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Recommendations for Increasing Simulation to Address the Nursing Workforce Shortage in the Commonwealth

Prepared by the NCWS Simulation Committee

June 2024

Executive Summary

After graduation, nurses will begin work in jobs caring for patients in often high stress and uniquely challenging clinical situations. These pivotal moments often hold the balance between a patient's survival and demise. Nurses must possess the readiness to respond effectively and promptly in such scenarios. However, this level of preparedness cannot be solely attained through theoretical classroom teachings or hands-on clinical experiences.

Simulation can be utilized to help bridge this gap between theory and practice. This is crucial given the limited clinical spots that nursing schools can place students. Additionally, in many clinical settings nursing students may not be able to administer medications or access the electronic medical record due to hospital policy or regulations. Simulation can help bridge such gaps and provide essential education to students.

Simulating patient care scenarios places students, nurses, and a variety of healthcare professionals into complex patient care situations where their decisions help to guide the outcome of the scenario. The simulation is followed by an organized debriefing, which serves to solidify the learning experience and offer opportunities for improvement.

These simulation scenarios take place in simulation labs, which are mirrored to resemble hospital rooms, clinics, or home care settings. Patients are represented by manikins with any number of ailments. In other settings, there are standardized patients and/or wearable technology. As technology has advanced, there has been a significant variation in the types of manikins available. Some are intricately computerized, capable of manifesting a range of symptoms and movements, while others possess features like simulating childbirth. Conversely,

some manikins are more conventional, offering limited functional capacity and may necessitate supplementation with scripts or the inclusion of actors.

Although the modalities of simulation exhibit considerable diversity, it remains an indispensable and burgeoning element across all healthcare education sectors. Throughout the COVID-19 pandemic, simulation emerged as the predominant method for clinical instruction for numerous students. Moreover, the pandemic posed a distinctive hurdle for academic institutions, necessitating the swift adoption and modification of methodologies to proficiently deliver nursing education through simulation. As nursing education programs transitioned post-pandemic, they faced the imperative task of reassessing their structure, particularly regarding the integration and utilization of simulation and other forms of technology into their educational pathways.

Recognizing the significance of simulation in nursing education, the Simulation Committee endeavored to assess its current usage throughout the commonwealth. The committee administered a survey late in 2023 to all participants of the centralized clinical placement system to gauge their familiarity with running effective simulation experiences and resources to support simulation at their nursing program. Simulation subject matter experts who participated in the committee reviewed the survey findings, identifying key trends and data points. Through this meticulous analysis, the committee formulated recommendations aimed at rectifying disparities, devising pragmatic solutions, and establishing a robust framework for advancing simulation.

Summary of Key Findings

In late 2023, the NCWS Simulation Committee deployed a survey to examine the state of high-fidelity simulation utilization within nursing programs across Massachusetts. High-fidelity simulation in healthcare education uses advanced simulators to replicate real-life clinical scenarios, allowing students to practice and refine their skills in a safe, controlled environment. These simulations provide hands-on learning experiences without risking patient safety, covering a range of medical conditions from routine care to emergencies. By incorporating high-fidelity simulation, nursing students gain practical experience and confidence, ultimately leading to improved patient care. The aim was to capture the diverse approaches and challenges to inform the committee about the current landscape and future needs in nursing education.

The response rate was robust, with 48 of 80 nursing programs offering insights that demonstrated a wide variety of methods and applications (MA Government). Ninety percent of these programs have designated simulation rooms and hospital beds; however, it is questionable whether this truly reflects a commitment to modern immersive learning environments. While having such facilities suggests an infrastructure for simulation, it remains to be seen how these rooms are being utilized to enhance simulation experiences and learning outcomes. The survey data reveals some ambiguities regarding the integration of simulation into nursing programs, specifically whether simulation is being used in addition to traditional clinical hours or as a substitute for direct care hours. Seven programs reported not using simulation to replace or supplement direct care hours. The extent and manner of simulation use in nursing education might not be fully comprehended or consistently reported. Further information, including reporting practices, is needed to clarify how simulation technologies have been adopted by programs.

