

Assessing Health Professional Competence: Dawn of a New Era

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Welcome |

About me:

- Emergency MD
- Working in HPE for since 1990s
- Royal College & University of Ottawa
- Special focus: **CBME**
- Founder of the International CBME Collaborators
- Worldwide collaborations
- Coach ice hockey



This Session:

HPE → CBME Movement → New Assessment → Examples

Social media friendly: #meded

[@drjfrank](#)



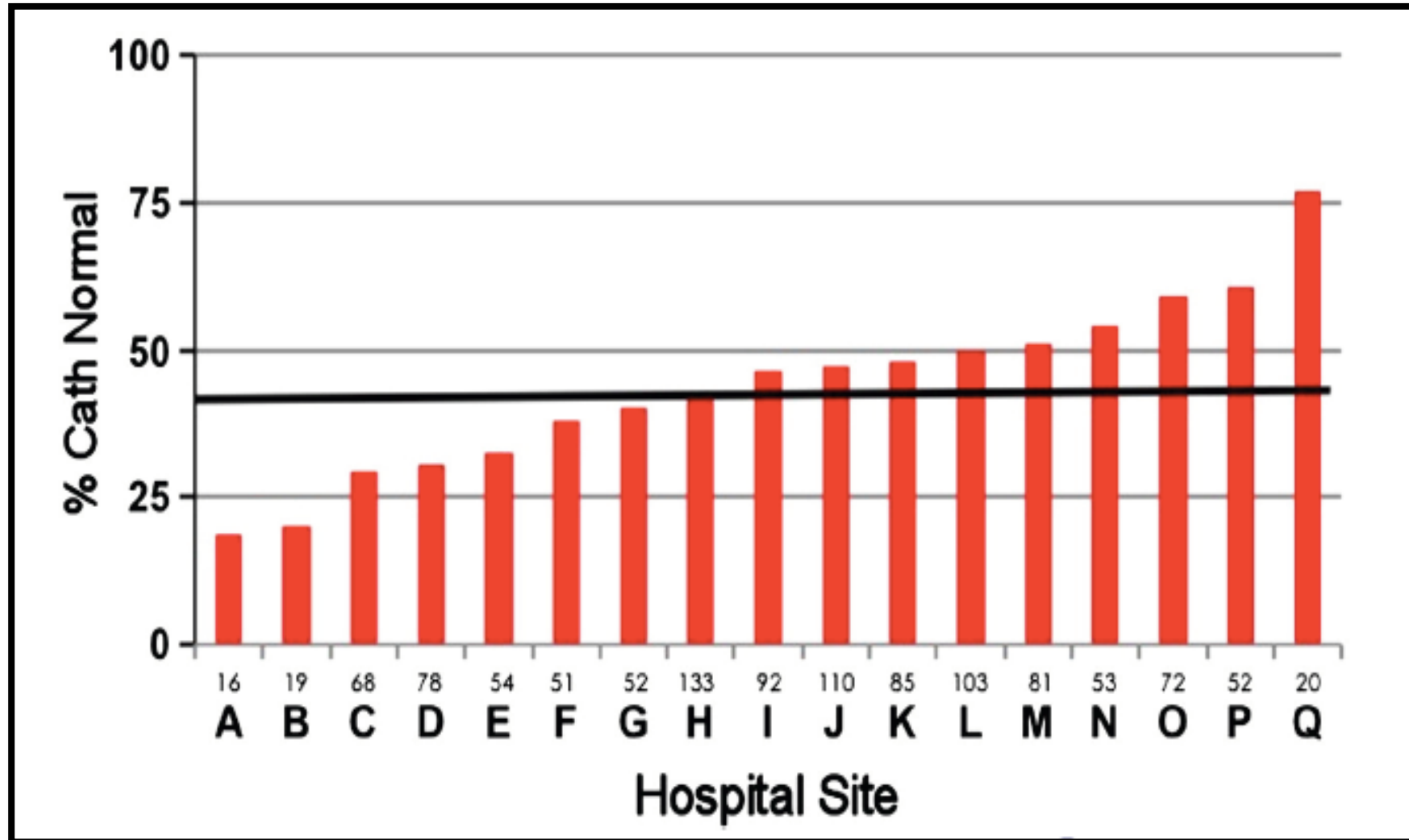
Current HPE

- Scientific (Flexner)
- Scholarly
- Systems
- Dedicated teachers

Current HPE?

