Revised: 01/22/2015

Introduction:
Based on the recent research findings related to simulation in nursing programs, Texas Board of Nursing (Board) Staff have developed this guideline to assist Texas programs in the use of simulation. With more programs relying on simulation to supplement the clinical experiences, a need for further guidance from Board Staff on the use of simulation is in order.

Board Staff prepared an online survey that was distributed to all Texas pre-licensure nursing programs in December 2014 to determine the current use of simulation as part of the clinical learning experiences. Ninety-six percent (96%) of the one hundred fourteen (114) programs who responded indicated that they already use some type of simulation in their clinical instruction. The programs reported that simulation complements the hands-on patient care and benefits their students by allowing them to practice skills and to identify deficits in skills, resulting in safer care.

Programs also recognized that simulation presents challenges to programs including:
• 	Need for faculty training;
• 	Lack of administrative support;
• 	Lack of positive attitudes of faculty toward simulation; and
• 	Budgetary restraints.

This guideline will provide assistance to programs as they reassess the clinical learning experiences in their programs and modify the clinical instructional strategies in nursing skills and simulation laboratories as well as in patient care settings.

Rules 214 and 215 include **simulation** among the types of clinical learning experiences used in nursing education programs:

Rule 214.9(c) related to Program of Study requires that "(c) Instruction shall include, but not be limited to: organized student/faculty interactive learning activities, formal lecture, audiovisual presentations, nursing skills laboratory instruction and demonstration, **simulated** laboratory instruction, and faculty-supervised, hands-on patient care clinical learning experiences."	Rule 215.9(c) related to Program of Study requires that "(c) Instruction shall include, but not be limited to: organized student/faculty interactive learning activities, formal lecture, audiovisual presentations, nursing skills laboratory instruction and demonstration, **simulated** laboratory instruction, and faculty-supervised, hands-on patient care clinical learning experiences."
Rule 214.9(c)(2-4) related to Program of Study requires that "(2) Laboratory activities/instruction in the nursing skills or **simulation** laboratory may be considered as either classroom instruction hours or clinical learning experience hours. (3) Hours in clinical learning experiences shall be sufficient to meet program of study requirements with a minimum of 840 hours. (4) Clinical practice learning experiences	Rule 215.9(c)(2-4) related to Program of Study requires that "(2) Laboratory activities/instruction in the nursing skills or **simulation** laboratory may be considered as either classroom instruction hours or clinical learning experience hours. (3) Clinical learning experiences shall include actual hours of practice in nursing skills and computer laboratories; **simulated** clinical experiences; faculty supervised hands-on

shall include actual hours of practice in nursing skills and computer laboratories; **simulated** clinical experiences; faculty supervised hands-on clinical care; clinical conferences; and observation experiences."	clinical care; clinical conferences; and observation experiences. Observation experiences provide supplemental learning experiences to meet specific learning objectives. (4) Hours in clinical learning experiences shall be sufficient to meet program of study requirements. …"
Rule 214.10(e)(3) related to <u>Clinical Learning Experiences</u> requires that "**Simulated** laboratory experiences may also be utilized as a teaching strategy in classroom and clinical settings to meet objectives and may be counted as either classroom or clinical hours for the purpose of calculating the hours in the curriculum."	Rule 215.10(e)(3) related to <u>Clinical Learning Experiences</u> requires that "**Simulated** laboratory experiences may also be utilized as a teaching strategy in classroom and clinical settings to meet objectives and may be counted as either classroom or clinical hours for the purpose of calculating the hours in the curriculum."
Rule 214.2(37) related to <u>Definitions</u> defines **simulation** as "activities that mimic the reality of a clinical environment and are designed to demonstrate procedures, decision-making, and critical thinking. A **simulation** may be very detailed and closely imitate reality, or it can be a grouping of components that are combined to provide some semblance of reality. Components of **simulated clinical experiences** include providing a scenario where the nursing student can engage in a realistic patient situation guided by trained faculty and followed by a debriefing and evaluation of student performance. **Simulation** provides a teaching strategy to prepare nursing students for safe, competent, hands-on practice, but it is not a substitute for faculty-supervised patient care."	Rule 215.2(37) related to <u>Definitions</u> defines **simulation** as "activities that mimic the reality of a clinical environment and are designed to demonstrate procedures, decision-making, and critical thinking. A **simulation** may be very detailed and closely imitate reality, or it can be a grouping of components that are combined to provide some semblance of reality. Components of **simulated clinical experiences** include providing a scenario where the nursing student can engage in a realistic patient situation guided by trained faculty and followed by a debriefing and evaluation of student performance. **Simulation** provides a teaching strategy to prepare nursing students for safe, competent, hands-on practice, but it is not a substitute for faculty-supervised patient care.

