PrICELESS Entrustable Professional Activities: A Customizable Curriculum for Infectious Diseases Fellowship Training

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ABSTRACT

Background:  
The Infectious Diseases field is at a critical juncture, with steadily decreasing applicants to our training programs and increased third party demand for accountability. It is imperative that we define the valuable roles of an infectious diseases specialist and structure our training programs to generate learner enthusiasm and expertise.

Methods:  
A six-step approach to curriculum development for Medical Education was employed in this project. Referring to the Internal Medicine Subspecialty Milestones Project, a needs assessment instrument was developed from the milestones associated with readiness for unsupervised practice (Instrument 1). The PrICELESS mnemonic was devised to characterize specific infectious diseases roles. Within each of these roles, entrustable professional activities (EPAs) were constructed to enshrine the breadth of associated responsibility (Table 1). The EPAs were mapped to the Accreditation Council for Graduate Medical Education (ACGME) Core Competencies and subcompetencies (Table 2). Using this map and the needs assessment responses, the highest yield EPAs for our training program were identified (Table 3).

Results:  
The needs assessment survey was administered to twenty faculty and fellows with an overall response rate of 70%. Five of the twenty-six EPAs were identified as highest yield to guide further curricular components. The curriculum employs educational strategies of experiential learning, role modeling, reflection, and asynchronous case based discussions. Assessment of specific rotation objectives involves rubrics and 360-degree learner evaluations. Each fellow maintains an online professional development portfolio with evidence to satisfy each EPA. The clinical competency committee reviews the portfolio twice annually and provides feedback.

Conclusion:  
A customizable curriculum for Infectious Diseases fellowship was developed based on PrICELESS EPAs and a local needs assessment. This curriculum will be implemented in July 2015 with the goal of integrating our learners into the vital activities of infectious disease practitioners, thereby increasing learner enthusiasm and expertise in our specialty.

Table 1. The PrICELESS EPAs Based on the Internal Medicine Subspecialty Competencies and Subcompetencies (sample)

<table>
<thead>
<tr>
<th>Table 2. Mapping the PrICELESS EPAs to the Internal Medicine Subspecialty Competencies and Subcompetencies (sample)</th>
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<tbody>
<tr>
<td><strong>Patient Care</strong></td>
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<tr>
<td><strong>Medical Knowledge</strong></td>
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<tr>
<td><strong>Professionalism</strong></td>
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<td><strong>Interpersonal &amp; Communication Skills</strong></td>
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<td><strong>Leadership &amp; Systems Practice</strong></td>
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<td><strong>Professionalism</strong></td>
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<td><strong>Organizational Learning</strong></td>
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<td><strong>Interprofessional Team</strong></td>
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<td><strong>Science</strong></td>
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<td><strong>Self-Directed Learner</strong></td>
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Table 3. The Anticipated Relative Impact of Highest Yield PrICELESS EPAs Based on a Local Program Needs Assessment

<table>
<thead>
<tr>
<th>Highest Yield EPAs in Our Program</th>
<th>Anticipated Relative Impact</th>
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<tbody>
<tr>
<td>1. Safely transition a patient to another provider</td>
<td>1</td>
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<tr>
<td>2. Manage patients with suspected infectious diseases in the hospital and ambulatory settings</td>
<td>0.87</td>
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<td>3. Supervise and teach junior learners</td>
<td>0.87</td>
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<td>4. Maintain a personalized learning plan</td>
<td>0.84</td>
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<td>5. Perform a systems analysis in response to a patient safety concern</td>
<td>0.88</td>
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**PrICELESS Goals**

1. Provider:  
- Provide in- and out-patient exposure proportionate to diagnostic categories and infections
- Evaluate and manage patients with infectious diseases
- Manage complications of infectious diseases

2. Investigator:  
- Participate in the care of hospitalized community infectious disease patients
- Perform a systems analysis in response to a patient safety concern
- Identify an unknown organism in the microbiology lab
- Formulate a research question and protocol design
- Deliver patient centered care in the post acute care setting

3. Educator:  
- Manage patients with suspected infectious diseases
- Teach patients about their conditions and treatment options
- Categorize organisms to be cultured
- Create and maintain a professional improvement plan

4. Leader:  
- Conduct an infectious diseases committee meeting
- Facilitate group learning sessions for colleagues
- Develop and implement a new learning plan
- Critically appraise the literature
- Demonstrate a time management plan
- Maintain an organized learning plan

**PrICELESS Entrustable Professional Activities**

- A. Justify recommendations through clinical reasoning in the ambulatory setting
- B. Triage patient into infection precautions
- C. Interpret infectious diseases tests and cultures
- D. Safely transition a patient to another provider
- E. Conduct an infectious diseases committee meeting
- F. Facilitate group learning sessions for colleagues
- G. Develop and implement a new learning plan
- H. Critically appraise the literature
- I. Demonstrate a time management plan
- J. Maintain an organized learning plan

**NEXT STEPS**

E. Evaluation: To study the impact of the PrICELESS Curriculum of University of New Mexico on ID faculty and fellow satisfaction, fellow milestone achievement, fellow career placement, and learner interest in ID as monitored by self-assessment and quantification of medical student and resident rotations in our division and applicants to our ID fellowship program

F. Collaboration: To establish a working group through IUSA of medical educators to further refine and standardize the Entrustable Professional Activities for our subspecialty training programs