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From the Editor
The Many Faces of Expertise

The notion of *expertise* is pervasive in medicine. Students know who the expert physicians are: they migrate to them and follow them around. Medical educators design elaborate curricula specifically to convey it. Practicing physicians know which of their colleagues embody expertise: they request consultation from those colleagues (and not from others) on difficult cases. Courts and policy makers rely on the testimony of medical experts: their decisions would be questioned without it. Yet an exact definition of the medical expert has proved elusive, and the topic of expertise in medicine had received, until recently, relatively little explicit attention. This seems to be changing.

Medical diagnosis was one of the earliest areas to be explored [1-3]. What makes someone an expert in diagnosis? Is there a particular kind of reasoning or methodology underlying the diagnostic expert? Can diagnostic expertise be taught and, if so, how? Can it be acquired from computerized simulations? Can we expect diagnostic expertise of every clinician? Can we hold a clinician legally responsible for not possessing it? Getting a clearer handle on the notion of expertise in the area of medical diagnosis matters and has myriad implications for education, policy, economics, law, and ethics. Yet medical diagnosis is just the beginning. The notion of expertise is as prevalent in discussions of surgical skill, therapeutic intervention, court testimony, and bioethics consultation [4-7].

The February issue of *Virtual Mentor* explores the topic of medical expertise from some of its varied appearances in medicine today as a way to further the understanding of expertise in medicine. The authors represent a diverse group, all of them tied together by an interest in the topic of expertise in medicine. Drs Mark Tonelli, Henry Perkins, and Paul Rockey begin this issue with analyses of 3 clinical cases. Tonelli critiques the movement toward evidence-based medicine (EBM) and argues against an understanding of EBM that replaces traditional notions of clinical expertise. Perkins and Rockey look at expertise in clinical ethics consultation, the former from the perspective of cultural competence and the latter from the perspective of clinical expertise in its different components. The legal profession has had to decide what it will admit as expert medical testimony, and Allison Grady analyzes the classic case, *Daubert v Merrell Dow Pharmaceuticals*. Abraham Schwab and Lisa Rasmussen explore the role that expertise plays in the public face of bioethics, the former by proposing a possible credentialing of bioethicists and their expertise and the latter by taking a critical look at bioethics consultation for pharmaceutical companies. Louis Halamek gives us a glimpse into the possible future uses of simulation-based teaching in the acquisition of expertise in medical education. Erin Egan argues for the benefits of the hospitalist movement, while Jeremy Snyder and Brian Zanoni point out some of the potential pitfalls, engaging in a spirited debate over specialization in medicine. Karunesh Ganguly gives a concise overview of the challenge of diagnosing multiple sclerosis. Finally, I review a classic article by Edmund Pellegrino on the topic of clinical expertise.

My hope is that you will come away from this issue of *Virtual Mentor* with a better understanding of the importance that *expertise* plays in medicine and medical ethics. The discussions in this issue may not provide an exact definition of expertise but they seem to suggest the boundaries for one. Expertise involves mastering some area of knowledge and in turn using this mastery to educate others or skillfully practice one's craft. Medicine is practiced on a presumption of expertise; a deeper understanding of it may promise a deeper understanding of medicine itself.

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Clinical Case

Evidence-Based Medicine and Clinical Expertise

Commentary by Mark Tonelli, MD, MA

Danielle Moran was diagnosed with multiple sclerosis 3 years ago. She has been followed in the neurology residency clinic of a university hospital since. Soon after her diagnosis, she was started on a first-line medication for a relapsing-remitting form of multiple sclerosis (MS). Since starting the medication, she has had fewer “MS flares” (she estimates a reduction of about a third) and is satisfied with the therapy. About 2 years ago Ms Moran began developing signs of depression and was referred to a psychiatrist.

Ms Moran, who is 34 years old, has not had any new MS symptoms since her last visit, but comes to the clinic complaining that her depression is getting worse. She recounts that her psychiatrist has tried a “half dozen different medications and combinations” without any improvement. In fact, she feels like her mood is worse than ever. She recently lost her job as a social worker and her husband filed for divorce. Her social circle has become smaller, and she has found it increasingly difficult to leave her apartment, let alone look for a new job. She feels like she is losing hope.

Dr Logan, the new attending physician staffing the resident clinic, is concerned that her multiple sclerosis medication may be causing or worsening Ms Moran’s depression. Dr Logan has a background in psychiatry, having completed a combined residency in neurology and psychiatry after med school. She works almost exclusively with multiple sclerosis patients and, given her psychiatry background, has attracted a large referral base for patients with concomitant psychiatric illness. After interviewing her, Dr Logan is confident that Ms Moran’s MS medication should be stopped.

Jane Alderman, the resident caring for Ms Moran, is uncomfortable with this decision. What studies there are on patients with MS and depression seem to suggest that the medication Ms Moran is taking does not cause depression. And, given her reduction in MS flares, Dr Alderman is reluctant to take Ms Moran off her current medication.

Acknowledging Dr Alderman’s concern, Dr Logan explains that in her experience the particular class of medication that Ms Moran is taking for her multiple sclerosis does increase the occurrence of clinical depression. Dr Alderman counters that “the evidence” says differently. Besides pointing out limitations of the studies Dr Alderman cites, Dr Logan explains that the particularities of this patient make it hard to apply the studies to her case. She points out Ms Moran’s family history of depression (ie, her mother suffers from depression, and her brother has attempted suicide), her current stressors, and her failure on a multitude of antidepressants. These factors, as well as others, she argues, are important in deciding on the best therapy for Ms Moran, but they are "too particular" to get taken into account in any systematic study. "Yes," she argues, "there is evidence, but it is often too general in character to be useful for the individual patient. Ms Moran deserves to have therapy that is tailored to her, don't you agree?"

Frustrated and a little perplexed, Dr Alderman wonders to herself, "How do I mediate the conflict between clinical expertise and evidence-based medicine, and what do I tell Ms Moran?"

Commentary

The resident in this clinical vignette, Dr Alderman, simply aspires to be an evidence-based physician, a goal no doubt deeply inculcated in her during her medical education at the beginning of the 21st century. But here she is faced with an epistemic and ethical crisis, for her ideal of the evidence-based practitioner does not include deference to the views of a purported clinical expert.

Resolution of this crisis requires a thoughtful and critical review of the assumptions underlying evidence-based medicine (EBM) and clinical expertise. First, Dr Alderman almost certainly equates the practice of EBM with the optimal practice of clinical medicine. Unfortunately, there is scant, if any, evidence to support such an assumption, and it is important to recognize that the definition of optimal practice itself cannot be derived from any empirical evidence but depends upon an understanding of the goals and values of clinical medicine. Second, Dr Alderman must ask herself whether the care of the individual patient, in this case Ms Moran, is really the primary goal of clinical medicine. If, as Dr Logan suggests, providing for the well-being of the individual patient remains the ultimate duty of the physician, then a reliance on the results of clinical research for medical decision making is particularly problematic.

A gap exists between the kind of knowledge that we derive from clinical research and the kind of knowledge we need to provide optimal care to an individual. The results of empirical clinical research, usually performed in a manner that may randomize away clinically important individual characteristics, provides useful knowledge regarding populations, but application to individual cases requires clinicians to ask whether the patient-at-hand differs in an meaningful way from the "average" patient of the clinical trial. Value judgments must enter into the calculus at this level as well. At best, a clinical trial can tell us that, if we want to maximize the chances of a particular outcome, we should follow a particular course of action. But an understanding of the goals and values of an individual patient is necessary to determine whether we should be trying to achieve a particular clinical goal. Improved survival, for instance, might not be a desirable outcome if the quality of life maintained is below what is an acceptable minimum for the patient. So, while evidence derived from sound clinical research remains essential for determining the best course of action in a particular case, it is far from sufficient.

Evidence-based medicine also makes assumptions about the nature of medical knowledge that must be more closely examined. EBM expresses an explicit preference for knowledge gained from clinical research and generally regards other forms of medical knowledge, such as reasoning from pathophysiologic principles or unsystematic clinical experience, as suspect. In many hierarchies of medical evidence, pathophysiologic rationale, unsystematic clinical experience, or expert opinion rank even below data from poorly designed and conducted clinical trials. But this epistemic assumption of EBM, that clinical experience, expert opinion, and pathophysiologic reasoning differ in degree from evidence obtained from clinical research, does not withstand careful scrutiny. Rather than differing in degree, clinical experience and reasoning from pathophysiologic principles represent medical knowledge that differs *in kind* from empirical evidence derived from clinical research.

Clinical judgment, then, can be understood as bringing to bear all relevant kinds of medical knowledge, along with patient goals, values, and preferences, in order to reach the best possible decision for the patient-at-hand. Clinical judgment often involves weighing conflicting warrants for action and negotiating between them. Each of these kinds of medical knowledge has its own strengths and weaknesses. Despite the emphasis and entreaties of the EBM movement, however, empirical evidence derived from clinical research is neither prescriptive nor does it always trump experiential knowledge or physiologic reasoning.

Thoughtful proponents of EBM have acknowledged that evidence-based practitioners should strive to integrate the best evidence from clinical research with their clinical experience and the patient’s goals and values, but they have yet to explicitly acknowledge the value of pathophysiologic reasoning and of expert opinion. Expert opinion, in particular, appears far from being rehabilitated by the EBM movement, which instead continues to vilify it as the last remnant of the “authoritarian” model of clinical practice that EBM seeks to replace. The distress of Dr Alderman attests to this view of evidence and expertise as antithetical guides for decision making. Yet this assumption of EBM does not withstand scrutiny either. If a clinical expert develops her expertise by amassing experiential knowledge in the care of a large number of patients with a particular disorder, then expert opinion represents not the lowest form of evidence, but rather the highest form of clinical experience based on empirical evidence. Expert opinion differs only in degree from clinical experience, while both these types of experiential knowledge differ in kind from empirical evidence as derived from clinical research. If EBM recognizes the value of individual clinical experience in medical decision making, then it must acknowledge the value of incorporating expert opinion as well.

If Dr Alderman strives to do what is best for her patient, Ms Moran, she must incorporate all relevant medical knowledge into her clinical reasoning, as well as ascertain Ms Moran’s goals and values. Certainly the published evidence and Ms Moran’s clinical course suggest that her medication is effective with regard to her multiple sclerosis. But the lack of published reports associating the medication with depression certainly does not mean that the drug is not associated with depression, either in this case or in a larger population. Not all that is true has been demonstrated to be true; multiple contemporary examples in both the medical and lay press attest to this fact, revealing complications of medications either discovered or announced long after the medication was approved and released.

