COMMENTS

Milestones: Not Millstones but Stepping Stones

In a recent Perspective entitled "Competency-Based Education: Milestones or Millstones?" Norman et al[1] listed conceptual, psychometric, and logistic problems with competency-based medical education (CBME). Their conclusion—that learning and assessment based on the Milestones offer real benefit—may be lost on readers of this provocative piece. We take this opportunity to expand their description of 4 benefits of CBME over a traditional approach. We also suggest 2 additional benefits: (1) Milestones are critical to assessment based on direct observation in the context of real clinical practice; and (2) by targeting essential attributes of a high-performing physician, Milestones will advance the quality of care across specialties.

1. *Guiding learning:* The educational Milestones[2] provide a shared mental model that defines performance for a given competency along a developmental continuum, recognizable by trainees.
2. *Facilitating ongoing, work-based feedback to learners at the point of care:* Milestones provide the substrate for specific formative feedback that addresses how to improve and advance to the next level, further benefiting the learner.
3. *Supporting pass/fail decisions at the end of a rotation and the end of a program:* The Milestones and the related concept of entrustable professional activities (EPAs)—routine tasks of a specialty that can be directly observed and measured—provide a framework for critical decisions about readiness for practice.[3] The EPAs map competencies to essential clinical tasks, thereby "bundling" competencies within an EPA for purposes of a holistic approach to assessment and entrustment. The latter is particularly relevant to decisions about the ability to progress to the next level of training.
4. *Supporting pass/fail decisions for licensure and certification:* Milestones and EPAs are useful constructs for making decisions about the competence of individuals along the education, training, and practice continuum. The intended outcome of training—safe, effective, and patient-centered care—should be included in the assessment of the learner.[4]

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There are 2 additional benefits to those described by Norman et al.[1]

5. *Providing better, more accurate assessments in the messy, real world contexts at the point of care:* Fair and accurate assessment using direct observation is dependent on (1) a shared mental model of what behaviors to look for (Milestones); and (2) faculty development to "sharpen the people rather than the instruments."[5] Thus, the judgment of experts is a valued component of competency-based assessment.
6. *Driving learners further along the continuum toward expertise during training:* Although logistically difficult to accommodate individual variability in training duration, a Milestones-based approach informs duration of training needed for essential skills, allowing some learners to advance to a higher level of development than expected at training completion, or to acquire additional skills.

All these benefits contribute to making Milestones the stepping stones to competence and, ultimately, expertise. Although the concept of CBME may be revolutionary, its implementation is evolutionary. The medical education community must accept this paradox and be willing to engage in the rigorous study of Milestones and EPAs to deliver the demanded "proof" that this framework improves educational outcomes. We embrace a "realist" approach for the study of this evolutionary process, focusing on what works and why, facilitating adoption and adaptation of the principles of CBME in graduate medical education and the assessment of performance in practice.[6] We look forward to vigorous dialog and rigorous study that will advance competency-based assessment. As a self-regulating profession, we owe our colleagues and the public nothing less.

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