

Viewpoint: A Performance-Based Conception of Competence is Changing the Regulation of Physicians' Professional Behavior

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Abstract

It is the obligation of a profession to articulate the special meaning of *competence* in its field and to foster the good performance of its practitioners through education and discipline. External societal demands for increased accountability, and internal pressures for greater use of measurements of the processes and outcomes of clinical performance, are forcing the medical profession to reevaluate its view of competence and to change the way the profession "manages" the competence of its members.

Traditionally, and predicated on the notion of "once in, good for life,"

medical education has focused on assuring the competence of trainees as they first enter independent professional life. In parallel, professional regulatory authorities have concentrated on apprehending the "false-positives" of the educational system. But viewed from a *performance* orientation, *competence* reflects situational relationships among doctors, their patients, and the systems in which they perform and, thus, is only partly dependent on the attributes of individual actors. This shift in thinking has major implications for the practice of medicine, particularly for the process of maintaining and improving performance. In jurisdictions throughout the world,

recognition of the need for systematic and accountable ongoing education for practicing doctors is growing. This educational need should not be seen as a mark of weakness or failure but, rather, as the natural consequence of engagement in challenging practice. "Ars longa, vita breva." The profession must address the complex issues of education-in-practice with the same determination and creativity that it previously applied to education at entry to practice.

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I grew up among wise men and found that . . . knowledge is not the main thing, but deeds.

—Talmudic comment

In this essay, I discuss changing ideas about the concept of competence in the medical profession. First, I describe the central role that the definition of *competence* has played in the regulation, including the education, of medical doctors. Then, I depict what I believe to be the conventional wisdom that the profession has held about the competence of its members. I show how this traditional view is giving way to a new vision of competence, one that is more sensitive to the complex interactions of doctors within systems of health care delivery. Finally, I summarize important changes presently occurring in medical education that apply to doctors in practice and that are evidence for the

adoption of this new conceptual framework.

The Importance of Competence

The promise and achievement of competence are objectives of every physician and lie at the heart of professionalism. Conceptions of competence are touchstones for the form and content of physician regulation, and, to the extent that it remains a living phenomenon, self-regulation represents the implementation of the profession's own ideas about what it means to be a competent practitioner.¹ So, the way the profession thinks about and defines physicians' competence singularly affects the way that doctors are regulated, including education, evaluation, and discipline in practice.

But the idea of competence also provides a framework for what patients expect of their doctors, and a central tenet of physician self-regulation is the altruistic expectation that the public interest be served. As a result, how the profession defines its practitioners' competence is very much interwoven with how the public perceives and appreciates its professional service. Indeed, the

inevitable consequence of the evolving relationships between doctors and patients and between the public and the profession is a related shift in the conception of what it means to be a competent doctor.

In practice jurisdictions around the world, gaps between the expectations of patients and the abilities of their doctors are challenging the relationship between the public and the profession. Society's changing expectations of doctors may already be stimulating changes in the way the profession conceptualizes its practitioners' competence. Leaders of the profession are urging strengthened assertions of "professionalism" and competence and are promoting new programs to enhance accountability for the maintenance of competence in practice.^{2–5} Such initiatives are under way around the world and are variously called revalidation, recertification, relicensure, recredentialing, and/or maintenance of competence. It is important to note that in their efforts to enhance the quality of doctors' performance, these plans have in common a new focus on performance assessments and methods of practice-based education. This growing emphasis on performance reflects a change in the

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conception of the competent doctor from someone who possesses the right attributes to someone who does the right thing. This shift in thinking is an example of how changing perspectives of competence can influence change in the regulation of the profession.

It is noteworthy that conceptions of *competence*, as well as pressures for their change, can have worldwide implications. The profession transmits, and the public perceives, real meaning in the words *competent doctor*, and, for better or worse, this meaning transcends national boundaries. Professional mobility has long been a valued objective of the medical profession itself, and among the most common incursions of governments into traditional domains of the profession are pressures for physicians trained in outside jurisdictions to be deemed equivalent to those trained in home settings. The likes of Drs. Shipman⁶ and Swango⁷ are portrayed in the press and are feared by the public as if they were practicing next door. So, the idea of doctors' competence is something that transcends borders and represents a serious challenge to our ability to define what we actually do as a profession. The assessment of performance (what doctors actually do) demands a level of situational specificity that has been ignored when the focus of assessment is on competence in defined attributes (or who doctors are).⁸ All the more important, therefore, that an

international perspective be sustained by the profession when it redefines what it means by *the competent doctor*.

