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Medical School Provides Students with Mobile Devices

The University of Louisville School of Medicine became the first medical school to provide all 594 of its medical students with handheld computers (Palm m500s) in August 2002. "By the time our students graduate medical school, using personal digital assistants (PDAs) should be second nature to them," said Ruth Greenberg, director of health sciences academic programming for the university.

She believes this will ensure that the students graduate with the skills they need to practice medicine and that the PDA is changing the way physicians practice. PDAs are being used to track patients, write accurate prescriptions, monitor medical information—such as vital signs and medication—and calculate a variety of health indices. They also access reference materials such as pharmacopoeias, including the explanation of drug interactions.

Many PDAs also include medical texts that have been converted into e-books. Today, about 20 percent of the nation's medical schools require third- and fourth-year medical students to use PDAs. To keep pace with the deluge of new information and the pace that medical students are expected to negotiate it, students are rapidly adding the PDA to their armamentarium.

AAMC Supports Michigan Affirmative Action Case

The Association of American Medical Colleges is supporting the position of the University of Michigan because the medical profession must be able to consider race and ethnicity in student selection. The AAMC believes this is needed in selecting students in order to graduate a physician workforce that meets the needs of a diverse society. Its arguments include the following:

- existing health care disparities will only increase as the minority population grows
- minority physicians are more likely to practice in underserved areas
- minority patients' trust in the health care system increases when treated by members of their own racial or ethnic community
- more minorities in medical student populations lead to diversity in medical research

It is expected that after oral arguments on April 1, 2003, the Supreme Court should probably issue a decision before July 1.

(Terrell C. "AAMC files amicus brief in University of Michigan affirmative action case." Washington Highlights. 14(7) 2003; p. 1.)
Student Geriatric
Continuity of Care Track

A yearlong geriatric continuity course—the Geri Track—matches first-year medical students at the University of Texas Health Science Center at San Antonio with "senior professors." Senior professors are healthy volunteers over the age of 65 recruited from the community. Students receive classroom instruction from geriatricians that prepares them for these visits. The Geri Track is one of the tracks that comprises a new Clinical Integration Course (CIC) that begins with a one-month introduction to patient care prior to beginning the basic science curriculum.

Students work in groups of 10 with a physician leader, learning to perform physical examinations and conduct interviews with standardized patients. There are also discussions on various clinically oriented topics such as patient interviewing, the history of medicine, and medical ethics. At the end of the month they take a written examination and are tested in their physical examination skills. Throughout the rest of the year there is a one-afternoon-a-week meeting devoted to one of the five clinical tracks.

In addition to the Geri Track, the other tracks include

- Simulated Patient (history and physicals on standardized patients)
- Community Physician (shadowing a physician)
- MS3 Mentor (first-year student shadowing a third-year medical student in his/her clerkship)
- Clinical Thinking (faculty member leads students through a clinical case)

During the Geri Track with senior professors, students get acquainted with the older adult and his/her living situation. They ask the older persons to answer a range of questions. These include:

- What is their typical day like?
- What has it been like to grow older?
- What are examples of social, medical, psychological, and/or economic factors that impact on their lives?

The senior professors are mainly people over age 65 who still live in their own homes. The interaction by the seniors with the students is as friends and advisors—not as patients. There are no physical examinations, and if medical questions arise, the senior professors are advised to contact their physicians. Students are instructed to call 911, alert a family member, or call a course supervisor if they have concerns about their seniors.


Resident
Work Limits

The Accreditation Council for Graduate Medical Education (ACGME) established new rules requiring medical residents to get one day off out of seven. There also must be a 10-hour rest period between being on call. In addition, shifts for residents cannot exceed an average of 80 hours per week.

This is partly in response to critics who say that the previous workload of residents lead to medical mistakes. Residents currently are clocking an average of 120 hours per week. Mark Levy, who is executive director of the Committee on Residents and Interns representing 12,000 residents in the United States, said the new standards are a move in the right direction but that he has a concern about their enforceability.

Efforts are underway by the committee to enact laws that are tougher on a state level, using New York law as a model. Programs accredited by the ACGME must follow the new rules that take effect July 1, 2003. While ACGME accreditation is voluntary, it is required by hospitals with residency programs to qualify for Medicare funding of their programs.

("Medical group issues resident work limits." Los Angeles Times. February 19, 2003.)
A blueprint for the future of U.S. academic health centers issued by a Commonwealth Fund Task Force recommends major changes in clinical practice, research, and education. The task force issued a report entitled "Envisioning the Future of Academic Health Centers (AHCs)" recommending that the centers should take advantage of new technologies in education and demonstrate greater accountability for what they do. This is particularly important because of growing complexities in the health care environment combined with rising costs. The task force recommended that AHCs develop capabilities to educate students, residents, and clinicians online and remotely. Simulation should be incorporated in all levels, ranging from students who are beginning their clinical training to continuing education of community practitioners.

