Virtual Mentor
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Professional Development in Medical School

From the Editor

Educating for Professionalism

Law, Policy and Society

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From the editor
Reflections on the role of the professionalism curriculum in medical school

Previous issues of *Virtual Mentor* have focused on whether or not it is possible to teach professionalism in the medical school curriculum and on the importance of professional self-regulation. These concepts are especially relevant now that the accreditation committee for undergraduate medical education is calling for medical schools to establish means for evaluating professional development among students.

We, the editors of this issue, have a unique perspective on professional development in medical education. Several years ago, a group of rising fourth-year medical students at New York University School of Medicine (NYU SoM) established the NYU SoM Professionalism Development Committee (PDC) in response to unprofessional behavior among their colleagues. This endeavor resulted in the creation of the professionalism development portfolio as the school's principal means of evaluating professionalism.

In 2003, while we were first-year students in the early stages of our medical education, *Virtual Mentor* published an issue edited by the students who were charter members of the PDC. That issue broadly examined how professionalism might best be taught to medical students and covered topics that stemmed from the editors' experience designing and implementing a curricular program to teach professionalism formally during the years when students' professional values begin to take shape. The curriculum called for students to participate in a series of student-led workshops and peer-to-peer feedback sessions and to complete written reflections on the professional challenges of life as preclinical and, later, clinical medical students.

We and our colleagues in the class of 2007 were the guinea pigs for this new curriculum. We were also among a handful of our classmates who participated in the adaptation of this curriculum throughout our four years as students, motivated by our desire to improve upon its shortcomings and realize its best attributes. In this issue of *Virtual Mentor*, we explore thoroughly some themes that arose in many discussions and debates with each other, our classmates and our teachers over the last few years as this curriculum evolved.

This edition of *Virtual Mentor* opens with a series of hypothetical clinical cases drawn from medical student experience that illustrate some of the professional conflicts that emerge on the wards. In the first case, Jaclyn Bonder, a resident in the Department of Physical Medicine and Rehabilitation at NYU and former member of

the PDC, discusses the dilemma faced by a third-year student who does not know the answer to a question about a patient she is following on the wards. This case serves to emphasize the importance of honestly reporting oversights when working as part of a health care team. The clinical pearl, by Amar D. Bansal, a second-year student at NYU SoM, and David S. Goldfarb, chief of nephrology at NYU, uses this case as the basis for a discussion on the diagnosis and treatment of hyperkalemia.

Our second case explores two perspectives on crossing boundaries. David Stevens, an assistant professor of medicine at NYU, and Felice Aull, an associate professor in medical humanities, compose commentaries that address the complex nature of the patient-physician rapport: Dr. Stevens draws on experience and Dr. Aull uses examples from literature.

Case three juxtaposes a medical student's perceived self-interest and the educational value of routine pre-rounding. General surgeon Mary Ann Hopkins, who has an extensive background in the development and implementation of medical student education, frames pre-rounding as a valuable tool for contextualizing both medical data and the spirit of teamwork.

In the fourth case, Deirdre Masterton, an obstetrics and gynecology resident at Women & Infants Hospital in Providence, Rhode Island, and former *Virtual Mentor* editor, comments on the role of peer feedback between medical students who must evaluate each other's performance on a rotation.

In the first medical education piece, Autumn Lynn Edenfield, a fourth-year medical student, explains the origin of professionalism education at NYU and examines the theories that support the teaching of professionalism, such as a reassessment of the hidden curriculum and the role of reflection. These are the principles upon which NYU's curriculum is based, and her piece opens a window to the specific triumphs and travails inherent in incorporating professional development into the busy lives of medical students. In the second article in this section, Adina Kalet, a medical education researcher and proponent of professionalism education at NYU, discusses the funding and future of medical education research in academic medical centers.

Having discussed the role of professional development in medical education, we then seek to delineate some of the ways that the principles we have studied in medical school will affect us in our professional lives as doctors in society. In the journal discussion, Thomas LeBlanc, editor of the September 2006 issue of *Virtual Mentor* (Humanistic Care at the End of Life) and resident at Duke University, looks at a study that traced discipline by state medical boards back to incidences of unprofessional behavior in medical school. Many physicians (who were or were not unprofessional as medical students) are concerned with professional sanction and its appropriateness; thus, mechanisms are currently being examined that will alleviate some of this fear and encourage a climate of truthfulness. Attorney Flauren Fagadau Bender uses the health law forum to examine one of these mechanisms, focusing on

"I’m sorry" legislation that is currently being used in Colorado and many other states to encourage physicians to report errors and inform patients of them.

In medicine and society, Frederic W. Hafferty, a prominent figure in medical professionalism, reflects on societal expectations for the patient-doctor relationship over time. In his history of medicine piece, cardiothoracic surgeon Mark S. Hochberg relates the history of the white coat, highlighting its role in the professional awakening of medical students. In our op-ed section obstetrician and attorney David E. Seubert and health care attorneys Laurie T. Cohen and Jason M. LaFlam debate the feasibility of a no-fault medical liability system as a way to improve quality of care, encourage disclosure of physician error and expedite compensation of injured patients.

We hope that the topics in this issue provide an enjoyable exploration of professionalism in medical education. Not only are these topics and concerns inherent in any discussion of the evaluation of professional development, they also affect the experiences of individual medical students, and they influence our health care system as a whole. We hope that our focus on the current state of the role of the professionalism curriculum will provide a springboard for further thought about the needs and perspectives of medical students, practitioners and patients in the context of this model.

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Clinical case
Fudging an answer during clinical rounds
Commentary by Jaclyn H. Bonder, MD

Leah is a third-year medical student doing her internal medicine rotation. She is a diligent student who has quickly learned her role and responsibilities. She enjoys taking care of patients and does her best to know all of their current medical needs and treatment plans. She is also aware that achieving a high grade in this clerkship is important, since she plans to pursue a career in internal medicine.

Every morning Leah dutifully pre-rounds on her patients so that later, on team rounds, she is able to share the patients' overnight events, vital signs for the past 24 hours and results of that morning's lab work with the other medical students, interns, residents and the attending physician. Leah has done such exemplary work that the interns covering her patients save rounding on her patients for last in the morning and occasionally, if they are particularly frantic, do not see them at all before the work day starts.

One day the full team was rounding with the attending physician, who joined the team one morning each week. He had a somewhat gruff demeanor and liked everything to be presented in a specific manner, with no straying from the typical format. In fact, he tended to be so rigid that medical students often did not present their own patients to him, lest he be annoyed at the student and the team. He was also responsible for 50 percent of the student's grade. Leah was presenting that day, as was required at least once during her clerkship. Her patient was Mrs. Lang, a 72-year-old woman with coronary artery disease, systolic heart failure secondary to ischemic cardiomyopathy, type 2 diabetes mellitus and chronic renal insufficiency who had been admitted for cellulitis.

Leah gave a seamless presentation and had started to summarize the most recent labs when she realized that she had logged off the computer without writing down the basic metabolic panel (BMP) for Mrs. Lang in order to be on time to rounds. After a moment of hesitation she said that the BMP was unchanged from previous readings for this patient—whose baseline renal insufficiency had been constant throughout her visit. The intern and resident both jotted down on their route sheets that the BMP was unchanged, planning to check the values themselves when they had the time.

Two hours later, after their lengthy rounds, Leah finally had a chance to sit down at a computer and check Mrs. Lang's labs. Just as she saw that Mrs. Lang's potassium, BUN and creatinine were elevated, Mrs. Lang's intern was paged by the pharmacist,

who was inquiring about the appropriate antibiotic dosing, given that the new lab results indicated acute renal failure.

Commentary

Clinical clerkships serve many roles and open up several opportunities for medical students. These rotations are an introduction to clinical medicine and allow students to apply the textbook science they have studied diligently to diagnosing and treating patients. Moreover, they are part of a student's schooling. And it is this role that is important to remember when thinking about this case. Leah is a student, not a physician, and, therefore, her primary job is to learn. Medical school is the time when students must develop their medical fund of knowledge as well as the principles of professionalism that they will practice for the remainder of their careers. In this case, Leah compromises her integrity to offset appearing unprepared and risking a bad grade for the clerkship, an action that ultimately endangers her patient's health. This act should be examined more thoroughly because it highlights several important points regarding medical students' responsibilities to themselves, their peers and their patients.

Whether one is in elementary school, high school, college or medical school, evaluation is a part of being a student. Evaluations serve as markers for a student's success and competency in the field. Leah's behavior during these rounds is reflective of her motivation for success. An important component of a medical student's assessment is professionalism, which encompasses both being prepared for a presentation and being truthful.

When these two demands conflict, which one should prevail? The answer seems obvious, but this is not always the case. Leah is conflicted by these demands of professional conduct because she is worried that her grade for the clerkship is at stake. She demonstrates professional behavior by conscientiously arriving on time for rounds. Making assumptions about concrete medical data, however, when a person's health or life is at risk is unprofessional, unethical and unacceptable. The moral approach is to be honest and simply summarize the most recent lab data of which she is certain and apologize for not knowing that morning's results. The attending physician and the other team members may be surprised that she didn't know the information, given her usual diligence, but her professionalism and clerkship grade will probably not be jeopardized completely.

Leah clearly fears taking the more honest approach, thinking it will damage not only her evaluation but also the excellent impression the team has of her. Being unprepared once should not negate the exemplary work she has done up to this point. Instead, her fellow team members and the attending should recognize truthfulness in this situation as a positive attribute. Besides, there is still time remaining in the clerkship to make up for this lapse. Moreover, Leah should not just worry about her grades but also about her ability to practice medicine independently as a future physician. As members of the medical community, physicians are expected to develop a process of self-regulation. Students need to learn that as clinicians they

must sometimes compromise their self-assurance to benefit their patients' health, and being comfortable with this is a process that should begin and grow during medical school for all students. Leah should use this experience as an opportunity to regulate her own actions and to develop a sense of comfort with forfeiting her pride for a patient's well-being. She has not yet realized that this is an important skill to hone prior to gaining sole clinical responsibility for a patient. But as a result of her actions, she *will* most likely learn this lesson.

The clinical student's primary role

As mentioned earlier, learning during a clinical clerkship is paramount to a student's future as a physician. This is why the only responsibilities for which students can truly be held accountable are those that contribute to their education. The case mentions that Leah "has quickly learned her role and responsibilities." But should a medical student's role or responsibility on a team go *beyond* learning? Students have many educational obligations, in addition to their role as part of the clinical team. As students, they are required to attend lectures, prepare write-ups, read about their patients' diagnoses, practice writing notes and study for written examinations. As members of the medical team, they are often relied on to help gather data, e.g., lab results, radiology reports, and to call other clinicians for input into a patient's case. But this job is merely to aid house staff and lessen their burden, because it is ultimately the house staff who are accountable for collecting and knowing this information. It is then the house staff's duty to teach the students what these data mean for the patient. Thus it should only be considered a medical student's responsibility to gather data when the residents and interns are fulfilling their role as educators. In this way, while the medical student's work is contributing to patient care, it also becomes a learning experience, allowing the students to fulfill their obligation to learn.

Because of the team's reliance on students to help gather important clinical information, the expectations of medical students grow to a point that can sometimes be unfair. It is because of these expectations that most medical students begin to feel pressured to stay on top of their patients' medical data and information related to their ongoing work-up. This pressure most likely contributed to Leah's hesitation on morning rounds. Her moment of uncertainty occurred because she knew that the correct thing to do was to tell the truth, but, to her, not meeting the team's expectations was worse than not being honest. This leads back to the principles discussed above. Students must realize that, despite their overwhelming desire to impress and succeed, being candid is always the best option—regardless of the immediate consequences. In the long run, this will help them develop the ethical behavior they need throughout their careers.

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Clinical case
Observing boundaries in conversations with patients
Commentaries by David Stevens, MD, and Felice Aull, PhD, MA

Jim, a first-year medical student, was participating in an observed standardized clinical encounter (OSCE). His assignment was to obtain the chief complaint, history of the present illness and past medical history from a standardized patient (an actress) in the presence of an attending physician. Jim's questioning revealed that the patient, who had just moved to New York, suffered from asthma and had recently had an exacerbation of her symptoms. Jim also happened to be new to New York and he, too, had asthma. In the course of the interview, he sought to empathize with the patient on these two points by conveying that he understood the difficulties of adjusting to the city and also the difficulties of the chronic illness. Jim thought that the interview went well, and the feedback he received from the patient and the observing physician was generally positive.

Both the standardized patient and the attending physician took issue, however, with the student's revealing his own medical condition to the patient. They distinguished between this disclosure and Jim's comment on his recent arrival in New York, which the patient and attending perceived as an expression of empathy. The attending physician said to Jim, "Any medical information that you as a physician-in-training share with your patients must be based on your training, not your personal medical experience. Furthermore, you are drawing attention to yourself and away from your patient by bringing your asthma into the dialogue. This may be a subtle point, but empathizing with the patient about your shared experience as a new New Yorker is different than empathizing about your shared medical experience." The patient nodded her head in agreement.

