

Time to Trust: Longitudinal Integrated Clerkships and Entrustable Professional Activities

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Abstract

Medical education shaped by the learning sciences can better serve medical students, residents, faculty, health care institutions, and patients. With increasing innovation in undergraduate and graduate medical education and more focused attention on educational principles and how people learn, this era of educational transformation offers promise. Principles manifest in “educational continuity” are informing changes in educational structures and venues and are enriching new discourse in educational pedagogy, assessment, and scholarship.

The articles by Myhre and colleagues and Woloschuk and colleagues in this issue,

along with mounting evidence preceding these works, should reassure that principle-driven innovation in medical education is not only possible but can be achieved safely. In this commentary, the authors draw from these works and the wider literature on longitudinal integrated educational design. They suggest that the confluences of movements for longitudinal integrated clerkships and entrustable professional activities open new possibilities for other educational and practice advancements in quality and safety.

With the advent of competency-based education, explicit milestones,

and improved assessment regimens, overseers will increasingly evaluate students, trainees, and other learners on their ability rather than relying solely on time spent in an activity. The authors suggest that, for such oversight to have the most value, assessors and learners need adequate oversight time, and redesign of educational models will serve this operational imperative. As education leaders are reassessing old medical school and training models, rotational blocks, and other barriers to progress, the authors explore the dynamic interplay between longitudinal integrated learning models and entrustment.

Editor's Note: This is a commentary on Myhre DL, Woloschuk W, Jackson W, McLaughlin K. Academic performance of longitudinal integrated clerkship versus rotation-based clerkship students: a matched-cohort study. Acad Med. 2014;89:292–295; and Woloschuk W, Myhre D, Jackson W, McLaughlin K, Wright B. Comparing the performance in family medicine residencies of graduates from longitudinal integrated clerkships and rotation-based clerkships. Acad Med. 2014;89:296–300.

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The authors have informed the journal that they agree that both Dr. Hirsh and Dr. Holmboe completed the intellectual and other work typical of the first author.

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Leaders in graduate medical education are defining, developing, and refining competencies and milestones to better understand and assess their learners' progress. Medical schools are likely to do the same. Learners, patients, and society as a whole should benefit from aligning assessment of physicians-in-training with what is required for safe and high-quality health care. In an increasingly complex and fragmented health care system, quality and safety of care have become major foci of leaders in health care, the public, regulatory entities, and accrediting bodies.¹ Not only in the practice of health care, but also in education, quality and safety have become significant influential forces.¹ Patients expect to be treated by competent, experienced clinicians, and any physician not meeting these standards should, in the very least, be supervised by qualified colleagues. Students and residents must receive appropriate supervision as long as they are labeled as “trainees.”

At first glance, our multifaceted system of physician licensure, which combines legislative with professional self-regulation to provide oversight, appears to promote quality and safety for patients

receiving care in training settings. But, paradoxically, this approach to training may *generate* safety issues. At the time they receive their license, most young physicians have not yet experienced anything close to full responsibility for unsupervised practice. Even during residency training, in some domains, trainees are not completely trusted to practice fully independently. For liability and billing reasons, if not as a part of facilitating trainees' learning, supervising physicians oversee and sign off on residents' care of their patients. Limiting opportunities for trainees to experience full responsibility for care during their training could lead to difficulties after registration in their provision of safe and high quality care.

Structures of Defensiveness

If “defensive medicine” is the practice of ordering medical tests, procedures, or consultations of doubtful clinical value to protect the prescribing physician from malpractice suits, we suggest that, in the same spirit, “defensive training” may also exist and may affect educational design. Defensive training may lead to the practice of abundant supervision in an attempt to avoid lapses in quality

and safety. In this circumstance, the “over-oversight” makes training lengthy, costly, and inefficient and undermines the trainees’ development of full responsibility.

Defensive training also drives unnecessary redundancy in education because close oversight may be lacking. Redundant structures arise to ensure that a trainee’s critical weaknesses are not missed. Enmeshed within health care institutions with multiple, often rapid, transitions of providers and patients, education based in short clinical rotations cannot always support adequate longitudinal supervision. In this circumstance, the program layers duties like the proverbial block of Swiss cheese (the many layers ensure that the holes—areas of weakness—do not line up). Necessary redundancy aside, excessive redundancy should be worrisome, especially if it lacks efficacy and increases cost. We can do better by creating educational processes that support and properly entrust students and trainees and that better foster quality, safety, and the learning trajectory towards trustworthy independent practice.

