

R O O M S F O R Improvement

Upstate Medical University's new Clinical Skills Training Center provides state-of-the-art facilities for students and residents to hone their examination skills and become clinically competent physicians.

“The student no longer merely watches, listens, memorizes: he does. His own activities in the laboratory and in the clinic are the main factors in his instruction and discipline. An education in medicine nowadays involves both learning and learning how; the student cannot effectively know, unless he knows how.”

—Abraham Flexner, 1910

Despite the explosive growth of scientific knowledge in recent decades, American physicians are still largely being trained under the model developed in 1910 by Abraham Flexner that calls for two years of basic science courses followed by two years of clinical training. What has changed is the methodology of those components.

At Upstate Medical University, as at many medical schools, profound curricular changes in the last 20 years have reformed the experience of medical education, moving from large lecture courses featuring rote memorization to small group teaching and increased emphasis on clinical skills.

At Upstate, that renaissance is reflected nowhere more than the Clinical Skills Training Center, a hallmark of the new Setnor Academic Building.

The Center, which opened in fall 2007, occupies the lower level of the Setnor Building and features 6,400-square feet of medical office space equipped with 22 exam rooms and state-of-the-art technology to allow monitoring of what transpires in each.

In a sense, each exam room is a classroom in which a student or resident practices (or is tested on) his or her clinical skills on a patient with a specific medical problem. Other than the closed-circuit camera, the exam room is no different than what one

might find in any private doctor's office. The patient is a living, breathing person, who has been trained to simulate a specific medical scenario. By using “standardized” patients, each student, in essence, has the



Neurology clerkship students read their patient's information before performing a focused history and physical exam on a standardized patient.



Steven Harris, director of the Standardized Patient Program and Clinical Skills Training Center, monitors all 22 exam rooms from the Master Control Room. The computer system allows him to listen in on any one of the rooms at a time and use the control interface to begin video recording and track the student's progress through the encounter.

opportunity to evaluate the same patient experiencing chest pains or presenting with pneumonia.

Although standardized patients have been used at Upstate to teach clinical skills for years, the addition of 21st-century technology brings the experience into a new era.

“Before the Setnor Building was completed, our small groups were held in various buildings around the campus: Cedar Street, Madison Irving, the VA hospital, University Hospital, Institute for Human Performance, and Weiskotten,” says Debra Buchan, MD '87, director of the Practice of Medicine (POM) course required of first and second-year students. “The students had to trudge through rain and snow to get to their small groups and it was very difficult to coordinate activities and to monitor attendance as well as small group leader performance. Our clinical skills exams were held in classrooms with makeshift examination rooms

and to observe, someone had to sit in the room with the student and ‘patient.’”

A Building with a Purpose

Solving those kinds of problems was a major impetus for the Setnor Building, as well as adding much needed classroom space. The building was funded through a collaborative effort by alumni, faculty, the institution, and the state. When it was clear the building and a clinical skills center would become a reality, Lynn Cleary, MD, then associate Dean for Curriculum, turned to Steve Harris for assistance.

Harris had run the standardized patient program for the Introduction to Family Medicine Course, a precursor to POM, before moving to the University of Cincinnati, which at the time had one of the first state-of-the-art clinical skills centers in the nation.

Ultimately, Cleary recruited Harris to return to Upstate as director of Upstate's new center, just in time to serve on the building planning committee charged with creating the space.

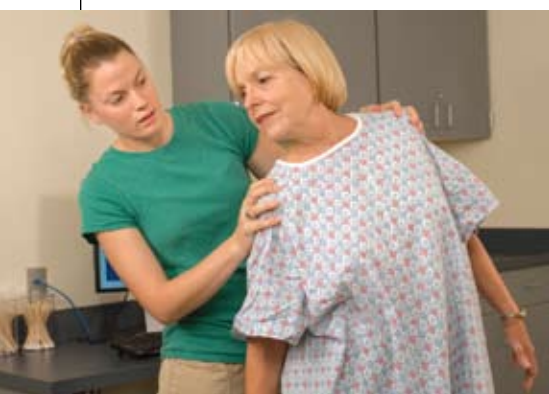
Anyone touring the Clinical Skills Training Center can see how computer technology enhances the learning experience. Although technology is ever changing, the Upstate facilities are as sophisticated as available anywhere in the country to date.