Commentary 1
by David Stevens, MD

The patient-doctor relationship is legally and ethically considered a fiduciary relationship. The essence of this is that the physician puts the patient's best interest before his or her own. The trust that develops as part of the patient-doctor relationship is critical to achieving desired health outcomes such as adherence to medication and behavior change. A doctor's expression of empathy for a patient's situation is effective in promoting a patient's trust. A comment such as, "I see that your headaches are affecting your ability to live your life" tells a patient that the doctor recognizes the importance of the problem. By extension, one might expect that a physician's disclosure that he or she has experienced the same problem might

go even further in engendering the patient's trust. The central question is, what are the effects of a physician's or student's disclosure of personal information to a patient?

To paraphrase the World Health Organization, health is not simply the absence of disease, but the physical and mental ability to live one's life—to work, to play, to love [1]. Sick people seek out health care because their ability to live life has been affected. To walk into a doctor's office is to become that doctor's patient—to acknowledge that "my life is vulnerable, and this person will help strengthen me." But the relationship is not automatic, unlike in other arenas. Soldiers are taught to "salute the uniform" in the presence of a superior officer; the nature of the relationship between a GI and an officer is written in stone, and each person knows what to expect from the other before speaking a word. The patient-doctor relationship is sometimes this cut and dried—emergency departments frequently treat patients whose health is in such a perilous state that they put themselves completely at the mercy of physicians they have never met before.

But the majority of people, even sick people, need some *proof* that this person is the one who will help them get their life back. They have to believe this doctor has what it takes—the intelligence, the experience and the dedication, to do whatever it takes to protect them from the ravages of disease. They have to believe that, even if it's just for the few minutes they are together, no one is more important to the doctor than they are. They have to believe that this doctor is treating them the way he or she would treat a family member. It's not enough to know what the symptoms are—this doctor has to understand what the individual is going through. Doctors have to show the individual patient that they empathize with his or her situation.

In 12 years of teaching the medical interview to first-year medical students, I have learned that the large majority of medical students embrace the mandate to empathize with their patients. They have heard the criticisms that medicine has become too technical, too inhuman. They have learned from their own experiences that a physician's impact is far greater when the patient feels the physician truly understands him or her. They dream of becoming the kind of doctor that can both pull the rare diagnosis out of thin air and also comfort patients in their time of need.

But if students embrace the importance of empathy, they are less enthusiastic about being taught it. Anatomy may be new to them, but they've been caring and responsible people for some time now. That someone can watch them for 10 minutes and tell them what they're doing wrong can seem bizarre, even disrespectful. Even when the student himself knows the feedback is accurate, it is still difficult to hear. When the student doesn't agree, the situation can be quite unnerving.

The case at hand

This case involves a student early in his training. The student demonstrated a commitment to communicate to the patient that he empathized with the patient's situation, both in the general psychosocial stress of relocating to a new city (even a

city as welcoming as New York), and in the specifics of the medical illness. One could easily imagine that this patient, alone in a new city, suffering both discomfort and physical impairment from an illness, would benefit from a physician who respected her, took her concerns seriously and was dedicated to helping her improve her health.

Would self-disclosure of personal information further the patient's perception of the physician as meeting these criteria? The answer, of course, is maybe. For example:

Patient: "I just moved here from California. It's been a rough transition."
Student: "I moved here from L.A. a few years ago—it certainly can be rough."

This expression of understanding, accompanied by the self-disclosure of the student's own move from California, can be both genuine and fairly innocuous in terms of the self-disclosure. The risk is that the patient may see the student's response as demeaning. The patient's move may have been prompted by a very bad experience such as a job loss or death of a spouse, and the patient may see the relocation as a move downward, from a nice apartment shared with a loved one to an unaffordable share with strangers in a marginal neighborhood. The patient may hear the student's attempt to say, "I've been there too" as woefully clueless. The patient may think to himself, as the saying goes, "your blues ain't like mine." The result may end up being the opposite of the student's intention, with the patient now feeling, "this lucky bastard just doesn't know what the real world is like."

So what's a well-intentioned if somewhat out-of-touch physician or student to do? First, realize that seeing similarities between challenges we have faced and those that patients are facing is a superb first step to developing empathy for someone whose life is very different from ours. Second, rather than acting on the gut impulse that we and the patient share something significant, use what we know about the situation to help us learn more. For example:

Patient: "I just moved here from California. It's been a rough transition."
Physician: "Moving can be hard in so many ways—what's made it rough for you?"

This response lets the patient know that the physician appreciates that moving can be truly rough, and it opens the door for the patient to elaborate if he feels the need to. The patient would most likely benefit more from a physician who knows that life transitions can be traumatic and wants to know the details of this patient's transition than from a doctor who can share details about how different New York City is from California. In this case, it is easy to imagine a scenario in which, after discussing the particulars of the patient's move, the doctor and patient might share a laugh over the mysteries of the New York subway system.

The student's other empathic statement involved letting the patient know that he had the same illness. The risks and benefits of this disclosure are essentially the same as for the first example. Again, the student risks the "your blues ain't like mine" with

the patient thinking, “Yeah, well you didn’t lose your job because you were too sick and you probably have health insurance.” On the other hand, the student can use his more intimate knowledge of the sickness to learn more about the patient and develop a relationship. For example: “It seems to me that being short of breath must be one of the worst feelings there is,” or “asthma can really affect people’s lives—how has it affected yours?”

The examples above demonstrate that a physician’s self-disclosure is not an effective shortcut to developing a therapeutic relationship through expression of empathy. Does self-disclosure have any role in the medical encounter, or is it by its nature detrimental to meeting our professional goals? Self-disclosure runs the continuum from a physician’s letting patients know that she is a parent (often communicated by personal photographs in the physician’s office) to telling the patient that she herself has had a disease. I would argue that both of these examples, and everything in between, have risks and benefits. I have had visits with patients who were acutely grieving the loss of a child. While my being a parent helped me come closer to understanding the patient’s distraught state, I also wished at that moment that I didn’t have a picture of my two smiling kids on my bookcase staring at us and heightening the difference between the patient’s situation and my own.

A physician’s disclosure of having a serious illness carries the risks described above. Are there potential benefits to disclosure that can’t be accomplished in other ways? I would argue that there are. I periodically find myself working with patients with whom there is a mismatch between how each of us views our illness. For instance, consider patients with chronic illnesses such as asthma, hypertension or diabetes, which are characterized by long asymptomatic periods that nonetheless require frequent monitoring and daily medications. My goal is that they will take a more active role in their illness, but these individuals seem to prefer to forget they have an illness as long as they feel well. In these situations, after attempts to explore the patient’s resistance without personal disclosure have failed, I will sometimes let the patient know that I myself have asthma and that I understand what it feels like to wake up feeling great and that having to take medications feels like a reminder that I have an illness. In some instances, this has helped patients start to articulate their own negative feelings about their illness and how these have been barriers to their taking better care of themselves.

The disclosure of personal medical information can be tempting to physicians and students as an efficient approach to establishing a stronger bond with the patient. Every individual’s experience of that illness, however, is unique. Effectively expressing empathy requires developing an understanding of what the illness means to the patient and reflecting this back to the patient. This has little to do with the physician’s own personal experience, and everything to do with his or her skill in helping patients articulate their deepest concerns and then expressing an understanding of these concerns in a way that helps the patients develop trust. There may be times when disclosing one’s personal information is uniquely effective in advancing the patient-doctor relationship, but even in these situations the self-

disclosure should be seen as opening a door to a deeper discussion of the challenges that the individual patient faces in confronting his or her illness.

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Commentary 2
by Felice Aull, PhD, MA

Until recently, a model of "detached concern" was thought to describe how physicians approach their patients and was advocated by many as a proper model to follow. Currently, however, physician-scholars trained in medical humanities are questioning this model. These physician-scholars argue that detachment is a barrier to understanding patients' experiences of illness and suffering, an understanding that makes possible accurate and comprehensive diagnosis and a collaborative treatment plan; failure to comprehend how a patient feels can jeopardize appropriate diagnosis and treatment. In this view, emotional engagement and imagination are necessary components of a physician's interaction with his or her patients. For example, Jack Coulehan advocates the development of "…emotional resilience, a resilience that allows one to experience fully the emotional dynamics of patient care as an essential part of—rather than a detriment to—'good medical practice'" [1]. Similarly, Jodi Halpern proposes that emotional resonance and imagination are at the core of an empathic approach to patients and that empathy as a supplement to objective knowledge is critical for making correct diagnoses [2].

When Jim conveyed to the patient with asthma his own experience as a new arrival in New York and as an asthma sufferer he was expressing sympathy—an affinity by virtue of being "affected similarly by the same influence" [3], but he was not necessarily displaying empathy—"the selective use of [emotional] resonance to imagine how the patient feels" [4]. The patient's experience of asthma and of being a stranger to New York may in fact be quite different from Jim's experience. Jim's knowledge of what it feels like to be this particular patient should therefore come from listening to her attentively as well as from being sensitive to nonverbal signs and clues and from making an imaginative leap that will allow him to grasp her specific situation in all of its complexity. This kind of empathic engagement and leap crosses a boundary from self to other. Invoking superficially similar experiences, as Jim did, is perhaps an automatic response but, according to Halpern and others, is inadequate. Physician-scholar Rita Charon argues that the attentive physician performs effective diagnostic and therapeutic work by "emptying the self

and…accepting the patient's perspective and stance…allow[ing] himself or herself to be filled with the patient's own particular suffering, thereby getting to glimpse the sufferer's needs and desires" [5].

Jim crossed a personal boundary when he mentioned to the patient that he was, like her, new to New York and that he also suffered from asthma. Some patients may feel more comfortable in the presence of a physician who confides such information; they may feel that their concerns will be appreciated. Other patients may be distracted, even dismayed when a doctor discusses his own medical condition with them. Clearly, caution is the better part of wisdom, yet there may be instances where such personal boundaries can be crossed productively. Physician-writer Rafael Campo describes at length how he, almost without thinking, told a new patient about his own "cancer scare" as he was grasping for a way to tell her that she had a malignant tumor. On the surface, such boundary-crossing seems indefensible, but the full story is more complicated.

Initially, writes Campo,

> I was terrified not of the disease itself but of my inability to confront it with her…it was her simple, strange gesture that saved me. Without warning, she reached out across my desk, and rested her hand lightly on my arm. My left arm. We stayed linked like that for a few minutes, communicating deeply and wordlessly. I felt the terror in her touch, and its gentleness, until it was happening to me, until I rediscovered my own narrative [6].

Campo proceeds to discuss with the patient her malignancy but also relates the story of his own earlier presumptive cancer diagnosis (of the bone on his left arm), later shown to be erroneous. In the process, he talks with her about the importance to him of his poetry writing. Later in their relationship, the patient brings Campo her own poetry—poetry she has written about her illness. Campo concludes that, "[t]he inner resources I believed prejudiciously she might lack on that fateful morning of our first meeting instead turned out to be prodigious, enough to sustain us both" [7].

Campo's story is notable in two respects. First, he responded to an unusual gesture of outreach from the patient. She was sensitive to his predicament and he allowed himself to respond to her compassion by crossing a personal boundary. In confiding his own cancer scare and his way of coping by unleashing an avalanche of poetry, Campo became a fellow sufferer and at the same time gave her an idea that, as it turned out, helped her to live with her situation. Secondly, Campo is aware of the emotional sustenance that he derives from this patient, whom he will accompany in the journey toward her death. The personal boundary that they both crossed has made possible a relationship of mutual nurturing.

This sustenance is mentioned by other physicians who have allowed themselves to become emotionally engaged by patients. "I found…that emotions…are the energy

and life of my practice," states Coulehan [8]. "Detachment ought to be avoided because it leads to emotional numbness and a general discounting of the affective life" [1]. Kate Scannell's memoir, *Death of the Good Doctor*, provides detailed examples of how she changed her entire way of practicing medicine after opening herself up to emotional resonance with the dying AIDS patients in her care, of how she connected with patients, "recognizing part of ourselves in each other, in the territory beyond the conventional borders that tended to define the topography of patient and physician interactions" [9] and of how she came to recognize "the highly interpersonal dimension of medical practice in which patients and physicians mutually affect each other" [10].

