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Research Article

# Where Are We Now? A Follow-up Survey on Regulation of Simulation Use in United States Prelicensure Nursing Programs

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## KEYWORDS

simulation;  
nursing education;  
regulation;  
clinical education;  
state boards of nursing

## Abstract

**Background:** Approval of simulation in substitution of traditional clinical hours increased in nursing programs during the COVID-19 pandemic, yet these temporary and inconsistent between states. Variability and a return to “pre-pandemic” limits on simulation use amplify questions about consistency of learner outcomes.

**Methods:** Boards of Nursing (BONs) of the United States and District of Columbia (DC) were queried to verify accuracy of simulation regulations posted on the International Nursing Association for Clinical Simulation and Learning (INACSL) regulatory map and to identify factors contributing to regulatory changes.

**Results:** Approximately half of respondents indicated information posted on the INACSL regulatory map is accurate for their state. Almost 30% of respondents indicated information is not accurate. Some states could not confirm accuracy of simulation regulations posted.

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**Conclusions:** Many nursing programs expanded the use of simulation during the COVID-19 pandemic. Reverting to “prepandemic” limited simulation use presents a missed opportunity to advance nursing education and align simulation regulation with the growing body of evidence supporting its outcomes.

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## Introduction

Simulation is one method of clinical education widely used across nursing education to replace and augment clinical hours of prelicensure nursing students (Tiffany, Hoglund, Holland, & Bambini, 2021). Prelicensure nursing programs within the United States (U.S.) are governed by the U.S. Department of Education, state authorizing organizations, and accrediting bodies

(United States Department of Education, 2019). The state authorizing organizations that govern nursing education is the individual State Boards of Nursing (BON), in affiliation with the National Council of State Boards of Nursing (NCSBN). As stipulated by the U.S. Constitution (Poe, 2008, p. 268), each state BON governs the approval and regulation of all nursing education programs. In 2019, the state BONs were surveyed to understand the requirements and regulations of the use of simulation in U.S. prelicensure nursing programs (Bradley et al., 2019). To disseminate this data, the International Nursing Association for Clinical Simulation and Learning (INACSL) developed an interactive dynamic world map to provide web links and information for quick access to each state’s regulation data (International Nursing Association for Clinical Simulation and Learning INACSL, 2021). Since that time, various factors have stimulated changes to these regulations requiring an update of reported state BON regula-

tion of simulation. The purpose of this paper is to report the findings of a second survey of state BONs regulation of the use of simulation in clinical education.

## Background

The seminal NCSBN National Simulation Study (NSS) demonstrated that up to 50% of simulation can be substituted for clinical education hours in prelicensure programs (Hayden, Smiley, Alexander, Kardong-Edgren, & Jeffries, 2014), yet seven years after the reported findings of the NSS the nursing academy must pause and consider how have we progressed in our use of simulation as 50% replacement of clinical education. The NCSBN developed national guidelines for the use of simulation (Alexander et al., 2015), and INACSL has revised the *Standards of Best Practice* (2016), with a recent revision of the new *Healthcare Standards of Best Practice* (SOBP) based on the most current evidence (2021). The use of simulation as a pedagogy continues to proliferate in rigor while research in the use of simulation continues to build strong empirical evidence further supporting its value and benefits. While the evidence generated from research quantitatively investigating measured outcomes of simulation and debriefing has consistently grown, there is a lack of evidence generated from the traditional clinical model. In fact, a systematic review of traditional clinical outcomes in prelicensure nursing education revealed that there is no rigorous testing of measured clinical outcomes (Leighton, Kardong-Edgren, & Gilbert, 2021). It is widely accepted by nursing educators that consistent, standardized clinical experiences cannot be guaranteed for every prelicensure nursing student in clinical settings in the traditional clinical model, despite the overwhelming evidence of published reports of measurable outcomes in simulation.

Despite this disparity in quantitative measurable learning outcomes, traditional clinical learning experiences continue to remain the gold standard in nursing academia (Sullivan et al., 2019), serving as the foundation on which all simulation regulations are based. Yet recent studies reveal grim findings regarding the historical lack of measured learning experiences in clinical sites (Leighton et al., 2021)

### Key Points

- Variability of simulation regulation persists among United States nursing education programs.
- Limited access to clinical education sites during the COVID-19 pandemic prompted approval of expanded substitution of simulation for traditional clinical hours by state Boards of Nursing.
- Gains in simulation during the COVID-19 pandemic contribute new energy toward establishing consistent simulation regulations and measurement of learner outcomes.

interactive dynamic world map to provide web links and information for quick access to each state’s regulation data (International Nursing Association for Clinical Simulation and Learning INACSL, 2021). Since that time, various factors have stimulated changes to these regulations requiring an update of reported state BON regula-

even as practice partners are reporting that new graduate nurses are poorly prepared for professional practice (Kavanagh & Szweda, 2017). In fact, Kavanagh and Sharpnack (2021) reported a progressive decline since 2015 from 23% preparedness ( $n = 1225$ ) to a mere 9% ( $n = 1222$ ). These data are alarming for academia, practice facilities, and patients alike.

