



Featured Article

Healthcare Theatre: A Unique Simulation Partnership

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KEYWORDS

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Abstract: The Healthcare Theatre program, a unique approach to standardized patients, is a partnership between the College of Health Sciences and College of Arts and Science at the University of Delaware. This program now offers a permanent, cross-credited course that includes a repertoire of experiential and discovery learning strategies. Enrolled students are educated by the nursing and theater departments to portray patients for health care simulations that encourage teamwork and interprofessional communication. This article will explain how the program provides an active, transformative learning environment while satisfying the educational needs and challenges of multiple disciplines.

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Introduction

Patient simulation has earned its place in nursing programs across the country and is widely supported by nursing education organizations, including the National League for Nursing and the American Association of Colleges of Nursing (AACN, 2008 & NLN, 2013). High-fidelity simulation (HFS) is recognized as an effective strategy for improving skills of practicing health care professionals by the National Council of the State Boards of Nursing, Joint Commission, the Agency for Healthcare Research and Quality, and other professional health care organizations. The implementation of simulation varies greatly among

institutions and educators are establishing evidence-based practice standards (INASCL, 2011).

The University of Delaware (UD) School of Nursing has included moderate and HFS in their undergraduate program since 2006. Typically, simulation learning is incorporated into the UD didactic nursing courses. Healthcare Theatre is a unique approach to standardized patients (SPs). It was introduced in 2009 in response to both a university initiative promoting interdisciplinary collaboration and a national trend of including interprofessional experiences in health care curricula (IPEC, 2011). We first present a brief summary of relevant research comparing high-fidelity manikins and SPs and literature on theater students as SPs. We then provide an overview of the development of the Healthcare Theatre program, including course initiation and integration of “simulated patient performers” (the UD phrase

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used to describe this variation of SPs) in the undergraduate nursing curriculum. Finally, solutions are suggested for the challenges encountered during the development of the Healthcare Theatre program.

Key Points

- Using simulated patient performers improves simulation fidelity, learner satisfaction, and learners' self-awareness during interprofessional health care simulations.
- Theater and nursing faculty development of a course in which enrolled students engage in learning theatrical improvisational techniques is a budget-friendly option for institutions of higher learning.
- The course provides an opportunity for students from a wide range of backgrounds and professional goals to actively learn from one another in a simulated setting.

High-Fidelity Simulation versus Standardized Patients

Several studies have compared HFS (computer-controlled manikins) to SP simulations. Luctkar-Flude, Wilson-Keates, and Larocque (2012) randomly assigned 44 2nd-year undergraduate students to HFS manikins, SPs, or community volunteers (CVs) to learn respiratory assessment skills. Two faculty members rated a videotape of each subject using a performance behavior checklist. Of the three modalities, performance was significantly greater with HFS. However, there were no significant performance differences between SPs or CVs and no significant differences in self-efficacy among the three groups. Participants were satisfied with all modalities

but least satisfied with HFS. The researchers suggested that HFS induced less stress, while SPs and CVs produced more realism. Small sample size, participation bias, and inexperience with SPs and HFS limit generalizability of these results.

Wisborg, Brattebo, Brinchmann-Hansen, and Hansen (2009) explored the educational outcome of trauma training using medium-fidelity manikins and SPs in a five-hospital study of teams of trauma physicians, nurses, and radiologists ($n = 104$). Teams were randomly assigned to manikin or SPs in two consecutive simulations using both modalities with 30 minutes of debriefing for each simulation. Questionnaires and focus groups revealed that simulation modality did not affect the perceived educational outcomes. Overall, participants favored the SP experience, particularly if there was high interaction between team and patient in the simulated case.

Shepherd, McCunnis, Brown, and Hair (2010) used a longitudinal quasi-experimental design to compare the effects of HFS and role-playing (volunteer patient) on the cognitive, motor, and affective domains of 28 3rd-year undergraduate nursing students when taking vital signs.

