

## Competency-based Medical Education

*Learnings from the Graduate Medical Education Community*

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## Disclosures

- I work for the Commonwealth Medical College in Scranton Pennsylvania.
- I have no other disclosures.

## Agenda

- CBME basics
  - Definitions
- Frameworks and outcomes
  - Where we are/where we need to be
- The role of milestones and entrustment in the assessment and evaluation of competence

*What does competency-based medical education mean to you?*

## Traditional vs Competency-based Medical Education

Variable	Educational Program	
	Structure/Process	Competency-based
<b>Driving force: Curriculum</b>	Content	Outcome
<b>Goal of educ. encounter</b>	Knowledge acquisition	Knowledge application
<b>Assessment</b>	Proxy	Authentic ( real tasks of profession)
<b>Evaluation</b>	Norm-referenced	Criterion-referenced
<b>Timing of assessment</b>	Emphasis on summative	Emphasis on formative

Adapted from: Carracchio et al. *Acad Med*, 2002

## Competency

An observable ability of a health professional, integrating multiple components such as knowledge, skills, values and attitudes.

The International CBME Collaborators, 2009

## Competent

Possessing the required abilities in all domains in a certain context at a defined stage of medical education or practice.

The International CBME Collaborators, 2009

## Competence

Requires more than the discrete demonstration(s) of competent behavior at a specific time and place

Requires that the individual apply those abilities appropriately in routine clinical practice to achieve optimal results.

ten Cate *Med Teach*. 2010;32:669–675

## Competency-Based Medical Education

- is an outcomes-based approach to the design, implementation, assessment and evaluation of a medical education program using an organizing framework of competencies

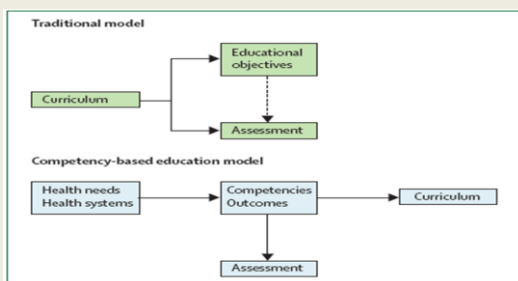
The International CBME Collaborators 2009

## The Framework

ACGME General Competencies

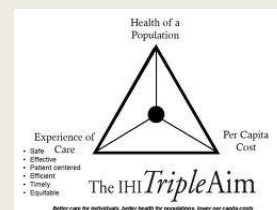
- Medical knowledge
- Patient care and procedural skills
- Interpersonal and communication skills
- Practice-based learning and improvement
- Systems-based practice
- Professionalism

## The Outcome

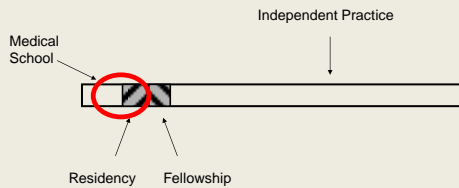


Frenk J. *Lancet*. 2010

## IHI Triple Aim



## The Professional Continuum



## Medical School to Residency –The Gaps

- Wide variability in graduating students' basic clinical skills
  - History taking
  - Exam
  - Counseling/informed decision making

Stillman 1990, Sachdeva1995, Mangione 1997, Braddock 1999, Lypson 2004.

## Calls for Reform in Medical Education

- Standardize learning outcomes
- Individualize learning while allowing flexibility and the opportunity to progress as learners achieve competency milestones
- Develop a coherent framework for the continuum of medical education and establish effective mechanisms to coordinate standards
- Establish rigorous and progressively higher levels of competency across the continuum of medical education

Carnegie Foundation: Acad Med, 2010

## CBME - A New Paradigm

You must specifically *know* the trainee has demonstrated expected competence. This requires:

- Clear definition of expected outcomes
  - (milestones)
- Assessment and evaluation systems capable of demonstrating competent/not competent behavior
  - (work-based assessment using entrustment -EPAs)

## Milestones

- By definition a milestone is a significant point in development.
- The ACGME milestones define the abilities expected of residents progressing through training
  - Integrate knowledge, skills, values and attitudes
  - Developmental in nature
  - Independent of level of training

## Milestones

- Framed in behavioral terms and context free
  - They are observable
  - Sets the stage for assessment of competence
  - Provide an overarching trajectory of training

## Dreyfus & Dreyfus Model



PC1. History (Appropriate for age and impairment)

Level 1	Level 2	Level 3	Level 4	Level 5
Acquires a general medical history	Acquires a basic psychiatric history including medical, functional, and psychosocial elements	Acquires a comprehensive psychiatric history integrating medical, functional, and psychosocial elements  Seeks and obtains data from secondary sources when needed	Efficiently acquires and presents a relevant history in a prioritized and hypothesis driven fashion across a wide spectrum of ages and impairments  Elicits subtleties and information that may not be readily volunteered by the patient	Gathers and synthesizes information in a highly efficient manner  Rapidly focuses on presenting problem, and elicits key information in a prioritized fashion  Models the gathering of subtle and difficult information from the patient

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## Assessment/Evaluation Challenges

- Ensure that assessment documents competence in those activities required to achieve the desired outcome of training
  - Assessment that is meaningful!
  - Assessment that is manageable!

