Oregon Center for NURSING

Aging Trends in Oregon's Nursing Workforce

Executive Summary

- Oregon's current nursing workforce is younger than the recent past.
- The median age for registered nurses was 47 in 2016; down three years from that in 2012.
- More younger nurses are entering the workforce.
- The younger nursing workforce is a statewide phenomenon.
- As nurses who have postponed retirement begin to retire, nursing shortages in specific geographic and practice settings could result.
- Mentoring and transition-to-practice programs should be implemented in health systems and other practice settings to mitigate knowledge loss from retiring experienced nurses.

Introduction

As nurses are the largest portion of the health care workforce, they are critical to the delivery of quality health care across the nation. As such, any changes within the workforce can have long lasting effects including a potential nursing shortage. According to nurse workforce researchers, the following challenges could significantly impact Oregon's nursing workforce: the aging of the population in the state, the aging of the nursing and healthcare workforce, a significant shortage of nurse educators, and changes to healthcare reform laws.

Several reports argue the nursing workforce is growing older and will soon experience mass retirement, which will exacerbate existing nursing shortages (Buerhaus, Staiger, & Auerbach, 2000; Harrington & Heidkamp, 2013; Uthaman, Chau, & Ang, 2016). Concerns about the aging nursing workforce are widespread in the United States (American Organization of Nurse Executives, 2010) and in Britain (Royal College of Nursing, 2016). Many nurse leaders and researchers fear a nursing shortage will lead to reduced access to care, decreased quality of care, increased risk to patients, and higher health care costs (Buerhaus, 2008).

However, the Oregon Center for Nursing's (OCN) recent report, "Characteristics of Oregon's Nursing Workforce," (2017) suggests that in some places **the registered nurse (RN) workforce may not be aging, and may be getting younger.** The report presented nursing workforce data from 2012 to 2016 showing the 2016 cohort was younger than the 2012 or 2014 cohorts. In 2016, there were proportionally fewer RNs 45 years-of-age or older and proportionally more RNs in their 20s or 30s.

This paper expands on OCN's preliminary findings to 1) confirm the trend toward a younger RN workforce is indeed occurring, 2) expand our understanding of changing age distribution of the RN workforce, and 3) identify any potential challenges that might arise with a younger, potentially less experienced workforce.

Method

A retrospective cohort analysis was conducted on registered nurse licensing data for three nurse cohorts (2012, 2014, and 2016 cohorts) from the Oregon Health Authority's license renewal survey. Characteristics such as age, license type, geographic location, and employment setting were analyzed over time. Non-parametric statistics (i.e., medians) are reported because the age distribution of nurses does not meet the requirements of a normal distribution.

Results

The results of the analysis support the notion, first offered by OCN (2017), that the **2016 nursing workforce is indeed younger than in the past.** Table 1 shows the median age for nurses in 2012-2016 by license type.

Table 1 | Median Age of Nursing Profession Workforce, 2012-2016

License Type	2012	2014	2016
Certified Nurse Assistant (CNA)	36	35	35
Licensed Practical Nurse (LPN)	49	45	43
Registered Nurse (RN)	50	49	47
Nurse Practitioner (NP)	53	52	50

These results show while the median age for CNAs did not change over this four-year span, the median age for other licensed nurses dropped over time. **In 2012, the median age for an RN was 50 and this dropped by three years to a median age of 47 in 2016.** Similar declines were observed for LPNs with a six-year decline in median age and for NPs with a three-year drop in the median age.

While the change in the median age among nurses seems modest, the change in the age distribution is much more dramatic. Figure 1 shows the age distribution of RNs in 2012, 2014, and 2016. A couple of things become apparent upon the examination of this figure. First, the number of nurses in their 20s and 30s increased markedly. Since 2012, the number of RNs in their 20s and 30s increased by almost 20 percent. Secondly, the number of RNs in their 50s and 60s decreased by 14 percent. However, the distribution curve for this older age group shows some shifting to the right, meaning nurses in this age group tend to be proportionally older in 2016 than in previous years. Lastly, the age distribution itself has changed, and has become an apparent bimodal distribution in 2016. This change occurred because of the rapid rise in the number of RNs who are in their 30s. In 2012, this portion of the age distribution is relatively flat, but modest increases can be observed in this age group in the 2014 cohort. These data indicate that the RN workforce in Oregon was younger overall in 2016 than it was in 2012, but the development of a bimodal distribution suggests that multiple factors may be at play, and warrants further discussion.