As more efforts are focused around the world on the redefinition and reassertion of professional competence, not only in medicine but in other professions, attention must be turned to the societal framework in which competence is regulated. The essence of a profession is the ability to define and control the conditions of its own work.⁹ The issue of who controls the agenda for educating, evaluating, and implementing professional competence is a critical theme in ongoing international efforts to restate both professional and public understanding of professional competence.

The Attributional (“Ballistic”) Model of Competence

The conventional view of competence is reflected in the standard definition of a profession:

A calling requiring specialized knowledge, and often long and intensive preparation, including instruction in skills and methods, as well as in scientific and historical, or scholarly principles underlying such skills and methods, maintaining by force of organization or concerted opinion high standards of achievement and conduct, and committing its members to continued study and to a kind of work which has for its prime purpose the rendering of a public service.¹⁰

This view is representative of a more general one that professions, and professionals, are defined by the possession of distinctive traits or attributes. In line with this definition, competence is ordinarily conceived as a property of an individual, very much like a trait or set of individual characteristics. This view seems to reflect common sense from two perspectives. For example, from the perspective of the medical profession, when individual medical students graduate from medical school, or when they are assessed at entry-into-practice, their personal characteristics and abilities are the issues at hand. Similarly, from the patient's perspective, when he or she asks whether a doctor is competent, the patient is looking for assurance of personal characteristics and abilities in that doctor. *Assessing Clinical Competence*,¹¹ the definitive work on that topic, expressing the views of thoughtful educators in the latter half of the 20th century, includes statements such as, “No single method can adequately define the prerequisite knowledge, skills and attitudes required of a competent physician.” Other contemporary definitions, as well as models that characterize competence as a set of generic roles, limit its boundaries to a selection of physicians' attributes.^{12,13}

So, the medical profession has traditionally held the view that competence is a set of attributes defined by the profession, which become fixed in the character of medical graduates after appropriate training and experience (see Table 1). The *ballistic* or, more properly, the *attributional* model of competence is the logical extension of this idea. The nickname *ballistic* refers to the analogy of the trajectory of physicians' competence over time to that of a ballistic missile fired into space, as illustrated in Figure 1. (The ballistic model was first described for me on a paper napkin in a hospital cafeteria in 1973 by Dr. John Gemmell, professor and head of medicine, University of Manitoba, Faculty of Medicine.)

Reflecting this conception, regulatory education and assessment programs are traditionally front-end loaded. Much educational energy assures that only candidates with certain attributes are

Table 1
Dimensions of Two Models of Competence*

Dimension	Attributional (ballistic)	Situational
Orientation of teaching	Doctor centered	Patient-, encounter-, and system-centered
Orientation of assessments	Theoretical, knowledge based, summative	Practical, authentic, contextual, formative
Performance determinants	Detailed knowledge, specific skills and attitudes	Process and outcome measures of actual performance
Regulatory focus	Entry to practice	Practice spectrum—from entry to exit
Regulatory mindset and purpose	Surveillance, sanction oriented, weed out “bad apples”	Performance improvement, raise general and individual levels
Assumptions of ongoing competence	“Once in, good for life,” fixed in character	Contingent, time- and situation dependent
Professional self perception	“Lone ranger” mentality; solo, autonomous, self-involved	Collaborative, team oriented
Response to and responsibility for error	Who did it? Defensive, blame, shame and denial	What happened? System-quality-improvement approach.

* For visual representations of these two dimensions, see Figure 1 and Figure 2.