Did Jim overstep professional boundaries in an attempt to be empathetic? Yes, probably he did, but was he merely sympathetic rather than fully attentive, emotionally engaged and imaginative in trying to understand this woman's experience of illness? Jim assumed, because superficially he shared experiences with the patient, that he understood what troubled her. He was sympathetic, but it is not clear that he used this emotional resonance to imaginatively uncover the patient's particular experience of asthma (as Halpern recommends) or that he "emptied the self" in order to accept the patient's particular perspective (as Charon recommends). Further, as I hope the above discussion from the field of medical humanities scholarship reveals, hard and fast rules about boundaries do not necessarily foster good patient care or responsiveness to the particular needs of individuals, nor do they take into account the value of emotional engagement for both participants in the patient-physician encounter.

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research interests include borderland and exile states and narratives, illness narratives, and the work of physician writers.

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Clinical case
The many functions of clinical rounds
Commentary by Mary Ann Hopkins, MD

Ted is a conscientious medical student. Throughout the first two years of medical school, he has performed well academically. In addition, Ted has served as an officer on the student council and as a department-appointed physiology tutor. He attributes his balanced academic and extracurricular success to his time management skills.

Like most medical students, Ted was excited to move on from the basic science curriculum to become a member of the clinical team on the wards. He was particularly enthusiastic because his first rotation was in general surgery, the field that he was ultimately hoping to pursue as a career. Because the chief of the service began morning rounds at 6 a.m., Ted arrived each morning at 5 a.m. to pre-round on his patients. During this hour, he meticulously collected the most recent vital signs and overnight trends on both intensive-care-unit patients and those on the medical floors. He spoke with the nursing staff about overnight events and visited each patient to perform a focused physical exam.

During the course of the first two weeks, Ted realized that his efforts were not recognized on morning rounds. The chief relied on the sign-out provided to the interns from the night team for patient data and performed his own exam as the team went on rounds in the unit. As a result, Ted concluded that pre-rounding was not the most effective use of his time. In order to augment his education as a student, Ted decided to study later at night and wake up an hour later in the morning, arriving at the hospital immediately before rounds. Of course, he remained committed to seeing his patients at some point later in the day.

Noticing that Ted arrived in the call room immediately prior to rounds, the chief inquired why he was not pre-rounding on his patients. Ted politely explained that since student input was not considered on morning rounds, he found it more useful to arrive later in the morning so that he had more time to study independently in the evenings. He assured the chief that he would fulfill his responsibilities throughout the later morning and afternoon hours.

Commentary
One of the more perplexing tasks for medical students is determining their role on the medical team and how it relates to their educational experience. More time seems to be spent on noneducational drudgery than on stimulating educational experience.

Students often feel frustrated, useless, abused or "scutted out" and think they are not getting educational value for their tuition dollar.

Medicine is a career unlike any other. One day you truly will hold a person's life in your hands, and what you do will have profound effects on that person's life—as well as on that of his family and friends. This fact among others makes medicine a profession and not a job. From the day you set foot in medical school, learning is accomplished not just to pass a test but because what you learn may allow you to save someone's life one day.

So how does this relate to Ted's self-assessment that pre-rounding is fruitless and a waste of his time? What Ted failed to realize was that what he does on the wards is not done merely for recognition by his chief resident, among others, but is part of his educational process. Meeting with his patients each morning, examining them, getting all relevant data and understanding what happened overnight will make Ted a better doctor. If Ted sees this role as just getting the numbers for his residents, then he has missed the point.

The body that certifies residency programs, the Accreditation Council for Graduate Medical Education (ACGME) has delineated six core competencies that are imperative for every physician to master [1]. Among these, some, such as medical knowledge and patient care, are obvious and easily structured into medical curricula. Others, such as communication skills and professionalism, are honed through intimate and sustained contact with the patients for whom you care. These competencies are integral to pre-rounding. Ted can and should use his pre-rounding to learn how to recognize trends and events that happened over the night and how they should be treated. He can also use the time to deepen the bond that naturally develops between caregivers and their patients by listening firsthand to their worries and problems.

The last two ACGME competencies are less tangible. Practice-based improvement refers to the lifelong learning essential for all physicians to ensure that their practice is current and clinically sound. It is a practice of learning that is highly contextual and self-reflective. For Ted, pre-rounding, in addition to his other duties, is a valuable tool to contextualize the medical data and teamwork of which he is now part. The more involved he is in his patients' care, the more he will learn and understand.

The sixth ACGME competency—systems-based practice—is another critical area in which physicians develop an understanding of the different types of medical practice and delivery systems. On a macro level, this means understanding the health care system (e.g., insurance, type of medical facility, how the hospital runs). Another part of this concept is learning the mechanisms of team dynamics and partnering with all members of the health care team. Clinical rotations emphasize and depend on an immersive learning environment, and the responsibilities of each team member can be baffling to a medical student. A real part of Ted's current education is learning

how to be part of a team and how that team works to provide optimal patient care. Ted's chief resident may not be an ideal role model or educator and seems not to fully know how to run an efficient team. Having a poor team leader does not in any way condone Ted's actions if he is being less conscientious and thorough in his own practice. Remaining true to the highest standards and not allowing yourself to fall to the lowest common denominator will help you to be the best physician you can be.

Becoming an active participant in your own education is an important step toward becoming a doctor. Structured education, such as lectures and assigned readings, does occur on the wards, but increasingly you are responsible for your own mastery of material. Tasks like pre-rounding offer students the opportunity to hone their communication skills, to understand medical processes and their treatment, and to appreciate the nuances of being part of a health care team. Though frustrating and at times demeaning, pre-rounding is an excellent learning moment for the enthusiastic and caring medical student, and it is an ideal time to establish rapport with patients and to understand their care. So often what feels like a lemon to an overburdened student is the perfect ingredient for thirst-quenching lemonade.

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Clinical case
Self-interest versus friendship in medical school
Commentary by Deirdre Masterton, MD

Joe and Mary were friends and classmates on their third-year clerkship in obstetrics-gynecology. Mary had known for a while that she wanted to go into ob-gyn, and she hoped to make a good impression during her brief time in the clerkship. Joe liked ob-gyn too, but was still undecided about what field he wanted to pursue. Throughout the clerkship, Mary made a point of scrubbing in for surgery at every chance—which sometimes meant that Joe could not. Several of the procedures she observed were particularly instructive, including an emergency tubal resection following a ruptured ectopic pregnancy.

Joe scrubbed in on half as many surgeries as Mary. He was relegated to following the more routine cases and had to do a disproportionate amount of "scut" work on the floors. The residents and attending physicians were too busy to notice the discrepancy. Joe learned a lot on his rotation, but he felt somewhat shortchanged and thought that Mary acted inappropriately. At the end of the rotation, Joe and Mary sat down to exchange feedback on their experience working together as part of the clerkship's professionalism evaluation. Joe was ambivalent about whether to confront his friend, thinking perhaps it was his fault for not being assertive enough. Even if it was her fault, Joe thought to himself, "I don't want to jeopardize our friendship and make a big deal of this." He decided simply to praise Mary for her enthusiasm and wish her good luck with her plans to apply for an ob-gyn residency.

Commentary
By nature, most medical students are high achieving, bright people who are goal-oriented and hooked on performing well. Students progress through the first two years of medical school in the isolation of the library, toiling over books, notes and transcripts. Then, one July morning, clinical clerkships begin and demand a completely different skill set than the one that earns A’s in the classroom. Now, performance evaluations often depend more on interactions with patients and colleagues than on retention of facts from reading and lectures. There is no class that teaches etiquette within a team or how to get the most out of a clerkship. For the first time, students must relate with colleagues and peers to navigate this exciting period of training successfully.

Mandatory feedback sessions are staged encounters at the end of clerkships, intended to offer colleagues an opportunity to practice formulating and receiving constructive critique. Often those conversations address sensitive topics including how colleagues

function within a team and how they relate to patients or other team members. The idea is to develop effective language and communication skills in a protected situation, so that, eventually, coworkers will exchange candid and comfortable evaluations of peers during daily work encounters.

Medical school professional relationships frequently develop in the context of pre-existing personal relationships formed during the preclinical years. On the wards, friends become team members, and a new interdependence develops that did not exist in the solitude of preclinical study. This interdependence affects student experiences and exposure to a given field, as in the case of Joe and Mary. As training progresses and clinical responsibility grows, the interdependence of colleagues becomes more profound. Provision of efficient, quality care to patients demands the best performance from everyone. Consequently, members of a health care team must maintain open communication with one another and must constantly exchange ideas and feedback, good or bad, to ensure that patients are treated properly and that everyone is putting forth his or her best effort.

The busy work schedule allows for development of close personal relationships with colleagues, yet these friendships must not interfere with achieving work-related objectives. Effective communication and feedback strategies are a learned skill set, and the sooner the skills are developed, the better prepared a clinician is to know when to speak up—and when to keep thoughts private.

Identification of moments or situations that demand collegial feedback is subjective. What's sought is a balance between avoidance of confrontation and compulsive nitpicking. Each person must consider the potential problems caused by a behavior and weigh them against the anxiety created by confrontation and the potential effect the feedback may have on working relationships.

Behavior is most easily modified if missteps are identified immediately and addressed privately and concretely and if more acceptable behaviors are modeled and applauded. That said, artfully confronting a friend's misbehavior in a respectful way, in the moment, takes confidence and practice. Retrospective feedback feels safer. It can be carefully crafted and properly "sandwiched" or even provided in writing to try to lessen the humiliation of the recipient. Unfortunately, hoarding critique until the end of a rotation denies a colleague the opportunity to learn from her missteps and to prove to the evaluator that she is capable of better. Sadly, Joe may not have an opportunity to work with Mary again after this feedback session and will not get to recognize and applaud her changed behavior.

By not offering truthful and complete feedback to Mary regarding what Joe perceives as inappropriate selfish behavior, he shortchanges both Mary and himself. This particular issue is a perfect opportunity for Joe to practice constructing meaningful criticism for a colleague with little risk. Joe should force himself to provide an honest critique of his friend's performance and develop the skills necessary for such a conversation. Once the language skills are in place, he will find

exercises like this much more comfortable. More importantly, if in the future Joe encounters a colleague whose behavior poses danger to patients or to that colleague, he will feel empowered to address the situation directly.

By not expressing his frustration with Mary's self-serving behavior on the ob-gyn rotation, Joe may be allowing his friend to continue her behavior in subsequent rotations, upsetting her teammates and compromising her work relationships. Joe is her friend and is obviously aware of Mary's feelings. It is better for her to hear this from him now, in a sensitive way, than in the future from a frustrated colleague who has less concern for Mary's self-esteem. Joe should recognize the opportunity to be altruistic—Mary's changed behavior may never benefit him directly—and let her know how she can be a better team player.

Ideally, Joe would have addressed his friend's unacceptable behavior earlier in the rotation, using concrete examples of specific behaviors that compromised their working relationship and suggesting more acceptable alternatives. Admittedly, successful pursuit of this course of action requires confidence, courage and a specific skill set. Lacking these skills, Joe should have identified the planned feedback session as a chance to practice offering constructive criticism to his friend on this point. That choice might have afforded him the opportunity to observe Mary's response in this protected environment. Because Mary is his friend and they were required to have this conversation, he could have asked for candid feedback from her on how he delivered his commentary. If Joe had been honest in the feedback session, and addressed his concerns directly with Mary, both students would be better prepared for their next (inevitable) conflict with a colleague at work.

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Medical education

Medical student professionalism education at New York University School of Medicine

by Autumn Lynn Edenfield

In recent years, as the Accreditation Council for Graduate Medical Education (ACGME) and the Liaison Committee on Medical Education (LCME) have implemented formal requirements for education in professionalism, medical schools around the country have been fine-tuning their professionalism curricula. The teaching of professionalism used to take place within the hidden curriculum of "rules, regulations and routines," that is, only by medical students learning through observation of housestaff and attending physicians on the wards and through patient and peer interaction [1]. Instruction has now been implemented within the formal curriculum. There are probably as many different types of formal professionalism education as there are medical schools within the United States.

The cornerstone of professionalism education at New York University (NYU) School of Medicine has been the professional development portfolio. The portfolio was designed by the Professional Development Committee (PDC), consisting of medical students advised by Dr. Adina Kalet. In 2000, the PDC was charged by the LCME self-study committee on student assessment to design a fair and meaningful professionalism evaluation process for the school of medicine. Along with the student editors of this issue of *Virtual Mentor,* I am a fourth-year medical student at NYU and a member of the first class to be taught and evaluated on professionalism through the professional development portfolio. We thus have a unique perspective on the implementation and evolution of this curriculum.

The portfolio consists of an online collection of essays, diagnostic write-ups and (most importantly) student reflections from all four years of medical school. Every submission is cultivated from an experience required in each course. Some examples of submissions during the first year are reflections on standardized patient encounters, such as counseling a patient on smoking cessation or taking a sexual history; narrative essays; and a reflection on peer evaluation within the gross anatomy course. Second-year assignments include specific diagnostic write-ups and reflections on boundaries and on learning the physical exam. The portfolio during the clinical years focuses on experiences within each clinical clerkship, and the fourth year then provides opportunities to reflect upon the transition to the resident level, within the experiences of subinternship and the residency interview process. The Web page for each reflection contains lists of defined professional values and

challenges to those values; these lists have check boxes so that the student can recognize and assign the challenges to his or her most recent assignment.