Training needs varied across the board, with professional development ranked as the most desired area for enhancement. This stands in contrast to the lesser demand for training in specific phases of simulation, such as pre-briefing, facilitation, and debriefing. The perceived comfort with these phases might indicate an underestimation of their complexity and importance, suggesting that respondents may not fully understand that comprehensive professional development should encompass these critical aspects of simulation-based education. Addressing this disconnect is essential, as effective simulation-based education relies heavily on well-executed pre-briefing to set expectations, skilled facilitation to guide the scenario, and thorough debriefing to consolidate learning outcomes. This was closely followed by needs in operations, such as mastering the use of patient manikins and the intricacies of setting and measuring learning outcomes and objectives. Survey data did not reveal whether programs follow the Healthcare Simulation Standards of Best Practice (INACSL, 2021).

Barriers to expansion were predominantly financial; forty-two percent of programs cited budget constraints as their primary hurdle, overshadowing issues like physical space limitations (23%) and the need for more faculty training (21%) in simulation facilitation. Smaller barriers included the need for technical support and additional training for supporting staff, such as Simulation Operations Specialists. Fifteen programs indicated they share space with other programs or schools, which has positive implications for future interprofessional education (IPE), resource sharing, and funding opportunities.

The distribution of survey responses reflects the concentration of healthcare facilities, with Greater Boston contributing 31% of the feedback. This is attributed to its larger population and numerous healthcare institutions, highlighting regional variations in simulation integration. The majority of respondents came from four-year institutions, which primarily conducted simulations onsite. Seven respondents reported offsite simulation, although it is unknown whether these sessions occur in-situ or at another simulation center. The data also revealed a cautious approach to replacing traditional clinical hours with simulation, as 29% of institutions do not substitute any clinical hours with high-fidelity simulation, and 27% of institutions substitute only 1-10% of clinical hours with high-fidelity simulation. The remaining 17% of institutions report using simulation to substitute between 26%-50% of clinical hours, but it is unclear if these rates apply to individual courses or the entire program, preventing a comprehensive analysis. Massachusetts is among the 19 states that lack guidance from state boards of nursing regarding simulation regulations (Curry-Lourenco et al., 2022; INACSL Simulation Regulation Committee, 2021).

Operational budgets for simulation programs in nursing education vary widely across institutions, highlighting a disparity in resource allocation. Half of the surveyed programs either did not have information on their operational budgets or opted not to disclose them. Among those that did provide data, there is a significant range in funding: ten programs reported having budgets between $0 and $10,000, while two programs had substantial resources, with budgets exceeding $250,000. This variability in funding underscores the impact of budgetary decisions on the quality and scope of simulation experiences. The diversity in financial allocations also signals a clear need for further investigation into how these decisions are made and their effects on educational outcomes.

The survey illuminated the complex and varied landscape of simulation in nursing education across Massachusetts. The detailed feedback provided a baseline for understanding the current utilization and potential areas for growth, offering the committee valuable insights into how best to support and enhance simulation in nursing education.

Guiding Principles

Compliance with Regulatory Standards

To ensure the success of a statewide initiative, simulation practices must align with established standards. Simulation activities must comply with regulations set forth by the Massachusetts Board of Registration in Nursing (MA BORN) and standards set by the Commission on Collegiate Nursing Education (CCNE) and the Accreditation Commission for Education in Nursing (ACEN), two prominent accrediting agencies that play a pivotal role in maintaining quality education. Nursing programs accredited by the American Association of Colleges of Nursing (AACN) are increasingly shifting towards competency-based education, which focuses on ensuring that students achieve specific skills and competencies essential for professional practice. The National Council of State Boards of Nursing (NCSBN) provides valuable recommendations for nursing education, including simulation. These guidelines should be incorporated to enhance the effectiveness of simulation experiences.

Best Practices for Simulation

Simulation-based education has emerged as a powerful tool that offers students an immersive learning experience. A structured and well-designed approach is paramount, as defined by the Healthcare Simulation Standards of Best Practice (INACSL, 2021). The NCSBN and INACSL provide tools for implementing best practices in simulation pedagogy for nursing schools. According to the NCSBN Simulation Program Preparation Checklist, there must be an appropriate number of nurse educators who are properly trained and dedicated to supporting their students in simulation activities (Alexander et al., 2015). Despite the recommendations, there remains a need for continued focus and investment in educator training and resources to fully realize the benefit of simulation-based learning.