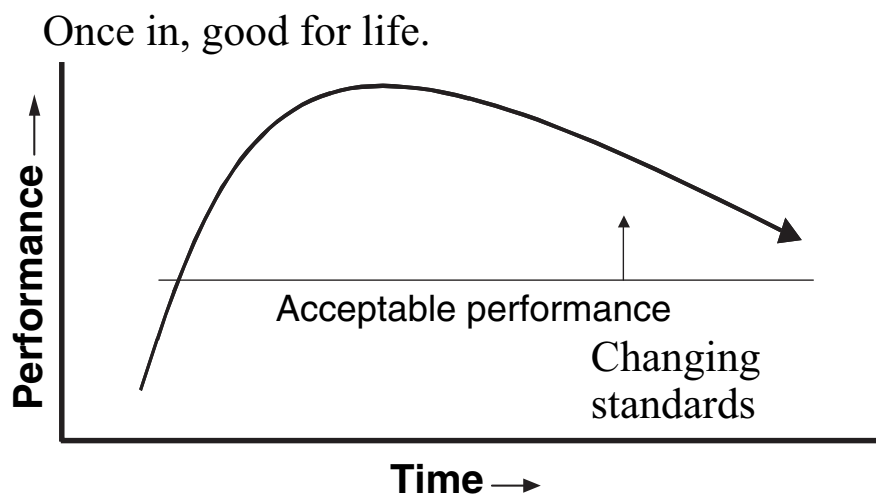


Figure 1 The ballistic (i.e., attributional) model of competence.¹⁵ The nickname *ballistic* refers to the analogy of the trajectory of physicians' competence over time to that of a ballistic missile fired into space. Reflecting this conception, regulatory education and assessment programs are traditionally front-end loaded. Much educational energy ensures that only candidates with certain attributes are admitted in the first place and that those accepted achieve high standards in assessment exercises designed to demonstrate the presence of skills and knowledge that target entry-into-practice abilities rather than actual records of performance. Physicians are then launched into practice with the assumption that they have great capability, and with the expectation of "once in, good for life." The ballistic model presumes that a leisurely decline into incompetence occurs only late in a physician's career and just after retirement. For an alternative model, see Figure 2.

admitted in the first place and that those accepted achieve high standards in assessment exercises designed to demonstrate the presence of skills and knowledge that target entry-into-practice abilities, rather than actual records of performance. Physicians are then launched into practice with the assumption that they have great capability, and with the expectation of "once in, good for life." Evidence for this assumption is that once a doctor is in practice, all rigor in the educational and assessment system vanishes. This concept of competence has determined the diminished role or absence of regulatory attention to continuing medical education in North America that has been the case until recently. To be sure, for many, sufficient energy has been invested in achieving graduation and entry standards to ensure ongoing competence. The ballistic model presumes that a leisurely decline into incompetence occurs only late in a physician's career and just after retirement. But in the absence of accountability measures, the only pressure to maintain competence is the physician's own sense of personal responsibility. A downward direction for the trajectory of competence illustrated in Figure 1 is not clearly established, but it is supported by empirical data.¹⁴ An

interesting corollary of the ballistic model is that the "space" of practice is presumed to be vacuum-like, free of obstructions or hazards, suggesting little interaction between the environment and the competence trajectory of the practicing doctor over time.¹⁵

A number of other features of our regulatory approaches seem to follow from this attributional model. Because competence in practice seems so dependent on entry characteristics, the only obvious way to improve regulation actively is to perfect the entry system. For example, for many years the mission of the National Board of Medical Examiners was captured by the phrase, "ever more precisely," reflecting a view that perfecting entry-to-practice standards might be a sufficient goal for regulation. My argument is that regulation needs to deal with much more than just the false-positives of the entry-to-practice system. In line with this perspective, once entry has been gained, regulators have been limited, for the most part, to dealing with the occasional false-positives of the educational system that are not otherwise disciplined through malpractice claims.*

* The failure of the conception that regulation through the discipline of professional boards or colleges, combined with medical malpractice suits,

The ballistic model supports the idea of the unfettered autonomy of medical practitioners. Because they are fully trained and capable at launch time, acknowledging influences from other factors in the working environment is unnecessary. There is, as will be seen, a price to be paid for assuming this degree of independence.¹⁶

This ballistic concept of competence has been the underlying assumption of the regulatory process in North America since accredited education and standardized examinations were linked to initial licensure by the Flexner innovations nearly 100 years ago.^{17,18} These elements, and the underlying theory, are so much part of the woodwork of licensure that they are quite invisible to the participants. Nonetheless, the Flexner-based approach has been highly successful in assuring the quality of practitioners at entry-into-practice. But despite the original intent,¹⁹ there has, until recently, been little impetus to implement a parallel regimen of education and assessment adapted to the special requirements of maintenance of competence. As Victor Vaughan, one of the fathers of medical regulation in the United States, put it in 1915, "the primary force for . . . [the establishment of] licensing laws arose from educational considerations, not from any concern of medical educators about the average practitioner's status or income," and "Licencing is not for the purpose of protecting physicians but for the purpose of protecting the public against the unqualified, ignorant, and dishonest practitioners."¹⁹

Defects in the Attributional Model

A bit of reflection reveals the flawed and unintended consequences of the attributional model of competence. For one thing, if the obligation for ongoing education is a personal one, what is the need for a system for its support? Does not the idea that physicians are self-sufficient, independent professionals whose competence is based on a fixed set of attributes, inhibit the development of a system of ongoing education?

would assure the competent performance of physicians from a public perspective is dramatized by the incongruity between the evidence for high rates of medical error and the rarity of regulatory action against physicians.

