The New Clinical Skills Suite at the Warren Alpert Medical School: Integrating Technology, Medical Education and Patient Care

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As the Warren Alpert Medical School (AMS) moves into its new home at 222 Richmond Street in the summer of 2011, AMS students and faculty will now be able to access instructional technology for medical education not previously available at Brown. Recent consensus guidelines recommend that in preparing for the changing role of instructional technology in medical education, technology be used to:

- Provide experiences for learners that are not otherwise possible;
- Focus on fundamental principles of teaching and learning rather than learning specific-technologies in isolation;
- Allocate a variety of resources to support the appropriate use of instructional technologies;
- Support faculty members as they adopt new technologies, and provide funding and leadership to enhance electronic infrastructure.

State of the Art Clinical Skills Suite

At AMS, our goal of integrating instructional technology into medical education will be greatly enhanced with the availability of a clinical skills suite. The new facility, which will be located on the third floor of the new medical school building (http://med.brown.edu/newbuilding/building_layout/thirdfloor), will be a key contributor to the integration of medicine, education, and technology. The suite, composed of a 16-exam room, state-of-the-art simulated physician’s office, will be home to the medical students’ virtual clinical practice. Each room is equipped with an examination table, required examination equipment such as blood pressure cuffs and otoscopes, and a physician’s desk (Figure 1). The examination rooms will also be equipped with a computer for the use of faculty or standardized patients (actors, trained to portray a patient with a specific disease presentation) for the rating students’ clinical performance, and with video recording capability (two closed circuit television cameras per room). The latter will allow students to view their own encounters, and faculty to critique students’ clinical performances. Outside each clinical suite will be another computer station that students will use to document their notes or complete a written exercise related to the patient they had just seen. The suite will be fully automated with sophisticated software capable of scheduling students for examinations, recording assessment data, and analyzing results, allowing faculty to provide immediate feedback to both students and faculty.

The Doctoring Course

The technologic capabilities of the clinical skills suite will enhance a number of components of the curriculum at AMS, including the Doctoring course. Doctoring, currently a two-year clinical skills course in Years 1 and 2, is designed to teach the knowledge, skills, attitudes, and behaviors of the competent, ethical, and compassionate 21st-century physician. Beginning in 2012, Doctoring will be a required course for all students from the first year through the fourth year of medical school.

Figure 1. An architectural rendering of one of the examination rooms in the clinical skills suite (Courtesy Ellenzweig Associates).
The clinical skills suite will allow students the opportunity to acquire and hone their skills in a clinical environment very similar to where they eventually will practice medicine.

Core Clerkships

The clinical skills suite will also be used within specialty-specific core clerkships at AMS. At present, core clerkships in Internal Medicine, Obstetrics and Gynecology, and Pediatrics run an individual Objective Structured Clinical Examination (OSCE) at the conclusion of their rotations. Space and other resources necessary to conduct these OSCEs have often been difficult to arrange in the hospitals. In the new clinical skills suite, clerkship faculty (with the assistance of medical education administrators at Brown) will have the use of consistent state of the art facilities and resources to assess students’ clinical performance in their own familiar clinical setting at the end of a clerkship. It is also planned that procedural training will become an integrated part of all core clerkships, facilitated in part by the availability of the new clinical skills suites.

Fourth-Year OSCE

At AMS, the fourth-year OSCE is a required, summative examination held every fall to assess student competency using standardized patients. Clinical cases are drawn from multiple specialties and capture the essence of a typical day in an outpatient office, in the emergency room, or on the hospital wards. Students can be evaluated on their medical knowledge as well as their communication and physical diagnosis skills. Most recently the role of the OSCE has been expanded both nationally and at AMS to assess professionalism, quality improvement, and written documentation.
The clinical skills suite will improve the way this important clinical exam is administered and graded. In the past, students and standardized patients were scheduled using a time consuming and complex algorithm. AMS has now invested in software to efficiently schedule students and standardized patients for the OSCE. The software also allows standardized patients to score students electronically. It is capable of performing statistical analysis of the exam, allowing medical educators to provide more immediate feedback and comparative data to both students and clerkship directors on student performance. Because of the video recording capability, students who do not pass the initial OSCE can review their own performance, and reflect on their strengths and deficiencies before remediating the examination. This feature is quite important. One recent study showed that “OSCE remediation combining review, reflection, and self-assessment has a salutary effect on (subsequent) performance.”

INTERPROFESSIONAL EDUCATION

The clinical skills suite will enhance interprofessional medical education within Rhode Island. An expert panel recently recommended that health professional students be trained to work in cooperation with those who receive care, those who provide care, and others who contribute to or support the delivery of prevention and health services. Each year, second-year medical students, fourth-year nursing students, and fifth-year pharmacy students are brought together for a half-day workshop where team building and problem solving skills are formally taught. Students function as a 3-person team of one medical student, one nursing student, and one pharmacy student to take a history, perform a physical examination, interpret laboratory data, and counsel a standardized patient. The clinical skills suite will allow this and other interprofessional workshops, as well as other collaborative educational opportunities, to occur. This will provide medical students with important structured opportunities to collaborate with other health professional students early on and throughout their undergraduate medical education. In addition, in the future students from other health professions will be able to use the clinical skills suite for their independent clinical training purposes.

CONCLUSION

As Alpert Medical School moves into its new building, the new clinical skills suite will help transform the curriculum for students, clinical faculty and medical education researchers. The physical space will provide key educational opportunities for our medical students that have not been available previously. Faculty will be able to teach holistic patient care in an enriching environment, allowing them to better focus on the fundamental principles of teaching. Medical education researchers will be able to analyze the impact of the medical school building and its clinical skills suite on student performance. And most importantly, we believe patient care will improve as students are exposed to high fidelity patient care settings earlier and more frequently in their medical training.

REFERENCES

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