Before students engage in a simulation scenario, a comprehensive pre-briefing session occurs to set expectations, clarify learning objectives, and prepare students for the upcoming simulation. Faculty members play a crucial role during the scenario, closely monitoring student performance and making necessary adjustments. Utilizing a variety of human patient simulators, standardized patients, and realistic clinical environments enhances the overall simulation experience. Whether in a hospital, community clinic, or home care setting, the simulation experience should reflect the challenges and nuances students will encounter in their future practice. Nursing practice often involves collaboration with other healthcare professionals, which can be developed by incorporating IPE activities and scenarios that foster teamwork, effective communication, and holistic patient care. Post-simulation debriefing by a trained facilitator allows students to reflect on their actions, identify areas for improvement, and connect their experiences to theoretical knowledge. Structured and supportive debriefing sessions contribute significantly to learning outcomes. Simulation scenarios can be effectively tailored to address high-priority topics such as patient and family education, interprofessional communication, and cultural humility. By creating specific scenarios that concentrate on these key areas, simulation

offers a controlled environment that allows all students to develop the essential interpersonal skills, communication abilities, and clinical judgment required in professional practice.

The INACSL Core Four Endorsement represents a benchmark for nursing programs that signifies adherence to best practices and ensures a high standard of education. It validates that the program follows evidence-based practices, ensuring that simulations are well-designed and effectively facilitated and debriefed. Proper evaluation methods must be used to be sure that both the simulations and students' performances are assessed accurately, leading to better educational experiences and improved clinical competence. For programs aiming to achieve the Core Four Endorsement, a statewide alliance can provide invaluable support. By working together, programs can more effectively meet the rigorous criteria set by INACSL. This collaborative effort not only benefits individual programs but also has the potential to elevate the standard of nursing education across the state.

Resources Required to Increase Simulation Capacity

Faculty Certification

The Simulation Committee recommends that state funds be used to support nursing educators in obtaining certification as Certified Healthcare Simulation Educators (CHSE) from the Society for Simulation in Healthcare (SSH). Certification is key for enhancing the quality of simulation education as it standardizes best practices, improves patient safety, and externally validates educator competencies. This bolsters confidence in the quality of education among organizations, communities, and learners. Currently, 56 individuals in Massachusetts have achieved CHSE certification.

The initial step involves assessing the eligibility of current faculty members to take the CHSE examination. Eligibility requires two years of continued experience in healthcare simulation, along with specific educational credentials and other criteria. To promote faculty certification, offering reimbursement for the CHSE examination fees ($395 for SSH members and $495 for non-members) can serve as a significant incentive. Maintaining certification requires recertification every three years ($350 for SSH members, $450 for non-members), which supports the continued adherence to high standards in simulation education. Unfortunately, not all programs have the necessary funding or staffing levels to support faculty attendance at regional and national conferences for certification preparation. Providing stipends could enhance access to these critical professional development resources, thereby creating a more equitable environment for faculty advancement.

Investing in faculty development is essential for successful certification outcomes in healthcare simulation. A comprehensive preparation program for the CHSE examination should include a detailed curriculum that covers key healthcare simulation topics, teaching methodologies, and assessment techniques. A mentorship component would connect candidates with experienced, certified faculty for guidance and support. The program should also incorporate workshops that provide practical hands-on experience and feedback, ensuring faculty members are well-prepared and confident in their abilities to pass the CHSE examination. To support the continuous development of CHSE-certified faculty, it is imperative to develop advanced educational modules that keep them updated with the latest simulation technologies and

methodologies. These modules should also promote research and scholarship within the field and facilitate networking opportunities among peers.

Simulation Center Models (Academic/Practice/Community)

When considering different simulation center models to support nursing workforce sustainability, it is vital to evaluate the unique needs and benefits of solely academic sites versus centers utilized by hospitals and clinical partners, including external agencies such as long-term care and visiting nurse associations. Academic sites provide a controlled setting that facilitates curriculum integration and research opportunities. In contrast, multi-program centers promote collaborative learning, resource sharing, and exposure to a wider range of clinical scenarios. Both models are essential for developing a competent nursing workforce but require careful planning of staffing resources to operate effectively.

Key staffing roles critical for the effective operation of simulation centers include a director, who oversees strategic direction and financial management; human resources for recruitment and retention of staff; simulation educators responsible for developing and facilitating scenarios; a data analyst to evaluate program outcomes and effectiveness; a scheduler for organizing simulation sessions; and simulation operation specialists who manage equipment and technology. These roles contribute to the efficient operation of a simulation center, help meet educational goals, and adapt to the evolving needs of the nursing workforce, thereby fostering sustainability in nursing education and practice.

