Introduction

Entrustable professional activities (EPAs) are the core activities that, together, define tasks to be executed by an unsupervised trainee once he or she has attained sufficient mastery.1–3 The EPA framework is now used to organize the key developmental Milestones that serve as performance benchmarks of trainee assessment.4 A Milestones task force made up of educators and experts convened by the Accreditation Council for Graduate Medical Education (ACGME) and the American Board of Internal Medicine defined 142 developmental Milestones across 16 proposed EPAs.5,6 Methods to operationalize EPAs and incorporate Milestones into their framework are evolving.5,6–9

Managing transitions of care, including patient hand-offs from one care setting to another, is a proposed EPA of interest in the era of duty hour limits and specialized care teams.10 Prior work on how to incorporate Milestones into a transitions-of-care EPA in pediatrics showed that mapping Milestones to EPAs and developing an objective evaluation for each level of competency attainment are

Abstract

Background Residency training and evaluation are moving toward competency-based models. Managing transitions of care is 1 of 16 entrustable professional activities (EPAs) that signal readiness for independent internal medicine practice. Methods for developing EPAs are evolving within the medical education community.

Objective We describe a process for developing a transitions-of-care EPA for internal medicine inpatient and ambulatory settings using an iterative, consensus-building, resident-faculty collaborative approach.

Methods We used an independent rank-ordering process and successive consensus group meetings to cull an initial list of 142 developmental Milestones to the 15 most relevant to transitions of care for internal medicine patients in an academic medical center and affiliated Veterans Administration hospital. Four senior internal medicine residents and 4 internal medicine faculty members representing inpatient and ambulatory practice settings identified examples of specific tasks and evaluative techniques for each Milestone.

Results We demonstrate a feasible resident-faculty collaboration to develop transitions of care as an EPA for an internal medicine training program. Inclusion of residents along with faculty provided broader insights as well as an important learning opportunity for trainees.

Conclusions Our process demonstrated the feasibility of designing an EPA, but questions remain about how entrustment-based evaluation can be implemented in clinical settings. Our framework may serve as a foundation for EPA development in other areas of clinical practice.
ongoing challenges. Because residents are intimately involved with transitional care activities early in training, there may be value in including both faculty and resident experiential insights in developing an EPA. We describe our process of selecting Milestones for a transitional care EPA through a collaborative work group of internal medicine residents and faculty.

Methods

Setting and Participants
Oregon Health & Science University (OHSU) and the Portland Veterans Administration train 98 internal medicine residents yearly. Residents are exposed to transitional care improvement models through a health systems curriculum and a multicomponent transitional care intervention for low-income patients implemented by 2 of the authors (H.E., D.K.). Our work group included the program director, 3 faculty members, and 4 third-year internal medicine residents.

Program Description and Evaluation
Beginning with the 142 developmental Milestones for Internal Medicine Residency Training, we narrowed the competencies and Milestones to those pertinent to transitions of care. We used an iterative consensus-based approach to select Milestones we thought were most applicable to an educational and training design context.

The FIGURE illustrates our Milestone selection process. Over the course of several meetings, participants reviewed a list of Milestones and independently rank-ordered each Milestone according to its relevance to transitions of care (1, directly relevant; 2, possibly relevant; 3, not relevant). We retained those unanimously ranked as relevant and discarded those unanimously ranked as irrelevant. The group then discussed discrepancies in rankings to achieve consensus. If consensus was not reached, we retained those Milestones for the next meeting.

Approval from the OHSU Institutional Review Board was not required as no subject data were gathered.

Results

Using this process, we culled the initial list of 142 Milestones to 45. We resolved discordant rankings by debating a Milestone’s relevance to transitions of care, a Milestone’s redundancy with other Milestones, or whether a similar Milestone might better represent the activity in the context of transitions. For example, we thought the Milestone “effectively communicate plan of care to all members of the health care team” would be redundant and preferred the collaborative language of the Milestone “engage in collaborative communication with all members of the health care team.” Using an iterative process, we narrowed the list to 25 Milestones.

We then reduced our list to 15 Milestones after considering how evaluation of a Milestone would occur. For example, we chose the Milestone “improves via feedback: respond welcomingly and productively to feedback from all members of health care team” because we thought it amenable to 360° evaluation during multidisciplinary rounds. This contrasted with a similar Milestone “reflect when surprised, applies new insights to future clinical scenarios, and reflects on action back to the process” that appeared more difficult to evaluate.

We constructed concrete examples of the 15 Milestones based on personal experience, existing expert-based consensus guidelines, and a recent study of provider-perceived transitional care gaps. We also designated the expected time for trainees to meet each Milestone and suggested corresponding evaluation tools. The TABLE describes each Milestone linked to ACGME competency, anticipated time for entrustment, and how entrustment would be measured.

