Milestones and Entrustment: Next steps for competency-based medical education

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…and the many others from whose ideas and work I have borrowed shamelessly.
“Medical education seems to be in a perpetual state of unrest.”


Good news: Progress has been made.

More news: We are not there yet
Goal

Successfully incorporate milestones and entrustment into assessment

- Meet new regulatory expectations
- Improve Competency-based Medical Education (CBME)
Objectives

- Perspective: history
- Orientation: current state
- Challenges to implementation of the next steps:
  - Curricular development
  - Program and faculty development
  - Building across the continuum
  - Scholarly examination of solutions
  - Resources
THE QUICK FIX...
THE REAL FIX...

THE ROAD TO ENLIGHTENMENT IS LONG AND DIFFICULT, WHICH IS WHY I ASKED YOU TO BRING SANDWICHES AND A CHANGE OF CLOTHING.
BACKGROUND: FLEXNER

To the public:
- Mediocre quality
- Profit motives
- Inadequate curricula
- Nonscientific approach

To medicine:
- Formal analytic reasoning
- Balance of research and patient care
BACKGROUND: FLEXNER

- Set in motion basis for standards
- Requirements for accreditation
- Requirements for certification
- GME to replace apprenticeship
  - Still linked only to service
  - Still assessed by “sniff test”
Competence in the 1980s

- Goals and objectives
- Global assessment of performance

Confirming competence by:
- Program documentation
- Global assessments
- Ill-defined requirements for observation
- Attestation for the ABP
- Certification by Exam
Limitations

- Almost exclusively Global assessment
  - Lack of specific criteria for success
  - Limited authenticity/direct observation
  - Lack of Faculty development/change
  - Still a “sniff test”
Outcomes Project

David Leach:
- Called for true competency-based GME
- Authentic and specific determinants in assessment

“Things that we wish to assess and improve upon, we must measure”
Outcomes Project

- ACGME and ABMS
- Identified 6 areas of general competence
- Relevant areas of “subcompetence”
- Taught and assessed for accreditation and certification
- Direct observation
Educational Transformation

- Outcomes vs. Process
- Learner centered vs. program centered
- Competency-based
- Observed directly
- Reliable and valid assessment tools
Proposed Strategies

Revise curriculum:
- Outcomes in terms of competence
- Activities to achieve outcomes
- Competency-based assessment of activities

Conduct educational research:
- Rigorous investigation
- Evidence that competence is linked to outcomes desired
Requirements for Evaluation

Direct observation

- Structured skills and knowledge assessments
- Specific criteria for competence
- Reliably by different evaluators
- Relevant, fair and setting specific
Requirements for Evaluation

**Documentation:**
- Linked to observed or reviewed performance
- Interpretable
- Timely and available for review
Assessment Process

- Match outcomes/competence with goals
- Match goals with activities
- Match activities with assessment markers
- Match markers with assessment tools
Descriptive Assessment Tools

- Developing and reinforcing clear performance guidelines
- Adding behavior-based, level-specific performance descriptors
- Faculty development of evaluation skills
What Has Been Achieved?

- Curriculum defined in competency terms
- Set the framework for measurement
- More and better observed performance
"I think you should be more explicit here in step two."
What is Still Needed?

- Reliable and valid assessments
- Evidence to relate assessment to competence
- Relevant, specific and identifiable milestones for areas of subcompetence
- Performance/competence defined entrustment that relates to need for supervision and safety
Next Steps

- Develop relevant curricula
- Include reliable and valid assessments
- Faculty development
- Educational research
Requirements for Transformation

- Flexibility: creative redesign of program
- Mentoring residents and faculty in their roles and responsibilities
- Align health outcomes with medical education outcomes
Challenges

- Multiple competing new demands:
  - Shift to competency-based education
  - Shift to team implemented, patient centered care
  - Focus on quality and safety
  - Restriction in duty hours
  - Need for work-life balance

- In context of:
  - Scientific information explosion
  - Changing and business driven medical system
  - Shrinking resources for increasing demands
New Strategies

Faculty development and support
- Identify existing resources
- Regularly scheduled faculty development
- Time to teach in directly observed, competency-based way

Develop partnerships among stakeholders
- Address escalating needs
- Manage and share scarce resources
Particularly Needed

Educational research:
- Rigorous investigation
- Demonstrate performance relates to outcomes
- Link educational outcomes to patient outcomes
Lessons Learned in CBME:

Assessment is still the biggest challenge:
- Reliability and validity
- Faculty development and time

Competence is best
- Described in a developmental way
- Assessed in a clinical context
- Linked to entrustment, supervision and safety
The Pediatric Milestones Project

- Joint initiative of the ACGME and ABP
- January 2012
- First attempt
- Welcoming feedback
- Asking for scholarly investigation of use
Dynamic Understanding

- Competence as the point at which one is ready to practice independently is a static view
- Competence is dynamic and content and context specific
- Context fits well with Milestones and “entrustable professional activities” (EPAs)
“Entrustable Professional Activities” (EPAs)

- Professional life activities that define a specialty
- Place competencies in the everyday work of the physician
- Activities lead to some observable output or outcome
- Complexity of the activities requires an integration of knowledge, skills and attitudes across competence domains
- Specific number for each specialty
Sample EPA

Caring for a well newborn

- Know maternal conditions that affect the infant
- Perform a comprehensive exam to discover congenital anomalies
- Apply evidence-based guidelines for newborn care
- Speak to the mother using language that she understands
- Demonstrate respect for the mother’s cultural background and child rearing practices
- Connect with the community pediatrician in transfer of care
Sample: Curricular Milestones

Hand-over

- Aware of importance and committed
- With template, guidance and supervision-effective and efficient
- Structure is internalized, less supervision
- Mastery: troubleshoot others
Sample: Curricular EPA

🌟 Hand-over: Identify, organize and present hand-over information

- Knows what is important to transfer
- Arrives on time prepared for the hand-over
- Orderly, efficient and effective/safe manner
- Without omissions or unnecessary information
- Ensure seamless care from provider to provider
- Troubleshoot information provided to achieve the desired information transfer
Back to the Future?

Similarities with Apprenticeship Model

- Relationships are critical
- Assessment is embedded in a clinical setting taking care of real patients
- Direct observation is key

Differences from Apprenticeship Model

- Defined by specific elements of competence
- Moved from random to deliberate curriculum
Presumptions Moving Forward

- Competence is meaningful
  - In a developmental context
  - In the context of clinical care
- Milestones of competence and EPAs provide this context for both teaching and assessing learners
- Entrustment is recognized by assessing the development of competence in context of care
New Process

Performance linked to defined clinical activities

Clinical activities linked to reliable and valid assessment

Assessment linked to development of competence

Development of competence linked to EPAs

EPAs linked to supervision, safety and clinical care outcomes
Relates to the NAS

- **ACGME data collection**
  - Core set of milestones
  - Every six months

- **Clinical Competence Committee**
  - Evaluations in milestones that link to core sets
  - Gather data from evaluations
  - Determine progress and advancement

- **Committee reviews link to defined set of EPAs for each specialty**
  - Clusters of milestone achievements linked to entrustment
  - Specialty-defined EPAs linked to competence in practice