- Time spent, not ability
- Trainees unprepared
- Unclear progression of expertise
- Weak assessment / failure to fail
- Assessment can feel bogus or useless
- Concerns about supervision & patient safety
- Missing content
- Disempowered learners
- Overwhelmed teachers
- Lack of best practice in education

Variations in MD Practice



Levitt K. Am Heart J 2014

Variable outcomes...

Article Title: How Do You Deliver a Good Obstetrician? Outcome-Based Evaluation of Medical Education

David A. Asch, MD, Sean Nicholson, PhD, Sindhu K Srinivas, MD, MSCE, Jepf Herrin, PhD, and Andrew J. Epstein, PhD, MPP

Current HPE?

**Time spent, not ability =
Variable outcomes**



What do we mean by the
“CBME Era”?



Quiz: Origins of “CBME”?

Teacher Education?	Engineering?
Medicine?	Nursing?
Astronaut training?	Submarine training?
1910?	2000?
1930?	1999?

Competency-based Education:

**“What are the abilities
needed of graduates?”**

CBME principles

01

Focus on
outcomes:
graduate
abilities

02

Ensure
progression of
competence

03

Time is a
resource, not
framework

04

Promote
learner
centredness

05

Greater
transparency &
utility

...Ultimately, a move to
CBME is about a **better
way to train health
professionals...**

CBME Philosophy...

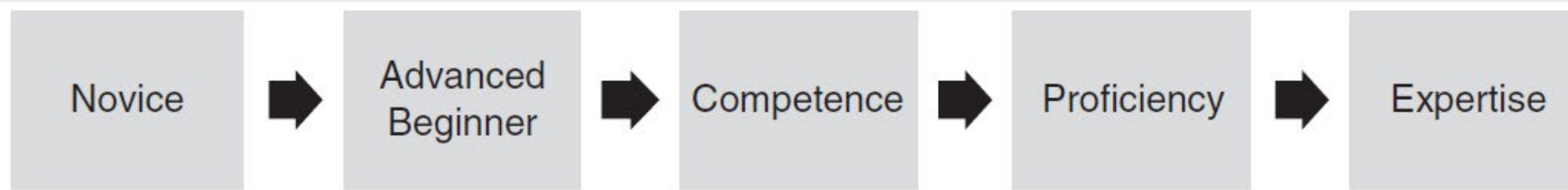


Figure 2. Spectrum of skills acquisition (Dreyfus & Dreyfus 1980).

