

Clinical SIMULATION in Nursing Education



Photo of Driscoll Hall provided by Villanova University.

Student Nurses at Villanova University are on the cutting edge of information synthesis. Preparing clinical leaders for the “real world” requires dynamic teaching/learning strategies. In its new state-of-the-art home, Villanova University’s College of Nursing is at the forefront of best practice through the use of clinical simulation that, when combined with targeted nursing courses and the broad liberal arts education, nurtures clinicians and leaders by building not only competence but also confidence and autonomy.

Through the use of clinical simulation and patient care scenarios in the lab setting, faculty at Villanova can facilitate the development of students' skills of inquiry, clinical judgment and decision-making. Choosing appropriate assessment techniques and nursing interventions based on patient context, students manage the care of their patients in these various scenarios. Computerized human patient simulators, task trainers and standardized patients are the supporting elements of this teaching/learning method.

Human patient simulators are computer-operated mannequins that mimic various human capabilities and bodily functions. Task trainers are partial mannequin-based trainers that provide an opportunity to practice a specific skill such as tracheostomy suctioning or catheterization. Standardized patients are people trained to assume a role or healthcare problem so that students can interview them and also practice physical examination.

Undergraduate students work with faculty, classmates and simulators in carefully crafted, increasingly complex scenarios challenging them to practice in a variety of clinical situations. Freshmen begin in the lab with basic communication, patient education and nursing practice skills. During their sophomore year, students shift into simulation focusing on body systems and fundamental skill-based scenarios, garnering valuable experience as they move into the clinical area. Juniors and seniors practice more advanced nursing skills including medication administration, intravenous infusion therapy, hemodynamic waveforms, chest tubes and artificial airways along with simulation encounters such as postoperative care, blood transfusion reactions, postpartum hemorrhage or an acute asthma attack. Through the simulation strategy, students are comfortable in applying their knowledge in the hospital, clinic or home setting when caring for actual patients. Through clinical simulation students improve their knowledge base, critical thinking, nursing process and interventions, communication, socialization and self-evaluation.

Students' Role in Clinical Simulation

Students prepare for all simulation activities. Prior to active participation, they must participate in the classroom, read textbooks, view audiovisual programs, and complete prerequisite written materials. This helps the student to be well prepared for the critical thinking

required in the simulation activities and optimizes their learning in the lab setting.

Most simulation activities at Villanova University are incorporated for the purpose of learning and better preparing students for clinical encounters they may have, or to supplement the clinical environment and equalize the experiences available for all students. Students are given a role to play in the scenario, and roles are rotated to assure equalization of experience opportunities. Faculty and some students provide feedback using an observation tool with feedback criteria listed during the debriefing session. Debriefing allows students to identify strengths and weaknesses in performance and determine additional strategies for enhanced future live patient encounters. If simulation is used for testing of students' knowledge, faculty develop strict evaluation criteria to provide all students with a fair evaluative experience.

Benefits of Clinical Simulation

Simulation activities provide students with an active learning strategy where mistakes can be made and learning can take place without the risk of an error to the patient. Students can enhance their psychomotor skills, critical thinking and knowledge base while receiving immediate feedback. They can learn how to manage basic nursing care as well as how to perform in crisis situations. Use of simulation can support students' competency development, moving them further along the continuum toward competent performance.

Clinical simulation is not a substitute for clinical practice in a "real" clinical setting. Students maintain the majority of their clinical hours, but have these pre-practica experiences that enhance their integration of classroom learning and clinical performance, ultimately improving patient care.

Student Feedback Regarding Simulation

Feedback regarding simulation activities is generally positive. Freshmen and sophomore students enjoy having realistic opportunities for hands on experiences and being placed in situations that allow them to feel like a "real" nurse. Upper class students enjoy the additional opportunities to enhance their skill development in situations where mistakes are not life threatening. They feel that these experiences help to better prepare them for their clinicals as well as their exams.

Villanova University's Learning Resource Center

Villanova University's Driscoll Hall offers students a 12,000 square foot Learning Resource Center that provides 10 future-oriented clinical simulation labs for undergraduate clinical education including: basic nursing practice skills, health assessment, adult health, maternal/child health critical care nursing, and individualized patient care experiences. These labs are all supported by advanced technology including recording and storing simulation activities. The College has a family of simulators, which mimic normal and abnormal human physiology, including male and female adults, a pregnant woman who gives birth, children, and infants. These mannequins support the simulation curriculum that has been developed over recent years, and provides an excellent supplement to the opportunities available at a wide variety of clinical sites in the Philadelphia area. ☺

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