Establishing clear job descriptions and requirements for both technical and clinical staff positions includes determining the necessary number of individuals for each role. Utilizing resources from SSH and the International Nursing Association for Clinical Simulation and Learning (INACSL), specific roles should be clearly defined to align with industry standards. Job descriptions should correspond with the criteria needed for SSH certification, and language should adhere to SSH definitions and the INACSL Standards and Simulation Dictionary (Lioce et al., 2020).

A standardized patient (SP) is a trained actor who assumes the role of a patient and provides an invaluable resource for practicing communication skills and other interpersonal interactions within a clinical setting. The recruitment of SPs often focuses on finding individuals who can reliably and consistently portray various patient roles and demographics, as well as represent different ages, genders, and health conditions. It also involves evaluating their comfort level with physical examinations and their ability to provide feedback from a patient's perspective. Thorough and continuous training is needed for SPs to contribute positively to the educational goals of the simulation program, and performance needs to be monitored and assessed regularly to maintain high standards in simulation-based education, as emphasized by the Association for Standardized Patient Educators (ASPE). While substantial resources and effort are required to implement an SP program, the investment significantly enhances students' readiness for clinical practice, better preparing them to deliver compassionate and effective patient care.

Alternate for Clinical Hours

It is widely accepted that simulation-based learning is a highly effective teaching pedagogy used to offer concentrated and diverse learning experiences that traditional clinical settings might not

always provide. The current state of replacing clinical hours with simulation in nursing education is one of ongoing evolution and discussion (Bradley et al., 2019; Breymier et al., 2019; Herrington, 2021; Smiley, 2019). In 2014, the NCSBN conducted a landmark simulation study that demonstrated up to 50% of clinical hours can be completed in simulation, provided there is regulatory support and infrastructure (Hayden et al., 2014). Published guidelines outline the necessary requirements for integrating simulation into nursing curricula, including institutional support, adequate facilities and resources, and preparing qualified faculty (Alexander et al., 2015). Programs must establish detailed policies and procedures, use evidence-based practices, and continuously evaluate and improve simulation experiences.

Research shows the effectiveness and productivity of simulation allow learners to accomplish a greater number of activities at advanced levels of Miller's Pyramid in considerably less time compared to traditional clinical settings (Sullivan et al., 2019). Programs can more efficiently prepare students for complex clinical tasks in simulation, hence the commonly used 2:1 or 3:1 clinical to simulation hours (Haerling & Prion, 2021; Sullivan et al., 2019). This expedited and enhanced learning process primes students to reach competency quicker and with potentially greater confidence in their clinical skills. Nursing programs could potentially scale more readily, accommodating more students without the limitation of clinical placement opportunities, which often causes a bottleneck with partnering agencies.

Competitive Salary between Clinical and Simulation Faculty

It is advised that the compensation for simulation instruction roles requiring specialized training be aligned with that of clinical instructors. This ensures fairness and recognizes the equally significant contributions of both roles to nursing education. In environments where unions are present, or step raises are implemented, the salary progression for clinical and simulation instructors must mirror each other, maintaining consistency and equity within the institution. Obtaining CHSE certification should warrant additional compensation at a rate comparable to other national certifications for nurses. Additional compensation not only acknowledges the expertise and commitment required to achieve CHSE certification but also aligns with the broader industry standards for professional recognition.

The survey reveals significant variability in the number of both full-time and part-time faculty across different schools. The data lacks clarity regarding the size of each program in relation to the number of faculty, making it difficult to assess the adequacy of faculty numbers for each nursing program's needs. Staffing challenges in simulation centers are also highlighted, as thirty-four respondents indicated having only one or two staff members available in their simulation settings. Based on these findings, the committee recommends that the number of students in simulation settings mirror clinical groups to foster effective learning environments and adhere to MA BORN guidelines regarding 1:10 instructor-to-student ratios.

Given the high-tech nature of simulation in nursing education, IT support is imperative to effectively manage and utilize advanced technologies. Employing off-hours simulation and support staff can significantly increase the utilization of simulation centers, enabling extended operating times and accommodating more learners, particularly those with restrictive schedules during traditional hours. It is recommended that each organization employ full-time scheduling coordinators, particularly if the simulation space is to be shared among different programs

and/or external customers. The number of coordinators should be commensurate with the program size and learner enrollment.