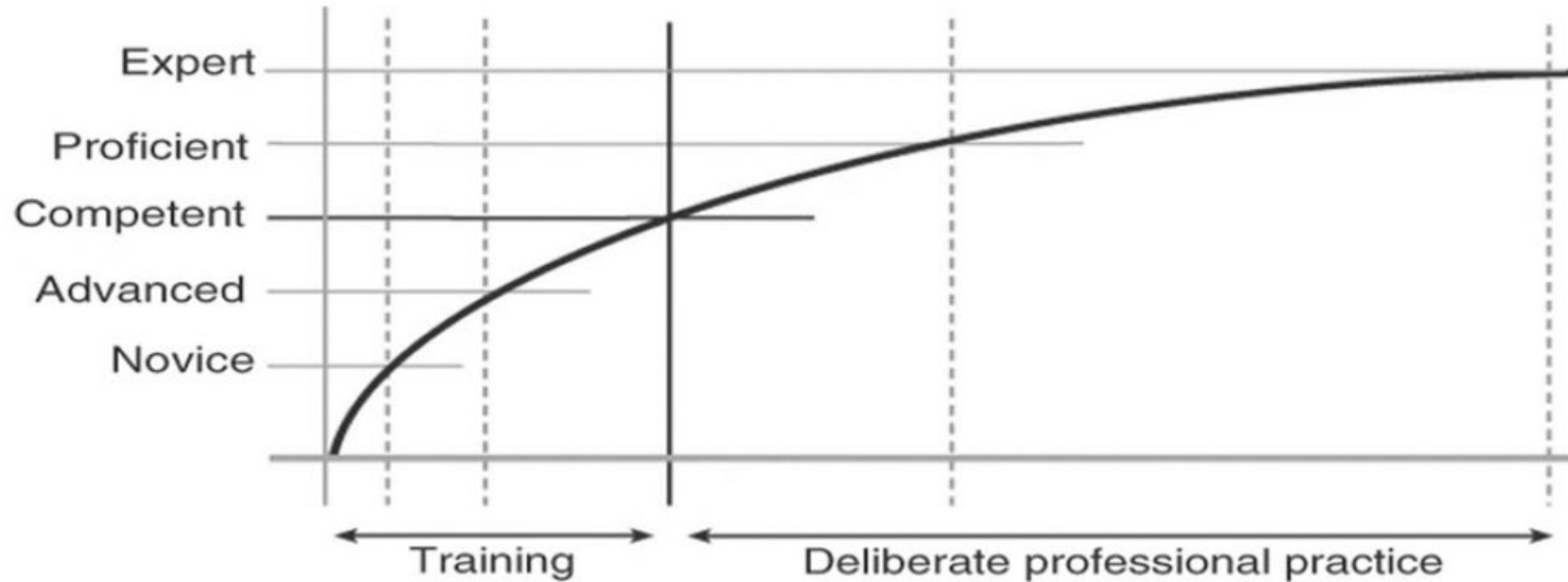
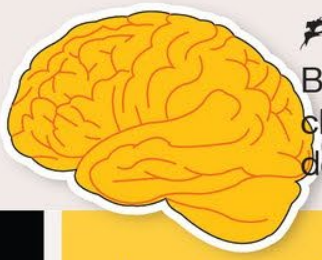


Figure 3. General curve of skills acquisition reproduced from ten Cate (2010).



FIXED MINDSET

Belief that my intelligence, personality and character are carved in stone; my potential is determined at birth



GROWTH MINDSET

Belief that my intelligence, personality and character can be developed! A person's true potential is unknown (and unknowable).

DESIRE	Look smart in every situation and prove myself over and over again. Never fail!!	Stretch myself, take risks and learn. Bring on the challenges!
EVALUATION OF SITUATIONS	Will I succeed or fail? Will I look smart or dumb?	Will this allow me to grow? Will this help me overcome some of my challenges?
DEALING WITH SETBACKS	"I'm a failure" (identity) "I'm an idiot"	"I failed" (action) "I'll try harder next time"
CHALLENGES	Avoid challenges, get defensive or give up easily.	Embrace challenges, persist in the face of setbacks.
EFFORT	Why bother? It's not going to change anything.	Growth and learning require effort.
CRITICISM	Ignore constructive criticism.	Learn from criticism. How can I improve?
SUCCESS OF OTHERS	Feel threatened by the success of others. If you succeed, then I fail.	Finds lessons & inspiration in other people's success.
RESULT	Plateau early, achieve less than my full potential.	Reach ever-higher levels of achievement.

Is Your Program Competency-based?

How would you know??

Change is
Underway...

