



NCSBN Simulation Guidelines for Prelicensure Nursing Education Programs



Scope and Purpose:

The following guidelines are meant to guide:

1. Boards of Nursing in evaluating the readiness of prelicensure nursing programs in using simulation as a substitute for traditional clinical experience.
2. Nursing education programs in the establishment of evidence based simulation programs for the undergraduate nursing curriculum.

Coursework

Prelicensure RN and LPN education programs

Guideline Development

An expert panel consisting of representatives from International Nursing Association for Clinical Simulation and Learning (INACSL), American Association for Colleges of Nursing (AACN), National League for Nursing (NLN), Society for Simulation in Healthcare (SSH), Boards of Nursing and NCSBN developed the guidelines based on data from the NCSBN National Simulation Study (2014), studies outlined in the following review of literature, the INACSL Standards of Best Practice: SimulationSM and other pertinent resources.

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Literature Review

A relatively large number of nursing studies have been conducted analyzing the outcomes of simulation in prelicensure nursing education, but limitations in sample size, a lack of randomization and absence of a control group limit them in their application towards building the science and providing sufficient evidence upon which to base policy. There are, however, a number of systematic and integrative reviews that provide meaningful data for supporting simulation as a learning pedagogy.

Foronda, Liu & Bauman (2013) conducted an integrative review that included one hundred and one studies. In their synthesis of findings, they identified 5 major themes, including confidence/self-efficacy, satisfaction, anxiety/stress, skills/knowledge and interdisciplinary experiences. In the category of skills/knowledge, they included twenty-nine studies, reporting that the preponderance of the findings support simulation to be effective for teaching knowledge and skills. For example, one research study cited in this review (Sportsman, Schumacker & Hamilton, 2011) was a longitudinal, descriptive investigation of 895 students, finding that students were able to learn unique skills and knowledge in simulation that are normally learned in clinical experiences.

Lapkin, Levett-Jones, Bellchambers, & Fernandez (2010) conducted a systematic review of 8 studies that met their inclusion criteria. They found that simulation improved the critical thinking, performance of skills, knowledge of the subject matter and an increase in clinical reasoning in certain areas.

Two integrative reviews of undergraduate nursing's use of simulation focused on patient safety. Berndt (2014) reviewed seventeen studies, including 3 systematic reviews. Their findings support the use of simulation as an educational intervention to teach patient safety in nursing, particularly when other clinical experiences aren't available. Fisher & King (2013) conducted an integrative review related to patient safety in that they examined eighteen studies preparing students, through simulation, to respond to deteriorating patients. They found that, in general, confidence, clinical judgment, knowledge and competence increased through the use of simulation.

The largest and most comprehensive study to date examining student outcomes when simulation was substituted for up to and including 50% simulation was NCSBN's National Simulation Study (Hayden, Smiley, Alexander, Kardong-Edgren & Jeffries, 2014). This longitudinal, randomized, controlled study replaced clinical hours with simulation in prelicensure nursing education. In ten nursing programs from across the country (5 BSN and 5 ADN), students were followed through all the clinical courses in their nursing programs as well as through their first six months of practice. The study provides evidence that when substituting clinical experiences with up to 50% simulation, there were no statistically significant differences between the groups using 10% or less of simulation (control), 25% simulation or 50% simulation with regard to knowledge acquisition and clinical performance.

In conclusion, the literature provides evidence that simulation is a pedagogy that may be integrated across the prelicensure curriculum, provided that faculty are adequately trained, committed and in sufficient numbers; when there is a dedicated simulation lab which has appropriate resources; when the vignettes are realistically and appropriately designed; and when debriefing is based on a theoretical model.

The Guidelines

Simulation is a pedagogy that may be integrated across the pre-licensure curriculum; however, nursing education programs are advised to begin slowly and steadily increase the amount of simulation as they acquire expertise in this pedagogy.

Questions have arisen regarding the number of clinical hours a program should require in order to substitute clinical hours with simulation. All programs participating in the National Simulation Study required at least 600 hours of clinical experience in the pre-licensure curriculum. No evidence is available regarding the outcomes of substituting traditional clinical experience with simulation when the program has less than 600 hours; however, experts agree that it is not the number of hours, but the quality of the experience. If students are going to be placed in clinical settings where there is inadequate opportunity for hands-on experience, employment of simulation by capable faculty with meaningful debriefing may offer a better alternative.

