California Board of Registered Nursing

2015 Simulation in Nursing Education Survey

Conducted for the

California Board of Registered Nursing

by the

University of California, San Francisco

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Executive Summary

This survey of recently-graduated California registered nurses (RNs) was intended to gather information about their experiences with simulation-based education, and how such education has or has not prepared them for nursing practice. This survey was mailed to a stratified random sample of 1,500 new RNs who graduated from California nursing degree programs between 2012 and 2014.

Stratification was based on the classification of schools as "high simulation," "low simulation," and "moderate simulation" intensity in education, based on data from the Board of Registered Nursing (BRN) Annual Schools Report and the HealthImpact survey of schools' use of simulation education approaches. We then compared respondents' reports of the simulation experiences they had with the stratification categories. The correlation between the respondents self-reports and the pre-defined simulation level was nearly zero. Some graduates of "high simulation" programs reported as few as three experiences, while some graduates of "low simulation" programs reported more than 20.

For analytic purposes, recent graduates were classified into three simulation-intensity groups, based on their self-reported frequency of simulation experiences across content areas.

Intensity of simulation experiences was defined as "low simulation" for respondents reporting 7 or fewer clinical-mode experiences, "medium simulation" for those reporting 8 to 14 experiences, and "high simulation" for those reporting more than 14 experiences. Comparisons were made between these groups in regards to graduates' perceptions of how well their nursing education prepared them for practice.

The survey response rate was 35.2 percent, yielding information for 512 nurses.

Prevalence of simulation in education and employment

- 99.1% of recently-graduated RNs had simulation experiences in their pre-licensure education programs.
- The most common simulation modes were mannequins (98.4%) and role-playing with students (90.9%).
- The course in which simulation was most commonly used were medical-surgical (98.4%), fundamentals of nursing (89.3%), obstetrics (85.6%), and pediatrics (82.4%).
- Graduates of associate degree and entry-level master's programs more often indicated they had a high intensity of simulation experiences than did graduates of baccalaureate programs.
- 46.2% of recent graduates had experienced simulation in their workplace for assessment, orientation, or training.
- Employment-based simulation experiences were more often reported by those working in hospitals (56.9%) and home health (50.8%).

Value of simulation in transition to nursing practice

- 24.4% of recent graduates believed that simulation experiences very effectively prepared them for practice as a new RN, and 46.1% believed that they reasonably effectively prepared them.
  - Smaller proportions believed simulation very effectively (20.5%) or reasonably effectively (36.4%) prepared them for their current clinical area of work.
  - Graduates who had high intensity of simulation experiences more often reported that they were very effective (37.2%) in preparing them for RN practice, as compared with graduates with low simulation intensity (13.5%).
- 61.6% of recent graduates believed that hands-on clinical experiences very effectively prepared them for practice as a new RN, and 27.2% believed that they reasonably effectively prepared them.
  - 49.9% reported that hands-on clinical experiences very effectively prepared them for their current clinical area of work.
  - Graduates who had high intensity of simulation experiences more often reported that hands-on experiences were very effective (75.5%) in preparing them for RN practice, as compared with graduates with low simulation intensity (43.9%).

- The areas in which recent graduates had no or only minor difficulty transitioning were:
    - Respecting diverse cultural perspectives;
    - Interactions with patients and family;
    - Educating and advocating for patients;
    - Asking for assistance and recognizing unsafe practices by themselves or others;
    - Orientation to the work environment.
- The areas in which recent graduates most often had some or major difficulty were:
    - Managing workload;
    - Confidence in delegation, knowledge, and critical thinking;
    - Confidence in clinical skills.
- Graduates who reported high simulation intensity generally reported less difficulty with specific aspects of transition-to-practice than those who reported low or medium intensity, with the biggest positive effects for confidence in delegation, knowledge, and critical thinking; managing workload; interactions with patients and family members; confidence in clinical skills; and documenting and using technology proficiently.
- Graduates were specifically asked to assess the degree to which simulation experiences had been helpful in the transition to practice. Respondents were most likely to rate simulation as very helpful with confidence in clinical skills; confidence in communicating with other health professionals; respecting diverse cultural perspectives; educating and advocating for patients; and confidence in delegation, knowledge, and critical thinking.
    - Simulation was most often rated as "not helpful" for dealing with extraneous distractions; documenting and using technology; orientation to the work environment; and managing workload.
    - In every area queried, respondents in the high simulation group believed simulation was more helpful in their transition to practice than those in the medium and low simulation groups.
- 18.4% reported that more or different simulation would "not at all" have made the transition to practice easier.
    - 17.5% said more or different simulation would have made the transition "much easier."
    - Those in the high simulation group were more likely to respond that more or different simulation experiences would "not at all" have made the transition easier.
    - Those in the low simulation group were the most likely to say that more or different simulation experiences would have made the transition "somewhat easier."
    - Those in the medium simulation group were more likely than those in other groups to say it would have made the transition "much easier."
- 59.5% indicated that more or different hands-on clinical experiences would have made the transition to practice "much easier," and another 23.8% said it would have made the transition "somewhat easier."

Current clinical skills and confidence

- Recently-graduated RNs expressed the greatest confidence in subcutaneous injections, blood glucose monitoring, pulse oximetry, giving verbal report, and intravenous (IV) medication administration, with at least 60 percent saying they are "always confident" in these areas.
    - The areas in which recent graduates most often said they are "not at all confident" are chest tube management, EKG/Telemetry monitoring and interpretation, and carbon dioxide (CO_2) monitoring.
    - Respondents who had greater simulation intensity in their pre-licensure education indicated greater confidence in specific clinical skills.
- Recent graduates who experienced a greater intensity of simulation experiences also expressed a greater degree of confidence in interactions, communication, and decision-making.
- Respondents who had higher intensity of simulation experiences were less likely to report difficulties in their roles, but the differences are relatively small.

- Recent graduates who had greater intensity of simulation had more confidence in their ability to manage a higher patient load on an adult medical-surgical unit.
- Recent graduates who experienced a greater intensity of simulation had lower average scores – indicating less agreement that they are experiencing stress – than did those in the low and middle simulation groups.
- There was little relationship between the intensity of simulation experiences in pre-licensure education and average agreement that respondents are satisfied with choosing nursing as a career; 95.3% of respondents agreed or strongly agreed that they are satisfied.

Specific suggestions for improving simulation and hands-on clinical experiences

- For improving hands-on experiences:
  - More experiences;
  - Longer preceptorships;
  - More time to practice basic nursing skills;
  - Additional practice with multi-tasking and prioritization.
- For improving simulation experiences:
  - More experiences;
  - More use of the simulation laboratory per course;
  - Fewer students per mannequin;
  - Realistic experiences that include prioritizing tasks and managing multiple patients;
  - Offering open hours in the simulation lab for practice;
  - Emergency room and code blue training;
  - Greater use of live actors as standardized patients.

Conclusions

- Most respondents believed that simulation experiences were reasonably or very effective in preparing them to transition to practice as a new RN.
- New graduates who reported more intensive simulation experiences as students were more likely to rate simulation as effective in preparing them for practice.
- There was a consistent association between the intensity of simulation experiences recent graduates had in pre-licensure education and their self-reported confidence in applying clinical knowledge, performing specific clinical skills, communication, and decision-making.
- Respondents generally indicated that more simulation and hands-on experiences would have made their transition to practice easier.

The positive relationship between simulation experiences and positive transition to practice, clinical skills, and confidence suggests that simulation is fulfilling its role as a valuable educational tool for pre-licensure RN students. How much simulation, what sort, and in what combination with hands-on clinical practice best prepares students for practice, remains to be determined through future research.

Chapter 1. Introduction and Methodology

Nursing students need clinical experiences to develop clinical skills without endangering patient safety or hospital efficiency (Hayden, et al, 2014). Finding clinical experiences for students has always been challenging, and is becoming more so as nursing programs vie for limited clinical sites for students, HIPAA regulations may be interpreted as barring students from access to electronic health records, and patient safety initiatives have decreased the number of students allowed on a patient unit or limited their activity to observation only. These limitations, combined with innovations in technology, have led to increased adoption of simulation education as a replacement for clinical experience hours. Clinical simulation programs are increasing among California registered nurse (RN) education programs. Recent survey findings suggest that most California schools are now using at least some simulation, but the type of simulation (e.g., videos; high-, mid-, and low-fidelity mannequins; scenarios; actors posing as patients, debriefing strategies, etc.) and intensity (number of semester hours) vary, as do organizational resources and faculty expertise.

There has been little research on whether simulation experiences are effective replacements for actual clinical experience with patients. There also is little information about interactions between clinical placements and simulation. Most prior research on simulation education has fielded surveys immediately before and after a simulation session or course, and has not assessed the longer-term relationship between simulation experiences and nursing practice. Some longer-term studies have reported mixed findings regarding whether simulation experiences impact clinical and critical thinking skills. For example, one study found that there was a statistically significant improvement in critical thinking skills between students taking part in simulation courses versus those taking part in interactive case studies (Howard, 2007), while another study found no difference in critical thinking skills between students taking part in simulation education and those taking part in a regular didactic experience (Ravert, 2004). A review of the literature noted that while in general studies of simulation education find either no effect or a positive impact from use of simulation methods, there are a number of unanswered questions about how simulation is defined and what exactly should be measured as a positive outcome resulting from this instructional method (Lewis et al., 2012). There also is a lack of research on whether any positive effect of simulation education persist when students transition to practice as registered nurses (Leigh, 2008). One recent study tracked nursing students through graduation and their early employment, finding no difference in performance between groups that had low, mid-range, or high proportions of controlled, consistent and high quality simulation in their education or nursing experience (Hayden et al 2014).

To better understand nurses' experiences with simulation education in California, and their perceptions of how well simulation and hands-on clinical experiences prepared them for practice, the California Board of Registered Nursing (BRN) commissioned a survey of recently graduated nurses. A new survey instrument was developed for this study, drawing from prior research on simulation education, recently graduated nurses' transition to practice, and novice nurse comfort with various aspects of clinical care and patient interaction.

Purpose and Objectives

The purpose of this survey was to gather information about the experiences of recently-graduated California RNs with simulation-based education, and how such education has prepared them for nursing practice. The objective of this survey was to assess whether different levels of simulation activities in education (high vs. low) impact new RN graduates' perception of their preparedness for and confidence in nursing practice.

The survey was mailed to a stratified random sample of 1,500 RNs who graduated from California nursing degree programs between 2012 and 2014. Stratification was based on the classification of schools as "high simulation," "low simulation," and "moderate simulation" intensity in education, based on data from the Board of Registered Nursing Annual Schools Report and HealthImpact's survey of simulation education in California nursing education programs. The survey response rate was 35.2 percent, yielding information for 512 nurses.

Survey Development

A new survey instrument was developed for this study, drawing from prior research on simulation education, recently graduated nurses' transition to practice, and novice nurse comfort with various aspects of clinical care and patient interaction. Multiple survey instruments previously used to study RN transition to practice, confidence in nursing skills, and education experiences were reviewed. Most of the questions from the widely-used Casey-Fink Readiness for Practice Survey (Casey et al, 2014) were adopted for use in the survey for this study. The survey questionnaire, which is available in Appendix B, included space for respondents to provide open-ended comments about simulation education and preparedness for nursing practice. The narrative comments are analyzed in Chapter 6 of this report.

UCSF collaborated with the BRN to prepare the questionnaire for this survey. Specifically, the survey development included the following steps:

- A review of the literature on research on nurse education and preparation, particularly in the areas of nurse self-concept, nurse competence, and readiness for practice;

- A review of the BRN Annual Schools Report (2013-2014), which contained a series of questions about California nursing schools' use of simulation in education;

- A review of a survey of California RN education programs on their simulation offerings, conducted in 2013 by HealthImpact (formerly the California Institute for Nursing and Health Care), which provided greater detail about schools' use of simulation;

- A review of draft questions by BRN staff, UCSF staff, and other experts;

- Authorization for use of scales and survey questions relevant to this study;

- Revision of the surveys based on feedback from BRN staff, UCSF staff, and other experts;

- Development of formatted survey instruments;

- Testing of the survey instruments by nurses recruited by UCSF and the BRN;

- Development of a web-based version of the survey;

- Testing of the web-based survey by staff at the BRN and UCSF; and

- Editing the formatted surveys for printing, and editing of the web-based survey for online use.

Selection of the RN Sample

A sample of 1,500 nurses with active California RN licenses was selected from the BRN licensing records of RNs who had graduated with their initial nursing degree from a California nursing program between January 1, 2012, and June 30, 2014. The data file was extracted from BRN records on December 17, 2014. We limited the sample to RNs with California addresses. The sample was intentionally selected to have relatively large numbers of nurses with high intensity of simulation during RN education, and low intensity of simulation (or no simulation), based on data from the BRN Annual Schools Report and the HealthImpact survey of schools' use of simulation education approaches. We designated five schools as having "high simulation" (with 632 graduates) and six schools as having "low or no simulation" (with 428 graduates). We selected 50 percent of RNs from the designated high and low simulation schools. Additional RNs were selected from the remaining schools to reach the target number of 1,500. Within each of the groups, sampling was done with a random sampling command using Stata statistical software. Table 1.1 presents details of the sampling for this survey.

This type of sampling strategy, called a stratified sample, is widely used in survey research and well-documented in numerous textbooks. With this type of sampling, surveys returned from each stratum (simulation level, in this case) are weighted to produce statistically valid estimates of the full population.

Process for Data Collection and Coding

A packet was mailed to those selected for the survey, including a cover letter from the Board of Registered Nursing with information about how to complete the survey online, the survey, and a postage-paid return envelope. The survey was mailed on March 19, 2015. A reminder postcard was sent on April 7, and the questionnaire was re-mailed on May 4 to non-respondents. Reminder postcards were sent on May 22 and June 10, 2015. Data collection ended on August 14, 2015. All mailings were sent by first-class mail. Outgoing surveys were coded with a tracking number, and completed surveys, along with ineligible and undeliverable cases, were logged into a response status file. The web version of the survey was monitored as well. The first reminder postcard was sent to all nurses selected for the survey, but the re-mailing of the survey and last two reminder postcards were limited to nurses who had not yet responded to the survey.

Data from the web-based surveys were automatically entered into a database. All paper surveys were entered into a database by Office Remedies Inc. (ORI), except the narrative comments, which were entered at UCSF. Two different people entered the paper data twice, at two different times. The two entries for each survey respondent were compared, differences were checked against the paper survey, and corrections were made. After the comparisons were complete, discrepancies corrected, and duplicate records deleted, the data were checked again by another computer program to ensure only valid codes were entered and logical checks on the data were met. Approximately 26.5 percent of the respondents completed the survey online.

Table 1.1. Survey sample, survey respondents, and the response rate, by school simulation level, for nurses who graduated from January 1, 2012, through June 30, 2014

Simulation level	Actively Licensed RNs		Survey Sample		Usable Survey Responses		Response rate
	#	%	#	%	#	%	%
High simulation	597	2.7%	300	20.0%	116	22.7%	38.7%
Low simulation	401	1.8%	201	13.4%	80	15.6%	39.8%
Remaining schools	21,323	95.5%	999	66.6%	316	61.7%	31.6%
Total	22,321	100.0%	1,500	100.0%	512	100.0%	34.1%

Response Rates

By the end of the data collection period (August 14, 2015), questionnaires were received from 512 of the actively licensed registered nurses to whom the survey packets were mailed. A total of 47 cases were determined ineligible for the survey due to being returned for lack of a current mailing address. Thus, the total number of usable responses from the survey was 512 of the 1,454 eligible nurses, which represents a 35.2 percent response rate for the eligible population and a 34.1 percent response rate when considering all surveys mailed. This response rate is lower than the response rate for the biennial Survey of California Nurses (55.7% in 2014). However, in prior surveys, younger nurses responded at much lower rates that are consistent with this survey's response rate (38.3% for those 25 to 34 years old, and 20.5% for RNs under 25 years in 2014). The current survey was directed at new graduate nurses, many of whom are young (average age 32 years). Table 1.2 details the survey response outcome for this survey.

Representativeness of Active RN Respondents

Survey responses were matched to the original sampling database so that response bias could be examined. The last three columns of Table 1.1 present the distribution of survey respondents by simulation-level stratification and the response rate for each level. There was some difference in response rates by simulation level, with RNs in the low-simulation group more likely to respond (39.8%) than the high-simulation group (38.7%) and all other graduates (31.6%). Table 1.3 reports sample and response information by year of graduation. The response rate was highest among the most recent graduates (January to June 2014), at 58.6 percent. Response rates for 2012 and 2013 graduates were about 27 percent.

To address differential response rate by graduation year and account for the simulation-level stratification of the sample design, post-stratification weights were used to ensure that all analyses reflect the full population of RNs who graduated between January 1, 2012, and June 30, 2014. The post-stratification weights were based on the numbers of nurses in the sample file, for each simulation level and each graduation year. We used Stata MP 13, a commonly used statistical package, to analyze the data. The survey data analysis commands in this software (svy) were used to conduct all analyses of the data, using the post-stratification weights.

Table 1.2. Survey outcomes and response rates

	Number of cases
Questionnaires mailed	1,500
Ineligible cases*	47
Eligible cases	1,454
Surveys returned by mail	364
Surveys completed by web	140
Surveys completed both by mail and web	8
Total usable responses	512
Response rate of all surveys mailed	34.1%
Response rate of eligible population	35.2%

*Ineligible cases include surveys that were undeliverable.

Table 1.3. Survey sample, survey respondents, and the response rate, by year of graduation

	Actively Licensed RNs		Survey Sample		Survey Respondents		Response rate
Graduation year	#	%	#	%	#	%	%
2012 (full year)	8,369	37.5%	543	36.2%	149	29.1%	27.4%
2013 (full year)	9,557	42.8%	638	42.5%	176	34.4%	27.6%
2014 (Jan-June)	4,395	19.7%	319	21.3%	187	36.5%	58.6%
Number of cases	22,321	100.0%	1,500	100.0%	512	100.0%	34.1%

Precision of Estimates

Discrepancies between the respondents to the survey and the population have been corrected by weighting the data, as discussed above. The weighting helps to ensure that the data presented in this report are representative of the statewide population of registered nurses. Unweighted tables based on the full dataset of 512 nurses may vary from the true population values by +/-4.28 percentage points from the values presented, with 95 percent confidence.

Chapter 2. Sample Demographics, Education, and Employment

Demographics

The population of recently-graduated RNs included in this survey is more diverse than California's employed RN workforce as a whole, and somewhat less diverse than RNs who graduated in the 2013-2014 academic year (Table 2.1). Less than half (47.9%) of responding RNs were non-Hispanic White, while 13.7 percent were Hispanic and 12.6 percent were of mixed or other origin. The population responding to this survey under-represents Hispanic/Latino and Other Asian nurses, and over-represents White and Mixed/Other nurses. These differences may reflect variations in reporting between RN education programs and self-reporting by survey respondents rather than true differences between respondents and the population of recent RN graduates.

Table 2.1. Racial/ethnic background of survey respondents, all employed California RNs, and 2013-2014 RN graduates

	Survey Population 2012-14	All employed California RNs 2014	California RN graduates, 2013-2014
White, not Hispanic	47.9%	51.6%	40.5%
Hispanic / Latino	13.7%	7.2%	19.2%
Black/African American	4.2%	5.0%	4.6%
Filipino	9.6%	20.3%	8.6%
Asian Indian	1.5%	1.2%	1.1%
Other Asian	8.9%	7.3%	17.6%
Native Hawaiian/Pacific Islander	1.2%	0.3%	1.2%
American Indian/Native American/Alaskan Native	0.4%	0.4%	0.6%
Mixed / Other	12.6%	6.6%	6.6%
Number of cases	499	4,051	10,416

Note: Columns may not add to 100% due to rounding. Data are weighted to represent all recent graduates with active licenses. 2014 RN data are from the California BRN 2014 Survey of RNs. 2013-2014 graduate data are from the BRN Annual Schools Report.

A greater share of survey respondents was male than employed California RNs in general (15.7% vs. 11.8%). However, as presented in Table 2.2, 19.2 percent of graduates in the 2013-2014 academic year were male, and thus the survey respondents under-represent recently-graduated male nurses.