Additionally, a heavy personal toll can be paid for bearing such a strong sense of autonomy. How is one to deal with inevitable mistakes when competence is viewed as a personal attribute? As Shine¹⁶ has said, “Since physicians have been trained with the expectation that they will be infallible, how can there be error without negligence?”

The central problem is that if the entire onus of competence is attributed to the doctor, then little or no acknowledgement is given to the interaction between the doctor and situational or system factors in determining outcomes and in apportioning accountability. One’s personal sense of worth is challenged if things go wrong, triggering the all-too-familiar chain of shame, blame, and denial.²⁰ From the regulatory perspective, the attributional mindset, faced with a bad outcome (whatever its source), asks the wrong question: “Who did it?” rather than “What happened?” So, reflecting this view, regulation focuses on finding bad apples, earning a well-deserved reputation for punishment, and thereby distancing itself from the vast majority of doctors. Currently, most of the resources of the regulatory system are consumed in attempting, not very successfully, to gain control over the poorly performing minority of the profession through disciplinary processes, with little investment in improving the quality of health care delivered by the vast majority of good performers.

The seminal acts of quality improvement and safety, that is, self-reflection and interprofessional collaboration, can be stymied because of doctors’ traditional views of competence and the fear of discovery of error or incompetence. Until the profession’s general reluctance to participate in “fault-free” quality-improvement activities is overcome, little progress will be made in integrating the principles of professional review into systematic quality-management processes.²¹

Toward a Performance-Based Concept of Competence

The intersection of two major societal movements is encouraging a rethinking of competence. The first is rising public expectation. The hot button of public concern about health is the delivery of

competent care, which encompasses issues of quality, safety, and cost. When the public asks the fundamental question, “Is this doctor competent?” it is not simply a question about attributes and credentials, but one about process skills, evidence of previous good outcomes, and collaborative relationships. Patients wonder whether the doctor in question has the ability to care for *them* properly, so what they mean by competent has reference to specific situations. For example, patients tend *not* to be comfortable with the surgeon who is competent by all traditional (attributional) measures but who has never actually performed the surgery they need. The growing recognition by health care professions and institutions of the importance of quality-improvement and performance-assessment processes is a manifestation of this first movement.²²

The second societal movement is reflected in the steady growth in the development and use of “authentic” or “performance” assessments in medical education.^{11,12,23} Testing is moving from almost total reliance on multiple-choice tests of knowledge as evidence of competence, toward increasing dependence on testing actual performance in simulations or work situations. As a result, our concept of a competent individual is changing from “someone who *knows*” to “someone who *does*.”²⁴ (It is of more than passing interest, in this context, that our language does not include a term to describe the special status of a doctor, or any other person, for that matter, whose competence is validated by the successful performance of a task. We usually are forced to invent terms to describe concepts that are new. I have proposed the ungainly term *performatence* to remedy this deficiency, but no editor I have encountered seems willing to countenance this radical proposal.)

So, the answer to the question, “Competent or not?” depends as much on what the student or doctor does or plans to do and on factors present in the patient or the practice as it does on factors in the doctor. Competence is revealed as a “matching,” or relationship, of the doctor’s abilities and the patient’s expectations or needs. This situational view challenges the conventional

depiction of medical competence.¹⁵ It is based on Schon’s²⁵ pragmatic perspective of professional performance, which sees the practice of medicine as social action driven by the imperatives to prevent harm, maintain and restore health, and ease suffering. The trajectory of a practitioner’s competence is harder to calculate than one described by a ballistic equation. And the terrain of competence bears more resemblance to that of a swamp than it does to the ethereal “space” of pure knowledge, because it not only includes features of the doctor, but it also factors in the variables of patients and their problems,²⁶ places,²⁷ and the health care system.^{27–29} This alternative concept of competence is at home in the world of patient-centered medicine.³⁰

