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Ethics Journal of the American Medical Association April 2005, Volume 7, Number 4

From the Editor The Privileges and Demands of Professional Self-Regulation

The medical profession has a unique body of knowledge and skills. As a result of many years of training and licensure, physicians are given the privilege of treating the medical problems of their fellow human beings. This privilege also gives physicians the right to ask the most intimate of questions, perform physical exams, and dispense medications, as well as to pick up a scalpel and perform surgery. As part of our pact with society, we are further rewarded with the challenging responsibility of regulating ourselves. As a profession, we define the 3 principal tenets of self-regulation. First, we establish the standards by which people may enter the profession and by which they then practice medicine. Second, we are responsible for teaching the medical community how to exercise those standards on a day-to-day basis. Finally, we must enforce those standards and decide when and how those who violate them will be disciplined. Creating and enforcing the details of this contract is our duty to ourselves and to those we treat.

In recent years, our ability to self-regulate has been questioned by a number of sources. We have been fighting against an emerging image of professionals who, as a group, seek to protect their colleagues and hide the truth from the public in times of uncertainty and distress. In this issue of *Virtual Mentor*, we examine topics that will help us better understand how we can improve the way we self-regulate. The topics can be grouped broadly into 3 categories: rules and regulations imposed by the hierarchy, regulation among peers, and regulation of ourselves. In addition, we cover the emergence of regulatory enforcement from outside the medical field.

Several of the pieces in this issue address the first category of regulations and guidelines instituted by governing bodies composed of physicians. For instance, in case 3, a general surgery intern, who has been working more than the 80-hour-work week permitted under the Accreditation Council for Graduate Medical Education restrictions, is faced with deciding whether or not to disclose this information to the Residency Review Committee when they visit her institution. In case 4, a hospital director, who is also a physician, informs the medical staff that the board of trustees has mandated that all staff physicians must be board-certified. The policy forum describes the role of medical boards—both state and federal—in ensuring that only physicians who are competent and willing to uphold the standards set by these organizations are licensed to practice medicine.

The second category of activities, self-regulation at the level of one's peers, is gaining greater acceptance in medicine. While self-regulation based on peer feedback has been occurring in other professions for many years, it is just beginning to garner

proponents in the medical profession. In the medical humanities article, a former financial analyst and current third-year medical student, describes the use of a formal peer review system in the financial industry that medicine currently lacks. The medical education piece also focuses on the issue of peer review. Its author discusses barriers and challenges to peer feedback as a means of self-regulation and describes a workshop developed at New York University School of Medicine that teaches students how to give and receive effective feedback. Lastly, a resident explores the valuable role of the morbidity and mortality conference in physician education and reduction of medical error.

To be successful, self-regulation must also function on a personal level. It is in a physician's routine relationships with patients, their families, and other health care workers that self-regulation is carried out day-to-day. Physicians must learn the fundamentals of self-regulation during medical school, before they enter the realm of clinical responsibility. Two fourth-year medical students explore personal challenges faced during the preclinical and clinical years of medical school. Case 1 examines a medical student's obligations to uphold professionalism and his own personal principles in the setting of a student cheating scandal. Another commentary on this same case suggests that when conflict occurs between peers, each party must take responsibility for his or her actions in order to resolve the dilemma in a way that satisfies the demands of professionalism. Case 2 looks at similar personal conflict—the story of a medical student who witnesses residents' involvement in unprofessional behavior.

Historically, the medical community has relied on the ethics of its members and the noble aspirations on which it was founded to maintain its autonomy. Recently, a perceived lack of transparency and unresponsiveness to shortcomings has resulted in increased outside involvement in regulation of the medical community. In an op-ed the author shares his view on the legal community's regulation of physicians, namely tort law. The journal discussion examines 2 recent articles from the *New England Journal of Medicine* that discuss government involvement in physician's relationships with the pharmaceutical industry.

Self-regulation lies at the core of the medical profession's commitment to its founding principles of autonomy and the advancement of patient care. In this issue, we have attempted to illustrate the broad array of ways in which self-regulation challenges the medical profession and those who are in training to join it. We hope this month's *Virtual Mentor* will introduce physicians to the complexities of self-regulation and aid them in recognizing and confronting its challenges.

Anne Bertkau, Jaclyn Halpern, and Sanjay Yadla

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Clinical Case A Case of Student Cheating

Commentaries by Veronica Catanese, MD, and Paul Aronson

Joe is a motivated first-year medical student who managed to score close to the class mean on all of his tests during the first semester. During the first exam of the cell biology course, Joe found himself distracted by the movements of a classmate seated 1 row ahead of him. He noticed that Danielle was repeatedly taking out her cell phone, looking at the screen, and slipping it back into her pocket. Occasionally, she punched on the keys before putting the phone away. Intrigued by what she is so busy with, Joe craned his neck to get a look at the cell phone screen. On it he reads,

17D18E do u no 19?

Joe watched Danielle hit the send button and slide the phone back into her pocket. Stunned by what he had just seen, Joe tried to concentrate on finishing his test, but he could not help noticing that Danielle's text-messaging dialogue continued for the remainder of the exam, and he watched her exchange answers with the recipient of her text messages several times. Joe felt disappointed and a little angry to be burdened with this knowledge.

Joe later learned from other members of his class that the Deans' Office had already been made aware of cheating amongst several students. As part of the Deans' investigation, an email was sent out to the student body encouraging students to report the names of specific wrongdoers. Joe did not know what to do.

Commentary 1

by Veronica Čatanese, MD

Just as fiction draws heavily on reality, we often draw on actual experience to devise hypothetical cases for educational purposes. Joe and Danielle are not figments of a medical student's imagination. They are pseudonyms for real students; the details of their story have been changed, but the core issue remains the same. Last year, more than 1 member of New York University's second-year medical class reported witnessing technologically a ssisted cheating by Danielle and her cell phone buddy and more than 1 member of the class made the Deans' Office aware of that cheating and volunteered the identity of Danielle. But not a single member of the class spoke with Danielle before reporting the incident to the Deans' Office. Not a single member of the class agreed to shed anonymity or, even in a mediated environment, discuss his or her concerns in Danielle's presence. Like history, experiences in our own lives tend to repeat themselves. Just 1 week after learning about Danielle, I heard a similar story from my own daughter, a college freshman. Part of the learning process in her chemistry course involved peer review of her laboratory report draft by another student in the same lab section. Each student was required to post electronically and exchange, over a 48-hour period, his or her draft with an assigned review partner; the final copy of each student's lab report, a version that presumably incorporated the review partner's suggestions for improvement, was due to the laboratory preceptor after an additional 48-hours. My daughter posted her report; a day later, when she received the first draft of her review partner's report, she noticed that entire paragraphs of his report were virtually the same as those she had written. This time, I was not one of the deans; instead, I was the mother and, fortunately enough, someone whose opinion my daughter sought and trusted. Should she speak with the student, speak to the lab preceptor, or do nothing at all? I recommended that she speak with her review partner, point out directly that portions of the 2 reports were very much alike, and suggest that she'd be happy to review the next version of his report as soon as he'd re-worked it. A day later, she received a second version of his lab report, along with a note thanking her for pointing out how similar both original versions were.

What were the expectations of the students who had observed these 2 breaches of honesty and professionalism? Here at our medical school, the students who came forward to the Dean's Office with the allegations against Danielle and her friend were not willing to confront them personally. Instead, they expected 1 of 2 things: either that we, the deans, would call in Danielle and her friend and confront them with the cheating allegations or, as the next best alternative, we would send a letter by email, to the student body restating that any form of dishonesty and cheating would not be tolerated. We responded that there was absolutely no need to restate the obvious: dishonesty and cheating in any environment, at any time, under any circumstances, completely undermines professional behavior; that anyone at all, let alone our white coat ceremony graduates, could possibly think otherwise was simply unacceptable. Although the deans did not write such a letter, a few of our student government leaders did. Student tension over the issue eventually dissipated, and no further allegations were made. But was the ethical and professional dilemma resolved? I think not.

My daughter's expectations of me were not very different from those of our medical students. In fact, her expectations were similar to those that many of us have when confronted with a problem we'd rather not face—she wanted me to tell her what to do. The medical students' expectations were the same—they wanted others to do what they themselves would rather not do or, alternatively, they wanted to apply a band-aid to the problem and hope that it would disappear. The outcomes of these 2 scenarios were quite different, however, because of 1 critical factor: acceptance of responsibility. Danielle's colleagues were not willing to accept the responsibility of confronting her with their observations. As a result, Danielle was denied the chance to address the issue, work to resolve it, and sustain true professional and personal growth as a result of the experience. My daughter's response (which, by the way, came only after much

angst and plenty of tears) was facilitated by 2 things: her having signed, and feeling responsible to uphold, an explicit honor code at the beginning of the school year, and my having experienced, from a different perspective, a similar dilemma and having thought carefully and critically about the ethical course of action and outcome.

No one would argue that cheating on assessments of knowledge is blatantly unprofessional; the scope of professionalism in medicine, of course, is far broader. My purpose is not to paint the enormity of that landscape but, rather, to put forward for your consideration what may be the central dogma that unites all aspects of professional behavior—that acceptance of responsibility is the non-negotiable requirement for ethical behavior. Furthermore, responsibility cannot be accepted anonymously, not in the context of a patient-physician or colleague-colleague relationship and not when it affects another's health and welfare, our own health and welfare, our own personal and professional growth, or the continuous growth and professional development of others. It is simply not enough to report or export a breach of professionalism—we are also bound to actively and directly promote the positive resolution of that concern. Without that level of personal responsibility on each professional's part, professionalism will remain a fictional ideal, and never become a reality.

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Commentary 2

by Paul Aronson

Two worlds with different expectations collide in medical school. On one hand, medical school is exactly what its name states, a "school," whose enrollees are students, as most of them have been for the great majority of their lives. They are not yet in the professional world. While this does not absolve them of acting unprofessionally or of conducting themselves with less than the utmost integrity, society does expect less of students than it does of "professionals," in this case practicing physicians. As medical students, we are expected to display limited medical knowledge in the hospital, to make the incorrect diagnosis most of the time, and to be dependent on more experienced medical personnel for the majority of our decision making. As a result of these expectations we have multiple layers of support in the classroom and on the wards. Hence, we assume that our judgment in other aspects of life is not held to the same standards as those in the "real" world.

The other world that we inhabit in medical school—the world of doctors-intraining—demands the highest professional standards perhaps of any vocation. We are studying to be doctors, and during our 4 years in medical school we interact with and treat real patients. Patients often consider us to be their actual physicians, ignoring the length of our short white coats or the term "medical student" written on our identification badges. Within this world, we are held to the same professional standards as house officers, attending physicians, and professors emeriti. And these expectations dictate that we act with honesty, integrity, and the utmost respect for professionalism.

Therefore, when we are asked by our Dean's Office to report the names of our colleagues who are cheating, we are faced with the discordant expectations of our 2 worlds. We take exams in a room patrolled by proctors, whose duty it is to ensure that no student is cheating, and we assume it is their responsibility along with the course directors and the Dean's Office to handle breaches of professionalism should they arise. After all, that is the way it has been in our other schools and we are still simply students.

Challenging the label "simply students" is the fact that we are enrolled in a professional school and expected to conduct ourselves with honesty and integrity. As physicians, we will be responsible for patients whose health and lives are in our hands, and it will be our duty above all else to ensure their well-being. This duty confers upon us responsibility not just for our own actions, but also for those of our colleagues. A fellow physician who conducts himself in an unprofessional manner may negatively affect a patient, and the code that implores physicians to "do no harm" mandates that we take the initiative to confront that colleague. Moreover, this responsibility begins not when we step into the hospital as interns, but when we step into medical school as first-year students. It begins when we are given our white coats and asked to recite our physician code of beneficence and nonmalevolence. It makes no sense to permit unprofessional behavior throughout medical school and expect graduates to begin conducting themselves professionally on the day they become interns. Professional behavior—like recognizing disease symptoms, understanding treatment, and talking to patients—must all be learned in medical school.

So, at some point in year 1 or 2, we find ourselves requested by the Dean's Office to report our cheating classmates. It is easy to say that each of us has a responsibility to ensure that the code of professional conduct is adhered to by all students, but it is far more difficult to report a classmate's name. While one can justify silence by saying, "It's just an exam, it doesn't mean anything," remaining silent may allow the 2 students to get through medical school by cheating—and with significant gaps in their knowledge. Even worse, perhaps they will continue this behavior on the wards, and lie about a lab value or a physical finding. Then it will not be just an exam, but possibly a patient's life.

Ultimately, each of us must live up to his or her own individual code of professionalism that incorporates these universal professional ideals. The goal of a professionalism committee is to create an environment that facilitates our development of a standard of professionalism. Our particular medical school's honor system or professionalism committee is intended to provide us with guidelines that should be followed, and in a given situation we must act with these in mind while making our own decision. Thus when we graduate and become practicing physicians in 4 short years, we will each carry with us our individual professional codes developed through these universal standards, but of which we have full ownership. It will not be

a code forced into our conscience, but rather a system of principles that we each developed with the facilitation of our medical school.