Figure 1 | Age Distribution of Registered Nurses, 2012-2016

Another way to look at these data is to examine the change over time in the proportion of the RN workforce in each age group. This view will help delineate the magnitude of change in the age distribution within specific age groups. These data, shown in Figure 2, illustrate the increase in the proportion of the RN workforce in younger age groups, with notable growth occurring in the 30-39 Age Group. Additionally, a marked decline can be seen in the proportion of the RN workforce in the 50-59 Age Group. However, the 60-69 Age Group and 70+ Age Group yielded a slight uptick in the proportion of RNs within these two age groups in 2016, compared to 2012. The proportion of RNs within the 60-69 Age Group rose in 2014 and declined slightly in 2016, but still above 2012 levels. Also notable is the slight, but constant growth observed in the 70+ Age Group from 2012 to 2016, which, suggests that **older RNs are delaying retirement.**

One possible explanation for the above findings is that RNs are obtaining their nursing license at a younger age, which could account for the rapid growth in the younger age groups. However, the data shows the median age at original license issuance did not change over the four-year study period. Nurses who licensed via the endorsement process are not included in this analysis. Table 2 shows the median age at original license issuance.

Table 2 | Median Age at Original License Issuance, 2012-2016

License Type	2012	2014	2016
Certified Nurse Assistant (CNA)	28	28	27
Licensed Practical Nurse (LPN)	33	32	32
Registered Nurse (RN)	31	31	31
Nurse Practitioner (NP)	39	39	39

The median age for RNs and NPs did not change at all, while the median age for CNAs and LPNs declined just slightly. This indicates that **RNs are not entering the field at a younger age in 2016 compared to previous years, but simply that more younger people are entering the nursing profession** (as shown in Figure 2).

Additional analyses were conducted to determine the nature of the observed downward shift in age and to further attempt to identify factors that may play a role in this changing demographic. The first analysis compared urban versus rural counties to determine if this trend is limited to urban counties. This of interest because most of Oregon's nursing programs are in urban settings, and those nursing programs in rural counties are generally offered by community colleges.