Qualitative and quantitative analyses showed no statistically significant difference between the two groups with respect to cognitive and motor learning. However, the researchers did find that affective learning increased with role-playing (volunteer patient). Although the study was adequately powered, it recommended replication of the study with a larger sample and additional program sites.

In summary, there are mixed results when comparing HFS and SPs. Further research is needed with varied populations, using consistent methods of HFS and SPs and valid and reliable instruments to measure perceived and actual student outcomes. Regardless of the modality, experts agree that simulation provides a safe learning environment to bridge the gap between didactic learning and clinical practice. However, the ability to translate these simulation skills into the clinical setting warrants further investigation. Research suggests that using SPs in health care education is most satisfying (Shepherd et al., 2010; Wisborg et al., 2009) and the most realistic of simulation modalities (Luctkar-Flude et al., 2012).

Theater Students as Standardized Patients

There is a scarcity of literature on the incorporation of theater students into health care simulation. Schultz and Marks (2007) describe a successful model of collaboration between pharmacy and high school theater students. Theater student preparation was conducted by pharmacy faculty members and included 4 hours of review of case scenarios, explanation of patients' perspectives of the diseases, role-playing, and observation of previous encounters on video. Pharmacy students gained knowledge and clinical assessment skills, while high school students reported improved improvisational skills. Adequacy of actor training and the time needed to prepare and incorporate high school students were challenges in this model. An Internet search reveals several other health care professional schools beginning to partner with university-level theater students (e.g., Rowan University, Salisbury State University, University of Georgia, University of Toledo) to promote realism and "in the moment" responsiveness as opposed to a rigid focus on a script and preplanned behaviors of traditional SPs. The training methods for transforming theater students into standardized or simulated patients are inconsistent and obscure.

Although HFS provides the opportunity to develop knowledge, critical thinking, teamwork, and clinical skills (Durham & Alden, 2008; Kane-Gill & Smithburger, 2011), it lacks portability, exposure to diversity, realism, and development of therapeutic communication skills (Durham & Alden, 2008; Henneman & Cunningham, 2005; Luctkar-Flude et al., 2012). SPs offer a solution to many of the limitations of HFS while prompting their own demands such as cost considerations, standardization of actors (fidelity), and scheduling constraints (Durham & Alden, 2008). The UD has developed an innovative program that addresses most of the challenges of HFS,

incorporates the benefits of SPs, and allows for the variability in patient outcomes based on the performance of the patient care team. The Healthcare Theater program (HTP), a collaboration between the UD School of Nursing and its theater department, aims to develop realistic health care simulations by educating undergraduate students to be “simulated patient performers” (SPPs).

Course Description

In the fall of 2011, the School of Nursing and theater department partnered to develop a three-credit undergraduate course that was cross-credited and co-taught between the departments. The HTP did not emerge with this course; rather it began as a three-credit independent study course in fall 2009 that provided a framework for developing a formal course. The NURS/THEA 214 course, “Healthcare Communication: University of Delaware Simulated Patient,” is open to all undergraduates, but enrollment requires an audition and interview regarding previous theater and health care experiences. All majors and minors are eligible for the course, which enrolls 12 to 16 students per semester. Nursing students have also enrolled in the course and found a unique opportunity to see illness and health care through the eyes of the patient. This is advantageous as nursing students develop their professional knowledge base and patient-centered skills.

Each semester, the students auditioning for the course are from a variety of backgrounds and ethnicities and of both sexes. This exposure to diversity has led to significant advances in UD’s education on cultural diversity and care of vulnerable populations. Genuine accents, culturally specific nonverbal communication styles, and skin tone improve fidelity and student satisfaction. These culturally diverse students who are enrolled in the course offer an invested opportunity for fidelity that is not plausible with HFS alone.

