Nursing Student Errors and Near Misses: Three Years of Data

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ABSTRACT

Background: Understanding the magnitude of errors and near misses in all health care situations is crucial to preventing them from occurring in the future. However, little research is available on the type or extent of nursing student errors in the United States. **Method:** Nursing student error and near miss data were submitted by more than 200 participating prelicensure nursing programs via a secured online repository. **Results:** Medication errors represented more than half (58.8%, n = 613) of the total error and near-miss data (n = 1,042) submitted. Errors and near misses were attributed to students not adhering to three major patient safety procedures: checking the patient's identification, checking the patient's allergy status, and following the rights of medication administration. **Conclusion:** Results indicate collecting data on nursing students' errors and near misses can help nursing programs identify system issues, promote transparency, and make quality improvements. [*J Nurs Educ.* 2023;62(1):12-19.]

D ata suggest the number of health care errors associated with preventable hospital deaths in the United States is approximately 200,000 annually (Kavanagh et al., 2017). Therefore, understanding the magnitude of errors and near misses in all health care situations is crucial to preventing them in the future. Furthermore, safety science calls for transparency in reporting errors and near misses to identify and correct system errors (Disch & Barnsteiner, 2014; Gandhi et al., 2018). Yet, there is no precedent nationally, internationally, or in other health care professions for tracking student errors on an ongoing basis. This article reports 3 years of data from more than 200 registered nurse (RN) and practical nurse education programs in the U.S. on nursing student errors and near misses in their clinical experiences, along with implications for faculty.

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LITERATURE REVIEW

There is little available research on the type or extent of nursing student errors in either the U.S. (Asensi-Vicente et al., 2018; Disch & Barnsteiner, 2014; Hes et al., 2016) or internationally (Cebeci et al., 2015; Freeman et al., 2020; Natan et al., 2017; Ozturk et al., 2017; Reid-Searl et al., 2010). A recent study of 844 baccalaureate nursing students in Belgium reported 38.4% of the students had been involved in a patient safety incident during their clinical experience (Van Slambrouck et al., 2021). Most of the available data focus solely on medication errors (Asensi-Vicente et al., 2018; Cebeci et al., 2015; Disch & Barnsteiner, 2014; Freeman et al., 2020; Harding & Petrick, 2008; Hes et al., 2016; Reid-Searl et al., 2010; Wolf et al., 2006). One study by Currie et al. (2009) conducted with postbaccalaureate nursing students in the first year of their advanced practice RN program reported errors other than medication errors were related to an infection, the environment, a fall, or equipment issues.

Asensi-Vicente et al. (2018) conducted a systematic review of medication errors involving nursing students. The review, which included 19 articles published from 2005 to 2017, identified a high incidence of nursing student errors and underreporting of errors. However, comparison of the results across studies was limited due to the broad range of content and varying study designs.

Noland and Carmack (2015) suggested nursing students may not gain sufficient experience in the transparent communication of errors through their education. Nursing students acknowledged the importance of reporting errors but admitted they frequently did not report errors. Fear of negative repercussions from faculty and peers may affect nursing students' decision to report errors (Disch et al., 2017; Natan et al., 2017). Additionally, Disch et al. (2017) suggested a culture of underreporting may occur in part due to the fear that public knowledge of student errors may affect the status of clinical site agreements between nursing programs and clinical sites.

Individual programs that have independently developed safety reporting tools have observed positive results in the facilitation of error communication and the removal of barriers to reporting, and these programs have reported success in creating a culture of transparency and patient safety (Cooper, 2013; Disch & Barnsteiner, 2014; Freeman et al., 2020; Natan et al., 2017; Penn, 2014). Disch and Barnsteiner (2014) recommended nursing programs and educators collect and analyze error and near-miss data to assist in developing and implementing processes that potentially will decrease future errors and near misses.

Disch et al. (2017) conducted a national study of nursing schools ($N = 494$) across 48 states to determine the existence of policies and tools for nursing student error and near-miss reporting. The researchers found the majority (55%) of schools did not have a reporting tool for errors and near misses, and most of the schools reported they did not have either a written policy (50%) or consistent standard (17%) for addressing nursing student errors and near misses. The results suggest a need for policies, tools, and consistent approaches for managing errors and near misses involving nursing students. A faculty member at one of the participating schools noted that "A repository and a tracking tool could help faculty and students anticipate vulnerabilities in the system and in their human response to it" (Disch et al., p. 30).