The educational consequences of thinking of competence in this way are many and are quite different from those of the attributional model. A primary shift in focus is from physicians and their attributes to the relationship between doctors and patients in encounters. From an educational perspective, portraying the performance of a doctor, in the first instance, as dependent on patient case and setting (see Figure 2), makes clear that these encounters are learning experiences, for both patient and doctor. Every encounter provides patients the opportunity to be informed by the doctor’s evaluation, and also allows doctors opportunities to add to their experiential knowledge and to reflect on whether their own and professional expectations of performance are being met. Slipping below a personal standard should trigger a self-guided educational effort; slipping below a professional standard might prompt an externally driven review. This depiction of competence creates a natural fit between physician learning in practice and quality improvement. Viewing practice as a continuous learning curve comprising multiple situations removes the barrier between the academic exercise of continuing medical education and the practice-based enterprise of quality enhancement.

Building an Educational Framework for the Practice of Medicine

The new image of competence in practice just described, and the kind of educational activity that it stimulates, has encouraged the emergence of a new

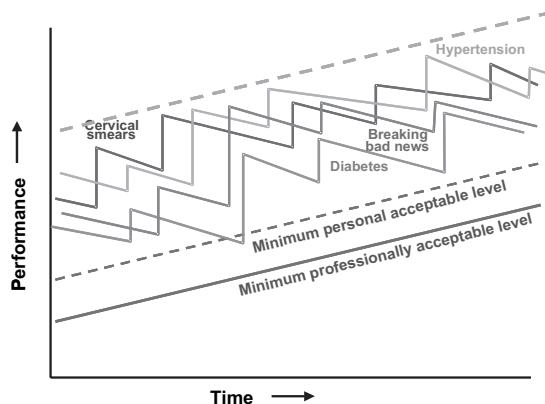


Figure 2 An alternative view of competence, shown as a practice-based trajectory was originally conceived by Ian McManus.¹⁵ The figure depicts the performance of a doctor as dependent on the patient's case and care setting (in contrast to the attributional model shown by Figure 1). Each jagged line represents the performance over time of an individual doctor dealing with patients with a given disease. The lower dashed line (minimum personal acceptable level) reveals a level of performance that might identify an educational need. The solid, straight line (minimum professionally acceptable level) reveals the level of performance at which regulatory action might be necessary.

paradigm for the maintenance of competence in the context of medical regulation,¹⁵ which is the practice of medicine as educational enterprise, a concept that is essentially the idea personified by the Greek goddess of health, Hygeia. Seen this way, questions familiar to any curriculum planner become obvious: What are the educational objectives? What educational tools are available? How should they be used and who should use them? And what are the barriers to implementation? These turn out to be the very questions being addressed in many countries in various revalidation programs under development. Let us briefly examine them.

- *What are the educational objectives?* Good examples of educational objectives for the profession as a whole are outlined in the document *Good Medical Practice* published by the General Medical Council in Great Britain,³¹ and in the report of the American Board of Emergency Medicine on its model of clinical practice for emergency medicine.³² A critical feature of these two documents is their focus on what doctors are to do, rather than on who they are to be. But the truly novel task is at the individual level; each physician examining his or her own practice and deriving from it a set of objectives based on that individual's own needs. We have evidence that doctors lack the skills to perform this kind of evaluation with accuracy.³³

- *What are the tools?* Ongoing education suffers from a lack of validated tools for self-directed education, that is, content planning, content delivery, and assessment. Until recently, education in this domain has remained a haphazard enterprise. But great strides are being made in our understanding of what works in continuous professional development³⁴ and in our ability to assess the performance of doctors, individually and in groups, as they practice medicine.^{35–38} In each of several jurisdictions, a hierarchy of educational programs and assessments is taking shape, using tools to assess the performances of doctors in practice rather than their attributes. Less reliance is being placed on theoretical exams and attendance at formal continuing education exercises as evidence of competence, and more effort is directed to the development of tools to examine the processes and outcomes of practice.^{39,40}

- *Who will deploy these tools, and in what organizational framework are they to be implemented?* A critical question being dealt with around the globe is, who will be accountable for the competence of doctors? The profession? Their employers? Or government (where there is a distinction between government and employers)? In each of several jurisdictions, different answers seem to be evolving.