Table 2.2. Gender of survey respondents, all employed California RNs, and 2013-2014 RN graduates

	Survey Population 2012-14	Employed California RNs 2014	California RN graduates, 2013-2014
Female	84.3%	88.2%	80.8%
Male	15.7%	11.8%	19.2%
Number of cases	505	5,047	10,898

Note: Columns may not add to 100% due to rounding. Data are weighted to represent all recent graduates with active licenses. 2014 RN data are from the California BRN 2014 Survey of RNs. 2013-2014 graduate data are from the BRN Annual Schools Report.

Pre-Nursing Education and Employment

Many recent RN graduates completed a postsecondary degree prior to their pre-licensure RN education, as presented in Table 2.3. Nearly one-third had completed an associate degree prior to RN education (31.1%), and another 31 percent had completed a baccalaureate degree. Only 36.2 percent had no postsecondary education prior to their pre-licensure RN education. This is much lower than the share of all California RNs, among whom 62.8 percent had no postsecondary education prior to pre-licensure education.

Table 2.3. Highest levels of education completed prior to basic nursing education

	Survey Population 2012-14	All California RNs 2014
High School Diploma	36.2%	62.8%
Associate Degree	31.1%	18.0%
Baccalaureate Degree	31.0%	17.1%
Graduate Degree	1.6%	1.6%
Number of cases	509	5,047

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014. 2014 RN data are from the California BRN Survey of RNs.

More than half of recently-graduated RNs had not worked in any healthcare-related field prior to their pre-licensure RN education (Table 2.4). The most common healthcare-related employment prior to RN education was clerical or other administrative work (9.8%), licensed vocational/practical nurse (9.6%), and nursing aide/assistant (8.9%).

Table 2.4. Employment prior to basic nursing education

	Survey Population 2012-14
None	57.6%
Clerical or administrative	9.8%
Military medical corps	1.5%
Nursing aide/ assistant	8.9%
Other health technician / therapist	6.5%
Medical assistant	5.8%
Licensed practical / vocational nurse	9.6%
Other	6.6%
Number of cases	512

*Totals do not equal 100% as respondents could select more than one employment category.
Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Nursing Education

The population represented in this survey had slightly more associate degree (AD) graduates than the total population of graduates reported in the 2013-2014 BRN Annual Schools Report (59.5% vs. 52.4%). Baccalaureate degree graduates were slightly under-represented, with 35.1 percent of the sample completing a BSN, compared with 40.8 percent as reported in the 2013-2014 Annual Schools Report. The share graduating from entry-level master's programs was similar to that reported in the Annual Schools Report (5.4% vs. 6.8%).

Table 2.5. Program type from which respondent received initial, pre-licensure RN education

	Survey Population 2012-14	California RN graduates, 2013-2014
Associate Degree	59.5%	52.4%
Baccalaureate Degree	35.1%	40.8%
Entry-Level Master's Degree	5.4%	6.8%
Number of cases	511	11,291

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014. 2013-2014 graduate data are from the BRN Annual Schools Report.

The average age at the time of graduation of RN graduates from January 1, 2012, to June 30, 2014, was 32.2 years, as presented in Table 2.6. Graduates in 2014 were slightly younger than those from 2012 and 2013, but the difference was not statistically significant.

Table 2.7 presents the distribution of nurses' ages at the time of graduation from their pre-licensure RN education program, as well as the age distribution at the time of graduation for all California RNs, as reported in the 2014 BRN Survey of RNs. The last column presents the age distribution of California RNs who graduated in the 2010s. The age distribution at the time of graduation from pre-licensure education for nurses in this survey was very similar to the age distribution of all graduates from the 2010s.

Table 2.6. Age at the time of graduation from pre-licensure education, survey population

	Survey Population 2012-14	*Year of graduation*		
		2012	2013	2014
Mean	32.2	32.6	32.5	30.8
Standard Deviation	0.5	0.93	0.78	0.65
Number of cases	512	149	176	187

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Table 2.7. Age at the time of graduation from pre-licensure education

	Survey Population 2012-14	*All California RNs 2014*	*All California graduates from the 2010s*
Under 30 years	49.6%	69.5%	54.0%
30-34 years	17.3%	14.4%	22.4%
35-39 years	12.9%	7.3%	8.4%
40-44 years	10.1%	5.3%	6.8%
45 years and older	10.2%	3.6%	8.4%

Note: Number of cases in simulation survey=512. Columns may not add to 100% due to rounding. Data are weighted to represent all recent graduates with active licenses. 2014 RN data are from the California BRN 2014 Survey of RNs.

About one-third of recently-graduated RNs are currently enrolled in a post-licensure education program, or has completed a post-licensure education program, as presented in Figure 2.1. Forty percent indicated they were not enrolled and had not completed a post-licensure education program, and 26 percent did not respond to the question. Among those who explicitly indicated they have enrolled or graduated from a post-licensure program, 24.2 percent indicated they were enrolled in an RN-to-BSN program, and 9.7 percent had completed such a program (Table 2.8). Master's degree programs had been completed by 1.6 percent, and 6.6 percent were enrolled in an MSN program. A relatively large share – 16.1 percent – had completed a post-licensure transition-to-practice, new graduate, or residency program, and 3.6 percent were currently enrolled. Four percent had completed a certificate program in a nursing specialty.

Figure 2.1. Current enrollment in or completion of post-licensure education, transition-to-practice, or residency programs

- 26.0% — Not reported
- 33.6% — Currently enrolled/graduated
- 40.4% — Never enrolled/never graduated
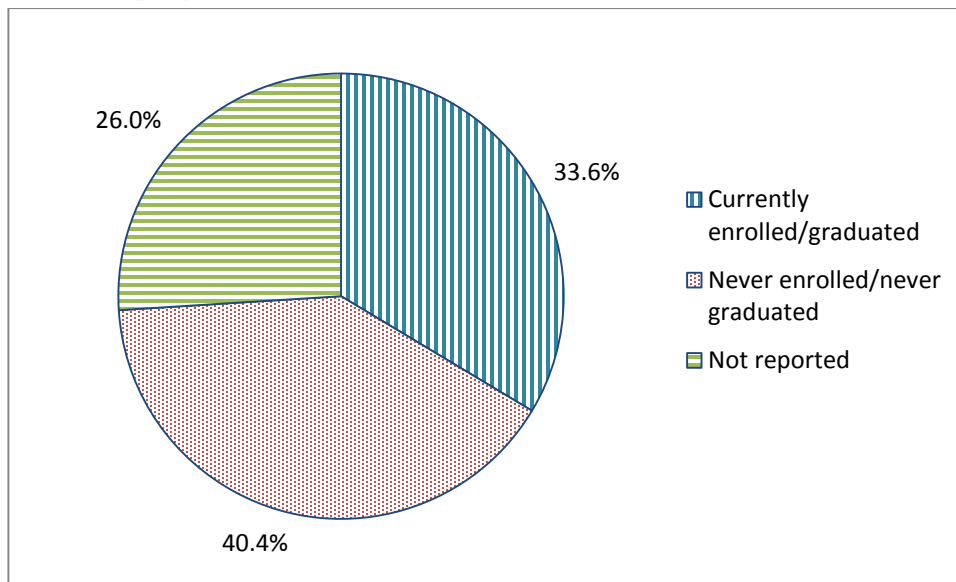
Note: Number of cases=512. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Table 2.8. Current enrollments and completions in post-licensure education, transition-to-practice, or residency programs, among those who are enrolled or have completed a program

Type of program	Enrolled	Completed
Baccalaureate of Science in Nursing (BSN)	24.2%	9.7%
Master's Degree in Nursing (MSN)	6.6%	1.6%
Practice-based Doctorate in Nursing (DNP)	0.0%	0.0%
Research or Education-focused Doctorate in Nursing (PhD, DNSc, etc.)	0.0%	0.1%
Transition to practice, new graduate, or residency program	3.6%	16.1%
Nursing Certificate Programs	0.0%	4.1%
Number of cases	116	94

*Number of cases=210. Percentages represent the proportion of respondents who answered the question who had enrolled in or completed the named degree or certificate program. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Employment and Volunteering

Most recent RN graduates are employed in a position that requires an RN license; 93 percent of those graduating from 2012 through 2014 reported they were employed (Table 2.9). An additional 1.2 percent indicated they were previously employed as an RN, and only 5.8 percent reported they had never been employed in an RN position.

Table 2.9. Employment for pay in a position that requires an RN license

	Survey Population 2012-14
Yes, full or part-time	93.0%
No, but previously employed	1.2%
No, never employed	5.8%
Number of cases	510

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Employed RNs in the survey population indicated they had worked an average of 1.4 years since licensure, and a median of one year, as presented in Table 2.10. Some recently-graduated RNs hold multiple nursing positions, as shown in Table 2.11. Nearly 14 percent hold more than one RN position, as compared with approximately 15 percent of the total employed RN population in 2014.

Table 2.10. Number of years worked since licensure, for those currently employed as an RN

	Number of Years
Mean	1.4
Median	1
Range	0.08-3.08
Number of cases	452

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Table 2.11. Number of RN jobs currently held, compared to all California RNs in 2014

	Survey Population 2012-14	All California RNs 2014
One	86.6%	85.4%
Two	10.3%	10.9%
Three or more	3.1%	3.7%
Number of cases	452	4,129

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014. 2014 RN data are from the California BRN survey of RNs.

Most recently-graduated RNs are employed full-time in their principal nursing position, which is defined as the job in which they spend the most time, with 86.3 percent working full-time and 13.7 percent working part-time. The share of recent graduates working full-time is higher than for the total RN population in 2014, which was 72.4 percent in 2014. The average number of hours worked per week in a principal nursing position is 37 hours, and the average number of hours per day is 10.4. The average number of hours worked per week is lower among recent graduates than among all RNs in 2014; in that year, average hours were 40.9 for full-time RNs, and 24.7 for part-time RNs. Among those RNs who hold a second position, 19.5 percent indicate that position is full-time, and the average number of hours per week is 18.7.

Table 2.12. Full-time and part-time employment and hours worked, by employed RNs

	Percent Full-time	Percent Part-time	Mean hours/week	Mean hours/day	Number of cases
Primary Job	86.3%	13.7%	37.0	10.4	450
Second Job	19.5%	80.6%	18.7	5.5	57

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

There are notable differences in the clinical areas in which recently-graduated RNs work as compared with the total population of RNs. Table 2.13 presents the clinical areas in which RNs most frequently provide care, for recent graduates and for all California RNs in 2014. Only 5.4 percent of recent graduates report that they do not provide direct patient care in their primary position, compared with 11.8 percent of all RNs. Recent graduates are much more likely than other RNs to work in medical-surgical care (18.5% vs. 10.0%), and to work in multiple areas (14.0% vs. 0.8%). They are much less likely to work in ambulatory care (3.4% vs. 7.1%) and surgery (or related areas) (3.2% vs. 8.0%).

Recently-graduated RNs are more likely to work as staff nurses, with 76.6 percent in this role as compared with 50.8 percent of all California RNs (Table 2.14). It is not surprising that fewer recent graduates work in a charge nurse role (11.3% vs. 18.2%), in management (1.0% vs. 11.4%), or in patient care coordination-related roles (2.2% vs. 5.0%).

Table 2.13. Clinical area in which working RN most frequently provide care in their primary nursing position

	California Graduates 2012-14	All California RNs 2014
Not involved in direct patient care	5.4%	11.8%
Medical-surgical	18.5%	10.0%
Ambulatory care	3.4%	7.1%
Cardiology	1.6%	2.0%
Community / public health	1.5%	1.3%
Critical care / ICU	6.3%	7.7%
Emergency/trauma	8.6%	6.4%
Geriatrics	3.5%	3.5%
Home Health care / Hospice	0.9%	3.7%
Labor & Delivery	2.8%	4.8%
Mother-baby unit or normal newborn nursery	2.4%	2.7%
Neonatal/ newborn	1.4%	2.9%
Oncology	2.6%	1.8%
Pediatrics	2.5%	4.0%
Psychiatric /mental health	3.6%	2.9%
Rehabilitation	3.0%	1.4%
Step-down or transitional bed unit	3.2%	1.5%
Surgery/pre-op/post-op/ PACU/anesthesia	3.2%	8.0%
Telemetry	6.4%	3.6%
Work in multiple areas, do not specialize	14.0%	0.8%
Other	1.7%	5.7%
Number of cases	459	3,486

Note: Columns might not total 100% due to rounding. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014. 2014 RN data are from the California BRN 2014 Survey of RNs.

Table 2.14. Job title that best describes the primary nursing position of employed RNs

Job Title	California Graduates 2012-14	All California RNs 2014
Staff nurse / direct care nurse	76.6%	50.8%
Charge Nurse / direct care nurse	11.3%	18.2%
Management	1.0%	11.4%
Advanced Practice RN	0.0%	4.8%
Educator, service setting/clinical nurse / staff educator	0.5%	1.7%
Educator, academic setting	0.0%	1.3%
School Nurse	3.6%	1.4%
Public Health Nurse / Community health nurse	1.3%	1.5%
Patient care coordinator / case manager / discharge planner / patient navigator	2.2%	5.0%
Quality Improvement/Utilization Review Nurse	0.5%	2.1%
Other	3.0%	1.8%
Number of cases	455	4,097

Note: Columns might not total 100% due to rounding. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014. 2014 RN data are from the California BRN 2014 Survey of RNs.

Recently-graduated RNs are more likely to work in an acute-care department of a hospital than are all California RNs (63.7% vs. 50.5%). As presented in Table 2.15, recently-graduated RNs also are slightly more likely to work in hospice (3.7% vs. 0.2%), school health (3.6% vs. 1.5%), and inpatient behavioral health (4.2% vs. 2.1%).

Table 2.15. Types of organizations in which registered nurses work the most hours

	California Graduates 2012-14	All California RNs 2014
Hospital, acute care department (inpatient care or emergency)	63.7%	50.5%
Hospital-based ambulatory care department	4.1%	10.1%
Hospital, other department	1.3%	6.2%
Skilled nursing/extended care / rehabilitation	7.1%	8.5%
University or college (Academic department)	0.8%	1.6%
Public health dept./community health agency	1.8%	1.5%
Home health nursing agency or service	1.9%	3.7%
Hospice	3.7%	0.2%
Ambulatory care setting (private office, surgery center)	3.8%	5.4%
School health (K-12 or college)	3.6%	1.5%
Inpatient mental health/drug and alcohol treatment	4.2%	2.1%
Other	4.0%	8.7%
Number of cases	453	4,092

Note: Columns might not total 100% due to rounding. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014. 2014 RN data are from the California BRN 2014 Survey of RNs.

As seen in Table 2.16, 23.6 percent of recently-graduated RNs reported they had done volunteer work in nursing since being licensed as an RN. Among those who reported they had been engaged in volunteer work, the average length of volunteering was 5.3 months, and the median was 3 months.

Table 2.16. Volunteer work in nursing among recently-graduated RNs

	Survey Population 2012-14
Has done volunteer work	23.6%
Mean number of months among those who have volunteered	5.34
Median number of months among those who have volunteered	3
Number of cases	505

Note: Number of cases that have done volunteer work=99. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Chapter 3. Simulation in Education and Work Environments

Recently-graduated nurses report a range of types of simulation experiences during their pre-licensure education, as well as in their workplaces. This chapter reports types of simulation experiences, the clinical areas in which simulation focused, and the use of simulation experiences in the workplace training.

Prevalence of Simulation in Education

Nearly all RN education programs offered at least some simulation experiences at the time those surveyed attended their pre-licensure programs, as seen in Figure 3.1; 99.1 percent of respondents indicated that they had at least some simulation experience. All entry-level master's programs included simulation experience, 99.7 percent of associate degree programs did, and 98 percent of bachelor's degree programs.

Figure 3.1. Percentage of RN education programs that used simulation at the time the new graduate attended
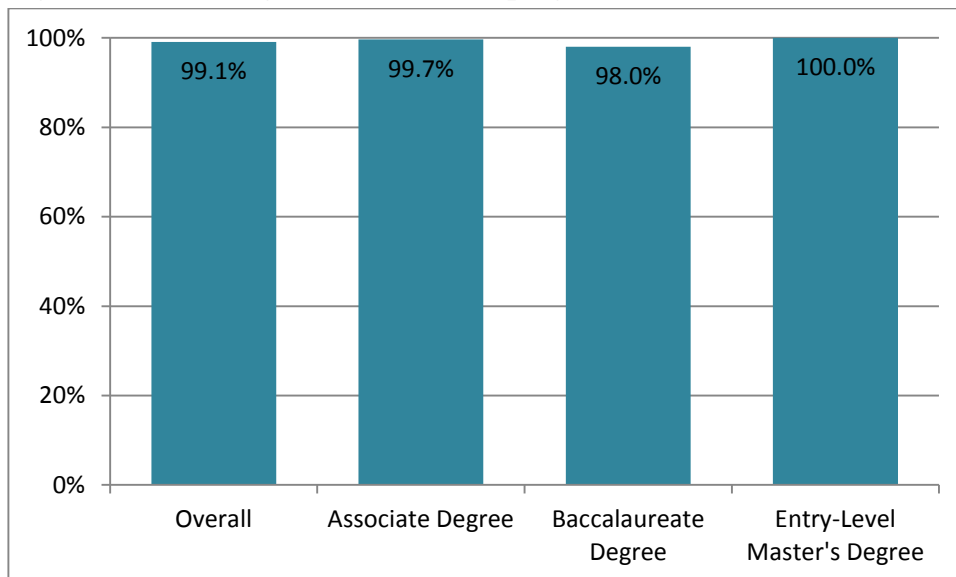
Note: Number of cases=511. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Survey respondents were asked to indicate whether specific modes of simulation education were used in specific nursing courses. The simulation modes included were mannequins, computer-based scenarios, role-play with other students, and standardized patients (actors). Figure 3.2 presents the percent of respondents who indicated that a specified simulation mode was used in at least one type of course. The most common mode reported was mannequin-based simulation (98.4%), followed by role-play with other students (90.9%). Sixty-five percent had computer-based simulation, and 35.9 percent had standardized patients. Five percent indicated they had other modes of simulation education, such as audio tapes of voices to simulate the sounds of a hospital unit, code blue simulations, role-play with instructors, and imitation body parts for developing specific skills (such as hands for practicing placement of intravenous fluid lines).

The specific courses in which simulation approaches were most often used are presented in Figure 3.3. Simulation was most often used in courses on medical-surgical nursing (98.4%), fundamentals of nursing (89.3%), obstetrics (85.6%), and pediatrics (82.4%). Eight percent indicated they had used simulation in other courses, including critical care, community health, cardiac care, disaster preparedness, neurology, and public health nursing.