The primary aim of this prospective study was to obtain baseline information from prelicensure nursing programs on the extent and types of nursing student practice errors and near misses so that methods to reduce or prevent them can be developed.

METHOD

Institutional Review Board (IRB) Approval, Human Subject Protection, and Certificate of Confidentiality

To protect the rights of the study participants, approval to conduct the study was obtained from the WCG Institutional Review Board. The study underwent continuous IRB monitoring as required by IRB policy. Every effort was made to keep all data collected from faculty and nursing students confidential. To assist in protecting the confidentiality of study participants, a Certificate of Confidentiality was obtained from the National Institute of Nursing Research at the National Institutes of Health. The Certificate of Confidentiality protects the privacy of research subjects by prohibiting disclosure of any identifiable, sensitive research data to anyone not connected to the research.

Design

This prospective, descriptive study evaluated the extent and types of nursing student practice errors and near misses in prelicensure nursing programs.

Instrument

Instrument development and pilot. Data were collected from schools of nursing using the Safe Student Reports (SSR) Tool (National Council of State Boards of Nursing [NCSBN], n.d.). Jane Barnsteiner, PhD, RN, FAAN and Joanne Disch, PhD, RN, FAAN, the researchers who originally developed and piloted this tool, envisioned creating a more fair and just culture in schools of nursing, while at the same time learning more about student errors and near misses and teaching patient safety to nursing students. Disch and Barnsteiner and (2014) originally piloted the tool at the University of Minnesota. The tool was designed by two patient safety experts, a nurse informatician, a nursing graduate student, and two engineering graduate students, with an emphasis on functionality and ease of use. The tool also was designed to capture errors and near misses beyond medication errors, such as falls, needlesticks,

and practice gaps. Ten nursing programs participated in piloting the tool, submitting 70 completed reports. The pilot suggested both student and faculty users had a positive response to the tool and found it robust in capturing a wide array of incidents in a variety of settings. User-suggested changes were implemented after the pilot to improve ease of use. Because this is a data collection instrument, psychometrics would be inappropriate for this type of index.

Disch and Barnsteiner (2014) stressed the importance of creating a national data repository of nursing student errors and near misses so that faculty can develop interventions to reduce them. Thus, Disch and Barnsteiner approached the NCSBN in 2015 about housing the final, piloted version of the tool and becoming the national repository for nursing student error data. One major change in the tool was made and agreed on by all parties. In the original pilot, students were permitted to enter errors or near misses into the tool independently. However, the authors of the tool agreed the NCSBN could require that errors and near misses be reported by faculty or a dyad of student and faculty. This was a crucial issue for nursing regulation because it would promote transparency of error reporting.

Additionally, a survey was sent to a sample of nurse educators to determine whether there was interest in using the tool. Although Disch and Barnsteiner (2014) reported many nursing programs were interested in using the SSR Tool, the NCSBN believed it was important to confirm this prior to implementing the project. Of 376 nursing deans and directors who responded to the question about their willingness to use the SSR Tool, 92% indicated they would likely use the tool or wanted to learn more about the tool before making a decision; the remaining 8% reported they were unlikely to use the tool.

The NCSBN integrated the SSR Tool into a database similar to the one used by the original researchers. With the acquisition of the SSR reporting tool, the NCSBN developed the first and only national repository for reporting nursing student errors and near misses during their clinical experiences. Unlike other systems that only collect medication errors made by students (Hes et al., 2016), the SSR Tool collects information on different types of errors or near misses. Similar to other national databases that the NCSBN maintains, the SSR Tool has been an ongoing source of aggregate data on nursing student errors and near misses, filling an important knowledge gap in nursing education. The use of analysis tools to critically evaluate patient safety incidents has assisted in identifying areas for improvement and prevention of future errors (Dolansky et al., 2013; Valdez et al., 2013).