Physical Resources

Due to the substantial variation in simulation space needs across the state, it is advised for institutions to meticulously outline both fundamental requirements and additional desired resources. Encouraging schools to consolidate their purchases through preferred vendors would maximize financial efficiency. This strategy could enable them to leverage collective buying power across the state, potentially securing significant discounts through the Massachusetts Higher Education Consortium or similar bulk purchasing agreements.

Simulation in nursing education relies heavily on advanced technology and equipment to create realistic healthcare scenarios that enhance learning. The types of patient simulators used are critical in determining the fidelity of these simulations. Human patient simulators, which simulate lifelike physiological responses such as blinking, breathing, and heart, lung, and bowel sounds, are recommended for scenarios requiring detailed clinical interventions. Mid-fidelity manikins are useful, particularly for basic clinical procedures and training that do not require complex interactions. These simulators require regular maintenance, software updates, and calibrations to function properly and mimic real-life medical scenarios accurately. The integration of haptic devices and wearables can provide tactile feedback and real-time monitoring, further enhancing the realism and immersion of simulations.

The setup of simulation rooms is equally important and should mimic real hospital environments to provide authentic learning experiences. This includes having standardized equipment in each room, such as medication administration tools, electronic medical records, and hospital beds. Advanced audio-video capture systems are essential for recording simulations and debriefings, which allows for detailed debriefing and educational feedback. Learning management systems integrate these components, providing a platform for scheduling, tracking, and assessing student performance.

In addition to high-fidelity simulations with human patient simulators, it is important to mention emerging technologies like screen-based virtual simulation, immersive virtual reality, and telehealth simulations. These modalities can expand the range of experiences available to students, preparing them for a wide array of clinical settings and technological interactions. Screen-based simulations offer a cost-effective and flexible alternative, allowing students to engage in interactive scenarios and decision-making processes through virtual platforms. However, the pre-brief and debrief for these types of simulations require trained facilitators to confirm alignment with the Healthcare Simulation Standards of Best Practice (Badowski & Wells-Beede, 2022). Proper facilitation is essential for maximizing the educational value so that students can effectively integrate these experiences into clinical practice.

Fiscal Resources

As schools look to expand simulation capabilities, recognizing the associated costs and the potential need for grant funding is crucial. Exploring collaborative approaches to fiscal resource management could be beneficial. One recommendation is to consider shared services, such as utilizing a common grant writer or someone with a strong background in grant writing, awards, and management. This could allow schools that lack specific grant writing expertise to benefit

from specialized skills, thereby enhancing their ability to secure necessary funding through state and school grants. Such a strategy could optimize resource allocation, ensuring that schools can acquire the financial support needed to advance their simulation programs effectively.

Securing adequate fiscal resources will also lay the groundwork for future goals, such as integrating IPE into simulation training. Simulation-IPE is an essential step in training healthcare workers collaboratively, reflecting the reality of clinical environments where team-based care is the norm. Expansion comes with considerable challenges, including the need for additional equipment and the potential redundancy of resources across different disciplines within and outside the program. It may be prudent to prioritize addressing current gaps and strengthening the foundation of simulation in nursing that will better support the complexities of IPE in the future.

Proposed Pilot to Expand Simulation

The Simulation Committee aims to enhance statewide clinical capacity, access, and availability in clinical nursing education through a pilot simulation program. The original plan was to establish three regional centers as fixed facilities for simulation training, serving specific geographic areas, and one mobile center equipped with simulation technology to deliver hands-on training across various locations in Massachusetts. The startup costs for a mobile simulation center are estimated at $1.4 million, with major expenses including vehicle acquisition and modification, simulation equipment, and supplies. When comparing a mobile center to stationary centers, the costs are similar, but stationary centers replace vehicle costs and maintenance with expenses related to facility construction or renovation. Construction or renovation costs would be multiplied threefold. After an extensive evaluation of the initial and ongoing costs, logistical challenges, and potential limitations in reaching the intended audience, with both mobile and stationary simulation centers reviewing the data, the committee reconvened and established plans for a statewide simulation alliance.