The course includes didactic content, discovery learning opportunities, out of class preparation, improvisational workshops, and varied role portrayals throughout the semester. [Table 1](#) lists the specific course requirements. During the 15-week course, each student is assigned two different patient or family member roles that require extensive preparation. Typically, three students are assigned one role, ensuring enough SPPs for the needed simulated experiences throughout the semester. With multiple course students portraying the same role, detailed standardization is essential and accomplished through the didactic content, dress rehearsals, and onsite direction from faculty in both departments. Students are also required to observe their peers portraying the same role and provide feedback on their standardization. Throughout the course, faculty implement a variety of methods to evaluate the SPPs ([Table 2](#)). The SPPs are taught appropriate therapeutic communication techniques to assist in providing feedback to the health care learners from the patient’s perspective during debriefing.

Table 1 NURS/THEA 214 Course Requirements

Course Section	Approximate Course Hours	Course Activities
Didactic Content	12	<ul style="list-style-type: none"> ● course overview ● course grading system ● introduction to Patient Symptom & Emotion Rubric* ● objective debriefing strategies
Discovery Learning	10	<ul style="list-style-type: none"> ● break-out sessions with expert practitioners ● improvisational work in classroom ● observation in appropriate clinical setting ● interviewing patients with like diagnoses ● dress rehearsal with both course instructors ● delivering feedback to the health care participants
Out of Class Assignments	10	<ul style="list-style-type: none"> ● 2 improvisational assignments from Wallace (2007) ● 2 role preparation assignments (film, readings, video) ● self-evaluation and peer evaluation using Patient Symptom & Emotion Rubric ● observation of peers performing the same role ● reflective journaling (blog)
Role Portrayals	25	<ul style="list-style-type: none"> ● postoperative pain ● chronic pain ● depressed patient ● psychotic break ● cardiac patient ● traumatic brain injury ● spinal cord injury ● challenging family member/patient

* We developed a 3-point Likert scale tool to evaluate SPPs in five areas (professionalism, quality of objective feedback, knowledge of assigned patient case, standardization with other SPPs, and standardization within each simulated experience); rubric scores can range from 5 to 15.

Table 2 Evaluation and Grading of Healthcare Theatre Students

Class Assignments	Percent of Course Grade
Out of class improvisation assignments and class attendance	10
Midterm exam	10
Faculty assessment of student performance during simulated experiences using rubric	40
Peer assessment rubric	5
Self-assessment rubric	5
Self-reflection essay	10
Blog content and timeliness	10
Cumulative final exam	10

By week 4 of the semester, the SPPs are prepared to portray patients or family members in a variety of simulations. The health care learners participating in these simulations are from multiple disciplines and educational levels. The faculty involvement from nursing in the course greatly benefits the undergraduate nursing program because they are included in a majority of the simulated experiences.

Integration into the Nursing Curriculum

During the development of the course, faculty collaborated with the nursing simulation resource center to identify the potential use of SPPs as a more effective teaching modality

within the curriculum (Table 3). The desire for interprofessional simulation was explored and piloted with faculty from the physical therapy department and an associated medical school. The success and flexibility of the HTP prompted restructuring of the nursing lab curriculum, which included additional interprofessional simulations or adapted HFS experiences (Table 3).

Simulated family members are incorporated into some of the HFS including the “code blue” scenario. The number and complexity of SPP experiences increase as each nursing student progresses through the curriculum (Table 3). Prior to a simulation, the nursing students are exposed to key concepts through readings, lab skills practice, and classroom lectures or discussions that are included in the scenario. Although the objectives for manikin simulation can be designed to incorporate therapeutic communication (including difficult conversations), cultural competence, patient-centered care, professionalism, and interprofessional collaboration, the incorporation of the HTP offers true human interaction and feedback from the perspectives of the patient and family members. We feel that this program improves fidelity and enriches learning for the simulation participants. The objectives and development of each simulation scenario are planned carefully by theatre and nursing faculty and then piloted with a small group of students prior to adding the scenario to a course. This process allows each scenario to be refined and perfected before becoming a course requirement. As in any simulation, moulage and props are necessary to enhance realism.