Instrument variables. The SSR Tool was developed to provide an anonymous online platform where faculty (or nursing students and faculty together) could report detailed data on the nature and frequency of nursing student errors and near misses in a manner that would allow analysis of practice gaps but still promote a just culture. The variables in the tool include:

1. Data about the potential recipient of the occurrence (e.g., patient status, age range, and gender);
2. Occurrence information (e.g., date, time, category of oc-
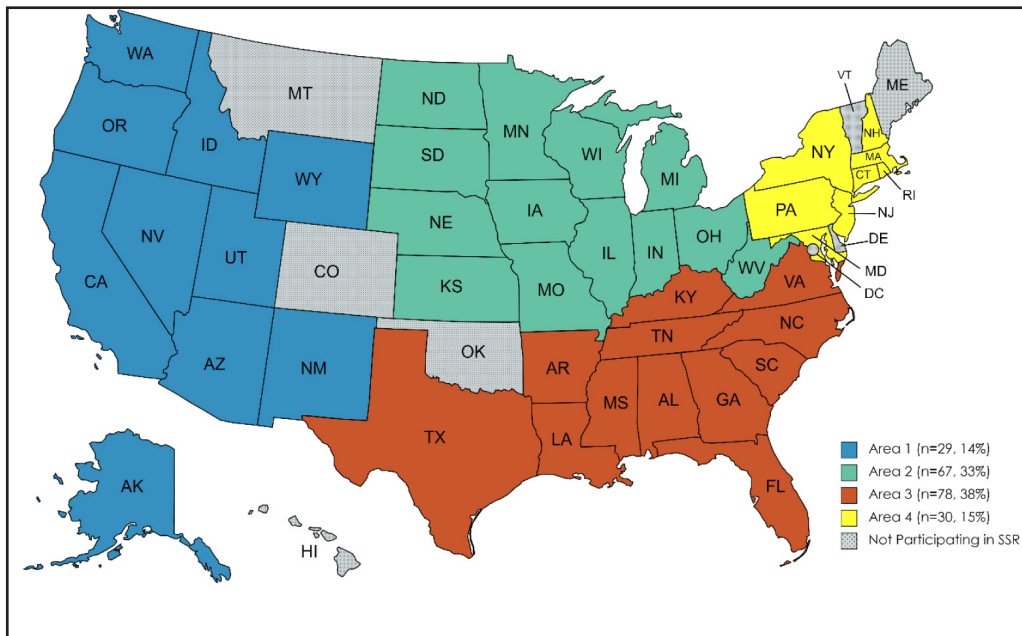
Figure 1. Participating programs by geographic region. (Note. The *n* represents the number of participating programs within each specific region.)

sample of 204 prelicensure nursing programs, consisting of practical, associate, diploma, and baccalaureate nursing students, across 43 states or jurisdictions agreed to participate. Postlicensure programs such as RN-to-baccalaureate and doctoral nursing programs were excluded from participation. All errors and near misses submitted by the participating programs were included in the analysis.

Procedure

Recruitment. The NCSBN sent letters to all U.S. prelicensure programs inviting them to participate in the SSR study. Telephone calls were made to the deans and directors of the nursing programs to follow up on their interest in participating in the study. A study website was developed to house the secure database and data collection tool and to provide basic information about the research study to nursing education programs. The NCSBN website also created a webpage dedicated to providing details about the research study and additional resources related to the study (NCSBN, n.d.). Brochures also were distributed at national and regional nursing conferences, and advertisements were printed in newspapers, organizational newsletters, and social media (such as Twitter and Facebook).

TABLE 1
Category of Occurrences by Location

Location of Occurrence	Errors	Near Misses	Total	% of Total Occurrences
Simulation laboratory[a]	439	172	611	58.6
Clinical setting[b]	149	214	363	34.8
Learning laboratory[c]	32	20	52	5.0
Other, unspecified	8	6	14	1.3
Classroom	2	0	2	0.2
Total	630	412	1,042	-

[a]*Simulation laboratory was defined as "A technique that creates a situation or environment to allow persons to experience a representation of a real event for the purpose of practice, learning, evaluation, testing, or to gain an understanding of systems or human actions." (Agency for Healthcare Research and Quality, 2020).*
[b]*Clinical setting included faculty-supervised face-to-face (in-person) experience with patients.*
[c]*Learning laboratory was equipped with manikins, task trainers, and hospital equipment where students could apply basic procedural skills such as administering injections.*

currence, type of occurrence, detailed occurrence description, and location);
3. Follow-up action (e.g., who is alerted, clinical agency informed, and agency occurrence report completed);
4. Information (e.g., age range, type of program, and position in the academic schedule).