Figure 3.2. Percent of respondents who used selected modes of simulation education in any course
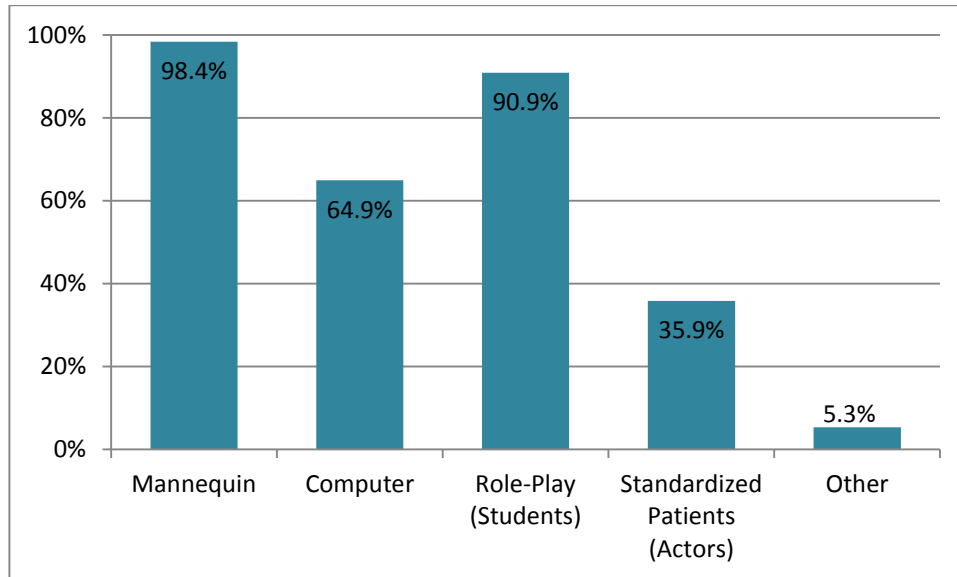

Note: Number of cases=502. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Figure 3.3. Percent of respondents who used any mode of simulation education in specified courses
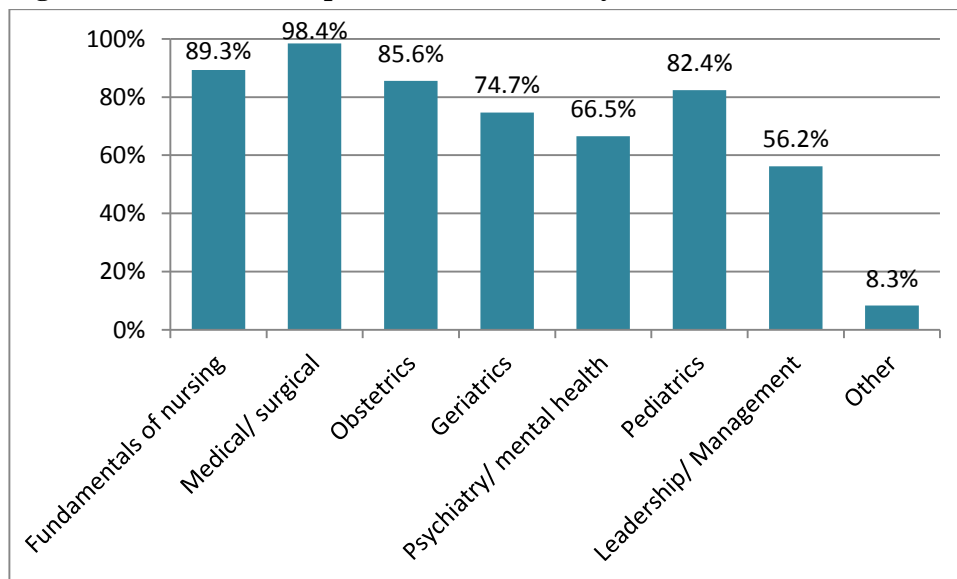
Note: Number of cases=502. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Table 3.1 presents specific modes of simulation reported for each type of nursing course, for those who reported they had any simulation education. Mannequins were most often reported for medical-surgical (95.2%), fundamentals of nursing (76.2%), and obstetrics (75.2%). Computer-based simulation was most often found in medical-surgical (55.2%), pediatrics (48.2%), obstetrics (43.2%), fundamentals (42.5%), and geriatrics (42.3%). Role-play was also most often used in medical-surgical (75.8%), and fundamentals (69.9%). Standardized patients were most often used in these same two courses, but at notably lower rates.

Table 3.1. Type of simulation used by type of course taken, for those who had any simulation

	None Indicated	Mannequin	Computer	Role-Play (Students)	Standardized Patients (Actors)	Other
Fundamentals of nursing	9.1%	76.2%	42.5%	69.9%	20.9%	0.5%
Medical/ surgical	0.7%	95.2%	55.2%	75.8%	26.6%	3.0%
Obstetrics	11.6%	75.2%	43.2%	50.1%	18.9%	1.4%
Geriatrics	22.5%	57.0%	42.3%	54.4%	18.7%	1.0%
Psychiatry/ mental health	30.2%	19.5%	36.7%	53.9%	19.0%	0.9%
Pediatrics	14.8%	71.6%	48.2%	46.4%	17.1%	1.4%
Leadership/ Management	40.4%	16.7%	33.4%	47.4%	12.3%	0.9%
Other	49.7%	41.3%	19.3%	34.3%	16.4%	5.1%

Note: Number of cases=502. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Table 3.2 presents modes of simulation, by the pre-licensure degree of the respondent. Computer-based simulation was found more often in associate degree programs (72.8%) than baccalaureate programs (54.8%) and entry-level master's degree programs (44.5%). Standardized patients were slightly more common in baccalaureate programs (39.6%) than in entry-level master's (35.4%) and associate degree (33.0%) programs. Table 3.3 provides the shares of students reporting that they had simulation in at least one course in the specified subject area, by degree program type. Associate degree programs more often had simulation in all courses than did baccalaureate and entry-level master's degree programs.

Table 3.2. Modes of simulation education experienced in one or more courses, by degree type

	Associate Degree	Baccalaureate Degree	Entry-Level Master's Degree
Mannequin	98.8%	97.8%	100.0%
Computer	72.8%	54.8%	44.5%
Role-Play (Students)	90.8%	92.0%	89.0%
Standardized Patients (Actors)	33.0%	39.6%	35.4%
Other	5.5%	5.6%	100.0%
Number of cases	325	158	19

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Table 3.3. Share of respondents reporting one or more courses with simulation education, by subject area and degree type

	Associate Degree	Baccalaureate Degree	Entry-Level Master's Degree
Fundamentals of nursing	91.9%	84.7%	84.5%
Medical/ surgical	100.0%	97.3%	87.8%
Obstetrics	87.7%	81.4%	84.5%
Geriatrics	76.7%	65.6%	55.5%
Psychiatry/ mental health	72.7%	58.5%	49.4%
Pediatrics	85.7%	77.8%	79.6%
Leadership/ Management	61.0%	48.9%	43.6%
Other	7.9%	10.1%	100%
Number of cases	325	158	19

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.
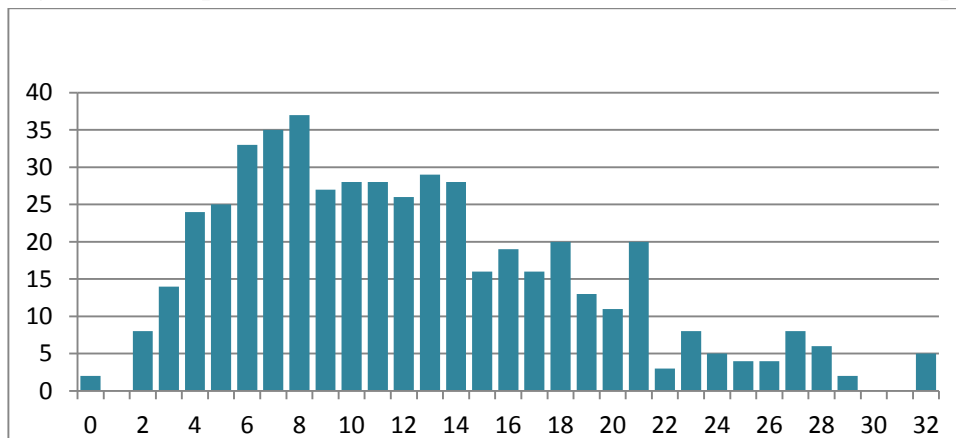
Simulation experiences offered in respondents pre-licensure program were tabulated to measure the intensity of the simulation experiences each respondent may have had. The number of checkboxes filled by each respondent, from the data presented in Table 3.1, was tabulated. The frequency of the totals is presented in Figure 3.4. The maximum number of checkboxes that could be filled was 40 (8 clinical areas times 5 modes of simulation experience); the maximum reported was 32. These respondent tabulations were compared with each school's sampling classification as "high simulation" or "low or no simulation," which was based on data from the BRN Annual Schools Report and the HealthImpact survey of schools' simulation education methodologies. The correlation between the total number of checkboxes and pre-defined simulation classification was 0.05 (i.e., nearly zero). Some graduates of "high simulation" programs reported as few as three experiences, while some graduates of "low simulation" programs reported more than 20.

Figure 3.4. Frequency of number of simulation clinical areas and modes reported
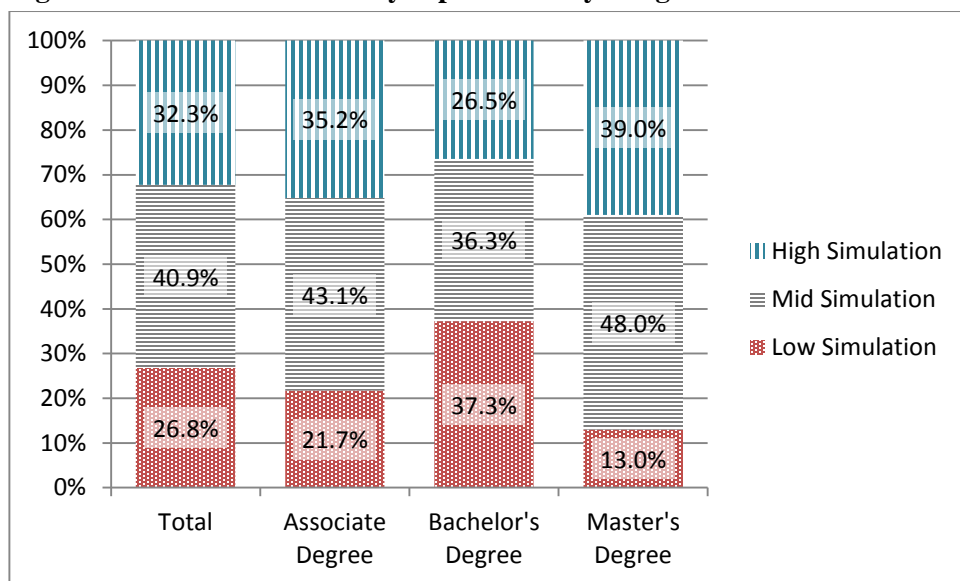

Note: Number of cases=504.

Based on these findings, we classified recent graduates into three new simulation-intensity groups, based on their self-reported experiences. We defined "low simulation" respondents as those reporting 7 or fewer clinical-mode experiences, "medium simulation" as those reporting 8 to 14 experiences, and "high simulation" as those reporting more than 14 experiences. Figure 3.5 summarizes the distribution of graduates across these categories. Overall, 40.9 percent of students were in the middle group, 32.3 percent were in the high group, and 26.8 percent were in the low group. Bachelor's degree graduates were more often in the low group (37.3%) than graduates of other programs. Master's program graduates were more often in the high group (39.0%) than other graduates.

It is important to recognize that the data collected on the types of simulation experiences graduates had during their pre-licensure education do not precisely measure the true intensity of simulation education. Students who had one 30-minute mannequin-based simulation in obstetrics nursing and those who had weekly hour-long mannequin sessions will check the same box indicating that they had at least one mannequin simulation experience in obstetrics. The survey did not ask respondents to provide detail regarding the frequency of simulation experiences in each subject area.

It is also important to note that the simulation intensity categories are based on individual nurses' responses, not on school-level categories. For each school, there was some variation in the intensity of simulation reported by graduates. This variation may be due to differences in graduates' recollections of their education, changes in simulation content in courses over time, different electives graduates took, or differences in the interpretation of what constituted a simulation activity (most likely for role-playing and computer-based activities). It is not possible to analyze the causes of variation because there are few responses for most schools; there were no more than 3 responses for 92 of the 121 school represented in the data, and only 9 schools had 10 or more graduates represented.

Figure 3.5. Simulation intensity experienced by RN graduates

Note: Number of cases=502. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

The rates of use of specific modes of simulation, for each category of simulation intensity, are presented in Table 3.4. Mannequin experiences were reported by nearly all graduates, regardless of the intensity of simulation they reported. In contrast, there is a wide range of the percent reporting computer-based simulation experiences, from 27 percent among the low-simulation group to 94.6 percent among the high-simulation group. The ranges are narrower for role-play (75.4% to 100.0%) and standardized patients (14.2% to 61.5%).

Table 3.4. Percentages of graduates who used specific modes of simulation, for graduates who had low, medium and high-simulation intensity

	Low Sim	Medium Sim	High Sim
Mannequin	96.0%	100.0%	98.9%
Computer	27.0%	68.3%	94.6%
Role-Play (Students)	75.4%	94.9%	100.0%
Standardized Patients (Actors)	14.2%	31.8%	61.5%
Other	4.1%	7.5%	4.6%
Number of cases	139	203	160

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Simulation was present in medical-surgical courses for nearly all respondents, regardless of the overall simulation intensity of their education (Table 3.5). More than 90 percent of respondents in the medium and high simulation groups had simulation experiences in fundamentals of nursing and obstetrics courses, and more than 90 percent of respondents in the high simulation group also reported simulation experiences in geriatrics, psychiatry/mental health, and pediatrics courses. In contrast, less than half of respondents in the low simulation group had simulation experiences in geriatrics, psychiatry/mental health, and leadership/management courses.

Table 3.5. Percentages of graduates who had simulation in specific courses, for graduates who had low, medium, and high-simulation intensity

	Low Sim	Medium Sim	High Sim
Fundamentals of nursing	73.5%	94.1%	98.1%
Medical/ surgical	94.2%	100.0%	100.0%
Obstetrics	62.7%	91.5%	99.9%
Geriatrics	37.4%	80.5%	95.3%
Psychiatry/ mental health	38.8%	66.2%	93.7%
Pediatrics	58.7%	87.7%	99.0%
Leadership/ Management	25.9%	59.6%	82.6%
Other	5.9%	7.1%	12.5%
Number of cases	139	203	160

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Prevalence of Simulation in Work Experience

Many recently-graduated RNs have had simulation education experiences in the workplace, as part of skills assessment, orientation or continuing education. As seen in Figure 3.6, 46.2 percent of recent graduates have experienced simulation in their primary job and, among those with a second RN position, 20 percent have had simulation in their secondary job.

Figure 3.6. Use of simulation for assessment or training in current nursing jobs
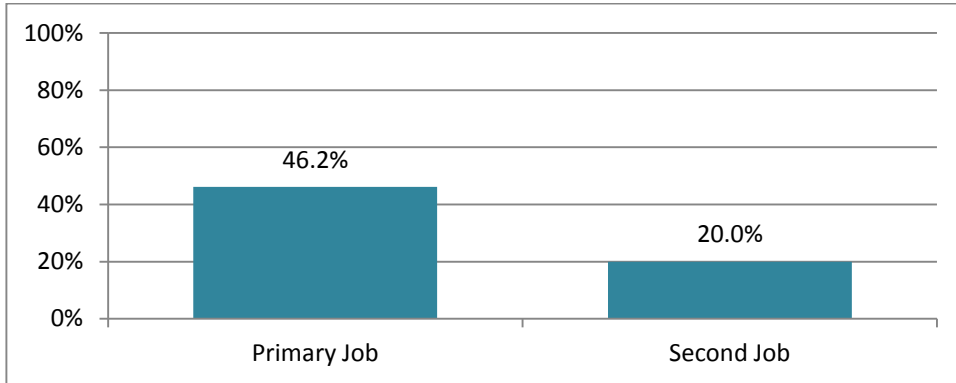
Note: Number of primary job cases=439; number of second job cases=50. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

The shares of RNs that have use of simulation in the workplace are presented by employment setting in Figure 3.7. Simulation for assessment or training was most often reported by those employed in hospitals (56.9%) and home health (50.8%), and least often by those in case management (0%) and ambulatory care (14.9%).

Figure 3.7. Use of simulation for assessment or training in any job, by setting
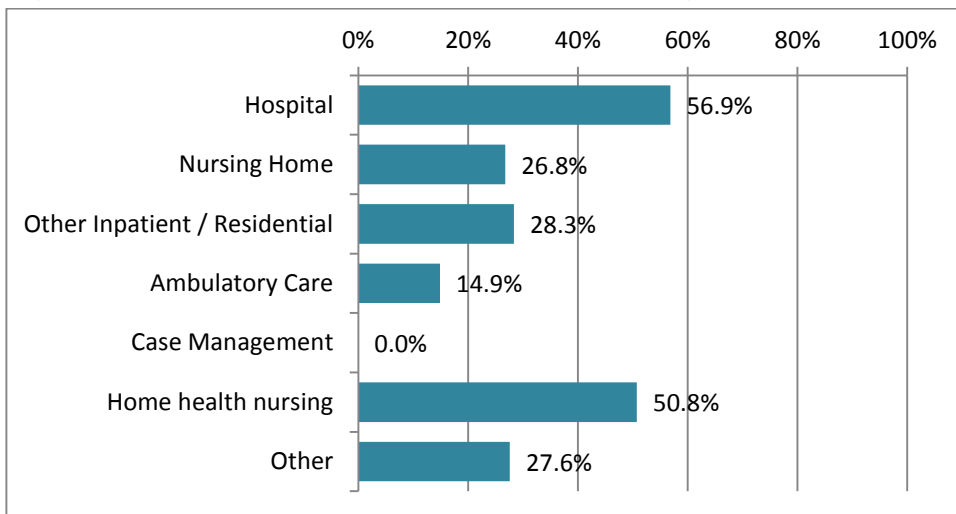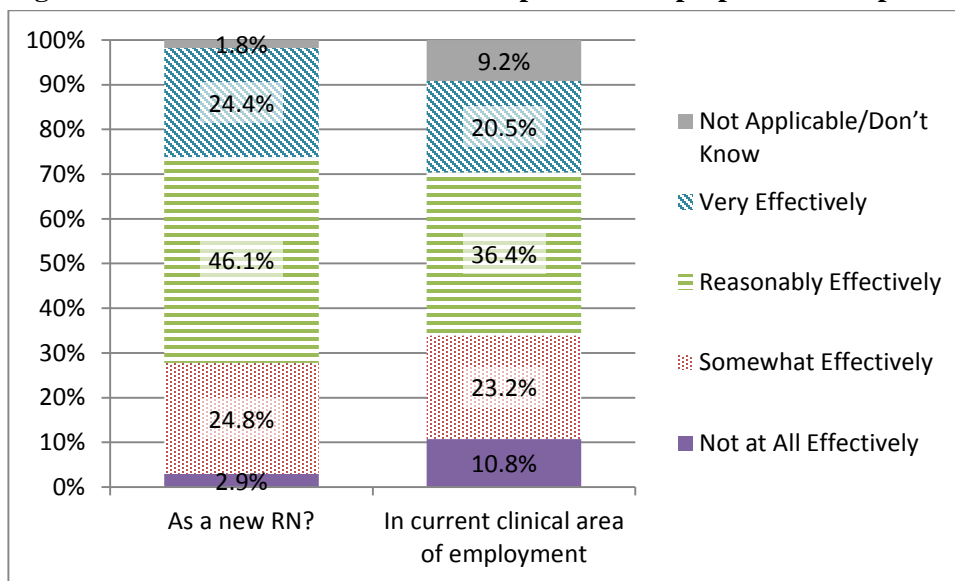

Note: Number of cases=452. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Chapter 4. Value of Simulation Education in Transition to Nursing Practice

Recently-graduated RNs were asked several questions about the effectiveness of simulation and hands-on clinical experiences in preparing them to transition to nursing practice, the degree of difficulty they experienced transitioning, and whether more or different simulation and hands-on clinical experiences would have better prepared them for practice.

