3 ways virtual patients help medical students step up their game

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Some are on paper. Some are made of plastic. Whatever the medium, virtual patient simulations—used in a variety of scenarios—are creating physicians more equipped to perform in the real world.

Here’s a look at some of the groundbreaking work using virtual patients in medical education.

Virtual patients changing EHR education

The Regenstrief EHR Clinical Learning Platform features more than 11,000 records with misidentified data—real patient information that has been altered so privacy is preserved—providing educators with realistic case presentations and giving medical students insights into true-to-life clinical scenarios. The platform began with a grant from the AMA, which still collaborates with this project.

Learn how the schools of the AMA Accelerating Change in Medical Education Consortium are adapting technology in new ways to solve key problems and advance physician training.

The University of Connecticut (UConn) School of Medicine is incorporating the Regenstrief EHR Clinical Learning Platform into two courses.

One focuses on basic science principles and pathophysiological mechanisms through a case-oriented approach. The cases in this course are introduced through patients in the EHR who are members of diverse families. The other course covers evidence-based decision-making, health policy and public health, focusing on social determinants of health and disparities. Students work through exercises in which they mine the EHR to learn about differences between populations by age, ethnicity and socioeconomic.

“The overarching goal of this curricula is to make what students learn relevant to patient care, “because they came here to be doctors,” said David D. Henderson, MD, associate professor of family

medicine and associate dean for medical student affairs at UConn. “They came here to learn to take care of patients, and the idea is to get them introduced to the science part of medicine vis-a-vis patients, albeit virtual patients and virtual families.”

**Seeing dementia from the patient point of view**

During their geriatric rotations, medical students at the University of Florida College of Medicine experience the Virtual Dementia Tour, a product that uses sensory tools to simulate the symptoms of patients suffering from the condition. The experience helps students understand the scope and impact of this issue.

During the Virtual Dementia Tour’s interactive portion, participants are put in a dark room wearing glasses, headphones and gloves that simulate the tactile and sensory limitations that often come with dementia. Participants in the tour are then asked to perform the basic activities of daily living with which patients with dementia often struggle.

“Empathy was something they were able to draw out of their experience,” said Mallory Otto, MD, a clinical assistant professor in the University of Florida’s Geriatric Medicine Division. Students were “blown away” by what they absorbed. “Learning through the actual experience of going through the simulation, they gained a lot from that, even without necessarily having the exposure to patients.”

**Medical simulation: No longer for dummies**

A product that uses virtual reality technology to give emergency medicine trainees customizable experiences with virtual patients of all sizes, ages and colors, SimX is changing the game when it comes to medical school simulation.

Traditionally, the “patient” students interacted with during simulations was essentially a larger version of a CPR dummy. It could shake to simulate a seizure and had a pulse, but beyond that—for physical reasons, demographic reasons and many others—it was not an accurate portrayal of an emergency department encounter.

In creating SimX, Ryan Ribeira, MD, clinical instructor at Stanford University’s School of Medicine, has authored a more realistic patient simulation experience. While wearing the SimX headgear, a user can see a virtual clinic and those working with them in a scenario. Trainees also can talk with the patient to find out what is wrong.

“Because the patients are virtual, you can do just about anything you could do in a video game,” said Dr. Ribeira, SimX’s CEO. “You can have a patient give birth over the course of the scenario and then...
treat the patient and the baby. These are things that would be almost impossible to recreate with mannequins or robotic physical simulators.”