Sample Size

Any prelicensure nursing education program was eligible to participate in the study; for this report, a final convenience

Participation in the SSR study was on a voluntary, per-institution basis. Interested nursing education programs were asked to complete an application to verify eligibility for the program. Once eligibility was confirmed, the nursing program was enrolled and was provided a unique user ID and password, which was distributed to authorized users (deans, program directors, faculty, and student-faculty dyads) for error reporting. The NCSBN offered individualized training sessions via conference calls or webinars to participating nursing education programs on the use of the web-based

TABLE 2
Gender of Recipient of the Occurrence

Gender	Occurrences, *n*	% of Total Occurrences
Female	607	58.3
Male	368	35.3
Unknown	67	6.4

TABLE 3
Age Range of Recipient of the Occurrence

Age Range (years)	Occurrences, *n*	% of Total Occurrences
< 15	42	4.0
15 to 20	36	3.5
21 to 25	82	7.9
26 to 30	42	4.0
31 to 35	77	7.4
36 to 40	27	2.6
41 to 45	46	4.4
46 to 50	32	3.1
51 to 55	34	3.3
> 56	510	48.9
Unknown	114	10.9

database and tool, as well as how to manage daily activities related to data collection.

Data Collection. Using the web-based data collection and reporting system on the NCSBN's website, nursing education programs were able to submit error and near miss data, and generate confidential reports of data reported from their own programs. The NCSBN provided deidentified aggregate data to all participating nursing education programs twice yearly to allow programs the opportunity to compare their data with national statistics.

RESULTS

The NCSBN has been collecting student error and near miss data from prelicensure programs since early 2018. A total of 204 prelicensure nursing programs have participated in the SSR study across 43 states/jurisdictions. **Figure 1** depicts the four geographic regions of the U.S.

Since the beginning of the data collection, information on a total of 1,042 errors and near misses has been submitted. Of these, 630 (60.5%) were errors and 412 (39.5%) were near misses. A total of 611 (58.6%) errors and near misses occurred in simulation, 363 (34.8%) in clinical settings, 52 (5.0%) in learning laboratories, 2 (0.2%) in the classroom, and 14 (1.3%) in other settings (**Table 1**). Of the errors made in clinical settings or the other category (e.g., alternate clinical settings, such as a community setting), 10.8% resulted in harm, and there were no reports of death.

Data were collected on the recipient of the error or near miss. The majority of the recipients of the errors or near misses were women (*n* = 607 [58.3%]) (**Table 2**) and older than age 56 years (*n* = 510 [48.9%]) (**Table 3**). English was the predominant language for most of the patients who were recipients of errors (90.2%).

Nursing programs were asked to report follow-up actions that occurred as a result of any errors and near misses, such as who was alerted to the error or near miss, whether the clinical agency was notified, whether an agency or incidence report was completed, and whether changes (i.e., policy, practice, or curriculum) occurred as a result of the occurrence. Nursing programs reported that other faculty or nursing school administration (*n* = 956 [91.7%]) were alerted about most of the errors and near misses. For occurrences in the clinical setting (*n* = 15 [4.1%]), patients or their family members were alerted to the error or near miss. An agency or incident report was completed for 28.4% (*n* = 103) of the occurrences in clinical settings. Most

of the occurrences across all settings (*n* = 830 [79.7%]) did not necessitate system, policy, practice, or curriculum changes; however, some occurrences prompted the following changes at the educational institution level: practice changes (*n* = 177 [17%]), curriculum changes (*n* = 26 [2.5%]), and policy changes (*n* = 4 [0.4%]).

The majority of nursing students who were involved in an error or near miss (*n* = 603 [57.9%]) were between the ages of 21 and 25 years (**Table 4**) and were in the latter part of their program (*n* = 490 [47%]). Programs were asked to submit information on the current semester, quarter, or term as well as the overall total number. Almost half of the students (*n* = 490 [47%]) had completed at least 75% of their program, almost one third (*n* = 311 [29.8%]) had completed at least 50% but less than 75% of their program, and almost one fourth had completed less than 50% (*n* = 234 [22.5%]) of their program. For the remaining seven (0.7%) students, this information was not available.

Each error or near miss was further categorized by type of occurrence. Respondents were asked to select the type of occurrence from the following response options:
1. Medication error;
2. Needlestick;
3. Inadequate preparation for providing patient care;
4. Blood or pathogen exposure;
5. Fall event;
6. Outside scope of practice;
7. Injury to body;
8. Change in patient condition;
9. Deviation in protocols;
10. Equipment or medical device malfunction;
11. Environmental safety for self, patient, or others;
12. Inappropriate or inadequate communication by faculty, preceptor, another student, health care team, patient, or visitor;
13. Breach of confidentiality;
14. Other.