The expert opinion of Dr Logan, developed from extensive clinical experience and with full awareness of the published literature in the area, offers a compelling reason to consider the medication a cause or factor in Ms Moran's depression. Further examinations of the medical literature (to discover whether depression was adequately screened for in the clinical trials) and Dr Logan's opinion (How convinced is she that depression is associated with this particular medication?) might be expected to alter the way that Dr Alderman would weigh these 2 conflicting warrants for action in developing a treatment recommendation for Ms Moran. But it seems almost certain that neither warrant would be prescriptive in this case. Ultimately, the goals, values, and preferences of Ms Moran will likely be the deciding factors, for she may very well feel that her depression is currently more of an impediment to her quality of life than her multiple sclerosis and be quite amenable to a trial off the drug. As Dr Alderman returns to the exam room, she would do well to worry less about what she will tell Ms Moran and consider instead what she needs to learn from her.

The optimal care of the individual patient certainly requires an understanding of the relevant published evidence, but still demands the integration of other kinds of medical knowledge, both physiologic and experiential, along with the elucidation of patient goals and values, all within a complex system of health care delivery. Evidence-based medicine promises much to clinicians, but it cannot promise to make sound clinical judgment an easier task.

Suggested Readings

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Related Article

A Fever of Unknown Source, December 2004

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Clinical Case
Ethics Consultation and Clinical Expertise
Commentary by Paul H. Rockey, MD, MPH

Lindsey Curtin, a patient well-known to the university hospital and its house staff, was admitted 2 weeks ago with chest pains. She has had many admissions and discharges in the last year related to her severe peripheral vascular disease. She's also struggling with diabetes, kidney disease, and coronary artery disease and returns to the hospital because of nonhealing wounds of her lower extremities. During the last year, what started as simple blisters on the heels of her feet progressed to amputations of her feet and then of her right lower leg, when at each stage her wounds failed to heal and subsequently became infected. She often required antibiotics and increasingly developed more antibiotic-resistant infections.

On this admission, the attending was a physician Mrs Curtin had not encountered before. Her own internist, Dr Wagner, was informed of her admission and visited her a couple of times during her first week in the hospital. Test results from that week revealed that Mrs Curtin had advanced coronary disease. Fortunately, Dr Wagner's annual month-long assignment as attending on the medicine unit at the university hospital began during Mrs Curtin's second week there, and he was able to take over as head of her health care team for the remainder of her stay. Dr Wagner had been Mrs Curtin's physician for 7 years and had coordinated her care with the many other specialists who had treated her for specific emergent conditions.

At 49, Mrs Curtin is uncharacteristically young for the development of such severe complications of poor circulation. She has a loving husband and 2 teenage children who have been involved in her care. Dr Wagner has good communication with both Mrs Curtin and her husband. He has always been honest with them in his judgment about Mrs Curtin's diagnoses, treatment options, and prognoses, and he believes that they share their important questions, values, and worries with him.

Mrs Curtin and her husband have pressed aggressively for treatment, a position that has at times endeared them to, and at other times exhausted, her medical team. During this current hospitalization, though, when the consulting vascular surgeon brought up the option of coronary surgery for Mrs Curtin's heart disease, she vacillated between wanting and not wanting the operation. She told the attending who cared for her before Dr Wagner's arrival on the unit that she was tired of being so sick, of disrupting her family's life with her many costly hospitalizations, and of being unable to lead a normal life. She said that if she thought her family could stand the idea, she would just stop the constant stream of hospitalizations and operations. The house and nursing staffs have heard the same sorts of feelings from Mrs Curtin, and, when Dr Wagner talks with them about the proposed coronary surgery, the staff says that they think an ethics consult should be called.

Dr Wagner resists the idea. He believes that, for the present, Mrs Curtin's other problems might finally be under control (eg, her kidney function is stable and she has no evidence of systemic infection). Based on noninvasive studies, he believes that it is likely she has a high-grade stenosis of her left anterior descending artery. He thinks an interventional cardiologist could confirm the diagnosis and place a stent. If that doesn't work, Dr Wagner thinks that she might benefit from minimally invasive bypass surgery, using an internal mammary artery. In either case, he believes the result may improve her cardiac function and thereby also improve her peripheral circulation, helping her to heal better in the future. The nursing and house staffs fail to share his optimism. They argue that she has a lot of microvascular disease from her diabetes and that it would be safest to manage her coronary disease medically. They assert that major surgery at this time would put Mrs Curtin at unnecessary risk. They reiterate their desire for an ethics consultation.

Dr Wagner replies that a nonclinician ethicist who just happens to be "on call" for such a conference will not be able to appreciate Mrs Curtin's current medical conditions as well as he and her other physicians. Moreover, Dr Wagner argues, his professional relationship with the patient and her husband is one of long standing, whereas the ethicist would be a stranger to them both. He asks the house staff, "What could such a person add to the intimate value-based discussion about Mrs Curtin's life and quality of life?" Without being specific, Dr Wagner worries that the presence of this "ethics stranger" could actually be harmful rather than beneficial.

Commentary

Dr Wagner has a long-established therapeutic relationship with Mrs Curtin. She knows and trusts him. He's now in charge of her hospital care and believes she would benefit from a procedure which could increase the blood flow to her heart. This would be simple for him to explain to Mrs Curtin and her family, and it should be easy to find a like-minded cardiologist (and cardiac surgeon—if needed). He has the patient's confidence, so why confuse the matter?

And Dr Wagner has a point. An "ethics stranger's" meeting with Mrs Curtin could make management of her illness more difficult. When facing life and death decisions, patients can be confused if they hear too many voices, especially when the messages conflict. Together with Dr Wagner, Mrs Curtin and her family have faced some difficult decisions in the past: hospitalizations, amputations, long-term antibiotics. Given the severity of her diabetes, it is likely she will face other tough choices. This is not the time to undermine an established patient-physician relationship, but to build on Dr Wagner's expertise.

But the authors of this case have introduced a dilemma. Not everyone on Mrs Curtin's health team has fallen in line behind Dr Wagner. House staff and nurses are viewing the same situation from a different slant. They are hearing different views expressed by the patient, and now they're even concerned that Dr Wagner's approach is overly aggressive and may not be what Mrs Curtin truly wants—or equally troublesome—may not represent the correct medical course.

If Dr Wagner is sensitive to all these messages, he will recognize that Mrs Curtin's care will be optimal if every member of her team—the nurses, the house staff, and consultants who participate in her care—all share the same goals for her. So Dr Wagner has a bigger challenge than developing a management plan for Mrs Curtin's immediate medical problems; his expertise must also include the ability to harmonize her medical team.

And that's not all. If Mrs Curtin and her family have different expectations about the potential outcomes of medical interventions, it will be difficult to satisfy them. So in addition to getting members of her care team onto the same page, Dr Wagner must have the expertise to lead the patient and her family to a realistic view of her current condition and what she faces down the road so as to prepare them to deal with tough choices ahead.

So what's really clouding the issue? Two major conflicts emerge from the vignette. The first relates to the medical team's disagreement about the best medical course of management. The second portrays serious ambivalence by the patient to pursue further treatment. Both areas must be addressed.

Since the house staff and nurses don't share Dr Wagner's optimism for the benefits of a cardiac procedure, a conflict has arisen. As an expert attending, Dr Wagner should welcome such a moment as an opportunity for learning. The expertise needed here is the ability to frame the medical question for the team: Dr Wagner could demonstrate such expertise by asking: "What's the literature tell us about the short- and long-term risks and benefits of stenting or bypassing a large coronary artery blockage in an insulin-dependent diabetic with microvascular disease? Let's all dig in and find the best evidence and learn from each other." Such an assignment would set the stage for the next attending rounds and should result in real learning.

But regardless of what the literature says, Mrs Curtin appears to have little enthusiasm for another procedure. It's not surprising that she's lost her zest for interventions when she's been plagued by daily sticks for glucose and insulin, lost her ability to ambulate normally, and may be worried about renal failure and blindness. She's been experiencing an inexorable downhill spiral from her chronic diabetes. No medical intervention has restored her health and she knows that future procedures are not going to make her well either. So, is she ambivalent for the reason she told her prior attending—that she feels she's becoming a burden to her family? Or is something else going on? Has she become depressed? Perhaps suicidal? Dr Wagner has the most rapport with Mrs Curtin and the most experience exploring these issues with her and her family. By doing so, he will gain deeper expertise in her care. And until he does, further medical interventions—even those based on the best reported evidence—may be misguided.

So where might an ethics consultation be useful? Ethics consultants need not insert themselves between patients and doctors. The ethics consultation could occur behind the scenes—away from the bedside—outside of a major family conference. But an ethics consultant has expertise which could be valuable here. The consultant could frame the medical management decisions for Mrs Curtin within professional and social values. For example an ethics consultant could help physicians and nurses appreciate how their distinct professional values may have led them to different points of view. Likewise, such a consultation should provide all participants with a richer vocabulary for discussions with their patient about her values and expectations. Not only must she decide to go ahead (or reject) the cardiac procedure, as her diabetes runs its course, it is likely that she will face dialysis. So this is a poignant time to frame these issues for the future care of Mrs Curtin. Now is a good time for her to make her attitudes and values explicit, so she can develop advance directives and delegate to her family the ability to make medical decisions on her behalf, should she lose capacity to make them herself.

Medical expertise has many layers. Knowing modern medical interventions and their likely outcomes is important. But it's not sufficient. Richer expertise includes understanding the values and expectations of each patient, and optimizing their medical interventions to take their personal values into account. And expertise also includes the ability to be an effective member (or leader) of a team—the ability to develop and share common goals and align everyone's actions in their pursuit.

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Related Article

Helping the Patient Achieve Quality of Life Goals, February 2005

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Clinical Case

Ethics Expertise and Cultural Competence

Commentary by Henry S. Perkins, MD

Seena Ramsarathan was brought to the hospital by her son-in-law. She had arrived in America 2 days earlier from her remote village in India in anticipation of the birth of her first grandchild. Soon after arriving, Mrs Ramsarathan's family noticed that she was unable to keep down much, if any, food. Though they had avoided the American medical system in the time they had been in this country, the family was frightened at her continued vomiting and took her to the hospital.

With the help of a translator, the primary team at the hospital was able to gather Mrs Ramsarathan's story. She had rarely seen a doctor during her lifetime. She spoke no English and had never learned to read. She said she had begun developing difficulty eating certain foods 6 months earlier, and the problem seemed to get progressively worse.

A gastroenterologist, Dr Ellamjeet, was consulted. Before emigrating to the US to complete his training, Dr Ellamjeet had gone to medical school in India and was fluent in the same dialect as Mrs Ramsarathan, which was a great comfort to her. She was still visibly unsettled by her surroundings. While a translator was intermittently available for the primary team, it soon became clear that Mrs Ramsarathan and especially her family wished for Dr Ellamjeet to be her primary doctor.