State simulation alliances are collaborative networks that can significantly enhance simulation-based education. Well-known examples include the California Simulation Alliance, as well as other initiatives in states like Maryland and Tennessee. Forming a statewide alliance with regional consortia and directing funding to these consortia aligns with the NCWS goal of increasing clinical capacity with simulation access for all nursing programs across the state. Achieving financial sustainability can be enhanced through diversified funding strategies. These might include fee-for-service models, partnerships, cost-sharing initiatives, grant writing, continuing education programs, and corporate sponsorships. Implementing these strategies can help support ongoing operations and facilitate growth while minimizing reliance on any single financial source.

The establishment of an alliance with at least three consortia would involve partnerships with existing organizations or clusters of nursing programs within specific geographic areas. Forming an alliance with regional consortia represents a strategic shift towards more efficient and accessible simulation training in nursing education across the state. Pooling resources and expertise from nursing programs within specific geographic regions enables significant economies of scale; nursing programs can collectively negotiate better deals on simulation

technology, equipment, and personnel, reducing financial strain and enhancing cost efficiencies. This approach decentralizes training resources to reach diverse communities more effectively through collaboration and combines the benefits of both mobile and stationary simulation centers. Extending beyond the finances, access to high-quality simulation resources provides students with comprehensive clinical education that will impact patient populations throughout Massachusetts. Maximizing the use of both established and underutilized simulation centers, an alliance could accommodate a greater number of learners and offer access to specialized simulation rooms and units. These facilities include setups for mental health, maternity, pediatric, and home care simulations, allowing students to practice and hone skills relevant to specialty areas. This exposure is vital for building clinical competence across different healthcare settings. An alliance optimizes resource allocation by strategically coordinating the diverse needs of multiple regional consortia. Resource sharing extends to a broad library of standards of practice, scenarios, templates, forms, and evaluations, further enriching the educational experience.

Collaboration within the alliance also expands access to a network of experts in simulation education, including skilled educators and technicians. This collective expertise promotes best practices and improves the quality of training, ensuring that students are well-prepared to meet the challenges of modern healthcare environments. Overall, a statewide simulation alliance with regional consortia offers a sustainable and effective solution to meet the educational objectives of nursing programs across the state, fostering a more skilled and adaptable nursing workforce.

Training and professional development are pivotal for simulation educators to remain well-informed about the latest teaching methodologies and technological advances. Educators skilled in crafting effective simulation programs can optimize physical spaces to enhance simulation effectiveness, even when limited to a single room. The expertise of the alliance is instrumental, demonstrating that quality simulation experiences are possible with minimal space. The alliance plays a vital role in guiding programs to ensure simulation activities meet set standards and can substitute clinical hours, as well as providing ongoing professional development and individualized support to faculty and programs.

This framework for sustained collaboration supports programs at various stages of simulation implementation—from those with extensive resources and multiple high-fidelity manikins to those with basic equipment. The alliance ensures that all nursing programs, regardless of their current level of simulation integration, receive tailored support to develop and enhance their simulation-based educational offerings. This collaborative approach not only standardizes quality across different programs but also promotes equity in educational opportunities throughout the state.

Moving forward, the initial critical step is to convene an expert panel comprising leaders and professionals in the field. This panel will be instrumental in devising a comprehensive strategy for developing the alliance. After establishing the panel, the next task is to delineate and assess regional consortia throughout the state. This involves identifying geographic areas and potential partners within each region who can support and benefit from the alliance's goals. Mapping these areas will clarify the landscape and enhance targeted outreach efforts. Discussions have included the formation of three primary regional consortia—Eastern, Central, and Western

Massachusetts—with considerations to further segment the Eastern region for more precise coverage. Detailed plans that outline specific objectives, necessary resources, and expected benefits will act as blueprints for implementation, guiding efforts to secure buy-in and additional support from communities of interest.

Partnering with regional consortia, the alliance will be able to gather extensive information on simulation capacity and other needs statewide. Data collection will inform decision-making and effective resource allocation to bridge identified gaps. Securing support from academic programs and obtaining funding for key endeavors such as professional development will be essential. Plans also include collaborating with the NCWS to develop a website for the simulation alliance. To ensure high-quality simulation at each institution, the initial step should be advocating for INACSL Core Four Endorsement, which is more cost-effective and achievable than accreditation from SSH. As the alliance and consortia expand, discussions will continue about IPE, guidance on branding, and long-term sustainability measures, all crucial for ongoing success.

Conclusion and Recommendations

The survey data revealed significant variability in simulation funding, space availability, instructor preparation, and program structure across the commonwealth. However, compared to best practices, there are clear opportunities to improve and standardize simulation usage and reduce inequities.