Discussion

We used a faculty-resident collaboration and iterative consensus-based approach to identify a set of developmental Milestones with specific entrustment and evaluative methods that make up our transitions of care EPA. Our framework is not intended to be definitive but may serve as a catalyst for further discussion and refinement of Milestone selection for EPA development that may be useful for other training programs.

In the design of the EPA, we struggled to some degree with the broad language of the developmental Milestones. A key step in our process entailed identifying specific
<table>
<thead>
<tr>
<th>ACGME Competency</th>
<th>Developmental Milestones</th>
<th>Time Frame (months)</th>
<th>Assessment Tool</th>
<th>Example of Transition of Care Activity</th>
<th>Basis for Formal Entrustment</th>
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<tbody>
<tr>
<td>Clinical skills and reasoning</td>
<td><strong>Historical data gathering</strong>&lt;br&gt;Seek and obtain appropriate, verified, and prioritized data from secondary sources</td>
<td>9</td>
<td>360° evaluation; Direct observation; CSR</td>
<td>■ Seeks corroborative information from caregivers/other health care settings, providers, pharmacies (outside records, medication list) when appropriate upon transition to higher level of care</td>
<td>■ Trainee demonstrates appropriate data gathering and history taking, independently corroborated by attending physician history on 2 occasions&lt;br&gt;■ Trainee demonstrates appropriate medication history taking on 2 occasions determined by team pharmacist</td>
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<td><strong>Delivery of patient-centered clinical care</strong></td>
<td><strong>Patient management</strong>&lt;br&gt;Customize care in the context of the patient’s preferences and overall health</td>
<td>36</td>
<td>Patient feedback; Simulation</td>
<td>■ Anticipates disease-specific patient-centered needs before hospital discharge</td>
<td>■ Observed patient-centered behaviors confirmed by bedside nursing staff for 2 patient discharges&lt;br&gt;■ Objective Structure Clinical Examination (OSCE)</td>
</tr>
<tr>
<td><strong>Learning and improving via feedback and self-assessment</strong></td>
<td><strong>Improves via feedback</strong>&lt;br&gt;Respond welcomingly and productively to feedback from all members of health care team</td>
<td>12</td>
<td>360° evaluation</td>
<td>■ Seeks feedback/input from other health care professionals in formulating safe discharge plans</td>
<td>■ Trainee independently leads multidisciplinary rounds on 3 occasions</td>
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<td><strong>Communication with patients and families</strong></td>
<td><strong>Communicate effectively</strong>&lt;br&gt;Provide timely and comprehensive verbal and written communication to patients/advocates&lt;br&gt;Engage patients/advocates in shared decision making</td>
<td>12</td>
<td>Direct observation&lt;br&gt;Direct observation</td>
<td>■ Communicates effectively with patients and families regarding details of transitions and anticipating future needs/problems&lt;br&gt;■ Engages patients and caregivers in developing discharge instructions and delivering patient-centered discharge information using teach back</td>
<td>■ Attending physician/supervising resident observes trainee communicating appropriate transition of care discharge counseling for 3 separate patient discharges&lt;br&gt;■ Attending physician observes trainee demonstrating educational teach-back session with patient for 2 discharges with new diagnoses or medication changes</td>
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<td><strong>Communication with physicians and other health care professionals</strong></td>
<td><strong>Transitions of care</strong>&lt;br&gt;Effectively communicate with other caregivers in order to maintain appropriate continuity during transitions of care&lt;br&gt;Role model and teach effective communication with next caregivers during transitions of care&lt;br&gt;Interprofessional team&lt;br&gt;Engage in collaborative communication with all members of the health care team</td>
<td>12</td>
<td>Peer feedback&lt;br&gt;Direct observation&lt;br&gt;360° evaluation</td>
<td>■ Uses a systematic approach to physician-physician communication during transitions including sign outs between teams and with changes in setting or level of care&lt;br&gt;■ Models a systematic approach to transition communications for other learners/providers and suggests refinements to the systems based on experience&lt;br&gt;■ Solicits input from members of the inpatient multidisciplinary team regarding care plan as well as involving outpatient care team at times of transition</td>
<td>■ At least 2 attending physician/supervising residents observe 4 oral handovers where trainee gives sign-out, and 4 oral handovers where trainee receives sign-out, conducted proficiently&lt;br&gt;■ Trainee elicits primary care physician feedback on effectiveness of transitions communication and/or written materials for patients discharged by trainee on 5 occasions&lt;br&gt;■ Attending physician or member of the multidisciplinary team observes trainee providing effective communication with caregiver on 3 occasions, conducted proficiently and incorporating input from multidisciplinary team (case manager, social worker, pharmacy, nursing staff)</td>
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</table>
examples from the literature and clinical experience to determine a Milestone’s relevance to transitional care. For example, discharge summaries are a specific manifestation of the Milestone “provide legible, accurate, complete, and timely written communication that is congruent with medical standards.” Once we identified development of discharge summaries as a key task, we could further discuss important attributes of this process to inform how entrustment would be demonstrated. Our goal was to describe a task with enough detail to promote a shared understanding among educators and trainees.