At the end of every school year, each student writes a one- to two-page end-of-year assessment, reflecting on individual portfolio assignments and his or her professional development throughout the year and defining three specific and practical goals for the upcoming year. The student then reviews this assessment with his or her faculty mentor and together with the mentor evaluates his or her professional development. The evaluation of portfolio expectations includes completeness of submission requirements, depth and quality of self-reflection, and responsiveness to feedback.

Self-reflection: a key component

A pivotal aspect of the NYU portfolio is the central role of self-reflection in the professional development of physicians. Ronald Epstein and Edward Hundert write that "because experience does not necessarily lead to learning and competence, cognitive and emotional self-awareness is necessary to help physicians question, seek new information, and adjust their own biases" [2]. They go on to say that "reflection allows practitioners to examine their own clinical reasoning strategies" [3]. Amanda Howe echoes this:

…professional development opportunities must at minimum be constructed to engage students directly with experiences that mimic their future roles, create opportunities that allow them to reflect and rehearse the skills involved in managing such experiences, and require them to take personal responsibility for outcomes of both their experiences and learning [4].

Thus the portfolio is designed to facilitate reflection upon how experiences within the curriculum affect the student's current and future professional development. The anatomy peer review exercise, for example, recognizes the values of collegiality and teamwork and how they are best facilitated within the anatomy lab partnership, in addition to exposing preclinical students to the practice of peer review. Reflecting upon the experience of working as a team and receiving peer feedback is relevant not only for first-year medical students but for clinical students and resident team members on the hospital wards. In this way, and with further impact as the student enters the clinical years, the portfolio seeks to provide a middle space between the explicit curriculum and the hidden curriculum by encouraging reflection upon the values seen and ascertained in the "rules, regulations and routines" of the wards. And because portfolio submissions are based upon course-specific requirements, the professional values and conflicts that arise pertain to the students' actual experience at their current level of training. Stern and Papadakis write that evaluating professionalism is optimal when a "professional dilemma that is relevant to everyday lives" is resolved using "real world contexts" [5].

Along with its relevance to current experience, self-reflection truly underscores the idea of professional development in general. Epstein and Hundert state simply that "competence is developmental" [3]; different values and conflicts become more

relevant at different stages of training. For example, awareness of the nuances of an appropriate and meaningful patient-physician relationship grows significantly from the first to fourth year of medical school with increased volume of and autonomy in patient interactions. Starting to contemplate these relationships as a first-year medical student sets a tone for continued professional development, not only throughout medical school but for the rest of medical training and practice.

Reliability and validity in the assessment of professionalism education

Continued professional development occurs within the context of the portfolio at the end-of-year assessment, particularly through the learning goals outlined by the student. These goals are meant to be specific, measurable and formulated by reviewing the conflicts and values exposed by the reflections during the entire year. Epstein and Hundert assert that a strong mentoring system should complement the formulation of an individual "learning plan in which trainees chart their learning needs [and] the means of achieving them…as a required outcome of an assessment" [6].

In an *Academic Medicine* article, Shiphra Ginsburg et al. emphasize the importance of "reliable, valid, and appropriate evaluation" in professional education [7]. A deliberate attempt was made by the PDC to pursue this goal when training the faculty mentors. Each faculty mentor is required to participate in professional development faculty training, which outlines the expectations for portfolio submissions and the quality of self-reflections and end-of-year assessments, offers examples of appropriate learning goals, and explains how to gauge evaluations. These faculty training workshops provide specific examples of student portfolios that exemplify the three evaluation levels—below expectations, meets expectations and exceeds expectations.

Medical students often have the mind-set that the only acceptable grade is the best grade, so a concerted effort is made to instill the idea that to "meet expectations" is truly excellent and that only a handful of students in an entire class who made contributions to their own and others' professional development above and beyond expectations should receive the mark "exceeds expectations," if this rating is to be meaningful. Students immediately began to wonder what these so-called *non-grades* meant—who would see the assessment, for what purposes would the assessments be used and who would have access to their portfolios. It was decided that the portfolio was mainly for the students and their faculty mentors, but available at the student's discretion for the dean's letter used in residency applications. In this way the portfolio's central purpose of self-reflection and assessment of professional development was preserved while also providing sufficient motivation for excellence. Amanda Howe writes that assessment should be "high profile, both to ensure competency and to motivate learning" [4].

Debugging the initial portfolio

In actual practice, one of the more challenging aspects of implementing the portfolio system was standardizing the roles and expectations of each of the faculty mentors.

Students are assigned their faculty mentors when they affiliate with one of the six theme-based societies that make up the mentoring program of our medical school, for example, the Lewis Thomas Society for Arts and Humanities in Medicine or the Severo Ochoa Society for Medical Informatics and Biotechnology. As a consequence, while students and mentors should share some interests, the actual assignments are made at random. Due to a few instances of conflicts either of personality or in defining expectations and goals of the portfolio or mentorship, a handful of students protested their mentor assignments during the first year of the portfolio. The PDC decided that students could switch mentors at the end of their first year if they desired.

The PDC held many open forums with the students during the initial year of the portfolio's use and, as a result, changed or enhanced some features of the portfolio. For example, while some students embraced the opportunity for self-reflection, others felt like they were being *forced* to reflect upon certain situations or assignments without educational merit. Therefore, the portfolio was changed to include a few specific required submissions in addition to a group of optional situations or encounters, from which the students could pick a certain number that they felt were most influential in their development. Some of the students thought they had too little guidance in focusing the self-reflections, so every assignment was enhanced with specific questions and thought topics. Epstein and Hundert assert that "curricular change…requires a parallel process of institutional reflection, feedback, and remediation" [6], which has been recognized by NYU. In fact, a committee has just been formed by the new dean of student affairs to assess the proceedings of the professional development committee and the portfolio initiative thus far.

And the inevitable technical bugs showed up during that first year, inasmuch as the portfolio was a new interactive online module. These were corrected in a timely manner but caused some frustration among the first portfolio users.

Forward focus

Although most of the technical glitches in the interactive portfolio have been repaired, some of the more philosophical issues regarding this specific method of evaluating and facilitating professional development remain unresolved. No best method for teaching professional development has emerged. In a recent *New England Journal of Medicine* article, Ronald Epstein reviews the pros and cons of many different methods of assessment, from multiple choice exams to peer assessment and portfolios like those implemented at NYU [8]. Although no single method predominates in usefulness, Epstein supports the idea that "competence should be assessed in an integrated, coherent, and longitudinal fashion with the use of multiple methods and provision of frequent and constructive feedback" [9]. It is exciting to think that our NYU class now possesses a collection of essays spanning the entire four years of medical education, charting our professional development in a way that we hope is meaningful and truly reflective. The portfolio attempts to encompass the ideals of assessment that Epstein defines, but whether this system exemplifies the optimal method to explore and evaluate professional development

remains unknown. Educational studies and outcomes need to continue exploring the ideal way of integrating these goals into professional development.

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Medical education

The state of research in medical education

by Adina Kalet, MD, MPH

Ever wonder what the evidence is to support how you spend your time in medical school? And what is a "good" doctor anyway?

The developing field of medical education has raised these and a host of other questions about the goals and efficacy of the medical school curriculum.

What are the core competencies physicians must be able to demonstrate? How do we assess these competencies? What instructional strategies work best to ensure that all physicians meet them? As members of medical school faculty are we striving to prepare *competent* physicians or *masterful* physicians? How can we ensure that practicing physicians continually refine their expertise through deliberative practice (cycles of practice with feedback) like competitive athletes or concert musicians?

What is medical professionalism? How does it develop? Is it independent of cognitive ability? Can we predict unprofessional behavior? If we can predict unprofessional behavior, what is our responsibility to society to do so?

What proportion of the public's health can be attributed to the work of physicians? Can we improve the quality of care people receive by improving the quality of physician training?

How can we make certain medical students choose careers in the areas of medicine most needed by our population?

These are among the many questions being vigorously debated in the medical education literature. Medical education research is rapidly emerging as an exciting and sustainable career path for academic physicians. Those who choose this path feel passionate about improving the process and outcomes of physician training and choose to do so by, among other things, applying the scientific method to questions raised in that training and using this evidence base to change practice and inform policy. As compared to clinician-teachers, who strive to be master clinicians and instructors, medical education researchers pursue scholarly activities such as designing and conducting research, writing grants to support that research, and publishing reports on new discoveries.

Medical education research is of great importance and interest to our society for many reasons, not the least of which is the public's investment in training. Medical students who pay a huge tuition bill (and accumulate significant debt) might find it surprising that medical training is heavily subsidized by the public. In 2000, Medicare paid $8 billion for graduate medical education which supported over 100,000 medical residents. This money is made up of both direct payments to hospitals for resident and faculty salaries and indirect payments for the added patient care costs associated with teaching [1, 2]. More than three-quarters of the country's 125 medical schools received public subsidies. In total this is estimated to have been in excess of $2 billion in the year 2000 [3].

Educational interventions that lead to better outcomes: the cutting edge

Research in medical education has contributed substantially to improvement in the practice of medical education. As compared with the early 1970s we now understand a great deal about the nature of medical expertise, the value of problem-based learning, the clinical learning process, performance assessment, clinical teaching, and the continuing education and assessment of practicing physicians [4]. The structure and content of the undergraduate medical curriculum has changed significantly, guided by this research and in response to major shifts in the health care delivery system, its financing and societal demands [5]. Recent calls for an accounting of the return on investment for medical education have generated interest in evaluating medical education interventions by assessing their impact on the outcome that matters most—patients' health. Yet few studies have been able to directly link educational interventions with clinically important patient-level outcomes [3]. This is the cutting edge for medical education research. In much the same way as we need to practice evidence-based medicine when possible, we need to insist on establishing the evidence base for education, particularly when the stakes are as high as they are in physician training.

Academic medical centers (AMCs) vary greatly in the priority and support they give to this type of research relative to more traditional biomedical research. A few AMCs have thriving research groups, and most AMCs have at least a few faculty members scattered across clinical disciplines conducting this type of scholarship [6]. At New York University School of Medicine we have recently formed the Research On Medical Education and Outcomes (ROMEO) unit to establish an infrastructure that brings together and supports medical education scholars across primary care disciplines.

While the intellectual facility and rigor needed to conduct medical education research is similar to that employed in biomedical research, education researchers use different tools and conduct their work in very different laboratories. The traditions of medical education research tend to hail from the social sciences, so this research uses the methods and measures most familiar to psychology, epidemiology and related fields [7]. Our laboratories are complex settings like medical schools and hospitals, and our subjects are heterogeneous groups of students, residents and practicing physicians. Given the dizzying complexity of all this, we tend to de-

emphasize reductionist techniques and seek to define the intricacies, using mixed methodological approaches. This makes the work endlessly interesting and dynamic.

Most AMCs and professional organizations are now recognizing the value of medical education research by providing seed grants and developing promotion and tenure criteria which acknowledge and recognize the accomplishments of these scholars. Yet some tension remains about how best to recognize medical education researchers who, like other researchers, spend time conducting research, writing and presenting, albeit with less grant money available and fewer venues for publication. Criteria for educational scholarship have been proposed which broaden traditional definitions of scholarship to embrace excellence in all realms of education including direct teaching [8].

Limited funding: the biggest barrier

The biggest threat to further development of medical education research is limited funding. Only a few sources of grant funds are specifically earmarked for medical education (e.g., the National Board of Medical Examiners' Stemmler Fund, the Josiah P. Macy Foundation), and federal funding for education in general (e.g., the U.S. Department of Education FIPSE [Fund for the Improvement of Postsecondary Education] or the National Science Foundation's education and technology grants) tends to be earmarked for preprofessional education. Medical education researchers have been successful at obtaining external funds by combining interests in fundamental questions about medical education with more fundable interests. Prior to the most recent draconian federal budget cuts, funding for educational innovations to increase the access to medical care for underserved and vulnerable Americans (Human Resources Services Administration Title VII training grants) had been available. Occasionally the National Institutes of Medicine have grant programs hospitable to medical education researchers if the proposal fits an Institute's agenda (e.g., National Library of Medicine's interest in educational informatics), is disease-specific, and addresses health disparities or anticipated manpower shortages.

In parallel to the dwindling of funding from the federal government, there seems to be an emerging interest in medical education research on the part of health care delivery systems, their representatives and insurers (particularly managed care companies). These entities recognize that high-quality medical education research is tightly linked to ensuring cost-effective, high-quality health care to defined populations.