In North America, plans for implementation of the new view of competence in practice are patterned on models that have underpinned education for entry into practice since the era of Flexner. The simple ideas of an accreditation system for the educational process, coupled with a valid and reliable assessment component to ensure accountability, can serve as templates for education and assessment of competence-in-practice. Considerable jockeying among various professional groups such as certifying agencies, specialty associations, and licensing authorities is taking place, and so far, these groups constitute a major locus of activity to implement aspects of the new concept of competence.⁴¹ Competing with this approach in the United States are broad efforts by the multiple players in the health care industry to gain control of quality using industrial approaches.^{42,43} There are concurrent efforts by consumer-driven groups to put the matter of competence assurance in the public domain.⁴⁴ In Canada, where most health care is delivered through government-funded programs, the issue of control of the profession by governments versus by the profession itself is central.⁴⁵ A critical determinant in this interaction, given the availability and high cost of the tools, will be the provision of infrastructure support for the systematic process required. Recapturing the spirit of the Flexner revolution—when there was a public commitment to fund the professionally controlled educational institutions that were to implement and improve entry-into-practice standards—is a challenge that might not be as easily accomplished in the first decade of the 21st century as it was in the first decade of the 20th.

In other English-speaking jurisdictions—Great Britain, New Zealand, and Australia, for example—where the links between accredited education and professional licensure are historically less well defined, the organizational aspects of systems to maintain competence seem to be even more at risk of being removed from the profession's sphere and placed into occupational or governmental domains.⁴⁶

Within the profession, barriers to using the tools of continuing professional development are considerable, and their availability does not guarantee

use. The expression “don’t mess with my paycheck” has come to symbolize the special sense of entitlement that arises with incumbency in the work place. The fact that doctors in practice have already been educated and assessed in stringent processes, are already licensed, have achieved a certain status, and have a healthy sense of self-worth that is reinforced by the traditional view of “once in, good for life,” ensures a natural reluctance to—and in some cases a fierce determination not to—admit to any need of further scrutiny. In proportion to this degree of determination is the need to ensure the ethical, legal, and educational defensibility of the process of assessing competence in practice. In particular, evidence to support the validity of educational and assessment tools for practice is often hard to come by, simply because of their novelty. Since in the new concept of competence there is an imperative for the focus of assessments and educational initiatives to be practice specific, traditional problems in defining scopes of practice,⁸ and the related definition of the meaning of *peer*, must be confronted. These challenges, although formidable, have been tackled. As an example, several Canadian licensing jurisdictions have participated in the long-standing Aylmer Collaboration; overcoming the barriers stated above through progressive effort seems achievable.⁴⁷

Providing Credibility

To summarize: the expectations of patients for safe, high-quality medical care have forced the profession to examine its roots, that is, how it defines the meaning of the competence of its practitioners. The developing outcome has shifted the definition from a static, attributional one, which focuses on the physician as the sole determinant of competence, to a more dynamic, outcome-oriented definition that acknowledges the participation of patients and systems in the delivery of competent care.

This new view of competence is influencing the process of medical regulation, particularly by providing a conceptual framework for a system of maintenance of competence within the profession itself. Such a system, if

properly implemented, could provide a greater degree of credibility to the profession’s claim for accountable regulation of its own work.