Another area of potential innovation involves the adoption of new learning technologies such as problem-based learning, standardized patients, interdisciplinary programs, and small-group learning. The task force recommended that AHCs become centers of research innovation by giving high priority to new and traditionally undersupported areas of biomedical research. In addition, AHCs should focus on translating clinical research results into everyday practice. They should nurture and manage research relationships with industry in a manner that promotes the public interest, protects patient participants, and maintains academic values.

The task force noted that any growth in AHC capacity should be focused on the West and the South since they have experienced significant population increases and have few medical schools. The task force also recommended that AHCs improve outcomes that fall below those obtained by peer institutions or discontinue those clinical services. Quality and efficient care comparable to other populations should be provided for vulnerable populations. The task force also recommended that AHCs work with partners in the local community to serve the needs of the poor and indigent. Another recommendation was that programs should be adopted that train staff at all levels to be culturally appropriate and responsive to the diverse, ethnic, and racially varied populations.

Analyzing Pediatric Residents' Math Skills

In pediatric inpatient care, there are 5.7 errors per 100 medication orders. Medication errors are a significant source of mortality and morbidity among hospitalized patients. Incorrect dosage calculations account for approximately 11 percent of errors among hospitalized patients. Calculations are more frequently required in pediatric practice than among other patient populations. At Miami Children’s Hospital in Florida, a 10-question test was given to first-, second-, and third-year pediatric residents on basic calculations. There were an additional four questions to learn about the level of training residents received in the pediatrics intensive care unit, whether they routinely double-checked drug dosages, and if they adjusted dosages for each patient’s weight. There was no time limit for the residents, who were permitted to use calculators and were tested anonymously.

Overall, the 21 residents who participated had an average of 65 percent, with the mean score in each individual class being under 70 percent. There was no significant difference between classes, but third-year residents had the lowest average score. Errors involving medications have been implicated in approximately a fifth of all hospitalized patients' injuries and deaths. In addition, only 19 medical schools required a college mathematics course for admission. Seven of the residents in the test had tenfold dosing errors, while one had a 1,000-fold error. None of the residents was able to identify any of the infusion-related errors in the test. The study concluded there was a need for additional education for pediatric residents in basic mathematical calculations used to prescribe medications. It was suggested that this be part of the orientation and that residents should be required to demonstrate mathematical competence before they are allowed to prescribe medications.

(Steiger BJ, Grekin RC. "Analyzing pediatric residents' math skills for prescribing medication: a need to improve training." Academic Medicine. 77(10) 2002; pp. 1007-1010.)
Interdisciplinary Geriatric Education
Involving Older Adults

Students in medicine, nursing, and pharmacy from the University of Florida were included in a pilot program called Seniors Active in Interdisciplinary Geriatric Education (SAIGE). Twenty-seven first-year students divided evenly among these disciplines were divided into groups of three, one from each profession. They were assigned to make home visits to community-based elderly residents and document their experiences. The objectives of the program were to

✓ teach preventive health care in the home
✓ expose students to team practice
✓ encourage an interest in geriatrics

These were congruent with the objectives of the curriculum for the students in each of the disciplines, which included beginning interviewing skills, patient assessment, and biopsychosocial aspects of health behavior. Students were selected based on what they had written in the essay that was included in their application for admission to their college. They made six home visits over the year and had six meetings in their small groups to discuss their assignments and debrief the home visit with their faculty. SAIGE community volunteers who were over age 65 and who lived within a 10-mile radius of the campus were recruited from the university clinics. They were not given any remuneration and were diverse by race, socioeconomically, and by the number of members in their household. Each community volunteer signed a consent form to have the students in their home and agreed to provide feedback about the students’ interviewing and assessment skills.

There was a pre-home visit assignment requiring students to assess the population characteristics, housing, shopping, transportation, and health and leisure facilities as well as the nearest drug store. They developed a “wellness prescription” for their community volunteer during the course of the home visits, evaluating its impact at the last visit. Because the academic schedules of the three schools were different and each had a tightly packed curriculum, it appeared that the first year of their course of study provided the best opportunity for the program.

(Waddell R, Burg MA, McCarthy J, Davidson RA. “Evaluation of an interdisciplinary course for medical, nursing, and pharmacy students.” Annals of Behavioral Science and Medical Education. 8(2) 2002; pp. 85-91.)

The Medical Education Digest also is available for viewing on the Internet at http://medicine.nova.edu/ostmed/admin/facdev.