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Clinical Case Drinks During Lunch

Commentary by Jahan Fahimi

Greg, a third year medical student, is doing his surgery rotation at City Hospital. The surgery schedule has been relatively light, and the OR cases have consistently been completed before 1pm each day. One Friday morning the case was long and complicated, but when they finished Ryan, the chief resident, told everyone, "That's all we have for today. Hurry up and meet downstairs, so we can all go out for lunch."

The team went to a nearby restaurant where Ryan, Dave, the junior resident, and one of the interns ordered margaritas. Greg was surprised to find his colleagues drinking alcohol while they were technically still at work. Ryan and Dave each had a second drink, and they all talked and joked for a couple hours. Finally, Ryan decided, "Well, let's get back for afternoon surgery rounds, and if there's nothing else going on, we can all go home." As they were paying the bill, Dave turned to Greg and said, "See, doesn't this make you want to be a surgeon? Just this morning we cured a guy's stomach cancer, and by 1pm we're sitting outside enjoying drinks."

Greg went home that afternoon and discussed the situation with his roommate, who encouraged him to make the residents' actions known. Greg was worried that he would not receive a fair clerkship evaluation from the residents if he went through with it, and, instead decided to say nothing.

Commentary

by Jahan Fahimi

Being on the wards presents more than just academic challenges for the average medical student. It is a time of anxiety for many as they adapt to a new environment filled with fresh, unfamiliar responsibilities. Evaluation is no longer based purely on traditional exams, and, often for the first time, students receive largely subjective assessments by house staff and attending physicians. It is natural for students to desire acceptance, approval, and praise from their evaluators, but do students compromise their values to fulfill their ambitions?

In this case, there are at least 3 distinct times when Greg faces an internal moral dilemma. In each situation, he must decide whether to act in accordance with what he knows is right or to hide his disapproval for what he perceives to be his own benefit. First, he witnesses the residents drinking alcohol when they are all still working. At this juncture, Greg has an opportunity to confront his superiors directly and question their actions. Second, upon returning to City Hospital, Greg must decide whether or not to

ask his fellow residents about the appropriateness of participating in rounds after having consumed alcohol. Alternatively, he can bring this information directly to the attention of the attending physicians on the ward or other hospital staff. Finally, assuming the day had ended without incidence, Greg, after discussing the issue with his roommate, must decide whether or not to alert the clerkship director or appropriate hospital administration to the events of the day.

To understand the moral dilemma that Greg is faced with, it is necessary to appreciate the relationship between the interns and residents. As mentioned above, the desire for approval is quite strong among medical students on the wards, and any opportunity to impress or gain the favor of superiors is perceived by many students as a chance to advance their standing, evaluations, and overall grade. In particular, because interns and residents tend to be younger than attending physicians and more "in-tune" with medical student life, there is more potential for an informal and friendly relationship to develop between students and house staff. In Greg's case, being invited to the team lunch affords him the opportunity to develop a friendly, nonprofessional relationship, with the residents, which Greg undoubtedly hopes will win him favor and praise when it comes time for his evaluation.

At each of Greg's 3 moral junctures, there were a host of competing internal values some personal interests, others general responsibilities—and complicating them all was the uncertainty that accompanies any pending decision or action. The moment that the house staff ordered margaritas at lunch, Greg could have asked whether it was responsible to drink alcohol at work. Even though no more surgeries were scheduled that day, it was entirely possible that a case from the morning would need to return to the operating room or that one of the patients on the unit would become acutely sick and require immediate medical intervention. The team's use of a substance that impairs judgment and slows reaction time would clearly place them at a clinical disadvantage and might result in significant adverse consequences for the patients. Though Greg clearly understood these implications, direct confrontation would have required him to overcome some major reservations. First, he might have thought it was unlikely that the residents would heed his advice. Second, he might have assumed that the house staff were good judges of their own capabilities and able to make informed, rational decisions without his input. Finally, and perhaps most noteworthy, Greg's hesitation might have stemmed from anxiety over upsetting or offending his superiors, an act that could possibly have jeopardized his standing.

The second time that Greg had to decide whether or not to step forward was upon returning to City Hospital. While making afternoon rounds on patients does not call for the same intense concentration as operating, it is still a form of medical care delivery. Many critical management decisions are made during rounds, minor procedures are performed, and there is an opportunity for patients to interact directly with their team of doctors. Surely any patient would be outraged if he or she were to find out that this young team had recently returned from lunch where they had consumed any amount of alcohol. Perhaps it occurred to Greg that, at this point, he had the opportunity to save the residents from potential embarrassment. What would have happened if the patients had smelled alcohol on their breath? Or what if the

alcohol had caused the residents to forget a small, but crucial, detail and that had led to a larger catastrophe? If he is to act according to his ethical beliefs, then he must, again, overcome his reservations. But, in this case, Greg also has other possible avenues of action. He could page the supervising attending physician, seek out a different chief resident, or ask for the advice of another medical student. Perhaps what Greg really needed in order to step forward was affirmation of his uneasiness and encouragement to act on his observations from a third party; his inaction might well have been the byproduct of insecurity and inferiority.

Finally, having suppressed his concerns throughout the afternoon, Greg goes home and relates the experience to his roommate. For the first time, Greg has validation of his concerns, and perhaps he now feels more strongly that he should have intervened earlier, but he is still worried about his clerkship grade. This is a natural human response and, while it is easy to pass judgment on Greg for his inaction, his selfinterested concerns are not unwarranted. It is in these times that the medical community must seek to promote, encourage, and reward self-regulating behaviors. Greg should have been given, in advance, the support that would have made it possible for him to come forward the moment he felt it necessary. This encouragement, for example, could originate from the clerkship director or the attending surgeon, who could ensure students that if they speak up when they observe something controversial, they will not find their standing or grade compromised because of that action.

In the end, actions, or inactions, cannot be judged purely on their outcomes. Just because nothing terrible happened that afternoon does not mean that Greg can exonerate himself from responsibility for being a silent bystander in a series of actions that he viewed as inappropriate, unprofessional, and reckless. This lack of professional initiative goes directly to the heart of self-regulation within the field of medicine. Too often, inappropriate and unprofessional actions pass unchecked because they do not have harmful consequences, and this only serves to reinforce negative value systems. The dangers are many. Not only does the house staff reinforce the notion that having a drink or 2 at work is nothing out of the ordinary, but Greg learns that he can blind himself to the actions of his peers and superiors for the sake of self-preservation.

Self-regulation must begin with an infrastructure and culture that support the outward expression of professional values shared by the medical community. However, it is also imperative that individuals in this community continually practice and insist on these values by enforcing them both personally and professionally.

Jahan Fahimi is a fourth-year medical student at the New York University School of Medicine and is concurrently pursuing an MPH at the Harvard School of Public Health. He will soon be applying to residency programs in emergency medicine.

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Clinical Case Resident Work Hour Restrictions

Commentaries by Mitchell Charap, MD, and Deirdre Masterton, MD

Maggie is in the fifth month of her general surgery internship. She, along with the other interns, has been consistently working more than 90 hours a week even though she is aware that she is exceeding the 80-hour work week limit established by the Accreditation Council for Graduate Medical Education (ACGME). But she has enjoyed staying overtime to scrub in on interesting cases. One night, for example, at the urging of the attending surgeon, Maggie stayed late and was able to graft a saphenous vein for the first time.

Maggie recently ran into another intern, Justin, in the resident lounge. "Dr Smith made me stay for an appendectomy post-call, and it was the fifth time this month I've stayed," he complained. "I keep falling asleep during morning conference!" After talking with other interns, Maggie discovered that they all have been working more than 80 hours a week. Some of them revealed that they felt pressured to stay and would prefer stricter adherence to the ACGME policy.

A month later an ACGME representative visited the hospital to investigate compliance with the new work hour regulations. That morning, a number of residents were told that they will be interviewed by the site visitor. The residents discussed how they would handle the interview, and some of the senior residents suggested that they lie to prevent jeopardizing the hospital's accreditation status. Maggie felt that the additional time she had spent in the hospital had been beneficial to her learning experience and that working less would have limited her education, but she also understood that she could be risking her hospital's residency program if she told the truth. Furthermore, many of the other residents may not have found the extra hours as valuable and instead have viewed the extra time as a nuisance. Maggie was still contemplating what to say when she was called for the interview.

Commentary 1

by Mitchell Charap, MD

Before discussing Maggie's very difficult situation, I would like to describe how it could have been avoided. Communication is the key to preventing the problems that arose in Maggie's program. Every month, at each of New York University School of Medicine's 3 teaching institutions, the program director and his associates meet with the residents. It is an open and frank forum in which issues ranging from work hours to faculty evaluations are discussed. The program directors stress that honest information and feedback specifically regarding work hours are critically important both for the residents and for accreditation of the residency program. They note that

with reliable information they can go to the hospital administration and ask for help in the form of ancillary staff and nonphysician providers.

Program directors want to avoid any trouble with the Residency Review Committee (RRC), but they may be the only faculty at the institution who really appreciate all the RRC requirements and consequences of non-compliance. I am certain that if Maggie and some of her colleagues had first confronted the program director with the fact that some attending physicians were repeatedly pressuring residents to stay late, he or she would have put a stop to the practice. It is simply too costly in time and reputation to ignore RRC regulations.

The next intervention should have occurred at the institutional level. At NYU, the Graduate Medical Education Committee (GMEC) monitors internal medicine and surgery work hours on a monthly basis. Furthermore, it has a House Staff Affairs Committee that meets with residents to discuss issues such as work hours. Since fears of reprisal may be a concern for some residents, the GMEC installed a work hours "hotline" so that residents could inform the institution of work hour violations anonymously.

Unfortunately the above steps were not taken in the case at hand, and Maggie clearly has a dilemma. Her concerns are not limited to the program's possible loss of accreditation status but extend to personal reprisals from the training program. The loss of accreditation hurts the program, and it may require that Maggie and her fellow residents transfer to a different program if the institution is not rapidly reaccredited. Quite frankly, Maggie has no easy answers to her problem.

The residency program is completely at fault in Maggie's case and should be cited for work hour violations. There is no excuse for the flagrant disregard of the rules. Furthermore, the institution at large shares part of the blame for not monitoring the department of surgery. The citation may result not in loss of accreditation but in a warning and shorter review cycle. Maggie must recognize that her program will have to comply or face censure sooner or later, but whether it is in her best interest to bring the situation to light is, unfortunately, another story.

Maggie did and still does have the opportunity to report work hour violations anonymously to the ACGME and they will do their best to protect her identity. She may not feel comfortable disclosing her knowledge of the situation before a large group, but she can and should inform the ACGME of the repeated violations either before or after the visit.

I must add that I disagree with the work hour regulations as they are now enforced. I firmly believe that both education and professionalism have been diminished by the new rules [1]. The evidence that patient care is improved by reduced work hours is very limited, and the recent articles in the *New England Journal of Medicine* did little to resolve the issue of balancing the new regulations with learning [2]. Furthermore, it has been my experience that some residents are increasingly preoccupied with the hours issue at the expense of patient care.

The surgeons in Maggie's program are not villains; I doubt that they keep the residents in the operating room solely because they need them. It is more likely that the faculty firmly believe that a good surgeon needs to spend time there to be equipped to handle all the complications that may arise in the course of even a "simple" procedure. However, they must also recognize that the RRC determines the rules and they must comply with them. Medical teaching institutions have many venues in which they can work to have the RRC reconsider its position on this policy.

Maggie would have been saved from making this very difficult decision if communication had been better. The program should be cited and Maggie should avail herself the RRC's mechanism of providing anonymous information regarding the program in the future.

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Commentary 2

by Deirdre Masterton, MD

The resident work hour regulations are simple, explicit, and inflexible. They offer a universal standard to which every training program in the United States must adhere in order to retain accreditation. These rules were born of a concern for patient welfare and safety as well as for resident well-being. They protect patients from being cared for by physicians who are incapacitated by fatigue, and they intend to protect physicians-in-training from the effects that exhaustion has on job performance and mental health. These universal regulations were imposed by the Accreditation Council for Graduate Medical Education (ACGME) after individual institutions proved incapable or unwilling to regulate the work schedules of doctors-in-training on their own. The work hour rules are imposed upon all residency programs, and, technically, it is the program administration and its director who are responsible for compliance. In reality, however, it is the residents themselves who choose either to follow or not follow the rules. And in the end, it is the residents who will suffer most if their program loses accreditation.

Adherence to these rules requires a culture shift. Medicine is a profession that often considers its work a "calling" and has traditionally embraced an unpredictable, and often demanding, schedule based on patient need. Having restricted and regimented work schedules for the field's most junior members contradicts some of the

fundamental sacrifices accepted as part of medical training. Traditions and norms of training aside, these are now the rules that must be followed.