Figure 2 | Percent of Licensed RNs by Age Group, 2012-2016

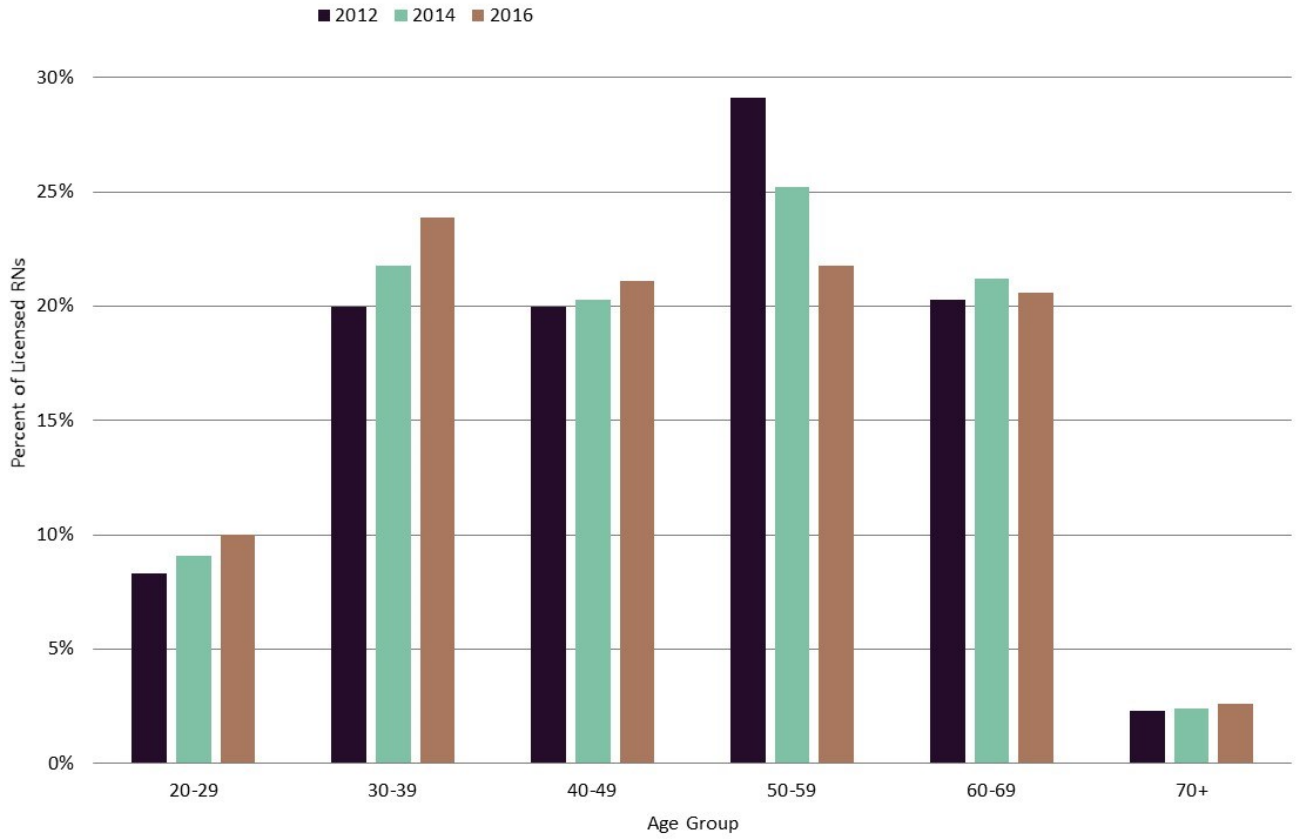


Table 3 | Median Age of RN Workforce – Urban and Rural Counties, 2012-2016

	2012	2014	2016
Rural Counties	53	51	50
Urban Counties	51	50	47

As can be seen in Table 3, the median age of RNs in rural counties did decrease between 2012 and 2016, but it did not drop at fast as observed in urban counties (a three year drop in rural counties versus a four year drop in urban counties). In addition, RNs practicing in urban counties tended to be two to three years younger than their rural counterparts. Regardless, **the drop in the median age in rural counties indicate this phenomenon is occurring statewide.**

Lastly, the age distribution was examined for several employment settings to confirm the global nature of the observed trends. The results of this analysis can be found in Table 4. Four broad categories of employment settings were compared. These categories included Clinic (RNs employed in clinic or office settings, including dental offices), Hospital (RNs employed in inpatient and out-patient hospital settings, emergency departments, and free standing urgent care/emergency clinics), Long Term Care (LTC) (RNs employed in skilled nursing facilities, residential care, assisted living facilities, and home health agencies); and Other (RNs employed in community or public health setting, research or educational institutions, Veterans Administration facilities, and insurance claims/benefit organizations).

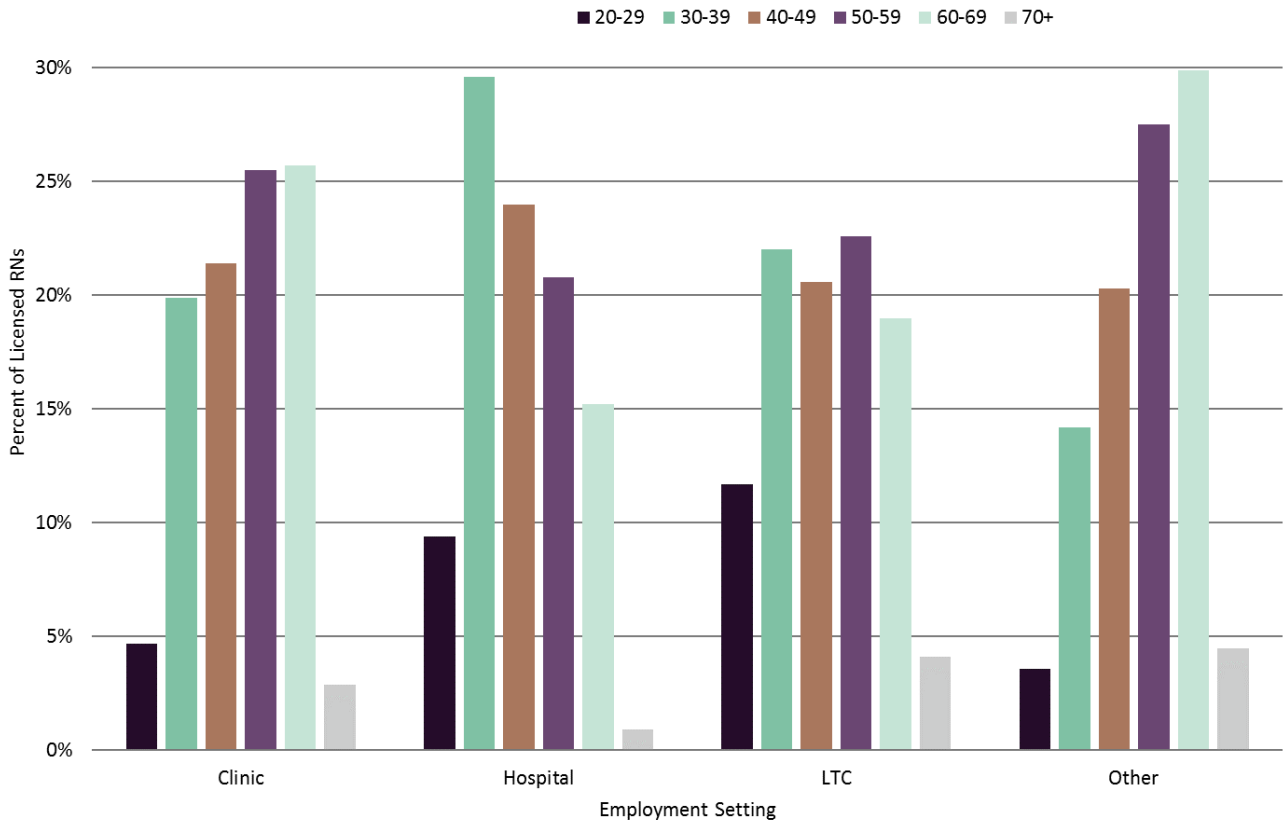
Table 4 | Median Age of RN Workforce by Employment Setting, 2012-2016