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References

- 1 LaDuca A. The structure of competence in health professions. *Eval Health Prof.* 1980;3: 253–288.
- 2 Norcini JJ. Where next with revalidation? *BMJ.* 2005;330:1458–1459.
- 3 Cain FE, Benjamin RM, Thompson JN. Obstacles to maintaining licensure in the United States. *BMJ.* 2005;330:1443–1445.
- 4 Irvine D. Patients, professionalism, and revalidation. *BMJ.* 2005;330:1265–1268.
- 5 Hoey J. Can physicians regulate themselves? *CMAJ.* 2005;172:717.
- 6 Ramsay S. Audit further exposes UK’s worst serial killer. *Lancet.* 2001;357:123–124.
- 7 Stewart JB. *Blind Eye.* New York, NY: Simon and Shuster; 1999.
- 8 Melnick DE, Asch DA, Blackmore DE, Klass DJ, Norcini JJ. Conceptual challenges in tailoring physician performance assessment to individual practice. *Med Educ.* 2002;36: 931–935.
- 9 Relman AS. A physician’s view of Friedson’s analysis. *J Health Polit Policy Law.* 2003;28: 164–168.
- 10 Gove PB. *Webster’s Third New International Dictionary of the English Language, Unabridged.* Springfield, Mass: Merriam-Webster, Inc; 1998.
- 11 Neufeld VR, Norman GR, eds. *Assessing Clinical Competence.* New York, NY: Springer; 1985:31–32.
- 12 Epstein RM, Hundert EM. Defining and assessing professional competence. *JAMA.* 2002;287:226–235.
- 13 Royal College of Physicians and Surgeons of Canada. *The CanMEDS Project Overview.* 2005. Available at: (www.medical.org). Accessed April 4, 2007.
- 14 Chaudhry NK, Fletcher RH, Soumerai SB. Systematic review: the relationship between clinical experience and quality of health care. *Ann Intern Med.* 2005;142:260–273.
- 15 Handfield-Jones RS, Mann KV, Challis ME, et al. Linking assessment to learning: a new route to quality assurance in medical practice. *Med Educ.* 2002;36:949–958.
- 16 Shine KI. Health care quality and how to achieve it. *Acad Med.* 2002;77:91–99.
- 17 Starr P. *The Social Transformation of American Medicine.* New York, NY: Basic Books; 1982:116–123.
- 18 Ludmerer KM. *Learning to Heal: The Development of American Medical Education.* New York, NY: Basic Books; 1985:241.
- 19 Ludmerer KM. *Time to Heal.* New York, NY: Oxford University Press; 1999.
- 20 Davidoff F. Shame: the elephant in the room. *BMJ.* 2002;324:623–624.
- 21 Bosk CL. *Forgive and Remember: Managing Medical Failure.* Chicago, IL: University of Chicago Press; 1979.
- 22 Kohn LT, Corrigan JM, Donaldson MS, eds. *Institute of Medicine Report: To Err is Human: Building a Safer Health Care System.* Washington, DC: National Academy Press; 1999.
- 23 Rethans JJ, Norcini JJ, Baron-Maldonado M, et al. The relationship between competence and performance: implications for assessing practice performance. *Med Educ.* 2002;36: 901–909.
- 24 Miller GE. The assessment of clinical skills/competence/performance. *Acad Med.* 1990; 65(10 suppl):S63–S67.
- 25 Schon DA. *The Reflective Practitioner: How Professionals Think in Action.* New York, NY: Basic Books Inc; 1983.
- 26 Elstein AS, Shulman LS, Sprafka S. *Medical Problem Solving.* Cambridge, Mass: Harvard University Press; 1978.
- 27 LaDuca A, Taylor DD, Hill IK. The design of a new physician licensure examination. *Eval Health Prof.* 1984;7:115–140.
- 28 Wennberg JE. Perspective: practice variations and health care reform: connecting the dots. *Health Aff (Millwood).* 2004;suppl web exclusives:VAR140–VAR144. Available at: (www.healthaffairs.org). Accessed April 4, 2007.
- 29 Wenghofer EF, Williams AP, Klass DJ, Faulkner D. Physician–patient encounters: the structure of performance in family and general office practice. *J Contin Educ Health Prof.* 2006;26:285–293.
- 30 Stewart M, Brown JB, Weston WW, McWhinney IR, McWilliam CL, Freeman TR. *Patient-Centered Medicine: Transforming the Clinical Method.* Thousand Oaks, Calif: Sage Publications; 1995.
- 31 General Medical Council. (4K) Good medical practice 2006. Available at: (www.gmc-uk.org/guidance/good_medical_practice/index.asp). Accessed February 26, 2007.
- 32 Hockeberger RS, Laduca A, Orr NA, et al. Creating the model of a clinical practice: the case of emergency medicine. *Acad Emerg Med.* 2003;10:161–168.
- 33 Davis DA, Mazmanian PE, Fordis M, Van Harrison R, Thorpe KE, Perrier L. Accuracy of physician self-assessment compared with observed measures of competence; a systematic review. *JAMA.* 2006;296:1094–1102.
- 34 Robertson MK, Umble KE, Cervero RM. Impact studies in continuing education for health professions: update. *J Contin Educ Health Prof.* 2003;23:146–156.
- 35 Luck J, Peabody JW. Using standardized patients to measure physicians practice: validation study using audio recordings. *BMJ.* 2002;325:629.