Attending surgeons are not used to having residents decline cases, and, from the resident's point of view, denying assistance to a surgeon on a late case after being allowed to operate on his or her patients all day is a difficult and awkward position to be in. When these circumstances arise, it becomes the resident's responsibility to create a solution that meets her needs, those of the attending physician, and those of the residency program administration. This is where teamwork—an essential element of successful residency programs—comes in to play. In our case, Maggie might have worked it out with the second-year resident that if she stayed late for a case, she could skip pre-rounds in the morning. That way, Maggie could arrive later and maintain 10 hours between her shifts. Or Maggie could have offered the attending physician the service of the night coverage resident, hoping that when she was on night coverage, the same type of offer would be made to her. But repeatedly ignoring work hour restrictions in an effort to get more operating experience is both unacceptable and selfish.

The fact that Maggie's co-interns are feeling pressured to stay for late cases, thus breaking hours restrictions, is a problem that the residency program must address. This type of pressure from the attending staff can only be alleviated by reiteration and explanation of the new policies by authority figures within the department, specifically the residency director and the department chair, and by consistent adherence to the rules by residents. Residents must accept these rules and as a group give priority to following them. Senior residents should not only set the example of compliance, they should accept responsibility for enforcing the rules for more junior house officers who may not feel empowered to leave before all the day's work is done to comply with the regulations. This type of culture shift requires active participation by all parties, not just those whom it is intended to protect. A single resident may think that she is doing the right thing by staying longer to learn more, but her behavior undermines the attempt for a cultural change in the hospital and will only prolong the process of making restricted work hours for residents the understood norm. Ideally, if a resident stays late for a case, he or she should explain to the attending physician the shifts in coverage that were made to accommodate the staffing of the case, so that it is understood that work hours restrictions were observed. The ideal world aside, emergency cases occur, complications prolong OR time, and inevitable circumstances arise where patient care concerns trump the work hour limitations. This is why the AGCME's statement of the regulation—"duty hours must be limited to 80 hours per week, averaged over a 4-week period"—offers some flexibility [1].

The ACGME guidelines require monitoring of resident work hours with enough frequency to ensure compliance. If Maggie's program is keeping track of work hours appropriately, it should be no surprise to them that Maggie and many other residents are breaking the rules. Certainly, this problem should have been dealt with internally before the ACGME representatives arrived for a site visit, but failure to self-regulate on the part of medical training institutions is exactly what forced the ACGME to create these rules. It is the chronic inability to self-regulate and failure to adhere to these new rules that will force the ACGME to revoke accreditation.

For 5 months, Maggie has willfully ignored the work hour restrictions, favoring a work week greater than 80 hours for its additional learning opportunities. She has made the unilateral decision to ignore the rules despite knowing that her actions might jeopardize the accreditation of her program. Her schedule could not have gone unnoticed by her senior residents and residency director, yet she has not been reprimanded. Now it is time for Maggie to face the consequences that she has allegedly accepted for the last 5 months. Maggie has put herself in a precarious position, and her senior residents and program director have tacitly affirmed this behavior by enabling her rule-breaking and encouraging her to lie. She made these decisions based on her values, and reaped the rewards of looking like a hard worker and increasing her operating experience at the expense of jeopardizing the accreditation of her program. Now, in front of the ACGME representatives, she must take responsibility for these decisions, report her hours as they truly are, offer her explanation of why she made the choices she made, and accept the consequences that she and all of the other members of her residency program may suffer for her shortsightedness.

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Clinical Case Board Certified Physicians

Commentary by Joseph Lowy, MD

Dr Mancini, the hospital director, called an unscheduled meeting of all medical staff. "I know the rumors have been flying," he said. "And you will be receiving formal policy statements and guidelines about this, but I wanted to first speak to you all, give you the news straight, and take your questions."

Once the room quieted, Dr Mancini began. "We all know that the hospital business is a competitive one, and the more we can do to ensure patients, our insurers, and patient advocacy groups that we deliver the highest quality care, the better off we are. There has also been pressure from specialty boards encouraging us to restrict staff privileges to those physicians who have board certification. Our Board of Trustees has been struggling with the issue for more than a year, and, after many rounds of talks, they have decided that we will begin to require board certification for all physicians who have staff privileges. We believe that this will provide the greatest amount of credibility to our institution and help us attract and retain the highest performing professionals.

Dr Mancini stopped after making this declaration and took a deep breath.

The room was abuzz with a mix of shock, anger, happiness, and relief. Questions ranged from whether it was possible to be "grandfathered" into this new system, to whether the hospital would pay for certification and recertification exams. Would this really make the hospital more competitive in attracting better qualified doctors or was this a way for administration to cut back on staff? Why, exactly, was board certification necessary for *all*—even those doctors who had been practicing for more than 20 years and who have obviously attained a high level of expertise?

"I know that you all have significant concerns. The policy statement will be explicit in its procedures and deadlines, and I will do my best to answer all of your questions. The most important, and, I understand, distressing, fact is that the policy applies to all of us; no one will be exempt. There is, however, a 6-year grace period during which you can prepare for your board certification or recertification.

Commentary

by Joseph Lowy, MD

Every hospital has the right to adopt rules, regulations, and policies governing eligibility and qualifications of its medical staff. On one hand, it is the hospital's duty to oversee every aspect of the care it delivers to its patients including determining which physicians are entitled to receive privileges. On the other hand, no hospital

should be allowed to arbitrarily reduce or eliminate the privileges of a physician who is already on staff and who is in good standing.

The primary objective of the credentialing process is to ensure that high quality care is provided by all physicians on staff. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) requires hospitals to adopt and apply standards related to a physician's competence, skill, professional conduct, and ability to fulfill all of his or her professional responsibilities.

Hospitals must establish criteria to judge each of these professional standards. Clinical competence and skill can and should be evaluated on both threshold and performance bases [1]. Threshold criteria are objective and include licensure, residency and fellowship training, and clinical experience. These evaluative measures are typically invoked when a physician initially applies for an appointment to the medical staff. Performance criteria, however, involve assessment of clinical proficiency and are potentially more subjective. This category of assessment is more useful when hospitals are making reappointment decisions.

Although not required for licensure, board certification may also be used by a hospital as *one* of its threshold criteria. Similarly while JCAHO does not require board certification of all physicians for hospital accreditation, it does note in its accreditation standards that board certification is "an excellent benchmark for the delineation of clinical privileges" [2].

The Boards

The American Board of Medical Specialties consists of 24 specialty boards. Each requires between 3 and 6 years of training in an accredited program and a passing score on a rigorous cognitive examination. Moreover, the continuous advances in science and technology along with evidence that knowledge and skills of practicing physicians decay over time has motivated specialty boards to develop recertification programs and to limit the duration of certificates [3].

The effectiveness of physician certification has been shown to be closely related to other measures of physician competence [3]. Board examination results have demonstrated a correlation with medical school education, the amount of formal training, and supervisor assessment of clinical skills [3]. A positive relationship also exists between recertification performance and the number of patients seen, as well as the complexity of patient problems reported in practice [3]. Finally, there is evidence that better clinical outcomes are associated with board certification and continued maintenance [3].

The Gallup organization was commissioned by the American Board of Internal Medicine to poll the general public about their views regarding physician certification and recertification [3]. Not surprisingly, board credentials were highly valued by the public. Many respondents indicated they would change physicians if their current physician or specialist failed to maintain certification [3].

The courts have been somewhat divided as to the propriety of board certification criteria. In *Armstrong v Board of Directors of Fayette Hospital*, the court ruled in favor of the surgeon who sued the hospital because it denied him privileges to perform certain surgical procedures solely on the grounds that he was not certified and not eligible for certification by the American Board of Surgery. The court agreed that a physician "cannot be deprived of his right to practice his profession, or any part thereof, by the unreasonable, arbitrary, capricious or discriminatory actions of the governing body of a public hospital" [4]. Thus, the courts asserted that other evidence of a physician's competence such as experience and performance should be considered. One court noted, in a separate legal case, that board certification may be a valid requirement in regional medical centers, but not in community hospitals [5].

In the clinical case before us, the hospital director announces that "all doctors who wish to have privileges...must be board certified." While this is a prototypic "threshold" criterion, the new rule will apply to existing staff physicians as well as future applicants. Physicians are given 6 years to comply with this rule. Is this a surreptitious way for the hospital to rid itself of some older physicians for financial or other self-protective reasons? Is it ethical or legal for the good physicians—who are not board eligible or for whom taking a board exam would create an undue burden to be swept away with the less qualified physicians? Should a hospital be allowed to deprive a physician of his or her livelihood without other justifiable causes? It is my opinion that the certification requirement is reasonable *as part of* the threshold criteria for initial appointment to the medical staff. To be sure, restricting staff privileges to board certified physicians will enhance the quality of medical care and reputation of the hospital. Once a physician has been appointed, however, a hospital should not be permitted to reduce or eliminate his or her privileges without due cause. In most cases, the burden should fall upon the hospital to prove that the physician has failed to meet performance criteria. This should involve a peer review by committee appointed by the hospital administration.

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Journal Discussion

Self-Regulation and the Relationship of Physicians with the Pharmaceutical Industry by Justin M. Thomas

Studdert DM, Mello MM, Brennan TA. Financial conflicts of interest in physicians' relationships with the pharmaceutical industry-self-regulation in the shadow of federal prosecution. *N Engl J Med.* 2004;351:1891-1900.

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The medical profession is one of the few fields that has traditionally relied on selfregulation for the enforcement of ethical standards of practice and for the protection of the patient's best interest. This self-regulation standard has also been extended to the interactions of physicians with colleagues, the professional organizations in which they are involved, and pharmaceutical companies. The nature of the relationship between physicians and pharmaceutical companies has been recently discussed at some length in medical literature. In their 2004 *New England Journal of Medicine* article, Studdert, Mello, and Brennan assert that, "Professional regulatory bodies, the pharmaceutical industry, and the government have all decided that physicians and drug manufacturers need stronger advice about appropriate relationships" [1]. Although the guidelines for managing this relationship are generally agreed upon by the organizations involved, developing a consistent response that remains relevant as the interactions between physicians and drug companies change is likely to present a challenge. This review discusses some of the literature that highlights the issues implicit in this complex partnership.

Studdert et al think that the reason for a sudden increase in the oversight of physician relations with drug companies is 3-fold. First, they point to the influence that the marketing strategies employed by pharmaceutical companies can have on the care of patients [2]. Next, they highlight federal prosecutors' interest in managing conflicts-of-interest that could increase public expenditure now that Medicare has a prescription-drug benefit program [3]. Finally, they indicate that the federal law dealing with fraud and abuse [4] is currently being used by prosecutors to police the once-common exchanges between physicians and the pharmaceutical industry, a realm formerly governed by professional ethics. In response to this increasingly close physician-pharmaceutical partnership, the American Medical Association [5], the American College of Physicians [6], the Accreditation Council for Continuing Medical Education [7], the Pharmaceutical Research and Manufacturers of America [8], and the Office of

the Inspector General of the Department of Health and Human Services [9] have all re-examined their guidelines for appropriate interaction between these parties.

To approach this topic thoughtfully, it is necessary to understand the nature of the relationship between health care professionals and drug companies. The primary goal of the pharmaceutical companies—which are major funders of research and bear much of the cost associated with continuing medical education—is to maximize the sale of their products. Hence doctors, by virtue of their unique right to prescribe medications to patients, are the target of drug company marketing strategies. These companies, however, not only employ strategies aimed at individual physicians, they also cultivate relationships with various organizations that physicians belong to or work for in order to help sell their products [10]. According to David Blumenthal, "pharmaceutical companies offer discounts to managed-care organizations and their agents—pharmaceutical benefit managers—in return for favorable treatment of their products in the formularies used by these organizations" [11]. He further states that some pharmaceutical companies engage in ethically questionable efforts in their attempts to persuade health care organizations and physicians to use their products [11].

Many physicians receive gifts from the pharmaceutical industry, ranging from small tokens like pens, memo pads, or meals to more elaborate offerings such as educational trips, consulting fees, research grants, or trainee support [12,13,14]. The social sciences have described the "gift relationship" and the influence that gifts have on human behavior and relationships. Blumenthal cites some of this literature, particularly Katz et al, who suggests that a sense of indebtedness is sparked by receiving a gift costing any amount and that the need one feels to reciprocate is often not proportional to the gift's value [15]. A physician's indebtedness is further complicated by the "self-serving bias," that is, the difficulty physicians have recognizing their own partiality since the bias created by pharmaceutical company marketing strategies often serves their needs or satisfies their perceived interests [16]. These related theories support the conclusion that physicians might not only be biased in their use of prescription medications but might also have trouble recognizing their own biases or those of their colleagues. The chief concern of professional associations and regulatory boards is that personal gain derived from drug company incentives might inappropriately influence the clinical judgment of doctors and threaten patient welfare [17]. Moreover, Blumenthal suggests that if patients believe that physicians' prescribing practices are at all influenced by industry pressure, that perception might "erode the public's collective trust in the profession" [18].