The Research in Medical Education (RIME) group of the Association of American Medical Colleges is one of the most established home base professional organizations for such scholarship in the U.S., and there are similar groups around the world (e.g., Association for Medical Education in Europe). There has been a substantial improvement in the quality of work appearing in peer-reviewed medical education journals (e.g., *Academic Medicine, Medical Education, Teaching and Learning in Medicine, Medical Teacher, Medical Education Online*) and a significant increase in educational research appearing in publications in the clinical

disciplines, especially family medicine, general internal medicine, pediatrics and surgery. Increasingly, AMCs are collaborating on large scale experimental and quasi-experimental research, and many opportunities exist to partner across health professions with educator colleagues in nursing, dentistry and allied health professions as well as with general education scholars and cognitive psychologists.

A career for physicians in medical education research, which combines clinical practice, teaching, health care policy and economics, quality management, and scholarship, is now a viable, creative and exciting option for junior faculty in all clinical disciplines despite limited funding. Relevant postgraduate fellowship training is available, and AMCs increasingly are recognizing these career paths. In this unsettling and exciting time of rapid change in the U.S. health care system, medical education researchers, if well positioned and prepared, may have an opportunity to redraw the map of medical training to meet modern realities while preserving the core values of our profession.

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Journal discussion
Early evidence of unprofessional behavior found in medical student records
by Thomas LeBlanc, MD, MA

Papadakis MA, Teherani A, Banach MA, et al. Disciplinary action by medical boards and prior behavior in medical school. *N Engl J Med.* 2005;353:2673-2682, e22.

As recently as a few decades ago, there was no mention of "professionalism" in most medical school curricula [1]. Since then, medical education has increasingly focused on professionalism and such related topics as ethics and humanism. Today, several governing bodies including the American Association of Medical Colleges (AAMC) and the Accreditation Council for Graduate Medical Education (ACGME) endorse curricular attention to these matters, both in medical school and in subsequent residency training [2, 3]. It seems agreed upon that these topics are central to the development of good physicians. Unfortunately, little objective data exists to support this claim. For this reason, the study by Maxine Papadakis and her colleagues is significant.

The randomized controlled trial, or RCT, is the agreed-upon gold standard for evidence in modern medicine. For clinical topics like myocardial infarction literally thousands of RCTs are indexed electronically in the Medline database of the National Institutes of Health (NIH), accessible via PubMed.com. To the contrary, a PubMed search of RCTs containing the keyword "professionalism" yields only five results [4]. Even a search limited to non-randomized clinical trials yields just 22 results, and there is no MeSH (medical subject heading) search term for the topic of professionalism. In contrast, a search for *editorials* containing the keyword "professionalism" results in 164 hits.

One can reasonably conclude from this that current thinking on the subject remains mostly confined to expert opinion. Of course, as the history books demonstrate time and again, "experts" are often incorrect. It is often said that half of what is taught in medical school is wrong, we just don't know which half. For this reason, objective data is vital in helping to direct medicine and medical education down the best possible path.

In this vein, Dr. Papadakis's article presents compelling evidence that professionalism matters, and that it matters *professionally*. In a pilot study published in 2004, Papadakis and colleagues found that disciplinary action against physicians by the Medical Board of California was associated with reported incidents of

unprofessional behavior during medical school [5]. Building on the troubling results of this pilot study, the authors collaborated with two other medical schools, the University of Michigan and Jefferson Medical College in Philadelphia, to explore this link more fully. Complete school records were available dating back to 1970, and medical board actions were reviewed between 1990 and 2003. These are a matter of public record. To control for confounding variables, each disciplined physician was paired with two control physicians, whose specialty matched that of the disciplined physician. Research assistants gathered the data, and entries reflecting unprofessional conduct were scored by several investigators to confirm interobserver agreement and thus reduce bias and other sources of observer-based error.

Based on this case-controlled, retrospective study, Papadakis and colleagues found the following. First, physicians who were disciplined by a medical board were three times more likely to have a record of unprofessional behavior during medical school than were the controls. In particular, they were more likely to have demonstrated

> irresponsibility, diminished capacity for self-improvement, poor initiative, impaired relationships with students, residents and faculty, impaired relationships with nurses, and unprofessional behavior associated with being anxious, insecure, or nervous [6].

"Severe irresponsibility" was most strongly correlated, occurring 1.8 to 40 times more often, followed by "diminished capacity for self-improvement," found 1.2 to 8.2 times as frequently. Interestingly, even MCAT scores appeared to be loosely linked with disciplinary behavior, with a trend towards lower test scores in physicians disciplined by the board. Furthermore, disciplined physicians were also twice as likely to have failed at least one course on their first attempt during medical school.

One must take care in interpreting these results, however. As a retrospective study, the most we can glean from the data is the knowledge that physicians disciplined by a medical board are significantly more likely to have documented evidence of unprofessional behavior in their medical school files. It is important to recognize that the stronger inverse inference *cannot* logically be made. In other words, one cannot assume that students who demonstrate unprofessional behavior during medical school are three times as likely to be disciplined by a medical board. To do so would amount to the commission of a logical fallacy known to philosophers as "converting a conditional," [7] saying, "if A then B, therefore if B then A." Of course, such an argument is fallacious.

Interestingly, the title of the original pilot study by Papadakis, "Unprofessional Behavior in Medical School is Associated with Subsequent Disciplinary Action by a State Medical Board," seems to suggest this illogical inference in its phrasing, purporting a causative link between medical student behavior and subsequent disciplinary action, rather than the converse association, which is what the data actually supports. At most, one can only presume a vague degree of statistical risk

(1.15 to 4.02 times) of association between student behavior and subsequent discipline, based on the data. In fact, it may well be the case that a sizeable proportion of medical students exhibit unprofessional behavior at some point in their education, but do not go on to have professional difficulties and actions taken by their state medical board. Or, more likely, as I have found in my own experience, a great deal of unprofessional behavior goes unchecked and unrecorded in medical school files. While there *is* likely to be a group for which the relationship is true, we simply have no way of knowing how often this is actually the case without further study.

This shortcoming lies in the fact that the study is retrospective and is not a randomized controlled trial. In the absence of RCT data one cannot know whether a particular medical school intervention would make a difference in the likelihood of subsequent medical board discipline. Neither can one know, without an RCT, or at least a prospective cohort design, exactly how strong the correlation may be. That said, one might argue that an RCT would not even be ethical, in that it would pose the risk of leaving recognized unprofessional behavior unchecked, which stands to threaten patients' well-being if it continues thereafter. It would also be rather difficult to design such a study, which is infinitely complicated by requiring a human intervention rather than just a pharmaceutical one.

Although there are surely some shortcomings to this study, including its retrospective design and consequent inability to demonstrate a causal link between unprofessional student behavior and subsequent professional difficulties, the same is true for most studies, no matter how meticulous the design. In the case at hand, one must not miss the forest for the trees. Papadakis's data are truly groundbreaking and cannot be ignored. Clearly, professionalism is an important theme in modern medicine—indeed, unprofessional behavior was the basis for at least 74 percent of the medical board violations noted in this study—but there also seems to be a sense in which professionalism just *feels* important to physicians and educators, as manifested in its prominence in most curricula today [1].

As a recent graduate of medical school, I can certainly recall witnessing several instances of unprofessional behavior, and it always felt profoundly and intuitively disturbing. I imagine this is true for many physicians. One must wonder how patients will feel about and react to it, and how it might shape others' perceptions of physicians and of the medical profession in general. There is much at stake in these situations, thus it is truly troubling that such behavior can continue over several decades, as this study clearly demonstrates.

The authors conclude that professionalism should play a central role in medical education and that admissions and graduation criteria should reflect an explicit assessment thereof. They also argue that their data "supports the importance of identifying students who display unprofessional behavior" [6]. I wholeheartedly agree, despite the fact that it remains to be shown just how often unprofessional student behavior subsequently results in professional difficulties. Regardless,

professional behavior stands to have a significant impact on the patient-doctor relationship, and the persistence of unprofessional behavior over decades may be sufficient evidence to support such interventions. Countless interventions are currently under way at medical schools across the country. As Drs. Stern and Papadakis discuss in an article about the developing physician, professionalism is a topic that can clearly be taught and assessed within modern curricula and modeled by faculty [8]. Novel approaches continue to emerge, including an initiative to use the gross anatomy curriculum to teach and reinforce the tenets of professionalism [9]. Although untested objectively, such efforts are to be lauded as the best we have to date.

Professionalism is important to the future of medicine. It stands to define our interactions with patients, shape their perceptions of physicians and drive the overall success of medicine in society. As professionals, we "profess" certain ideals, the antitheses of which are the irresponsibility, diminished capacity for self-improvement, and poor initiative found in many students in this study. I believe we owe it to our patients, and to our profession and its reputation, to continually strive to maintain medicine's historically noble professional ideology. Dr. Papadakis's study lends more credit to this noble goal.

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Clinical pearl

Hyperkalemia: newer considerations

by Amar D. Bansal and David S. Goldfarb, MD

Maintenance of potassium balance is a key aspect of electrolyte homeostasis. Potassium is the major intracellular cation, and its transport in the kidneys is tightly regulated. Disruptions in potassium balance, such as severe hyperkalemia ([K+] > 8 mEq/L), can lead to cardiac abnormalities that may progress to ventricular fibrillation if untreated. A diagnosis of hyperkalemia needs to be further contextualized in order to have clinical significance.

Factors to be considered when treating a patient with hyperkalemia are:

- the severity of hyperkalemia
- rate of onset
- existence of other medical conditions
    - renal insufficiency
    - diabetes
    - hypoaldosteronism
    - acidemia
- use of medications that affect the renin-angiotensin-aldosterone system
- dietary intake

Despite our empirical understanding of the physiologic mechanisms of renal function and potassium handling, there is still no clinical consensus on how and when treatment should be administered in the setting of hyperkalemia. The absence of established medical criteria allows some room for clinical subjectivity regarding when to correct hyperkalemia.

Renal physiology of potassium balance

Potassium processing by the kidneys must respond to fluctuations in dietary K+ intake so that intake matches excretion. If there is a mismatch between K+ intake and excretion, then alterations in [K+] are inevitable. After glomerular filtration, the proximal convoluted tubule and thick ascending limbs reabsorb K+. The main adjustments in K+ handling occur in the distal tubule and collecting ducts. In states of high dietary K+ intake, these portions of the nephron are involved in K+ secretion (through the principal cells), whereas in states of low dietary intake they are mainly involved in K+ reabsorption (through alpha-intercalated cells). Despite this efficient system of K+ handling, the exact physiology of how the kidneys act as a sensor for

dietary K+ intake remains unknown. It is even likely that the burden of K+ "sensing" occurs via an extrarenal mechanism that has a downstream effect on the nephron.

Factors other than dietary intake influence K+ homeostasis in the kidneys. Aldosterone causes increased K+ secretion by: (1) increasing the activity of Na+/K+ ATPase and (2) increasing epithelial sodium channels (ENaC) in principal cells [1]. The latter effect enhances the electrochemical gradient for K+ secretion into the lumen. Therefore, attenuated downstream effects of aldosterone due to spironolactone, angiotensin-converting enzyme (ACE) inhibitors, angiotensin receptor blockers (ARBs) or the presence of hypoaldosteronism all lead to elevated K+ levels.

Treatment of hyperkalemia

Treatment consists of three components, summarized here. First, administration of intravenous calcium is appropriate for severe hyperkalemia and significant EKG changes. Next, insulin (and 50 percent dextrose to avoid hypoglycemia), sodium bicarbonate and inhaled beta-agonists like albuterol drive K+ into cells. Finally, treatment requires an increase in renal or intestinal excretion. The latter is achieved by administration of a sodium polystyrene sulfonate suspension (Kayexelate). Some say that the osmotic diarrhea caused by the sorbitol the Kayexelate is mixed in is the effective agent and that the effect of the resin is minimal. In patients who are not yet on dialysis, furosemide may also be useful, particularly in those with hypertension or edema.

When to intervene with chronic hyperkalemia remains uncertain, and as ACE inhibitors and ARBs are used more frequently in patients with chronic kidney disease, hyperkalemia is becoming more common. Is a [K+] of 5.5 mEq/L too high or dangerous? Does it require that an EKG be done? Absolute values that indicate a need for treatment or, alternatively, a benign outcome, remain uncertain. Patients with lower glomerular filtration rates (GFRs), acute reductions in GFR, or rising [K+] and those with unexplained increases in [K+] are all at greater risk than the opposite conditions.

Inpatient versus outpatient management

A recent study investigated clinical trends in management of patients with hyperkalemia [2]. The goal of the study was to see if any significant differences existed between patients who were treated as outpatients and those that were admitted and treated as inpatients. It is important to note that the study did not evaluate differences in outcome, i.e., the success or failure of clinical treatment as measured by adverse events or death; rather, it compared the two patient groups to see if indications for admission clearly distinguished the admitted group from the outpatient group.