Figure 4.1 presents respondents' ratings of the overall effectiveness of simulation experiences in preparation for nursing practice, both as a new RN in general, and in their current clinical area of employment. About one-quarter (24.4%) indicated that simulation experiences "very effectively" prepared them for practice as an RN, and an additional 46.1 percent said simulation "reasonably effectively" prepared them. Only 2.9 percent indicated that simulation "not at all effectively" prepared them for RN practice. Simulation experiences were less effective in preparing respondents for practice in their current clinical areas, with 10.8 percent saying simulation "not at all effectively" prepared them, and only 20.5 percent indicating simulation only "very effectively" prepared them.
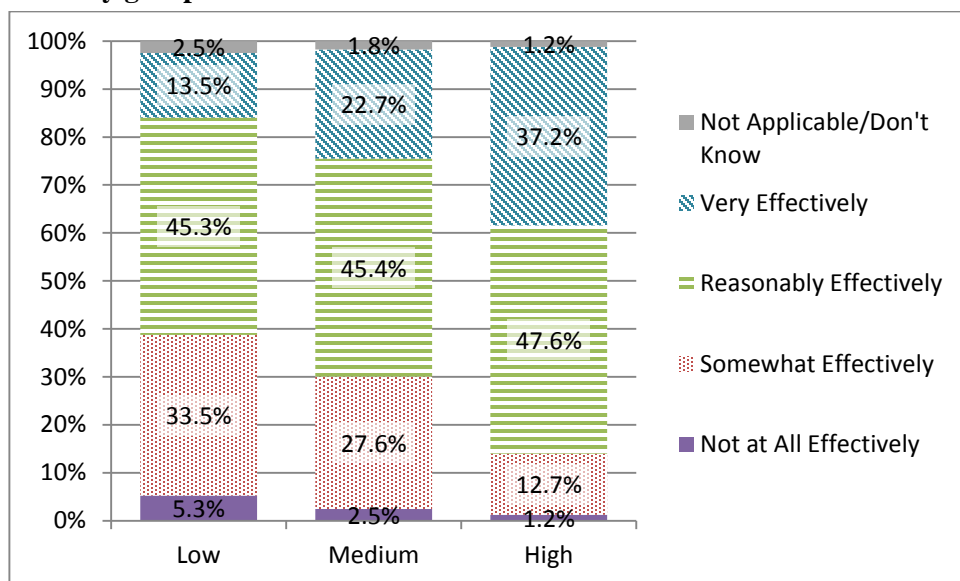
Figure 4.1. Effectiveness of simulation experiences in preparation for practice

Note: Number of cases=497. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Figures 4.2 and 4.3 consider whether the intensity of simulation experiences was associated with the effectiveness of simulation in preparation for practice as a new RN, and in RNs' current clinical areas of work. Nurses in the high simulation group were much more likely to indicate that their simulation experiences very effectively (37.2%) or reasonably effectively (47.6%) prepared them for practice as a new RN, as compared with those in the medium simulation group (22.7% and 45.4%), and the low simulation group (13.5% and 45.3%). Regarding practice in RNs' current clinical areas, 28.2 percent of those in the high simulation group said simulation very effectively prepared them, while only 19.1 percent of the medium simulation group and 14.2 percent of the low simulation group reported that simulation was very effective (Figure 4.3). RNs in the low simulation group were accordingly more likely to say that simulation "not at all effectively" prepared them for their current clinical work (13.3%) as compared with the medium simulation group (11.1%) and the high simulation group (8.0%).

Figure 4.2. Effectiveness of simulation experiences in preparation for practice as a new RN, by simulation intensity group

Note: Number of cases=497. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Figure 4.3. Effectiveness of simulation experiences in preparation for practice in RNs' current clinical setting, by simulation intensity group
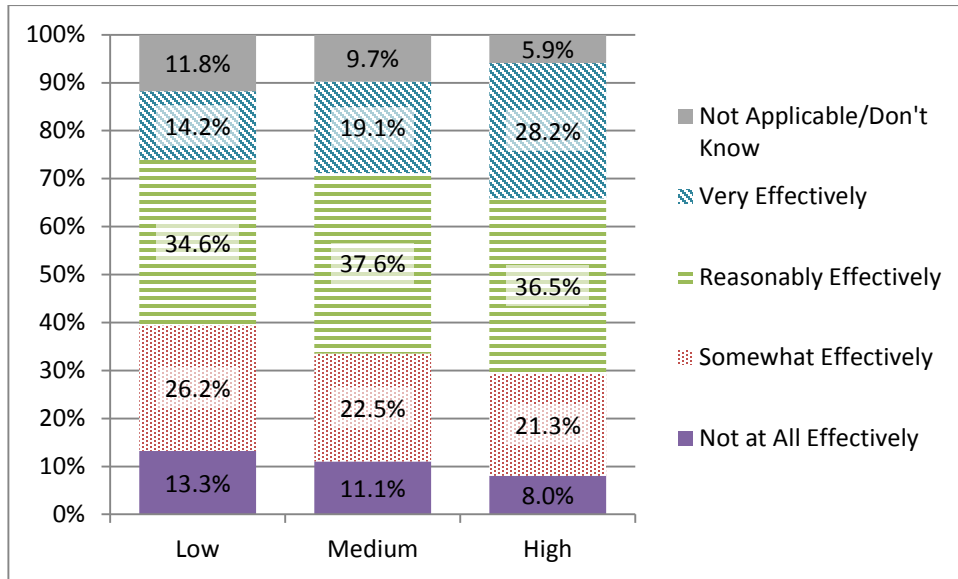
Note: Number of cases=496. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

RNs indicated that hands-on clinical experiences were more effective than simulation experiences for preparation for practice as a new RN and in their current clinical areas, as seen in Figure 4.4. Hands-on clinical experiences were rated as very effective for preparation as a new RN by 61.6 percent of respondents, and as reasonably effective by 27.2 percent. Hands-on experiences were viewed as very effective in preparation for work in RNs' current clinical areas by 49.9 percent, and as reasonably effective by 26.4 percent.
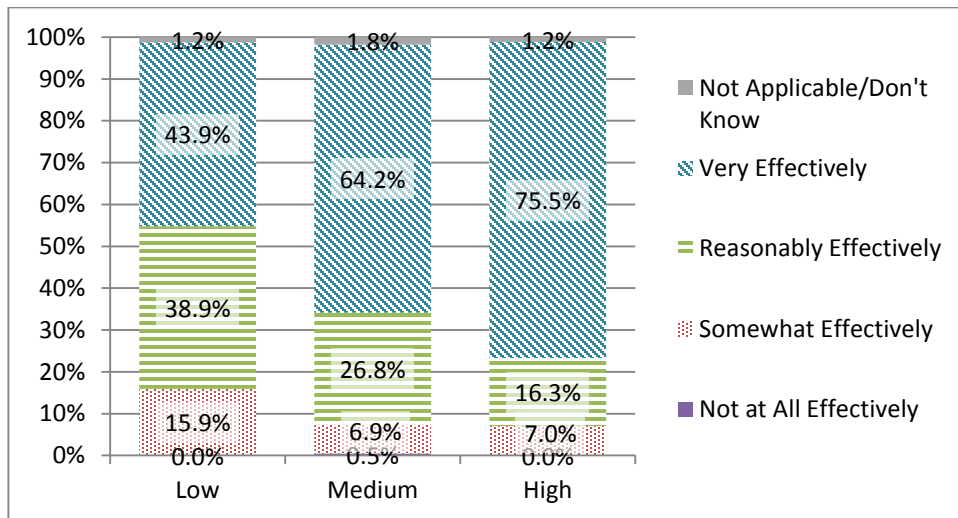
Figure 4.4. Effectiveness of hands-on clinical experiences in preparation for practice
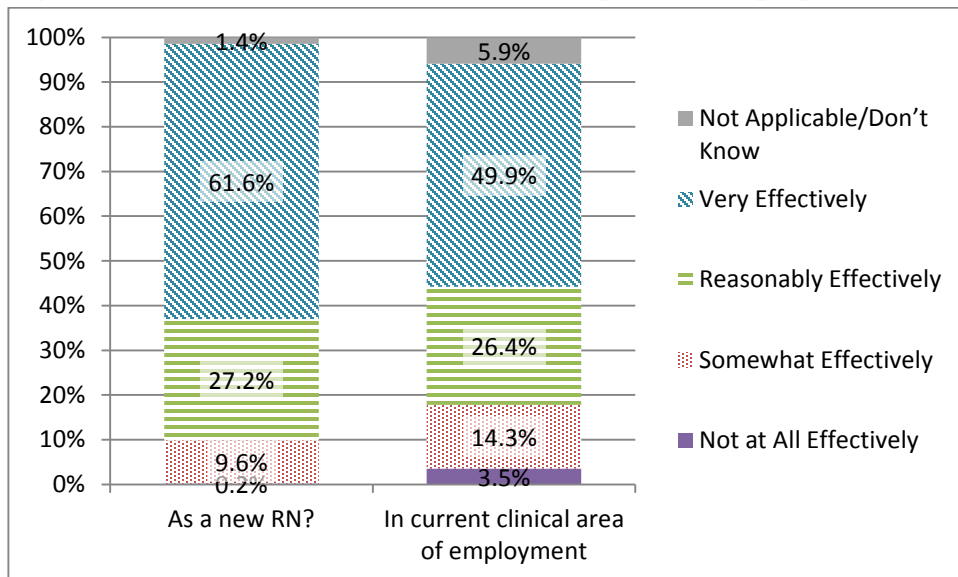
Note: Number of cases=500. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

The effectiveness of hands-on clinical experiences in preparing for practice as a new RN was positively associated with the intensity of simulation experiences, as presented in Figure 4.5. Among those in the low simulation group, 43.9 percent indicated that hands-on experiences "very effectively" prepared them, compared with 64.2 percent of the medium simulation group and 75.5 percent of the high simulation group. A similar pattern is observed regarding the relationship between intensity of simulation experiences and preparation for practice in RNs' current clinical areas (Figure 4.6). Only 37.9 percent of those in the low simulation group reported that hands-on experiences "very effectively" prepared them for their current clinical area, compared with 50.4 percent in the medium and 60.9 percent in the high simulation groups. These findings suggest that simulation and hands-on clinical experiences are complementary, and could indicate that education programs that offer intensive simulation experiences also offer richer hands-on experiences as well.

Figure 4.5. Effectiveness of hands-on clinical experiences in preparation for practice as a new RN, by simulation intensity group

Note: Number of cases=500. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Figure 4.6. Effectiveness of hands-on clinical experience in preparation for practice in RNs' current clinical setting, by simulation intensity group
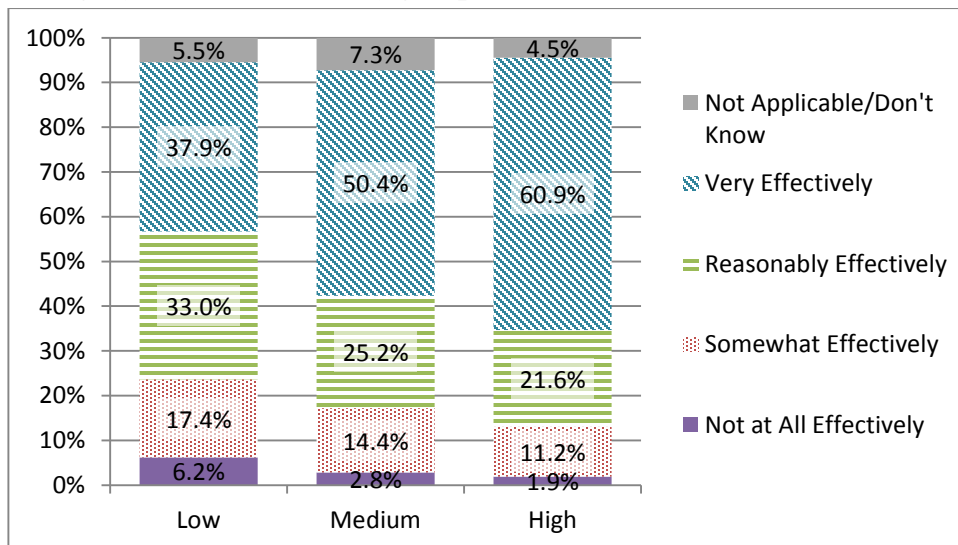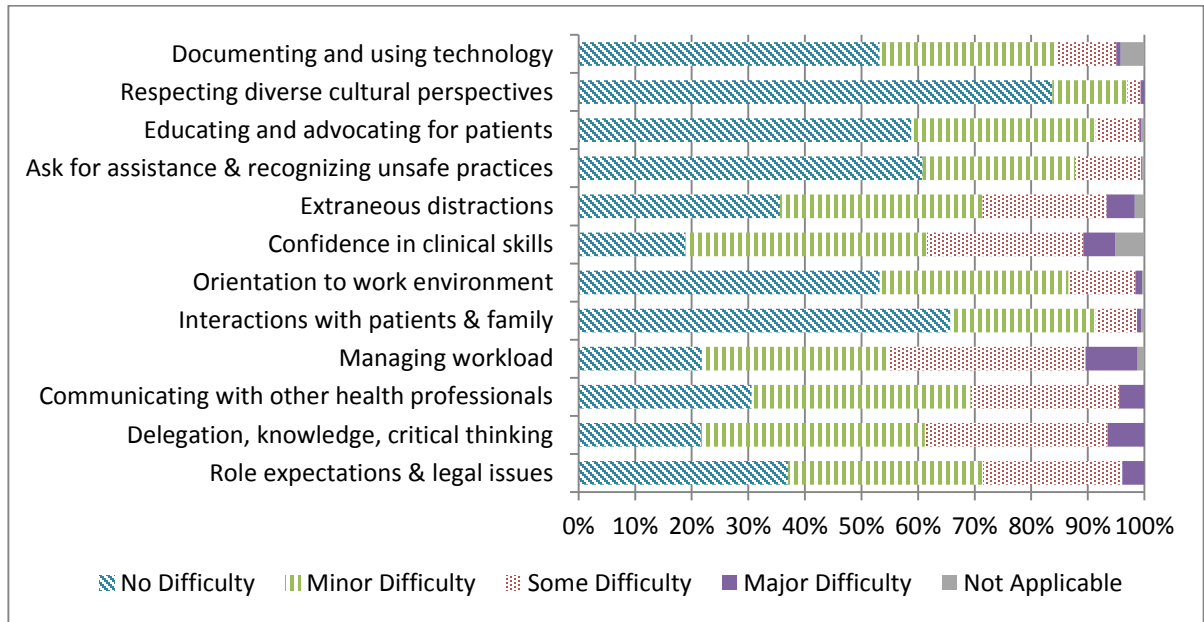

Note: Number of cases=500. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Recently-graduated RNs were asked about the degree to which they experienced difficulties in specific areas during their transition from the student role to the RN role. Figure 4.7 and Table 4.1 summarize their responses. The areas in which recent graduates had no or only minor difficulty transitioning were respecting diverse cultural perspectives, interactions with patients and family, educating and advocating for patients, asking for assistance and recognizing unsafe practices by themselves or others, and orientation to the work environment. The areas in which they most often had some or major difficulty were managing workload; confidence in delegation, knowledge, and critical thinking; and confidence in clinical skills.

Figure 4.7. Degree of difficulty experienced in transition to practice, for specific components of work

Note: Numbers of cases are provided in Table 4.1. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Table 4.1. Degree of difficulty experienced in transition to practice, for specific components of work

	No Difficulty	Minor Difficulty	Some Difficulty	Major Difficulty	Not Applicable	Number of cases
Understanding role expectations and legal/regulatory issues	37.0%	34.5%	24.6%	3.9%	0.0%	444
Confidence in delegation, knowledge, critical thinking	21.6%	39.6%	32.3%	6.5%	0.0%	443
Confidence in communicating with other health professionals	30.6%	38.7%	26.2%	4.5%	0.0%	439
Managing workload	21.8%	33.0%	34.8%	9.2%	1.2%	443
Interactions with patients and family members	65.7%	25.7%	7.3%	0.8%	0.5%	443
Orientation to work environment	53.2%	33.4%	11.8%	1.2%	0.4%	443
Confidence in clinical skills	18.9%	42.7%	27.6%	5.7%	5.1%	445
Extraneous distractions that normally occur in the clinical setting	35.6%	35.8%	21.9%	5.0%	1.7%	445
Knowing when to ask for assistance and recognizing unsafe practices by self and others	60.8%	27.0%	11.6%	0.2%	0.4%	444
Educating and advocating for patients	58.9%	32.6%	7.7%	0.4%	0.5%	445
Respecting diverse cultural perspectives	83.8%	13.3%	2.3%	0.7%	0.0%	444
Documenting and using technology proficiently (Electronic Health Record)	53.2%	31.3%	10.4%	0.8%	4.2%	445

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

These data on the degree of difficulty transitioning from the student to the RN role were tabulated by the intensity of simulation experiences during pre-licensure education. The response categories were assigned scores, with "no difficulty" being a 1, "minor difficulty" being a 2, "some difficulty" being a 3, and "major difficulty" being a 4. A lower average score thus indicates the respondent had less difficulty, and a higher score indicates more difficulty. As seen in Table 4.2, graduates who reported high simulation intensity generally reported less difficulty than those who reported low or medium intensity. The differences between the average scores for low and high simulation intensity were greatest for confidence in delegation, knowledge, and critical thinking (2.35 for low, 1.96 for high), managing workload (2.44 for low, 2.16 for high), interactions with patients and family members (1.52 for low, 1.29 for high), confidence in clinical skills (2.35 for low, 2.03 for high), and documenting and using technology proficiently (1.74 for low, 1.45 for high).

Table 4.2. Degree of difficulty experienced in transition to practice, for specific components of work, by simulation intensity (average scores)

	Overall average score	Low Sim	Medium Sim	High Sim
Understanding role expectations and legal/regulatory issues	1.95	1.93	2.00	1.91
Confidence in delegation, knowledge, critical thinking	2.23	2.35	2.35	1.96
Confidence in communicating with other health professionals	2.05	2.07	2.06	2.01
Managing workload	2.31	2.44	2.33	2.16
Interactions with patients and family members	1.43	1.52	1.46	1.29
Orientation to work environment	1.62	1.67	1.62	1.55
Confidence in clinical skills	2.20	2.35	2.23	2.03
Extraneous distractions that normally occur in the clinical setting	1.98	2.05	1.97	1.92
Knowing when to ask for assistance and recognizing unsafe practices by self and others	1.51	1.53	1.52	1.45
Educating and advocating for patients	1.49	1.56	1.51	1.39
Respecting diverse cultural perspectives	1.19	1.27	1.16	1.15
Documenting and using technology proficiently (Electronic Health Record)	1.59	1.74	1.56	1.45
Number of cases	450	125	178	148

Note: Lower numbers indicate less difficulty; higher numbers indicate more difficulty. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Recent graduates were asked to assess the degree to which simulation experiences had been helpful in the transition from the student role to the RN role (Figure 4.8 and Table 4.3). Respondents were most likely to rate simulation as very helpful with confidence in clinical skills (38.1%), confidence in communicating with other health professionals (25.7%), respecting diverse cultural perspectives (24.8%), educating and advocating for patients (25.7%), and confidence in delegation, knowledge, and critical thinking (24.7%). Simulation was most often rated as "not helpful" for dealing with extraneous distractions (30.6%), documenting and using technology (30.6%), orientation to the work environment (29.3%), and managing workload (26.1%).