	2012	2014	2016
Clinic	55	52	52
Hospital	47	45	44
Long Term Care	52	49	47
Other	56	55	55

This analysis revealed **the median age of RNs employed in three of the four categories of employment setting decreased by three to five years between 2012 and 2016.** Clinic and Hospital settings saw a drop of three years each; LTC dropped by five years. RNs employed in the Other category did not show the same decline and the observed drop was out of step with the decline seen in clinics, hospitals and long term care.

To better understand the dynamics of the declining median age by employment settings, data from the 2016 cohort was organized by age group for each employment setting, and is presented in Figure 3. This enables a view of the age distribution for each setting independently of other employment settings.

Figure 3 | Percent of RNs by Age Group by Employment Setting, 2016



As can be seen, the age distribution is very different across employment settings. First off, only the LTC setting showed more than 10 percent of its workforce in their 20s; the Hospital setting showed a little over nine percent under age 30, while less than five percent of RNs employed in either LTC and Other settings were in their 20s. Clinics tend to have more employees in their 50s and 60, with a peak in the 60-69 Age Group. The Hospital setting shows a peak in the 30-39 Age Group, then shows steady declines across the remaining groups. About 20 percent of RN workforce in LTC settings are found in each of the 30-39, 40-49, and 50-59 age groups, with a slight decline for the 60-69 Age Group. The age distribution for the Other employment setting is quite different, as it shows continual increases in the proportion of the workforce in older age groups. This setting also shows an uptick in the proportion of employed RNs who are older than 70 years-of-age. At present, it is unclear why there are such radical differences in the age distribution of RNs across these employment settings, but most likely is due to the natural progression of employment throughout a nurse's career.

Discussion

The results of the analyses presented above provides strong evidence that **the current nursing workforce in Oregon is younger than in the recent past.** It also provided evidence that more younger nurses are entering the workforce. And lastly, these trends are being observed statewide in both urban and rural counties, although the effects in rural Oregon are less pronounced in urban areas.

So, what do these data mean in terms of potential future nursing shortages? It could be interpreted to mean worries about an impending nursing shortage are overblown as the large influx of younger nurses will ensure there is (or will be shortly) an ample supply of qualified nurses to meet future demand. However, a full examination of the data presented above indicate this view may be shortsighted. While the observed growth across the younger age groups provides reasons to be optimistic, other trends within the data suggest we might not be out of the woods just yet.

For instance, **the number of RNs who are at or near retirement age continues to be very large, maybe as much as 20 percent of the RN workforce.** In fact, the mode for the age distribution presented in Figure 1 is 65 years-of-age for the 2016 cohort. Along with the observation of a slight increase in the number of RNs who are older than 70 years-of age, it is apparent many RNs have postponed retirement. Thus, many nurses may be leaving the workforce in the next five to ten years. By itself, this could present problems for health care systems, hospitals and other entities that employ nurses as they lose a large portion of the workforce.

However, another problem may emerge as these experienced nurses exit the workforce, especially with the influx of a large number of younger, less experienced nurses: the issue of knowledge exchange. Many organizations rely on their experienced RN workforce to train and teach their less experienced colleagues. **The potential of an upcoming exodus of experienced nurses forces one to consider other strategies to ensure knowledge and skills are transferred to the next generation of RNs.** One strategy would be for health systems, hospitals, and other employers to implement a mentoring program within their institutions. While some, especially large employers, have implemented mentoring programs, transition-to-practice programs, or have adopted similar strategies, it is not consistent across the all settings. By working with leadership in hospitals and health systems, including post-acute and long term care, and nurse leaders, a systematic approach must be adopted to ensure the increasing number of relatively inexperienced RNs gain the knowledge of their more experienced counterparts.

Future Research

Generally, workforce shortages are created due to two main reasons: a large number of people leave the workplace at once, and/or not enough people are educated or prepared to replace them. For the nursing workforce in Oregon, as noted above, more younger people are entering the profession. This leads us to believe Oregon is educating enough nurses to replace the nurses who retire. However, the large number of nurses at or near retirement age call for further research to fully examine the likelihood of future, large-scale retirements within the nursing workforce. In addition, as nurse retirement rates are forecast, the experience levels of the remaining nursing workforce should be taken into consideration. Employers must understand nurse retirement rates in order to successfully plan for future workforce needs and identify workplace transitions programs for both newly-licensed and retiring nurses.

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