Outside of each exam room, students swipe an ID card to activate their clinical encounter and receive any written instruction regarding the patient they are about to see.

Each patient exam room is outfitted with cameras and sound equipment that feed both to a central control room, where Harris or his assistant, Amber Hansel, can simultaneously view the scene in all rooms on two



Michael Vertino, MD '95, demonstrates a neurological physical exam technique in a small group teaching session.



Physical therapy student Kristina Wulff '10 assesses a standardized patient's range of motion.

large monitors as well as communicate with each room via intercom, as well as a monitor room, where faculty can view a particular room on a computer screen. Each exam is video recorded, so faculty or the student can also view it at a later time.

During a session, students practice taking medical histories and perform exams on "standardized patients." The meeting between physician and patient will take place just as it does in the doctor's office. The student will take a medical history and conduct a patient exam. An instructor in an adjoining room will watch the exchange between patient and physician from a video monitor. Later, the student and instructor might view the video together and discuss ways to improve communications with the patient.

At the end of each student-patient encounter, after the student-doctor has left the room, the standardized patient completes an evaluation on a computer in the exam room. "The 'patient' doesn't tell the student what they should or shouldn't do, but rather 'this is what it felt like today to be your patient. Here are some things that you might have done to make my experience better.' In that

sense, a well-trained standardized patient is as good, or in some ways, better evaluator than a faculty member," says Harris

Another aid to the evaluation process is the standardization of the cases, and thus the standardization of the student experience. "We can train a group of standardized patients to play the same role, so that each student sees the same type of presenting patient. It's a way to objectify an evaluation experience," he adds.

According to Michael L. Vertino, MD '95, director of the Neuroscience Clerkship, "the standardized approach to evaluation is a significant step toward assuring our students meet curricular goals.

"The Clinical Skills Center and associated Standardized Patient program provide a great resource for teaching and evaluating a

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CHARACTERS WANTED: Program Success Hinges on Experienced Actors

Annette Adams-Brown and her son, Anthony Brown, are actors who portray standardized patients for medical, nursing and physical therapy courses at SUNY Upstate Medical University. Adams-Brown, whose 'day job' is assistant artistic director of the Paul Robeson Performing Arts Company, describes the appeal of role-playing patients for the university: "It's an honor to help students see health care from the patient's point of view," she acknowledges, "and the students seem grateful that we allow them to practice their clinical skills on us."

More than 100 actors work in the Standardized Patient Program which began, officially, in 2003 and has flourished in the new, dedicated Clinical Skills Center at the Setnor Academic Building. The use of standardized patients began five years earlier, when director Steven Harris introduced patient-actors into the Family Medicine program to help medical students and residents develop their communication skills.

During one memorable practice exam, Adams-Brown's acting skills were put to the test—when a second-year medical student discovered a real lump in her breast.

"It's my job to stay in character," comments Adams-Brown. "and I know I can cope with whatever life brings my way."

As soon as the medical student identified the lump, the faculty member (Lisa Kaufmann, MD) used the situation to help the student recognize the anatomy, and indications, of that tissue mass.

"Try to describe the overall shape and consistency of the lump," she said. "Is it round and soft? Flat with distinct edges? Watery, sinewy, or hard? How big is it?"

It was a spontaneous, instructive moment, and one that could not happen with a textbook.

Fortunately for Adams-Brown, the lump in her breast was later diagnosed—by her real-life physician—as a benign fibroid cyst.

Family Act

Anthony Brown became a patient-actor the summer after high school graduation. One of the characters he portrays is a teenager who falls asleep in school.

Brown, who first performed on stage at age 4, finds that the clinical skills training program is an interesting acting project. "I get a character and specific lines to learn, but much of the interaction is 'improv,'" he explains. "The students have to draw the facts out of our characters."

"My character only talks when he feels like he's being treated as an equal," admits Brown. "When a med student starts lecturing about 'healthy lifestyle choices,' my character doesn't like it, and shuts down."

Brown's mother describes a similar 'teaching moment' during one of her cases: "I was portraying a woman with asthma. The first-year student asks, 'Do you have roaches?' I'm in character, and I'm totally shocked."