Mrs Ramsarathan's son-in-law, who emerged as the spokesperson for the family, was concerned that the tests would reveal a serious diagnosis and asked Dr Ellamjeet not to tell his mother-in-law directly, but to allow him and the other decision makers in the family to decide when, and how, and to what extent to communicate the diagnosis to Mrs Ramsarathan. A limited work-up revealed, as suspected, a mass highly suspicious for advanced carcinoma. Mrs Ramsarathan's son-in-law believed, and Dr Ellamjeet concurred, that frankly revealing a dire diagnosis in these surroundings would not be in her best interest.

Dr Ellamjeet explained this to the primary team. "This kind of information is not something that is forced upon the patient in this culture. It would be doubly cruel to her. Not only would she find out that she is dying, but she would find out in a way that is completely foreign to her, deprived of traditional, subtle ways and cues of expressing and accepting death. It would be to foist the entire burden of this knowledge on her and not let her family carry the burden for her in the way they are accustomed. The humane thing is to do what the family wants—let them care for her as they would if she were back home."

Members of Mrs Ramsarathan's care team wanted a better sense of her prognosis and what treatment options she would be forgoing if they accepted Dr Ellamjeet's suggestion. They consulted Dr Cameron Michaels of the surgical oncology team. Dr Michaels expressed his conviction that Mrs Ramsarathan ought to be told her likely diagnosis and said that he would not treat her unless she knew what her diagnosis and treatment options were. Furthermore, he would not treat her if she wholly deferred medical decision making to her son-in-law. "While the overall benefits of the treatments I can offer her in terms of longevity and pain relief might outweigh the harms, to inflict those known harms on her (eg, the probable side effects of chemotherapy, surgery, and radiation) without her knowing why it was being done would be inhumane. There is a world of difference, at least as I see it, between enduring the costs of a treatment as a necessary evil in view of some greater good and suffering through that evil for no known reason. I refuse to walk into her room after putting her through one of these therapies and have her look up at me with eyes that say, 'Why are you doing this to me?'"

Facing an impasse, the primary team discussed calling for an ethics consult. They approached Dr Ellamjeet who responded, "If you need to get an ethics consult for legal reasons to protect the hospital and physicians or to ensure that there is no misunderstanding, I understand. But simply from the perspective of the best interest of this patient, Mrs Ramsarathan, no ethics consult is going to be informative. I don't consider myself an ethicist, but, having been down this road with patients from this part of India many times, I can confidently say that I have a better grasp of Mrs Ramsarathan's interests than would a Western-educated ethicist, no matter how well-intentioned, with only a cursory understanding of her culture, family dynamics, and traditions of living and dying. But do as you wish."

Now, unsure whether an ethics consult will be helpful, the primary team tries to regroup. The intern on the team thinks aloud, "Is there such a thing as cultural expertise and, if so, how would it fit into clinical bioethics?"

Commentary

An ethics issue is a conflict of values about what to do [1]. Recognizing an ethics issue depends on *sensing* discordant values, but resolving it skillfully depends on *specifying* those values and the actions each suggests. Mrs Ramsarathan's case presents several genuine ethics issues. Her primary team physicians recognize 2: Should they tell Mrs Ramsarathan about her likely cancer diagnosis? Should they request an ethics consultation over Dr Ellamjeet's objection? The team may not recognize 3 others: Should the physicians relinquish to Dr Ellamjeet all care negotiations with the family? Should they honor the son-in-law's decisions about Mrs Ramsarathan's care? Should the physicians find another surgeon who will treat Mrs Ramsarathan without disclosing the diagnosis to her?

The primary team physicians may already have ideas for addressing each issue, but choosing a sound resolution requires specifying and weighing the underlying values carefully.

Values are either cultural or idiosyncratic. For values to be considered “cultural,” members of a group must share them, teach them, and use them to interpret life experiences. (Race, nationality, and ethnicity are often mistaken for culture but do not actually define it and reflect it only roughly.) While both kinds of values affect any situation, cultural values dominate in Mrs Ramsarathan’s case.

Only by defining who shares which values can the primary team physicians reason through the cross-cultural ethics issues in this case. To complicate matters, every person belongs to many cultural groups at once. For example, the primary team physicians belong to the cultural groups of American nationals and physicians; Dr Ellamjeet, to Indo-American immigrants and physicians; and Mrs Ramsarathan, to Indian nationals and patients. While most assessments of cultural differences focus on ethnic groups, other kinds of cultures may also pose value conflicts. For example, 2 distinct but often unrecognized cultures? those of physicians and patients? create many conflicts in clinical settings. In Mrs Ramsarathan’s case ethnic cultural differences pose the most important conflicts. Still, her physicians must be alert for other kinds of cultural conflicts.

The primary physicians have already made a good start at characterizing the ethical issues here. In particular, the physicians recognize the fundamental value conflict underlying the question of whether to tell Mrs Ramsarathan her diagnosis. Disclosing it would promote truthfulness and personal self-determination, core values of American culture. Not disclosing it and negotiating care through the family would honor filial duty and collective familial decision making, core values of many Far Eastern cultures [2-3]. Having identified this difference, the physicians need a sound decision-making approach to resolving it. They might ask, as the intern did, “Does expertise in ethics and culture exist?” and, “If so, can that expertise help us?”

Ethical and Cultural Expertise

An ethics consultant sensitive to cultural differences can offer valuable assistance. Like other clinical consultants, the ethics consultant commands special expertise—traditions of ethical reasoning; insights from complementary fields such as psychology, sociology, anthropology, and law; and lessons from practical experience. Furthermore, every ethics consultant has faced cross-cultural ethics problems. Even if he or she has only limited knowledge of the particular cultures involved in a case, the consultant brings a disciplined and tested general approach to decision making.

One common approach [4] frames ethics issues as “action questions,” that is, questions that require choices among possible actions. Such framing helps channel deliberation toward a definite, practical conclusion. Aspects of this approach include identifying an ethical concern, stating it as an action question, imagining all reasonable action responses, identifying the values behind those responses, weighing the values against each other, and choosing an action. Interviewing all parties directly addresses several aspects of this approach at once and is always a good way to start. Resulting insights often clarify the known value conflicts, expose unseen ones, and suggest fresh solutions. Experience and imagination may then guide the consultant to more harmonious resolutions than previously thought possible. In the process the consultant will likely avoid a common pitfall—overruling one culture's values too quickly.

An Ethics Paradigm

An ethics consultant would surely recognize the paradigm for the main problem in Mrs Ramsarathan's case: Can withholding diagnoses from patients be justified on cultural grounds? Ethics scholars have debated this paradigm extensively. One solution has survived their scrutiny—asking the patient herself [5]. Hence, the primary physicians and the ethics consultant should ask Mrs Ramsarathan early on (through a qualified third-party translator, not Dr Ellamjeet or a family member) whether she wants the physicians to tell her the diagnosis directly. Furthermore, the physicians should ask Mrs Ramsarathan whether she wants to participate in decisions about her care. If she wants to leave such decisions to her family, the physicians should then ask her particular preference for a proxy. This solution not only clarifies decision-making authority but also honors both sets of core cultural values.

Of course, not all cross-cultural ethics issues are resolved so neatly. Sometimes harmonizing values is impossible, and physicians must choose the values of one culture over those of another. In general, ethics consultants favor giving patients' or families' values great leeway. But there are limits, especially when a patient's values violate a physician's deepest personal or professional convictions [6]. Such situations should prompt consultation with colleagues, preferably including a culturally knowledgeable ethics consultant. Conscience may prevent a particular physician from providing the care requested but still allow referral to another physician. Thus, Dr Michaels may refuse to operate on Mrs Ramsarathan without disclosing her diagnosis to her but may, in good conscience, refer her to another surgeon who *will* operate without disclosing the diagnosis. Nonetheless, in rare situations (particularly involving life-threatening risk to innocents) conscience may dictate that the physician protect a vulnerable patient while requesting outside oversight from the proper civil authority [6].

Summary

Mrs Ramsarathan's case shows that cultural expertise exists, that it complements ethics expertise, and that it can aid in clinical management. Every physician should develop sensitivity to the widest possible range of cultural values. The physician should also expect to encounter cross-cultural ethics issues in patient care. When they arise, the physician should use the basic concepts outlined here to try to resolve them, probing to specify the underlying conflict of values and trying to harmonize them. That disciplined process will resolve many issues. Yet the most intractable may require special expertise. For that reason every practicing physician should have ready access to an ethics consultant experienced in cultural conflicts.

The diversity of patients and physicians makes cross-cultural clinical ethics issues inevitable [6]. A skillful approach to resolving them is as necessary for good medical practice as any technical knowledge or procedure.

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Related Articles

Diagnosis: Inadequate Cross-Cultural Communication, June 2003
Cultural Differences at the End of Life, June 2003

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Medical Education

Simulation-Based Training: Opportunities for the Acquisition of Unique Skills

by Louis P. Halamek, MD

simulator (Latin similis, *similar): an apparatus that generates test conditions approximating actual or operational conditions*

Simulation is a methodology, not a technology, although technology plays a significant role in some forms of simulation. Its utility is well documented in training people who work in jobs where the risk to human life is high: Commercial aviation, aerospace, nuclear power, and the military all routinely simulate potentially life-threatening situations and allow their trainees to practice management of these situations without risk to themselves or others. Certain types of simulation-based training have also been used in medicine; learning chest compressions on CPR mannequins and interviewing standardized patients are 2 examples. In general, however, medicine has lagged behind other industries and professions in using this methodology to improve human performance.

The first step in developing a medical simulation-based training program is to establish pertinent learning objectives and the curriculum that supports them. Among the experiences where simulation serves as an ideal training methodology are:

1. Clinical care situations where there is high risk to human life, such as cardiopulmonary resuscitation and advanced life support.
2. Counseling interactions bearing the potential for great psychological distress on the part of either the counselee or the counselor.
3. Multidisciplinary team training exercises.

The goal of simulation is to create a training environment that is so realistic that trainees suspend their disbelief and perform as they would if they were encountering those same clinical experiences in the real environment. Only then is the full potential of simulation-based training realized. Creating this high degree of realism entails providing as many realistic cues (visual, auditory, and tactile) as possible in the trainee's environment. In our work at the Center for Advanced Pediatric Education (CAPE) at Packard Children's Hospital at Stanford we create highly realistic environments for training in fetal, neonatal, pediatric, and obstetric medicine [1].

Clinical Care: Resuscitation

Medical simulation provides trainees with opportunities to acquire skills needed by first responders to challenging clinical situations—opportunities that would be unavailable to them in the real world because their inexperience would put patients at risk and create the potential for liability. With this in mind we have developed a number of novel programs. For example, while standard training programs offered through national bodies such as the American Heart Association have been developed to teach the elements of resuscitation, these courses tend to focus on content knowledge and technical skills and do not address behavioral skills in depth. Such courses also tend to be designed for individual rather than team training.

