

Engaging Undergraduate Nursing Students in Health Care Quality Education

Varied opportunities for identifiable, in-depth quality improvement of health care practice should exist in undergraduate nursing student classrooms and clinical experiences and be further embedded into nursing curriculum to promote ongoing improvements in health care quality and delivery. The American Association of Colleges of Nursing highlights the need for a priority focus on quality, patient safety, and outcomes within the delivery system to meet a national imperative on quality and lower health care costs (American Association of Colleges of Nursing, 2016). A Quality in Health Care Nursing Student Education Day was thus developed for this delivery.

Learning Activity

In this day-long learning experience, baccalaureate nursing students learned key principles and strategies for improving health care quality. Our academic Medical Center's Institute for Quality partnered in this interactive Quality in Health Care Nursing Student Education Day. The Institute for Quality director and several quality improvement nurses delivered the program to 86 undergraduate junior nursing students about lean health care principles, models for improvement, and Plan-Do-Study-Act cycles. Fictional simulation activities were then conducted to apply learned knowledge related to quality and critical thinking skills.

Each student participated in two simulation activities. The first demonstrated lean health care principles via an ambulance factory simulation. Students worked in teams to produce as many wooden model ambulances as possible within an allotted time. Roles included manufacturers, compliance officer, inspector, timekeeper, and team lead. Students were guided in their application of lean principles to streamline the process. All teams demonstrated marked improvement in the quality and quantity of ambulances built. In the second simulation activity, students took the marshmallow challenge: teams of six were given 20 sticks of spaghetti, 1 yard

of tape, 1 yard of string, and one marshmallow to build the tallest free-standing structure possible, with the marshmallow on top, within 12 minutes. The marshmallow challenge addresses the importance of team communication and collaboration to accomplish a shared goal within a designated time. Students who succeeded attributed their success to team communication, shared decision making, and an established prebuilding plan. Unsuccessful teams did not indicate that additional preplanning was necessary. The marshmallow challenge is widely utilized in team-building workshops and described in detail in the TEDTalk titled "Build a tower, Build a Team" (Wujec, 2010).

The final activity was led by a team of quality improvement nurses who shared their current quality improvement projects. They discussed their approaches to complex health care issues (e.g., patient fall reduction, health care team communication, patient readmissions, demonstrated tools and strategies for complex problems, interprofessional team communication, quality improvement, and systematic evaluation). They explained how bedside nurses are change agents and how new RNs can deliver new perspectives, knowledge, skills, and up-to-date evidence-based practices in the clinical setting.

Student Evaluation

Students were asked to anonymously respond to the same pre- and postsurvey fictional case scenario:

You are a registered nurse in the emergency department at Sunnyview Medical Center. Your hospital has received bad public press for Emergency Room wait times. In the morning shift report, nurses are discussing a front page story in the *Sunnyview Post*. The mayor's wife was in a minor car accident and received suboptimal care. She spent 9 or more hours in the emergency department before being evaluated for a potentially fractured ankle. After a 4-minute physician consultation, she was ordered discharged. The emergency department RN did not deliver discharge paperwork to the mayor's wife for over 2 hours.

Students were asked to list the reasons for this emergency department situation and to suggest strategies to reduce both wait time and evaluation. A majority offered similar approaches, including increasing and improving staffing, better prioritization of patient acuity, and adding patient rooms. Of the 82 student responses, there was no mention of a quality improvement model in completed presurveys. Following the quality education, several students did share a variety of quality improvement models and principles. Response examples included: Plan-Do-Study-Act review of nurse workflow; environmental improvements to reduce emergency department wait times; improved role clarification for all health care teams; and better interprofessional communication via improved organized systems and streamlined improvement models.

In addition, students were asked to evaluate the Quality in Health Care Nursing Education Day and offer suggestions for improvement. Students enjoyed the interactive simulations, which reinforced learned material. The selected speakers were well prepared and knowledgeable in quality improvement. One student noted better understanding of the larger systematic processes involved in health care quality initiatives. Another stated how a new RNs' "new set of eyes" could identify areas for improvement overlooked by seasoned practitioners. Several students mentioned the benefit of learning the material from quality improvement nurses who complete such health care initiatives on a day-to-day basis.

For improvement, several students suggested additional discussion of real-life quality issues and offering additional information on how nursing students can help currently to improve the health care system. Another student thought that although the education was beneficial, they valued their clinical time too much for this program to take its place and to schedule the quality education day on an alternative meeting day or during traditional classroom time.

Overall, faculty found the event was helpful to students by integrating prin-

ciples of health care systems improvement into their education based on the provided survey responses and informal student feedback following the event. Faculty thought that the program was well-paced and in ideal placement within the 4-year nursing curriculum. For future quality improvement learning, faculty are partnering with the College of Medicine so both students and faculty can jointly receive this education. Such interprofessional interaction is critical for the delivery of quality health care. The

Institute for Quality director and Quality Improvement nurses were excited by student interest and eager to participate in future interprofessional student trainings.

References

- American Association of Colleges of Nursing. (2016). *Advancing healthcare transformation: A new era for academic nursing*. Washington, DC: Author.
- Wujec, T. (2010). *Build a tower, build a team*. Retrieved from http://www.ted.com/talks/tom_wujec_build_a_tower

Jason Garbarino, DNP, RN-BC, CNL

jason.garbarino@med.uvm.edu

Kathleen Monforte, MSN, RN

University of Vermont

The authors thank the following individuals for participating in the teaching activities described in this article: Jason Minor, MS; Pamela Stevens, MSN, RN; Heidi Guevin, RN; and Linda Gruppi, MSN, RN.

The authors have disclosed no potential conflicts of interest, financial or otherwise.
doi:10.3928/01484834-20190422-15