Figure 4.8. Degree of helpfulness of simulation for transition to practice, for specific components of work
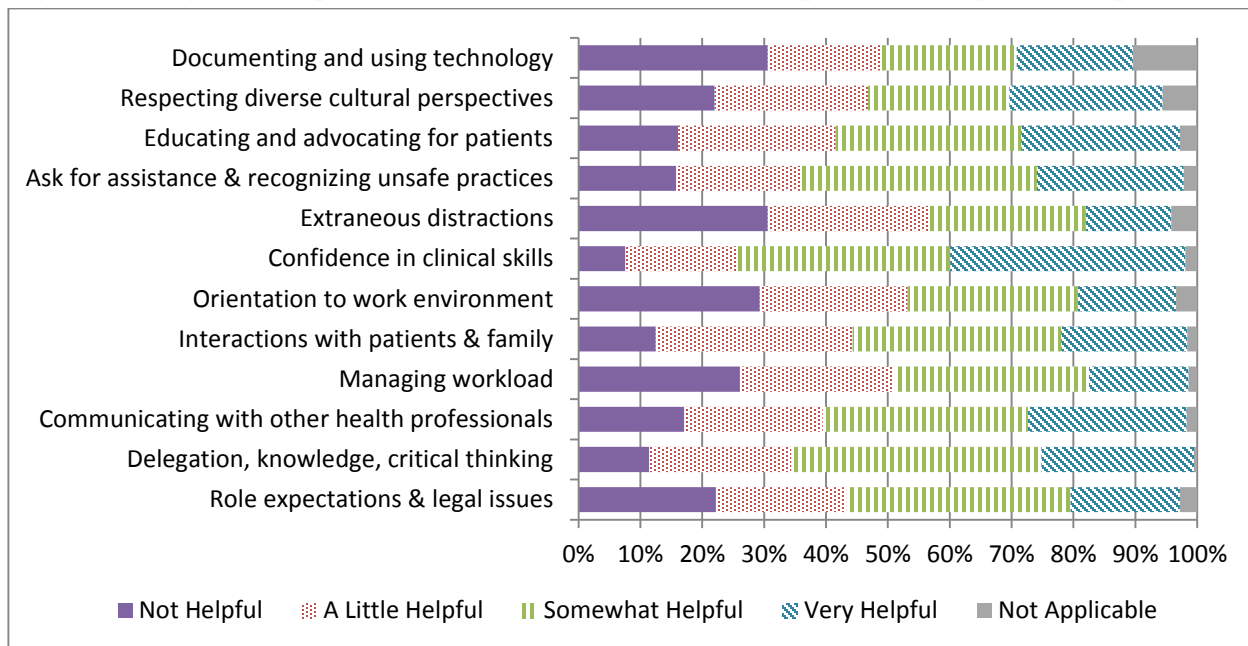
Note: Numbers of cases are provided in Table 4.3. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Table 4.3. Degree of helpfulness of simulation for transition to practice, for specific components of work

	Not Helpful	A Little Helpful	Somewhat Helpful	Very Helpful	Not Applicable	Number of cases
Understanding role expectations and legal/regulatory issues	22.2%	21.1%	36.2%	17.7%	2.8%	451
Confidence in delegation, knowledge, critical thinking	11.4%	23.0%	40.4%	24.7%	0.5%	451
Confidence in communicating with other health professionals	17.1%	22.4%	33.2%	25.7%	1.7%	451
Managing workload	26.1%	24.9%	31.5%	16.1%	1.4%	451
Interactions with patients and family members	12.5%	31.8%	33.7%	20.4%	1.6%	448
Orientation to work environment	29.3%	23.9%	27.5%	15.9%	3.4%	445
Confidence in clinical skills	7.6%	18.2%	34.3%	38.1%	1.9%	448
Extraneous distractions that normally occur in the clinical setting	30.6%	25.9%	25.5%	13.8%	4.2%	449
Knowing when to ask for assistance and recognizing unsafe practices by self and others	15.8%	20.2%	38.1%	23.7%	2.2%	450
Educating of and advocating for patients	16.1%	25.5%	30.0%	25.7%	2.8%	450
Respecting diverse cultural perspectives	22.0%	24.8%	22.9%	24.8%	5.6%	450
Documenting and using technology proficiently (Electronic Health Record)	30.6%	18.2%	22.0%	18.8%	10.4%	448

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Table 4.4 assesses whether there is a relationship between the intensity of simulation experiences and the degree to which simulation was helpful in transitioning to RN practice. Each of the responses to these questions were assigned a score, with "not helpful" being a 1, "a little helpful" being a 2, "somewhat helpful" being a 3, and "very helpful" being a 4. A higher average score indicates that simulation was viewed as more helpful. In every area, respondents in the high simulation group believed simulation was more helpful than those in the medium and low simulation groups. The biggest differences between the low and high groups were for respecting diverse cultural perspectives (2.15 vs. 2.83), documenting and using technology proficiently (1.97 vs. 2.59), knowing when to ask for assistance and recognizing unsafe practices (2.37 vs. 2.93), understanding role expectations and regulatory issues (2.26 vs. 2.81), extraneous distractions that normally occur in the clinical setting (1.92 vs. 2.47), and managing workload (2.11 vs. 2.65).

Table 4.4. Degree of helpfulness of simulation for transition to practice, for specific components of work, by simulation intensity (average scores)

	Average	Low Sim	Medium Sim	High Sim
Understanding role expectations and legal/regulatory issues	2.51	2.26	2.43	2.81
Confidence in delegation, knowledge, critical thinking	2.79	2.63	2.72	3.01
Confidence in communicating with other health professionals	2.68	2.54	2.55	2.93
Managing workload	2.38	2.11	2.35	2.65
Interactions with patients and family members	2.63	2.38	2.66	2.79
Orientation to work environment	2.29	2.05	2.25	2.54
Confidence in clinical skills	3.03	2.76	3.09	3.18
Extraneous distractions that normally occur in the clinical setting	2.24	1.92	2.25	2.47
Knowing when to ask for assistance and recognizing unsafe practices by self and others	2.69	2.37	2.71	2.93
Educating of and advocating for patients	2.67	2.43	2.60	2.94
Respecting diverse cultural perspectives	2.52	2.15	2.53	2.83
Documenting and using technology proficiently (Electronic Health Record)	2.30	1.97	2.29	2.59
Number of cases	436	115	175	146

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Recently-graduated RNs were asked whether more or different simulation experiences would have made the transition to practice easier. As seen in Figure 4.9, 18.4 percent responded that more or different simulation would "not at all" have made the transition easier, while 17.5 percent said it would have made the transition "much easier." The plurality of respondents (38.9%) indicated that more or different simulation experiences would have made the transition "somewhat easier" and another 24.8 percent said it would have made the transition "a little easier." These responses were compared by the degree of simulation intensity experienced by the respondent (Figure 4.10). Those in the high simulation group were more likely to respond that more or different simulation experiences would "not at all" have made the transition easier (24.8%) than those in the medium (17.9%) or low (12.1%) simulation groups. Those in the low simulation group were the most likely to say that more or different simulation experiences would have made the transition "somewhat easier" (52.7%), while those in the medium group were more likely than those in the other groups to say it would have made the transition "much easier" (23.2%).

Figure 4.9. Degree to which different or more simulation experiences would have made the transition to practice easier
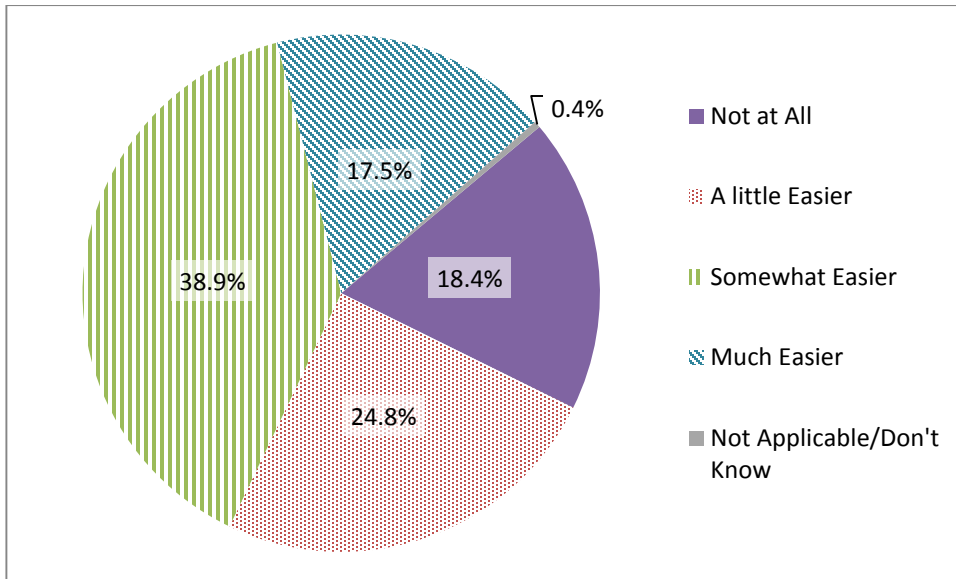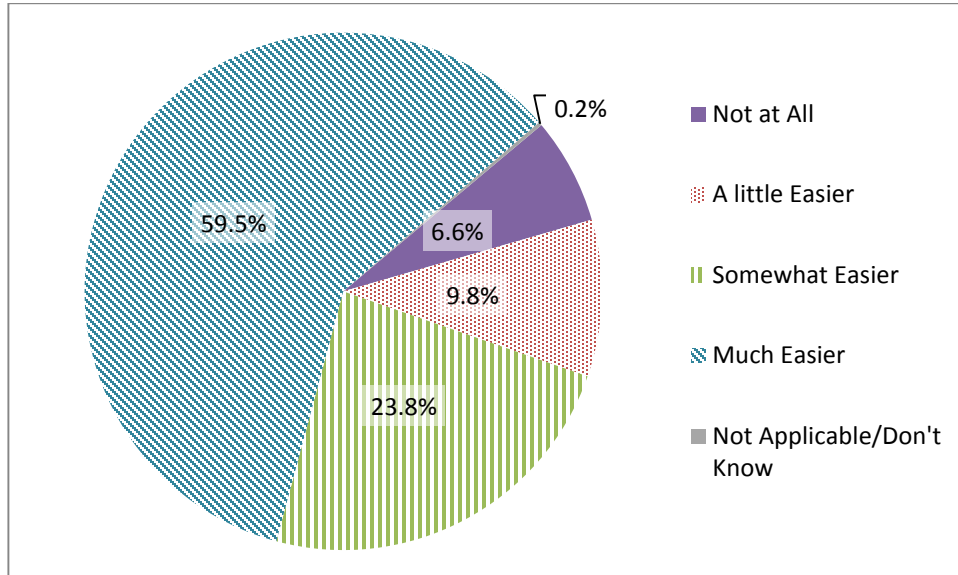

Note: Number of cases=453. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Figure 4.10. Degree to which different or more simulation experiences would have made the transition to practice easier, by simulation intensity
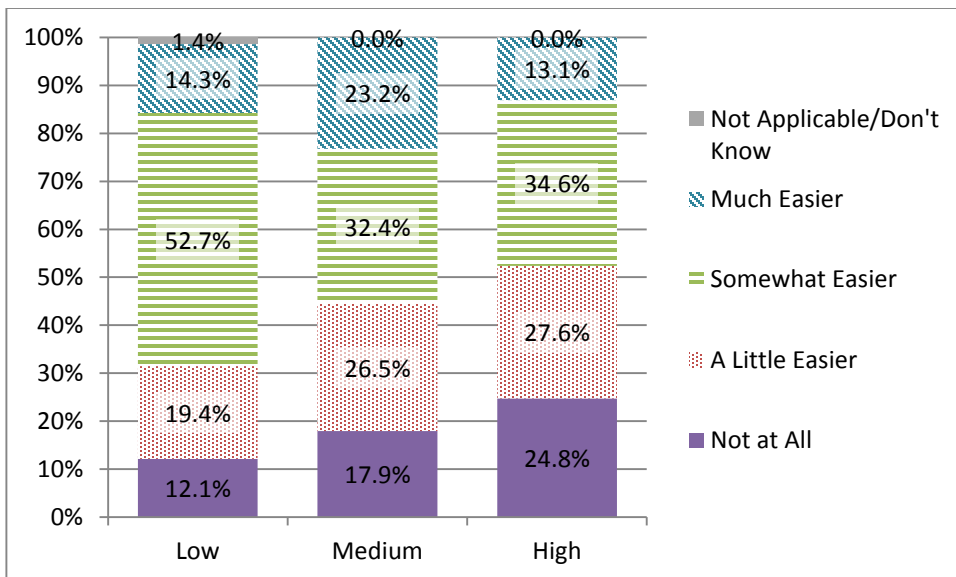
Note: Number of cases=453. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Sixty percent of recently-graduated RNs indicated that more or different hands-on clinical experiences would have made the transition to practice "much easier." Another 23.8 percent said it would have made the transition "somewhat easier" and only 6.6 percent said it would have "not at all" made it easier. RNs who experienced a low degree of simulation intensity during their pre-licensure education were more likely to say that different or more hands-on clinical experiences would have made the transition "much easier," as presented in Figure 4.12. About 55 percent of those in the high simulation group thought that more or different hands-on experiences would have made the transition "much easier," compared with 57.6 percent of the medium simulation group and 67.6 percent of the

29

low simulation group. Together, the data presented in Figures 4.10 and 4.12 suggest that graduates who experienced a low intensity of simulation education believe that a greater degree of simulation and, to a much larger degree, hands-on experiences would have eased their transition to RN practice.

Figure 4.11. Degree to which different or more hands-on clinical experiences would have made the transition to practice easier

Note: Number of cases=453. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Figure 4.12. Degree to which different or more hands-on clinical experiences would have made the transition to practice easier, by simulation intensity
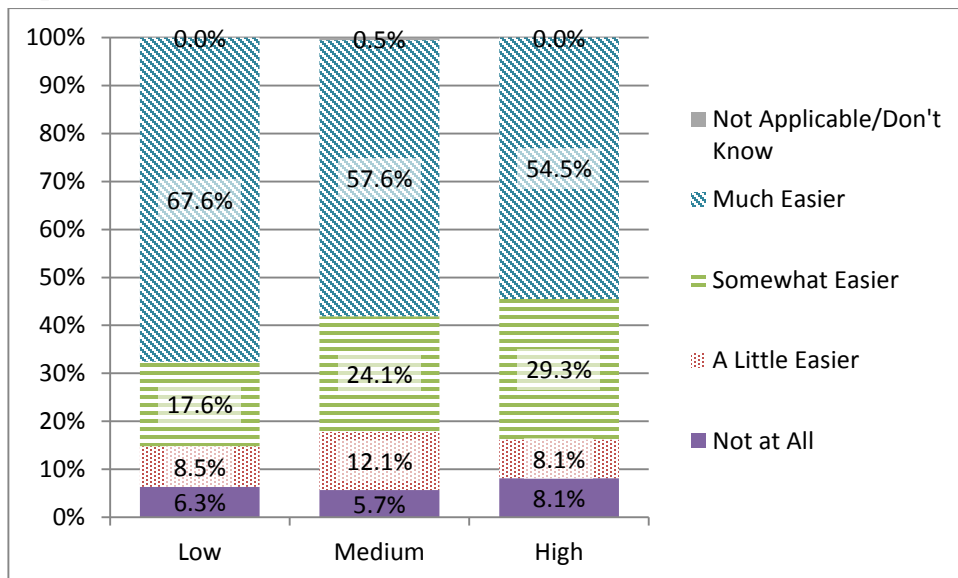
Note: Number of cases=453. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Chapter 5: Current Clinical Skills and Confidence

The survey included questions about nurses' confidence in applying clinical knowledge and actions independently. Their responses are summarized in Table 5.1 and Figure 5.1. Recently-graduated RNs expressed the greatest confidence in subcutaneous injections, blood glucose monitoring, pulse oximetry, giving verbal report, and intravenous (IV) medication administration, with at least 60 percent saying they are "always confident" in these areas. The areas in which recent graduates most often said they are "not at all confident" are chest tube management (13.5%), EKG/Telemetry monitoring and interpretation (12.6%), and carbon dioxide (CO_2) monitoring (10.5%).

The responses to these questions were coded numerically, with "not at all confident" being a 1, "sometimes confident" being a 2, "usually confident" being a 3, and "always confident" being a 4. The averages of these scores, overall and by simulation intensity group, are presented in Table 5.2. In general, respondents who had greater simulation intensity in their pre-licensure education indicated greater confidence in these clinical skills. The greatest differences were for EKG/telemetry monitoring and interpretation (2.48 for low, 2.82 for high); trach care and suctioning (2.82 for low, 3.10 for high); IV pumps/PCA pump operation (3.30 for low, 3.56 for high); charting/documentation (3.49 for low, 3.73 for high); and making decisions about client care based on assessment, pathophysiology and diagnostic testing data using nursing process (2.97 for low, 3.18 for high);

Table 5.1. Confidence in applying clinical knowledge and performing independently

	Not At All Confident	Sometimes Confident	Usually Confident	Always Confident	Not Applicable	Number of cases
Make decisions about client care based on assessment, pathophysiology and diagnostic testing data using nursing process	0.2%	12.3%	66.3%	20.0%	1.2%	453
Blood draw/venipuncture	3.9%	18.6%	31.8%	32.6%	13.1%	453
Central line care (dressing change, blood draws, discontinuing)	5.0%	13.5%	30.0%	34.1%	17.5%	451
Chest tube management	13.5%	26.6%	26.6%	9.5%	23.8%	452
Giving verbal report	0.8%	3.4%	25.2%	68.2%	2.5%	454
Intravenous (IV) starts	4.6%	15.4%	35.6%	34.6%	9.7%	454
IV medication administration	0.5%	2.3%	25.7%	62.1%	9.5%	453
Pulse oximetry	0.4%	0.4%	4.6%	89.6%	4.9%	454
Trach care/suctioning	7.8%	16.8%	25.7%	28.3%	21.4%	451
Bladder catheter insertion/irrigation	2.4%	10.5%	25.5%	48.6%	13.0%	453
Blood glucose monitoring	0.0%	0.4%	7.0%	87.7%	4.9%	454
Charting/documentation (paper and electronic)	0.0%	4.9%	27.9%	66.8%	0.4%	453
EKG/Telemetry monitoring and interpretation	12.6%	20.9%	29.4%	17.8%	19.3%	454
IV pumps/PCA pump operation	1.0%	7.8%	29.8%	48.3%	13.1%	454
NG tube/enteral feeding	2.2%	11.0%	26.3%	43.7%	16.8%	448
Responding to an emergency/CODE/ changing patient condition	6.8%	25.0%	41.8%	20.2%	6.3%	454
Wound care/dressing change/wound vac	3.1%	16.2%	39.6%	27.2%	13.8%	454
CO2 monitoring	10.5%	17.9%	20.7%	22.5%	28.4%	450
Subcutaneous injections (heparin, insulin)	0.0%	1.1%	12.6%	79.6%	6.8%	447
Other	0.0%	1.1%	9.1%	26.3%	63.5%	17

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Figure 5.1. Confidence in applying clinical knowledge and performing independently
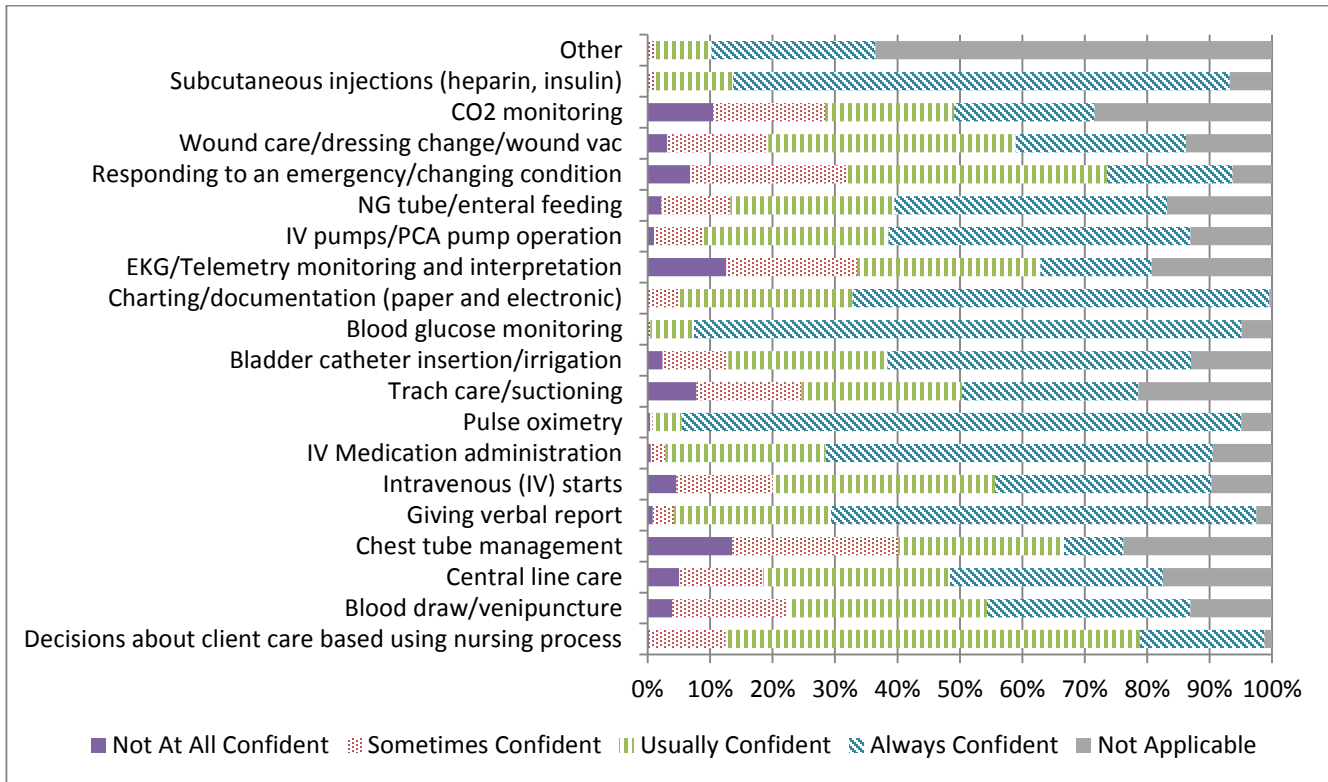
Note: Numbers of cases are provided in Table 5.1. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Table 5.2. Confidence in applying clinical knowledge and performing independently, by simulation intensity level (average scores)

	Overall average	Low Sim	Medium Sim	High Sim
Make decisions about client care based on assessment, pathophysiology and diagnostic testing data using nursing process	3.07	2.97	3.07	3.18
Blood draw/venipuncture	3.08	3.07	3.02	3.18
Central line care (dressing change, blood draws, discontinuing)	3.14	3.12	3.01	3.32
Chest tube management	2.42	2.36	2.42	2.50
Giving verbal report	3.65	3.60	3.61	3.76
Intravenous (IV) starts	3.14	3.05	3.06	3.36
IV Medication administration	3.66	3.58	3.68	3.68
Pulse oximetry	3.93	3.89	3.94	3.95
Trach care/suctioning	2.95	2.82	2.93	3.10
Bladder catheter insertion/irrigation	3.37	3.31	3.31	3.49
Blood glucose monitoring	3.91	3.93	3.88	3.93
Charting/documentation (paper and electronic)	3.65	3.49	3.72	3.73
EKG/Telemetry monitoring and interpretation	2.67	2.48	2.70	2.82
IV pumps/PCA pump operation	3.42	3.30	3.39	3.56
NG tube/enteral feeding	3.31	3.24	3.30	3.38
Responding to an emergency/CODE/ changing patient condition	2.78	2.58	2.87	2.88
Wound care/dressing change/wound vac	3.05	3.03	2.99	3.18
CO_2 monitoring	2.74	2.74	2.65	2.88
Subcutaneous injections (heparin, insulin)	3.82	3.82	3.82	3.81
Number of cases	448	126	174	148

Note: High scores indicate greater confidence. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Respondents were asked to indicate their degree of agreement with statements about their confidence with specific nursing skills and roles. The data are summarized in Figure 5.2 and Table 5.3. There was a high degree of agreement with nearly all of the statements, with at least 90 percent agreeing or strongly agreeing that they feel confident asking for help (99.5%), communicating with patients from diverse populations (98.2%), taking action to solve problems (98.0%), in their ability to problem solve (97.8%), identifying safety risks to patients (97.1%), communicating and coordinating with multidisciplinary team members (95.9%), using current evidence to make clinical decisions (94.9%), and communicating with physicians (93.7%). However, 22.7 percent said they disagreed or strongly disagreed that they are confident knowing what to do for a dying patient. Six percent disagreed or strongly disagreed that they are confident communicating with physicians, and 4.7 percent disagreed or strongly disagreed that they are confident delegating to a nursing assistant.