TABLE 4		
Age Range of Prelicensure Nursing Students		
Age Range (years)	Occurrences, n	% of Total Occurrences
15 to 20	99	9.5
21 to 25	603	57.9
26 to 30	124	11.9
31 to 35	61	5.9
36 to 40	28	2.7
41 to 45	30	2.9
46 to 50	12	1.2
51 to 55	3	0.3
≥56	7	0.7
Unknown	75	7.2

TABLE 5		
Top Five Occurrences		
Occurrence	n	% of All Occurrences
Medication error	613	58.8
Deviation in protocols	131	12
Inadequate clinical preparation	55	5.3
Needlestick	46	4.4
Ineffective communication	33	3.2

Medication errors represented more than half (n = 613 [58.8%]) of the occurrences. The next four largest types of occurrences included deviation in protocols (n = 131 [12.6%]), inadequate clinical preparation (n = 55 [5.3%]), needlesticks (n = 46 [4.4%]), and ineffective communication (n = 33 [3.2%]) (Table 5).

Because more than half of the occurrences were classified as medication errors, all of the occurrences that provided additional detailed descriptions were analyzed further. Forty-seven percent of the occurrences submitted did not provide additional detailed descriptions. Because the type of these occurrences could not be identified specifically, they were not included in this additional analysis. For the occurrences that included details, the following medication errors were identified as the top five (Figure 2):

1. Wrong dose.
2. Incorrect procedure.
3. Wrong route.
4. Medication improperly diluted.
5. Wrong medication.

The faculty-student duos were asked to provide a description of what happened that caused the error or near miss. Although most of the duos provided an explanation, a few did not. Examples of the errors and near misses in clinical experiences and simulation are listed in Table 6.

The following student quote is an example of a typical medication error that occurred in the simulation laboratory: "I pushed Lasix too fast during simulation when I stated I was pushing over 2 minutes…I only pushed for 34 seconds." There were far fewer occurrences in the skills learning laboratory than in the simulation laboratory or the clinical setting (Table 1). Additionally, there were more near misses in the clinical setting than in the simulation laboratory.

Errors and near misses related to patient safety procedures also were analyzed. Of the 554 occurrences with details, 302 (54.5%) involved the student not checking the five rights of medication administration, which include the right patient, drug, route, time, and dose. When looking further into the more comprehensive 10 rights of medication administration, which include patient, medication, dosage, route, time, right to refuse (patient or nurse), right knowledge, right questions or challenges, right advice, and right response or outcome (Edwards & Axe, 2015), 341 (61.6%) occurrences involved students not checking the 10 rights. Also related to patient safety is checking the patient's identification band before administering the medication. Of the 554 detailed occurrences, students forgot to check the identification band in 32 (5.8%) of the occurrences. Similarly, of the 554 detailed occurrences, students did not check the patient's allergy status in 21 cases (3.8%) before administering the medication.

DISCUSSION

The majority (58.8%) of the errors and near misses in this study were medication errors. Similarly, a Belgian study by Van Slambrouck et al. (2021) reported on patient safety incidences. Their study included 844 baccalaureate and advanced baccalaureate students who could opt for advanced education in geriatrics, intensive and emergency care, oncology, surgery, care management, and pediatrics and neonatology. Van Slambrouck et al. found medication errors to be the largest patient safety incident (34.2%). In the current study, 10.8% of the errors in the clinical setting led to harm to patients or nursing students (the latter because of needlesticks). In the Belgian study, Van Slambrouck et al. reported 37.7% of the patient safety incidences caused temporary harm and 3.1% caused permanent harm to patients. In the current study, there were no deaths; however, in the Belgian study, 10 patients died as a result of student safety incidences. In both the current study and in the advanced baccalaureate group in the Belgian study, more patient safety incidences occurred later in the program, likely because of the increased acuity of these experiences. Similarly, 47% of the errors and near misses submitted to our database occurred after students had matriculated through at least 75% of the program. Students in the latter part of their nursing program are more independent and work with more complex situations. However, these data suggest faculty should continue to provide significant guidance and oversight of these more advanced students.