Simulation-based training programs, when well designed, offer many opportunities for acquisition and refinement of behavioral skills such as communication in the context of multidisciplinary teamwork. The use of realistic patient simulators in a physical space faithful to the actual clinical environment (including interactive human colleagues) effectively recreates the stressful conditions found during a real resuscitation. At CAPE we have the good fortune of working closely with Packard Children Hospital's Parent Advisory Council, a group of dedicated parents whose children have received care in our hospital and whose mission is to improve the care of all children coming through our doors. A subgroup of these parents has undergone training in our simulator and has developed the skills necessary to allow them to portray, realistically, the parents of the simulated patients in our scenarios. Their presence during a resuscitation mandates that the trainees must not only address the technical aspects of resuscitation but must also devote resources to meeting the needs of parents in crisis. Insertion of the parent volunteers into the scenario means that trainees must manage questions such as the following:

- Should the parent be allowed to stay during the resuscitation?
- At what point should the parent be updated about the child's response to resuscitative efforts?
- What should be done if the parent breaks down emotionally or becomes disruptive?
- If resuscitative efforts are unsuccessful, how does one deliver the news to a parent that his or her child has died?
- What happens after the child is pronounced dead? What are the roles of social work, chaplaincy, and other services?

Counseling Interactions

We have developed similar training programs in prenatal counseling, delivering bad news, death and dying, palliative care, and disclosure of unanticipated outcomes. Because of the intensity of the simulated clinical situations in these programs, the scenarios are scaled to meet the needs and experience levels of the trainees. At first, the methodology may intimidate trainees, especially the use of videotape to record their performance for playback during facilitated debriefings that immediately follow each scenario. However they universally embrace it once they become immersed in the training experience. We now have 10 years' worth of subjective data indicating that simulation-based training provides learners with valuable educational experiences. (A number of trainees have told us that the simulator is *the* best learning experience that they have ever had.) We also have objective data indicating that trainees readily acquire skills in our simulated environments that are not obtained in conventional training programs and are exceedingly difficult to experience readily in the real clinical environment.

Team Training in Difficult Situations

From a medical student perspective, simulation-based training provides the opportunity to manage situations that students would not be charged with handling in a real clinical situation. Disclosure of medical errors and discussion of end-of-life issues are subjects that typically (and justifiably) fall to attending physicians. In this respect, higher-fidelity simulation fills a gap in training that otherwise might require years to experience. It also allows students to understand what it is like to work as a member of a multidisciplinary team delivering care to patients. This introduction to the value of each team member's contributions is critical to preparing students for the challenges of modern medical practice. Finally, in fields such as pediatrics, physicians often rely on parents as the surrogate decision makers for their children; this condition presents a unique set of challenges to all who care for children and their families. Simulation of scenarios involving these and other complex situations creates structured learning opportunities that simply are not achievable in the real clinical domain.

While hospitals and clinics will never be replaced as sites for training health care professionals, they will certainly be augmented by simulated clinical experiences. Perhaps most importantly, the skills that can be acquired and refined in a simulator are not limited to the cognitive (content knowledge) and technical (hands-on procedures) aspects of medical practice. Behavioral skills such as effective communication and teamwork are critical to modern clinical medicine and are readily practiced in simulated environments. As we advance in our medical careers, it becomes apparent that the greatest challenges lie not so much in what drugs to prescribe or what dials to turn but rather in how to find ways to care for our patients and their families both competently and *compassionately*. Traditional training methodologies do not do enough to prepare us for the demanding conversations that we must hold and the difficult decisions that we must make as physicians and healers. High-fidelity simulation provides the best opportunity to acquire and refine these important skills.

Reference

1. Examples of highly realistic simulated environments used for training at the Center for Advanced Pediatric Education at Lucile Packard Children's Hospital at Stanford University can be found at http://www.cape.lpch.org.

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Related Article

Thoughts on Patient Safety Education and the Role of Simulation, March 2004

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2006 John Conley Ethics Essay Contest for Medical Students

Virtual Mentor is pleased to announce the twelfth essay competition for medical students, sponsored by the John Conley Foundation for Ethics and Philosophy in Medicine. This year's topic examines fairness in drug dispensing by physicians who practice in volunteer-based medical clinics.

In their essays, students are asked to comment on this scenario: The accepted guideline for distributing free drugs at a particular community clinic for the uninsured is to dispense them according to clinical need, on a first-come, first-served basis. When the clinic is out of a given drug, the physician writes a prescription if the patient can afford the medication for a short period of time. In the long run, the physician tries to enroll the patient in the manufacturer-sponsored indigent drug program (IDP). The clinic has a limited supply of Viagra and Cialis samples from the manufacturers of those drugs. One physician breaks the first-come, first-served rule in distributing these drugs. He has more than one patient with erectile dysfunction, but one of them smokes heavily. The physician reckons that the patient spends about $240 a month on cigarettes (if he is truthful about how many cigarettes he smokes per day) and that if he did not buy cigarettes he could afford the $260 per month needed to purchase the drug. The patient does not qualify for the applicable manufacturers' IDP. Having discussed smoking cessation programs and other interventions like the nicotine patch with the patient for more than a year, the physician now tells him that he is withholding free supplies of Viagra and Cialis from him, giving them instead to patients with similar clinical indications who do not smoke and have greater financial need.

Essays will be judged on clarity of presentation and writing and applicability to actual decision making. Essays should address the ethical dilemma presented in the scenario and **not** focus on links between erectile dysfunction and vascular or heart disease or on the clinical efficacy of sildenafil citrate and its potential side effects. The author(s) of the best essay(s) will be awarded $5000 or a portion thereof and will be encouraged to use some of the funds to attend an ethics conference of their choice. Winning essays will be published in *Virtual Mentor*. Essays must not have been previously published in print or electronic format and must not have been submitted to any other journal during the review period.

All current medical students are eligible. Essays should be less than 2000 words in length. Please submit essays typed and double spaced, with the author's identification (name, address, telephone number, e-mail address, and medical school class) on a cover sheet only—not on the essay pages; authors will be anonymous to the judges. Entries must be submitted as an e-mail attachment by midnight May 15, 2006 to Faith.Lagay@ama-assn.org.

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Journal Discussion

Clinical Experts as Moral Agents

by Eran Klein, MD, PhD

Pellegrino, ED. The anatomy of clinical judgments: Some notes on right reason and right action. In: Engelhardt HT Jr, Spicker SF, and Towers B, eds. *Clinical Judgment: A Critical Appraisal*. Dordrecht, Holland: D. Reidel Publishing Company; 1979:169-194.

The "Anatomy of Clinical Judgments" is a testament to the enduring influence of Edmund Pellegrino [1]. Pellegrino identifies a number of distinctions that challenge traditional ways of understanding medical practice. Like a good philosopher (his protestations of the label notwithstanding), he uses these distinctions not only to advance his own particular view of clinical judgment (which will be sketched below), but to do what distinctions drawn well generally do: invite—or rather demand—new ways of thinking about old problems. The "Anatomy of Clinical Judgments" opens up a space for exploring the nature of clinical judgment. Though more than a quarter of a century old, this space is still being explored today.

Long before medicine became an academic interest for many with a philosophical bent, Edmund Pellegrino recognized that clinical judgment—and by extension, clinical expertise—sat on a fulcrum in the debate over the character of medicine. Pushed too far one way, the physician becomes a defender of mystical intuition [2]. At best, the physician's appeal to the "art of medicine" is seen as a quaint anachronism and at worst as an attempt to maintain social, moral, or epistemic privilege [3]. Pushed too far in the other direction, the moral essence of what the physician does is threatened by impersonal science. Clinical judgment, shorn of its place within the broader context of caring for a real, individual, whole patient, becomes just the first thread unraveled en route to a view of the physician as a mere technician of the body. In the "Anatomy of Clinical Judgments," Pellegrino recognizes that the clinical expert needs to be understood as neither a mystic nor a technician, but foremost as a moral agent.

The greatest contribution of this article may be that it exposes one of the oldest dichotomies in medicine—is medicine an art or a science—as mistaken in its very conception. Medicine is neither an art nor a science. What would it mean for medicine to be a science? Is there even a clear sense of what "a science" is [4]? Pellegrino's alternative, that medicine, properly understood, is a practice with inextricable elements of both, is at once both a conservative view and a deeply radical one. It is conservative in that it coheres with a view of what most physicians already think they are engaged in—using scientific reasoning based on observations and hypotheses to arrive at defensible conclusions as well as artfully bringing a lifetime of lived experience to each uniquely situated patient. It is a radical view, however, in that it is based on an understanding of medicine as an inherently moral enterprise.

Pellegrino argues that the clinical encounter is special. It is not a chance meeting of individuals—one proffering a service and the other seeking one. It is an encounter structured by the fact of illness and so comes replete with meanings and moral obligations [5]. The patient comes to the encounter as a person in need, as a vulnerable individual, possibly one whose very existence is at stake. The patient is not a mere consumer of services in the free market. The physician, on the other hand, is not a journeyman selling her wares, but someone called to service. The physician's skills are not, strictly speaking, her own but a kind of communal, historical asset (running from Hippocrates through to the present) that each newly minted doctor holds in trust. The character of the clinical encounter is important because, among other things, it gives a normative structure to clinical judgment. In Aristotelian terms, all of clinical judgment has as its end "a right healing action for a particular patient" [6].

Three Essential Questions

Pellegrino identifies 3 questions that frame clinical judgment. The first is a diagnostic question: what can be wrong? The second is a therapeutic question: what can be done? And the third is a normative question: what should be done for this patient?

The diagnostic question is typically approached from the scientific point of view. It involves gathering data (eg, signs, symptoms, laboratory findings, imaging information) and using deductive or probabilistic reasoning to home in on a set of diagnostic possibilities. In concrete practice, this ideal is tempered by the exigencies of practice. Lab values are not always right. Patient histories vary in detail and accuracy. Emergencies demand quick decisions in the absence of complete information. Despite the messiness of real medical practice, the goal is *diagnostic closure*.

The therapeutic question is also best approached with scientific tools. Therapeutic trials provide information on better and worse treatments for individual diagnoses. Therapeutics and diagnostics are "least secure scientifically" [7] And while the push for "evidence-based medicine" is a more recent development, there is still less of a sense of certainty in this domain than in the diagnostic one.

The normative question is situated within the individual patient's value scheme. Answers to the diagnostic, and especially the therapeutic, questions are always shaped by answers to the normative question. There is no right way to proceed without an understanding of what the patient takes to be the goal of medicine. The right choice might be to push ahead with a risky procedure in hopes of living to see the birth of a grandchild. Or the right choice might be to live fewer but more comfortable final days in one's own home, surrounded by loved ones. Values give meaning to the *right choice*.

