Mapping the Distance: From Competence to Capability

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> Competence, much like beauty and contact lenses, lies in the eyes of the beholder.
>
> —Laurence J. Peter

It was just 2 weeks into my intensive care unit (ICU) rotation, and I was already preparing to witness my third family meeting. However, this time, my senior resident wanted me to lead the discussion as opposed to merely observing it. I had been an intern for 2 months, so I considered myself a relative novice. However, I was seasoned enough to know that a "real-life" family meeting was nothing like the standardized ones I had mastered as a student. In an actual ICU, a patient's illness was less straightforward than a textbook. The SPIKES protocol (Setting Up, Perception, Invitation, Knowledge, Emotions, Summarize) I had religiously memorized was barely enough when emotions ran high. And the nature of conversations was more unpredictable than any standardized test I had taken.

Instances like these struck me as unique to the ICU. Years of attempting buzzword-laden clinical vignettes in medical school created a deceptive sense of security. Now, as a trainee, every clinical encounter in the ICU required me to step outside my comfort zone. Ironically, none of those high-stakes assessments as a medical student tested my ability to adapt to such challenges. Based on the evaluations, feedback, and scores I had received over the years, I knew I was deemed "competent." But the real question was, "Am I capable?"

COMPETENCY-BASED MEDICAL EDUCATION: PEARLS AND PITFALLS

Competency-based medical education (CBME) marks a strategic change within health professions education. It links learner knowledge and skill acquisition to demonstrable outcomes, thereby upholding medical education's accountability to society (1). By focusing

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on outcomes, it deemphasizes time-based training and promotes learner centeredness (2).

Within the United States, the six core competencies of the Accreditation of Graduate Medical Education introduced in 1998 and refined in 2003 to incorporate milestones (3, 4) provide a methodical framework for the professional growth of trainees like me. CBME's focus on outcomes to ensure accountability to patients makes intuitive sense and focuses not solely on trainees but also on faculty and policy makers alike. Trainee development and wellness, transparency of competency attainment, societal accountability, and patient safety are a few of the factors outlining a strong value proposition for CBME (5).

Working up a patient's anemia, managing alcohol withdrawal, or interpreting an arterial blood gas test result—each of these examples represents a discrete outcome expected of a trainee. Although these outcomes may have differing levels of complexity, set standards aimed at ensuring proficiency among medical graduates can ensure patients are cared for in a manner that at least meets the accepted standard of care.

For all their merits, competencies unfortunately come with their own set of caveats.

First, it is known that competency assessments for graduates and expert doctors are not reflective of the complex nature of the individual patient encounter (6). This has led to tensions created by competing interests between measurable, standardized outcomes on one hand and authentic representation of the everyday real world of health care on the other (7). For instance, demonstrating skills or knowledge in a standardized and well-controlled environment may not translate into an environment like the ICU that is more dynamic and complex. A patient's complicated course often necessitates evidence-based interventions amid a fair degree of uncertainty. Family meetings like the one I was preparing to lead require one to synthesize medical judgement and decisions in the best possible manner for the patient and their family. No matter how well constructed, it is unlikely for a clinical vignette or simulation exercise to mirror this degree of complexity.

The focus on competencies also provides a unique challenge when it comes to the social determinants of health (SDOH) curricula across medical schools. Although well intentioned with respect to addressing inequities, many of these often reinforce stereotypes (8). Thus, as an intern, I noticed myself falling into biases I had been exposed to (often in case vignettes). Although checking the competency boxes here may help address SDOH, it can occasionally serve as not only insufficient but also contrary to the aims of any SDOH curriculum to begin with.

Indeed, competence is not something one can attain once and for all; there will always be another context or occasion that necessitates reassessment. This is evident within the complex and unpredictable environment of an ICU, thus requiring a more dynamic approach to guide learning, as well as assessment.

TOWARD A CAPABILITY-BASED MEDICAL EDUCATION

Capability refers to having justified confidence in one's ability to take appropriate and effective action to formulate and solve problems in familiar, unfamiliar, and changing settings (9). Fraser and Greenhalgh further describe it as the extent to which individuals can

adapt to change, generate new knowledge, and continue to improve their performance. Meaningful engagement with uncertain and unfamiliar contexts is thus essential to build capability (10).

Adaptability to change remains conspicuously absent in competencies, even though it is relevant to working in any clinical setting, especially in an ICU. It remains central to the idea of capability, however. Enabling capability is thus vital to ensure that healthcare delivery keeps pace with its continuously changing context (10).

By attempting to break down something as challenging as clinical competence into various subcompetencies, CBME has been criticized for being reductionist in its approach (11). Entrustable professional activities (EPAs) were an attempt to overcome this approach by linking competencies to clinical practice. EPAs represented units of professional practice that a trainee could be entrusted to perform, with the eventual goal of performing these unsupervised (12). Although actual clinical practice provided the scope to engage with uncertainty, EPAs themselves do not explicitly incorporate adaptability to change as part of their assessment framework. Capability, on the other hand, brings in an all-around human quality and holistic integration of a trainee's abilities. This shifts the focus from just outcomes to the actual person expected to perform those outcomes. Table 1 lists examples demonstrating the distinction between competence and capability.