Approximately one half (49.9%) of the errors and near misses in the current study occurred in patients older than 56 years.
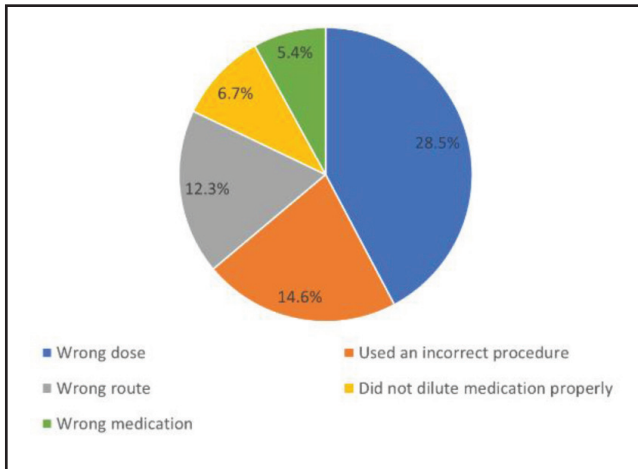
Figure 2. Top five types of medication errors.

Although higher percentages of adults older than 50 years are seen in hospitals, these data also support nursing programs offering specific content in pharmacology related to adults older than 50 years. Additionally, more than half (58.3%) of errors and near misses occurred in female patients. These data could merely reflect the patient assignments of students. However, national data from nearly 2 million Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) surveys have found that women's perceptions of the quality of communication they receive about their medication is much lower than men's perceptions (Elliott et al., 2012). More research needs to be conducted related to gender differences with medication errors.

Errors or near misses frequently were documented because students did not adhere to three major recognized patient safety procedures: (1) checking the rights of medication administration; (2) checking the patient's identification; and (3) checking the patient's allergy status. Although errors are part of the learning process, faculty must continue to use the best evidence to guide their students to provide safe care. These safety procedures should be ingrained in students from the beginning of their clinical curriculum. Students are taught the importance of checking the five rights of medication administration, which include the right patient, drug, route, time, and dose. According to Edwards and Axe (2015) more than half of medication errors in health care relate to the wrong dosage, strength, and frequency or failure to administer. The five rights have been updated to the 10 rights, thus recognizing the trajectory of the medication journey and not simply bedside administration of the medication (Edwards & Axe, 2015).

Similarly, failing to check the patient's identification has led to many patient errors in health care (Kulju et al., 2022). Students should use two identifiers (The Joint Commission, 2021) to reliably identify their patients before administering medications. For example, this may include checking the patient's identification band and asking the patient his or her name or birth date. Bar code medication administration technology is the gold standard for patient identification; however, students must be taught to use the technology correctly and avoid work-

TABLE 6

Examples of Errors and Near Misses in Clinical Experiences, Skills Laboratory, and Simulation

Setting	Error	Near Miss
Clinical	Administered wrong dose of morphine	Attempted to administer a gastrostomy tube
	Reconstitution error with magnesium	Dosage error made drawing up insulin was caught on verification with instructor
	Student recapped needle after giving a subcutaneous drug	Intravenous pump set incorrectly until caught by instructor
Skills laboratory	Drug given intramuscularly instead of subcutaneously	Instructor reminded student to document
Simulation	Drug given subcutaneously instead of intravenously	Intravenous tubing not primed; caught by another student
	Infusion pump set up incorrectly	Student was not prepared to administer medications
	Benadryl® 100 mg was administered intravenously instead of Zofran 2 mg intravenously	Student almost gave heparin when the patient's INR was outside of range; the patient prompted the student

Note. INR = international normalized ratio.

arounds (The Leapfrog Group, 2018). Students should follow the organization's policy of patient identification procedures. Students also must be taught the importance of checking the patient's allergy history before administering medications as serious adverse events have resulted from medications being administered to patients with documented allergies (PA Patient Safety Authority, 2008). The patient's allergy status should be accurately documented in his or her record, but students also should ask patients (or their family) about any allergies.

