

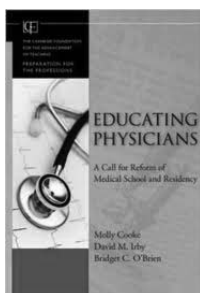
BOOK AND MEDIA REVIEWS

Editors Note: This issue of the Book and Media Reviews column contains a longer than usual review of a critically important book. If you care about medical education, and I suspect every single reader of *Family Medicine* does, please read it. As Jen VanDeusen, MEd, describes, a century ago educator Abraham Flexner raised an alarm about the state of medical education in America. A century later, Molly Cooke, David M. Irby, and Bridget C. O'Brien attempt to do the same. It is quite remarkable what Flexner managed to accomplish in 1910 and the influence and power of his words. Let us commit to ensure that the Carnegie report of 2011 has some of the same impact.

Those of us who work directly and indirectly in this educational enterprise appreciate how important these authors' call for substantial and genuine reform is in these tumultuous and rapidly evolving times. Their cogent critique of the current state of medical education speaks volumes, and the implications for the critical state of our health care system and its need for reform falls close on its heels. We must be prepared to face squarely our responsibility for the deep problems within our health care system that rest, in some part, on the problems inherent in the education of our young physicians. *Educating Physicians* is an important work that deserves our attention.

Educating Physicians: A Call for Reform of Medical School and Residency

Molly Cook, David M. Irby, Bridget C. O'Brien
Jossey-Bass/Carnegie Foundation for the Advancement of Teaching, 2010, 304 pp., \$40, hardcover



In 1910, The Carnegie Foundation for the Advancement of Teaching commissioned an educator, Abraham Flexner, to study the state of medical education in North America. The Carnegie Foundation chose an educator rather than a physician to

lead the study because their intention was “not a medical study, but an educational one. Medical schools are schools and must be judged as such.”^{21, pp. 108-9} Flexner visited all of the medical schools in the United States and Canada and found wildly varying levels of physician performance and an absence of any unifying standards. The Flexner report changed medical education and practice from an essentially unregulated and even chaotic process into the rigorous standardized system we know today. As an example, Flexner promoted high academic standards through standardization based on structural requirements in medical education. He insisted that a 4-year college degree with a strong emphasis on the sciences be a prerequisite for admission to medical school, which would be composed of 2 years of basic sciences followed by 2 years of clinical experience.

A century later, the Carnegie Foundation revisits this territory. In 2010, the Foundation recognized that the 21st century demanded a fresh assessment of medical education through the lens of advancements in medical research, practice, and the learning sciences. It commissioned faculty from the University of California at San Francisco to author the new study. The results of this work, *Educating Physicians: A Call for Reform of Medical School and Residency*, presents a new vision for the transformation of medical education that calls us to action. The authors honor the achievements of the Flexner-based system and examine the challenges now confronting medical education. They blend Flexner's legacy of field-based research with an in-depth analysis of the bodies of literature on medical education and how people learn. The authors visited a sample of the allopathic medical schools and teaching hospitals in the United States where they conducted interviews, focus groups, and observations. They consulted with leaders of medical professional organizations, convened an expert panel to review their observations, and reviewed the literature to guide the interpretation of results and recommendations.

From this extensive study a new vision for medical education emerged. Their key findings lead to four goals for medical education:

1. Standardization of learning outcomes and individualization of the learning process

Accreditation standards currently maintain the Flexner model of medical school (2 years of basic sciences followed by 2 years of clinical experience) and residency. This existing model assumes that time spent learning, in semester or rotation blocks, ensures the desired acquisition of knowledge. The new goal envisions a system where knowledge is defined in terms of clear outcomes—what learners should know and be able to do—that are measured by reliable and valid assessments. Such a system honors the fact that learners progress at different rates and learn in different ways, and allows for a more learner-centered curriculum. Once the desired results are made clear, how one gets there can be tailored to each learner's style and situation.

2. Integration of formal knowledge and clinical experience

Currently these two critical aspects of knowledge are more or less segregated, with medical students mostly engaged in formal academic learning and residents in clinical practice. Since physicians must continuously integrate their knowledge and skills in an array of diverse environments and clinical situations, this goal recommends greater blending of the two, with earlier “clinical immersion” for students and “more intense exposure to the sciences and best evidence”^{1, p.6} for residents.

3. Development of habits of inquiry and innovation

Physician clinical practice and teaching are social practices that require a heightened sense of “self-as-instrument” and a commitment to excellence in every aspect. Learning to inquire, reflect, discover, and innovate are habits of mind and heart that support lifelong excellence in practice.

4. Focus on professional identity formation

This goal envisions a new understanding of the profound importance of physicians' “development of professional values, actions and aspirations”^{1, p.6} as an essential focus in medical education. This includes foundational development of clinical competence, communication and interpersonal skills, and ethical and legal understanding and extends to the development of loftier goals of “excellence, accountability, humanism and altruism.”^{1, p.6}

Part One of *Educating Physicians* provides an overview of contemporary medical education and the profession of medicine. It includes a history of medical education, a definition of the core domains of the physician's work, and a description of the research on learning about how physicians become expert at these core domains and travel through the process of professional formation.

Part Two is focused on the experience of learning to become a physician, including curriculum design, instruction, and assessment in both medical school and residency. It highlights “promising innovations”^{1, p.7} that build on the strengths of these designs and address and improve upon their weaknesses.

In Part Three, the authors tackle the complex environment of the financing, regulation, and structures of leadership in current medical education. They call for vision, creativity and innovation, and progressive leadership as attributes critical to reforming these arenas.

The book closes with a vision of what might be including a set of recommendations that the authors think will ensure that medical education in the United States will lead the way for the rest of the world. The book offers examples of programs that epitomize the “principles of individualization, integration, inquiry and identity.”^{1, p.8} It also offers a set of recommendations for reform in the policy arena that incorporate these principles.

Designated institutional officials, program directors, clinical faculty, and educational leaders should all read this book. To begin to realize this vision, medical schools and departments of family and community medicine and residencies may wish to form professional learning communities (PLCs),² either as individual entities or as collaborative groups. The PLCs could meet regularly to discuss how the guiding ideas in the book support family medicine. They can then decide what methods and tools they need to support these ideas and plan how they will develop the infrastructure³ necessary to guide implementation.

This vision for medical education calls for us in family medicine to act at both the micro and the macro levels of system. At home, in each of our programs, we can examine our own curriculum, instruction, and assessments to see how well they align with how people learn. We can work to ensure that the clinical practices in which our learners train provides both high-quality patient care and promotes learner engagement in solving authentic, challenging problems. We can create medical schools

and residencies that are professional learning communities, where everyone acts as both learner and teacher. And, we can develop and advocate for new policies that will best support substantial growth in learning and practice. Much work lies ahead to reform a medical education system designed a century ago; in *Educating Physicians* we have an essential and wise guide to help lead us to create one for the next 100 years.

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3. Senge PM, Kleiner A, Roberts C, Ross R, Smith B. The fifth discipline field book: strategies and tools for building a learning organization. New York: Doubleday, 1994.

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