The new American Academy of Colleges of, 2021 identifies specific expected competencies required of baccalaureate, master's, and Doctor of Nursing Practice programs. This transition to a new nursing education framework requires a curricular shift to a competency-based approach to ensure that nurses will matriculate equipped with core competencies necessary for successful professional practice. The NCSBN Clinical Judgment Measurement Model (NCJMM) was developed by the NCSBN as a framework for measuring clinical judgment and clinical decision-making for high stakes testing and to inform the development of formative and summative assessment tools (Dickison et al., 2016; Dickison, Haerling, & Lasater, 2019). These AACN and NCSBN shifts represent respectively how teaching in nursing education should be framed (American Academy of Colleges of, 2021), and how learning in nursing education should be measured (Dickison et al., 2019).

Whereas the historical clinical model has focused on completion of nursing skills and care of one patient at a time, the current care environment requires intentional focus on applying nursing knowledge and skills in complex layers that are best addressed with competency-focused learning and assessment, rather than the traditional focus on the number of clinical hours (Kardong-Edgren et al., 2021). Simulation is one teaching-learning model that can be designed to address these complex needs (Leighton et al., 2021). As the evidence-based Healthcare Watts et al., 2021 evolve in how simulation is enacted in nursing programs, it is expected that the state BONs would similarly evolve in the regulation of the use of simulation across nursing programs. Because simulation is a form of clinical education, nursing faculty, and administrators continue to look to the state BONs for guidance and recommendations of how simulation should be integrated into the clinical education within nursing programs. Without detailed regulatory guidance from the state BONs, nursing programs do not have the support for the infrastructure needed to build sustainable, quality simulation programs. This includes the notable costs and resources necessary to support evidence-based simulation programs, such as the time and cost needed for training faculty in simulation development, facilitation, and debriefing (Bradley, 2019; Waxman, Nichols, Shum, & Forsey, 2019a). Given the positive and welcome disruption that simulation has brought to clinical nursing education (Waxman, Bowler, Forneris, Kardong-Edgren, & Rizzolo, 2019b), it would be expected that the BONs would align regulatory guidance of each known evidence-based com-

ponent of simulation necessary to ensure quality clinical learning outcomes.

## Method

Initial inquiry was conducted by electronic survey to 51 BONs of the United States and the District of Columbia (DC). Data were collected on the following: accuracy of simulation regulation information currently posted on the INACSL website, factors that prompted any changes made to simulation regulations for nursing programs in the state, and a request to provide the link to any updated BON simulation regulations for the state. If no response was received via the survey, direct contact was made with BONs by email and/or phone. The purpose of the survey was explained and the opportunity to complete the survey by phone was offered. In addition, an internet search of nursing education regulatory bodies in Canada and globally was conducted with no data retrieved.

In March 2021, members of the INACSL Regulatory Committee presented a webinar explaining the original regulatory work and the follow-up inquiry. The webinar was attended by over 200 nursing faculty, academic leaders, and simulation educators from across the United States. As another data collection mechanism, participants were invited to identify points of contact or information sources for their state by entering contact information or links in the chat feature.

## Results

Of the 51 BONs surveyed, 44 (86%) provided a response. Data regarding accuracy and currency of regulation information posted on the INACSL regulatory map website (International Nursing Association for Clinical Simulation and Learning INACSL, 2021) revealed the following: 24 states indicated that regulatory information currently posted is accurate and current; 13 states indicated regulatory information posted is not accurate or current and provided current information. Seven states replied that it was unknown whether information posted for their state was current and accurate. An additional seven gave no response to the survey in any form.

