

## **Beyond the Biomedical Feedlot**

Cynthia Whitehead, MD, PhD, and Ayelet Kuper, MD, DPhil

**Dr. Whitehead** is vice-chair, education, and associate professor, Department of Family and Community Medicine, University of Toronto, and staff physician, Women's College Hospital, Toronto, Ontario, Canada.

**Dr. Kuper** is assistant professor, Department of Medicine, Faculty of Medicine, University of Toronto; scientist, Wilson Centre for Research in Education, University Health Network/University of Toronto; and staff physician, Division of General Internal Medicine, Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada.

Correspondence should be addressed to Dr. Whitehead, Department of Family and Community Medicine, Faculty of Medicine, University of Toronto

Medical trainees are force-fed a thick stew of biomedical facts, lightly seasoned with a smattering of professionalism and communication skills. Sated on this rich diet, they have little energy to explore the world beyond. If we want to ensure that our learners develop to their full potential, we must consider how best to guide them along a path to become healers who are thoughtful, reflective, caring, compassionate, and critical thinkers. To do so, we will need to encourage them to journey beyond the biomedical feedlot.

While we must obviously ensure that we do not send unskilled, inept, or incompetent practitioners into the workplace, most medical educators aspire to help our students develop beyond this minimum standard. A curriculum focused on only biomedical facts and clinical competencies is unlikely to ensure this broader development, and yet we increasingly seek efficient ways to move our learners along a factory production line of training. In a recent JAMA article, for example, Emanuel and Fuchs<sup>1</sup> threw down a gauntlet to medical educators by calling for a 30% reduction in medical training time by 2020. Commenting that “[w]aste, especially wasting the time of some of society’s most highly educated and talented people, is unethical,” they exhort educators to “focus attention on the essential content of medical training”.<sup>1</sup> They propose doing away with comprehensive training in favor of creating specialist clinician–technicians who meet a limited number of specific competency standards. Their schema focuses on what they deem to be essential content: a focused list of pre-clinical science content areas and clinical skills. While most medical educators would not currently make such a drastic efficiency argument, some certainly sympathize with the idea of stripping medical education back to a basic, more manageable core. Yet, we would argue that learners will never develop to their full

potential unless educators step back from adjusting content checklists of facts and skills and instead revisit how learners know and think.

It has long been accepted that being a good doctor requires far more than biomedical expertise. Hearty meat-and-potatoes bioscientific fare without vegetables and vitamins from the social sciences and humanities will produce neither healthy nor happy results for physicians or patients. Medical educators clearly recognize that optimal medical student development requires a balanced diet, combining biomedical knowledge with other important areas. This understanding is formally acknowledged in current competency standards. In the United States, the Medical Knowledge competency is only one of six Accreditation for Graduate Medical Education Core Competencies; in Canada, Medical Expert is one of seven in the CanMEDS Physician Competency Framework. A curriculum that actually taught the knowledge required for the other competencies would draw heavily on the social and behavioral sciences and humanities.<sup>2</sup> However, the twentieth century saw a privileging of biomedical knowledge that strongly limited the incorporation of the other extremely important forms of knowledge into the curriculum. Recently, organizations such as the Association of American Medical Colleges have begun to formally articulate the need for non-biomedical forms of knowledge in medical curricula.<sup>3</sup> There nonetheless remains a deeply-rooted tendency to consider biomedical expertise as based in “facts” and to dismiss other important areas of physician competence (communication, collaboration, professionalism) as “soft skills” that do not require similar groundings in appropriate forms of knowledge.

In addition to accommodating other forms of knowledge, it has long been a struggle to incorporate even new biomedical knowledge into an always over-full medical curriculum. Despite its position as privileged knowledge, biomedicine is thus frequently badly taught as a long series of facts, a process that permits student engagement with the materials as data to be memorized rather than as ideas to be grappled with intellectually. Framed in this way, biomedical learning turns into the stuff of late-night brain stuffing—surely not the way to encourage fulsome development! Instead, we must find ways to inculcate the sense that biomedical knowledge requires inquisitive observation and interpretation, incorporating Flexner’s notion of a good doctor as a thoughtful and curiosity-driven scientist.<sup>4</sup>

Enabling learners to develop to their full potential will require a significant shift from current approaches both to forms of knowledge and to the ways we expect learners to engage with that knowledge. While finding a way to ensure minimum competency standards, we must consider that step as merely meeting our learners’ basic dietary requirements. We must also provide them with sufficient sustenance to set out on a life-long journey of exploration of the art and science of medicine, stimulating their intellectual curiosity about the wonders that make up medical knowledge.

## References

1. Emanuel EJ, Fuchs VR. Shortening medical training by 30%. JAMA. 2012; 307(11):1143-1144.
2. Kuper A, D'Eon M. Rethinking the basis of medical knowledge. Med Educ. 2011;45(1):36-43.
3. Association of American Medical Colleges. Behavioral and Social Science Foundations for Future Physicians. Washington, D.C.: AAMC. 2011.  
<https://www.aamc.org/download/271020/data/behavioralandsocialsciencefoundationsforfuturephysicians.pdf>. Accessed July 12, 2012.
4. Whitehead C. Scientist or science-stuffed? Discourses of science in North American medical education. Med Educ. In press.