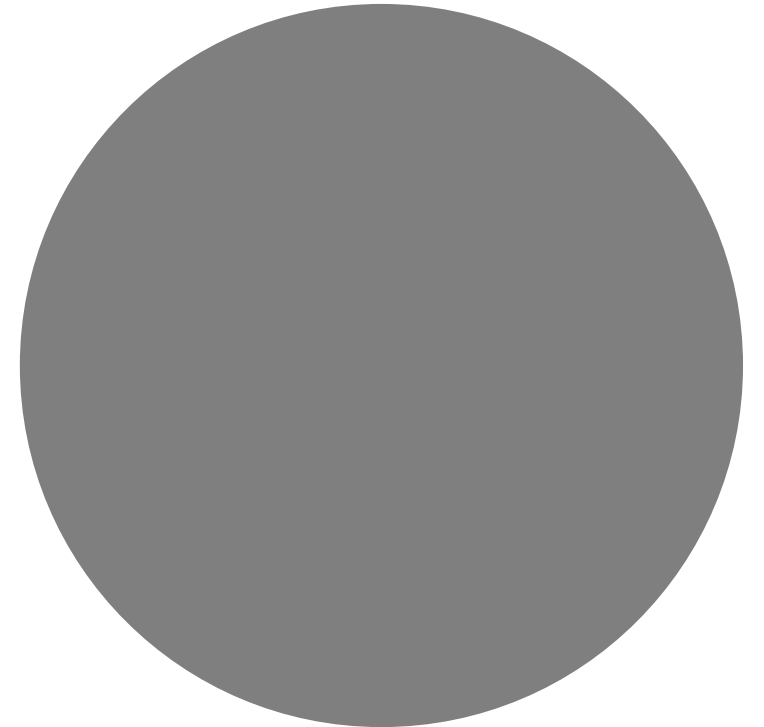


Competency-based Education:

What are the abilities needed of graduates...?

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

CBME Defined:



Van Melle's Core Components of CBME

1. Outcomes competency framework
2. Sequenced progression of competence
3. Tailored learning experiences
4. Tailored bedside coaching & observation
5. Programmatic assessment

(publication pending)

The CBME “Toolkit”

Competency / Competencies

An observable ability of a health professional

- Reflects a spectrum



- Integrates multiple components such as knowledge, skills, values, & attitudes
- Multiple competencies can be combined
- Measureable with respect to a defined outcome

Milestones in Medical Education: Progression

Milestones:

- The abilities expected of a health professional at a stage of development
