



“Smart dummies” LEARNING THRIVES IN SIMULATED ENVIRONMENT AT WELLS CENTER



The old saw says we learn by doing. For a growing number of people in health care, that’s changing to “we learn by simulating.”

That’s the fundamental assumption at the Wells Center, a Colorado Department of Labor and Employment-funded initiative to provide advanced education for health care workers around the state and region, in large part through simulation training.

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University of Colorado Hospital is one of the Wells Center’s many community partners, contributing equipment for simulation training and receiving hundreds of hours of training per year for its employees in return. UCH Chief Operating Officer John Harney serves on its governance board.



Members of UCD’s Medicine Residency Training Program listen as Brad Runzel, simulation technical coordinator for the Wells Center (white shirt, no tie, middle three photos), offers instruction during a simulation exercise February 27. Bottom photo: Kristen Demorulle, MD, delivers “CPR” to mannequin “patient.”

Simulating the real thing. “We use the Wells Center for developing, implementing and running simulations,” says UCH life support coordinator Kristin

Paston, RN, who serves as the hospital’s liaison with the center. Training focuses on emergency and critical care, she says, but “we’re also working on adding some med/surg simulation courses. We’ve barely nicked the tip of the iceberg in how much we can do.”



The simulations are scripted encounters with programmable mannequins – the Wells Center calls them “human patient simulators” – built around a wide variety of situations health care workers encounter, such as cardiac arrests, airway obstruction and traumas of all types. In a February 19 demon-

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stration on the UCH Burn Unit, a mannequin simulated a burn victim (*see related story in this issue*).

They may only be stand-ins for human patients, but the mannequins act like the real thing.

“They talk, in some cases their pupils react to light, they give EKG readings and they register blood pressure changes,” Paston says.

Tailoring the scenario to the objective. In fact, notes Wells Center simulation technical coordinator and mannequin-programmer Veronica Baiamonte, how they react depends on the goals of the simulated encounter.

“We build the programs based on the objectives of the scenario,” she says. “For example, an objective for one group might be to work more quickly, so we would speed it up. Others might want to work on better communication. In that case, we would build the scenario so they would have a longer amount of time to figure it out.”

The scenarios don’t have to reflect life-and-death situations, Baiamonte stresses. “They can deal with patient safety issues, such as treating pressure ulcers,” she points out. “The scenario objectives would be do a skin assessment, roll the patient, assess and identify two pressure ulcers. That procedure could save a life because an untreated pressure ulcer can kill a patient eventually.”

The facilities at the Wells Center include areas behind one-way glass that allow observers to watch the scenario play out. At the conclusion, participants gather for a debriefing session to discuss “what could or should have been done,” Paston says.

Learning to think. “The simulated environment provides real-life scenarios that help develop critical thinking and rapid-response skills,” notes Lucy Orr, RN, MBA, the center’s executive director. “During the debriefing, participants analyze what went right and wrong. It’s like what the airline industry does during safety and quality training.”

Support for this type of training now has solid roots around the state, Orr says. “There are more than 30 simulation labs, most in-house. Many have developed

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through work with the Wells Center, which has served as an incubator. We've been able to offer them support through classes and courses."

3-D anatomy. Simulation also plays a key role in an 80-hour critical care nursing course the Wells Center offers. The course consists of ten modules covering seven systems of the human body. For the anatomy portion, students make use of the VH (Visible Human) Dissector, a program developed by scientists at University of Colorado Denver that provides three-dimensional and cross-sectional views of more than 2,000 anatomical structures.

With the help of Adam Lawson, professional research associate with UCD's Center for Human Simulation, the Wells Center has integrated anatomical lessons on the VH Dissector with simulation scenarios that are part of the course.

"The lessons help students who have taken traditional anatomy, but it hasn't soaked in," Lawson says. "The visualization of the actual human body produces plenty of 'aha' moments. Their body of knowledge expands."

The Wells Center hopes to solidify its position and expand its reach in the coming months, Orr says. For example, it is working on developing fee-for-service specialty courses for hospitals that do not have educators and mannequins.

"The courses could use educators from the hospital so that a critical care course, for example, is customized to their needs," she notes. "The goal is to provide a strong educational background for people in health care and build a trained workforce in shortage areas."

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