SPECIAL ARTICLE

Emerging Trends in Medical Education:
What Are They? And Why Are They Important?

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Introduction

Medical education is currently in a state of rapid evolution. The purpose of this paper is to consider some emerging trends in how our future physicians are trained during medical school. The initial four years after completion of the bachelor's degree, known as undergraduate medical education or UME, serve as the foundation of subsequent lifelong learning. Whether a given medical school has a strong primary care mission or primarily emphasizes the preparation of future academicians, the educational issues prominent today are basically the same: how can we best train the physicians who will likely care for us and our children? The importance of this educational mission and the need to ensure its continued prominence in our society cannot be over-emphasized.

There are many categories of educational trends that affect UME, but this paper will address only two. These trends may be classified into two broad categories as follows: *Educational Theory and Philosophy*; and *Medical Professionalism and Humanism*. I will speak briefly about each category.

Educational Theory and Philosophy

At first glance, one may be tempted to think that an emphasis on *educational theory and philosophy* is nothing different, so how can this be an emerging trend? After all, isn't education and related theories what a medical school is about?

Believe it or not, the answer is "yes and no." A seasoned medical educator once wrote a tongue-in-cheek editorial entitled "When Is a School Not a School? When It Is a Medical School."[1] Historically, much of what has passed for formal education in medical schools consisted of activities that appeared to have been given seemingly little advance thought. Part of the reason for this is the long-standing use of the apprenticeship model of education, where students simply followed physicians and learned by observation. Such learning, especially during the clinical years, is highly context-dependent; students learned about patient care based on the types of patients that happened to show up in the hospital or clinic during a given time frame. However, with major recent changes in the healthcare system itself (especially shorter lengths of stay for nearly all patients who are hospitalized), we are now challenged to incorporate as much "real world" training as possible into the medical curriculum. As a result, more and more training is moving out of teaching hospitals and into a variety of new settings. So part of this trend reflects the rapidly changing environment for training medical students and resident physicians.

We know from educational research that there are three things that correlate highly with student achievement, regardless of what field of study one is engaged in. Those three things are: clarity of purpose, organization, and understandability. In other words, if you, as a student, know what the *purpose* of a given course or clerkship is, in terms of educational objectives, if the course or clerkship is *organized* to maximize your chances of achieving the educational objectives, and if you have a clear *understanding* of what you are expected to know and do (and how to do it), then chances are you will learn what you are supposed to learn.

There is great variability in how medical schools go about planning and carrying out the educational experiences required of medical students. Most medical school faculty members have little, if any, formal training in educational methods. Partly because of this lack of training, educational activities are sometimes highly organized; but at other times, they aren't. There are many factors that have an impact on how well faculty organize and carry out the educational mission, most notably the increasing time pressures faced by many teaching physicians and the lack of a stable funding source for medical education that takes place outside of the teaching hospital itself. Nevertheless, as stated in a recent journal article on residency training (i.e., graduate medical education), the emerging trend today is to "put the E back in medical education."[2]

Specifically, a major emphasis that has surfaced in recent years is the "outcomes movement." This concept requires educators to pay increased attention to not only the *process* of education (i.e., how we teach), but also to the *outcomes* of the process (i.e., whether students actually learned what we claim to have taught them). An illustration might help here. There once was a small

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boy who told his friend, "I taught my dog Rover to whistle." His friend leaned down in front of the dog and listened for a few moments, hearing nothing. He said to the dog's owner, "I don't hear him whistling." His friend replied, "I said I taught him; I didn't say he learned it." Sadly, many in medical education seem to think almost exactly in those terms!

Emphasizing Competency

The new emphasis on outcomes is primarily a result of an educational paradigm called "the competency model" of education. National accreditation bodies for medical schools, as well as for residency and fellowship training programs, have adopted the competency model in earnest. Notable here, for example, is the new "Six General Competencies" model, a competency-based educational approach that has been adopted by both the Accreditation Council for Graduate Medical Education (ACGME) and by the American Board of Medical Specialties (ABMS). Medical students and faculty alike should become familiar with this terminology, because it will probably be with you for the rest of your professional lives. Residency programs are now expected to demonstrate clearly that graduating residents are competent in six categories and to certify that competence in a variety of ways. Physicians in practice will also be expected to maintain their specialty certification via a system of ongoing measurement of competency, or "maintenance of certification" (MOC). This process will also feature the "Six General Competencies" approach mentioned previously. And, predictably, this model has also begun to be emphasized within accreditation standards for medical schools. The competency model can be summarized generally by the following quote from the ACGME's "Outcome Project" Web site:

> "[The] Outcome Project refers to educational outcomes which are 'evidence showing the degree to which program purposes and objectives are or are not being attained, including achievement of appropriate skills and competencies by students'…Achievement of learning is the ultimate purpose of any well-structured educational activity." [3]

Given the complex body of knowledge, skills, and attitudes that medical students are expected to achieve, the task of specifying, measuring, and documenting well-defined educational outcomes in each area has become very complex. Medical educators at all levels across the country are currently engaged in rigorous debates about this very task. Suffice it to say that the movement of medical education accreditation toward the competency model will result in many changes to the methods used to train future physicians and to the process of ensuring that physicians already in practice can maintain their specialty certifications.

Other issues are also emerging in regard to medical education philosophy. For example:

- *Technology in Education* will include how to incorporate computers and/or other information storage and retrieval devices into the teaching and learning process and into providing efficient patient care. This includes enhancing communication among members of the healthcare team, between health professionals and the patients they serve, and between physicians and those entities that pay for healthcare (e.g., insurance companies). Examples include the use of Palm® technology, electronic prescription services, and medical records; and taking full advantage of electronic resources available online that inform the provider about evidence-based medicine.
- *Quality of Care* will include how the traditional apprenticeship model of clinical education must be modified to include research findings about such things as human performance, quality assurance in medicine, and preventive care. Examples include an emphasis on patient safety, reporting and prevention of medical errors, duty hours for physicians in training, and community-oriented health intervention projects.
- *Alternative Assessment* will include how to measure learning based on a variety of methods that will give a complete picture of what the student knows, can demonstrate, and ultimately can do on a regular basis.[4] Gone are the days where we will rely solely on standardized multiple-choice exams (in the basic science years) and subjective ratings by faculty (in the clinical years) to tell us whether a medical student is ready to progress to the next stage of the learning process. Examples include documented personal observation of students in the clinical setting; testing students with standardized patients; learning procedural skills using computer-assisted human simulators; assessment of physicians by patients and/or other members of the healthcare team; and the use of educational portfolios to document a variety of educational accomplishments.

Some of these concepts and methods can seem intimidating to faculty, as they represent profoundly different approaches to teaching and evaluating student progress. Such methods require the active partnership and collaboration of one's students, and this, in turn, requires viewing students in different ways than the more traditional approaches. It appears that the competency model will now be emphasized throughout medical training and well into the future clinical practices of our students.

Medical Professionalism and Humanism

The second major emerging trend that must be considered is *medical professionalism and humanism*. It must be acknowledged that this trend is certainly not completely new. After all, hasn't the tradition of "medicine as a compassionate healing art" been with us from the very beginning of the profession? And haven't physicians always been considered "professionals?" Yes, but there are some new developments worthy of attention.

One such development pertains to cultural diversity in medicine, including the issue of "spirituality in medicine." This emphasis is a reflection of the increased diversity of the patient population in the United States. For example, at least two thirds of the medical schools in this country now offer formal courses of study that examine the role of patient spirituality in

the healing process. Recent scholarly literature suggests that certain health outcomes may be heavily influenced by the patient's cultural background, spiritual practices, and/or native traditions. This is an emerging and important area of research inquiry at the national level.

Some people place this type of thing squarely in the category of complementary or alternative medicine. But it's more than that; much more. It is foundational to the practice of what is now called "holistic, patient-centered care." In order to practice such care, it is necessary to be familiar with the types of patients served and their cultural backgrounds. Included is the need to expand our horizons a bit to consider not only the health of the individual patient, but the entire community from which the patient comes. We must be willing to accept a greater level of community involvement as part of the educational process, including a willingness to contribute to regional and national discussions about the healthcare system itself.