The study concluded that the clinical profiles of the patients who underwent outpatient and inpatient treatment for hyperkalemia were not significantly different. The factors examined included age, mean [K+], or other values such as serum urea

nitrogen or creatinine. The indications for admission in the admitted group were not evident: they were not significantly more ill, did not have worse kidney function and did not have higher serum potassium concentrations. This result points to a lack of medical consensus on how to handle hyperkalemia.

The authors suggested that inpatient treatment of hyperkalemia is clearly necessary when there is severe hyperkalemia ([K+] > 8 mM) accompanied by EKG changes, as defined by the Levinsky criteria (table 1) [3]. In this case, the inpatient setting allows for continuous cardiac monitoring. The study also indicated that hyperkalemia associated with serious conditions such as tissue catabolism, an acute decrease in renal function or drug overdose might be an indication for inpatient management.

Hyperkalemia and pharmacotherapy

Many drugs that interact with the renin-angiotensin-aldosterone system (RAAS) can lead to hyperkalemia [4]. Furthermore, the incidence of drug-related hyperkalemia has increased due to the prevalence of agents that interact with the RAAS. A careful evaluation of a patient's medications is therefore essential in reducing [K+] levels since discontinuation of certain drugs may be required. Drugs that interfere with the release of renin can cause hyperkalemia by inducing hyporeninemic hypoaldosteronism. These drugs include nonsteroidal anti-inflammatories (NSAIDs), beta-blockers and calcineurin inhibitors such as cyclosporin. ACE inhibitors and ARBs can also cause hyperkalemia because they lead to lowered aldosterone levels. Sodium channel blockers such as amiloride and triamterene, or the similarly acting trimethoprim, may also cause hyperkalemia because Na+ reabsorption raises luminal electronegativity, which provides a strong driving force for potassium secretion. Thus, blocking Na+ reabsorption attenuates the luminal electronegativity, reducing the K+ conductance across the apical membrane into the lumen [1].

It is important to weigh the beneficial cardio- and renoprotective effects of some of the drugs mentioned against their deleterious tendency to cause hyperkalemia [4]. Studies have shown that physicians tend to be aware of the association between hyperkalemia and use of ACE inhibitors, but awareness of the potential of NSAIDs to cause hyperkalemia is relatively poor [2]. Thus, NSAIDs should be discontinued in patients with hyperkalemia or at risk for hyperkalemia before other drugs with beneficial cardio- and renoprotective effects are discontinued.

If an NSAID is absent from a patient's medications, and the drug regimen includes an ACE inhibitor, ARB, or aldosterone receptor blocker, or any combination of the three, then reductions in dosage or discontinuation of one of the agents may ameliorate hyperkalemia. ACE inhibitors and ARBs, however, have protective effects to diminish progression of chronic kidney disease, particularly in patients with proteinuria, and should be reinstituted after serum K+ concentration is corrected. Addition of furosemide may reduce blood pressure and edema while helping modulate serum K+ concentration.

Special attention should be given to certain combinations of drugs, such as spironolactone or eplerenone used with an ACE inhibitor [4]. Even when used individually, these agents may cause hyperkalemia, and their concomitant use increases the likelihood of drug-induced hyperkalemia, especially in the setting of chronic kidney disease.

Chronic kidney disease (CKD)

In the context of CKD, non-acute hyperkalemia is not a purely pathological state, rather it can be understood as an adaptive mechanism that helps maintain potassium balance [1]. Studies have shown that correlations of serum aldosterone levels with urinary K+ excretion in patients with CKD are at best uncertain [5]. Studies in rats have also shown that hyperkalemia results in increased K+ secretion that is independent of aldosterone levels [6]. The clinical implication of all these studies is that the management of hyperkalemia in patients with CKD should focus on minimizing disturbances in the newly established K+ balance by realizing that this balance depends on higher [K+] levels [1].

Regardless of the presence of CKD, appropriate action includes dietary counseling (for example, avoidance of dried fruits, popular with the elderly for help with constipation, and salt substitutes that often contain potassium) and a review of medications that might contribute to hyperkalemia.

Conclusion

Hyperkalemia is a common electrolyte abnormality in the current era of ACE inhibitor and ARB use. It is possible that many unnecessary ER visits, EKGs and hospitalizations result from the real anxiety that reasonable physicians experience when varying degrees of hyperkalemia are present. How to define safe, mildly elevated levels to reassure patients and physicians and avoid unneeded treatment is not obvious. While acute treatments like calcium, insulin and Kayexelate are often appropriate, long-term chronic hyperkalemia requires addressing drug choices and diet.

Classification	**[K+] (mmol/L)**	**EKG changes**
Minimal hyperkalemia	5.2 < [K+] < 6.5	Minor
Moderate hyperkalemia	6.5 < [K+] < 8.0	Only peaking of T waves
Severe hyperkalemia	[K+] > 8.0	Presence of widened QRS, AV block or ventricular dysrhythmia

Table 1. Levinsky Criteria

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Health law
"I'm sorry" laws and medical liability
by Flauren Fagadau Bender, JD

Mrs. G. arrived at the county hospital in active labor. She was 28 years old, had two living children and was 38 weeks pregnant. Mrs. G. had a diagnosis of gestational diabetes. She was dilated to 9 centimeters. The physician requested her clinic chart, but it never arrived, and he coached the patient to push for the next two hours.

The delivery was complicated by shoulder dystocia, and the newborn was found to have paralysis of his right arm secondary to brachial plexus injury. The physician noted in retrospect that, because his patient had uncontrolled diabetes during pregnancy, an ultrasound at the time of presentation or during the labor would have been standard practice. The ultrasound would have revealed an abnormally large fetus, and the physician could have recommended a cesarean section, which would have prevented the shoulder dystocia and associated risks. The physician was distraught about the case; he personally carried the baby to the neonatal intensive care unit to try to achieve the best outcome and struggled with whether or not to inform Mrs. G. that, had he performed an ultrasound, he would have recommended a cesarean section.

The risks of saying "I'm sorry"
The American Medical Association *Code of Medical Ethics*, which sets forth standards of professional conduct, states that when a patient suffers significant medical complications that may have resulted from the physician's mistake or judgment, the physician is ethically required to disclose to the patient all the facts necessary to ensure understanding of what has occurred [1]. The guidelines go on to state that a physician's concern about legal liability that might result from full disclosure should not affect his or her decision to deal candidly with a patient [1].

While most physicians would agree with this principle in theory, full disclosure has not always been the norm. Medical malpractice premiums have skyrocketed in recent years, most significantly in specialties such as obstetrics-gynecology and neurosurgery, and as a result many physicians fear that every patient is a potential litigant [2]. Two national surveys designed to assess attitudes toward disclosure revealed that fear of litigation was the primary reason for both physicians' and hospitals' reluctance to disclose errors and unanticipated outcomes [3, 4].

Worried that Mrs. G. would sue if she discovered he had erred in failing to recommend an ultrasound, the physician in the above hypothetical case, acting on the

advice of his employer hospital and the hospital's insurance carrier, remained silent about his mistake. The mother, in turn, became frustrated and angry when she was unable to get an explanation for her newborn's injury. Seemingly left with no other avenue, she filed a lawsuit, seeking answers and retribution. The physician's silence, rather than preventing a lawsuit, incited one.

Encouraging physicians to apologize

In response to the national medical malpractice crisis, 29 states have enacted evidentiary rules that make expressions of sympathy following an accident or error inadmissible in civil court to prove liability [5]. This body of legislation, referred to as "I'm sorry" laws, encourages full disclosure of mistakes or errors in judgment by eliminating physicians' and hospitals' fear that their admissions will be used against them in a court of law. "I'm sorry" laws are a marked change from existing American law: under the Federal Rules of Evidence and analogous state provisions, apologies are ordinarily admissible in civil court to prove liability [6].

One of the most far-reaching "I'm sorry" laws was enacted in Colorado in 2003 [7]. The legislative intent of Colorado's law is to promote a continued open and trusting relationship between physicians and patients following a medical error [8]. The law provides in pertinent part:

In any civil action brought by an alleged victim of an unanticipated outcome of medical care…any and all statements, affirmations, gestures, or conduct expressing apology, fault, sympathy, commiseration, condolence, compassion, or a general sense of benevolence which are made by a health care provider or an employee of a health care provider to the alleged victim, a relative of the alleged victim, or a representative of the alleged victim and which relate to discomfort, pain, suffering, injury, or death of the alleged victim as the result of the unanticipated outcome of medical care shall be inadmissible as evidence of an admission of liability or as evidence of an admission against interest [7].

The Colorado law is broad in scope because it covers not only words but also health care professionals' actions and conduct. It also prohibits outright statements of apology made by physicians and hospitals from being used by the alleged victim to prove liability. In sharp contrast, the Texas "I'm sorry" statute is much narrower, making only expressions of sympathy and statements conveying "a general sense of benevolence relating to the pain, suffering, or death of an individual involved in an accident" inadmissible [9].

In the past several years, five states—Florida, Nevada, New Jersey, Pennsylvania and Vermont—have gone a step beyond evidentiary exclusions by adding a mandatory notification requirement that imposes a duty on hospitals to inform patients of adverse medical outcomes [5]. In addition to preventing admissions or expressions of sympathy from being used against the health care professional in court, these mandatory notification laws require hospitals to adopt policies of full disclosure. For example, the Florida statute requires that "an appropriately trained

person designated by [the hospital] shall inform each patient…in person about adverse incidents that result in serious harm to the patient" [10]. Thus, if a surgeon practicing in Florida makes a mistake during surgery that results in an adverse outcome, he or she is obligated by law to inform the patient about the incident, and the admission cannot be used in court to prove liability. By comparison, if a Colorado surgeon makes the same mistake, the apology or admission likewise cannot be used against him or her in court to prove liability, but the surgeon is not required by statute to inform the patient about the adverse incident. Because the language and scope of "I'm sorry" laws vary from state to state, it is necessary for physicians and hospitals to contact an attorney in their jurisdiction before apologizing or explaining an unanticipated outcome to a patient.

Benefits of open communication

Saying "I'm sorry" may cut costs and increase efficiency [2]. Having realized the benefits of apologizing, several hospital systems throughout the country, in conjunction with their attorneys and insurance carriers, have implemented full disclosure policies, so a procedure is in place when an unintended outcome occurs, and health care professionals are trained in how to apologize and make settlement offers. Since the University of Michigan Health System adopted its program in 2002, the number of medical malpractice claims has dropped each year, attorney fees have declined significantly and the university has reduced its claims-processing period by more than 50 percent [11-13].

An upfront apology or expression of sympathy can relieve anger and frustration and reduce the level of emotion, paving the way for a quick settlement rather than lengthy and costly litigation. For the most part, patients do not sue because they are greedy but because they want to know what went wrong and are seeking acknowledgement of the error [14]. If the physician in the hypothetical case above had apologized to Mrs. G. rather than remaining silent, it is likely that she would have been amenable to settling the case.

Finally, by encouraging honest, open communication, "I'm sorry" laws facilitate the continuation of the patient-physician relationship following an adverse event [2]. Whereas the patient-physician relationship was certainly destroyed when the physician in the hypothetical case concealed his mistake, it is possible that the relationship could have been maintained had he shown empathy and informed Mrs. G. of his error in a straightforward way.

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Medicine and society

What society and medicine want—for themselves and from each other

by Frederic W. Hafferty, PhD

I will not pretend to grapple here with the full range of balance and self-identity issues posed to me by *Virtual Mentor* for this essay. Those questions concerned the growing gap between what society has always expected of the medical profession—that doctors be available whenever needed and give priority to the interests of the patients in front of them at all times—and the expectations of medical students and new doctors—to have rich and balanced lives outside of the profession and to balance the health needs of the public with those of the patient in front of them. Can—or *how* can—these two sets of expectations be met? I believe these questions are as foundational to the overall health care debate as issues of cost, quality and health disparities.

Is there a gap between what society expects and what physicians want to provide? Yes. Is this gap growing? I am not sure. Social groups have a tendency to mythologize the past, and it is not altogether clear that the public-of-old expected doctors to "be available whenever needed" and to “place the interests of patients first”—regardless. What *is* clear is that the nature of the patient-physician relationship has changed. When my father and uncle practiced medicine, physicians made house calls and held “office hours” in their own homes. Before my uncle (who lived across the street) built a small three-room office annex, patients waited in the living room, attended by my aunt. Physicians lived in the same neighborhood as their patients or "just down the street.” Patients and physicians really did know each other—for better and for worse. Many of my father's patients knew he drank too much (he was an alcoholic), but they also embraced his commitments to them and to the community. Did this intimacy of caring and knowing generate expectations? Yes. Were they boundless? No. Patients respected the fact that my father and uncle each had a “private life.” There were evening calls (my mom screened them), but I know there could have been more.