Changes to states' simulation regulations included allowing nursing education programs to apply for waivers for substituting online teaching for face-to-face and replacing clinical experiences with simulation. Another reported change was temporary approval for simulation up to 50% and 1:2 ratio substitution (clinical hours to simulation ratio). Challenges and limitations presented by the COVID-19 pandemic were cited as key precipitating factors for changes in simulation regulations for 41 states (National Council of State Boards of Nursing, 2020). One response specifically mentioned the inability to matriculate

**Table 1** State Boards of Nursing Simulation Regulations

State	Established Sim Regulations	Up to 50% Sub	Up to 30% Sub	Up to 25% Sub	Responded to Survey	Changes to Map	COVID Changes
AL	X						X
AK					X		
AZ	X				X	X	X
AR					X	X	X
CA	X			X	X		X
CO	X						
CT					X		X
DE					X		X
DC	X		X		X		
FL	X	X			X	X	X
GA	X				X	X	X
HI					X		
ID					X		X
IL	X			X	X	X	
IN	X			X			X
IA	X	X					X
KS					X	X	
KY	X	X			X		X
LA	X	X			X		X
ME					X	X	X
MD					X		X
MA					X	X	X
MI	X				X		X
MN	X	X			X	X	X
MS	X			X	X	X	X
MO	X				X	X	X
MT					X	X	X
NE					X		X
NV	X			X	X		X
NH	X	X			X	X	X
NJ					X		X
NM	X	X			X		X
NY					X	X	X
NC	X				X		X
ND							
OH							X
OK	X		X		X	X	X
OR					X		X
PA					X	X	X
RI					X		
SC	X	X			X		X
SD	X	X					X
TN	X	X			X		X
TX	X	X			X	X	X
UT					X		
VT	X			X	X	X	X
VA	X			X	X	X	X
WA	X	X			X		X
WV					X		
WI	X	X			X		X
WY					X		X

students who were impacted by the cap of 50% simulation per clinical course. Another response indicated that a committee had been formed to investigate whether simulation regulation was warranted in their state.

## Discussion

Results of this follow-up survey indicate great variability in regulation of simulation use persisting among prelicensure nursing programs in the United States. Rooted beliefs about the effectiveness of the traditional clinical education model, in the absence of documented outcomes, fuel tension between traditional clinical hours and the use of well-designed simulation experiences. Out of necessity, simulation was thrust to the forefront of many nursing curricula during the COVID-19 pandemic. Educators embraced innovative ways to implement simulation, and former ways of thinking were challenged. The use of simulation in lieu of direct patient care clinical hours was increased in many circumstances due to lack of or restricted access to clinical sites.

For example, in September 2020, in California, due to the pressures of the COVID-19 pandemic and lack of clinical placements, Business and Professional Code (BPC) 2786.3 was put into California Code. This allowed schools of nursing to use simulation to replace up to 50% of direct patient care hours for geriatric and medical-surgical clinical time, and 25% in obstetric, mental health/psychiatric, and pediatrics during a state of emergency ([California Assembly Bill, 2020](#); [California Association of Colleges of Nursing 2015](#)). Previously, the California Board of Registered Nursing (BRN) Clinical Experience Guidelines language stated that “the program may use up to 25% of each clinical rotation in planned simulations. The simulations must include actual scenarios that encompass the nursing process, critical thinking, and evidence-based practice” (EDP-B-02 [Rev. 08/14] p. 1).

The state of California is one example of positive change driven by necessity. As the nation collectively anticipates a postpandemic environment, it remains unknown how state BONs will proceed with the regulatory flexibility that has been granted for emergency increases in the use of simulation to replace clinical hours. Perhaps a deliberate evaluation of the quality indicators of program effectiveness is warranted at the state BON level to assess the impact of shifting clinical hours to alternate forms of learning, including simulation, and virtual learning.

The ideal future state is that simulation regulation surveys are not needed because consistency has been attained in the use of simulation among nursing education programs in the United States. The expanded adoption of simulation during the COVID-19 pandemic temporarily relieved overt or implied hesitancy to embrace simulation as a highly effective teaching methodology. Nursing education leaders have the opportunity to maximize this momentum by

actively working for regulatory implementation in a coordinated approach that provides consistency to simulation practice in United States prelicensure nursing education programs.

## Conclusions

At the time of this writing, the INACSL website interactive map is accurate as verified by contacts within the state BONs. However, this map is dynamic and continuous, and as such is dependent on the continued reporting of state BONs updates. We encourage ongoing communication and reporting of any changes within your state. As a living document, and as the pedagogy and science of simulation grows, the use of simulation and regulation of hours of clinical education is anticipated to reflect that growth ([Table 1](#)).

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## Conflicts of Interest

The authors do not have any conflicts of interest to disclose.

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