Because the majority of the medication errors were due to wrong dose, which can be tied to problems with calculations, this finding suggests curricular efforts might be focused on reforming mathematical education in nursing. The High-Quality Mathematics Education for Nurses Task Force, with representatives from various nursing, education, health care quality, and mathematics organizations, recently released recommendations for teaching mathematics and statistics to nursing students (Charles A. Dana Center, 2021) aimed at providing a foundation for ongoing collaboration among nursing, mathematics, statistics, and education (**Table 7**). The recommendations also list resources for faculty. This task force is continuing to work

| **TABLE 7** |
Recommendations for Teaching Mathematics and Statistics
1. Identify quantitative skills and competencies
2. Sequence mathematics, statistics, and education offerings
3. Incorporate best practices in nursing, mathematics, and statistics education
4. Integrate appropriate learning experiences throughout the curriculum that foster the development of sound quantitative reasoning and clinical judgment
5. Include an ongoing analysis of ethical and effective communication of mathematical and statistical results
6. Incorporate assessment measures that reflect changing licensure and certification requirements, integrate clinical reasoning, and provide continuous improvement
7. Inform the community through collaborative engagements and professional development in nursing, mathematics, and statistical education

together to develop best practices for teaching mathematics and statistical competencies to nursing students. Research data addressing strategies for teaching drug calculations in nursing are needed.

It is disappointing that needlesticks continue to occur in nursing students even though safety-engineered sharps are widely available. Students need to be educated on how to use safety-engineered sharps, which could be done in a skills laboratory. If safety-engineered sharps are not available, students need to be taught never to recap a needle. The NCSBN (n.d.) SSR study included some documented situations in which nursing students attempted to recap needles. The National Institute for Occupation Safety and Health (NIOSH, 2022) provides information on preventing needlestick injuries that faculty may find useful.

The NCSBN's model administrative rules (NCSBN, 2021), which provide an evidence-based framework for board of nursing regulations, recommend the following required criterion for Board of Nursing rules: "The program has processes in place to manage and learn from near misses and errors" (NCSBN, 2021, p. 14). This recommendation is based on the evidence (Spector et al., 2020). Coinciding with this model rule language, faculty who participated in the SSR study made changes based on benchmarking their data. For example, practice changes were implemented, which included integrating root cause analysis, reviewing and reinforcing skills, and reviewing protocols and procedures. Likewise, the participants initiated curricular revisions because of their data, with examples being a review of incompatibilities and intravenous safety and the addition of the High-Quality Mathematics Education for Nurses Task Force recommendations to reinforce dosage calculations (The Charles A. Dana Center, 2021). Policy changes were sometimes implemented, including one program adding a written policy to the student clinical manual identifying specific procedures that require direct supervision.

Faculty often are faced with a lack of clinical facilities to meet their students' clinical experience needs and therefore may be reluctant to report errors and near misses (Disch et al., 2017). However, reporting errors and near misses is crucial to patient safety, and faculty need to be good role models for their students. Promoting a fair and just culture and safe practice environment should be planned collaboratively and implemented by nursing education programs and practice facilities before students' clinical experiences begin. With the advent of more practice-academic partnerships in the future (Spector et al., 2020), this is the perfect time for leaders in practice and education to work together to promote patient safety.

The NCSBN (n.d.) has developed resources for the participants in the SSR study; these resources are available on the NCSBN website (https://www.ncsbn.org/nursing-regulation/education/safe-student-reports.page) for all faculty. The New Occurrence Worksheet includes all of the questions in the SSR tool for faculty who are beginning to collect data on student errors and near misses. Additionally, the NCSBN website includes a template for debriefing with students who make errors, as well as a shortened version of the steps of doing a root cause analysis. There is also a PowerPoint with some new ideas on how to teach calculations to nursing students, as well as several related articles.

LIMITATIONS

Data were voluntarily entered into the system, and a convenience sample was used. Because faculty decide what to enter into the system, there could be more errors and near misses that have not been entered. Additionally, faculty may interpret errors and near misses differently. However, specific definitions for errors and near misses were provided in an attempt to control for any misinterpretation. A total of 204 prelicensure programs participated in the study, which represents a small percentage of the total approved prelicensure programs. Additionally, those programs that are more interested in teaching patient safety may have chosen to participate in the study, thus skewing the sample toward those that are more knowledgeable about patient safety.

CONCLUSION

This study found it is valuable for programs to collect data on their students' errors and near misses and then make quality improvements. Nursing programs can collect these data using the New Occurrence Worksheet available on the NCSBN website. From their student error and near miss data, they can identify system issues, promote transparency, and make changes to improve patient safety and student nurse performance. Additionally, programs can use the data to guide the development of policies and improve their systems for handling student errors and near misses.

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