### Table: Milestones Selected for a Transitions of Care Entrustable Professional Activity (Continued)

<table>
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<tr>
<th>ACGME Competency</th>
<th>Developmental Milestones</th>
<th>Time Frame (months)</th>
<th>Assessment Tool</th>
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</tr>
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<tbody>
<tr>
<td>Communication via medical records</td>
<td>Health records</td>
<td>Provide legible, accurate, complete, and timely written communication that is congruent with medical standards</td>
<td>6</td>
<td>CSR</td>
<td>Writes timely, concise discharge summaries (ideally completed within 24 hours) that identify key follow-up issues and those that require further attention/clarification</td>
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<td>Physicianship</td>
<td>Practice individual patient advocacy</td>
<td>Recognize when it is necessary to advocate for individual patient needs</td>
<td>6</td>
<td>360° evaluation</td>
<td>Recognizes when social determinants of health make physician advocacy necessary to facilitate access to care after discharge or during any transition</td>
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<td>Works effectively with other care providers and settings</td>
<td>Works effectively within multiple health delivery systems</td>
<td>Understand unique roles and services provided by local health care delivery systems.</td>
<td>6</td>
<td>Standardized testing</td>
<td>Demonstrates understanding of the basic composition of local health care delivery systems and how this might affect patients as they transition within the system</td>
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<td></td>
<td>Manage and coordinate care and care transitions across multiple delivery systems, including ambulatory, subacute, acute, rehabilitation, and skilled nursing.</td>
<td>24</td>
<td>Self-reflection</td>
<td>Anticipates, coordinates, and communicates postdischarge care plan for a hospitalized patient</td>
<td>Trainee completes 1 home visit during primary care block rotation and completes self-reflection to satisfaction by associate program director/block director</td>
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<td></td>
<td>Negotiate patient-centered care among multiple care providers</td>
<td>36</td>
<td>Direct observation</td>
<td>Convenes care conference among multiple care providers and patient/caregivers to formulate coordinated care plan</td>
<td>Attending physician observes trainee leading 2 care conferences conducted proficiently</td>
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<td></td>
<td>Works effectively within an interprofessional team</td>
<td>Work effectively as a member within the interprofessional team to ensure safe patient care</td>
<td>6</td>
<td>360° evaluation</td>
<td>Understands roles, purview, and limitations of members within the care team, including therapists, nurses, home care workers, pharmacists, and social workers</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>360 evaluation regarding care of a patient that experienced a transition of care</td>
</tr>
</tbody>
</table>

Abbreviations: ACGME, Accreditation Council for Graduate Medical Education; CSR, chart stimulated recall.
understanding among learners and different faculty members conducting the evaluations.

To minimize bias from overrepresentation of single dominating viewpoints, individual evaluation and prioritization before group discussion was important. The iterative consensus-based approach was a practical means for the group to assess the extent of agreement on those Milestones that were thought most applicable and resolve differences on others.

Including residents was a unique feature of our EPA development process. Residents bear responsibility for carrying out the tasks involved in transitions of care even early in their training. Residents provided value in generating examples of Milestone activities and potential methods of evaluation that aided in Milestone selection. The practice-based learning nature of transitional care activities may make a transitions EPA more amenable to this type of faculty-resident collaboration and may not be as useful for development of other EPAs (for example, in management of acute common diseases). Additional benefits to faculty-resident collaboration were a sense of ownership over professional standards among resident authors and perceptions of a more relevant EPA that reflects the present training environment. The process was educational for residents and improved awareness of transitional care.

Limitations of our approach include that it was conducted by a small group at a single academic center. Views may be shaped by the local training environment and may not be applicable to other training programs. We acknowledge that there is subjectivity in Milestone selection and entrustment decisions, given lack of a gold standard for transitions-of-care education.

Design of our transition-of-care EPA required no external funding, and we were able to engage a group of residents and faculty longitudinally in this process over the course of a year. Our next steps are to disseminate and pilot test our EPA among faculty and residents. In particular, we are interested in how entrustment-based evaluation can be implemented in clinical settings. It would be valuable to have other training programs independently repeat our process or describe their EPA design process. This may highlight similarities in transitional care EPAs across institutions and pave the way for standardized curricula and evaluation.

**Conclusion**

We demonstrated the feasibility of a collaborative process to design a transition-of-care EPA. Our process was feasible and replicable at other institutions. This framework may also serve as a foundation for transitional care curricular development.

**References**