- (e.g. compound x preparation)

Entrustable Professional Activities (EPAs):

- The key tasks of a discipline that a practitioner needs to be able to perform
- (e.g. med rec)

Defining Milestones & EPAs

Problems Milestones Solve

- Progression of Competence
- Comprehensive Curriculum
- Faculty guidance
- Learner transparency
- Failure to fail

Key Concept in EPAs: *Entrustment*

- “What can I safely delegate with indirect supervision?”

Examples of EPAs

In the real world:

- Teenager on an errand

In medicine:

- Run a code

1. Outcomes Defined as Competencies

- Carefully chosen abilities for those who successfully complete the curriculum
- Observable
- Practical
- Relevant to practice expertise

2. Competencies Organized as a Progression

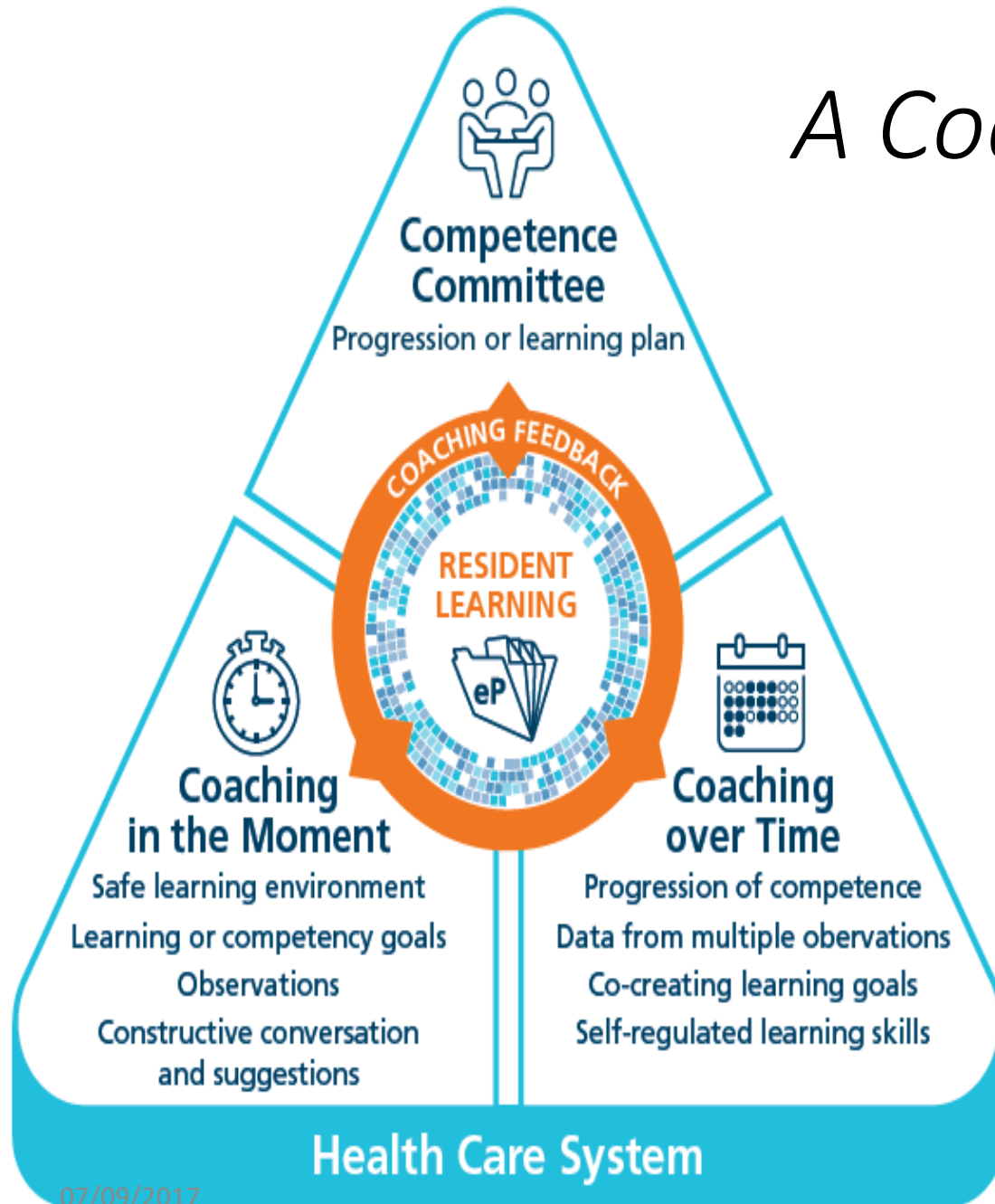
3. Tailored sequence of learning experiences