In addition to the simulation guidelines, Boards of nursing and nursing programs should consider the following criteria when determining the amount of simulation that can substitute for traditional clinical hours:

1. Overall number of clinical hours required by the program
2. Pass rates of students
3. Availability of clinical sites
4. Turnover of faculty/program director
5. Complaints from students
6. Retention rates

Definitions

Simulation: A technique, not a technology, to replace or amplify real experiences with guided experiences that evoke or replicate substantial aspects of the real world in a fully interactive manner (Gaba, 2004).

Traditional Clinical Experience: Practice in an inpatient, ambulatory care or community setting where the student provides care to patients under the guidance of an instructor or preceptor.

Simulation Guidelines

Guidelines	Evidence	Resources
There is commitment on the part of the school for the simulation program.	<ul style="list-style-type: none"> ▪ Letter of support from administrators stating the program has their support and will be given the resources to sustain the program on a long-term basis. ▪ Budgetary plan for sustainability and ongoing faculty training is in place. ▪ Written short-term and long-term objectives for integrating simulation into the undergraduate curriculum and evaluating the simulation program. 	
<p>Program has appropriate facilities for conducting simulation</p> <p>Program has the educational and technological resources and equipment to meet the intended objectives</p>	<ul style="list-style-type: none"> ▪ A description describing the physical space for conducting simulations including the lab, storage/staging areas and a place for debriefing. ▪ Program has a plan that describes the simulation resources and equipment that will be used to achieve the objectives 	See Scenario Resources Document
Lead faculty and sim lab personnel are qualified to conduct simulation	<ul style="list-style-type: none"> ▪ Submission of CVs and evidence of qualifications such as: simulation conferences attended, coursework on simulation instruction, certification in simulation instruction, training by a consultant or targeted work with an experienced mentor 	<ul style="list-style-type: none"> ▪ SIRC Courses ▪ Simulation Preparation Programs ▪ Webinars and presentations based on INACSL Standards of Best Practice: Simulation ▪ CHSE Certification ▪ Three-Step Program at Boise State ▪ Textbooks: (Jeffries (2007) <i>Simulations in Nursing Education: From Conceptualization to Evaluation</i> "Clinical Simulations: Advanced Concepts, Trends, and Possibilities. LWW and; Palaganas, J.C., Maxworthy, J.C., Epps, C. A., Mancini, M.E. (2015). <i>Defining excellence in simulation programs</i>. Wolters Kluwer
Faculty are prepared to lead simulations		<ul style="list-style-type: none"> ▪ See NCSBN Simulation Faculty Preparation Checklist
Program has an understanding of polices and processes that are a part of the simulation experience.	<ul style="list-style-type: none"> ▪ Policies describing the following, include, but are not limited to: method of debriefing; plan for orienting faculty; qualifications of faculty and sim lab personnel; plan for training new faculty; evaluation methods. 	<ul style="list-style-type: none"> ▪ Socratic Method of Debriefing ▪ See NCSBN Program Preparation ▪ INACSL Standards of Best Practice: Simulation

Scenario Resources Document

- [Quality and Safety Education for Nurses \(QSEN\)](#)
- [National League for Nursing \(NLN\)](#)
- [University of South Dakota](#)
- [Montgomery College-Maryland](#)
- [University of Washington](#)
- [Massachusetts Nursing Initiative](#)
- [NLN Simulation Innovation Resource Center \(SIRC\)](#)