Evidence Supporting the Use of Simulation in Nursing Education:
The results of the recent nationwide simulation study indicated that up to 50% simulation can be effectively substituted for traditional clinical learning experiences under the right conditions (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014). Based on this research and the knowledge that there is a shortage of traditional clinical placements for students, a growing number of nursing students in the state, and the advances in the use of technology both in education and in the health care environment, it became evident that there is a need for change in managing clinical learning experiences.

Background Information:
The National Council of State Boards of Nursing (NCSBN) Position Paper, *Clinical Instruction in Pre-licensure Nursing Programs* (2005), has defined simulation as "Activities that mimic the reality of a clinical environment and are designed to demonstrate procedures, decision-making and critical thinking through techniques such as, role-playing and the use of devices such as interactive videos or mannequins. A simulation may be very detailed and closely imitate reality, or it can be a grouping of components that are combined to provide some semblance of reality"

(p. 2).

Types of Simulation
- **Low** fidelity simulation includes the use of case studies, role-playing, computer based simulation scenarios, task trainers or static mannequins (National League for Nursing Simulation Innovation Resource Center [NLN-SIRC], 2013).
- **Moderate** fidelity simulation is more technologically sophisticated and includes computer-based self-directed learning systems, and mannequins with basic physiologic responses such as heart sounds, pulses, breathing.
- **High** fidelity simulation uses structured learning experiences and "full scale computerized patient simulators, standardized patients, and virtual reality that is extremely realistic and provides a high level of interactivity for the learner" (NLN-SIRC, 2013). The simulation environment "mimics the clinical setting, and provides the learner with the cues necessary to suspend their disbelief during the immersive, hands-on scenarios" (NCSBN, 2009) and helps prepare them for actual clinical experiences (Nehring & Lashley, 2010; Sanford, 2010).

Benefits of Simulation
- Simulation allows deliberate practice in a controlled, safe environment. Students are able to practice nursing skills and procedures prior to performance on actual patients (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014; International Nursing Association for Clinical Simulation & Learning [INACSL], 2013);
- Simulation promotes active learning, collaboration, and reflection to enhance students' critical thinking skills; and
- Stimulation provides a strategy to achieve learning outcomes and evaluate the effectiveness of teaching methods and technology in meeting the needs of the students (Billings & Halstead, 2011; Foronda, Liu, & Bauman, 2013).

Components of Effective High-Fidelity Simulation
1. The level of fidelity, quality of simulation activities, and achievement of student learning objectives is dependent upon faculty competence. High fidelity technology simulation environments can become low fidelity experiences. Faculty development in the effective use of simulation and simulation teaching methods is vital for the implementation of effective and high quality simulation experiences regardless of the level of technological fidelity. Faculty development may be accomplished through a variety of methods to include computer based simulation programs, simulation labs, and the faculty as the learner simulation experiences (McNeill, Parker, Nadeau, Pelayo, & Cook, 2012).

2. The faculty member acts as a facilitator providing cues when necessary, but not as an active participant in the simulation. The facilitator may intervene when a catastrophic outcome is imminent. Unless the objectives specifically call for death, as an end of life situation, the scenario should end with a viable patient (Jeffries, 2007).

3. The student is challenged to use problem solving skills and critical thinking to assess the situation and determine the correct nursing actions.

4. Each simulated experience must have clearly stated objectives that are presented to the student prior to engaging in the simulation experience (INACSL, 2013). Students are required to prepare for a clinical simulation experience in the same manner as they prepare for a traditional patient care experience. An orientation to both the simulation technology and the environment is essential.

5. The educator and the student engage in an active debriefing immediately following the simulation experience. Each simulation session should also include an evaluation of the overall experience by both the educator and student (Foronda, Liu, & Bauman, 2013).

Suggestions to Guide Programs in Revising or Improving Their Clinical Learning Experiences:
*   Faculty development and training for effective use of simulation is essential.
*   Faculty development and training for effective clinical instruction is essential.
*   Faculty design all clinical learning experiences with a reasonable mix of time in skills laboratory, simulation laboratory, and hands-on patient care that relate to program outcomes and meet clinical objectives.
*   Where resources are available, medium and/or high fidelity simulation activities may be increased. Evidence-based teaching indicates that there are no significant differences when no more than 50% simulation replaces traditional clinical experiences.
*   Faculty and administration may seek collaborative use of simulation centers for programs who have limited simulation capabilities.
*   Administrative support of faculty development, implementation, and innovation in the use of simulation is essential.
*   The importance of adequate hands-on patient care with actual patients is emphasized.
*   Evaluation of the effectiveness of all types of clinical learning experiences is ongoing and serves as a basis for improvement.

Conclusion:
The Board recognizes that simulation can be an effective teaching method to prepare students for clinical practice when used in combination with traditional skills lab practice and direct patient care experiences. Nursing education should be based on sound educational principles with a reasonable balance between simulation and direct patient care appropriate for the study of vocational/professional nursing (American Association of Colleges of Nursing, 2008).

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