Related to this is dialogue taking place nationally and within every medical discipline about what it means to be a "medical professional." The concept of professionalism, which is included as one of the "Six General Competencies" mentioned earlier, has been defined in a variety of ways. Perhaps most noteworthy is the definition offered by the American Board of Internal Medicine and the American College of Physicians in a 2002 document entitled "Medical Professionalism in the New Millennium: A Physician Charter."[5] This document contains three fundamental principles that help define professionalism: the primacy of patient welfare; patient autonomy; and social justice. These principles are to be worked out in everyday practice through adherence to a set of ten professional responsibilities. Both current and future physicians should obtain this document and think seriously about the implications it will have on their future careers as physicians. (see Table 1).

Another way to think about the professionalism trend has to do with the churning debate about healthcare in our country. Is healthcare a right or a privilege? Clearly, we haven't decided yet. Issues such as managed care, increasing numbers of patients without health insurance, and the malpractice insurance crisis are contributing to a re-examination of medicine as a career choice. Many practicing physicians are changing careers, choosing to opt out of the system entirely rather than continue facing the daily pressures of dealing with frustrated patients, cost-cutting measures that threaten basic care, complex billing systems, and payers who don't want to pay claims. Organizations have sprung up across the country to provide retreats and other types of interventions for physicians who are angry, exhausted, emotionally burnt out, and exceedingly frustrated with a system that they have little control over. One popular healthcare consultant has observed emphatically that "the soul of medicine is on trial."[6]

As part of this emerging trend that compels us to think about medical professionalism and why people should want to be physicians in the first place, it is critically important for us to focus on the related issue of *why* the process of educating new physicians is so important. To do that, I share a brief story. In December of 2002, a young man that I knew well visited our home. He was a 21-year-old college student. He had not felt well recently; he seemed unusually tired. He complained of several symptoms related to a significant pain in his right upper arm. In fact, this pain had been present, off and on, for over three years. He had been to see doctors in several different locations over the course of the previous three years and had received several different diagnoses—everything from "repetitive motion injury" to "carpal tunnel syndrome" to "muscle strain of unknown origin." He was given pain medication a time or two, but some of the physicians seemed suspicious about his asking for pain medicine, in spite of his experiencing such severe pain that he couldn't concentrate very well on his studies and often missed class due to feeling badly. He saw a total of 13 different physicians during that three-year period for this problem. He had numerous exams, tests, physical therapy sessions, blood work, needle sticks, and electrodiagnostic studies. And he spoke frequently about how harried and tired the physicians seemed to be.

This young man was very discouraged about his interactions with the healthcare system. He felt that his problem had not been taken seriously and that some of his physicians had been dismissive of him. He was also frustrated because his problem seemed to be getting worse, but he wasn't quite sure what to do about it. At the time of our conversation, his arm appeared grossly swollen. A physician colleague was contacted the next day, and arrangements were made for the young man to be seen immediately; in fact, he had a biopsy under anesthesia on

Table 1.
Medical Professionalism in the New Millennium*+

Fundamental Principles	Set of Professional Responsibilities
Primacy of Patient Welfare	Professional Competence
	Honesty with Patients
	Patient Confidentiality
Patient Autonomy	Maintaining Appropriate Relations with Patients
	Improving Quality of Care
	Improving Access to Care
	Just Distribution of Finite Resources
Social Justice	Scientific Knowledge
	Maintaining Trust by Managing Conflicts of Interest
	Professional Responsibilities

**From Physician Charter on Medical Professionalism; Medical Professionalism Project (2002).*
+Jointly Adopted by: the American Board of Internal Medicine Foundation, American College of Physicians Foundation, and European Federation of Internal Medicine.

Christmas Eve of 2002.

As it turned out, the young man was diagnosed with a soft tissue Ewing's Sarcoma, a fairly aggressive type of cancer. He spent the entire 2003 year in and out of the hospital. He was hospitalized 11 times that year. He had nine rounds of inpatient chemotherapy, along with surgical removal of his tumor. During the surgery, he lost the median nerve in his upper arm, his dominant arm, resulting in some permanent loss of function in his right hand. He also endured five weeks of outpatient radiation therapy. He had a very scary neutropenic episode. This was a tough year for this young man and his family. The rest of his story is better. He received excellent care after the correct diagnosis had finally been made. His surgery was successful, he has undergone follow-up exams every three months, and, as of today, he is cancer-free and feels well. He is also back in school on a full-time basis. What does his story say about medical professionalism? Does the structure of our modern healthcare system, which often frustrates physicians and patients alike, encourage or hinder the practice of medicine in its best sense?