The medical field's response to the possibility that they are influenced by gifts from drug companies is one of apprehension. Blumenthal records the fact that many physicians think their interactions with drug companies are beneficial [19]. These physicians believe that the relationships are mostly educational and have the potential to provide benefits to patients. Marketing strategies of pharmaceutical companies can help keep physicians informed about available agents of therapeutic value, for example. Moreover, the free samples they supply can be given to patients [20,21]. And, because physicians sometimes fail to use medications as often as needed or prescribe

them in less-than-optimal doses [22], marketing strategies aimed at an increased awareness of proper use of such drugs can be viewed as a contribution to public health [23].

The real or perceived weakness of ethical standards in deterring unacceptable behaviors between physicians and drug companies has led to the imposition of legal guidelines [24,25]. Controversy was sparked, for instance, over the use of the antikickback statute in the 1990s [26] and its link to the False Claims Act [27]. In a wellpublicized case involving Takeda Chemical Industries and Abbott Laboratories, collectively known as TAP Pharmaceuticals, it was discovered that the company encouraged urologists to bill Medicare for the average wholesale price of Lupron, a popular drug, and this practice resulted in a substantial profit for urologists who were already receiving free or discounted Lupron [28]. It was also learned that TAP pharmaceuticals employed physicians as "consultants" without requesting any service in return (that is, without asking that they become part of a speakers' bureau to help with mandatory education about FDA requirements, for example, for communication about pharmaceutical products [29]); offered educational seminars associated with free trips; and dispensed educational grants [28]. In addition to federal regulation, measures are also being taken on the state level. As of March 1, 2004, Maine, Vermont, Nevada, and New Mexico have started requiring drug companies to report the amount spent on the marketing of their products to doctors working within the state [30].

In response to the Lupron case, self-regulation was again at the forefront of medical and pharmaceutical interactions in 2002 and 2003 [28]. The Pharmaceutical Research and Manufacturers of America wrote its Code on Interactions with Healthcare Professionals and adopted both permissible and impermissible conduct between doctors and drug companies in July 2002 [31]. For example, the code specifies that if meeting organizers (eg, a medical specialty society) accept financial support from pharmaceutical companies but do not intend to conduct the meeting themselves, they must have representation at the meeting to ensure that the supporting drug company does not use the "educational" opportunity to promote its products. The *Code* also states that "bona fide" consulting which follows specific guidelines is acceptable and may be rewarded with reasonable compensation. As for gifts offered to physicians, they should cost less than \$100 and be of benefit to the patient [29]. Following the TAP decision of 2003, the Office of the Inspector General also decided to promulgate guidelines that indicate which drug company practices are likely to provoke litigation under current fraud-and-abuse laws [29]. Studdert and colleagues list the 4 factors used in deciding whether a payment to a physician is considered a "kickback." The factors consider how likely the arrangement is to (1) interfere with clinical decision making as a result of diminished objectivity, (2) increase the use of company products, (3) increase costs to federal health care programs, and (4) raise concern about patient safety and quality of care [32]. The guidelines further suggest reducing the risk of litigation by separating the sales and marketing functions from the grant-making functions as well as deriving research funding from scientific divisions rather than from marketing divisions. The Inspector General's Office also reinforced the notion that recreation, entertainment, meals, travel, gifts, and gratuities all run the risk of violating the antikickback prohibitions. Finally, Studdert emphasizes that the medical

profession should establish ethical values that surpass the legal constraints [32]. The pharmaceutical industry can be expected to market its product aggressively, but it is the responsibility of those in medicine to hold themselves to the highest ethical and professional standards. Blumenthal claims that "the ultimate arbiter of the nature, extent, and consequences of interactions between drug companies and physicians is the medical profession itself" [33].

Establishing an appropriate relationship between physicians and pharmaceutical companies will require the continuous modification of current policies and the adoption of new guidelines as the need arises. Blumenthal acknowledges that most people believe that some relationships between physicians and drug companies are both ethically appropriate and largely beneficial. Given that, it will be a unique challenge for the medical profession, the pharmaceutical industry, and the government to establish boundaries to ensure that those relationships are not characterized by unscrupulous or illegal practices [18]. Studdert and colleagues think that federal oversight is likely to grow more intense as more cases of impropriety arise, but they conclude by stating that "the pharmaceutical and health care industries have the opportunity to maximize the extent to which they are leaders, rather than targets, of regulatory initiatives" [34]. To accomplish this, they will have to establish and enforce stronger ethical standards.

The challenge of sculpting an appropriate relationship between physicians and pharmaceutical companies cannot be underestimated and should be expected to remain a high priority. Although there are striking similarities between the guidelines propounded across medical organizations and the pharmaceutical industry, a universally accepted policy that integrates ethical marketing practices with the medical code of ethics remains an ideal. It can be concluded, however, that future guidelines will aim to address this relationship and will carefully evaluate the point at which pharmaceutical company influence becomes detrimental to patient care. It is uncertain at present whether or not physicians will ultimately be responsible for maintaining the integrity of their relationships with drug companies and to what extent external guidelines will be necessary to regulate the multiple facets of such a complicated interaction.

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Medical Education Peer Feedback

by Alison Kitay

Peer feedback is a crucial component for any effective work environment, but it is particularly important in the medical setting where teams of clinicians often work together without clearly defined tiers of authority. Unlike businesses, where employees can expect to receive consistent feedback from CEOs and other supervisors, many physicians operate without superiors on hand to critique their day-to-day performance. Feedback via continuing medical education and evaluations from hospital administrators is, in itself, insufficient. While physicians may question the value of comments from those without perceived superior expertise, peer feedback is a valuable learning tool that should be added to the existing review system so that clinicians can learn to rely on one another to provide constructive critiques and guidance.

Despite the need for it, peer feedback in medicine is a rare practice that is associated with numerous fears and anxiety. The negative impact of little or ineffective peer assessment is 3-fold: it affects patients, clinicians, and the medical field as a whole. There are systems in place to review severe, adverse patient outcomes. But if the consequences of the mistake are minimal, fears of giving and receiving critical peer comments can prevent physicians and medical students from knowing about and learning from their mistakes, and this can compromise patient care. Second, medicine is a field characterized by lifelong learning, but, without effective use of peer feedback, clinicians are not learning nearly as much as they could from one another. Not only are we underutilizing a valuable resource for improving clinical skills and team dynamics, we are also underutilizing a means for improving clinical safety practices, such as glove use and hand-washing. For example, a study on health care workers published in 2000 demonstrated a significant improvement in compliance with hand washing and glove use policies when a peer feedback program was initiated. The impact was transient, however, suggesting that peer review should persist in the medical setting to achieve sustained improvements in safety and other clinical practices [1]. Third, the field of medicine is currently self-regulated and could be at risk for losing its autonomy. If we fail to be critical with ourselves, third parties may decide to intervene in an effort to limit medical errors and improve efficiency.

Why is it so challenging to give and receive peer criticism? One reason is that, because it happens so infrequently, any critique from peers is perceived as an extraordinary event of great seriousness. A physician may be taken aback, reflecting, "Karen must think I'm really doing badly if she felt the need to actually sit down and discuss my performance with me." Moreover, while feedback from identified superiors is expected and people adjust their performance when the boss is present, no one wants to think that his or her peers are constantly sitting in judgment. That said, if people expected and received more consistent feedback from peers, they could improve their performance and get even better evaluations from their superiors while becoming more confident in their clinical skills. For that to happen, however, peer feedback needs to be delivered in a nonthreatening manner. Businesses address these challenges by implementing semiannual mandatory feedback programs. Some employers are using 360-degree evaluations to ensure that every member of the work force receives evaluations from everyone he or she works with. In addition to evaluating his or her employees, the CEO of a company also receives individual, anonymous evaluations filled out by every member of the staff.

Another reason that peer feedback is resisted is that people are not adequately prepared to give it. Strategies for providing helpful comments can be taught, improving people's ability to critique peers. New York University School of Medicine conducts a workshop to introduce these concepts to first-year students, and, shortly after the workshop concludes, students are asked to evaluate their anatomy dissection groups anonymously. The goals are to teach the skills of giving and receiving effective feedback early on in the medical curriculum and to provide numerous opportunities for medical students to further develop these skills in their preclinical years. If we foster an environment in which peer feedback is a common, well-accepted practice, many of the fears associated with the practice will be assuaged, and students, physicians, and patients will all benefit.

How should we encourage the use of peer critique as a learning tool in the medical setting? First, we should make it an integral and consistent part of professional development, starting in the very first year of medical school. If we learn how to critique one another effectively and constructively early on, we will have the skills and the motivation to give feedback on the wards when optimal patient care is at stake. As we incorporate assessments of professional development into the medical school curriculum, we should include evaluations of how well students give and receive feedback. Our long-term goal should be to make peer review a standard and frequent component of the medical culture so that each encounter becomes a less dramatic event. The more we learn to voice our assessments of our colleagues, the easier it will become for us to be on the receiving end.

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Clinical Pearl Complications of Anticoagulation with Heparin

by Mahesh Krishnamurthy, MD, and Michael L. Freedman, MD

Unfractionated heparin (UFH) and low molecular weight heparin (LMWH) are important, lifesaving pharmacotherapeutic agents for those with disorders such as coronary artery disease and other ischemic coronary events, atrial fibrillation, heart valve diseases, stroke, pulmonary embolism, and deep venous thrombosis. But there is a potential for many side effects with the use of these agents. Hence it is important to do a risk-benefit analysis before prescribing them to patients. The possible side effects of therapy should be told to the patients and their families before these agents are administered. Because heparins are usually given in life threatening situations where time is critical, the facts should be presented clearly with the risk-benefit analysis concisely conveyed to the patient and family. When complications do occur, physicians have to be candid with the patient and treat the complications rather than trying to conceal them.

UFH and LMWH therapy are associated with a high rate of drug-related problems and side effects due to either their inherent pharmacological properties or human errors. Thrombocytopenia, bleeding events, and osteopenia are the 3 most common drug-related problems associated with heparin and LMWH therapy. These side effects often complicate treatment and increase the overall cost of care. The Institute for Safe Medication Practices has classified both UFH and LMWH as high-alert drugs. Approximately 2.1 percent of the total records submitted to the MedMARx national error database were related to UFH; 4.5-5.5 percent of the reported errors were harmful [1].

Heparin-induced Thrombocytopenia (HIT) and Heparin-induced Thrombocytopenia with Thrombosis (HITT)

HIT occurs in 3 to 5 percent of patients who receive intravenous unfractionated heparin compared to the 0.5 percent incidence rate with subcutaneous LMWH, catheter flushes, and even the minuscule amounts of heparin that leach from coated catheters. HIT can precipitate an extreme prothrombotic diathesis known as HITT, resulting in venous or arterial thromboemboli in 50 percent of patients. http://archinte.ama-assn.org/cgi/content/full/164/18/1961 - REF-ICM30019-1#REF-ICM30019-1. Without prompt and effective treatment, likely outcomes are limb amputation in 10 to 20 percent of cases, death in 20 to 30 percent of patients, and residual deficits in survivors that can contribute to strokes, myocardial infarctions, and pulmonary emboli. When platelet counts decrease significantly (usually 50 percent of baseline), heparin should be stopped immediately, and, if anticoagulation is

necessary, direct thrombin inhibitors like lepirudin or argatroban should be started [2,3].

Suppose that a 68-year male is admitted to the intensive care unit with pneumonia and septic shock. He is started on antibiotics, IV fluids, and other supportive measures. He is also given subcutaneous heparin for prophylaxis against deep venous thrombosis. On the eighth day, he develops severe left lower extremity pain. His limbs become blue, and the dorsalis pedis pulse is not palpable. His platelet count drops from 220 000 on admission to 55 000. He is taken to the operating room for an amputation of the leg, below the knee.

This case demonstrates the phenomenon of heparin-induced thrombocytopenia with thrombosis (HITT) and illustrates the need to monitor platelet counts very closely during the course of heparin—even subcutaneous heparin—therapy. HIT can lead to HITT, which can cause severe harm. The early identification of HIT and subsequent termination of heparin therapy can prevent complications.

Hemorrhagic Complications with Heparins

The major complication of anticoagulant therapy is bleeding. LMWH is associated with less major bleeding than UFH. The ease of use, absence of mandatory laboratory monitoring, and clinical efficacy of LMWH have led to its widespread use for anticoagulation therapy in a number of disorders. LMWH is excreted entirely by the kidneys, and, accordingly, in the absence of data regarding safety, it should not be used in patients with compromised renal function. UFH, however, is rapidly metabolized by a saturable, zero-order mechanism, mainly by the reticuloendothelial system. Metabolism is followed by a slower first-order renal clearance. Less than 10 percent is excreted unchanged in urine. The mean half-life is dependent on the administered dose and is unchanged when renal function is normal.