Longitudinal Integrated Clerkships

Although they do not directly address quality and safety, two studies in this issue of *Academic Medicine* suggest principles that guide a path forward. The works of Myhre and colleagues² and of Woloschuk and colleagues³ on longitudinal integrated clerkships (LICs) in undergraduate medical education (UME) shine further light on a structure of clinical education that is growing and evolving rapidly in the United States and internationally.

As alternatives to traditional rotation-based clerkships, LICs allow medical students to participate in the comprehensive care of patients over time and to participate in continuing learning relationships with these patients’ clinicians, while meeting the majority of the year’s core clinical objectives across multiple disciplines simultaneously.⁴ LICs were designed to address weaknesses of traditional short-block rotations. Myhre and colleagues² and Woloschuk and colleagues³ reaffirm that restructuring clinical training using the LIC model is at least as effective as

traditional rotation-based clerkship models to meet traditional standards of competence. The literature supports the authors’ work in rural and primary care settings and at institutions committed to workforce development, but also demonstrates the benefits of LICs in urban, tertiary, and specialty settings, and for institutional missions such as leadership in science.⁵

Educational Continuity and Quality

LIC models restore educational continuity,⁶ both in trainee–patient relationships and trainee–supervisor relationships. The educational continuity in LICs should also foster more robust longitudinal trainee–trainee teamwork and trainee–system work—cornerstones of quality and safety.^{1,7}

The traditional short-rotation approach to medical education, which is prevalent in UME clinical clerkships and many residency programs, is grounded in the belief that training organized in “dwell time” experiences in a series of medical disciplines will produce the most well-rounded physician.⁸ However, this belief is seriously challenged by both educational theory and growing empiric evidence.^{8,9} First and foremost, ongoing relationships with coaches and mentors able to provide longitudinal assessment and feedback are critical for development of expertise.¹⁰ Research has shown, for example, that on four-week internal medicine rotations, both medical students and residents may work with up to three different faculty attendings.¹¹ This is hardly a structure or environment conducive to meaningful relationships, assessment, and feedback.

Second, there is now a clear recognition of the importance of interprofessional teamwork in delivering safe and high-quality care to patients.^{1,12} In addition to teacher–trainee and trainee–patient continuity, trainee–interprofessional team continuity is also important.^{1,13,14} In one study, Bernabeo and colleagues¹¹ examined rotational transitions in three internal medicine residencies. They found that residents and nonphysician staff, including nurses, medical clerks, and case managers, acknowledged the critical importance of relationships yet admitted that residents and nonphysician staff were rarely formally introduced at

the start of new rotations, felt isolated from each other, and often had to engage in dysfunctional work-arounds to get things done.¹¹ This current state of affairs diminishes the opportunity for effective social identity formation needed for interprofessional work.⁸ Perhaps the most sobering finding from Bernabeo and colleagues¹¹ was that all participants except faculty, who admitted to being the least aware of the effects of rotational transitions, recognized that in many instances patient care suffered during rotational transitions. This is not only anathema to our traditional views of professionalism and “primum non nocere” ethic but is also in direct conflict with the expectations of the public noted above. Residents explicitly shared that they expect and accept that things go wrong during transitions and that they have learned how to adapt and deal with this stress.¹¹

If competence is viewed as a developmental progression under decreasing levels of supervision, then it is hard to envision how the current short-rotation structure of clinical training can effectively align with the goals of competency-based educational models that focus on outcomes.⁹ The institutional environment and program curriculum have to provide for the trainees some level of meaningful patient, teacher, interpersonal, and interprofessional team continuity to facilitate assessment and the accurate determination of the appropriate level of entrustment. Making entrustments and adjusting supervision are essential in competency-based medical education, but in doing so we must ensure that patients receive safe and high-quality care. In addition to the evidence provided by Myhre and colleagues² and by Woloschuk and colleagues³ that LICs are an effective way to train medical students, evidence of the benefits of longitudinal experiences in residencies has also recently surfaced.