Figure 5.2. Confidence in interactions, communication, and decision-making
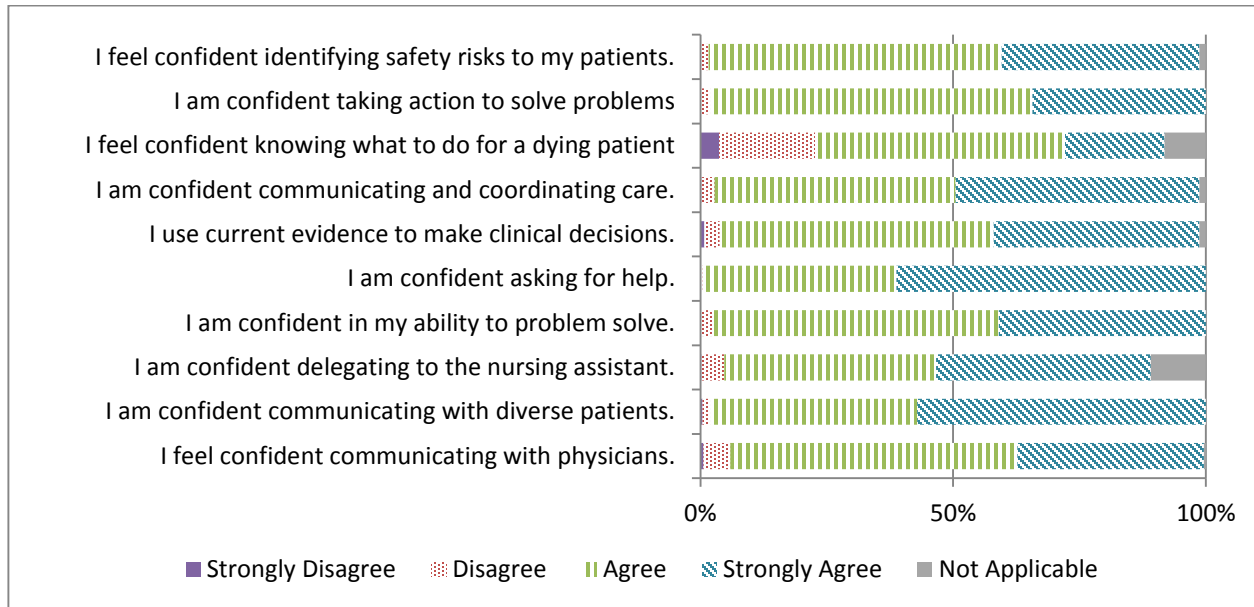
Note: Numbers of cases are provided in Table 5.3. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Table 5.3. Confidence in interactions, communication, and decision-making

	Strongly Disagree	Disagree	Agree	Strongly Agree	Not Applicable	Number of cases
I feel confident communicating with physicians.	0.6%	5.3%	56.8%	36.9%	0.4%	454
I am confident communicating with patients from diverse populations.	0.4%	1.5%	41.0%	57.2%	0.0%	453
I am confident delegating tasks to the nursing assistant.	0.2%	4.5%	41.9%	42.5%	10.9%	452
I am confident in my ability to problem solve.	0.0%	2.3%	56.8%	41.0%	0.0%	450
I am confident asking for help.	0.0%	0.4%	38.3%	61.2%	0.0%	453
I use current evidence to make clinical decisions.	0.8%	3.0%	54.2%	40.7%	1.3%	451
I am confident communicating and coordinating care with interdisciplinary team members.	0.2%	2.6%	47.7%	48.2%	1.3%	454
I feel confident knowing what to do for a dying patient	3.7%	19.0%	49.4%	19.7%	8.2%	453
I am confident taking action to solve problems	0.0%	1.9%	63.7%	34.3%	0.0%	452
I feel confident identifying actual or potential safety risks to my patients.	0.0%	1.6%	58.0%	39.1%	1.3%	453

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Responses to the questions about confidence were converted to numeric scores, with 1 indicating "strongly disagree," 2 indicating "disagree," 3 indicating "agree," and 4 indicating "strongly agree." The average scores overall and by simulation intensity are presented in Table 5.4. In general, recent graduates who experienced a greater intensity of simulation experiences also expressed a greater degree of confidence in interactions, communication, and decision-making. The differences were greatest for confidence in knowing what to do for a dying patient (2.76 for low, 3.17 for high) and for communicating and coordinating care with interdisciplinary team members. (3.27 for low, 3.61 for high).

Table 5.4. Confidence in interactions, communication, and decision-making, by simulation intensity (average scores)

	Overall Average	Low Sim	Medium Sim	High Sim
I feel confident communicating with physicians.	3.31	3.19	3.33	3.38
I am confident communicating with patients from diverse populations.	3.55	3.57	3.49	3.58
I am confident delegating tasks to the nursing assistant.	3.42	3.36	3.36	3.55
I am confident in my ability to problem solve.	3.38	3.28	3.35	3.55
I am confident asking for help.	3.61	3.48	3.61	3.71
I use current evidence to make clinical decisions.	3.34	3.25	3.35	3.42
I am confident communicating and coordinating care with interdisciplinary team members.	3.44	3.27	3.45	3.61
I feel confident knowing what to do for a dying patient	2.98	2.76	2.97	3.17
I am confident taking action to solve problems	3.32	3.24	3.26	3.47
I feel confident identifying actual or potential safety risks to my patients.	3.38	3.32	3.33	3.50
Number of cases	453	127	178	148

Note: Higher scores indicate greater confidence. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Respondents were asked about difficulties they experienced with their work. Their responses are summarized in Figure 5.3 and Table 5.5. At least 80 percent of recent graduates disagreed or strongly disagreed that they felt expectations of them were unrealistic, they have difficulty recognizing significant changes in patients' conditions, they feel overwhelmed by ethical issues, they have difficulty prioritizing patient care needs and they have difficulty documenting care in the electronic medical record (EMR). A greater share agreed or strongly agreed that they feel expectations are unrealistic (19.1%) than agreed with any of the other items.

Figure 5.3. Difficulties in interactions, communication, and decision-making
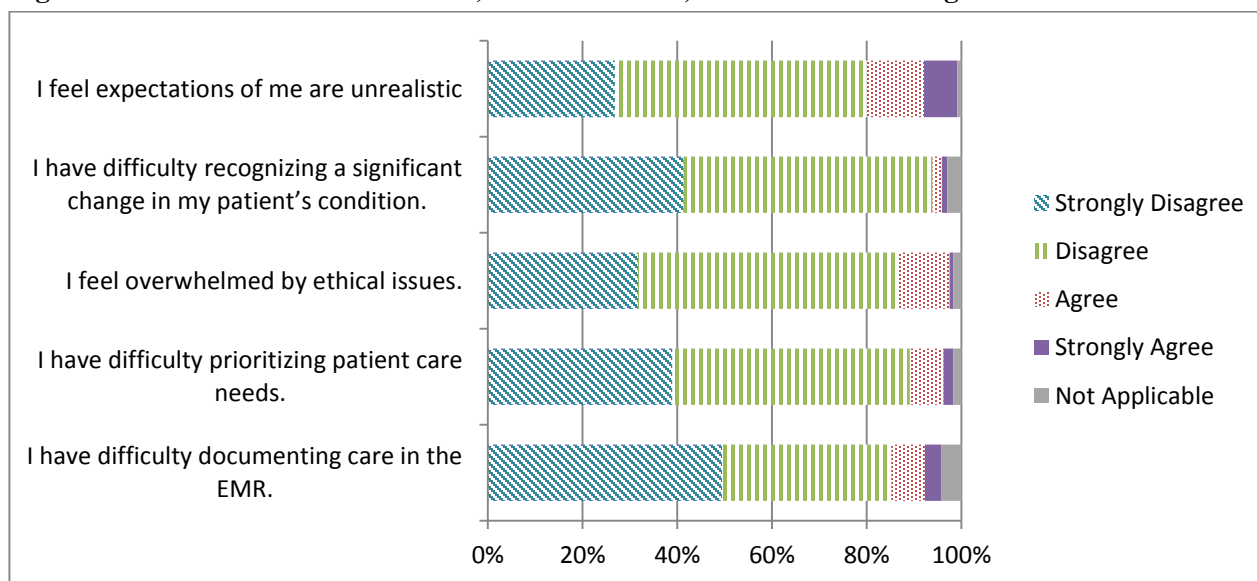
Note: Numbers of cases are provided in Table 5.5. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Table 5.5. Difficulties in interactions, communication, and decision-making

	Strongly Disagree	Disagree	Agree	Strongly Agree	Not Applicable	Number of cases
I have difficulty documenting care in the electronic medical record.	49.5%	35.8%	7.1%	3.5%	4.2%	452
I have difficulty prioritizing patient care needs.	39.0%	50.1%	7.1%	2.1%	1.7%	452
I feel overwhelmed by ethical issues in my patient care responsibilities.	31.7%	55.1%	10.7%	0.8%	1.7%	453
I have difficulty recognizing a significant change in my patient's condition.	41.4%	52.6%	2.0%	1.1%	3.0%	454
I feel expectations of me are unrealistic	26.8%	53.2%	12.1%	7.0%	0.9%	451

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Responses to the questions about confident were converted to numeric scores, with 1 indicating "strongly disagree," 2 indicating "disagree," 3 indicating "agree," and 4 indicating "strongly agree." A lower score indicates greater disagreement that there has been difficulty with the item. Table 5.6 explores whether there is a relationship between the intensity of simulation experiences during pre-licensure education and difficulties in interactions, communication, and decision-making. In general respondents who had higher intensity of simulation experiences were less likely to report difficulties in their roles, but the differences are relatively small.

Table 5.6. Difficulties in interactions, communication, and decision-making, by simulation level (average scores)

	Overall Average	Low Sim	Medium Sim	High Sim
I have difficulty documenting care in the electronic medical record.	1.64	1.75	1.62	1.56
I have difficulty prioritizing patient care needs.	1.73	1.78	1.73	1.64
I feel overwhelmed by ethical issues in my patient care responsibilities.	1.80	1.85	1.83	1.71
I have difficulty recognizing a significant change in my patient's condition.	1.65	1.74	1.63	1.59
I feel expectations of me are unrealistic	2.00	2.05	1.99	1.97
Number of cases	453	127	178	148

Note: Higher scores indicate greater difficulty. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Several questions about past and ongoing opportunities for skills development were included in the survey; responses to these are presented in Figure 5.4 and Table 5.7. Eighty-eight percent of respondents agreed or strongly agreed that they have had opportunities to practice skills and procedures more than once, and that their clinical instructor provided feedback about readiness to assume an RN role. More than three-quarters agreed or strongly agreed that simulations helped them feel prepared for clinical practice, although the share strongly agreeing with this statement was notably lower (14.9%) than for the other two items (36.7% for instructor providing feedback and 38.8% for opportunities to practice skills more than once).

Responses to the questions about confidence were converted to numeric scores, with 1 indicating "strongly disagree," 2 indicating "disagree," 3 indicating "agree," and 4 indicating "strongly agree." A higher score indicates greater agreement with the item. As seen in Table 5.8, graduates who experienced a relatively high level of simulation intensity report higher average agreement with each of the statements regarding skills development than those in the medium and low simulation groups. The difference is largest regarding whether simulations have helped the respondent feel prepared for clinical practice (3.05 for high, 2.67 for low). Those who experience high intensity simulation also are much more likely to respond that their clinical instructor provided feedback about their readiness to assume an RN role (3.41 for high, 3.10 for low).

Figure 5.4. Skills development in pre-licensure education and on the job
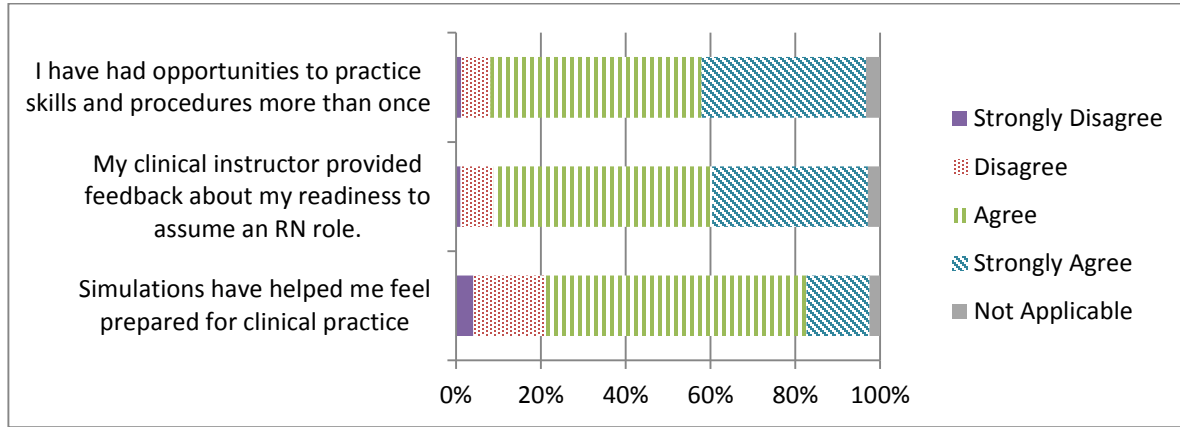
Note: Numbers of cases are provided in Table 5.7. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Table 5.7. Skills development in pre-licensure education and on the job

	Strongly Disagree	Disagree	Agree	Strongly Agree	Not Applicable	Number of cases
Simulations have helped me feel prepared for clinical practice	4.1%	17.1%	61.4%	14.9%	2.5%	453
My clinical instructor provided feedback about my readiness to assume an RN role.	1.1%	7.8%	51.5%	36.7%	2.9%	453
I have had opportunities to practice skills and procedures more than once	1.2%	6.9%	49.7%	38.8%	3.3%	452

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Table 5.8. Skills development in pre-licensure education and on the job, by simulation level (average scores)

|	Overall Average	Low Sim	Medium Sim	High Sim
Simulations have helped me feel prepared for clinical practice	2.89	2.67	2.93	3.05
My clinical instructor provided feedback about my readiness to assume an RN role.	3.27	3.10	3.32	3.41
I have had opportunities to practice skills and procedures more than once	3.31	3.26	3.29	3.38
Number of cases	453	127	178	148

Note: Higher scores indicate greater agreement. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Recent graduates were asked about their confidence in managing patient care assignments on a medical-surgical unit, on a scale with 1 indicating "not confident" and 5 indicating "very confident." Nearly all respondents indicated a score of 4 or 5 for caring for 2 patients (85.0%), or 3 patients (80.2%). However, only 68.5 percent rated their confidence at 4 or 5 for caring for 4 patients, and 47.1 percent for 5 patients. Twenty-two percent indicated a score of 1 or 2 (not confident) in caring for 5 patients.

Table 5.9. Confidence in managing patient care assignments on adult medical-surgical unit

	Not confident (1)	(2)	(3)	(4)	Very Confident (5)	Don't Know / Not Applicable	Number of cases
Caring for 2 patients	0.7%	1.5%	4.0%	9.8%	75.2%	8.9%	439
Caring for 3 patients	1.3%	1.3%	6.5%	14.4%	65.8%	10.7%	438
Caring for 4 patients	2.6%	5.2%	9.7%	20.1%	48.4%	14.1%	446
Caring for 5 patients	11.7%	10.7%	12.7%	23.4%	23.7%	17.8%	442

Note: Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

The responses presented in Table 5.9 were converted to average scores and compared with the intensity of simulation experienced during pre-licensure education. As seen in Table 5.10, there is no association between simulation intensity and confidence in caring for 2 or 3 patients. However, confidence is positively correlated with simulation intensity in caring for 4 or 5 patients.

Table 5.10. Confidence in managing patient care assignments on adult medical-surgical unit, by simulation level (average score)

	Overall average	Low Sim	Medium Sim	High Sim
Caring for 2 patients	4.73	4.73	4.76	4.65
Caring for 3 patients	4.59	4.60	4.55	4.59
Caring for 4 patients	4.24	4.15	4.21	4.32
Caring for 5 patients	3.46	3.25	3.50	3.58
Number of cases	402	104	157	141

Note: Higher scores indicate greater confidence. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Recently-graduated nurses may find their role as RNs stressful; respondents were specifically asked whether they are experiencing stress at work. As seen in Figure 5.5, 19.3 percent strongly agreed with this statement, and 48.4 percent agreed. Only 32 percent disagreed or strongly disagreed that they are experiencing stress at work. These data are consistent with other research that indicates high levels of workplace stress for RNs. These responses were converted to numeric scores using the same method as described above. Recent graduates who experienced a greater intensity of simulation had lower average scores – indicating less agreement that they are experiencing stress – than did those in the low and middle simulation groups.

