign for Action, 2017). Florida's proportion is about 13% lower than the national average, and slightly lower than the proportion of nurses with at least a bachelor's degree in the 2014-15 cohort. However, the latter may relate to lower response rates in this renewal cohort, as well as the lack of participation from newly licensed RNs. The proportion of employed nurses with at least a bachelor's degree in any field is approaching the national percentage.

IOM also recommended that the number of nurses with a doctorate should be doubled by 2020. In the 2014-15 renewal cycle, 1,427 nurses had a doctorate degree. In the current cohort, 2,039 held a doctorate (any field).

FULL TIME EQUIVALENCY (FTE) STATUS

A full-time equivalency (FTE) value represents the annual workload of employees. FTE is the ratio of hours worked by an employee in a given time period by the number of hours considered full-time for that same given time period. **The estimated average FTE for all working RNs was 0.93.**[14]

FTE by Age Group

Figure 10 depicts the average FTE and estimated number of working RNs by age group. On average, older RNs work fewer hours, with a particular decline among working RNs 66 and older. On the other hand, 21 to 25 year old renewing RNs have the highest average FTE compared to other groups (0.98). This group also comprises the

Figure 10: Average FTE and Number of Working RNs by Age, 2016-17

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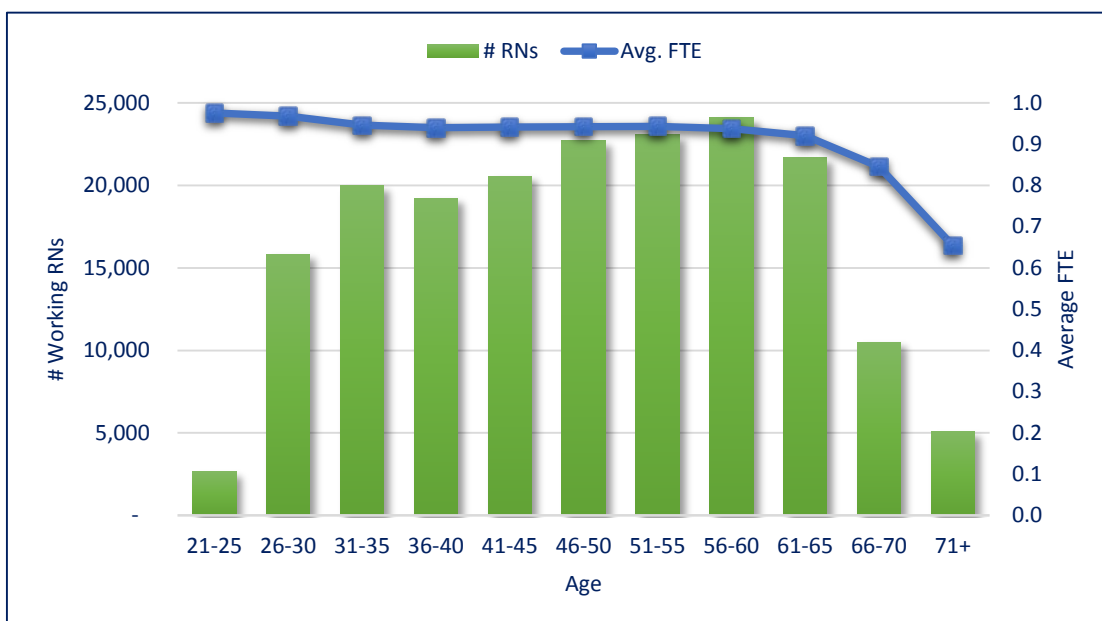
[14] Excludes nurses who reported that they were working, but indicated 0 hours per week

smallest proportion of working RNs. The average FTE value remains relatively constant at about 0.94 for working nurses between 31 and 60. Nurses between the age of 56 and 60 comprise the largest proportion of all working RNs. These nurses may begin to reduce their hours worked or leave the workforce entirely in the next decade.

FTE by Employment Setting

Table 8 shows the proportion of working RNs survey respondents in each industry with a 1.0 FTE value.[15] A 1.0 FTE indicates full-time employment of at least 36 hours per week, year round.[16] Lower ratios indicate more participants working less than full time.

Overall, hospitals employ the largest majority of RNs. Among them, 82% have a FTE value of 1.0. On the other hand, only 65% of home health RNs, the second largest employer, have a FTE status of 1.0.