Now, suppose that an 84-year-old female is admitted for shortness of breath. She is frail, weighing only 92 lbs. Routine labs reveal hemoglobin of 12.8 and a creatinine of 1.3, and she is found to have deep venous thrombosis of her right lower extremity. A perfusion scan of her lungs is consistent with a pulmonary embolism. She is started on low molecular weight heparin and other supportive measures. She improves but on the third day of treatment, develops severe hematuria and gastrointestinal bleeding; her hemoglobin falls to 8.6.

This situation demonstrates the drawbacks of using LMWH in patients with renal failure. It also emphasizes the need to calculate creatinine clearance (CrCl), rather than just serum creatinine in elderly and frail patients. The calculated creatinine clearance in this case is 21 ml/min. At such low ranges of creatinine clearance, LMWH can cause hemorrhaging and should not be used.

It is recommended that UFH be used to provide full anticoagulation therapy in patients with severe renal insufficiency. If LMWH is chosen, monitoring should be performed with therapeutic anti-factor Xa activity. The lowest ratio of CrCl levels for

patients in this indication category probably varies for different LMWHs, but a safe threshold is likely to be 30 mL/min.

When LMWH is used in patients with mild to moderate renal failure, anti-factor Xa levels should be tested to monitor therapy. This test should also be used when LMWH is administered to obese patients because they are more likely to receive inappropriate doses when weight-adjusted regimens are used.

When using UFH the following should be noted:

- There is an increased rate of major bleeding with intermittent intravenous (IV) heparin compared with continuous IV infusion; continuous IV heparin and subcutaneous heparin are associated with a similar amount of bleeding.
- The risk of heparin-associated bleeding increases with concomitant thrombolytic therapy or GP IIb/IIIa antagonists.
- Renal failure, patients aged over 70 years, and female gender have also been implicated as risk factors for heparin-induced bleeding.
- There is good evidence that comorbid conditions, particularly recent surgery or trauma, are important risk factors for heparin-induced bleeding [4,5].

When bleeding occurs with UFH therapy, protamine should be used to reverse the effects of heparin. However, protamine appears to neutralize only approximately 60 percent of the anti-factor Xa activity of LMWH.

Heparin-associated Osteoporosis

Heparin-associated osteopenia and osteoporosis are rare but potentially serious complications of heparin and LMWH therapy. Both are associated with long-term therapy (usually greater than 1 month) and often occur during pregnancy and the postpartum period when it can result in spontaneous fractures. Factors that contribute to development of these conditions are overactivation of osteoclasts by parathormone, decreased activity of osteoblasts, increased bone resorption as a result of abnormal collagen activation, and disturbances in vitamin D metabolism. Additionally, limited sun exposure during pregnancy and increased calcium demands during lactation can cause an osteoporotic state [6,7,8].

Imagine that a 31-year female with systemic lupus erythematosis and a history of 3 spontaneous abortions is diagnosed with antiphospholipid antibody syndrome. She is put on heparin therapy for the duration of her fourth pregnancy, after which she delivers a full-term healthy baby. During the postpartum period, she sustains a hip fracture after a trivial fall.

The hypothetical situation illustrates a typical scenario where long-term anticoagulation in pregnancy led to a fracture in the postpartum period. This result cannot be totally guarded against, but certain precautions can be taken. Adequate calcium and vitamin D supplementation is one potential prophylatic measure. It is also of note that LMWH presents less risk for osteoporosis than UFH and should be preferred in this setting.

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2004 John Conley Ethics Essay Contest Winner

"Trust Me. I'm a Doctor." by William Martinez

You are a third-year medical student on the last day of a clinical rotation. You have seen a total of 2 lumbar punctures. Just before you enter a patient's room and leaving you no time to respond, your attending physician says, "I'm going to introduce you as 'doctor.' It makes it easier for the patient and you need to do a spinal tap before you finish your rotation." As you enter the room, the attending physician tells the patient, "This is Dr [Smith], who will be doing your lumbar puncture." The attending physician and the patient both look at you expectantly. What do you do? What are the ethical and professional considerations that would guide your response?

In their study of third-and fourth-year medical students, Beatty and Lewis found that 100 percent of students surveyed had experienced being introduced to patients as "doctor" by members of the medical team [1]. When attending physicians introduce medical students as "doctors" to facilitate their gaining experience with procedures such as spinal taps, medical students must quickly determine if this deception is justified and if not, whether, how, and when to correct it.

The requirement of obtaining a patient's informed consent prior to any substantial intervention is intended to respect patient autonomy, minimize risk, and prevent exploitation and injustice [2]. To this end, most legal jurisdictions require that physicians disclose what a *reasonable person* in similar circumstances would find relevant to the decision at hand [2]. Presumably, novices have a higher rate of complications when performing new procedures than do more experienced clinicians. Therefore, most, if not all, *reasonable persons* would wish to know the true status and qualifications of individuals involved in their care and, in particular, of those individuals who wish to perform fairly risky interventions for the first time. With regard to spinal taps specifically, 2 separate studies found that more than 80 percent of patients would want to know the experience level of the person doing the tap [3, 4]. Since reasonable patients clearly find this information material to their decision, true informed consent cannot be obtained without disclosing the true status of medical students as students, not doctors.

Circumventing informed consent requires strong justification, and few exemptions exist. Nevertheless, 3 common justifications are given for deceiving or not otherwise disclosing to patients the status and experience levels of medical students performing procedures [3]. They are: (1) consent to be treated by medical students is implied by allowing oneself to be admitted to an academic medical center, (2) knowing the status of medical students performing procedures would cause patients unnecessary stress and nervousness, and (3) societal necessity; ie, if patients were told and refused treatment from students, future patients would suffer at the hands of inadequately trained physicians [3]. Let's look at each of these.

Consent to admission into a teaching hospital does *not* imply consent to the involvement of medical students in the provision of care to all patients. Most patients, and particularly poor or uninsured patients, have little choice about which hospitals they are admitted to. Some patients are not even aware they are in a teaching hospital [5]. Moreover, if patients truly consented to receive care from medical students upon admission to a teaching hospital, there would be no need to deceptively refer to medical students as "doctors."

While it is true that informing patients that medical students are performing procedures for the first time may make patients anxious, it is also true that most patients who later discover that they were not told or were deceived about a medical student's involvement, become upset [3]. The stress and distrust that results when this is revealed may be worse than the stress caused by the disclosure of a students' role prior to a procedure [3]. Furthermore, full disclosure is necessary for patients to exercise their right, as recognized in the American Medical Association's *Code of Medical Ethics* [6], to determine whether or not to participate in a student's medical education. If a student's role is disclosed prior to a procedure, some patients may refuse the student's participation. To some degree this is desirable and would serve to demonstrate that medicine is meeting its obligation to foster patient autonomy by allowing patients to make informed decisions about their care.

But what if all patients refused and medical education could not proceed? While this is a legitimate concern, evidence suggests that, when asked, many patients are willing to allow medical students to participate in aspects of their care. In their survey of 100 internal medicine outpatients, Ubel and Silver-Isenstadt found that less than half of the patients would "probably" or "definitely" refuse to allow students to perform even the more sensitive exams (eg, rectal or pelvic exams). They found that the majority of patients were willing to interact with students in a wide variety of clinical settings [7]. With regard to spinal taps, specifically, Williams and Fost found that 52 percent of those surveyed would be willing to be the subject of a student's first tap [3], while Ubel and Silver-Isenstadt report that 66 percent would definitely *not* allow a medical student to perform a spinal tap [7]. The consent rate was considerably lower in an emergency department setting where direct faculty supervision was not guaranteed [8]. Taking these studies into account, approximately one-third or more of patients may be willing to allow students to perform spinal taps in non-emergency settings. Although this rate of patient participation may hinder training, it is not unmanageable [3, 7]. Moreover, some of the patients' apprehension regarding spinal taps, may be due to a commonly held, but false, belief that spinal taps carry a high risk of paralysis [3]. Education about the procedure may result in greater patient willingness to participate. Still, more research is needed. All 3 studies involved hypothetical situations and no

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study has looked at patients who actually need spinal taps to determine the impact of full disclosure on whether or not patients ultimately allow medical students to perform spinal taps.

Furthermore, medical students are not the only novices in hospitals. Residents, fellows, and even attending physicians must inevitably perform procedures for the first time as new technologies and interventions are developed. If research showed that the number of patients willing to receive care from novices, at any professional level, was too few to adequately and efficiently train physicians, then the "social necessity" justification would have to be revisited and the burden of medical education would have to be distributed to all members of society. Poor and uninsured patients in public hospitals, where students and residents supply a greater proportion of patient care, should not unwillingly be subject to greater risk and discomfort from first-time procedures than private patients.

What then is a medical student to do when an attending physician introduces her as a "doctor" in order to secure her an opportunity to perform an important yet moderately risky procedure? To resolve this question the medical student must examine her role and obligations within 2 complex relationships: the mentor-student relationship and the doctor-patient relationship.

The Hippocratic Oath helps illustrate the duties inherent in these 2 relationships. The oath calls on students "to hold [their] teacher in this art equal to [their] own parents" [9]. By equating preceptors to parents, the oath reminds us of the authority of preceptors over their students and of students' responsibility to respect this authority. More generally, the oath is used to remind students and physicians of their responsibility, within the doctor-patient relationship, to act in their patients' best interests and above all do no harm.

In the case of a spinal tap or other procedure of moderate risk, the student's responsibilities and allegiances are in conflict. To show concern and respect for the patient's welfare and autonomy, the student ought to reveal her true status and allow the patient to make an informed decision about the student's participation. The greater the potential for harm, the greater the responsibility to be completely forthright. However, if the student is to respect the authority of the attending physician, then she should not correct the attending physician. Complicating matters, the student's evaluation may depend, at least in part, on how well the student meets this latter responsibility. The student must also consider the consequences her actions may have on the relationship between the patient and the attending physician.

The central element of all these relationships is trust, and honesty is a critical part of developing trusting relationships. To preserve these vital partnerships, the student must act in a way that maximizes or preserves the trust between all parties to the greatest degree. This will depend heavily on the particular circumstances of the situation.

One way for the medical student to preserve or maximize trust is to excuse herself from the room and ask the attending physician to step out with her. Privately the student may begin by thanking the attending for helping to create learning opportunities for her and express her desire to learn new procedures. This helps demonstrate from the start that the student values this relationship, is eager to learn, and respects and appreciates the attending physician. The student should then express her concern that, should the patient later learn, say by noting it on the student's name badge, that the "doctor" is really a student, the patient may lose trust in them. This allies the student and the attending physician over a shared concern in securing the trust of the patient. Not passing judgment on the attending physician's actions maximizes the likelihood that the attending physician will respond positively and minimizes the risk to the student. It sets the stage for a discussion in which the student and attending physician can negotiate how to approach future patients and ethically learn new procedures. Although the medical student may lose out on the opportunity to perform a spinal tap on this particular patient, she may lessen the moral burden all medical students carry as they attempt to learn new procedures on unsuspecting patients.

Granted not all physicians will respond positively, and just how far a student must push the issue depends on the potential harms to the patient. Certainly students are not required to sacrifice their careers to prevent minimal harms. Although the approach I have proposed may be uncomfortable for some students, it poses minimal risk and therefore, the students owe it to their patients, attending physicians, and themselves to attempt to clarify their student status.

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Case in Health Law Professional Oversight of Expert Testimony *Austin v American Association of Neurological Surgeons* by Alexis Wood

Introduction

Neurosurgeon Donald Austin was suspended for 6 months by the American Association of Neurological Surgeons (AANS), a voluntary medical association. AANS gave as cause for the suspension Austin's irresponsible testimony while serving as an expert witness. Austin sued AANS for violation of his due process rights, claiming that AANS had vengefully suspended him after he testified as an expert witness on behalf of a patient in a medical malpractice suit brought against another member of AANS, Dr Q. Michael Ditmore [1].

Austin was retained to testify on behalf of a woman whose recurrent laryngeal nerve was permanently damaged in the course of an anterior cervical fusion. The result of this damage included a paralyzed vocal cord, difficulty swallowing, and shortness of breath that ultimately required her to undergo a tracheostomy. The original procedure, performed by Ditmore [2], required the surgeon to cut into the spine from the front (through the neck), being careful to retract (push aside) the tissues in front of the spine [3].

Austin testified that he believed "the majority of neurosurgeons" would agree with him that the patient would not have suffered a permanent injury to her recurrent laryngeal nerve unless Ditmore had been careless [4]. He based this conclusion on his belief that the patient had no anatomical abnormality that would cause such an injury to result without negligence on the surgeon's part [4]. Thus, Austin testified that Ditmore must have rushed the operation which resulted in a rough handling of the recurrent laryngeal nerve. No other evidence was offered of Ditmore's having rushed the operation. Expert evidence contrary to Austin's opinion was also given, and the jury returned a verdict in favor of Ditmore. Ditmore promptly complained to AANS, which, following a hearing, suspended Austin for irresponsible testimony. Austin subsequently resigned from AANS and filed a lawsuit claiming a violation of due process.