Figure 5.5. Agreement with the statement "I am experiencing stress at work"
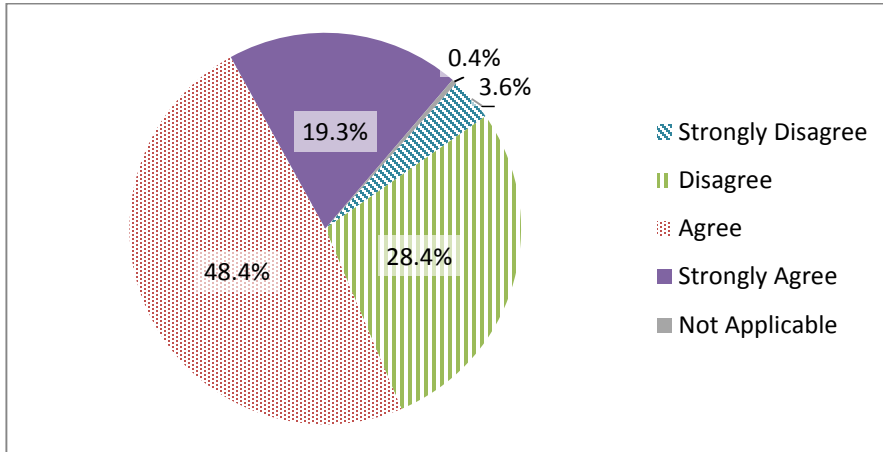
Note: Number of cases=452. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Figure 5.6. Agreement with the statement "I am experiencing stress at work," by simulation level
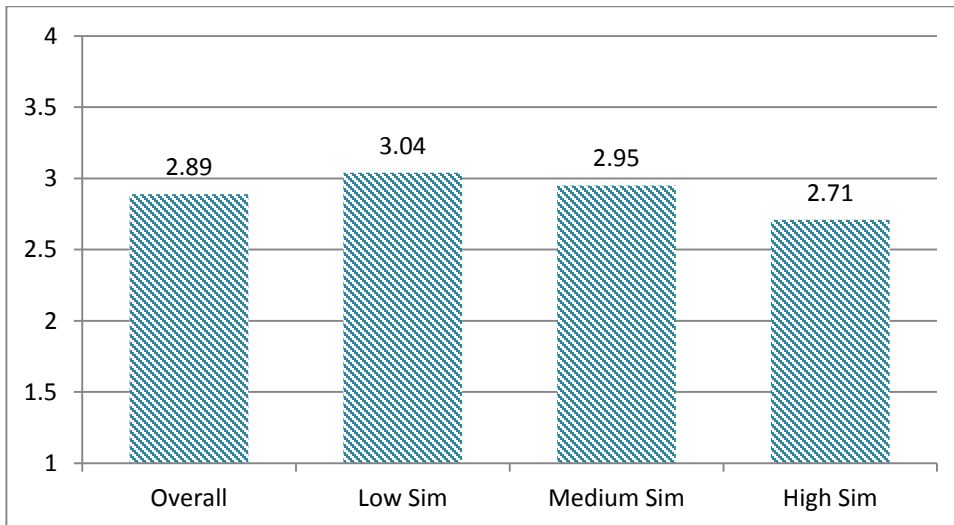
Note: Number of cases=452. Higher scores indicate greater agreement. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Respondents were asked whether they are satisfied with choosing nursing as a career. As presented in Figure 5.7, nearly all respondents agreed (36.5%) or strongly agreed (58.8%) with the statement "I am satisfied with choosing nursing as a career." Less than one percent strongly disagreed with this statement, and 3.7 percent disagreed. Figure 5.8 presents average scores for this question, using the same method to convert responses to scores described above. There was little relationship between the intensity of simulation experiences in pre-licensure education and average agreement that respondents are satisfied with nursing as a career; this is not surprising since there was little variation in responses, with most respondents agreeing or strongly agreeing. The average score for the high simulation group was 3.67, the average for the medium simulation group was 3.45, and the average for the low simulation group was 3.53.

Figure 5.7. Agreement with the statement "I am satisfied with choosing nursing as a career"
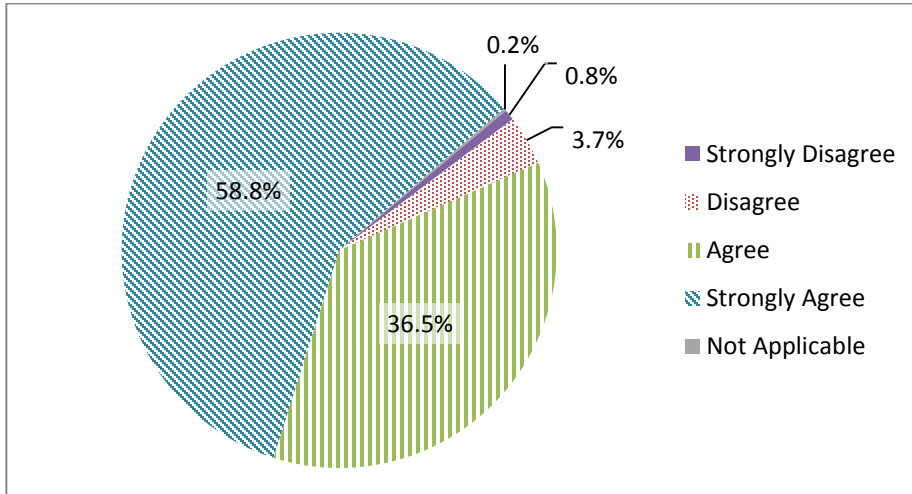
Note: Number of cases=454. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Figure 5.8. Agreement with the statement "I am satisfied with choosing nursing as a career," by simulation level
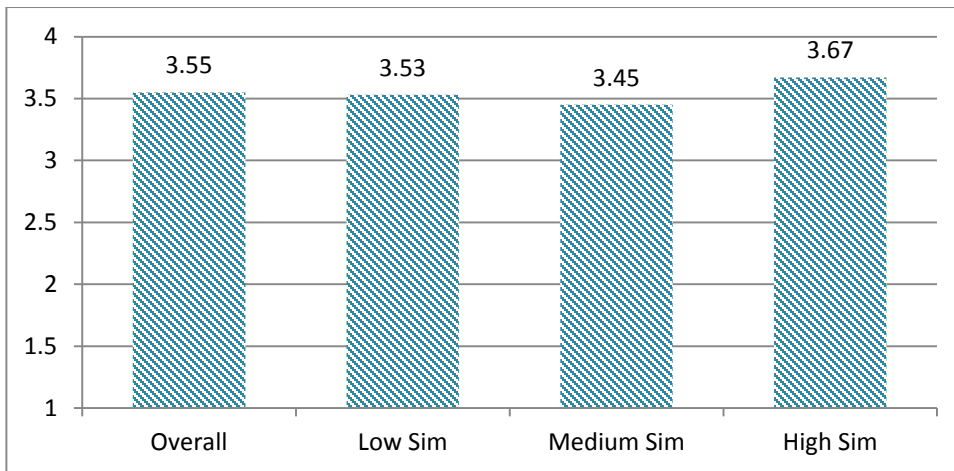
Note: Number of cases=454. Data are weighted to represent all recent graduates with active licenses who graduated between January 1, 2012 and June 30, 2014.

Chapter 6: Thematic Analysis of Nurses' Comments

Introduction

Narrative responses were invited at the end of the survey and were submitted by 79 RNs, or 15.4 percent of all respondents. Two specific questions were asked: (1) What could have been different in your hands-on clinical placement experiences in school that would have helped you feel more prepared for your work as a registered nurse? (68 responses); (2) What could have been different in your simulation experiences in school that would have helped you feel more prepared for your work as a registered nurse? (66 responses) Respondents were also invited to provide any other comments they wished.

It should be kept in mind that the comments made by this small percentage of the respondents may not necessarily reflect the opinions of the whole sample of recently-graduated RNs. Nonetheless, the fact that the expressed issues, opinions, and concerns are shared by a considerable number of nurses suggests that these are very real concerns and issues.

Hands-on Clinical Experience

Respondents were asked, "What could have been different in your hands-on clinical placement experiences in school that would have helped you feel more prepared for your work as a nurse?" Eight respondents simply noted the need for *more* hands-on clinical experiences. Many of these respondents felt that longer preceptorships would have been helpful:

> *"We had to complete a 96 hour preceptorship to graduate. I learned so much doing hands-on clinical work, but I felt like during those 96 hours I barely scraped the surface in terms of experience. I felt unprepared/unqualified to start my career as an RN when I graduated, but quickly gained an abundance of skills and gained confidence within my first year working as an RN. I don't know if an extended preceptorship would have helped me feel more confident when I graduated, but it would have given me more hands-on experience, which is more valuable to me than simulation experience."*

Ten respondents would have liked more time to practice nursing skills such as inserting IVs, catheters, NG tubes, and blood draws and Foley placement, and three noted a lack of confidence in their skills in these areas upon starting their first nursing jobs.

> *"I think if we simply had more opportunities to practice skills on real patients. My teachers always said that the skills will come in time when we start working and as long as we understand how to practice safely with the patient, we would be ready. However, I feel like my lack of confidence as a nurse comes because I don't feel prepared to start IV's, do catheters, or other basic skills that are required on a Med-Surg floor."*

Three respondents also felt that additional practice with multi-tasking and prioritization would be useful in hands-on clinical training.

> *"As a nursing student, I never really got to balance all the work of a RN. Towards the end of my clinicals, I did manage 4 patients on a med surg unit, but I think it would be good to have more experience in prioriziation and documentation during nursing school (paper, and different computer programs)."*

Four respondents simply noted that their clinical experiences prepared them well for practice—for example:

> *"I attribute much of my knowledge and succes to the wealth of hands-on clinical experiences*
> *I received during nursing school. The program I went through was tough but very*
> *rewarding. Those teachers and clinical instructors went above and beyond to ensure that we*
> *would be great nurses!"*

Simulation

Respondents were asked: "What could have been different in your simulation experiences in school that would have helped you feel more prepared for your work as a registered nurse?" Twenty-three comments regarded the need for more simulation. A number of respondents noted that the time they spent in the simulation lab was extremely limited—once per semester, class, or rotation. In addition, some noted that there were so many students per mannequin it did not give them enough time to practice different roles or skills.

> *"More simulation experiences, or even an "open simulation hour" for students wanting more*
> *hands-on experience with dummies, and to practice procedures and basic everyday nursing*
> *tasks."*

> *"More hands on/testing in the simulation lab. With so many students and so little teachers, it*
> *is hard to have chances to practice under supervision, to verify if you are right or wrong."*

Five respondents suggested that simulation lab experiences be more realistic and address skills that nurses needed to learn, like prioritizing tasks and managing multiple patients.

> *"The school I went to … was great at simulation! We had a very large simulation lab and*
> *multiple manequins to work with when trying to practice and better our clinical skills. I*
> *would only suggest that simulation would involve dealing with handling multiple patients*
> *and knowing what to prioritize."*

While theoretically simulation laboratories give students the opportunity to practice skills prior to working on live patients, nine respondents found these experiences very stressful and possibly more stressful than hands-on clinical work. Some noted that simulation labs seemed to be intended more for assessment than practice, hence the anxiety. A few felt that having "open" hours in the simulation lab to practice skills would have been helpful.

> *"In my opinion, some instructors put a lot of pressure on the students during simulation*
> *experiences; for the most part, we felt like we were being scrutinized and tested; I personally*
> *usually dreaded lab simulation experiences because it always felt like we were being put on*
> *the spot and there was pressure to take the correct actions. If simulations were conducted in*
> *a more relaxed learning environment, with instructors making it clear that it's ok to make*
> *mistakes during simulations so we can learn from them, then simulations would contribute*
> *more positively to our education."*

Four respondents felt that simulation training with Code Blue or emergency room training would have been helpful, and three felt that simulation experiences were greatly enhanced by using live actors in addition to, or in place of, mannequins.

Eight respondents simply felt that hands-on clinical experience was superior. As one said,

"Have them (simulation hours) be optional or offer clinical hours in lieu. Students learn differently and I wish we had the option of either doing sim or doing a goal-focused clinical day. I found the sim experience to be more valuable when just starting in school (fundamentals, medsurg, etc.), compared to later in school when they just seemed like another test or skill to pass. Students know it's only sim and treat it as such, even though they are instructed not to. I think sim has its place in nursing education, but pales in comparison to real situations. Sim technology is very expensive for the nursing schools to offer AND upkeep. The cost is largely passed on to the students in form of tuition or other fees when it doesn't benefit the student very much; I feel the cost/benefit to be unbalanced."

While some respondents were critical of their simulation experiences, the fact that a large number of them commented that they would have liked to have had more time in simulation indicates that simulation is valuable as at least an adjunct to hands-on clinical experiences. Five respondents commented very favorably on their experiences, for example:

"Our sim class was excellent and helped teach us to be prepared for falls, codes, and patient change in condition. It was really great that they took a video and played it back to us so we could critique ourselves."

"Our simulation labs were pretty awesome! I was more nervous to do them than to touch actual patients because the instructor put a lot of pressure on us! It was a good learning experience and environment!"

Conclusion

Respondents who provided written answers to questions about potential improvements to hands-on clinical and simulation experiences in their nursing education often expressed a desire for more of one or both types of experience. While a number of respondents felt that hands-on clinical work was inherently better, decreasing access to clinical placements reported by many California nursing schools suggests that simulation has a place in nursing education.

Respondents often noted that these simulation experiences would have been more valuable if students had been allowed more time in the lab, and if they could have practiced scenarios that more closely simulated real life, such as scenarios with multiple patients. The simulation experiences described by students responding to this survey were extremely varied—from a single mannequin utilized intermittently by a large number of students to high-tech sim labs with multiple mannequins and video feedback capabilities. Quantifying and categorizing these programs for the purposes of assessing impacts is challenging as the number of clinical hours spent in simulation does not capture all of the facets of the experience.

Respondents were also asked to provide any additional comments. Five respondents specifically noted the need for new graduate transition-to-practice programs:

"There need to be more transition to practice programs available. It is ridiculous how hard it is to get a job as a new grad RN."

Chapter 7. Conclusions

This survey found that nearly all RNs who graduated from 2012 through mid-2014 had some simulation experienced in their pre-licensure education. There was notable variation in the simulation experiences reported by new graduates. Nearly half of new graduates also reported they had simulation experiences in their workplaces for skills assessment, orientation, or continuing education.

Most respondents believed that simulation experiences were reasonably or very effective in preparing them to transition to practice as a new RN, and more than half thought simulation was reasonably or very effective in preparing for their current clinical area of work. New graduates who reported more intensive simulation experiences as students were more likely to rate simulation as effective in preparing them for practice. Graduates who reported high simulation intensity also reported less difficulty in their transition to RN practice than those who reported low or medium intensity. Hands-on clinical experiences were rated as more effective than simulation, and there was a positive correlation between ratings of the effectiveness of hands-on experiences and the intensity of simulation experiences.

There was a consistent association between the intensity of simulation experiences recent graduates had in pre-licensure education and their self-reported confidence in applying clinical knowledge, performing specific clinical skills, communication, and decision-making. Recent graduates who had greater simulation intensity also were less likely to report difficulties with clinical confidence, ethical issues, prioritization of patient care needs, and documenting in electronic medical records. They also had greater confidence in their ability to handle higher patient loads on a medical-surgical unit and were less likely to report they are experiencing stress at work.

The positive relationship between simulation experiences and positive transition to practice, clinical skills, and confidence suggests that simulation is fulfilling its role as a valuable educational tool for pre-licensure RN students. However, these findings should be interpreted with caution. The positive relationship between perceived effectiveness of hands-on clinical experiences and simulation intensity suggests that hands-on and simulation experiences may be complementary with each other, and thus simulation should not replace hands-on experiences. In addition, it is possible that RN education programs that use simulation methods more intensively also have developed more effective approaches to hands-on experiences.

Respondents generally indicated that more simulation and hands-on experiences would have made their transition to practice easier, and many offered specific suggestions for improving both. Respondents thought that simulation experiences would have been more valuable if students had been allowed more time in the lab, and if they could have practiced scenarios that more closely simulated real life, such as scenarios with multiple patients. However, simulation laboratories are expensive in terms of both equipment and staffing—and the relative ability of a program to purchase these resources impacts student simulation experiences. How much simulation, what sort, and in what combination with hands-on clinical practice best prepares students for practice, remains to be determined through future research.

Appendices

Appendix A. Letters and mailings

First Post Card

The **California Board of Registered Nursing**, working with the University of California, mailed you the *2015 Effectiveness of Simulation Education Survey* two weeks ago. It was sent to new graduate RNs with active licenses, and we want to hear from you, whether or not you've ever participated in simulation activities in education, and whether or not you are currently working in the field.

We need your input to better gauge the educational experiences of the new graduates in California and help the BRN and our state colleges and universities design effective clinical experiences to support you.

You also have the option of completing the survey online. If you need another copy of the questionnaire or want to know how to do it online, **please call me toll-free at 1-877-276-8277** or email me at Lisel.Blash@ucsf.edu. (If you have already mailed your completed questionnaire, please disregard this notice.) Thank you.

Lisel Blash

UC San Francisco, School of Medicine

Follow-up Post Card 1

CHECKING IN.

The **California Board of Registered Nursing**, working with the University of California, San Francisco, mailed you the *2014 Effectiveness of Simulation Education Survey* a month ago, and again two weeks ago. It was sent to new graduate RNs with active licenses, and we want to hear from you, whether or not you've ever participated in simulation activities in education, and whether or not you are currently working in the field.

We need your input to better gauge the educational experiences of the new graduates in California and to help the BRN and our state colleges and universities design effective clinical experiences to support you.

You also have the option of completing the survey online. If you need another copy of the questionnaire or want to know how to do it online, **please call me toll-free at 1-877-276-8277** or email me at Lisel.Blash@ucsf.edu. (If you have already mailed your completed questionnaire, please disregard this notice.) Thank you.

Lisel Blash

UC San Francisco, School of Medicine

Checking In

The **California Board of Registered Nursing**, working with the University of California, San Francisco, mailed you the *2015 Effectiveness of Simulation Education Survey* a month and a half ago, and again a month ago. It was sent to new graduate RNs with active licenses, and we want to hear from you, whether or not you've ever participated in simulation activities in education, and whether or not you are currently working in the field.

We need your input to better gauge the educational experiences of the new graduates in California and to help the BRN and our state colleges and universities design effective clinical experiences to support you.

You also have the option of completing the survey online. If you need another copy of the questionnaire or want to know how to do it online, **please call me toll-free at 1-877-276-8277** or email me at Lisel.Blash@ucsf.edu. (If you have already mailed your completed questionnaire, please disregard this notice.) Thank you.

Lisel Blash

UC San Francisco, School of Medicine

Letter for New Graduate RNs

Dear XXXXXXXXX:

The Board of Registered Nursing is inviting you to be part of a small group of recent graduate nurses selected to provide the Board with vital information concerning registered nurses' experience with simulation education and transition to practice. We want to hear from you **whether or not you have participated in simulation-based activities in your education, and whether or not you are working in the field.**

Only 1,500 of California's estimated 365,000 RNs/APRNs are being surveyed, giving you a unique opportunity to contribute to an important study of the nursing profession. With the pivotal role of the nursing profession in workforce planning and policy in California, it is vital for the Board to be able to accurately present your opinions about educational experiences with simulation activities, transition to nursing practice, and work experience. Survey results will be used by the Board to guide public policy and plan for California's future nursing workforce and education needs. Summary results of the survey will be published on the Board's website in 2015.

Your individual survey responses are absolutely confidential and responses will not be reported in a way that will allow any identification of survey respondents. Your participation in the survey is voluntary and you may skip any questions you choose not to answer, but we hope to have a great response to the survey to ensure that the Board has a representative picture of new California nurses. More information about UCSF human subjects' protections for this study can be found on back of this letter.

The University of California, San Francisco is conducting the survey for the Board. The attached survey has been sent to selected recent graduate RNs with active California licenses residing in California.
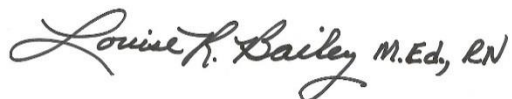
Completion of the survey should take no more than 20 minutes. The survey may be completed in the attached paper/pencil format or ONLINE. If completing the attached survey by paper and pencil, please return in the postage-paid return envelope. You may complete the enclosed survey online at http://rnworkforce.ucsf.edu/sim2015

Your online USERNAME is: XXXXXXXXX.

Your online PASSWORD is the first three letters of your last name or your complete last name, if it is equal to or fewer than three letters.

If you have any difficulty completing either version of the survey, or if you have any questions about your participation in this study, please call the Simulation Education Study Team at UC San Francisco toll-free at 1-877-276-8277. You may also contact Joanne Spetz, Ph.D., Principal Investigator, by phone at (415) 502-4443. You also have the option of contacting the UC San Francisco Human Research Protection Program at (415) 476-1814 or via email at chr@ucsf.edu.