- 36 Norton PG, Faulkner D. A longitudinal study of performance of physicians' office practices: data from the Peer Assessment Program in Ontario, Canada. *Jt Comm J Qual Improv.* 1999;25:252–258.
- 37 Norton PG, Soberman-Ginsburg L, Dunn E, Beckett R, Faulkner D. Educational interventions to improve practice of nonspecialty physicians who are identified in need by peer review. *J Contin Educ Health Prof.* 2004;24:244–252.
- 38 Goulet F, Jacques A, Gagnon R. An innovative approach to remedial continuing medical education, 1992–2002. *Acad Med.* 2005;80:533–540.
- 39 Norcini JJ. Current perspectives in assessment: the assessment of performance at work. *Med Educ.* 2005;39:880–889.
- 40 Klass D. Assessing doctors at work—progress and challenges. *N Engl J Med.* 356:4:414–415.
- 41 Brennan TA, Horwitz RI, Duffy FD, Cassel CK, Goode LD, Lipner RS. The role of physician specialty board certification status in the quality movement. *JAMA.* 2004;292:1038–1043.
- 42 Kohn LT, Corrigan J, Donaldson MS, McKenzie D. *To Err Is Human: Building a Safer Health System.* Washington, DC: National Academy Press; 2000.
- 43 Spear SJ. The health factory. *New York Times.* August 29, 2005;15.
- 44 Citizen Advocacy Center. Maintaining and improving health professions competence: road map to continuing competency assurance. Available at: (www.cacenter.org/cac/continuing_competency_requirements). Accessed April 4, 2007.
- 45 Dauphinee WD. Self regulation must be made to work. *BMJ.* 2005;330:1385–1387.
- 46 Doctor performance and public accountability. *Lancet.* 2003;362:1404–1408.
- 47 Dauphinee WD. Revalidation of doctors in Canada. *BMJ.* 1999;319:1188–1190.

Teaching and Learning Moments

No Time for Kids!

The day after the graduation ceremony, the School of Medicine at the Pontificia Universidad Católica de Chile traditionally invites the new doctors and the faculty members to a farewell party. Graduation takes place in January, which is summertime in the southern hemisphere. The warm weather affords a good opportunity to leave behind the white coats and to dress up in long, elegant dresses and black suits. It was at this party several years ago that I learned a valuable lesson.

When the graduates begin their medical studies, they are still teenagers. But, after seven years of medical school, they are adults, full of expectation of what they will find out in the “real world.” During their time in school, many things have changed and the farewell party gives the faculty the unique opportunity to catch up with the graduates' personal stories before saying goodbye.

I teach both an introductory course in medicine for first-year medical students and also a couple of physiology seminars for second-year medical students. However, after that, I usually do not see the students again until the sixth year, when they reach the ob–gyn internship.

Throughout their training, some students are engaged in long-term

relationships; others break up with their significant others because the rigors of training strained their relationships. Usually, we have little time to speak about such personal things with our students, but it seems that with Maria it had been different. I realized that at the farewell party.

As it usually occurs with women at parties, we congregated near the restroom to have a private chat. When Maria saw me, she came towards me smiling, and with bright-eyed enthusiasm raised her left hand. “Look, I got married two years ago.” I congratulated her warmly, thinking how young she looked.

Then I asked the obvious question: “Have you got any kids?”

“No way I would have one while still studying medicine” she replied. “I still remember what you told me in second year” she said.

“And what did I say to you?” I asked, not able to recall that we had a conversation about the subject. Maria then repeated to me, word for word, my own story.

I got married at the end of my fifth year, just before entering my ob–gyn internship. My first son was born a year later. During his first year of life, I rushed him to my mother's house

each morning and then I went to the teaching hospital, located nearly 40 kilometers away. During the night wards, in order for me to breast-feed him, my husband brought him to the hospital. Between patients, I fed him. But what shocked Maria even more was the way I entertained him while I was studying. I read out loud selected paragraphs of *Harrison's Principles of Internal Medicine* with a voice that mimicked a nursery rhythm while rocking his stroller with my bare foot until he fell asleep.

How did Maria and I end up talking about child rearing while studying rat physiology in a second-year seminar? I will never know the answer. But what is relevant to me is the role that we have as educators and how we should be cautious when we describe some of our own life experiences to our students. I shared my early days of motherhood thinking of it only as a humorous story. It is clear, however, that for Maria it was received as a negative message: studying medicine is no time for kids!

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