The court found that no procedural irregularities had occurred and that Austin's due process had not been violated. Austin had received prior notice and a full hearing with counsel before a panel of association members not implicated in his dispute with Ditmore. Austin's complaint alleged that AANS had acted in bad faith because it never disciplined members who testified on behalf of medical malpractice *defendants* (ie, doctors accused of malpractice), but only against those who testified on behalf of patients. Moreover, Austin argued that it was against public policy for a professional

association to discipline a member on the basis of trial testimony unless the testimony was intentionally false [5].

Dr Austin's "expert testimony" induced the discipline.

Prior to suspending Dr Austin, AANS conducted a hearing to assess his testimony against Dr Ditmore. At that hearing, Ditmore pointed out that while Austin had performed many cervical operations, he was not as knowledgeable on anterior cervical fusion, having performed only 25 to 30 of them in 30 years of practice. Ditmore, on the other hand, had performed 700 anterior cervical fusions, with only 1 case—this one—having resulted in permanent damage to a recurrent laryngeal nerve [6].

Other information regarding Dr Austin's testimony was discovered during the hearing, including the fact that he apparently based his testimony on only 2 articles that did not, in fact, support his testimony. Other evidence further undermined his opinion as an expert witness. For example, the recurrent laryngeal nerve is difficult to see, and often not visible during the operation, so it may be impossible for any surgeon to determine whether the particular patient's nerve is unusually susceptible to injury [6].

Reasons for the Appellate Court's Decision

The district court granted summary judgment in favor of AANS; that is, it ruled that no material facts were in dispute (the resolution of which is the purpose of a jury) and so decided the case based on the law. The appellate court affirmed the summary judgment, finding that Austin did not have a valid claim against AANS for several reasons.

1. Dr Austin failed to show that an "important economic interest" was at stake because membership in AANS is not a requirement for the practice of neurosurgery. Moreover, AANS is not the only association of neurosurgeons, and Austin was able to continue practicing neurosurgery notwithstanding his suspension and voluntary resignation from AANS [7]. He sought only damages and that the record of his disciplinary suspension be expunged. Despite his suspension, Austin continued to testify as an expert witness, although his income from that source fell to 35 percent of what it had been (\$222 000 per year) before the suspension.

The court looked disdainfully on Austin's hyperbolic characterization of his financial loss from providing expert testimony, which was not his primary profession. It concluded that an action by an association must jeopardize the principal source of the professional's livelihood [8].

2. The court found that there was no basis for Austin's allegation that the association only considered claims against members who testified on behalf of patients in malpractice suits [8]. While all complaints up to that time had been against such members, it did not follow, the court reasoned, that AANS had acted in bad faith. It would be natural for a defendant physician to complain to AANS about testimony that he or she believed was irresponsible. It would be far less likely for a patient's expert witness to complain to AANS because he or she would not have been accused of negligence, harmed by loss in his or her practice, forced to stand trial, or made to face his or her liability insurer.

3. Next, the court found that there was no basis for Dr Austin's claim that public policy did not allow professional associations to sanction members for giving expert testimony. Austin argued that allowing professional associations to sanction members for irresponsible testimony would deter members from giving such testimony, and this would interfere with the civil justice system. Hence, Austin claimed, as a matter of public policy, professional associations should not be allowed to sanction members for their testimony. But the court reasoned differently. It said that, rather than deter the willingness of members to testify, AANS membership bolstered members' credentials, boosting their credibility as expert witnesses and even deflecting close scrutiny [8]. The court said that professional associations help the justice system screen experts, and it called for greater policing of expert testimony, pointing out the difficulty courts have in refuting esoteric and technical medical testimony [9]. While the *Daubert* rule [10] requires judges to screen proposed expert witnesses carefully to ensure that their testimony is responsible, such a rule is not applicable in every court nor is it unassailable.

Despite ruling against Austin, the court did acknowledge that professional selfregulation is not entirely trustworthy. It reasoned that most members of AANS would likely be hostile to malpractice litigation, thereby imparting a subtle bias to its evaluation of members' complaints. But the court found nothing in the hearing transcript to justify such an inference in the Austin case.

4. Finally, the court discussed the strong national interest in identifying and sanctioning poor physician performance, reasoning that doing so improved the quality of health care [11]. Since Austin's testimony reflected the quality of his judgment, his clinical judgment was in question also. Thus, reasoned the court, the discipline by AANS served an important public policy function.

Commentary

Most physicians who offer expert testimony in court help society. By serving as an expert witness, a physician informs the legal community of the standard of care for a particular medical issue. This clarification can reinforce the standard and, by facilitating the identification of those who are not complying with these norms, can help protect patients from harmful practitioners.

But the practice of serving as expert witnesses is not without ethical conflict for physicians. Physician witnesses are well compensated for their testimony, and winning verdicts increase the expert's marketability as a witness. While compensation will not buy bad faith testimony from most physicians, having a financial interest in the outcome of the case can conflict with a physician's obligation to put the well-being of patients foremost at all times.

This conflict does not automatically mean it would be better to bar physicians from acting as expert witnesses or from receiving payment for their testimony. Expert

witnesses are needed to explain the intricacies of medical procedures and treatment in layperson's terms and they should be paid for their expertise. It would be inefficient for the justice system to rely on the availability of volunteers each time a case that demanded expert testimony came before the court.

The implications of physicians' general hostility towards medical malpractice litigation must also be examined. While it is possible that some physician witnesses will harbor hostility towards malpractice litigation and favor their defendant colleagues, most are loathe to have the safety of patients and the reputation of the profession put at risk by physicians who are incompetent or have erred consistently and with serious consequences.

Besides the potential biases on the part of individual physicians, ethical conflicts exist for the professional association caught in circumstances similar to those of AANS. On the one hand, the association's principal concern is the competence of physicians and safety of patients. On the other hand, such organizations are advocates for their members and interested in protecting them from unfounded malpractice claims. In the long run, though, the best way to minimize litigation is to maintain high standards of care. Achieving that goal will reduce the number of malpractice suits and improve the reputation of the group. Therefore, it is in the interest of the association to help the courts expose physicians who are not practicing within the standard of care. By the same token, these associations have good reason to discipline physicians who testify negligently or recklessly, whether those physicians are appearing on behalf of patients or on behalf of defendant doctors. As the Austin court said, society depends upon medical associations to monitor physicians because they are the parties best suited for the task.

The American Medical Association (AMA) has defined the criteria for physician participation as medical expert witnesses. Agreeing that, as professionals with special training and experience, physicians "have an ethical obligation to assist in the administration of justice," the AMA's *Code of Medical Ethics*, requires that those who testify as medical experts "have recent and substantive experience in the area in which they testify and should limit testimony to their sphere of medical expertise" [12]. The opinion goes on to state that the medical witness "should not become an advocate or partisan in the legal proceeding" [12].

In encouraging physicians to provide expert testimony, professional associations satisfy the obligation of the profession to self-regulate in at least 2 ways. First, they help the judicial system comprehend standards of care and discipline those physicians who do not consistently perform up to standard. This sometimes painful selfregulation protects patients at large and sees to it that individual patients who have been harmed by incompetent physicians are recompensed. Secondly, by then monitoring the testimony of physicians who testify as experts and, if necessary, sanctioning those who testify negligently, recklessly, or in bad faith, the association ensures that the reputation of the profession is upheld.

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Policy Forum The Role of State Medical Boards by Drew Carlson and James N. Thompson, MD

State medical boards are the agencies that license medical doctors, investigate complaints, discipline physicians who violate the medical practice act, and refer physicians for evaluation and rehabilitation when appropriate. The overriding mission of medical boards is to serve the public by protecting it from incompetent, unprofessional, and improperly trained physicians. Medical boards accomplish this by striving to ensure that only qualified physicians are licensed to practice medicine and that those physicians provide their patients with a high standard of care.

The right to practice medicine is a privilege granted by the state. Each state has laws and regulations that govern the practice of medicine and specify the responsibilities of the medical board in regulating that practice. These regulations are laid out in a state statute, usually called a medical practice act. State medical boards establish the standards for the profession through their interpretation and enforcement of this act.

Assembling a quality physician population to meet the needs of the public begins with licensure. During the process of evaluating applicants for medical licensure, state medical boards' primary focus is on a physician's qualifications, including undergraduate and graduate medical education, work history, and personal character. Candidates for licensure also must successfully complete a rigorous examination designed to assess their ability to apply knowledge, concepts, and principles of health and disease that constitute the basis for safe and effective patient care. The Federation of State Medical Boards of the United States, Inc., and the National Board of Medical Examiners (NBME) have collaborated to establish a single, 3-step examination for medical licensure in the United States, known as the United States Medical Licensing Examination (USMLE). The USMLE provides state medical boards with a common evaluation system for all licensure applicants. To assure the continued relevance of the exam, the NBME uses basic science and clinical faculty from the nation's medical schools as well as practicing physicians, some of whom serve on state medical boards, to generate the examinations.

The USMLE Examinations

Step 1 of the USMLE is usually administered after 2 years of medical education and assesses an applicant's ability to understand and apply basic science concepts fundamental to the practice of medicine, with special emphasis on principles and mechanisms that underlie health, disease, and modes of therapy. Step 1 ensures mastery of not only the sciences that provide a foundation for the safe and competent

practice of medicine in the present, but also the scientific principles required for lifelong learning.

USMLE Step 2, usually taken prior to graduation from medical school, assesses applicants' ability to apply—under supervision—medical knowledge, skills, and understanding of clinical sciences essential for the provision of patient care and tests their knowledge of health promotion and disease prevention practices. Step 2 ensures that due attention is devoted to principles of clinical sciences and basic patient-centered skills that provide the foundation for the safe and competent practice of medicine.

Step 3, usually taken after a year of postgraduate training, assesses a candidate's ability to apply medical knowledge and understanding of biomedical and clinical sciences essential for the *unsupervised* practice of medicine, emphasizing patient management in ambulatory settings. Step 3 provides a final assessment of physicians who are about to assume independent responsibility for delivering general medical care.

In 2004, the USMLE introduced a clinical skills component to Step 2 which tests applicants on their ability to take a focused history and physical examination, communicate with a standardized patient, and write a meaningful progress note. Similarly, the National Board of Osteopathic Examiners, which also has a 3-part examination process for doctors of osteopathy seeking medical licensure, will require passage of a clinical skills examination beginning in 2005.

Applying Standards of Professional Conduct

In addition to requiring an examination, medical boards also determine whether physicians have met recognized standards of professional conduct while in practice. Applicants who are licensed in 1 state and desire licensure in another must submit proof of prior education and training and provide details about their work history. Applicants must reveal some past medical history (including the use of habit-forming drugs and any physical or mental illness that could alter the ability to practice), arrests, and convictions. Medical boards then evaluate these disclosures and how effectively they've been addressed by the applicant.

After physicians are licensed in a given state, they must reregister periodically to maintain their active status. During this reregistration process, physicians are required to demonstrate that they have maintained acceptable standards of ethics and medical practice and have not engaged in improper conduct. In most states, physicians must also show that they have participated in a continuing medical education program.

The duty of the medical board, however, goes beyond the licensing and reregistration of physicians. The board is charged with the responsibility of evaluating whether a physician's professional conduct or ability to practice medicine warrants modification, suspension, or revocation of the license to practice. Board members devote a great deal of time and attention to overseeing the practice of physicians by reviewing complaints from patients, malpractice data, information from hospitals and other health care institutions, and reports from government agencies. When a board receives

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a complaint about a physician, and there is reason to believe the physician has violated the medical practice act, the board has the power to investigate the claim, hold hearings, and if necessary, impose discipline.

The state statute commonly known as the medical practice act defines unprofessional conduct in each state. Although laws vary by jurisdiction some examples of unprofessional conduct include:

- physical abuse of a patient,
- inadequate record keeping,
- not recognizing or acting on common symptoms,
- prescribing drugs in excessive amounts without legitimate reason,
- impaired ability to practice due to addiction,
- failing to meet continuing medical education requirements,
- performing duties beyond the scope of a license,
- dishonesty,
- conviction of a felony,
- inappropriately delegating the practice of medicine to an unlicensed individual.

Minor disagreements do not fall under misconduct, nor does poor customer service. Medical boards focus on protecting the public, not on punishing physicians. While medical boards sometimes do find it necessary to suspend or revoke licenses, regulators believe that many problems can be resolved with additional education or training in appropriate areas. In other instances, it may be more appropriate to place physicians on probation or place restrictions on a physician's license. This compromise allows the public to be protected while maintaining a valuable community resource in the physician. Probation and restrictions of a medical license can also be in place while a physician receives further training or rehabilitation.