The Simulation Committee of the NCWS offers the following summary of the recommendations put forward in this document:

1. *Establish an Online Resource Center for Simulation Instructors*
   Survey results highlighted a critical need for instructor development in simulation programs, a finding that was consistent across multiple entities.

   Establishing an online resource center would enable instructors and institutions across the commonwealth to access materials without constraints of distance or timing. Additionally, an online resource center would be more cost-effective than an in-person platform. This online component could be enhanced with regional hands-on workshops that provide practical experience and feedback, ensuring well-prepared faculty.

2. *Fund Simulation Instructor Certification*
   The State of Massachusetts should allocate state funds be used to support nursing educators in obtaining certification as Certified Healthcare Simulation Educators (CHSE) from the Society for Simulation in Healthcare (SSH). Certification is key for enhancing the quality of simulation education as it standardizes best practices, improves patient safety, and externally validates educator competencies. This bolsters confidence in the quality of education among organizations, communities, and learners.

   Certification will cost approximately $500 per individual. The Simulation Committee recommends funding 50 faculty certifications annually, amounting to an estimated annual cost of $25,000.

Training and preparation for certification should also be a component of this recommendation. This could be provided, at least in part, via the proposed online resource center. The committee recommends an allocation of $10,000 per year to provide certification preparation for potential candidates.

3. *Evaluate and Adjust Simulation Instructor Salaries*

Given the critical importance of simulation in nursing education, it is recommended that compensation for simulation instruction roles be aligned with that of clinical instructors. This ensures fairness and recognizes the equally significant contributions of both roles to nursing education.

Academic institutions should conduct salary evaluations to address inequities and ensure fair compensation.

4. *Incorporate Dedicated Technology Staff*

Post-pandemic nursing schools need to better integrate technology into their programs by incorporating dedicated technology staff, allowing simulation educators to focus on student learning. IT support is crucial for effectively managing and utilizing advanced technologies, given the high-tech nature of simulation in nursing education.

Employing off-hours simulation and support staff can significantly increase the utilization of simulation centers, enabling extended operating times and accommodating more learners, particularly those with restrictive schedules during traditional hours. Furthermore, scheduling coordinators can be an invaluable resource to optimize space and educational opportunities.

5. *Review Simulation Programs and Student Access*

Nursing schools must evaluate both the physical resources and fiscal resources of their simulation programs.

There is considerable variability in the physical space allocated to simulation centers across the Commonwealth. Additionally, the setup of simulation rooms is crucial for providing an authentic learning experience. This includes the capability to produce high-quality audio and video recordings to enhance post-debrief learning opportunities.

Fiscal allocation for appropriate space, equipment, and personnel is essential for simulation to provide a high-quality learning experience. Securing adequate fiscal resources will also lay the groundwork for future goals, such as integrating IPE into simulation training.

6. *Establish a State Simulation Alliance with Regional Consortia*

The committee recommends establishing a state simulation alliance with at least three regional consortia. State simulation alliances are collaborative networks that can significantly enhance simulation-based education. Furthermore, these alliances also encourage regional collaboration to maximize resource utilization and provide diverse simulation experiences for students. For example, rather than multiple schools purchasing the same type of manikin, funds could be pooled to purchase different types and share resources. There is also the opportunity for shared physical space.

Through the formation of a statewide alliance and regional consortia, clinical nursing education can substantially expand its clinical capacity and accessibility, ensuring all nursing programs have access to high-fidelity simulation. This initiative promotes efficient resource sharing, capacity building, and continuous improvement in programs, thereby raising the standards of simulation utilization to better nursing education and healthcare outcomes overall.

The establishment of this simulation alliance provides a systematic approach for nursing programs to enhance their training capabilities. By working together, these programs can create uniform simulation scenarios and curricula that align with accreditation standards and specific clinical learning objectives. The strategic introduction of a statewide alliance with regional consortia significantly improves access to high-quality simulation training across all nursing programs in the state. It not only boosts clinical training capacity but does so in a cost-effective and sustainable way. Through this enhanced training environment, nursing students gain a realistic setting to hone their clinical skills, critical thinking, and decision-making capabilities—crucial competencies for their future healthcare roles.

Conclusion

These steps are designed to improve the quality and accessibility of nursing simulation education statewide, ensuring consistent and equitable training for all students while advancing the use of technology in nursing education.

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