Table 3 Healthcare Theatre Experiences at University of Delaware

Year	Semester	Lab Experience with Standardized Patients	Associated Course
Freshman	First	Vital signs return demonstration ^{3,4}	Nursing Fundamentals I
	Second	Bed bath lab ^{1,3,4}	Nursing Fundamentals II
Sophomore	First	Spinal cord injury ^{1,4,5*} Traumatic brain injury ^{2,4*}	Clinical Decision Making
	Second	3 different cultural diversity labs ^{2,4} Admitted cardiac patient ^{3,4}	Health: Vulnerability & Diversity Pharmacology
Junior	First	Postoperative colon resection (Crohn’s disease) ^{1,2,3}	Adult Health Nursing I
		Family member of a patient from an extended care facility ^{1,3,4}	Adult Health Nursing I
	Second	Therapeutic communication (bed bath and assessment of a depressed patient) ^{1,3,4}	Psychosocial Nursing
		Simulated restraint application lab (least restrictive measures, de-escalation) ^{1,3} Chronic pain ^{1,3,5†} Active chest pain ^{3,4} Disaster drill ^{2,4}	Psychosocial Nursing Adult Health II Communities and Health Policy
Senior	First	Postmortem care ^{1,2,3,4}	Death and Dying Elective
	Second	Trauma patient ^{1,3,4}	Critical Care Elective

The simulation objectives related to the Healthcare Theatre program of the above simulations:

1. Therapeutic communication (including difficult conversations).
2. Cultural competence.
3. Patient-centered care.
4. Professionalism.
5. Interprofessional collaboration.

* Interprofessional course with physical therapy.

† Interprofessional course with medical students from another university.

The Secret Ingredient - Theater Faculty

The HTP at the UD is unique because of the continued support and instruction provided by the theater department faculty in addition to nursing, physical therapy, and physician faculty. Based on anecdotal information, experience, and literature focused on the training and integration of standardized patients in health care curricula, programs typically limit ongoing direction of SPs during the simulations to the nursing or medicine faculty (Anderson, Holmes, LeFlore, Nelson, & Jenkins 2010; Becker, Rose, Berg, Park, & Shatzer, 2006; Jenkins & Schaivone, 2007; Schultz & Marks, 2007). As communication experts, the theater faculty of UD's HTP remain involved with each simulation. Their experience is critical in coaching SPPs to communicate expressively with appropriate tone, volume, and movement. When necessary, the theater faculty will also work with the health care learners involved in the simulation to improve their verbal and nonverbal communication skills. This direction provides our novice SPPs with the necessary guidance to play the appropriate character within the simulation and allows the nurse, physical therapist, and physician faculty to focus on their health care learners rather than directing the SPP. Presence of a UD theater faculty as director and facilitator is an innovative and vital component of our program that promotes fidelity within the simulation and provides a realistic portrayal of patients and family members.

Healthcare Theatre Program Evaluation

Feedback by course students (SPPs) and nursing students (or other health care learners) is an important component of HTP evaluation. Course and simulation lab evaluations and faculty perceptions drive changes within the program.

There were 12 students, from freshmen to seniors, enrolled in NURS/THEA 214 in fall 2012. Their majors were diverse and included nursing, psychology, exercise science, computer science, premedical health and professional studies, and one undeclared. Students were asked to complete an anonymous 14-item questionnaire using a 5-point Likert scale at the end of the semester to evaluate the course and instructor. Course evaluations showed that students ($n = 12$) were very satisfied and rated the overall course and the instructor's ability to stimulate an active learning environment "very effective" (4.83 and 4.92, respectively). Several students commented on the experiential learning opportunities during the course. One student reported that "this was my favorite class.... I not only learned things from the perspective of the patient, but I feel this [class] has made me a better nurse with improved communication skills." Also the course "is unique in that it is not [primarily] in a classroom setting. I learned a lot from it but at the same time, I knew that I was helping others." This course provides an opportunity for students from a

wide range of backgrounds and professional goals to actively learn from each other in a simulated setting.