- Utility rules
- Ask: “what competencies can be acquired with this experience”
- Not the same as service provision

4. Competency-focused teaching methods

- Active learning
- Application
- Immersion
- Coaching & high quality feedback
- Deliberate practice

A Coaching Model for CBME



Facilitating learning and development of a learner's competence

5. Programmatic Assessment that Promotes Learning

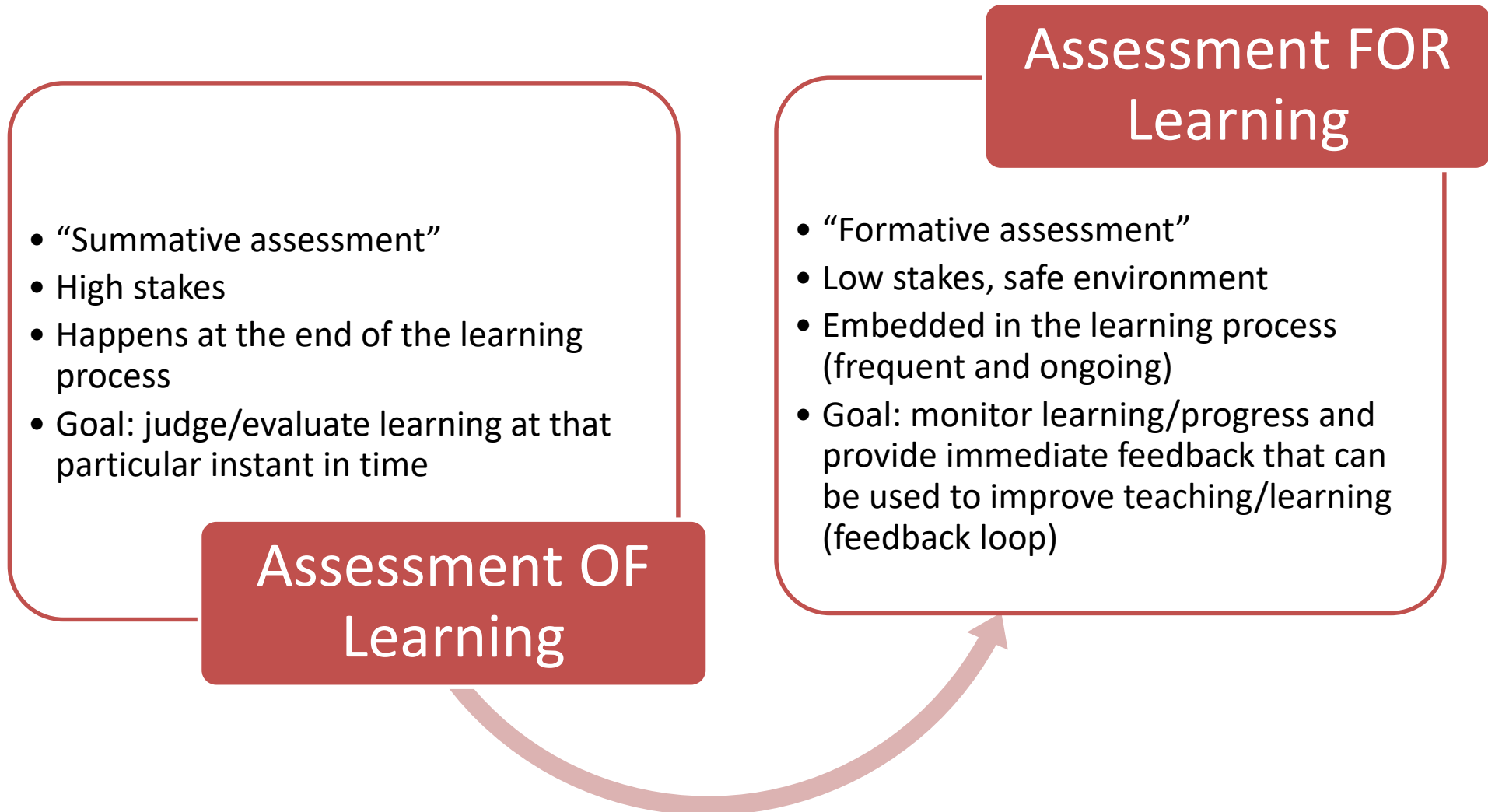
- Emphasis on workplace observation
- Focused on tasks performed
- Multiple observers
- Multiple methods
- Entrustment
- Curation
- Collation
- Decision-framework & benchmarks

Article Title: What Shape is Your Resident in? Using a Radar Plot to Guide a Milestone Clinical Competency Discussion

David T Harrington, MD, Thomas J. Miner, Thomas Ng, MD, Kevin P. Charpentier, MD, Pam Richardson, and William G. Cioffi, MD