Nonetheless, my father and uncle were absentee fathers. My father rose at 5:30 a.m. and came home (when I was younger) long after I had gone to bed. After all, he had evening office hours Monday, Tuesday, Thursday and Friday. My uncle chaired our town's school committee and recreation board for decades. Tangible family prices were paid for their involvements with work and community.

I would also be less than forthcoming, this time as a sociologist, if I did not point out that people today *are* less connected within their communities (think Robert D.

Putnam's *Bowling Alone*) [1], less connected with each other (the typical American adult identifies himself or herself as having two friends) and overly connected (at least within certain segments of our society) with the lives of their children (reflected in the negative characterization of today's mothers and fathers as "helicopter parents").

Are there patients today who harbor inappropriate expectations of physicians? Of course. They existed in my father's and uncle's day and they will exist tomorrow. There is, however, another facet to this story—that of *appropriate* expectations. What does society have a *right t*o expect, from medicine and their physicians? And what about the gap between these rightful expectations and what the profession delivers?

One rightful expectation is quality health care. The February 2007 *Consumer Reports* contains a national survey ("Get Better Care from Your Doctor") examining the patient-physician relationship [2]. For physicians, the number one complaint (shared by 59 percent of physicians) was that patients "don't follow their prescribed treatment" [3]. Yet, we know both from news accounts of medical mistakes and from quality-of-care studies published in national medical journals, that the actual delivery of appropriate health services can be a fairly iffy proposition.

We know that conflicts of interest riddle clinical medicine and clinical research, and we know that physicians can and sometimes do cause patients harm. We know that members of minority groups trust physicians less than those in the majority do—just as we know that disparity in health care is a national scandal and that African Americans and other marginalized populations have been the object of abusive research practices by medical researchers. (See, for example, the recently published *Medical Apartheid* by Harriet Washington) [4].

Finally, we know that low health literacy is a major impediment to good health care (90 million Americans are unable to "adequately understand basic health information") [5], that there are significant communication pitfalls between physicians and patients, and that many patients genuinely are confused by their physician's directives (including how many pills to take when the doctor says, "Take two tablets by mouth twice daily"). Each of these discords is a serious gap.

At the same time, we know that physicians are worried about the future of medicine as a profession—including the pivotal issue of practice autonomy. Good medicine, physicians insist, requires that they have considerable discretion in clinical decision making. *Authentic* and effective discretionary decision making, however, requires a foundation of requisite skills, knowledge and values, along with the demand-sided need for their deployment. Do all physicians possess the necessary abilities to appropriately differentiate between the usual and the genuinely unusual? Unfortunately not. On one side of this gap is uncertainty—the incompleteness of scientific knowledge. After all, we are just beginning to compile the kinds of evidence necessary to practice truly scientific medicine. On the other side of this gap,

however, reside physicians who cannot or will not provide their patients with standards of care well-accepted within the profession. This, too, is "discretionary decision making."

So, how do physicians plan to practice quality health care? One answer—one of many, I hasten to add—is that they expect to practice medicine less, which is not the same thing as "practicing less medicine." Today, in my community, a full-time practice is four days a week—and quickly moving toward three. These cutbacks in time-at-work are driven, in part, by issues of lifestyle and the desire to achieve a more satisfying balance between work, family and personal responsibilities. This past month, I spoke to a physician friend who is moving from one practice community to another and taking a position with a clinic that serves the poor and disenfranchised. He has negotiated to work 3.5 days a week. A senior physician friend recently retired. His partners found they needed to hire two physicians—a physician and a nurse practitioner, actually—to cover his workload. The schism here is not patient-physician or society-medicine, but rather generational. Perhaps, given today's advances in biomedicine, a physician need not work the hours my father and uncle worked to achieve the outcomes they achieved—or better ones.

But, is wholesale cutting back a solution? I wonder. One reservation has to do with the nature of medical work and the amount of time rank-and-file physicians need to commit to that work to achieve and maintain excellence. About 15 years ago, during the first few years of the physician-executive movement, a few physician friends began to take on administrative responsibilities with defined splits (90/10; 80/20; 60/40, etc.) between their bureaucratic and clinical commitments. The realization that they were planning to practice medicine on a less-than-full-time basis came, frankly, as a shock. Can one practice good medicine "on the side"?

Do I begrudge medical students and residents their search for balance and more personal and family time? No—to a point. I truly did miss my father. I would have liked to know him better. But there is always a cost; there is always a trade-off. Today's four-hour-a-day physicians, those who take no calls, and those who practice medicine as shift work or on a *locum tenens* basis will not be appreciated by their patients the way my father and uncle were. Their patients will not host dinners to honor them as my father's patients did for him a few short months before he died.

On the upside, some claim that doctors who are less harried and pressed, and who do not conflate their work and personal lives, deliver higher-quality health care. There is, however, no proof supporting these claims, although there is data supporting the converse, that sleep-deprived residents are more prone to make medical mistakes.

One of the great challenges for the professionalism movement in U.S. medicine is not the crafting of new codes and charters, but rather the transformation of an occupational culture that is profoundly antireflective and poor at self-monitoring into one that promotes both self-reflection and self-monitoring. Both deficiencies have to change before the recalibration of work-leisure becomes an accepted part of the

medical landscape. The first-order balance I seek is the balance between work and reflection on that work, the balance between responsibility for one's own work and for the work of peers. Perhaps we can achieve these balances first. Otherwise, less time *at* work is just more time *off* work.

The issue, obviously, is not time (as a Newtonian absolute). It is the socially contextualized nature of time and what we do with it. The newly instituted 80-hour workweek for residents results in more rested residents *only if* they take at least some of the extra time for rest. Otherwise, we have a faux solution to a quite real quality-of-care problem. If physicians are still going to see 35 patients during their workday, or fail to use their out-of-clinic time to stay abreast of current changes in medicine, then we have a problem of quality regardless of how many days off those physicians might enjoy. The key is to prevent physicians' lifestyle preferences from becoming patients' iatrogenic health-style (or death-style) outcomes. There is, after all, a very real threat that what physicians want for themselves has a significant public price, and one many patients may not and *should* not be willing to pay.

Let us worry about the quality-of-care gap first, and then about how many days a week physicians should work (and want to work) to deliver that quality. Once we have calmed the quality-of-care beast we can tackle that more amorphous gap between the public's "unspecified demands" and physicians' expectations for "rich and balanced lives" outside the profession—including whether and how that rich and balanced lifestyle should be paid for by that very same public.

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History of medicine
The doctor's white coat—an historical perspective
by Mark S. Hochberg, MD

The white coat has served as the pre-eminent symbol of physicians for over 100 years. A child's earliest memory of a doctor is the person in the white coat. Patients expect to be treated in doctors' offices, hospitals and clinics by an individual wearing white. At virtually every medical school, the first symbolic act is the "White Coat Ceremony" originated by Arnold P. Gold, MD. This is the ceremonial "cloaking" of a doctor-to-be as she or he embarks on a medical career [1, 2]. So you may be surprised to learn that prior to the late 19th century doctors wore not white but black garb.

And not all doctors wear white coats today —pediatricians and psychiatrists eschew it—and not all professional societies expect their physicians to do so. Patients in Denmark and England do not expect their physicians to wear white; those in Sweden, Finland and Norway do. Studies show that younger patients prefer a doctor not to wear white, while older patients prefer the opposite [3].

Why do expectations about physician use or avoidance of a white coat differ? And how did the white coat come to represent physicians in the first place?

The word *candor* is derived from the Latin *candidus* which means white. In fact, the foundation of all professional societies is candor or truth. The term "candidate" comes from the fact that Romans seeking public office wore the white togas. The depiction of justice over the millennia has been a statue or painting of an individual clothed in white. The converse, of course, is evil or death depicted in black.

Physicians dressed themselves in black and were painted in black garb until the late 19th century. Black attire was, and is, considered formal (e.g., today's tuxedo). Consequently until about 1900, physicians wore black for their patient interactions since medical encounters were thought of as serious and formal matters. Clergymen also dressed in black, which indicated the solemn nature of their role in encounters with parishioners. An additional or alternative possibility for the dark garb might be that until the late 19th century seeking medical advice was usually a last resort and frequently a precursor to death. Until the last third of the 1800s, an encounter with a physician rarely benefited the patient. In fact, up to that point, virtually all of "medicine" entailed many worthless cures and much quackery [4].

Thomas Eakins created what is arguably one of America's greatest paintings in 1875 entitled "The Gross Clinic" (figure 1). It depicts a scene from Jefferson Medical College's amphitheater in Philadelphia showing Dr. Samuel Gross and his assistants—all dressed in black formal attire—performing a leg operation on a young man.

At about the same time, the idea of antisepsis was taking hold in Europe. It was Joseph Lister's contribution that truly moved medicine from home remedies and quackery to the realm of bioscience. For the first time, reproducible results helped researchers better understand how to prevent bacterial contamination.

Remarkably this progression was documented in Eakins' 1889 operating theater masterpiece entitled "The Agnew Clinic" (figure 2) from the University of Pennsylvania. D. Hayes Agnew, MD, can be seen in a white smock, with assistants also wearing white, suggesting that a new sense of cleanliness pervaded the environment. The patient is swathed in white sheets and the nurse has a white cap. Similarly, an 1889 photograph from the Massachusetts General Hospital archives shows surgeons in short-sleeved white coats over their street clothes.

Shortly after the Agnew painting, the Flexner report (1910) led to the closure of a large number of borderline medical educational institutions and the restructuring of medical education around laboratory science. Coupled with William Osler's 1892 textbook of medicine and Walter Reed's observation of the spread of malaria by mosquitoes during the construction of the Panama Canal, the value of cleanliness and antisepsis was firmly fixed as the core of medical science.

At the end of the 19th and the beginning of the 20th centuries, when medicine became the truly scientific enterprise we now know, the "whiteness" or "pureness" of medicine became reflected in the garb of physicians and, interestingly, nurses [5]. Up until that time nuns in their black habits functioned as nurses, largely in almshouses. At the turn of the 19th century the black habits of the religious nursing orders became white. In fact to this day nurses in England are called sisters, because of their religious origins. Our society has carried this symbol of whiteness to the marriage altar where brides traditionally wear white as a symbol of their purity.

In the 20th century, the white coat continued as the symbol of medical authority and respect as advance upon advance firmly established the patient-doctor relationship as a beneficial encounter. Probably the greatest development of medical science in the 20th century was the advent of antibiotics toward the end of World War II—the completion of Lord Lister's dream that bacteria could be successfully overcome. For the first time pneumonia, appendicitis, an infected blister or a toothache no longer condemned one to death.

A depiction of a physician in a white coat is indeed the symbol of medicine, eclipsing the black bag or the stethoscope [3]. But the image of the white coat has also become so intimidating that pediatricians and psychiatrists generally choose not

to wear it in order to reduce anxiety on the part of their patients. The term "white coat syndrome" is used to describe unrepresentative high blood pressure recordings due to a patient's anxiety upon seeing a doctor in a white coat.

Many patients now view the white coat as a "cloak of compassion" [1] and a symbol of the caring and hope they expect to receive from their physicians. Conversely, students beginning their studies in medical school see their education and role as future physicians as aspiring to be worthy of the long white coat. Medical school must give students the scientific and clinical tools to become doctors. Just as importantly, the white coat symbolizes the other critical part of students' medical education, a standard of professionalism and caring and emblem of the trust they must earn from patients. The White Coat Ceremony, as envisioned by Dr. Gold, welcomes those embarking on their medical careers to the community of physicians by giving them this powerful symbol of compassion and honor. It also gives them a standard against which they must measure their every act of care to the patients who trust them.

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Related article

The White Coat Ceremony, April 2002.

