**Is a Specialist Shortage Gripping the Nation?**

In the late 1980's the Council on Graduate Medical Education (COGME) proposed that the ratio of generalists to specialists be 50:50. Richard Cooper, M.D., director of the Health Policy Institute of the Medical College of Wisconsin, states that this recommendation was based on methodological weaknesses and was a social rather than a scientific judgement. This was in spite of the fact that COGME's proposal was endorsed by major professional organizations.

Dr. Cooper claims his studies indicate the United States is heading towards a substantial shortage of specialists. When looking at various specialties around the nation, he found that national leaders in such fields as nephrology characterize the situation in renal care as getting desperate, and that specialists in pulmonary/critical care say that, "no one talks about who is going to take care of these patients." Other evidence shows increasing demand for hematologists/oncologists, psychiatrists, gastroenterologists, and a growing need for intensivists. Shortages are particularly acute in cardiology, rheumatology, and anesthesiology.

Shortages in radiology are being reported with a crisis being developed. A survey of dermatologists revealed that half felt there were too few. Some possible exceptions are ophthalmology, which is described as being oversubscribed, and coronary artery surgery that is being affected by the increase in interventional cardiologists, although volumes remain high as elderly patients require surgery. A recommendation is made to begin planning to expand medical schools and to build more as well as to wean ourselves from depending on international medical graduates.

(Tozer R. "There's a shortage of specialists: Is anyone listening?" Academic Medicine. 2002; 77:761-766.)

**Handheld Computers for Enhancing Primary Care Clerkships**

Dartmouth University's Department of Community and Family Medicine developed and implemented a system using handheld computers that collects valid and reliable data, generates and distributes reports to students in a timely manner, and allows for the evaluation of educational outcomes. It includes a section that documents the 20 most common problems seen in ambulatory settings.

Another section included information about the educational process, demographic information about students, patients, preceptors, type of health visit, physical examination elements, teaching content, and feedback received from preceptors. The handheld computer also orients the student to its proper use.

Dartmouth has experience with 22,000 student encounters over five years. They concluded that the system allows the faculty to better understand and enhance community-based medical education.

(Pipas CF, Carney PA, Eliassen MS, Mengbol SC, Fall LH, Olson AL, Schifferdecker KE, Russell MT, Pelier DA, and Nierenberg DW. "Development of a handheld computer documentation system to enhance an integrated primary care clerkship." Academic Medicine. 2002; 77:600-609.)
Communicating with Hard-of-hearing People

Since hearing loss is found among nine percent of the population and it is the sixth most common chronic condition, a rationale is provided for including information about the problem in medical school curricula on patient-doctor communication. Guidelines are provided that include how to best communicate with patients who have a hearing loss. The authors also emphasize the importance of expressive communication, including such methods as eye contact, writing, adjusting voice pitch, use of assistive hearing devices, repeating statements, and permitting patients to view the mouth of the physician.

Patients should be asked periodically to summarize what is said to check the accuracy of the communication. It also is suggested that the patient be positioned well to see the doctor or interpreter. Physicians with hearing losses are also discussed. It is suggested they use amplified or visual stethoscopes, vibrating pagers, as well as support groups with other physicians with similar problems.


A Physician with a Learning Disability

The head of a combined residency in medicine-pediatrics at a large medical school reports on his own experience with a learning disability that followed him from the first grade through medical school.

He describes the difficulties and embarrassment he went through, emphasizing those associated with medical school. In order to challenge premedical introductory chemistry, he had to take the course twice. Finding that he was able to learn best if he could study by himself, he skipped class, something he found to be frightening but critical to his success.

In addition, by being open about his problem, he was able to get additional time to take examinations and a private room to complete them. By accepting himself for who he was, including the risk of failure, he managed to complete medical school, residency, and rise to the level of success he ultimately achieved.

(Weiner SJ. "Learning medicine with a learning disability: Reflections on a survivor." Academic Medicine. 2002; 77:709.)
University of Pennsylvania President Judy Rodin, speaking to a group of academic leaders, stated that, “In the next 10 years, there will be more flexibility in teaching modalities. The standard college lecture will pretty much be a thing of the past. The teacher of the future will be more of a mentor and less of a didactic lecturer.” In speeding up communication and making huge amounts of information accessible, technology has—to a degree—obviated the lecture. With knowledge now at one’s finger tips, it is now appropriate to focus on how to use knowledge. Lectures up to now have been considered the most efficient form of instruction, pouring large amounts of information into the student’s mind.

William Tierney, professor of higher education at the University of Southern California, says educational reform is sure to be dramatic in the next few years. Referring to the use of lectures, he indicated that no aspect of teaching will change more rapidly. The concepts of educational reformer, John Dewey, who was highly influenced by Rousseau’s “Emile,” a classical work on education, argues that “the set lecture was destined to be replaced by readings, reports, discussions, etc. with the teacher guiding the study by questions, references, and printed helps.”

As far back as 1931, Hamilton Holt, the then-president of Rollins College in Winter Park, Florida, influenced experiments that took place at Sarah Lawrence, Antioch, Bennington, Cornell, Lehigh, Vanderbilt, the University of Chicago, and elsewhere. He theorized that learning takes place when students are led to make personal discoveries, often with other students, rather than when inundated with facts and called upon to remember them for examinations. Holt referred to lectures as “that mysterious process by means of which the contents of the professor’s notebooks are transferred by means of the fountain pen to the pages of the student’s notebook without passing through the mind of either.”


Mobile Technology Has Impact on Medical Education

Medical education has become more and more diffuse. Since students no longer work with a single team in a single location, medical educators do not have as much control over what they are experiencing. This makes it much more difficult to verify that they are getting a broad-based exposure to clinical medicine. The health care industry is taking a closer look at how personal digital assistants (PDAs) can improve medicine and patient care. Medical schools are leading the way in the use of mobile and wireless technologies to improve course management, enhance student-faculty communication, and monitor performance and programs.

John D. Halamka, Harvard Medical School associate dean, states that, “The future of education lies in the adoption of technology, such as mobile and wireless, that connects people, unifies the educational process, and enhances learning.” By the middle of the decade, palm-sized mobile devices will make strong inroads with physicians completing clinical documentation and performing significant data entry. This will include prescription and order writing as well as the ordering of laboratory tests. Wireless mobility represents a cost-effective approach that includes access to textbooks, anatomy illustrations, drug interaction information, and other resources that provides information to students so they remain focused on learning.

It also provides a vehicle for evaluation that also yields timely and relevant feedback, allowing education to be tailor-made to the individual and class needs. Ray Dannenhoffer of the University of Buffalo School of Medicine and Biomedical Sciences states, “We are not training students to practice the medicine of today, but to practice the medicine of 5-7 years from now and beyond. If they don’t know how to use a tool like a PDA, they will be unprepared.”

Controversy continues as to whether it is better for students who are preparing for national boards to take off a month or to take a clinical clerkship. Meaningful fourth-year student clinical experience provides students with essential skills for future residencies and practice. But they are more concerned at that level with satisfactory performance on national boards.

A Wayne State University School of Medicine study found that students who took time off to study were better than those who completed a clinical clerkship. However, when the investigators corrected for how these students performed on part one of their boards, it was found that there was not an increase on the board scores after electing a study month. The authors recommended further study of appropriate methods to provide simultaneous clinical experience to prepare for residency and to prepare students for their board examinations.