RNs working in Insurance Claims/ Benefits have the highest proportion of FTEs (94%). On the other hand, only 43% of the School Health Service RNs have a FTE value of 1.0.

Table 8: Proportion of Working RNs and Average FTE by Employment Setting, 2016-17

Setting	% FTEs by Setting	Overall Avg. FTE
Academic Setting	65%	0.85
Ambulatory Care Setting	67%	0.88
Correctional Facility	85%	0.93
Extended Care/Assisted Living	78%	0.92
Healthcare Consulting/Product Sales	75%	0.88
Home Health	65%	0.85
Hospice	80%	0.92
Hospital	82%	0.95
Insurance Claims/Benefits	94%	0.97
Occupational Health	77%	0.89
Other	76%	0.89
Physician's Office	73%	0.89
Policy/Planning/Regulatory/Licensing Agency	87%	0.93
Public/Community Health	79%	0.90
School Health Service	43%	0.84
Temporary / Staffing Agency	47%	0.77
Urgent Care/Walk-in Clinic	75%	0.89

Note: Proportion of estimated FTEs represents working RNs with an FTE value of 1.0/est. total RNs working in that industry. Lower % and ratios indicate more RNs reporting part-time positions.

RNs working in insurance, hospitals, correctional facilities, policy, hospice, and extended care or assisted living facilities worked the most year-round hours per week, on average, as evidenced by their higher overall group FTE value. RNs working for temporary agencies and school health worked the fewest hours per week.

NURSE WORKFORCE BY STATE POPULATION

It is also important that nurse supply growth take into consideration changing patient populations which drive the demand for healthcare. To better understand the nurse supply, we compared the number of working nurses to the size of the state's population[17] and the number of hospital beds.[18]

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[15] Employment setting is only available for survey participants who provided information for this question (n = 141,796). Estimated proportion of 1.0 FTEs is based on survey respondents only.
[16] See FCN's 2018 Technical Report for more details about FTE calculation
[17] Based on US Census Bureau July 1, 2017 estimates (N = 20,984,4000)
[18] Based on Florida Hospital Association hospital bed count (N = 67,081)

In the state of Florida, there were an estimated 995 working RNs (including newly licensed and renewing nurses) per 100,000 population in 2017. This number has increased compared to previous years. In 2013, there were 931 working RNs per 100,000 people, and in 2015 there were an estimated 974 working RNs per 100,000 people.

995 *Working RNs per 100,000 population*

311 *Working RNs per 100 hospital beds*

The estimated number of working RNs per 100,000 population in Florida is higher than the national average of 921 working RNs per 100,000 people (Health Resources & Services Administration (HRSA), 2013). The increase in the number of nurses per 100,000 population should be interpreted strictly numerically, as it does not take into account important factors such as an aging population, increased care need, and changing staffing models – each of which might require more than average numbers of nurses.

In 2016-17, there were an estimated 311 employed RNs per 100 hospital beds. This number has only increased by 1 nurse per 100 hospital beds since the last renewal cycle, which may exemplify staffing shortages and an increased workload of working nurses.

CONCLUSION

Florida's RN population and workforce continue to show overall growth, as evidenced by the steady increase in the potential workforce in the past ten years. In 2008-09, there were an estimated 160,000 working RNs in Florida. In 2016-17, there were an estimated 209,000 working RNs, including newly licensed and renewing nurses. The estimated number of working nurses in 2016-17 increased from the 2008-09 cycle by about 48,500 RNs, and increased from the 2014-15 cohort by almost 16,000.

The number of RNs newly licensed by exam has also shown a slight increase from the previous cohort. However, the overall rate of growth in the potential RN workforce from 2014-15 to 2016-17 (7.4%) decreased slightly compared to the growth between 2012-13 and 2014-15 (7.6%). This decline is of negligible proportions but may indicate a 'leveling off' of growth, despite continuing nurse shortages. In a review of nursing education programs, the Florida Center for Nursing (2018) found a decrease in the number of graduates between 2015-16 and 2016-17 academic years. Similarly, there were decreases in the number of seats available in nursing education programs between 2016 and 2017. While the total number of newly licensed nurses increased slightly from the previous renewal cohort, the number of those licensed in 2016 was about 4% higher than those licensed in 2017, which may be consistent with declining education rates within this cycle. If this rate of decline continues, it is likely that effects will be noticeable following the 2018-2019 license renewal cycle.

