



Nursing Simulation ENVIRONMENTS

High-Tech Meets Hands-On *By Mary D. Watson*

On the second floor of White Hall, technologically sophisticated patients – ranging from newborn to adult—rest in authentic, hospital-like rooms. Imagine an electronic baby that cries or screams or an eight-year-old that blinks, breathes, talks and has a pulse.

Picture an electronic adult patient with all of those capabilities plus pupils that can dilate and vital signs that respond to anesthesia.

Another room houses a female patient that can labor and give birth in one minute or up to 15 hours.

While it may be the stuff of science fiction,

in reality a total of seven such units await care in the three patient rooms and one surgery room of the simulation environment in Union University's School of Nursing.

Housed under the Baptist Memorial Health Care Center for Excellence in Health Care Practice, the state-of-the-art simulation capabilities are an integral part of the undergraduate nursing and graduate nursing anesthetist programs. Thanks to computers, cameras, phone lines, hospital supplies and highly skilled nursing faculty, student nurses at Union encounter a range of patient care experiences ranging from routine to crisis.

More than 300 scenarios per academic year for the undergraduate pre-licensure program add up to more than a thousand hours of direct patient care. Part of the clinical rotation cycle which includes hospitals, the simulation experience makes up 25 percent of the clinical requirements for undergraduate nurses.

Two faculty members, Joy Thomason, assistant professor of nursing and director of undergraduate simulation, and Jessica Suiter, assistant professor of nursing, engage students in the simulation environment 8-10 hours a day, four days a

week. Each simulation session is four hours in length, which includes a pre-conference, the scenario and a debriefing process.

A control room houses a system for each simulator. Unseen by the student nurses, a faculty member sits at a system with headphones and a computer that controls changes in the simulator. Vital signs and patient history appear on a screen in the patient care area.

Also unseen is the simulator specialist who controls the simulator, supplying a voice that can be questioning, complaining or groaning in pain. "Come help me!" or "I'm hurting!" demand the students' attention.

If nurses need to call the hospital operator for any reason, they use the patient phone. The call goes to the control room and is answered and forwarded accordingly.

"We try to make it authentic for them and set up the props in order for the situations and conversations to be as realistic as possible." Thomason says.

In a recent scenario, nursing students cared for a young boy who was complaining of abdominal pain. They monitored his condition, conversed with his physician by phone and ordered prescribed meds from the hospital pharmacy.

The intense training-drama was realistic in every respect, including having release forms signed, maintaining a sterile environment for procedures and trying to explain everything in terms an upset eight-year-old could understand.

"There's always learning in every situation. They are going to be exposed to diseases they haven't seen, procedures they haven't been able to do or maybe not even covered in their curriculum at this point," Thomason says.

At the graduate level, the anesthesia students use the facilities, particularly the surgery unit. With the technology available in the simulation environment, students are able to start IVs, talk to the patient, put the patient to sleep and monitor vital signs. When a simulator is given a medication by injection, the vital signs and patient react realistically.

"Simulation is not a substitute for real life experience in the hospital setting, and it should never be that," Thomason says, "but it enhances it. The student gets to see the progression of patient care in a shorter amount of time and apply their knowledge in a more concise manner. It makes them problem-solve and prioritize at the bedside

as the condition of their patient changes."

Tim Smith, dean of the School of Nursing, cites three important reasons why the nursing program is structured using the simulations environments.

First, the simulations provide more intense learning at a 4/1 student to faculty ratio, much lower than the current hospital student/faculty ratio of 8/1.

Second, the simulation environment enhances the curriculum. "We can create any environment, any situation that we want," Smith says. "We can focus on the concept we want to teach."

Because the dynamics are programmed into the simulators, the faculty can alter the situation based on where the students go with a scenario.

"One of the things that has helped our program to grow and get more actively integrated into the curriculum is the foresight of our administrators to purchase

health is a less-intense scenario, where students deal with many issues that are on a personal level, such as spiritual, financial, family dynamics and death and dying.

"We are also in a position to offer continuing education units to nurses already at work in the hospitals," Thomason says.

Recently, Dr. Keith Williams, Jackson OB-GYN physician, participated in an emergency labor and delivery simulation. BSNA students assessed the situation, took necessary steps and moved the patient to surgery for a caesarean section.

Dr. Jeff McCartney, pulmonologist in Jackson, collaborated on a pulmonary disease teaching session which incorporated simulators, respiratory therapy and cadaver lab with Union professor of biology James Huggins.

Providence Hall, scheduled to open summer 2010, will have one of the largest



this programming," Thomason says. "It's such a blessing for the students in our school."

Third and most importantly, the simulation environment supports the philosophy of education of the School of Nursing.

"Students in health care programs – whether nursing, pharmacy or medical – tend to be visual learners," Smith says. "So our philosophy of education is to take them out of classrooms as soon as possible and give them hands-on experience. This allows them to develop critical thinking skills much sooner. We take them from class to basic skills to advanced skills – simulation – very quickly."

The simulation scenarios encompass medical surgical aspect, pediatrics, obstetrics and community health nursing. Community

nursing simulation laboratories anywhere in the country. The 19,000 square-foot third floor will house a 75-student classroom, 10 patient rooms, one operating room and more state-of-the-art, wireless simulators.

"The new facility will also allow us to bring in the most technologically advanced post-conference and debriefing capabilities," Smith says. Students will be videotaped and get to watch the video afterward to promote self-assessment in the debriefing process.

"It's an exciting time and it's so worthwhile," Thomason says. "We're thankful that God has provided these blessings that allow us to enhance the integration of nursing care with Christian values." ■