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Invited Commentary

Creating a shared mental model for EPAs in surgery



Entrustable Professional Activities, or EPAs, are a concept that has been quickly gaining traction in medical education over the decade. EPAs were initially defined in 2005 by Dr. Olle ten Cate, an education scientist in the Netherlands, as units of professional practice that constitute what clinicians do in their daily work.¹ ten Cate conceptualized this framework after talking with his nursing colleague who felt we had major gaps in terms of assessing the competency of physicians at the bedside. She described that while an individual surgical resident may perform very well on a task-oriented, checklist-based assessment (e.g. placing a central line), they may struggle in assessing a sick patient at the bedside. In addition, the evolution of trying to dissect and assess residents in the silos of individual competencies does not provide a meaningful or accurate assessment of whether a faculty surgeon would trust that resident to deliver care to them or a family member in a given context.

EPAs ground the often abstract and theoretical competencies (e.g., systems-based practice), in day-to-day practice and as the culmination of competencies – e.g. would I trust this resident to evaluate and manage a patient with gallbladder disease?² As units of work for a physician, EPA completion requires the integration of multiple competencies, allowing assessment to occur in a more integrated, holistic manner that incorporates both specific skills along with impressions of the critical characteristic of trustworthiness.³ The study by Chen and colleagues in this issue highlights the importance of evolving to a more holistic assessment of entrustability beyond just a procedure focused step-wise checklist, but still focuses solely on the performance of a given operation.⁴

The definition of EPAs in many specialties represents significant evolution towards competency-based medical education (CBME) within the United States and globally. As with any paradigm shift that draws enthusiasm, the desire to apply the new conceptual framework can lead to use of terms that do not fully align with the original definition or intent of the schema. As many talented surgical educators work to implement EPAs into surgical training there is frequently confusion about what an Entrustable Professional Activity (EPA) is and is not. However, the fact that so many groups are eager to plunge into this brave new world provides a tremendous opportunity within the world of surgical education to develop a shared language and mental model around what EPAs truly represent and how we should assess them.

One challenge that has contributed to the terminology problem for EPAs within surgery (as with most procedural specialties), has been separating the concept of an EPA which represents a broader construct of surgical care inclusive of pre-operative and post-operative care, from only assessing performance of a specific procedure or case. For example, an EPA would be “evaluate and manage a patient with right lower quadrant pain”, which would be inclusive

of performing an appendectomy but would also assess the non-technical aspects of the operation. Though it may seem easiest to consider EPAs within General Surgery as a list of surgical procedures and to only assess operative performance, this belies the educational challenges presented before and after an episode of operative care. We must instill in our trainees concepts of patient selection, management of complications, and long-term surveillance, to name only a few; to not directly assess these behaviors, and their associated knowledge, skills, and attributes, risks reduction of the role of the surgeon to that of technician alone.

The Drafting Panel of the American Board of Surgery (ABS) Pilot EPAs for General Surgery adopted a condition- and disease-based approach to the development of EPAs, rather than developing a list of tasks to evaluate as EPAs. This work initiated with the development of 5 EPAs in General Surgery which represent core common scenarios all general surgeons must be able to manage. These EPAs defined the comprehensive perioperative care of the patient with a specific condition or disease that truly defines whether a general surgeon should be entrusted to care for patients with that condition in an unsupervised setting.⁵

Another challenge within the surgical education literature to date has been the conflation of an EPA itself with tools that can be used to assess the entrustability of an individual to perform the defined EPA. This is problematic because it contributes to confusion among front-line faculty and learners about what EPAs are and how they are assessed. Because of the widespread, appropriate use of operating checklist-type assessments such as OPRS and OSATS, it is not infrequent to hear colleagues transfer this same type of thinking to EPAs – inquiring about how to “check off” a resident on an EPA or residents describing needing to “pass” a specific EPA. As Chen and colleagues have adapted these OR procedure-specific tools to a Surgical EPA (or SEPA) they seek to add entrustability concepts into the tool to create a more robust OR observation instrument.⁴ However, in this study and others, remaining focused on only the performance of a specific operation, and using “EPA” in the title of this procedure-focused assessment tool is confusing.^{4,6} By starting with the OPRS assessment tool in building the SEPA, the drafting process for an EPA is flipped on its head. Critical components of developing a broader EPA are omitted in this approach, including mapping to critical competencies and milestones and explicitly defining the requisite knowledge, skills, attitudes, and behaviors trainees should demonstrate across the developmental continuum for managing a specific disease or condition.³

This is not a criticism of the novel SEPA tool for assessing operative performance in a more robust way, but the use of the term “EPA” in this nomenclature is confusing. Ultimately there are many ways to assess elements of an EPA (with OPRS, OSATS, SEPA,^{4,6} competitive simulation exercises,⁷ or other procedure-specific tools), including

the non-operative consultation EPA.⁸ The EPA can also be assessed in its totality using microassessments, with defined behavioral anchors for the different levels of entrustment for a given EPA.⁵ All of these formative data are then collected, and it is the responsibility of the training program's Clinical Competency Committee (CCC) to weigh all of these datapoints, as well as global entrustability of a trainee – can they be trusted to call for help when they need it, or to know their boundaries – to determine a summative entrustment decision for each individual EPA. The entire activity must be assessed when making a summative entrustment decision, as this defines what the trainee can or cannot be trusted to do without supervision. In short, EPAs are a competency-based assessment framework, but are not an assessment instrument in and of themselves. There are many ways to assess parts or all of an EPA, and the CCC is the only group that can make a summative entrustment decision for a given EPA.

It is also very important to understand that EPAs represent the core of the profession, the floor if you will. The EPAs for a given discipline like General Surgery should represent what EVERY graduating General Surgery resident is entrusted to do independently. They may be entrusted beyond that floor, but entrustment for all core EPAs should represent the 25–40 entrustable activities that all graduating residents can perform. This then creates a more homogeneous product at graduation.

There is often confusion regarding how EPAs work with the ACGME competencies and milestones. Importantly, EPAs do not replace the milestones and competencies, but rather integrate them into one seamless activity as they are in the daily practice of delivering care.⁹ Evaluating and managing a patient with pancreatic cancer, for example, integrates all competencies but it is difficult to split and assess them separately in the context of a single patient encounter. Every EPA is mapped to 5–7 ACGME competencies “under the hood”. The front-line faculty members doing the assessment do not have to know what specific competencies they are assessing, but the CCC can deconstruct the EPAs into their component competencies and milestone achievement for bi-annual reporting to the ACGME. This makes EPAs seamless in their assessment as it relates to what we do every day in the context of clinical care, as an EPA is the complete unit of clinical work, but the CCC has the ability to split it back into its component parts.

There is more work to do before EPAs can be used to represent a comprehensive CBME approach. Definition and development of the remaining EPAs that represent the expected core of General Surgery must be completed. In addition, guidance around practical matters such as development of tools that support implementation of frequent, formative, workplace-based assessment; best practices for faculty development in CBME principles; and operationalization of reports and tools to support summative entrustment by the CCC

are needed. As a community of surgical educators however, it is imperative to create a shared mental model and to be rigorous in our nomenclature as we embark upon an EPA-based assessment framework for CBME. Creating this shared understanding of what an EPA represents will allow us to lead the way in bringing others along with this new, exciting paradigm.

Declaration of competing interest

The authors have no financial conflicts of interest to disclose.

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