One can take issue with Pellegrino's Aristotelian view that the goal or telos of medicine binds these 3 questions together in a way that resists current moves to study them each individually. How is Bayesian reasoning *shaped* by the goals of medicine [6]? What does it mean for an algorithm to be *modulated* by the fact of illness [6]? It may be that what goes hand in hand with Pellegrino's view of medicine is an Aristotelian view of science. Given that the philosophy of science in general has tended away from teleological views, one could argue that at the very least more needs to be said about the relation of the philosophy of medicine to the philosophy of science.

In the end, Pellegrino lays out a way of conceptualizing clinical judgment that continues to inform the field. He provides a unified picture of what physicians do on a daily basis. What may sometimes feel to physicians like disjunctive, value-neutral activities are really part of an inherently moral practice. Whether one finds his overarching Aristotelian view compelling or whether the goal-directed activities of physicians might need to be conceptualized in another way (say, as normatively structured "skills") is less important. Medicine is a normative practice. Those who practice it well, like clinical experts, do so as moral agents.

Question for Discussion

The reviewer says that this 1979 article by Edmund Pellegrino exposes the false dichotomy that medicine is either an art or a science: it is both, say Pellegrino and the reviewer. Do you think art and science are equal contributors to the practice of clinical medicine? How does one gain expertise in the art of medicine?

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Clinical Pearl

The Diagnosis of Multiple Sclerosis

by Karunesh Ganguly, MD, PhD

Introduction

Multiple sclerosis (MS) is a relatively common disorder affecting between 250 000 to 350 000 people in the US alone [1, 2]. The age of onset is typically between 20 to 40 years of age with a 2:1 predominance of females over males [2]. Although the exact etiology remains unknown, current data suggest both genetic and environmental influences [3]. The underlying pathophysiology of MS is widely believed to be autoimmune in nature [1-3]. The clinical symptoms are the result of plaques of demyelination within the central nervous system (CNS) with relative preservation of the axons. The myelin sheath around axons is crucial for transmission of information between regions within the CNS. Thus, the clinical symptoms of MS are determined by the exact neuroanatomical location of the plaque.

Clinical Symptoms and Course of the Disease

MS typically presents with abrupt onset of focal or multifocal neurological symptoms over minutes to hours [2]. The actual deficits can be quite variable, but commonly include sensory disturbances, unilateral painless loss of vision, double vision, weakness of limbs, unsteadiness of gait, and bowel or bladder symptoms [1-4]. The symptoms can be localized to a single plaque or multiple concurrent plaques of demyelination. A relapsing and remitting course (in 80-85 percent of patients) is characterized by isolated "attacks" of acute onset of such focal deficits followed by complete or partial resolution over 6-8 weeks [2]. While at the onset of the disease there is no worsening of symptoms between attacks, subsets of patients eventually experience progression of neurological deficits between attacks (termed secondary progressive MS). In contrast to the relapsing and remitting course, a smaller group of patients follows a gradually progressive clinical course termed primary progressive MS.

While MS is generally not considered a fatal disease and is associated with only a small change in average life expectancy, the course of the disease in individual patients is quite variable and difficult to predict [1, 2]. By the time patients are 15 years into the course of disease, 20 percent are bedbound, 20 percent require some form of assistance for mobility and 60 percent are ambulatory without aid [2]. Isolated sensory symptoms, long interval between relapses, and a normal initial MRI are predictive of a good prognosis [5, 6].

Diagnosis of MS

The formal diagnosis of MS requires clinical evidence of multiple CNS lesions *disseminated over space and time* [1-6]. For a "typical" presentation characterized by abrupt onset of temporally discrete focal neurological symptoms, a definite diagnosis may be relatively easy. However, in cases where presenting symptoms are quite nonspecific and the course of the disease unfolds over months to years, a diagnosis can be challenging. Two especially difficult diagnostic categories include patients with one episode of isolated neurological symptoms (referred to as Clinically Isolated Syndrome (CIS) in the literature) or those with chronically progressive deficits [5, 6].

Several criteria have been developed to help diagnose MS. While these were initially designed to ensure strict recruitment of MS patients for clinical trials, they have been used increasingly by clinicians in everyday practice [8-10]. The "McDonald criteria" are a widely cited set of guidelines formulated by an expert committee in 2001 [8]. The McDonald criteria, as revised in 2005 [8, 9], attempt to formalize a means to incorporate clinical symptoms, imaging, and tests in the diagnosis of MS. The requirement for dissemination in space and time is achieved with adjunctive laboratory tests and imaging, namely MRI imaging of brain and spinal cord, CSF fluid analysis, and functional assays of the nervous system such as evoked potentials. It is important to emphasize that these are evolving guidelines. Although fairly sensitive for typical presentations of MS, they appear to be less reliable for patients with more variable presentations (especially patients from certain ethnic groups) [9, 10].

Magnetic resonance imaging (MRI) has rapidly become the primary adjunctive modality in the diagnosis of MS [1-10]. MRI can very reliably detect the white matter abnormalities seen in MS. In addition, MRI with gadolinium as a contrast agent can be extremely useful. Plaques that show enhancement with gadolinium are typically thought to be active MS lesions, with ongoing destruction of the blood-brain barrier [4-10]. The main drawback, however, is a lack of specificity; other disease processes produce similar MRI findings [10]. Thus, it is extremely important to place neuroradiological findings in the context of a patient's demographics (eg, sex, age, and ethnic background) and associated medical history.

Analysis of cerebrospinal fluid (CSF) components can also help diagnose MS and exclude alternate disease processes such as infection or vasculitis. In MS, the CSF total white blood cell (WBC) count is normal in about two thirds of patients and less than 50 cells/µL, with rare exceptions [11]. Thus, a very elevated WBC count in the cerebrospinal fluid warrants a more extensive search for an alternate diagnosis. In addition, there is typically an elevation of CSF immunoglobulin (Ig) levels relative to other protein components, suggesting intrathecal synthesis of Ig [2-5]. A recent consensus statement indicated that qualitative comparison of the IgG fraction for the presence of CSF-specific oligoclonal bands (OCBs) could help diagnose MS [11]. It is important to recall, however, that while OCBs are found in > 90 percent of patients with clinically definite MS, they can also be found in a smaller fraction of normal patients.

In addition, functional assessment of neural pathways can suggest subclinical deficits. Specifically, evoked potentials are superficial electrical recordings triggered by stimulation of sensory pathways. Commonly used evoked potentials include visual evoked potential (VEP) and somatosensory evoked potentials (SSEP). These can assess for deficits in anatomical tracts not well visualized by imaging modalities. Patients with clinically definite MS may have abnormal VEPs in 85 percent of cases. The VEP is particularly useful when looking for supratentorial deficits in patients with clinical evidence of only infratentorial lesions. SSEPs, while not a formal part of the McDonald criteria, can also be abnormal in patients with MS. In comparison to near-ubiquitous use of MRI, evoked potentials are less frequently used because they are less sensitive.

Clinically Isolated Syndrome

Recent data suggests that up to 85 percent of young adults who eventually develop MS present with a single isolated episode of focal neurological symptoms [4-7, 10]. The most conservative and, perhaps, most accurate means for diagnosing such patients would be to follow them over time, so that clinical symptoms could be clearly attributed to discrete CNS lesions. However, with the advent of brain and spinal cord MRI, there has been an increasing movement to use these means to meet the criteria of "disseminated in space and time." The push to make an earlier diagnosis can be linked to 2 main issues. An early accurate diagnosis may help reduce the uncertainty for patients and allow them to gain access to available resources. The second, and more controversial, issue is that current data suggests that available therapeutic regimens may alter the early course of the disease and delay the development of MS [4-6, 10]. However, as noted previously, given the benign course of the disease in some, it is unclear how to manage patients at the time of initial diagnosis. Extensive research is directed towards factors predictive of disease severity [6].

Differential Diagnosis of MS

It is critical to evaluate for alternate diagnoses that may be mistaken for MS. A limited differential diagnosis for MS typically rules out metabolic disorders, autoimmune disorders such as lupus, infections such as Lyme disease and HIV, vascular disorders, causes for stroke in the young, and structural disorders of the brain and spinal cord. It is important to recognize that the specific differential diagnoses considered should vary depending upon the presenting symptoms. For example, if a patient presents with new onset of leg weakness, the differential may consider common causes of spinal cord dysfunction such as B12 deficiency, HIV-associated disorders, spinal cord structural and/or vascular lesions, and genetic causes of spinal cord disease.

Conclusion

In summary, multiple sclerosis is a relatively common neurological disorder with variable presentations and a somewhat unpredictable course of progression. The definite diagnosis of MS still requires *clinical* evidence of multifocal neurological deficits that are disseminated in time and space. While research studies are continuing to refine markers and tests that will lead to earlier diagnosis, there are often uncertainties about individual cases with respect to diagnosis and early management. As we develop more treatment options, it will continue to be increasingly important to balance the need for early diagnosis with the accuracy of such a diagnosis.

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Case in Health Law

Daubert and Expert Testimony

by Allison Grady

In the matter of *Daubert v Merrell Dow Pharmaceuticals* the Supreme Court was asked to "determine the standard for admitting expert scientific testimony in a federal trial" [1]. Its decision in the case set standards that guide the admissibility of expert medical, as well as scientific, testimony.

The petitioners in the case, minors Jason Daubert and Eric Schuller and their parents, claimed that Bendectin, a drug taken during pregnancy to help alleviate nausea, resulted in serious birth defects for Jason and Eric [2]. During the trial, Bendectin's manufacturer, Merrell Dow Pharmaceuticals, called in an expert who relied upon published studies and reports to support its claim that Bendectin did not cause the birth defects. To refute the testimony by Merrell's witness, the petitioners called in 8 experts of their own who testified that Bendectin *did* cause the birth defects. These witnesses based their opinions on "animal studies, chemical structure analyses, and the unpublished 'reanalysis' of previously published human statistical studies" [2]. The trial court granted summary judgment to Merrell finding that the petitioners' evidence did not meet the "general acceptance" standard needed for admissible expert testimony. After appeals to the district court of California and the ninth circuit court of appeals, the Supreme Court agreed to consider the expert testimony question.

Prior to the *Daubert* decision, most courts relied on the 1923 DC court of appeals decision in *Frye v the United States* when determining the admissibility of expert scientific testimony. The short and citation-free opinion said that, "while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained acceptance" [3]. This meant that, to be admissible in court, theories put forth by experts during a trial must have attained general consensus in a particular field. Although the *Frye* decision had been applied with some inconsistency in the years preceding *Daubert* due to the passage of the Federal Rules of Evidence, it remained the most widely accepted precedent for determining the acceptability of expert testimony [4].

The petitioners in the *Daubert* case sought to challenge the *Frye* opinion by taking the position that the Federal Rules of Evidence ("Rules") were more applicable than the *Frye* opinion. The Rules had been established by Congress in 1975 "to secure fairness in administration, elimination of unjustifiable expense and delay, and promotion of growth and development of the law of evidence to the end that the truth may be ascertained and proceedings justly determined" [5].