As part of program evaluation, a UD institutional review board-approved survey was sent electronically to learners who participated in the spinal cord injury and traumatic brain injury simulation during fall 2012. The short, anonymous nine-question survey consisted of a combination of closed and open-ended questions, which was completed by 33 1st-year physical therapy and 88 2nd-year nursing students. Ninety-five percent of the participants noted that using SPPs in simulation was a successful learning strategy. Of those students, 98% found that the SPP simulations provided opportunities to experience teamwork in a health care setting. However, physical therapy students were more likely to view the experience as an enhancement of their learning beyond other laboratory experiences within their program as compared with nursing students (97% and 82%, respectively). A physical therapy student reported that this program provided an "actress that really made me feel as though I were dealing with a real patient, not just a classmate or friend." Also, "the interaction with the nurse was a challenging, new experience." A nursing student remarked that this simulation "was very realistic and helped me experience working in a team setting." Also, "it gave a good perspective on what working in a hospital setting with multiple health care professionals would be like." A nursing student commented that "it made me think on the spot and try to handle the situation." Of the nursing students who participated, 96% felt that this program should continue and be offered throughout the nursing program beginning in freshman year.

Identified Challenges and Proposed Solutions

As with any collaborative innovation, challenges arose with the development of the HTP. Scheduling observational experiences and simulation times for the SPPs is the greatest challenge, because faculty must coordinate with students' other courses, extracurricular activities, and work schedules. Coordination with nursing, physical therapy, and medical student schedules is complex. Prior to the start of each semester, program faculty communicate about specific curriculum schedule restrictions and student availability and establish a general calendar for semester simulations. Use of student teaching assistants and students enrolled in the federal work study program decrease the burden of schedule coordination at the UD.

SPPs' portrayal of various age ranges is a challenge when creating a realistic simulation. Age diversity is a limiting factor because a significant number of undergraduate UD students are between 18 and 22 years of age. The course instructors, specifically theatre, have cultivated a few senior citizen champions from the local community for the program. These individuals attend the first 3 weeks of the course each semester to mentor the newly enrolled

students. These champions also volunteer each semester for targeted simulations requiring age diversity. These individuals are a significant asset to the HTP; they improve SPP fidelity and offer multigenerational feedback to health care learners, course participants, and course faculty.

The cost-effectiveness of the HTP is under analysis. Tuition revenue is generated from each course offering. Faculty workload is another challenge because the course is cross-credited between the theater department and the School of Nursing. Currently, overload payment is made to the theater instructors who assist with teaching the course, but the responsibilities for coordinating the HTP and course teaching are incorporated into nursing faculty workload. Administrators of the College of Arts and Sciences and theater department have encouraged participation of faculty and students in this initiative. Financial and strategic support of the HTP has been shared by the College of Health Sciences, the School of Nursing, and external partnerships within the Delaware Health Science Alliance. Questions about workload, expenses, and revenue sharing should be addressed when embarking on this type of project.

Conclusion

The Healthcare Theatre program was developed to augment the robust HFS program already in place in the School of Nursing at the University of Delaware. This hybrid model of simulation enriches undergraduate nursing education by promoting psychomotor, cognitive, and affective learning while reducing limitations of each simulation modality.

The success of and student satisfaction with the Healthcare Theatre program have led educators from multiple disciplines to support its growth and expand its impact. The HTP simulates health care scenarios in a variety of wellness and illness settings. The SPPs are not tethered to a compressor and do not require wireless connection to perform in a simulation. This portability has provided the freedom to develop simulations in ambulatory care and community settings. The unique aspects of SPPs' preparation, portability, and versatility to address professional concepts other than physical assessment and interventions have also cultivated partnerships outside the university and the potential to generate revenue to sustain the program.

Intra- and interdisciplinary research opportunities abound within the HTP. Research will further validate the program, streamline its effectiveness, and improve the learning experiences and outcomes for all participants. Longitudinal studies capturing the effects of SPP on patient outcomes are recommended. The HTP faculty and collaborators believe that the energy and effort required to sustain this type of program will ultimately lead to improved patient care, teamwork, and reduction of errors.

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