During the after-exam evaluation, Adams-Brown learns that roach droppings can trigger asthma and the student sees that her question could offend and cause the patient to lose trust in her doctor. The faculty member, who had been observing the exam via video camera, joins the critique and discusses ways to get the health information, and keep communication open between patient and physician.

The critique from the patient-actor is an integral part of the training process, as is a computerized questionnaire that is completed by the actor after each student exam.

After five years of working as a simulated patient, Adams-Brown is clear about the benefits of the clinical skills training.

"The first-year medical students are so buried in textbooks, they can forget that the person in the exam room is more than a specimen to be studied," observes Adams-Brown.

"By the fourth year, they are amazing. Their abilities to communicate with our characters, to ferret out the medical needs, are very good. As I said, it's an honor to help them become great doctors."

—Susan Keeter





Students enter and exit the exam rooms from an exterior hallway to limit the interaction with the standardized patients while they are "out of character."

range of clinical skills including: communication and counseling, physical examination techniques and selection, and diagnostic reasoning," he says.

While the facilities are certainly helpful to faculty and their ability to evaluate students and residents, it is those students and residents who are the chief beneficiaries. And they are extremely appreciative, particularly those who have had the opportunity to experience both the "before" and the "after."

"Before we had the Clinical Skills Center, we had to do patient interviews in a classroom in Weiskotten," says Russell Kahmke '10. "There was a huge room with many students, all separated with stand-alone curtains. Inside the area was a standardized patient, an observer, and a stu-

dent. It was very difficult to act like a 'real' physician when you were sitting there listening to your classmates less than six feet from you. It was very noisy and difficult to concentrate. You could also see the expression on the face of the physician observer as you asked questions, which (whether you want to admit it or not) showed you whether what you were doing was right or not during your interview."

In addition to privacy, there's the realism involved. "These new facilities give us the opportunity to manage a patient in the setting that we will most likely be seeing them in the future and to practice the skills we mastered throughout the year," adds Sarah Fabiano '10. "The Clinical Skills Center has top of the line equipment, from ophthal-



The state-of-the-art Standardized Patient Staging Area provides a place for extensive training of the standardized patients. This interior space of the Center allows the standardized patients to switch between rooms and relax on break without encountering the students in the exterior hallway.



Elizabeth Dawson '09 and William Hahn '09 learn hands-on physical exam skills from faculty and patient educators.

moscopes to modern examination tables, to supplies of gowns and sheets to allow proper draping. As a recipient of the POM Clinical Skills Award, I must say this was a key component to mastery of these skills."

Clinically Competent

And that's the whole goal: what's known as "clinical competency," and what prompted much of the curricular reform that's occurred at Upstate and elsewhere.

Research by the AAMC beginning in the 1990s suggested that medical schools may not adequately prepare doctors for practice, pointing out deficiencies in history-taking skills, physical examination, diagnosis, and management. In response, a clinical skills examination was added to the Step II of the United States Medical Licensing Exam in 2004, requiring all medical students to pass a one-day exam that evaluates their clinical skills based on interactions with standardized patients.

Most medical schools have adopted a model of clinical education in the first two years akin to Upstate's POM course and the use of standardized patients has become the

POM director Debra Buchan, MD '87, monitors student interactions live from the Monitor Room.



Interacting with standardized patients gives students a chance to practice good communication skills, such as expressing empathy for a patient's pain.

norm. At Upstate, first-year students conduct several patient exams covering basic history and exam skills as part of the POM course. During their second year, they conduct physical exams with a group of patients specially trained for male genital-rectal exams, and female breast and pelvic exams. As of fall 2008, six of the core clerkships have a standardized patient component in which students will conduct examinations on patients in the Clinical Skills Training Center—Family Medicine, Surgery, Neuroscience, Psychiatry, Pediatrics, and Medicine. And at the beginning of fourth year, all

students take the Clinical Skills Exam, in which they conduct 10 exams, one right after the other, based on the same format as the national board exam.

"The perception of many people is that it is practice for the national board exam, but it's more than that," says Harris. "It's our own exam so that we know our students are learning what we want them to be learning. It's more important than prepping them for a test. It's teaching them to be competent, confident physicians." ■