In 2006, the internal medicine residency program at the University of Cincinnati College of Medicine introduced the “ambulatory long block.”¹³ In this model, residents spend 12 consecutive months in the ambulatory setting, concentrated in their own outpatient clinic, with explicit responsibility to oversee the care of their own panel of patients.¹³ Interestingly, one of the primary catalysts for developing this program was the discovery that the

residents' continuity clinic was providing suboptimal quality of care. As described by Warm,¹³ the lack of resident–patient and resident–interprofessional team continuity was a major factor in both the overall quality of care provided to patients and also the suboptimal educational experiences in the clinic. Although implementing the ambulatory long block has brought expected ups and downs of any major transformation, this change from short to long rotations in the University of Cincinnati residency program has produced increased resident and clinic staff satisfaction as well as improvement in quality of care and patient satisfaction.¹³ Consistent with these values, we note that the “middle C” of the College of Family Physicians of Canada's new Triple C Competency-Based Curriculum project is focused on continuity of education and patient care.¹⁴

Entrustable Professional Activities

Competency-based educational models are not only driving changes in program design, as evidenced by LICs and longitudinal ambulatory experiences in some residencies, but also driving changes in how the outcomes of training are being conceptualized and described. Several postgraduate programs are engaging in competency-based medical education by using entrustable professional activities (EPAs) to shape training.^{15,16} EPAs are units of professional practice that faculty entrust to a trainee to execute unsupervised, once he or she has obtained adequate competence to do so. EPAs are executable within a time frame, are observable and measurable, and are suitable for overseers to make focused entrustment decisions.¹⁷

For supervisors to make valid entrustment decisions, a critical factor is sufficient acquaintance of preceptors with their trainees. If preceptors do not know their trainees well, they may not readily trust them to work unsupervised with patients, even if the trainees are reportedly competent.¹⁸ It follows that short rotation-based clerkships may not allow clinicians to build sufficient relationships with students to acknowledge their strengths and limitations, which is essential for entrustment decisions.¹¹ The gradual

increase of responsibility to enable efficient competency-based progression in clinical training requires mutual acquaintance between trainees and their supervisors. Educationally, limited and fragmented oversight is an inherent weakness of the structure of the traditional rotation format of clinical training.⁸ Longitudinal engagement is more conducive to competency-based education with EPAs.

Time to Trust

LICs, the emerging longitudinal integrated residency models, and EPAs are mutually reinforcing innovations grounded in evidence and in learning theories. These educational advancements may also support quality and safety. At some point in training, supervision must gradually decrease to build self-confidence and trustworthiness in trainees. Short rotations undermine supervisors' capacity to make serious entrustment decisions. Supervisors need time to trust trainees, and trainees need time to be trusted.

Time to trust is necessary to realize competency-based education. This does not mean, however, that the answer is to add more time to training; it is not the postponement of responsibility but early experience with responsibility and developmentally oriented longitudinal oversight that are the keys to efficient education. The current time available needs to be better distributed and radically redesigned to enhance the critical continuity relationships essential to more effective professional development.^{6,8,10} Given that physician–patient continuity enhances quality,¹⁹ and that coaching and feedback are essential to professional development, it is logical that faculty–trainee continuity is critically important.^{6,10}

Longitudinal relationships, by design, proportion time more effectively and thus may enable the earlier development of trust, compared with short rotations that superficially appear to save time. The “end of time” is near; short-block dwell time, as a dominant organizing principle, should be replaced by standards of competence and entrustment decisions.⁹ To reach their full potential, competency-based education and competency-based progression require a different curriculum structure. Curriculum planners should reassess unnecessary redundancy when

arising from inadequacies in trainee oversight processes. At the same time, unnecessary adherence to simple block scheduling must also be revisited, especially as it undermines meaningful longitudinal learning and meaningful longitudinal oversight of learners.⁸ LICs show us that longitudinal programs foster learning and offer new promise for developmentally progressive learning and assessment; EPAs call us to create longitudinal oversight as the basis for entrustment decisions.

With sustained observation, overseers may be better able to trust learners who demonstrate that they have attained ability. While being trusted earlier would confer real benefits for some learners, trusting other learners later, only when they are ready, will be critical. Longitudinal design of learning and assessment may advance training by letting entrustment decisions be guided by measures of quality and safety. Patient, learner, system, and population imperatives call for rich transformation of education and care delivery in just these ways.¹ With a sound theoretical model and close connection to the sciences of learning, with increasing experience and empirical evidence, it appears that in the emerging educational models, time is of the essence.

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