Florida's RN workforce is also becoming more highly educated as recommended by the Institute of Medicine (IOM), although the proportions of RNs with a bachelor's degree or higher in the field of nursing is about half of the proportion that IOM recommends to be achieved by the year 2020. However, this report does not take into consideration the education of newly licensed nurses, as this information is only available for renewing licensees who completed the Nurse Workforce Survey. Newly licensed RNs are increasingly diverse in demographic characteristics, compared to renewing nurses. It may be possible that there are also education attainment differences that should be explored in the future. However, the majority of hospitals are preferentially hiring

new BSN graduates (Florida Center for Nursing, 2016), thus it is likely that newer nurses, overall, will continue to have more advanced degrees compared to those that have been practicing longer.

The national and state healthcare workforce will continue to be affected by demographic, policy, and technological trends. With increases in the average US life expectancy and interstate migration to Florida, Florida's population over age 65 is predicted to comprise 20% of the population in 2020, and about 24% in 2030 (Holt & Colburn, 2015; Population Reference Bureau, 2018). As the population ages, more nurses will be needed to care for an older population. At the same time, more than 84,000 RNs in Florida may be likely to reduce working hours and/or retire in the next 15 years. With decreasing counts of nursing program seats and smaller graduating cohorts, the replacement population may remain smaller than the anticipated number of retirees.

The profession of nursing will also be affected by other factors. For instance, nurses must continually update their knowledge of new treatments and procedures as well as their technological skills in the areas of nanotechnology, telemedicine, and digital health information. Nurses must be prepared to work with patients who are educated consumers of health information and to be skilled health educators. Nurses must also continue to adapt to changes in federal and state regulations which affect patients and the healthcare industry, as well as other population-based shifts and scientific advancements (Health eCareers, 2013).

As a result of these many changes, the American Association of Colleges of Nursing (AACN) continues to predict a national shortage of RNs, and is working to address this looming shortage through strategies, legislation, and collaborative partnerships. Nationally, the RN workforce is expected to gain an additional 439,300 nurses between 2014 and 2024 through profession growth, in addition to a projected need for more than 649,000 replacement nurses in the workforce (American Association of Colleges of Nursing, 2017). According to the Florida Center for Nursing's (2016) most recent demand estimates, Florida anticipates a similar situation. In 2015, there were an estimated 12,493 vacant RN positions statewide, with anticipated growth of 9,947 RNs through the creation of new positions in 2016.

Furthermore, the Center's (2010) baseline forecasts indicate that Florida will face a shortage of 50,321 RN FTEs by 2025. However, these counts should be interpreted with caution as a more updated understanding of nurse shortage is greatly needed. The Health Resources and Services Administration recently updated its forecasting model. Though it was hoped this would be useful for state-level predictions, the inability to modify baseline and demand projections in a state like Florida resulted in a significant understatement of need. Thus the search for a usable forecasting model continues and may end with the development of a new model.

RECOMMENDATIONS

Recommendation 1. Continue to encourage bright, talented, caring people to enter the field of nursing, and encourage incumbent worker education and training, in order to meet industry needs and counteract the looming large numbers of nurses nearing retirement.

Recommendation 2. Increase activities to improve retention of Florida's existing nurse workforce and extend their work life, including accommodating the effects of aging on a nurses' ability to continue to practice. Such activities may involve efforts to transition nurses from one practice environment to another.

Recommendation 3. Promote and facilitate educational and career advancement of all nurses: increase the number of RNs with a BSN, increase the number of nurses qualified to teach, and increase the number of nurses working in primary care.

Recommendation 4. Support the Center's research effort and analysis of workforce trends to assure the Center attains the best data on the supply of all types of nurses, providing the basis on which to maximize use of limited resources.

Recommendation 5. Evaluate existing forecast models for applicability in Florida to reliably predict future supply and demand. If none exists, develop new forecasting model.

Recommendation 6. Together with Medical Quality Assurance (MQA), the Center should improve Nurse Workforce Survey design to increase clarity and efficiency for participants and minimize errors in responses, and promote access to the Nurse Workforce Survey for newly licensed RNs.

ACKNOWLEDGEMENTS

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