NCSBN Simulation Faculty Preparation Checklist

- The Simulation program is based on educational theories associated with simulation such as experiential learning theory.
- The faculty are prepared by following the INACSL Standards of Best Practice: SimulationSM.
- A tool for evaluating simulation-based learning experiences has been designed based on the INACSL Standards of Best Practice: Simulation evaluation methods.
- The program curriculum sets clear objectives and expected outcomes for each simulation-based experience, which are communicated to students prior to each simulation activity.
- The faculty are prepared to create a learning environment that encourages active learning, repetitive practice, and reflection, and to provide appropriate support throughout each activity.
- The faculty are prepared to use facilitation methods congruent with simulation objectives/expected outcomes.
- The program utilizes a standardized method of debriefing observed simulation using a Socratic methodology.
- A rubric has been developed to evaluate the students' acquisition of KSAs (knowledge, skills and attitudes) throughout the program.
- The program has established a method of sharing student performance with clinical faculty.
- The program collects and retains evaluation data regarding the effectiveness of the facilitator.
- The program collects and retains evaluation data regarding the effectiveness of the simulation experience.
- The program provides a means for faculty to participate in simulation-related professional development such as webinars, conferences, journal group discussion, readings, certifications such as SSH Certified Healthcare Simulation Educator (CHSE), participation in NLN Sim Leaders/ STTI NFLA (Sigma Theta Tau International - Nurse Faculty Leadership Academy) with a focus on simulation.

NCSBN Simulation Program Preparation Checklist

- The school has created a framework that provides adequate resources (fiscal, human, and material) to support the simulation.
- Policies and procedures are in place to assure quality consistent simulation experiences for the students.
- The simulation program has an adequate number of dedicated trained simulation faculty to support the learners in simulation-based experiences.
- The program has job descriptions for simulation faculty/facilitators.
- The program has a plan for orienting simulation faculty to their roles.
- The program uses a needs assessment to determine what scenarios to use.
- The simulation program provides subject matter expertise for each scenario debriefing.
- The program and faculty incorporate the INACSL Standards of Best Practice: SimulationSM.
- The program has appropriate designated physical space for education, storage, and debriefing.
- The faculty have a process for identifying what equipment or relevant technologies are needed for meeting program objectives.
- The program has adequate equipment and supplies to create a realistic patient care environment.
- The faculty use evaluative feedback for quality improvement of the simulation program.
- The administration has a long-range plan for anticipated use of simulation in the forthcoming years.

Proposed NCSBN Model Rules on the Use of Simulation in a Prelicensure Nursing Education Program

CHAPTER 2. DEFINITIONS

- j. "Simulation" means a technique to replace or amplify real experiences with guided experiences that evoke or replicate substantial aspects of the real world in a fully interactive manner. (Gaba, 2004)
- k. "Debriefing" means an activity that follows a simulation experience, is led by a facilitator, encourages participant's reflective thinking, and provides feedback regarding the participant's performance.

CHAPTER 6. PRELICENSURE NURSING EDUCATION

6.4 Simulation

A prelicensure nursing education program ("program") may use simulation as a substitute for traditional clinical experiences, not to exceed fifty percent (50%) of its clinical hours. A program that uses simulation shall adhere to the standards set in this section.

6.4.1 Evidence of Compliance

A program shall provide evidence to the Board of Nursing that these standards have been met.

6.4.2 Organization and Management

- a. The program shall have an organizing framework that provides adequate fiscal, human, and material resources to support the simulation activities.
- b. Simulation activities shall be managed by an individual who is academically and experientially qualified. The individual shall demonstrate continued expertise and competence in the use of simulation while managing the program.
- c. There shall be a budget that will sustain the simulation activities and training of the faculty.

6.4.3 Facilities and Resources

- a. The program shall have appropriate facilities for conducting simulation. This shall include educational and technological resources and equipment to meet the intended objectives of the simulation.

6.4.4 Faculty Preparation

- a. Faculty involved in simulations, both didactic and clinical, shall have training in the use of simulation.
- b. Faculty involved in simulations, both didactic and clinical, shall engage in on-going professional development in the use of simulation.

6.4.5 Curriculum

- a. The program shall demonstrate that the simulation activities are linked to programmatic outcomes.

6.4.6 Policies and Procedures

The program shall have written policies and procedures on the following:

- a. short-term and long-term plans for integrating simulation into the curriculum;
- b. method of debriefing each simulated activity; and
- c. plan for orienting faculty to simulation.

6.4.7 Evaluation

- a. The program shall develop criteria to evaluate the simulation activities.
- b. Students shall evaluate the simulation experience on an ongoing basis.

6.4.8 Annual Report

- a. The program shall include information about its use of simulation in its annual report to the Board of Nursing.

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