With changing technology, legislative interventions, and the rapid expanse of scientific information available, the challenges to state medical boards are significant. They are assisted in keeping abreast of these challenges by the Federation of State Medical Boards' staff who draft policies, manage a national database of physician disciplinary information, offer a credentials verification service to physicians and physician assistants, and inform the state medical boards of legislative initiatives both at the state and national level. And, along with the National Board of Medical Examiners, the Federation of State Medical Boards provides state-of-the-art assessment resources for physicians seeking initial licensure and a series of post-licensure assessment tools. All of these services are for the purpose of providing protection to patients while enhancing the quality of health care in this country.

Suggested Reading

Federation of State Medical Boards, A Guide to the Essentials of a Modern Medical Practice Act, 10th Edition, 2002.

Federation of State Medical Boards, *Elements of a Modern Medical Board*, 1998.

Federation of State Medical Boards and National Board of Medical Examiners, United States Medical Licensing Examination, *2005 Bulletin of Information*. National Board of Osteopathic Medical Examiners, Inc., Comprehensive Osteopathic Medical Licensing Examination (COMLEX-USA), *2004-2005 Bulletin of Information*.

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Medicine and Society Error in Medicine: The Role of the Morbidity & Mortality Conference by Vincent Liu, MD

During the last several years, error in medicine has increasingly become a national concern, generating significant discussion about patient safety in the public media as well as in the medical literature. For physicians, however, medical error remains an unpleasant and often neglected reality. This attitude, which prevents necessary examination and change from occurring, may stem, in part, from lack of exposure to disclosure and discussion of error while physicians are in residency training. The morbidity and mortality conference (M&MC) can be a setting in which resident physicians become equipped to address errors in an educational forum and to focus on improving health care delivery and patient safety.

Reframing Error

More than 5 years have passed since the Institute of Medicine (IOM) released its report on the state of patient safety in America entitled, To Err is Human: Building a Safer Health System [1]. Based on 2 large-scale studies, this report estimated that between 44 000 and 98 000 people die in hospitals each year as a result of preventable medical errors [2-4], accounting for more annual deaths than automobile accidents. Not surprisingly, these staggering statistics promptly captured the attention of the American media and public. The IOM report focused on the concept of *latent error*, meaning "errors...caused by *faulty systems, processes and conditions* that lead people to make mistakes or fail to prevent them," rather than on individual error [1] (emphasis added). The shift of focus away from individuals and on to systems had previously led to significant safety improvements in other high-risk industries including aerospace and nuclear power [5]. Furthermore, the IOM called on leaders in the health sector to make system redesign a national priority. The report has galvanized a substantial response among governmental agencies as well as among private and public organizations aimed at making patient care safer. Several groups, including the National Patient Safety Foundation, the Joint Commission on Accreditation of Healthcare Organizations, the Leapfrog Group, the Veterans Health Administration, and the American Board of Medical Specialties, have invested resources in accomplishing the goals outlined by the report [6-9].

Physician Views on Error

In addition to the focus on system-wide improvement, the IOM's recommendations also underscored the important role of physicians—individually and collectively—in improving patient safety by recognizing the need for their participation in voluntary error identification and reporting [1]. Studies on physicians' views of error disclosure, however, reveal a fundamental discordance. A survey of physicians who had

experienced errors in their own medical care or in that of a family member found that, while more than 70 percent assigned "a lot" of responsibility for the error to the physicians administering that care, less than 25 percent believed that mandatory hospital or voluntary physician error reporting would be a "very effective" solution [10]. Only a very few physicians even viewed medical errors as a major problem. Most study participants thought medical error was less important than the mounting burdens of malpractice insurance, the rising cost of health care, and the problems with insurance companies and health plans [10]. Similarly, interviews with physician focus groups have shown that, while the majority of doctors believe that the disclosure of medical errors that result in serious harm is an ethical imperative, they simultaneously admit to many situations in which they might not disclose such error [11]. Recurrent themes of litigation fears, loss of respect, outward and inward expectations of perfection and infallibility, and a strong ethic of personal responsibility were used to explain the lack of error reporting among physicians. Physicians also consistently describe the potential for such errors to become emotionally isolating events, further limiting their likelihood of disclosure [12-15].

Error Disclosure in Residency Training

The "see one, do one, teach one" mantra of medical training appears to have effectively encouraged new resident physicians to respond to medical error in the same way that physicians responded. A survey of internal medicine house staff revealed that 76 percent did not discuss their "most significant medical mistake in the last year" with the patient who suffered from the mistake or the patient's family, and only about 50 percent discussed the case with the supervising attending physician [16]. These mistakes were significant enough to engender housestaff responses of remorse, anger, guilt, and inadequacy in 81, 79, 72, and 60 percent of cases, respectively. Despite their reluctance to discuss their mistakes, residents reported that the errors had led to positive changes because they sought more advice and were more vigilant. Notwithstanding their personal and clinical significance, however, these mistakes were infrequently addressed in an educational setting, with fewer than 1 out of 3 discussed at either morning report or M&MC. Thus, it comes as no surprise that both practicing physicians and physicians-in-training view error disclosure with hesitation.

The Morbidity and Mortality Conference

Based upon these responses, it would appear that the concept of addressing error is novel in medicine, but, in fact, the practice of reporting and learning from errors has a well-established history. The process of reviewing clinical outcomes in a standardized fashion began in parallel with the rise of the modern teaching hospital. The practice was refined through the work of Ernest Amory Codman, a surgeon at Massachusetts General Hospital in the early 20th century, who developed the "end result system" [17]. He detailed the clinical history and outcomes of each of his patients on a set of cards and used this information to review adverse events systematically and categorize their precedent errors. Although he faced opposition from colleagues and the hospital, Codman's model went on to influence the standards for hospital practice issued by the American College of Surgeons in 1916. His work was further developed by anesthesiologists working in Philadelphia who, in 1935, created the Anesthesia Mortality Committee—a group whose aim was to review and discuss mortalities related to anesthesia with a specific goal of choosing cases where an error was suspected [18]. The design and objectives of this group's meetings laid the framework for future M&MC. Since that time, anesthesiology has led the field in improving patient safety through systematic error review and has seen a dramatic decline in mortality related to the complications of anesthesia [19].

The M&MC has also been incorporated within surgery residency programs and has often been called the "golden hour" of surgical training [20]. Since 1983, it has been required by the Accreditation Council for Graduate Medical Education (ACGME) for training program certification. A precise definition and role of M&MC in internal medicine residencies, however, remains elusive, and the literature on its place in internal medicine training is sparse when compared to writing about its role in anesthesia and surgery. The ACGME's 1999 guidelines for the 6 core competencies of housestaff training only indirectly address the need for error appraisal under the heading of "professionalism," broadly requiring that each resident should "demonstrate…adherence to ethical principles…and a commitment to excellence and ongoing professional development" [21].

Morbidity & Mortality Conference in Internal Medicine Training Programs

In a survey of 295 internal medicine residency program directors, 90 percent reported having an M&MC or its equivalent [22]. Of the cases presented at these conferences, however, fewer than 1 out of 8 involved a "suspected error" and in one-third of cases, the suspicion of error was not a primary factor in case selection. Another study conducted at 2 major teaching hospitals revealed that error discussion happened only 10 percent of the time at internal medicine M&MC, as compared to 24 percent of the time at surgery M&MC [23]. Hence a surgery resident attending weekly M&MC for an entire year would observe 48 error discussions on average, while an internal medicine resident would observe fewer than 8 per year. With the near-absence of error disclosure and discussion during medical training, internal medicine residents may be ill-prepared to address errors in their future practice or to actively participate in nationwide voluntary error reporting. M&MC, therefore, has a vital role in the future of patient safety because of its unique place as an educational forum for reporting, addressing, and learning from medical errors.

Orlander et al suggest that a model M&MC in internal medicine training should "identify medical errors in order to learn from them" and "facilitate the open discussion of medical error" in an explicit but supportive fashion [24]. They also recommend that special attention be given to systems problems that can be remedied to prevent similar adverse events in the future. Using this format, M&MC could provide training physicians with a model similar to the IOM's recommendations for improving patient safety.

Conclusion

Medical error that leads to preventable patient deaths or other serious harms is a significant problem. Although attention should focus on sources of system-based latent error, physicians have a unique responsibility in error disclosure and reporting. Currently, several barriers prevent them from addressing this responsibility, and, if

future physicians are to accept this duty, they must change their attitudes and perceptions towards errors while in residency training. M&MC, used in this context, serves an invaluable role in both educating housestaff and promoting patient safety. Residency program directors should refine and revise their current use of M&MC to reach these goals.

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Op-Ed The Medical Profession and Self-Regulation: A Current Challenge

by Sylvia R. Cruess, MD, and Richard L. Cruess, MD

The implicit agreement between medicine and society entailing reciprocal rights and obligations has been called a social contract [1,2]. In return for a physician's commitment to altruistic service, a guarantee of professional competence, the demonstration of morality and integrity in their activities, and their agreement to address issues of social concern, society grants to both individual physicians and the profession considerable autonomy in practice, status in the community, financial rewards, and the privilege of self-regulation. While many details of this unwritten contract have changed over the years, the basic elements have held steady since the middle of the 19th century when the modern professions emerged coincident with the establishment of licensing laws [3]. Acting through their professional associations, physicians convinced society that science-based medicine was superior to alternative therapies and that their profession represented a trustworthy moral enterprise [4]. Society in the mid-1850s then delegated some of its own traditional powers to the profession, with regulation being one of the most important.

Having been granted this power, the profession established the means of setting and maintaining standards of education and training, entry into practice, and practice itself. Integral to effective self-regulation is the responsibility and obligation to ensure that these standards are met and to remediate or discipline unethical, immoral, or incompetent practices.

The need for self-regulation was reinforced by those studying medicine in the early 1900s who believed that the complexity of the knowledge base and skills required, especially as technology advanced, would make regulation by non-professionals difficult [3,4] and it was thought that the profession could be trusted to carry out this necessary activity. By the latter part of the 20th century, however, many social scientists concluded that the profession had abused its privileged status and public trust, and that its regulatory procedures were seriously flawed [4,5,6]. Standards were considered to be weak, variable, and inconsistently applied, and physicians were further accused of using collegiality as a means of shielding poorly performing peers. Medicine was further criticized for its lack of openness and transparency in regulatory procedures and for the absence of public involvement in them. In short, the system appeared to lack accountability, and it was suggested that an informed public should participate in medicine's regulation. Many of these criticisms proved to be accurate and had an impact on both public policy and on the level of trust that the profession enjoyed.

Self-regulation of the medical profession is complex, and involves many levels of oversight aimed at guaranteeing the competence of the practicing physician. Some of the activities that have been and continue to be carried out with skill and rigor include accreditation of medical schools and training programs, licensure, and certification. While these can always be improved, in general they have performed well and have achieved their objectives to a surprising degree over the past half century.

The major obstacles for credible self regulation that have been identified and documented include: providing assurance that those in practice maintain their competence [7]; taking appropriate action once a problem with an individual practitioner has been identified [4,5]; and regulating conflicts of interest [8].

Maintaining Competence

The idea that one can be licensed and certified as a young person and that this will guarantee competence for the rest of one's career is no longer tenable [7]. This is due in part to rapid changes in practice brought on by advances in medical science, but it also reflects the recognition that skills may not be maintained indefinitely or may deteriorate over time. Throughout the developed world, countries have moved or are moving toward instituting some form of physician recertification process [9,10,11]. The processes are time consuming, costly and, as yet, imperfect. They threaten much more than the autonomy of individual physicians, inasmuch as some physicians must inevitably be excluded from practice if self-regulation is carried out properly. Nevertheless, public demands for assured competence are both present and growing, virtually guaranteeing a future for the processes of relicensure and recertification. Whether these steps will be sufficiently rigorous to reassure the public will become apparent with time.

Identifying Problem Physicians and Taking Appropriate Action

The very high profile problem of unethical or otherwise incompetent doctors can tarnish the reputation of the entire medical profession [12]. There are, without question, a small number of such physicians, and when they are identified they must be dealt with. While the methods must be consistent with the principles of due process and natural justice, the overarching objective must be to protect the public. Currently, there is a public perception that self-regulation has gone too far to protect the doctor. As one person in the United Kingdom suggested, regulatory bodies will "in the last analysis put fairness to doctors ahead of patient protection" [13]. While there certainly have been attempts to improve disciplinary procedures, both the Institutes of Medicine report [14] and the presence of very prominent cases in the press [15] have not satiated the public concern that the profession is meeting its obligation to adhere to the highest standards.

Conflicts of Interest

Conflict is inherent in a profession in which individuals are expected to be altruistic while, as human beings, still pursue their own interests [4,5]. As long as the profession remained in high esteem, outside observers presumed that altruism would prevail and that the patient's needs would come first [16]. Negative events have overtaken those relatively simple days, however, and the situation medicine now faces is different.