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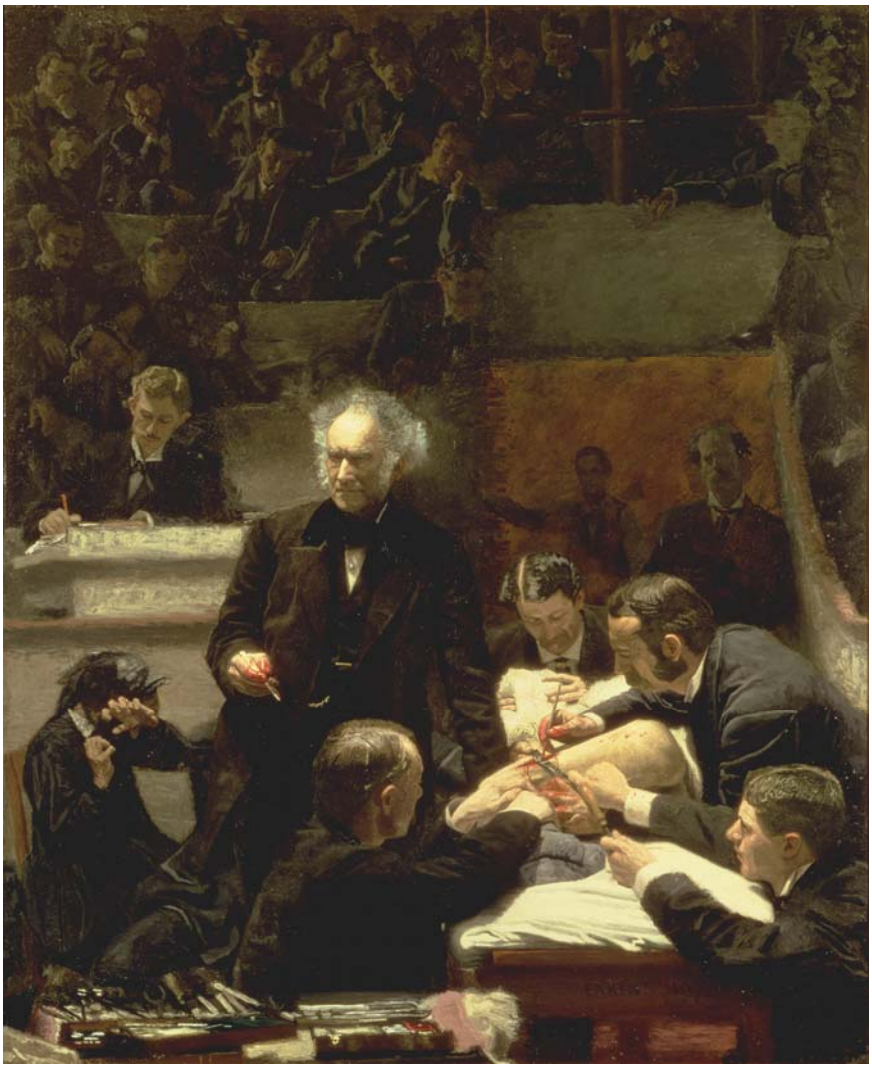

Figure 1 “The Gross Clinic,” by Thomas Eakins (1875)
Courtesy of the Philadelphia Museum of Art and Pennsylvania Academy of the Fine Arts

Figure 2 “The Agnew Clinic” by Thomas Eakins (1889)
Courtesy of the University of Pennsylvania Art Collection

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Op-ed
Is "no-fault" the cure for the medical liability crisis?
Responses by David E. Seubert, MD, JD, and by Laurie T. Cohen, JD, and Jason M. LaFlam, JD

Response 1
by David E. Seubert, MD, JD

Patients who suffer an adverse health care outcome often assume that, but for the negligence of their treating physician, their condition would be different. Such patients then often engage a plaintiff attorney and begin a long journey down the tort pathway to seek compensation. This process is adversarial and has many inconsistencies. Many patients are seeking compensation for outcomes that clearly were out of the hands of the treating physicians and health care team. Nonetheless, clever lawyering skills can distort the picture and, when the case is presented to a lay jury, a windfall award can be granted. But who really wins here? If the patient gains an award, it is usually years after the adverse event, and the award is reduced by a large percentage that covers the attorney's fees and expenditures associated with the trial.

The greater theme that must emerge is the effect of this adversarial process on society. The current process promotes the legal profession's view of physicians as "conspirators of silence." This conception was born from the fact that physicians served with civil notice of a pending medical malpractice case against them are informed by their attorneys to keep their mouths shut and not to discuss the case with anyone. This often isolates the physician and leads to responses such as depression and anger [1, 2]. But what if the physician could speak at the time of the event and offer insight and interpretation of what happened, prior to being deposed or appearing in court years later? Clearly this more forthright and contemporaneous approach offers many benefits for society.

A no-fault system of compensation for medical injury similar to the workers' compensation and automobile insurance models may be the answer to the medical malpractice crisis omnipresent in the United States today. Allowing physicians to come forward when an error occurs and join forces with their patient(s) and the hospital system could improve the entire network of health care. The current conspiracy of silence carries great risks for society. Suppose the error that has harmed a patient lies in a faulty system and has potential to do much more damage? Silence and lack of investigation of the problem can have greatly deleterious consequences.

A no-fault system encourages health care professionals to identify the system malfunction and take a proactive approach to fixing it. At the same time, where a patient has suffered harm, the no-fault system must assure appropriate compensation. Such an approach accomplishes two goals: first the patient is compensated for the injury, and, secondly, society's health care is upgraded and enhanced by fixing an error in the system. Such an error may in fact be a physician with a deficit. The no-fault process can identify this deficit and allow for physician retraining and rehabilitation.

The Swedish health care system has a 29-year-old progressive approach that is quite simple. This system encourages the networking of the patients and their treating physicians to cooperate in filing an adjudication claim to a panel for review. The panel then asks three questions, the first of which is: Was the injury the result of the treatment rendered [3, 4]? The process only proceeds if the answer to this question is "yes." The next two questions ask whether the treatment in question was medically justified and whether the outcome was unavoidable. If the answer to either of these questions is "yes," the patient is not eligible for compensation but does have the right to appeal the decision. If the answer to both questions is "no," the process continues. This collaboration between patient and physician must surely be healthier and more beneficial for society than our current adversarial approach with torts.

Several important questions spring to mind. What will be the impetus for such a change if it has not already occurred? Will the medical malpractice crisis have to get worse? Will more physicians have to stop practicing their specialty and more patients go without needed physicians? We will have to convince both physicians and attorneys that the no-fault system is the better model. Many physicians will fear the conversion since it is so ingrained in us that admitting a mistake equals liability. Attorneys will argue that this system in a sense partially abolishes the patient's right to a "day in court" in the civil arena. Finally, who will pay for this? Currently, medical malpractice premiums cover awards from settlements and jury decisions. A no-fault system would require a much different framework, with either the government or a physician-hospital model or a combination of the two responsible for compensation.

Critics of a no-fault system argue that it would be much more expensive for society. But Studdert et al. [3] did not find this to be the case when comparing the current malpractice systems in Utah and Colorado to a proposed no-fault system. While this model did show a slightly increased cost over the malpractice model, the no-fault model was more effective at getting the compensation into the proverbial "right hands." Clearly, it is much more beneficial for the patient and for society to have the compensation given mostly to the patient rather than to have a large percentage drift to the plaintiff attorney.

Finally, how do we teach our medical students and residents to accept the no-fault approach? Or even more fundamentally, are we equipped and prepared to do this at present? There is no doubt that our trainees would buy into this approach. Students

and residents are bombarded with stories of malpractice horrors. Many residents become victims to malpractice claims during the process of their training. But are we as teachers and mentors ready to abandon the current system as a profession and demand change? This is clearly the first step in the teaching process for our students and residents. We have a duty to our trainees to fix the system by adopting a no-fault approach that is progressive, nonadversarial, open and honest, and always in the interest of quality improvement. If we could instill this idea in our trainees, our health care system would be better, safer and stronger for our entire society.

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Response 2

by Laurie T. Cohen, JD, and Jason M. LaFlam, JD

The present medical liability system, while not flawless, is efficient at adjudicating and paying those claims that have merit and at identifying and rejecting those that do not [1]. Even so, many pundits claim that the medical liability system in the United States is hopelessly broken and should be replaced by a no-fault system similar to that of Sweden or New Zealand. Central to these claims is the belief that the current system, unlike a no-fault system, dissuades physicians from being open and honest with patients and other professionals about medical errors, thereby hampering efforts to reduce errors and improve the quality of medical care. Adopting a no-fault system, however, would present many new challenges and may exacerbate some of the problems that advocates claim it would fix. Furthermore, enhancing the identification and disclosure of real or potential errors can be accomplished without replacing the current adjudicatory system.

The concept of a no-fault liability system, as opposed to the current negligence-based system, is not a new one. Workers' compensation systems have replaced the tort-based claims system for employer negligence in the workplace throughout the United States, and automobile insurance with no-fault clauses operates in several states. Moreover, Florida and Virginia have both instituted limited no-fault systems to address claims for birth-related neurological impairments in newborns. While such systems come with promises of simplification and cost containment, seldom has this been the overall result.

In New York, for example, the workers' compensation system, like the current medical liability system, is a source of continual debate about the cost of insurance premiums and the overall adequacy of the benefits paid to injured individuals. Nationally, workers' compensation payments by employers are estimated to have risen from $2 billion in 1960 to nearly $35 billion in 1985 and to $62 billion in 1992 [2]. At the urging of employers, benefits have been reduced and other actions have been taken to contain costs. As a result, the workers' compensation payments by employers nationally were estimated to be $63.9 billion in 2001 [3]. But this slower rate of increase has not lasted; high payments have employers once again clamoring for relief, and programs are once again re-examining worker benefits [4].

Additional costs under no-fault: the international experience

Costs will probably rise under a no-fault medical liability system if the New Zealand and Sweden experiences are valid measures. Both countries are often cited as examples to emulate. Yet both have implemented a series of changes throughout the lifetime of their no-fault systems in the quest for cost containment [5]. The basis for the additional costs associated with these programs is the inherent increase in eligibility for benefits that occurs when the negligence system's requirement to prove fault is eliminated. Therefore, to contain costs, these countries have found themselves restricting eligibility and benefit levels [6]. Moreover, in a study applying a Swedish model to the states of Utah and Colorado, it was estimated that use of the Swedish approach would lead to higher direct costs than the negligence approach [7]. The total cost would be higher even though the study presumed that the program would be a secondary payer, meaning private insurance and government programs would first pick up the tab for medical care under the system.

In addition to the potential rise in costs associated with increased eligibility under a no-fault medical liability system, real limitations may be placed on a wronged individual's current rights. While a no-fault system expects to compensate more individuals, there is a real question as to whether such compensation would be commensurate with the injury actually suffered. As exemplified by current workers' compensation programs, government cost-containment goals frequently cause limitations on compensation levels. Furthermore, no-fault programs often place limitations on recoveries for noneconomic damages such as pain and suffering. Switching to a no-fault system, therefore, may risk providing compensation to individuals who are considered "injured" despite receiving an appropriate level of

care, while those individuals severely injured through the negligent actions of their physicians are undercompensated.

The present medical liability system is meant not only to compensate individuals for the wrong committed against them, but to help deter future wrongful acts by the responsible party [8]. In contrast, a no-fault medical liability system is inherently centered on compensating eligible individuals and is not necessarily concerned with acting as a deterrent or with imposing a penalty on a responsible party. Failure to place fault on the responsible individuals may have implications for the quality of medical care. Many proponents of a no-fault system argue that the deterrence factor has been mitigated because payments are made by medical malpractice insurers and not by the negligent physicians themselves, but this arrangement does not eliminate the nonmonetary costs of medical malpractice litigation. "[A] malpractice suit challenges the professional performance, reputation, and identity of a doctor or nurse or other health care provider" [9], not to mention the tremendous impact on that professional's time. For these reasons, physicians are motivated by the current system to act with due care.

One of the best examples of the current system's ability to prompt change may be seen in the experience of the specialty of anesthesiology. As a result of the medical malpractice insurance crisis facing anesthesiologists in the United States during the 1980s, the profession adopted uniform practices and procedures that greatly diminished medical errors and subsequently reduced the insurance premiums anesthesiologists pay [10].

There are certainly actions which could be taken to improve the current system. One approach that has shown positive results involves efforts to encourage physicians to acknowledge their mistakes and apologize to patients and families. In Colorado, for example, certain statements made by a health professional to the patient or the patient's family or representative concerning medical errors are inadmissible as evidence of liability in civil actions or arbitration proceedings [11]. Anecdotal evidence from Colorado and several health systems have shown that the so-called "I'm sorry" approach results in fewer lawsuits and reduced costs when resolving claims.

The extent of the impact of these communication efforts will depend largely on the actions of medical professionals. If they choose to incorporate disclosure of medical errors into their routine practice, the overall health care delivery system, including their individual patients, may benefit immensely. It is often a professional's failure to be forthright about errors and medical outcomes that prompts a civil action [12]. While not precisely determinable, the decrease in civil actions attributable to a simple apology has been estimated to be in the range of 10 to 30 percent [13]. Forthright reporting of errors also increases the potential that corrective measures will be taken to rectify the cause of the error, thus decreasing the potential for repeat errors. Finally, to the extent that compensation is still required after apology, the

process should be less adversarial, decreasing the administrative costs to the medical liability system.

In conclusion, while the present system is not flawless, a no-fault medical liability system is not the right answer. Such a system may promise cost containment and compensation to a larger group of individuals, but it inevitably fails to deliver those savings, or it does so at the expense of those suffering from the negligent conduct. Reforms to the existing system, such as fostering increased communication of errors, limiting the use of juries for determinations of fault but not for determination of damages or using neutral medical experts, may prove more advantageous to both patients and physicians.

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Related articles
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