The Supreme Court agreed with the petitioners. Writing the unanimous opinion for the Court (although there were 2 partial dissenters), Justice Blackmun explained the role of 2 key rules from the legislation. He first addressed Rule 402 that states, "evidence which is not relevant is not admissible [6]." Relying on an interpretation of both Rule 402 and Rule 401 Blackmun concluded that the Rules' standard for determining relevance was liberal [7]; relevant evidence was defined broadly as "that which has 'any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would without the evidence'" [7].

Having established the basis for relevancy, Blackmun then turned his attention to reliability and Rule 702, which says that, "a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise" [8]. In his reflection on Rule 702 Blackmun noted that "nothing in the text of this Rule establishes 'general acceptance' as an absolute prerequisite" [7] and further, that "a rigid 'general acceptance' requirement would be at odds with the 'liberal thrust' of the Federal Rules" [9]. Following this line of thinking, Blackmun ultimately concluded that, an "austere standard [ie, general acceptance] absent from, and incompatible with, the Federal Rules of Evidence, should not be applied in Federal trials" [9].

Having decided to use the Rules as the definitive standard for expert medical or scientific testimony, the Court understood that it then needed to provide some general guidelines to help judges determine the relevance and reliability of future expert testimony. When discussing relevance, Blackmun recommended that the judge be able to answer the question, how does this testimony help the jury resolve the case? As Blackmun parenthetically notes, "…another aspect of relevancy—is whether expert testimony proffered in the case is sufficiently tied to the facts of the case that it will aid the jury in resolving a factual dispute" [10].

Blackmun also addresses reliability. Here he encouraged judges to understand the scope of Rule 702 because, even though the rules are liberal, they are not without structure or limitations. "In order to qualify as 'scientific knowledge' an inference or assertion must be derived by the scientific method…the requirement that an expert's testimony pertain to 'scientific knowledge' establishes a standard of evidentiary reliability" [11]. Blackmun also expressed his confidence in the judiciary's ability to determine a standard of "evidentiary reliability," writing, "We are confident that federal judges possess the capacity to undertake this review. Many factors will bear on the inquiry, and we do not presume to set out a definitive checklist or test" [10].

Besides offering general suggestions, the Court offered 4 concrete questions to be kept in mind when determining the reliability of expert testimony [12].

- Can the idea or theory be tested via the scientific method?

- Has the theory been peer-reviewed? The court recognized, however, that this is only one component of a greater assessment and wrote that this standard "does not correlate with reliability…but submission to the scrutiny of the scientific community is a component of 'good science'" [13].
- What is the rate of error? This can give clues as to how the experimental standards are controlled.
- Is there general acceptance? Although the court rejected this as the "gold standard" it did acknowledge that this may be *one* useful factor when making an overall determination.

The Court specifically noted that these suggestions were not meant to be viewed as a definitive list of elements that make up admissible expert testimony. Rather, Blackmun wrote, "the focus, of course must be solely on principles and methodology, not on the conclusions that they generate" [13].

Despite the presence of both broad and specific guidelines, the Court foresaw that reliance on the Rules might not adequately resolve all of the scenarios that could arise when judges are making decisions regarding expertise in fields that they are unlikely to be experts in themselves. In an effort to proactively address these questions the Court suggested the following remedies in cases where questionable testimony is allowed:

- "Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof" [14].
- Exercise the option of a directed verdict. That is, if the evidence is so overwhelming that no reasonable jury could possibly find differently the court can impose the judgment.

Satisfied with the new precedent established in the *Daubert* opinion, Blackmun concluded that "these conventional devices, rather than wholesale exclusion under an uncompromising 'general acceptance' test, are the appropriate safeguards where the basis of scientific testimony meets the standards of Rule 702" [14].

This case is particularly important for physicians involved in expert medical testimony. Physicians who provide this type of testimony must ensure that the articles and studies they are relying upon are sound, especially in methodology. For physicians testifying about their own work, conclusions and methodologies must be scrupulously documented and interpreted so that their reliability and relevance can be demonstrated in court.

The American Medical Association's *Code of Medical Ethics* believes that a physician "has an ethical obligation to assist in the administration of justice" [15]. But this obligation must not be erroneously fulfilled, meaning that physicians must have expertise in the area about which they are testifying and must not go beyond the scope of that expertise; they must inform the lawyer for whom they are testifying of any potential unfavorable information they have discovered; and should not accept compensation that is "contingent upon the outcome of litigation" [15]. Physicians hold an unusual position as actors in a trial—they are often not trained in law, they do not have a financial stake in the outcome of a case, and they are specially trained in a field that is foreign to most of the other participants in a case. As a result, physicians need to maintain high ethical standards and must not take advantage of this unique position.

The decision in *Daubert* is groundbreaking because it allows the more generous Federal Rules of Evidence standard and not the rigid "general acceptance" principle of the *Frye* decision to be used when determining expert testimony. As a result, the admissibility of this type of testimony is more flexible and largely left to the discretion of a well-guided judge. It was the hope of the court that all relevant evidence could be used to help resolve cases without imposing new obstacles within the legal system.

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Policy Forum

Street Credibility and the Division of Labor in Bioethics

by Abraham P. Schwab, PhD

An unsettled and unsettling question in the hospital, in the university, and in the medical school is "What qualifies someone to be a bioethicist?" What exactly is it that constitutes expertise for this member of the medical team, this educator, this critic and policymaker?

If you attend the annual meeting of the American Society for Bioethics and Humanities (or ASBH, America's premier bioethics organization), you will find yourself spending a great deal of time looking at name tags. This happens at most conferences, but it has special significance at the ASBH meetings, as much for what follows the names as the names themselves. "Is he a JD?" "Wow, a JD, MD, PhD." "What's the point of a JD, MPH?" Not to mention the RNs, LLMs, MAs, MBAs, or other members of this alphabet soup.

The interdisciplinary nature of bioethics is what makes this question so difficult: what does it mean to be an expert in bioethics? To know what it means to have expertise in bioethics, requires first that we know what bioethicists are expected to do.

The work of bioethics can be classified into 3 broad categories: clinical ethicist, ethics committee member, and policy contributor. In what follows, I take each of these in turn. First, I'll tease out definitions of these categories and their relationship to patients and the health care system. These categories and definitions will not be mutually exclusive nor will they necessarily be exhaustive. There are certainly individuals who do all 3. Instead, these categories define the basic types of labor bioethicists do. Second, I'll suggest whether or not each kind of labor can be credentialed. Can we formally test individuals to see if they are experts in this area? This will be somewhat speculative, given the need for infrastructure and capital to set up a system of credentialing. I will only try to determine if we can reasonably identify what any such testing would be about.

Clinical Ethicist

First, the work of a bioethicist in the hospital is often in the role of clinical ethicist. This is the individual or team called in to consult with a patient, family, and other health care team members to help clarify or resolve an impasse. In many ways, the clinical ethicist, when called, becomes part of the health care team.

The expertise of clinical ethicists has been variously described as: "knowing how to lift up and ask the relevant questions…in a face-to-face conversation" [1], "to provide consultation and advice on the ethical aspects of patient care…[and] to interpret the meaning and implications of the patient's values for medical decision-making and to assist surrogate decision makers to accommodate those values" [2], and providing "support and advice to health professionals and patients on ethical issues arising from clinical practice and patient care" [3].

Fundamentally, each of these definitions requires the clinical ethicist to have the ability both to communicate effectively and to determine the most pressing ethical aspects of a clinical case. Both abilities can be learned and evaluated.

Credentialing clinical ethicists, though difficult, should be pursued. As members of the health care system, clinical ethicists can have a direct impact on patient care through the identification and satisfaction of patient interests and desires. Accordingly, there is a pressing obligation to ensure that only qualified individuals hold these positions. Credentialing will be difficult because the ability to communicate ideas across audiences (medical professionals and patients) may not be easily measurable. Nonetheless, organizations like ASBH should be taking on the responsibility of articulating standards for evaluating the abilities of the clinical ethicist.

Ethics Committee Members

Second, often clinical ethicists are members of the medical center's or hospital's ethics committee along with other individuals. Some have suggested that clinical ethics consultations should be carried out only by ethics committees and not by individual ethicists [1]. Despite this recommendation, consultations usually involve only 1 or 2 of a set of select members of the ethics committee.

McGee et al produced a descriptive study of hospital ethics committees (HECs) in 2001 [4]. They surveyed 356 HECs nationwide and found that physicians and nurses tended to dominate (in numbers) HECs, but that committees "exhibited substantial variability in composition" [4]. Clergy, social workers, attorneys, and risk managers are often the members of HECs. They also found that HECs fill different roles in different institutions—some actually produced binding decisions. I am primarily addressing the roles that McGee et al found most ethics committees take on: case consultation, self-education, and formulating and evaluating policy [4]. I will return to education near the end of this essay, and I have addressed case consultations above. This leaves hospital policy formation and critique.

Individual ethics committee members do not need credentialing to be competent policy advisors. Of course, if they take part in an ongoing case consultation, they would be filling the role of clinical ethicist and would need the requisite competence. However, when a community member or physician takes part in the conversation of an ethics committee, I would expect him or her to have a basic understanding of the issues of bioethics. If they look dumbstruck when I use the word "autonomy," that would be a sign of trouble. But their primary responsibility in the post hoc analysis of cases and recommendations about policies (both present and future) is to represent the interest of their group. A good HEC will have members that represent the various stakeholders in policy decisions, but this will only place minimal requirements on the particular expertise of individual members.

Though it is a far cry from credentialing, minimal educational requirements for ethics committee members seems a reasonable restriction. It should be fairly easy to use 1 or more of the bioethics tutorials compiled by the NIH to meet these minimum requirements [5].

Policy Contributor

Third, large groups of individuals take on the role of policy contributor. These are individuals who work at various kinds and levels of policy work. This could include the individuals who publish original research in bioethics and those who serve on the President's Council on Bioethics, the AMA's Council on Ethical and Judicial Affairs, and similar bodies. Ruth Faden has referred to a similar category of bioethicists as scholars and researchers [6]. Insofar as we include the individual making hard and fast recommendations about the ethical aspects of legislation and institutional policies, we are speaking about the same kind of individual.

Policy contributors are the only kind of bioethicists who could theoretically never set foot in a hospital as a professional. For example, a meta-analysis of several studies on the limits of informed consent may lead to a policy recommendation, but it would not require a single clinical encounter (for the individual doing the meta-analysis).