## Entrustable Professional Activities

- EPAs represent the routine *professional*-life activities of physicians based on their specialty and subspecialty
- The concept of “entrustable” means:
  - “a practitioner has demonstrated the necessary knowledge, skills and attitudes to be trusted to perform this activity [*unsupervised*].”

Ten Cate O. Acad Med. 2007.

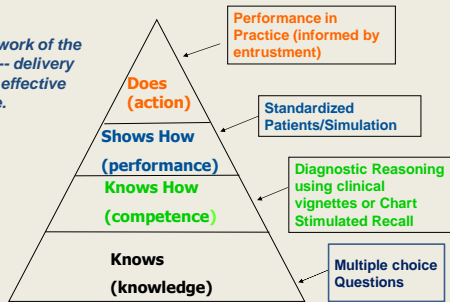
## An Entrustable Professional Activity

- Part of essential work for a qualified professional
- Requires specific knowledge, skill, attitude
- Acquired through training
- Leads to recognized output
- Observable and measurable, leading to a conclusion
- Reflects the competencies expected
- EPA’s together constitute the core of the profession

Ten Cate O. Acad Med 2007

## Assessing for the Desired Outcome

the critical work of the profession -- delivery of safe and effective patient care.



## “Entrustment In Medical Education”

- Focus assessments around what faculty and training programs already “entrust” trainees to do?
- Reflects the most important outcome of training: “a trainee’s readiness to bear *professional* responsibility”
- Is a developmental process that ultimately demonstrates the competence needed for unsupervised practice!

Analyze to Understand → Synthesize to Educate and Evaluate → Physicians competent to meet the health care needs of the population

Competency	Milestones	EPA in Training	EPA in Practice
Medical Knowledge	MK <sup>1</sup>	“Lead” a care team	Work & “Lead” a IP health care team
	MK <sup>2</sup>		
Patient Care	PC <sup>1</sup>	Care for clinic patients with distance supervision	Practice independently
	PC <sup>2</sup>		
Professionalism	Prof <sup>1</sup>	Complete an audit of a panel of clinic patients	Lead Quality Improvement initiative
	Prof <sup>2</sup>		
Interpersonal Skills	ISC <sup>1</sup>		
	ISC <sup>2</sup>		
Systems-based Practice	SBP <sup>1</sup>		
	SBP <sup>2</sup>		
Practice-based learning	PBL <sup>1</sup>		
	PBL <sup>2</sup>		

Shared Mental Models and Frameworks

## End Of IM Residency Entrustments

1. Manage care of patients with acute common diseases across multiple care settings.
2. Manage care of patients with acute complex diseases across multiple care settings.
3. Manage care of patients with chronic diseases across multiple care settings.
4. Provide age-appropriate screening and preventative care.
5. Resuscitate, stabilize, and care for unstable or critically ill patients.
6. Provide perioperative assessment and care.

## How Does This Apply to Medical College Education?

*What are the required competencies/entrustments for the graduating medical student?*

## What New Residents Do

- Educate a patient about the course and prognosis of their disease.
- Obtain a patient’s medical history from family members/significant others.
- Interpret results of diagnostic studies.
- Counsel a patient about the need to make a lifestyle change.
- Arrange for health care professionals within the system to provide care.
- Write, dictate, or enter admission orders.
- Manage an angry patient or patient’s angry significant other.
- Plan and write or dictate a patient discharge.
- Obtain a patient’s medical history/information from referring physician.
- Obtain informed consent for common procedures (e.g., skin biopsy).
- Arrange for a patient’s care with an outside agency (e.g., social services).
- Rectal exam.
- Male genitalia exam.
- Talk to a patients family/significant others on the phone.
- Write progress notes that communicate patient status and management plans.
- Involve a pharmacist when making medical decisions.

Raymond Acad Med 2011

## End of Medical School Entrustments

1. Provide accurate and concise documentation of a clinical encounter in written or electronic format.
2. Gather a history and perform a physical examination that is complete or focused, based on the clinical situation.
3. Develop a prioritized differential diagnosis and select a working diagnosis following a patient encounter.
4. Write, dictate, and/or enter safe and appropriate patient orders in a variety of settings .
5. Recognize a decompensating patient, initiate treatment, and seek help
6. Perform a patient handover to transition care to another health care provider.
7. Participate as a contributing and integrated member of an interdisciplinary team.
8. Perform procedures of a general physician.
9. Form clinical questions and retrieve high-quality evidence to address questions.
10. Order and interpret diagnostic tests for patients with common disorders.
11. Evaluate and treat common urgent medical problems.
12. Provide an oral presentation of a patient encounter performed in a variety of settings .
13. Obtain informed consent for procedures

AAMC 2013

*Thank You*