

**H**aving an adequate supply of registered nurses (RNs) in the U.S. workforce is critical to ensuring a safe and effective health care system. Over time, there has been a substantial body of evidence to suggest a potential shortfall of nurses that could have a major impact on health care delivery. The factors contributing to this RN shortage include the aging of the U.S. population, the aging of the RN workforce, the Patient Protection and Affordable Care Act, which predicts that 30 million more U.S. residents will become insured and seek medical care in the years ahead. Data on the RN workforce can be used to predict possible shortages and assist in the allocation of resources, program development, and recruitment efforts in both the health care system and education sectors.

importance of completing the survey. The day after the telephone announcement, a letter inviting RNs to participate in the survey was mailed and included a \$1 incentive. The letter, which explained the voluntary nature of the survey and the due date for the following week, contained a link for online survey participation. The letter was sent first class to allow the return of invalid addresses.

2. Week 3: A hardcopy of the survey was sent to nonresponders, and included an online option. Participants were instructed to complete the survey within the following 2 weeks.
3. Week 5: A telephone announcement was sent to remind nonresponders to complete the survey, and to thank those who had already participated.
4. Week 7: A hardcopy of the survey was sent to nonresponders, and included an online option. Participants were instructed to complete the survey within the following 2 weeks.
5. Week 9: Deadline for surveys and closure of the online option.

#### **Nonresponse Analyses and Sample Weighting**

A formal nonresponse bias analysis was conducted following the close of the survey. Although response rates are a valuable indicator of survey quality, they may not be a good measure of response bias. An analysis of basic demographic data (i.e., gender, age, race/ethnicity, number of years since graduation, number of years since first licensed) for all RN licensees sampled from the Nursys database was used to compare the survey respondents and nonrespondents, to determine the representativeness of the survey participants.

#### **Summary of Results**

The current study was a collaborative research effort that identified the most current characteristics of the RN workforce in the United States.

Results were compared to HRSA (2010) results, which were based on RN workforce data from 2008, and HRSA (2013) results, which were based on Census data from 2008–2010. Importantly, when comparing the current study's results to those of HRSA (2013) it should be noted the HRSA (2013) data were from individuals who reported their current occupation as nursing and who currently had or were seeking a job. These data were obtained from the U.S. Census Bureau's American Community Survey. The current study was a survey of all RN

the state level and believe that the dataset enhances the ability to plan for the future. More information about the development and current status of implementation can be found in Moulton et al. (2013) and Nooney et al. (2010). Additional questions pertaining to the Nurse Licensure Compact and tele-health were added as a supplement to the MDS by NCSBN.

#### **Procedure**

Surveys were distributed in early 2013 using a modified Dillman approach (Dillman, Smyth, & Christian, 2009), which included the following steps:

1. Week 1: RNs in the initial sample received a telephone announcement that they should expect a survey in the mail. The telephone announcement stated the purpose and

Results on the following topic areas are discussed: gender, age, racial/ethnic diversity, education, licensing, employment status, position setting, position title, employment specialty, Nurse Licensure Compact, and tele-health.

### **Gender**

The current study indicated that male RNs are a relatively small but growing minority in the nursing workforce (see Table 1). An examination of gender, by year licensed cohort, revealed a trend toward an increase in the proportion of males in the workforce. Specifically, for respondents licensed before 2000, 5% were male, while of those licensed between 2010 and 2013, 11% were male.

Examining highest education of RNs by gender, the current data show 71% of male respondents and 62% of female respondents are working in nursing and held bachelor or higher





TABLE 8

**Employment Rates, by Highest Level of Education**

Highest Level of Education	n	Employment			
		Employed in nursing	Full time	Part time	Employed in other field*
Certificate	25	16 (64%)	15 (60%)	1 (4%)	--
Diploma	4,309	2,865 (66%)	1,724 (40%)	782 (18%)	282 (7%)
ADN	11,321	9,593 (85%)	7,245 (64%)	1,688 (15%)	686 (6%)
Associate's-other field	286	220 (77%)	164 (57%)	41 (14%)	25 (9%)7%)
ADN	9%)				

**Employment Status**

In 2008 HRSA estimated that 2,596,399 RNs were employed in nursing, representing 85% of licensed RNs (HRSA, 2010). This was the highest rate of nursing employment since HRSA's first workforce survey in 1977. Additionally, in 2004 HRSA found full-time employment of 58%; this increased to 63% in 2008 (HRSA, 2010). The current study's results revealed a slight decrease from 2008 numbers; specifically, in the current study, 82% of licensees were actively employed in nursing and 60% of licensees were employed full time.