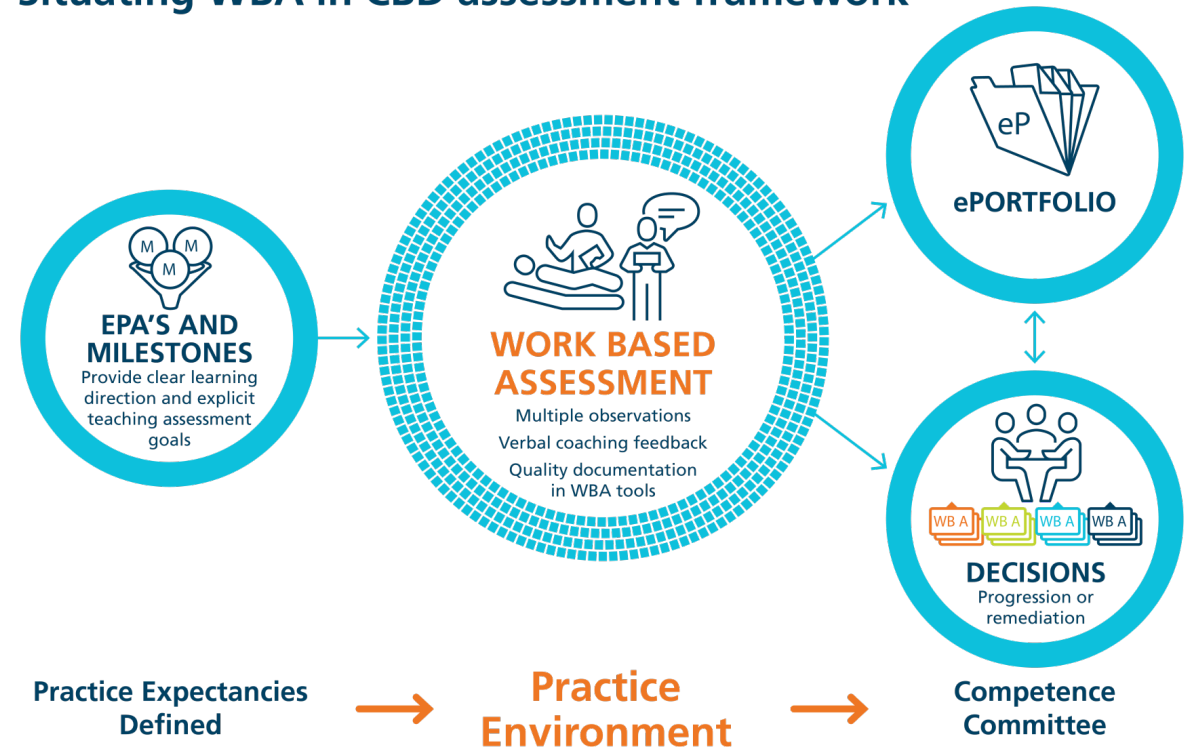
Multiple Assessments

Paradigm Shift of Thinking



Work Based Assessment in CBME

Situating WBA in CBD assessment framework



Workplace- based Assessment Strategies

EPA / Entrustment Direct
Observations (O-Score by Gofton)

Work Product Tools (e.g. review of a
chart)

Multi-source Feedback (360s)

Encounter cards

Field Notes



Competence Committees

- Responsible for regular review of learner progress
- Uses integrative data from multiples observations
- Identifies patterns and trends
- Recommends progression