We hope we can count on your participation and look forward to receiving your completed survey.

Sincerely,
Louise Bailey, M.Ed., RN
Executive Officer
California Board of Registered Nursing

California Board of Registered Nursing

Effectiveness of Simulation Education Survey 2015

Conducted for the Board of Registered Nursing
by the
University of California, San Francisco

Here's how to fill out the Survey:

- Use pen or pencil to complete the survey.
- Please try to answer each question.
- Most questions can be answered by checking a box, or writing a number or a few words on a line.
- Never check more than one box, except when it says **Check all that apply.**
- Sometimes we ask you to skip one or more questions. An arrow will tell you what question to answer next, like this:

  ☐₁ YES
  ☐₂ NO ⟶ **SKIP TO Question 23**

- If none of the boxes is just right for you, please check the one that fits you the best. Feel free to add a note of explanation. If you are uncomfortable answering a particular question, feel free to skip it and continue with the survey.
- If you need help with the survey, call toll-free (877) 276-8277.
- **REMEMBER**: An online version of this survey is available. Follow the instructions in the cover letter that came with this questionnaire to access the online survey.

  After you complete the survey, please mail it back to us in the enclosed envelope. No stamps are needed. Thank you for your prompt response.

SECTION A: EDUCATION AND LICENSURE INFORMATION

1. From what kind of program did you receive your initial, pre-licensure **RN education** that qualified you for RN licensure in the **United States**? **(Check only one.)**

   $\square_1$ Associate degree program $\square_3$ Entry-level Master's

   $\square_2$ Baccalaureate program $\square_4$ Other (**Please specify:**

2. In what year did you **graduate** from that program?   __ __ __ __

3. Do you have a current and active RN license? $\square_1$ Yes $\square_2$ No

---

The following definitions apply to many of the questions that follow:

Simulation: Simulation includes computer simulations and/or role play with other students, staff or actors. Clinical simulation provides a simulated real-time nursing care experience using clinical scenarios and low to hi-fidelity mannequins. Simulation allows participants to integrate, apply, and refine specific knowledge and actions.

Clinical Placement: a cohort of students placed in a clinical facility or community setting as part of the clinical education component of their nursing education.

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4. Did your nursing school use **simulation** during the time you attended?

   $\square_1$ Yes $\square_2$ No (if **YES**, **continue** below, if **NO**, skip to **question 6 on page 2**)

For each type of course, please indicate what type of simulation was used. ***Check all that apply.***

Course Description	None in this course	Mannequin-based	Computer based scenarios	Role play with other students	Standardized patients (actors)	Other (describe)
a. Fundamentals of nursing	$\square_0$	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
b. Medical/ surgical	$\square_0$	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
c. Obstetrics	$\square_0$	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
d. Geriatrics	$\square_0$	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
e. Psychiatry/ mental health	$\square_0$	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
f. Pediatrics	$\square_0$	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
g. Leadership/ Management	$\square_0$	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
h. Other	$\square_0$	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
Please describe any "other" responses:						

5. How effectively did the <u>simulation experience</u> offered by your nursing program prepare you for practice…

	Not at All Effectively	Somewhat Effectively	Reasonably Effectively	Very Effectively	Don't Know/ Not Applicable
a. …as a new RN?	□1	□2	□3	□4	□5
b. …in the clinical area in which you are currently working?	□1	□2	□3	□4	□5

6. How effectively did the hands-on <u>clinical placement experiences</u> offered by your nursing program prepare you for practice…

	Not at All Effectively	Somewhat Effectively	Reasonably Effectively	Very Effectively	Don't Know/ Not Applicable
a. …as a new RN?	□1	□2	□3	□4	□5
b. …in the clinical area in which you are currently working?	□1	□2	□3	□4	□5

7. **Before** you started your initial RN education, what was the highest level of education you completed?

□1 Less than a high school diploma   □3 Associate degree   □5 Master's degree

□2 High school diploma or equivalent   □4 Baccalaureate degree   □6 Doctoral degree

8. **Immediately prior** to starting your initial RN education, were you employed in a health occupation? (**Check all that apply**.)

□a No

□d Yes, nursing aide/ assistant

□g Yes, medical assistant

□b Yes, clerical or administrative in healthcare

□e Yes, other health technician/therapist

□h Yes, licensed practical/ vocational nurse

□c Yes, military medical corps

□f Yes, other (**Please specify**:_____)

9. Are you currently enrolled in or have you completed a nursing degree, certificate or transition to practice/residency program, **AFTER** the initial RN program that qualified you for licensure in the U.S? **(Check all that apply.)**

Degree	Currently enrolled	Completed	Year Completed
□ Have not enrolled in or completed post-licensure education			
a. Baccalaureate of Science in Nursing (BSN)	□1	□2	
b. Master's degree in Nursing (MSN)	□1	□2	
c. Practice-based Doctorate in Nursing (DNP)	□1	□2	
d. Research-or education-focused Doctorate in Nursing (PhD, DNSc, etc.)	□1	□2	
e. Transition to practice, new graduate, or residency program	□1	□2	
f. Nursing certificate program(s) (**Please specify:** _____)	□1	□2	

10. Have you done any volunteer work in nursing since receiving your California RN license?

□1 Yes   □2 No

↳If yes, for how long did you volunteer? _____ months

11. Are you **currently employed for pay** in a position that requires a RN license, including any Advanced Practice Registered Nurse (APRN) positions?

    ☐₁ **Yes,** working full or part-time ⎯⎯⎯⎯⎯⎯⎯⟶ **Continue to Section B, below**

    ☐₂ **No**, but have held a nursing position previously ⎯⟶ **Skip to Section C, page 5**

    ☐₃ **No**, never worked in nursing ⎯⎯⎯⎯⎯⎯⎯⟶ **Skip to Section E, page 8**

SECTION B: FOR NURSES CURRENTLY EMPLOYED IN NURSING

Please complete this section if you are working in a position that requires a registered nursing license. In this survey, the term "RN" or "registered nursing" refers to both RNs and APRNs.

12. How long have you been working as an RN since your licensure in California? _____years _____months

13. How many separate RN jobs do you **currently** have? _____ # of jobs.

14. For each **RN** job you **currently** have, indicate whether it is full or part-time, your first job after licensure, and how many hours on average you work there per week (do not include unworked on-call hours), and whether this employer uses simulation for staff training and/or assessment.

Current jobs only	Time-base	Was this your first job after licensure?	Hours per week	Hours per day	This employer uses simulation for training or assessment
a. Primary Job (in which you spend the most time)	☐₁ Full-time ☐₂ Part-time	☐₁ Yes ☐₂ No	hrs	hrs	☐₁ Yes ☐₂ No
b. Job 2	☐₁ Full-time ☐₂ Part-time	☐₁ Yes ☐₂ No	hrs	hrs	☐₁ Yes ☐₂ No
c. All other jobs	☐₁ Full-time ☐₂ Part-time	☐₁ Yes ☐₂ No	hrs	hrs	☐₁ Yes ☐₂ No

15. Mark the **clinical area** in which you **spend the most time** providing direct patient care in your **primary** nursing position. (**Check only one.**)

☐₁ Not involved in direct patient care	☐₉ Geriatrics	☐₁₆ Pediatrics
☐₂ General medical-surgical (inpatient)	☐₁₀ Home health care / hospice	☐₁₇ Psychiatry/mental health
☐₃ Critical care/ Intensive care	☐₁₁ Labor and delivery	☐₁₈ Rehabilitation
☐₄ Ambulatory care – primary care	☐₁₂ Mother-baby unit or normal newborn nursery	☐₁₉ Step-down or transitional bed unit
☐₅ Ambulatory care - specialty	☐₁₃ Neonatal care	☐₂₀ Telemetry
☐₆ Emergency/trauma	☐₁₄ Obstetrics/gynecology	☐₂₁ Surgery/pre-op/post-op/ PACU/anesthesia
☐₇ Community/public health	☐₁₅ Cardiology	☐₂₂ Oncology
☐₈ Work in multiple areas and do not specialize	☐₂₃ Other (**Please specify**_____)	

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16. Which one of the following best describes the **job title** of your **primary** nursing position? **(Check only one.)**

$\square_1$ Staff nurse/direct care nurse	$\square_9$ Public Health/Community Health Nurse
$\square_2$ Charge Nurse and direct care nurse	$\square_{10}$ Patient care coordinator/case manager/ discharge planner/patient navigator
$\square_3$ Charge Nurse or Team Leader (not direct care)	$\square_{11}$ Quality improvement nurse, utilization review, risk management
$\square_4$ Front-line management (Head Nurse, Supervisor)	$\square_{12}$ Infection control nurse
$\square_5$ Educator, academic setting (professor, instructor in a school of nursing)	$\square_{13}$ Occupational health nurse
$\square_6$ Staff educator, service setting (in-service educator, clinical nurse educator)	$\square_{14}$ Wound and/or ostomy nurse
$\square_7$ Patient educator	$\square_{15}$ Telenursing
$\square_8$ School Nurse	$\square_{16}$ Researcher
$\square_{17}$ Other (**Please specify:**_____)	

17. Which of the following **best** describes the **type of setting** of your **primary** nursing position? If you work for a temporary employment or traveling nurse agency, in which setting do you most often work? (**Check only one.**)

Hospital (not mental health)		
$\square_1$ Hospital, **inpatient** care or **emergency** department	$\square_3$ Hospital, **ambulatory care** department (outpatient, surgery, clinic, etc.)	$\square_5$ Hospital, **other** type of department (administration, home health, etc.)
$\square_2$ Hospital, **ancillary** unit	$\square_4$ Hospital, **nursing home** unit	
Other inpatient setting		
$\square_6$ **Nursing home**/extended care/ skilled nursing facility/ group home	$\square_8$ Inpatient **mental health**/ substance abuse	$\square_{10}$ **Inpatient hospice** (not hospital-based)
$\square_7$ **Rehabilitation** facility/ long-term acute care	$\square_9$ **Correctional** facility/ prison/jail	
Clinic/ambulatory		
$\square_{11}$ **Private** medical practice, clinic, physician office, etc.	$\square_{13}$ **School health** service (K-12 or college)	$\square_{15}$ **Urgent care**, not hospital-based
$\square_{12}$ **Public** clinic, rural health center, FQHC, etc.	$\square_{14}$ Outpatient **mental health**/ substance abuse	$\square_{16}$ **Ambulatory surgery** center (free-standing)
Other types of employment settings		
$\square_{17}$ **Occupational health** or employee health service	$\square_{20}$ Outpatient **Dialysis** Center	$\square_{23}$ **Case management**/ disease management
$\square_{18}$ **Public health** or community health agency (not a clinic)	$\square_{21}$ University or college (**academic** department)	$\square_{24}$ **Call center**/ telenursing center
$\square_{19}$ **Government agency** other than public/ community health or corrections	$\square_{22}$ **Home health** agency/ home health service (including hospice)	$\square_{25}$ Self-employed
$\square_{26}$ Other (**Please specify:** _____)		

Answer Section C in relation to your first RN job after licensure

SECTION C: TRANSITION TO PRACTICE

18. Did you experience any difficulties in the following areas in your **transition** from the *student* role to the *RN* role (transition to practice)?

	No Difficulty	Minor Difficulty	Some Difficulty	Major Difficulty	Not Applicable
a. Understanding role expectations and legal/regulatory issues (e.g. autonomy, more responsibility, being a preceptor or in charge)	☐1	☐2	☐3	☐4	☐5
b. Confidence in delegation, knowledge, critical thinking	☐1	☐2	☐3	☐4	☐5
c. Confidence in communicating with other health professionals	☐1	☐2	☐3	☐4	☐5
d. Managing workload (e.g. organizing, prioritizing, handling job related stressors, ratios, patient acuity)	☐1	☐2	☐3	☐4	☐5
e. Interactions with patients and family members	☐1	☐2	☐3	☐4	☐5
f. Orientation to work environment	☐1	☐2	☐3	☐4	☐5
g. Confidence in clinical skills (e.g. starting IVs, bladder catheter insertion, NG tube, trach care, etc.)	☐1	☐2	☐3	☐4	☐5
h. Extraneous distractions that normally occur in the clinical setting (e.g. paging, interruptions from co-workers or patient family members, equipment alarms, etc.)	☐1	☐2	☐3	☐4	☐5
i. Knowing when to ask for assistance and recognizing unsafe practices by self and others	☐1	☐2	☐3	☐4	☐5
j. Educating of and advocating for patients	☐1	☐2	☐3	☐4	☐5
k. Respecting diverse cultural perspectives	☐1	☐2	☐3	☐4	☐5
l. Documenting and using technology proficiently (Electronic Health Record)	☐1	☐2	☐3	☐4	☐5

19. How **helpful** was your **simulation** experience in your **nursing education** in addressing each of these transition-to-practice areas?

☐1 If you **did not have any simulation** experience in your nursing education, ***check this box and skip to question 21 on page 7***—otherwise continue below.

Helpfulness of simulation education in transition to practice	Not Helpful	A Little Helpful	Somewhat Helpful	Very Helpful	Not Applicable
a. Understanding role expectations and legal/regulatory issues (e.g. autonomy, more responsibility, being a preceptor or in charge)	☐1	☐2	☐3	☐4	☐5
b. Confidence in delegation, knowledge, critical thinking	☐1	☐2	☐3	☐4	☐5
c. Confidence in communicating with other health professionals	☐1	☐2	☐3	☐4	☐5
d. Managing workload (e.g. organizing, prioritizing, handling job related stressors, ratios, patient acuity)	☐1	☐2	☐3	☐4	☐5
e. Interactions with patients and family members	☐1	☐2	☐3	☐4	☐5
f. Orientation to work environment	☐1	☐2	☐3	☐4	☐5
g. Confidence in clinical skills (e.g. starting IVs, bladder catheter insertion, NG tube, trach care, etc.)	☐1	☐2	☐3	☐4	☐5

Helpfulness of simulation education in transition to practice	Not Helpful	A Little Helpful	Somewhat Helpful	Very Helpful	Not Applicable
h. Extraneous distractions that normally occur in the clinical setting (e.g. paging, interruptions from co-workers or patient family members, equipment alarms, etc.)	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
i. Knowing when to ask for assistance and recognizing unsafe practices by self and others	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
j. Educating of and advocating for patients	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
k. Respecting diverse cultural perspectives	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
l. Documenting and using technology proficiently (Electronic Health Record)	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$

During your NURSING EDUCATION…	Not at All	A little Easier	Somewhat Easier	Much Easier	Not Applicable
20. Would different or more **simulation** experiences have made that transition easier?	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
21. Would different or more **hands-on clinical placement experiences** have made that transition easier?	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$

SECTION D: EXPERIENCE IN NURSING IN CURRENT RN JOB

22. How confident are you currently in your ability to apply the following knowledge and actions **independently**? (Please check "**not applicable**" if this item is not a part of your regular job duties.)

Confidence in current job with knowledge…	Not at all confident	Sometimes confident	Usually confident	Always confident	Not applicable
a. Make decisions about client care based on assessment, pathophysiology and diagnostic testing data using nursing process	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
b. Blood draw/venipuncture	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
c. Central line care (dressing change, blood draws, discontinuing)	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
d. Chest tube management	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
e. Giving verbal report	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
f. Intravenous (IV) starts	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
g. IV Medication administration	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
h. Pulse oximetry	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
i. Trach care/suctioning	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
j. Bladder catheter insertion/irrigation	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
k. Blood glucose monitoring	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
l. Charting/documentation (paper and electronic)	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
m. EKG/Telemetry monitoring and interpretation	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
n. IV pumps/PCA pump operation	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
o. NG tube/enteral feeding	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
p. Responding to an emergency/CODE/ changing patient condition	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$

Confidence in current job with knowledge…	Not at all confident	Sometimes confident	Usually confident	Always confident	Not applicable
q. Wound care/dressing change/wound vac	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
r. CO2 monitoring	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
s. Subcutaneous injections (heparin, insulin)	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
t. Other **(Please specify: _____)**					

23. Please indicate how much do you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Agree	Strongly Agree	Not applicable
a. I feel confident communicating with physicians.	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
b. I am confident communicating with patients from diverse populations.	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
c. I am confident delegating tasks to the nursing assistant.	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
d. I have difficulty documenting care in the electronic medical record.	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
e. I have difficulty prioritizing patient care needs.	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
f. My clinical instructor provided feedback about my readiness to assume an RN role.	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
g. I am confident in my ability to problem solve.	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
h. I feel overwhelmed by ethical issues in my patient care responsibilities.	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
i. I have difficulty recognizing a significant change in my patient's condition.	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
j. I have had opportunities to practice skills and procedures more than once	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
k. I am confident asking for help.	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
l. I use current evidence to make clinical decisions.	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
m. I am confident communicating and coordinating care with interdisciplinary team members.	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
n. I feel expectations of me are unrealistic	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
o. Simulations have helped me feel prepared for clinical practice	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
p. I feel confident knowing what to do for a dying patient	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
q. I am confident taking action to solve problems	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
r. I feel confident identifying actual or potential safety risks to my patients.	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
s. I am experiencing stress at work	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$
t. I am satisfied with choosing nursing as a career	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$

24. How confident would you be in managing patient care assignments on an **adult Medical/Surgical** unit**:**

	Not confident	2	3	4	Very Confident	Don't Know
a. Caring for 2 patients	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$
b. Caring for 3 patients	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$
c. Caring for 4 patients	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$
d. Caring for 5 patients	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$

SECTION E: DEMOGRAPHIC INFORMATION

25. Gender $\square_1$ Female $\square_2$ Male

26. Year of birth   19 ___ ___

27. In what country were you born? _____

28. Marital status $\square_1$ Single $\square_2$ Currently married/partnered $\square_3$ Separated/divorced/widowed

29. What is your ethnic/racial background (select the **ONE** with which you most strongly identify)?

$\square_1$ African American/ Black/ African $\square_2$ Caucasian/White/ European/Middle Eastern $\square_3$ American Indian/Native American/Alaskan Native $\square_4$ Other or Mixed

Asian		Latino / Hispanic	Native Hawaiian / Pacific Islander	
$\square_5$ Cambodian	$\square_{10}$ Korean	$\square_{15}$ Central American	$\square_{20}$ Fijian	$\square_{25}$ Tongan
$\square_6$ Chinese	$\square_{11}$ Laotian/Hmong	$\square_{16}$ South American	$\square_{21}$ Filipino	$\square_{26}$ Other
$\square_7$ Indian	$\square_{12}$ Pakistan	$\square_{17}$ Cuban	$\square_{22}$ Guamanian	
$\square_8$ Indonesian	$\square_{13}$ Thai	$\square_{18}$ Mexican	$\square_{23}$ Hawaiian	
$\square_9$ Japanese	$\square_{14}$ Vietnamese	$\square_{19}$ Other Hispanic	$\square_{24}$ Samoan	

$\square_{27}$ Other (**Please specify:** _____)

30. Other than English, what languages do you speak fluently? **(Check all that apply.)**

$\square_a$ None $\square_b$ Spanish $\square_e$ Tagalog/ other Filipino dialect $\square_h$ Mandarin

$\square_c$ Korean $\square_f$ French $\square_i$ Cantonese

$\square_d$ Vietnamese $\square_g$ Hindi/Urdu/Punjabi/ other South Asian language $\square_j$ Other Chinese dialect

$\square_k$ Other (**Please specify:** _____)

31. Home zip code: _____ <u>or</u> other country (**Please specify:** _____)

Thank you for completing the survey.
Please return the questionnaire in the postage-paid envelope provided

If you have additional thoughts or ideas about the nursing profession and education in California, please write them below. You may include your email address if you would like an email notification when the report on this survey is published.

1. What could have been different in your **hands-on clinical placement experiences** in school that would have helped you feel more prepared for your work as a registered nurse?

_____

_____

_____

_____

2. What could have been different in your **simulation experiences** in school that would have helped you feel more prepared for your work as a registered nurse?

_____

_____

_____

_____

3. Additional comments:

_____

_____

_____

I would like to be notified when the report is published.

My email address is: _____

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