As the most diverse group of bioethicists, policy contributors will consistently resist credentialing through the sheer diversity of possible contributions. Fields of input could include law, moral theory, clinical case experience, clinical and basic science research, theology, theoretical and empirical psychology, and cultural studies. The classes of individuals who could contribute include philosophers, physicians, nurses, social workers, theologians, sociologists, psychologists, attorneys, and others. Structured credentialing may not be necessary or desirable. A certain degree of credentialing is already in place—journal and book publications are subject to debate and peer review. Moreover, good policy ideas can arise from surprising sources.

Education

Some may argue for a fourth category: bioethicist-as-educator. This category, however, does not stand apart. Individuals in each of the 3 categories above can and should serve as educators both about expertise-specific strategies and information to colleagues and novices and about general issues in bioethics to the public. Credentialing educators in each area of expertise mentioned above should follow the credentialing of that area.

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Medicine and Society
Bioethics Consultation for Pharmaceutical Corporations
by Lisa M. Rasmussen, PhD

It is a good time to be a bioethicist. Medicine, pharmaceutical development, and the culture wars combine to provide urgency and public interest regarding the traditional questions of moral philosophy in which bioethicists are trained. A fairly recent addition to the repertoire of bioethics is consultation for pharmaceutical corporations, which might involve, among other possible consulting engagements, offering an opinion on contemplated research, participation in an ongoing ethics board overseeing research activities, or preparation of analyses on particular bioethics issues.

Currently, there is no agreement within the field on whether this consultation ought to be a permissible activity or what the guidelines and standards would be if it were. In fact, there is neither a general accreditation procedure nor an accreditation body for bioethicists, though this seems likely to change in the not-too-distant future, based on current debate within the discipline. So for now, the field lacks even broad standards from which for-profit consultation might borrow. Part of the work that must be done prior to formulating standards is identifying the potential problems in for-profit bioethics consultation and who may be harmed by wrongdoing.

Forsaking Our Purpose
Some argue that there is a set of concerns on which bioethicists ought to focus that does not include for-profit consultation [3]. There are 2 aspects to this claim. First, if there are specific activities bioethicists ought to engage in, then time spent away from these makes one, in a sense, less of a bioethicist. Second, the nature of bioethics activities may be in tension with for-profit consultation. For example, many in the field see bioethics as an altruistic or advocative calling, consisting of a duty to help the worse off and to fight inequities in health care. To those who perceive for-profit pharmaceutical companies to be part of the inequality problem, taking money from corporations can be seen as a betrayal of bioethics, harming its reputation and, by extension, the reputation of its practitioners.

Naturally, anyone committed to this position is free not to consult for profit-making companies. The salient issue is whether the alleged harms preclude anyone from engaging in such practice under the label "bioethicist."

Unseemliness
Another argument, put forward most prominently by Carl Elliott [1, 2], is that it is "unseemly" for ethicists to take money from for-profit corporations. Though it is difficult to articulate exactly what this unseemliness is, it may be the proximity between

what is sometimes perceived of as an ignoble, unethical, or avaricious field (the pharmaceutical industry) and a field that either purports to or is understood to offer moral advice (bioethics). In other words, working for a pharmaceutical corporation gives what ought to be an unsullied profession dirty hands. The harm done by this unseemly proximity would redound exclusively to the profession, since the damaged credibility could lead to diminished opportunities for its practitioners.

Conflict of Interest and Credibility

Especially troubling for some is that bioethics consultants are being paid by the very companies that stand to benefit when their products are viewed favorably by the public, the investment community, and the Food and Drug Administration (FDA). The additional fact that for-profit companies must closely guard the confidentiality of ongoing research projects (and hence the ethical oversight of them as well) means that if a company and an ethics consultant made an agreement that a specific opinion would be delivered for a sum of money, no one might be the wiser. As Elliott summarizes the problem, it may be difficult to trust bioethics consultants who "...are on the payroll of the very corporations whose practices they are expected to assess..." [2].

Conflicts of interest pose a potential danger to the public because the opportunity for personal gain might tempt a bioethics consultant to deliver the answer the pharmaceutical company wants. There is the chance that an individual might be harmed by the medical treatment under question, but, since bioethicists are not the only layer of protection between pharmaceutical corporations and the public (the FDA primarily serves this purpose), this sort of harm is unlikely. Moreover, the likelihood of such fraud is small because, while a bioethicist's favorable opinion might be worth *something* to a pharmaceutical corporation, it is not clear how much. It certainly would not seem to warrant the chance of being caught, with the adverse publicity that would entail.

Instead, conflict of interest is more likely to harm the profession through a loss of credibility. It is important to note that the most scrupulously ethical consultant may suffer this loss of credibility regardless of the fact that she has done nothing to deserve it, for the mere *appearance* of conflict of interest is sufficient to cast doubt on the profession in the minds of many.

Cherry Picking

A more insidious problem is the possibility of a corporation "cherry picking" bioethical opinion without a consultant's knowledge. Because bioethics literature comprises a wide variety of reasonable arguments, a corporation need only research those positions and, knowing an individual's opinion on the ethical issues at stake in the company's research, approach a bioethicist who has a congenial view. The bioethicist might be unaware of this tactic. All he knows is that his opinion is being solicited. Because he offers his honest opinion, he has done no moral wrong by consulting for the corporation. But has the corporation done wrongly by soliciting the opinion that serves its interest best?

Answering this question requires us to identify the wrongdoing. There is genuine, well-argued disagreement about many principles and issues in bioethics. Is a pharmaceutical corporation duplicitous if it simply seeks someone with similar views? The alternative is to require corporations to use bioethicists with opposing views, but it is not clear what this would achieve, other than constant disagreement. If for each expert opinion an opposing one can be found, what is ethics expertise and how does the field adjudicate among its experts?

Expertise

When a bioethicist offers an opinion on moral matters, what authority does that opinion possess? Most authors agree that a moral philosopher can be an ethics expert because, due to her training, she can accurately present the moral geography of a case, including the various moral positions available, the consequences of making particular decisions or holding certain moral values, and so on. What remains an area of disagreement is whether a bioethicist can be an expert in the sense of knowing the *right* answer to a moral question, by virtue of her training.

The challenge in assessing moral expertise lies in determining the very standards of evaluation. In the sciences, published results of reproducible experimentation and analysis offer a reasonably solid (though of course evolving) knowledge base against which scientific experts can be assessed. Those who are more familiar with the literature will be more expert than those who are not. In bioethics, a body of literature exists concerning moral argument, and there is consensus on some broad principles (such as the importance of autonomy). And to be an expert in bioethics one needs to command this literature in much the same way as will a science expert. But 2 important features distinguish scientific expertise from ethics expertise. First, the body of knowledge in science is subject to verification by a variety of empirical methods. If there is doubt about some fundamental piece of this knowledge, such as the mechanism of disease or success of treatment, there is a clear means for resolving the doubt. In moral philosophy, very little is subject to empirical testing. Even a moral realist (ie, one who believes that there are objectively correct and incorrect moral values and solutions) cannot offer a reproducible method for ascertaining those values. Disagreement about core moral values fuels a great deal of the tension over answers to moral questions and will not be resolved by future empirical testing.

Second, the experts' recommendations in the sciences can usually be verified post hoc. While it is true that, even in the age of evidence-based medicine, there is still an art to some medical treatment, one physician's application of his art can be shown to have desired outcomes, while that of another does not. In bioethics, there is no means for post hoc evaluation. Some solutions may leave the parties more satisfied than others, but this is not necessarily evidence that a morally correct answer has been reached.

Conclusion

What expertise are pharmaceutical corporations buying when they hire bioethicists, and what authority do these bioethicists have? It is certainly true that bioethics training will impart, in varying degrees, the ability to identify moral issues at stake in a particular case, facility with the major moral arguments, and a familiarity with particular belief systems and their likely implications in particular instances. This can be very helpful in clinical consultations where the patient's or family's wishes are decisive. In pharmaceutical research, on the other hand, there is not always a unique set of values upon which a bioethics consultant might draw to offer a conclusive answer about the moral rightness of a clinical trial or research agenda. There are often federal or state laws and moral principles generally accepted within the bioethics community that are decisive—for example, no bioethicist ought to condone a clinical trial which would deceive participants. Yet there are also many questions, such as the moral permissibility of embryonic stem cell research, that hinge on one's core moral values. With this kind of question, a bioethicist can only illuminate possible arguments, not offer a conclusive answer.

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Related Article

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Op-Ed

Practical and Ethical Implications of Hospitalists as Subspecialists

by Erin Egan, MD, JD

Specialization and subspecialization are increasingly common in medicine. Medical subspecialties like cardiology offer additional training to "sub-sub-specialize" in areas like interventional cardiology or electrophysiology. As the amount of technical knowledge of medicine increases in all areas, experts must narrow their fields progressively to maintain true expertise. Specialties often begin as "pseudospecialties" while practitioners take time to generate standards of practice and training requirements necessary to make the emerging field a board-certifiable specialty. Emergency medicine underwent this process of pseudospecialty status and evolved into a board-certified specialty. Hospital medicine is somewhere on that continuum, for better or for worse. In a health care system that is prone to losing sight of the patient's best interest, this trend of increasing specialization and narrowing of expertise deserves close examination.

Hospital medicine, practiced by "hospitalists," began developing a cohesive identity in the late 1990s. Traditionally, internists cared for a panel of outpatients and provided inpatient management for those patients if needed. However, the skills and knowledge base needed to deliver acute inpatient care differ significantly from those needed to provide primary care, health maintenance care, and stable chronic disease management to outpatients. In 1997 a group of physicians met and later formed the Society of Hospital Medicine, devoted to continuing education and the professional interests of hospitalists [1]. The society grew to a current membership of 4900, and it's estimated that 15 000 hospitalists were practicing nationally in 2005. According to the Society, hospitalists are "physicians whose primary professional focus is the general medical care of hospitalized patients. Their activities include patient care, teaching, research and leadership related to hospital care" [2].

The Need for Specialties and Subspecialties

The body of medical knowledge is expanding rapidly, facilitated by online reference materials and the trend toward establishing an evidence base for common medical decisions. Knowledge and judgment are the competencies that justify the physician's status as a professional. Physicians have a fundamental ethical duty to maintain and add to their knowledge and judgment throughout their professional careers. When the body of knowledge becomes so large that no individual can reasonably master it all, it is ethically essential to narrow the focus of expertise to ensure that they maintain a truly expert level of knowledge. Specialization and the higher cost of specialty care are justified on the grounds that more expert care results in better outcomes. No one would pay more to see a neurosurgeon if a general surgeon could consistently achieve the same outcomes. Since neurosurgeons provide, with notable success, services that general surgeons cannot and do not provide, neurosurgery is firmly entrenched as a specialty.