WHEN SEVERAL ROADS LEAD TO ROME

One might rightly assume that, given the limitations of the human mind, it is unrealistic to even attempt to prepare for every novel situation. Conventional methods of deliberate practice would not suffice educating for capability in such scenarios. However, we must accept that change is ubiquitous in health care. Although adopting a capability-based medical education to accommodate change may seem daunting at first, there are several ways to achieve this goal in a manner that complements current pedagogies.

First, there is a need to recognize and respond to novelty (13). If we want to

Table 1. Examples demonstrating competency versus capability in the intensive care unit

Competency	Capability
Recognize acute illness and triage patients accordingly	Prepare a contingency plan in case of acute decompensation; proactively run through "what could go wrong" scenarios ahead of time
Basic ventilator management	Troubleshooting ventilator settings as new diagnostic information emerges
Running through potential causes of an arrest	Incorporating that while serving as code leader
Chest radiograph interpretation	Interpreting during rounds in clinical context of your patient and being able to adjust plan to incorporate this new information
Leading goals-of-care discussions with family members	Working with hospital ethics consultants to navigate complex goals-of-care discussions when there is no clear power of attorney

make sure trainees are adept at these skills, we need to prioritize them in teaching and assessments. This can be done by using opportunities to debrief and provide feedback on recognizing such novel situations (14). Educators can also help learners engage with uncertainty in a meaningful way by acknowledging challenges that arise when contending with uncertainty. This can be done by making grappling with ambiguity a discrete learning objective in itself (15). Nonlinear learning and entrustment-based discussions have also been proposed to facilitate the same (10, 12).

Perhaps the single essential step toward adopting a capability-based education would be to nurture the teacher–trainee relationship itself. Refining diagnostic frameworks, developing mental heuristics, and recognizing individual blind spots and biases cannot be attained without supportive coaching and mentorship. Training exposes learners to clinical volume. Reflecting on these patient experiences through feedback sessions, peer reviews, and mentored discussions highlights the importance of a teacher as a guide to derive meaning from these encounters. The expertise and judgment of a supportive teacher is thus essential in nurturing one's identity as a capable physician.

During high school, I opted for the premed track based on my passion for the basic sciences. The mechanistic processes and biochemical pathways governing the human body fascinated the science enthusiast in me. A decade later, the aspiring intensivist in me has come to realize that medicine is so much more. It does require critical thinking to apply scientific principles. But it also requires probabilistic reasoning when weighing evidence, empathy when breaking bad news, fortitude while training in a global pandemic, and courage to advocate for the autonomy of our female patients. Being a physician should mean striving toward these values. Although it may be enticing to reduce these to standardized competencies, we must ensure our trainees evolve into independent physicians who are not just competent but also capable of caring for their patients. The CBME framework serves as an important tool for workplace-based assessments, but we need to incorporate adaptability to change within medical training, given its relevance to our learners. We must remind ourselves, after all, that not all that is measured is valuable, and not all that is valuable can be measured.

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REFERENCES

1. Frank JR, Snell L, Sherbino J, editors. CanMEDS 2015 physician competency framework. Ottawa: Royal College of Physicians and Surgeons of Canada; 2015.

2. Holmboe ES, Sherbino J, Long DM, Swing SR, Frank JR. The role of assessment in competency-based medical education. *Med Teach* 2010;32:676–682.

3. Swing SR. The ACGME outcome project: retrospective and prospective. *Med Teach* 2007;29: 648–654.

4. Nasca TJ, Philibert I, Brigham T, Flynn TC. The next GME accreditation system: rationale and benefits. *N Engl J Med* 2012;366:1051–1056.

5. Dagnone JD, Chan MK, Meschino D, Bandiera G, den Rooyen C, Matlow A, *et al.* Living in a world of change: bridging the gap from competency-based medical education theory to practice in Canada. *Acad Med* 2020;95:1643–1646.

6. Durning SJ, Artino AR Jr, Schuwirth L, van der Vleuten C. Clarifying assumptions to enhance our understanding and assessment of clinical reasoning. *Acad Med* 2013;88:442–448.

7. Ginsburg S, McIlroy J, Oulanova O, Eva K, Regehr G. Toward authentic clinical evaluation: pitfalls in the pursuit of competency. *Acad Med* 2010;85:780–786.

8. Tsai J, Lindo E, Bridges K. Seeing the window, finding the spider: applying critical race theory to medical education to make up where biomedical models and social determinants of health curricula fall short. *Front Public Health* 2021;9:653643.

9. Stephenson J. Quality in learning: a capability approach in higher education. London: Kogan Page Limited; 1992.

10. Fraser SW, Greenhalgh T. Coping with complexity: educating for capability. *BMJ* 2001;323: 799–803.

11. Hoang NS, Lau JN. A call for mixed methods in competency-based medical education: how we can prevent the overfitting of curriculum and assessment. *Acad Med* 2018;93:996–1001.

12. Ten Cate O, Hoff RG. From case-based to entrustment-based discussions. *Clin Teach* 2017;14: 385–389.

13. Tate A, Ahluwalia S. A pedagogy of the particular: towards training capable GPs. *Educ Prim Care* 2019;30:198–201.

14. Teunissen PW, Watling CJ, Schrewe B, Asgarova S, Ellaway R, Myers K, *et al.* Contextual competence: how residents develop competent performance in new settings. *Med Educ* 2021;55: 1100–1109.

15. Witt EE, Onorato SE, Schwartzstein RM. Medical students and the drive for a single right answer: teaching complexity and uncertainty. *ATS Scholar* 2021;3:27–37.