

How good is the newly graduated doctor and can we measure it?

As medical curricula and the competencies required of new graduates evolve, evidence-based evaluation of these curricula should become routine

OVER THE LAST TWO TO THREE DECADES, many universities and medical schools have initiated curriculum reforms. The factors cited as drivers of this worldwide reform include the ever-increasing knowledge base, shift in the burden of disease, advances in technology, changing expectations of patients and societies, easy access to healthcare information via the Internet, need for cost-effectiveness, the quality movement and awareness of medical errors, and changes in the learning environment.

As societies struggle with their healthcare systems and re-examine the question “What is a good doctor and how do we measure it?”, medical schools, teaching hospitals, professional societies and regulatory bodies try to provide guidelines, answers and leadership. As a consequence, there has been a proliferation of competency lists, and the movement towards “outcome-based education”.¹ One of the more meaningful lists of competencies was developed as part of the Education of Future Physicians of Ontario (EFPO) project² (Box) — the first six of the eight competencies in this list resulted from patient input.

Medical educators have therefore been asked to redefine the required knowledge base, set of skills, attitudes and experiences of physicians at all levels of training, while devising outcome metrics (assessments) that would allow meaningful feedback to individuals, schools, training programs and the system as a whole.^{3,4} The design and identification of these outcome metrics continue to be a challenge and reflect to a certain extent the diverse missions of medical schools:

■ As *university students*, medical students receive an advanced scientific degree, implying a depth of knowledge and mastery of scientific skills. Assessments and outcome metrics have traditionally concentrated on the scientific aspects of medicine, which appear narrow in light of the above-listed competencies.

■ Medical schools prepare their students to *function as doctors for the rest of their lives*. In most parts of the world, the government or a professional body certifies and licenses doctors, endorsing them as competent practitioners of medicine. Reliable metrics of the quality of medical practice remain a major challenge. Non-adherence to accepted medical guidelines has many reasons.^{5,6} However, awareness of and use of guidelines has been a measurable effect of one recent curricular change,

involving problem-based and self-directed learning along with regular assessments of skills and attitudes.⁷

■ Medical schools also prepare their students to *function as interns and junior medical officers* after graduation. In essence, the directors of house-officer training programs and their colleagues are some of the earliest sentinels of medical student performance.

In this issue of the Journal (*page 163*), Dean and colleagues use the last aspect to collect performance data about recent graduates of the University of Sydney graduate-entry medical program.⁸ Using a self-assessment tool and collecting data from supervisors, they found that graduates of the new curriculum had better communication and teamwork skills, and that they approached patient care in a more holistic manner, while being more confident and willing to continue to learn. The graduates of the new

program assessed their knowledge base as weaker than that of their traditionally trained colleagues, a fact that was supported by some, but not all, of their supervisors.

Despite the weaknesses of the study design acknowledged by the authors, these results reaffirm the value of follow-up studies as outcome metrics of medical education.⁹ As the “officially” desired competencies of physicians have gone beyond factual knowledge and clinical skills, training programs need to institute evaluation methods that measure these competencies.¹⁰ While more quantitative measures are developed, and increasing numbers of new curricula are introduced, better communication and feedback is needed between the various levels of medical education to guide this process.

Medical education is a continuum and a lifelong endeavour, and all its components — secondary schools, colleges, medical schools, training programs, practices, hospitals and professional societies — need to work together.⁵ As in any complex, interdependent system, frequent feedback is absolutely necessary; we need intermediate and surrogate markers to assess progress and allow us to take corrective steps.

The present study provides one such marker, albeit limited.⁸ Similar data collection should be encouraged as a *matter of routine* to inform the system and improve the training of physicians.

H Thomas Aretz

Medical Director, International Education
Harvard Medical International,
Boston, MA USA
Associate Professor of Pathology
Harvard Medical School

tom_aretz@hms.harvard.edu

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Competencies required of medical graduates*2

Medical expert—clinical decision maker
Communicator—educator—humanist—healer
Collaborator
Gatekeeper—resource manager
Learner
Health advocate
Scientist—scholar
The physician as a person

*Developed for the Education of Future Physicians of Ontario project.

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Treating phimosis

First, let's decide what we really mean by phimosis

CIRCUMCISION REMAINS A TOPIC of significant debate in Australia, even though there has been a marked reduction in the rate of circumcision in this country, which has reflected that of England, where 95% of boys were circumcised in the 1930s, declining to 6.5% in the early 1980s.¹ In this issue of the Journal (*page 155*), Spilsbury and colleagues report that many boys are circumcised for phimosis before the age of five years, despite phimosis being rare in boys of this age.² They reviewed all circumcisions in Western Australian hospitals between 1981 and 1999, recording that the rate of medically indicated circumcisions increased during that period, and that, if the 1999 rate remains stable, it would be seven times the expected incidence of phimosis in the group of boys aged less than 15 years. These findings imply a high rate of unnecessary surgery, similar to the findings from studies conducted in England.^{1,3}

Spilsbury and colleagues define phimosis as “narrowing of the preputial orifice leading to non-retractability of the prepuce”. Such a definition would result in many boys under the age of five years being diagnosed with a condition for which surgery is considered to be justified. Their use of the term phimosis seems to mean pathological

phimosis. To clarify, the prepuce is regarded as normal in boys if non-retractable because of preputial adhesions, or if the skin is physiologically non-retractable because of narrowing (ie, physiological phimosis). Figure 1 shows a normal foreskin that is non-retractable. The terms phimosis and non-retractable are not sufficiently clear in isolation, and need to be qualified. Rickwood and colleagues have recently given a succinct definition, stating that the “. . . normality, with an unscarred and pliant preputial orifice, is clearly distinguishable from *pathological* phimosis [shown in Figure 2], a condition unambiguously characterised by secondary cicatrisation of the orifice . . .”.¹ The addition of the word “pathological” or “physiological” is necessary to differentiate the different prognoses for phimosis, and, if the foreskin is not retractable because of adhesions to the glans, that information needs to have been included in the definition and documentation. Thus, rewriting the extract from the article by Spilsbury and colleagues, “many boys are circumcised for (*pathological or physiological*) phimosis before the age of five years, despite (*pathological*) phimosis being rare in this group”.



1: A normal foreskin that is non-retractable, with pouting of the most distal portion when gentle retraction is attempted.