In the fall of 2003, at the annual meeting of the Association of American Medical Colleges in Washington, DC there was a panel presentation concerning the future of medical education in this country. One of the speakers was the mother of two children who suffer from cystic fibrosis. This mother spoke eloquently about her dilemma as the parent of a sick child. She spoke of the uncertainties that her family has to face and live with every day. These uncertainties are about: her children's treatments and their future prognosis, how to deal with information overload about their disease, what that information might mean to them, how to negotiate their way through the maze that is our current healthcare system, and how to make medical decisions for her children (e.g., confronting frequent questions, such as, "Is this a lung infection or just a simple cold? Should I go to the emergency room tonight or wait and call the doctor in the morning?").

"the soul of medicine is on trial."

Interestingly, this mother also saw many similarities between the uncertainties that her family faced and the uncertainties that define medical practice itself. She told her audience that it is not only an uncertain time to be a patient, it is also an uncertain time to be a physician, given complex new scientific discoveries, clinical ethical dilemmas, and ever-increasing levels of knowledge needed by tomorrow's physicians. She suggested that her physicians faced many uncertainties of their own during their everyday practices with such questions as, "Will this patient trust me? Is this the right treatment approach? Will I have enough time to spend with this family? Will the insurance plan cover the tests this child needs?"

This brave woman went on to talk about the importance of what many now refer to as "collaborative medicine"—how patients and their physicians must learn to be partners in the medical care given and received. She was asked what she wanted today's medical students to know from her perspective as a mother of two children with chronic illness. Here is part of what she said:

> "I want every medical student to know that all of the science they are learning will bring physical healing, but I equally want them to know the power of words. I want them to know the impact a doctor has when they choose words that support human partnerships. Like being able to say to a patient, 'I want to know what is happening.' 'I understand how you are feeling.' 'I believe I can help.' I hope we can beat this.' What matters to patients and families is not just what the doctor says, but how he or she says it. The echoes of our doctors' words played on and on long after we learned the technical meaning of cystic fibrosis."

And then she closed her remarks by making a profoundly important statement:

> "I want the doctors of tomorrow to know that when all the formal teaching is over, and I walk into your office, my need is for medical care for my child; but my desperate hope is that you have the same stake in my child's health as I do."[7]

Powerful words! These remarks from the perspective of a consumer of modern healthcare are important, not only to physicians in training, but to those who teach them. They illustrate in a very personal way the need to pay close attention to the training process and to acknowledge how the non-technical "art of medicine" will always be vitally important.

This issue of professionalism is intensely personal for each of us. Do you remember the young man mentioned earlier in this article? He is my son. We live as a family with the uncertainties associated with his illness. It is never far from our thoughts, and it impacts our lives every day. And our experiences as a family with the healthcare system, both during his illness and since then, have had a profound impact on how I think about and contribute to the process of educating physicians.

Conversations about professionalism and humanistic medical practice, about being sensitive to cultural issues, and about providing holistic care are an important part of the physician training process. They should remind us of what medicine is truly all about: the patients. When tomorrow's physicians progress to the point of their training where they put on the white coat for the first time, and, subsequently, wear it to the wards and the clinics every day, they must always remember how important mere words can be to the patients receiving their care. This is the essence of professionalism, and our training process must not overlook it.

Conclusion

The uncertainties that tomorrow's physicians will face are, in fact, a reflection of the uncertainties we all face—as people. Modern medicine is indeed a partnership between the physician and the patient. Equally, in lieu of the emerging trends just

discussed, medical education *must* become more of a partnership between students and faculty, between medical schools and the community physicians who sacrifice their own time in order to help teach our students, and between medical schools and the communities they should be dedicated to serving.

This article has briefly summarized two emerging trends in the process of educating tomorrow's physicians: an emphasis on educational theory and philosophy and a focus on professionalism and humanistic medical practice. Medical education is evolving rapidly with new methods; increased emphasis on lifelong learning; and new ways of assessing the knowledge, skills, and attitudes of our students. Medical education takes place in an elaborate cultural milieu, one that is uniquely hierarchical and tends to embrace change very slowly. Nevertheless, we must embrace these trends if we are to be successful in efforts to educate competent, humanistic physicians for the next generation. **NCMedJ**

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