Trust must be continuously earned from a skeptical public who are very aware of the opportunities for its abuse in a highly competitive, market-oriented health care system that encourages and rewards entrepreneurial behavior [17]. From the time when, as medical students, they are offered food supplied by a pharmaceutical company at grand rounds until they retire from practice, physicians are exposed to a plethora of potential and real conflicts. But not all of these conflicts originate from outside of the profession. Self-referral to physician-owned laboratories or surgery centers can cause a conflict of interest, and, thus far, the professions' attempts to regulate conflicts have been met with only limited success [18].

The Future

Since the medical profession's rights to self-regulation are delegated by society via federal and state legislation, society can, if it becomes dissatisfied with the performance of the profession, alter the terms of the social contract and reclaim some of these powers. Following major lapses in self-regulation and a consequent decrease in trust, society has already diminished the scope of medicine's powers (eg, the Office of the Inspector General's new guidelines for physicians' relations with industry) [12,13,19]. While predictions are difficult, it is possible to speculate on what the future will hold.

First, the demands that have been made for more open and transparent processes will continue and strengthen. As a part of this, there will be more public input into the process of self-regulation. Licensing boards and professional associations will contain more public representatives, and methods of assuring greater accountability will be instituted. There have been suggestions in the United Kingdom that the General Medical Council, the principal regulatory body, have a majority of lay members, which would mean that the profession is no longer self-regulating [13]. While this may not occur, it is significant that it is even being considered. If the revised processes leading to relicensure, recertification, and discipline are believed to be insufficient, the principle of self- regulation will be further questioned and the pressure for external regulation will grow.

Managing conflicts of interest will be more difficult because the mandate to carry out this function is widely distributed among several autonomous and independent organizations and institutions. State licensing boards, certifying bodies, national, state, and specialty associations, and hospitals and universities all share responsibility, but only a few of these organizations have legitimate power to gather information and impose meaningful sanctions. In addition, some organizations themselves have conflicts, thus diminishing their credibility [19]. This is an area where some form of external regulation seems inevitable inasmuch as financial conflicts often border on or, in fact, become illegal. Some external regulation in this area may offer real benefits to the profession and to society.

Self-regulation was instituted and has been maintained because it was felt that it would benefit society. The profession was established in part because of the complexity of the knowledge base and the difficulty that the average citizen would have in comprehending medical issues in the absence of prolonged education and training. In spite of the Internet and a better informed public, this remains true. There is a large discrepancy in knowledge between members of the profession and the general public. Most objective observers in the early part of the 21st century have returned to the belief that the results of self-regulation are ultimately superior to those of external regulation and have pointed out the difficulties of replacing a system of accountability based on trust with one that stresses accountability to an outside authority [20-23]. It appears to be incumbent upon both the profession and society to attempt to establish conditions where trust can be maintained. For its part, the profession must self-regulate in an open and rigorous fashion or it will lose the privilege, and this would be unfortunate for both society and for physicians. To quote sociologist William Sullivan, "neither economic incentives, nor technology, nor administrative control has proved an effective surrogate to a commitment to integrity evoked in the ideal of professionalism" [20].

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Op-Ed The Malpractice Crisis by Frank C. Spencer, MD

The most serious current problem with professional liability is the steady increase in malpractice premiums, which have more than doubled over the last 3 years. This is principally due to the escalating size of jury awards, not to an increase in the frequency of malpractice events. This large increase in premiums has at least 2 major harmful effects: increased cost and decreased availability of health care.

An increase in cost of premiums inevitably results in higher cost of medical care for *all* patients. What is generally not understood by the public is that the monies used to pay malpractice awards are recouped principally by increasing charges to future patients.

The increased costs also reduce availability of medical care for complex conditions, despite the fact that patients with these problems need care most. Many such illnesses can be helped but not cured, and less-than-perfect outcomes after treatment may result in litigation if it is uncertain whether the residual problems are due to the quality of care or the progression of the disease. As malpractice insurance premiums skyrocket, many physicians can no longer afford to accept high risk cases.

A Cap on Noneconomic Damages

The most effective short-term method for stopping the steady rise in premiums is to place a cap on non-economic damages. "Non-economic" damages are subjective claims—compensation for pain, suffering, and mental anguish, for example, as opposed to economically based considerations such as medical costs and loss of income from missed work.

The concept of payment for pain and suffering is a legal invention that has become popular over the past few decades. When these payments first began, \$25 000 was considered liberal, but now, with the absence of caps on awards, juries periodically grant several million dollars to plaintiffs in medical malpractice suits. The jurors' decisions would suggest that they don't realize that these expenses must ultimately be paid for by future patients like themselves.

In 1975, California was one of the first states to institute caps on noneconomic damages. Since that time its rate of rise in medical liability premiums has been only about one-third of the rate in states without caps. The imposition of caps has been strongly resisted, however, by the legal profession. As a result, only a handful of states has followed the California example and successfully enacted caps. Texas initiated a

cap approximately 3 years ago and since that time premiums have decreased 17 percent [1].

The Malpractice System and Jury Trials

Caps on noneconomic damages will help greatly to decrease the recent rises in malpractice premiums, but it will do nothing to correct the serious defects in our overall malpractice system. Malpractice is, by definition, medical care that is grossly inferior to what is normally provided by other physicians in the community. Using this legal definition, and based on local standards of care, less than 10 percent of cases filed for litigation are instances of malpractice. A high percentage of suits, probably 30 to 40 percent, are simply "frivolous" suits, not gross malpractice; these often originate from personality conflicts between the doctor and the patient. These findings have been repeatedly validated by members of the Professional Liability Committee of the American College of Surgeons. Three of the committee members direct Physician Insurance Programs in Chicago, New York, and Massachusetts, respectively. Data from other sources have described similar findings [2, 3].

The United States is recognized as providing the best medical care in the world, even though there are serious problems with its cost and availability for the average citizen. It is somewhat paradoxical, therefore, that malpractice expenses are the highest of any nation in the world. This is due primarily to the expensive inefficiencies of the jury system, not to a high incidence of incompetent physicians. The United States is the only nation in the world that uses a jury system to adjudicate patient malpractice claims.

In the current jury system less than 50 percent of premium dollars goes to the injured patient. Most of the monies are spent on the expenses of litigation. What is needed is a prompt, efficient form of insurance—much like automobile insurance or house insurance—that provides the majority of the monies to the injured patient. Most suggested changes, however, have been strongly, and effectively, resisted for decades by the legal profession. So, while caps on noneconomic damages prevent the steep rise in premiums, the most serious defects are related to court costs and attorneys fees and will require many major reforms.

Two Major Myths

Two major myths which have circulated for decades without any sound supporting data have contributed greatly to the absence of liability reform. The first is the "bad doctor" myth. As stated earlier, mediocre medical care is found in less than 10 percent of cases litigated. Bad doctors are rare for many reasons. For one, the educational training in this country is longer and more intense than almost anywhere in the world. Medical regulations are also numerous and strict, with required licensure, reporting of adverse events, and oversight by state medical boards.

Furthermore, malpractice premiums for a physician are usually increased if he or she is frequently involved in suits. Such physicians tend to be unable to get malpractice insurance or hospital admitting privileges.

A second major myth is that insurance companies make large profits from malpractice premiums. Insurance revenues have varied with economic cycles for decades, but in the past 3 years professional liability insurance has steadily lost money to such a degree that several major insurers have abandoned the market. St Paul's of Minnesota, formerly a national leader in medical malpractice insurance, completely withdrew from the medical liability market over 2 years ago after losing more than \$1 billion.

Conclusion

The rapidly increasing cost of malpractice insurance is making medical care not only more expensive but also less available—especially for those with complex illnesses. The ultimate goal is legal reform that delivers the majority of the award money to the patient as opposed to the less-than-50 percent the patient currently receives. The most effective short-term solution is a cap on non-economic damages.

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Medical Humanities 360-degrees: Medicine Should Come Full Circle in Peer Assessment by David Pryluck

Prior to matriculating at New York University School of Medicine (NYU), I worked in health care investment banking as a financial analyst at Credit Suisse First Boston. Although seemingly obvious in their differences, my experiences in these 2 worlds had close parallels. Both are largely client-oriented, the former caring for ill patients, the latter structuring acquisitions for biotechnology companies; both are also team-based and hierarchical. Professional medicine is composed of the medical student, house staff and attending physician, while the investment company consists of the financial analyst, vice president, and managing director. Perhaps the greatest similarity in my experience of the 2 situations was that, in both, I was the junior member of the team, learning while working, and growing into a professional.

Shortly after beginning my life as a medical student, however, I discovered 1 significant difference between my previous training as a banker and my future as a medical student and eventually a physician—the role of peer review in professional development. The financial services industry is a strong proponent of 360-degree peer evaluation. In practice, it is a top-down, bottom-up, side-to-side means of review. Informally, at the completion of every project members of my team would candidly critique each other's performance—strengths, weaknesses, areas that needed improvement, and suggestions on how to make those improvements. In addition to the project "post mortems," I participated in a semiannual, formal, comprehensive review process, in which my technical skills, job performance, and professionalism were assessed by every person with whom I worked, irrespective of their rank in the company. These reviews were critical in determining both promotions and financial compensation. After 3 years of working in the financial services industry, the idea of peer review became routine and even welcome.

Upon re-entering academia, I found medicine to be less welcoming of peer evaluation. The concept of house staff reviewing attending physicians, or junior house staff critiquing senior house staff, in an open setting, was foreign. The notion that medical students could review each other was equally odd. The medical profession, like investment banking, had been built upon the principle of the junior learning by working for the senior. Unlike the financial services industry, the medical profession currently lacks the culture and forum for peer assessment.

In an attempt to understand this disconnect, I inquired, first, of my immediate peers—my medical school classmates. The majority of students had entered

medical education directly from undergraduate school, and the idea of giving their opinion on the performance or behavior of their peers initially seemed awkward and unnecessary to them. Moreover, many students expressed a lack of confidence in their ability to effectively assess and constructively articulate critiques of their colleagues' performance. Nevertheless, the need for peer review presented itself shortly after the start of my first year classes. The gross anatomy lab arbitrarily divided the class into groups of 6 students per cadaver. For most students, teamwork and cooperative learning occurred naturally. For a small minority of students, however, these behaviors were less easily adapted, and conflicts of personalities ensued. As a result, there was much talking and complaining outside of the classroom but there was never an established system that could effect change. Also missing from the evaluation process was the opportunity to recognize students who exceeded their responsibilities in facilitating the learning process for their peers. Positive feedback ended with a "thank you" among friends.

As I moved from the pre-clinical to clinical years, I found that peer review and feedback seemed increasingly more necessary. For example, medical students often visited patients together on the wards. Students had the opportunity to have their clinical skills, bedside manner, and interaction with patients observed by their classmates on a daily basis. Regular peer review would have taken full advantage of these unique opportunities and immediately focused students on their weaknesses. Peer assessment is also relevant in the relationship between medical students and residents. There is great variability among residents with respect to both teaching abilities and the emphasis placed on medical student education. These 2 factors contribute significantly to the quality of a student's experience on a particular rotation. It seems odd that, in light of the influence that residents have on medical students, a student's feedback is solicited only at the completion of a rotation through an anonymous electronic survey and the results are not communicated back to a resident until several months later.

When these and other ideas were recently discussed among members of the student body and faculty, it was agreed that peer review belonged in medical education. But reservations were expressed. Some students feared appearing disrespectful of their superiors as well as of their classmates. Other students questioned their ability to receive feedback and the extent to which they would be responsible for implementing the recommendations of their classmates. Out of these concerns, the idea of formally incorporating peer review into the medical school curriculum was proposed. It was thought that peer review skills, much like professionalism in general, could be learned and that, through instruction and practice, students could become proficient at peer evaluation.

Last year, through its Committee for Professional Development, NYU implemented its peer review initiative, focused initially on the entering class. The intended goals of the project were to educate students regarding the importance of peer review, provide them with the vocabulary to critique their colleagues' performances effectively, and work towards a cultural shift in which feedback from both

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superiors and juniors is expected and accepted. Through a series of workshops and small-group discussions, first-year students learned to identify strengths and weaknesses in their own professional behavior and that of their classmates. They were then challenged to articulate these points to one another, with the intended goal of cultivating personal and professional development from the bottom-up. By learning and practicing these skills in the pre-clinical years, students will have gained the experience and confidence to extend their application into the clinical years and beyond. (For more information about NYU's approach to peer review, see the medical education article.)

I often reflect on my life as a medical student and future as a physician in light of my previous experiences as an investment banker. Despite the paramount importance of professionalism in both, the manner in which it is cultivated is glaringly different, particularly with respect to the role of peer review. Although deeply rooted within the culture of investment banking, peer feedback has only recently been introduced into medical education. Despite the apparent delay to embrace these changes, medicine is an inherently dynamic profession. Old and accepted practices are challenged by new evidence, and new evidence is generated through new ideas. It is a natural extension of this innovative culture that the methods by which doctors are educated clinically and professionally should be reevaluated. The incorporation of peer review into medical education is evidence of this philosophy, and its integration into medical practice will be the first step towards change.

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