The hospitalist movement raises a question about the scope of expertise and specialization necessary in hospital medicine. Inpatient and outpatient medicine each has a knowledge base large enough to justify focus on that single field of clinical expertise. This, certainly, is my experience in internal medicine. Hospital medicine differs from outpatient medicine. Yes, a hospitalist needs a good understanding of chronic disease management and follow-up guidelines so he or she can provide ideal care to patients who interface with both aspects of the system. But substantial investment in professional development is necessary to maintain competence and expertise in either facet of internal medicine. Some internists want to practice in both arenas and are willing to invest the time and energy needed to maintain expertise in both, but the professional challenge of maintaining competence and expertise in either is sufficient to warrant practical specialization. Given that it is reasonable and practical for physicians to limit their professional development to inpatient or outpatient medicine, specialization seems justified. Whether this remains a practice preference for internists or progresses to the point of specialty certification is under discussion.

Because specialization is built upon expertise, it is essential to advancing quality, safety, and discovery in medicine. It is true that access to specialist care is related to socioeconomic status and geography and thus exposes another example of the inequity in our health care system. But specialization is not the cause of the problem—it is just 1 layer in the tiers of inequality in health care for the poor, minorities, women, and residents of underserved areas. The solution is to fix the system, not limit specialization.

Advantages of Employing Hospitalists

Having hospitalists has been shown to improve quality measures—including length of stay, mortality, and 30-day readmission rate—in several common inpatient diagnoses. Evidence also shows that hospitalists reduce costs and length of stay while achieving the same or better patient outcomes achieved by nonhospitalists [3-6]. It is important to note that the benefits of hospitalist care are shared by the patient and the hospital, a relatively rare basis for the development of a new subspecialty. Decreased length of stay helps patients because they are less likely to develop hospital-associated complications and are generally more comfortable out of the hospital. At the same time, shorter lengths of stay correspond directly with increased profits for the hospital. Decreased 30-day readmission rates mean that patients have received complete and adequate care on their first admission under a hospitalist's care. And these decreased readmissions help the hospital because readmission within 30 days increases a hospital's costs and lowers its profits. Most of the sources cited above attribute the achievements of hospitalists to early implementation of appropriate management strategies and improved management of concomitant conditions. In sum, initiating proper therapy early is good for patients and returns financial gains to the hospital.

Hospitalists as Physicians in a Subspecialty

The ethical concern that specialization can exacerbate injustice and inequality of access to care applies uniformly to all specialties. The hospitalist trend poses additional concerns because it combines the unequal access associated with all specialized medicine with financial benefits.

There is nothing ethically problematic about the fact that hospitals benefit from having hospitalists on staff as long as quality of patient care is unaffected or, as some evidence indicates, improved in the process. Indeed, even the hospital's financial gains benefit the patient population indirectly by allowing the hospital to continue to function and to invest in quality-improving infrastructure. However, this direct financial benefit must be acknowledged and monitored, because, if it were to become the primary driving force of the hospitalist movement, the potential ethical pitfalls would be immense.

There are problems with basing the need for specialization on financial gains that accrue to third parties (not directly to patients). First, the initial gains realized by improving and streamlining care will ultimately be maximized, and from that point forward the financial benefits will plateau. It is easy to foresee that pressure for continued gains may be exerted, perhaps at the expense of quality patient care. The market pressures will be the same as those exerted in the managed-care, cost-containment era, where financial benefits favor withholding necessary care, promoting premature hospital discharge, and other potentially unsafe practices. It is up to the hospitalists and the hospitals to ensure that medical expertise, quality, and patient safety remain the focus of this specialty movement.

Second, the patient must always be the center of care. The patient-physician relationship must supersede all other interests in the provision of health care. In the hospitalist model, the physician often works for the hospital and is therefore more directly involved in its cost-containment and quality-improvement practices. Bringing physicians' expertise with inpatient care to bear on system improvement processes is another strength of the hospitalist movement. Here again, it will be up to the hospitalists and the hospital to ensure that these contributions are encouraged and allowed only as long as they do not interfere with the patient-physician relationship.

The tension between a hospitalist's interest in the system in which he or she works and the primacy of the patient-physician relationship certainly requires vigilance on the part of both hospitalists and hospitals. To date the movement has handled the tension ideally, improving outcomes for individual patients as well as providing financial benefit to the hospital [7]. There may come a day when further cost-containment efforts compromise safety and quality efforts. Both major players must be prepared to advocate for patients on that day. When conflict arises between the benefits of hospitalists as medical experts and the benefits of hospitalists as a cost-containment mechanism, the hospitalist must be a specialist like all other specialists—committed to expertise and the well-being of each individual patient.

Conclusion

Hospital medicine requires specialized knowledge and expertise to achieve good patient outcomes. For that reason, practitioners will continue to limit the scope of their practice and will continue to seek expertise limited to care of hospitalized patients. In the practical sense, subspecialization has already occurred in hospital medicine. Whether that practical specialization is formalized into board-recognized subspecialization is a professional issue. Given that the profession will have an increasing interest in ensuring that physicians claiming hospitalist expertise actually have the requisite expertise, some type of certification or licensure exam is likely to develop. However, evolution of the functional specialty and the potential development of board-recognized specialty status should only follow after examination of the unique ethical issues that hospital medicine creates. Focusing on these ethical issues prospectively, while they have yet to cause any ethical compromise, is ideal. Fortunately, these concerns are recognized among the leadership and practitioners in the field, and the participants have an opportunity to ensure that the ethical evolution of the specialty is integral to the evolution of the specialty as a whole.

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Related Article

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Op-Ed

Caring Comportment and the Hospitalist Model

by Jeremy Snyder, MA, and Brian C. Zanoni, MD

The hospitalist model of inpatient care is associated with cost-effective and high-quality care, but this result may come at the cost of patients' own expressed values. Certain procedural changes can reemphasize patient values, but they must be accompanied by shifts in the comportment of hospitalists, whose current practices have the potential to undermine the model's benefits.

There are 2 primary benefits created by shifting the responsibilities of some doctors largely or entirely to inpatient care. First, by being available throughout the day, hospitalists can be more efficient [1]. Moreover, the specialization that results from the hospitalist model can increase the skill of physicians, standardize the quality of inpatient care, and thereby improve patient care [2]. Generally, patient satisfaction with the care in hospitalist systems has been very high [1].

Granting that these benefits do in fact accrue in the aggregate from the hospitalist model of patient care, ethical concerns remain, independent of the desired health outcomes. Because this model requires a handoff between the primary care physician (PCP) and hospitalist, it generates concerns about continuity of care. Discontinuity can interfere with the expression of patient values by dissolving or undermining the relationship between patient and his or her PCP [3]. This relationship is important because its duration and intimacy allow the physician to have greater knowledge of the patient's values, attitudes toward risk, and willingness to engage in the intricacies of health decisions. Weakening this bond reduces the patient's ability to express her or his values regarding medical treatment [4].

While cost structures and time constraints prevent even PCPs from fully realizing the potential for long-term contact, PCPs still have greater familiarity with patients' and their families' values than hospitalists do. Modifications to procedures for physician reimbursement and training would make it possible for PCPs to move closer to the ideal form of the relationship.

The potential of the hospitalist model to undermine the expression of patient values does not fall equally on all patients. Some hospitalized patients face decisions regarding major surgery or end-of-life issues, both areas in which knowledge about the patient's values takes on added significance. When overspecialization and discontinuity of care weaken the relationship between patient and PCP, there is a danger that the PCP's role in helping the patient toward self-determined treatment decisions can be minimized or even eliminated.

These concerns have long been recognized. In response, a range of procedural modifications has been suggested to reduce and better distribute the costs of specialization and discontinuity of care. PCPs can still be involved in the care of their patients under the hospitalist model through visits or phone calls with patients and through better communication with hospitalists [5]. Potential disagreements between PCP and hospitalist regarding the care of the patient can be resolved through explicit conflict resolution procedures within the hospitalist system [4]. Transfers of patients from PCPs to hospitalists can be voluntary, with the decision left to patient care preferences [6]. End-of-life values can be better communicated to hospitalists by requiring inpatients to complete advance directive surveys and then asking hospitalists to discuss those directives with their patients [7]. Generally, reimbursing PCPs for their increased role in the hospitalist system can encourage better communication with hospitalists [5]. While this model is built around efficiency, communicating these end-of-life values is often time-consuming, necessitating family meetings or ethics consults for which physicians are not reimbursed. Nonetheless, a good hospitalist will address these issues with every patient admitted.

These procedural changes have the potential to offset some of the losses in ability to express preferences that patients experience as a result of discontinuity of care and overspecialization. Procedural changes alone, however, will not sufficiently offset the detrimental effects. They must be accompanied by changes in hospitalists' comportment toward their patients and in their capacity to establish relationships of trust with patients. With the compartmentalization of medicine into multiple subspecialties, it is the duty of hospitalists to establish this relationship early during the admission.

Consider the particular challenges faced in end-of-life situations. Requiring patients to complete surveys and asking physicians to hold discussions regarding end-of-life values will not in themselves facilitate informed choices by patients. End-of-life values are typically held deeply and privately, so the hospitalist's ability to establish a relationship of trust in a short amount of time will be essential, as will his or her attitude of openness to the patient's values, needs, and reservations. Merely filling out a form will not achieve these ends. While there is reason to hope that frequent contact with patients facing end-of-life decisions will increase the ability of hospitalists in these situations and generally strengthen the patient-physician relationship, changes in their training will be crucial as well. Moreover, procedural changes must emphasize that the mission of hospitalists is to facilitate informed choices of patients and families regarding their medical care and not merely to execute the physician's own medical judgment effectively and efficiently. Hospitalists must weigh families' personal values with objective data regarding prognosis, risk, and benefit.

These kinds of changes of attitude together with procedural changes may genuinely support the expression of patient values, but they may erode the benefits of the hospitalist model. Since the hospitalist's responsibility is to serve as the manager for the patient's numerous specialists, greater attunement to the values of patients will predictably create tension between cost-effective provision of medical services and the informed choices of patients. Not only does this form of attention to patient values take time that could otherwise be used for the provision of services, but a genuine change in comportment requires that hospitalists shift focus away from efficiency and toward supporting the expression of patient values. Thus, while the actual practice of both hospitalists and outpatient physicians falls short of their ideal forms, only for the hospitalist model will addressing the need to be open to expressions of patient values require a significant change in that model's aims and ideals.

Without further research it is difficult to say whether the hospitalist model can support benefits in efficiency and efficacy while still maintaining acceptable levels and distributions of the ability of patients to express their preferences regarding medical care. What we hope to emphasize instead is that competing models of patient care should not be measured merely by their ability to extend patient life as cheaply as possible. Rather, the aim of patient care should be to facilitate the patient's own standard of a healthful life—a standard of care that is of high quality, that is cost-effective, and that represents the patient's values regarding medical care. While there is no reason to think that the hospitalist model cannot be modified to meet these concerns, it may not be possible to do so without losing some or all of the advantages that are put forward in its favor.

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Related Article

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