An examination of RNs by year licensed cohort revealed that of full-time employed licensees, 12% were newly licensed. The vast majority of RNs not employed in nursing were licensed before 2000.

Study results of respondents who indicated they were actively employed in nursing, by highest level of education, showed that respondents with an associate's degree (ADN) (85%), BSN (85%), MSN (87%), DNP (97%), and PhD-nursing (85%) had the highest percentages of respondents actively employed in nursing, while respondents with their highest degrees in other fields tended to be less likely to have been actively employed in nursing (see Table 8).

The average number of hours worked during a typical week was 36.89. In terms of average hours worked per week, by highest level of education, DNPs, on average, worked the

TABLE 10

**Employment settings, by Highest Level of Education**

most ( $M = 47.12$ ,  $SD = 11.94$ ), followed by PhD-nursing ( $M = 44.97$ ,  $SD = 17.33$ ), noting that PhD-nursing had a higher median number of hours. Respondents with a diploma in nursing worked the fewest ( $M = 33.36$ ,  $SD = 14.27$ ). This mirrors the fact that those with diplomas tended to be older, and older RNs work fewer hours. An examination of average hours

worked per week in respondents' principal nursing position revealed that respondents who worked in academic settings ( $M = 45.74$ ,  $SD = 8.67$ ) and home health tended to work the most ( $M = 44.12$ ,  $SD = 9.11$ ). Respondents who worked in school health service tended to work the least ( $M = 40.04$ ,  $SD = 6.50$ ). HRSA (2010) showed similar findings.





## Employment Specialty

In the current study 17% of RNs reported their primary practice specialty as acute care/critical care, followed by 13% who reported a medical-surgical specialty (see Table 12). Respondent RNs reported specializing in population-specific care; for example 6% reported a geriatric specialty and 6% reported a pediatric specialty. Five percent of RNs reported maternal-child health as a specialty; all other specialty positions were reported to be less than 5%. Rehabilitation and women's health both were identified as a specialty by 2% of RNs, a finding similar to that reported by HRSA (2010), where rehabilitation specialty was 3% and women's health 4%. Twenty percent of RNs reported their specialty in the "other" category.

## Nurse Licensure Compact

The Nurse Licensure Compact (NLC) enables multistate licensure for nurses. In 2000, NCSBN launched a new initiative to expand the mobility of nurses as part of our nation's health care delivery system. The NLC allows nurses to have one multistate license, with the ability to practice in both their home state and other party states. The following states were members of the NLC at the time of survey data collection: Arkansas, Arizona, Colorado, Delaware, Iowa, Idaho, Kentucky, Maine, Maryland, Mississippi, Missouri, Nebraska, New Hampshire, North Carolina, North Dakota, Virginia, Wisconsin.

Results indicated that of the respondents who indicated their primary state of residence was a compact state, approximately 36% indicated utilizing their compact license; specifically, 92% indicated they had practiced in one additional state, while 8% indicated they practiced in multiple additional states. Further study on the utilization of the compact license is needed.

## Tele-health

In an effort to investigate the utilization of tele-health, respondents were asked to indicate if they utilized tele-health in their primary or secondary positions. Results indicated that 9% utilized tele-health, 80% did not utilize tele-health, and 11% were unsure.

Respondents who indicated they utilized tele-health in their primary or secondary positions were asked to indicate if patients were ever located in a different state when the respondents utilized tele-health. Results indicated that of those who utilized tele-health, 27% indicated patients had been located in a different state, while 8% were unsure.

## Discussion

The current study had a few limitations. First, the current study's response rate was 39%, lower than anticipated. Although response rates anticipated were 50-60%, the current study's response rate was 39%. This may be due to the fact that the study was conducted during a time of economic recession, which may have affected the response rate. Additionally, the study was limited to a specific geographic area, which may have affected the response rate. Finally, the study was limited to a specific population of nurses, which may have affected the response rate.