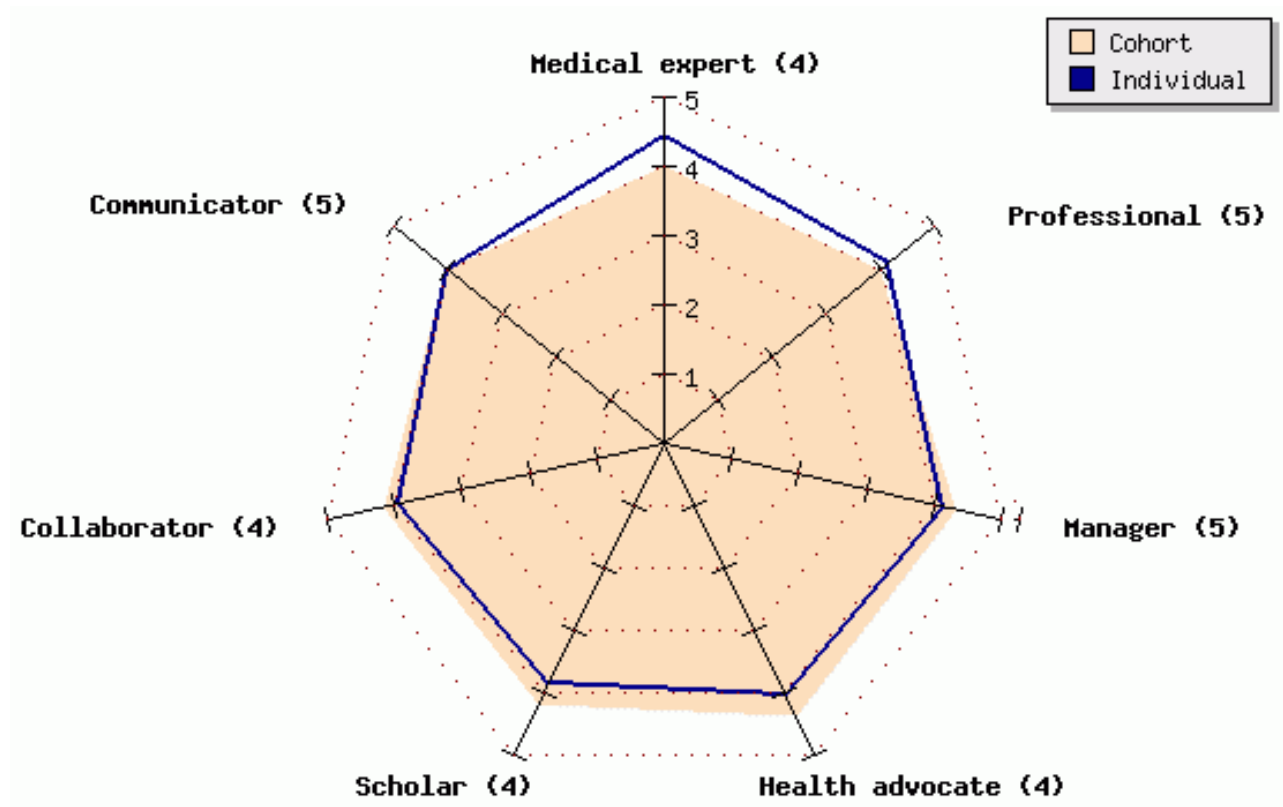
A Spectrum of CBME Innovations

Van Melle's Components of a "CBME" Curriculum:

1. Outcomes defined as **competencies**
2. Competencies organized as a **progression**
3. Tailored sequence of learning **experiences**
4. Competency-focused **teaching** methods
- 5. Programmatic assessment** for learning

Data...Analytics

Maastricht Electronic portfolio (ePass)



Comparison between the score of the student and the average score of his/her peers.

CBME: A Global Movement

- Netherlands
- USA
- Singapore
- Saudi Arabia
- Kuwait
- South Africa
- Australia
- Canada
- +more

Criticisms of CBME

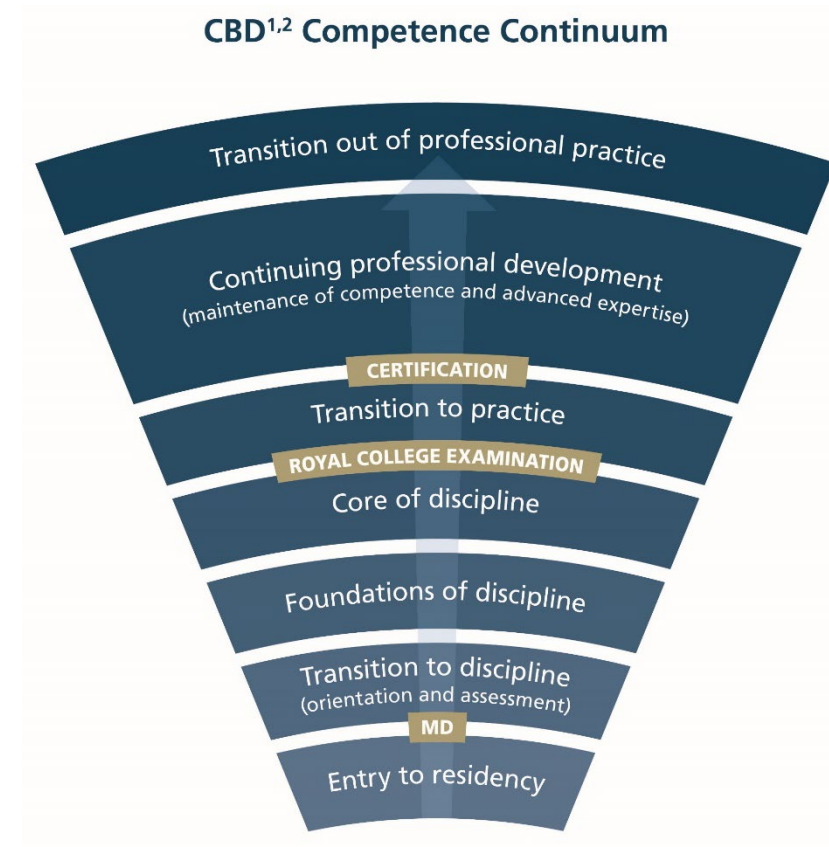
Critique:	Response:
Not needed	Compelling need for better (see above)
Psychometric concerns about reliability	Greater validity/authenticity; Programmatic reliability
Reductionism	Not just checklists
Training based on time	Can be hybrid

Transformational CBME:

*Competence by
Design Project*

Key Elements

- New CanMEDS
- Stages of physician development
- EPAs & Milestones
- New Assessment
- New Accreditation



Defining the stages of training

07/09/2017

CBD^{1,2} Competence Continuum



Next Generation Meded:

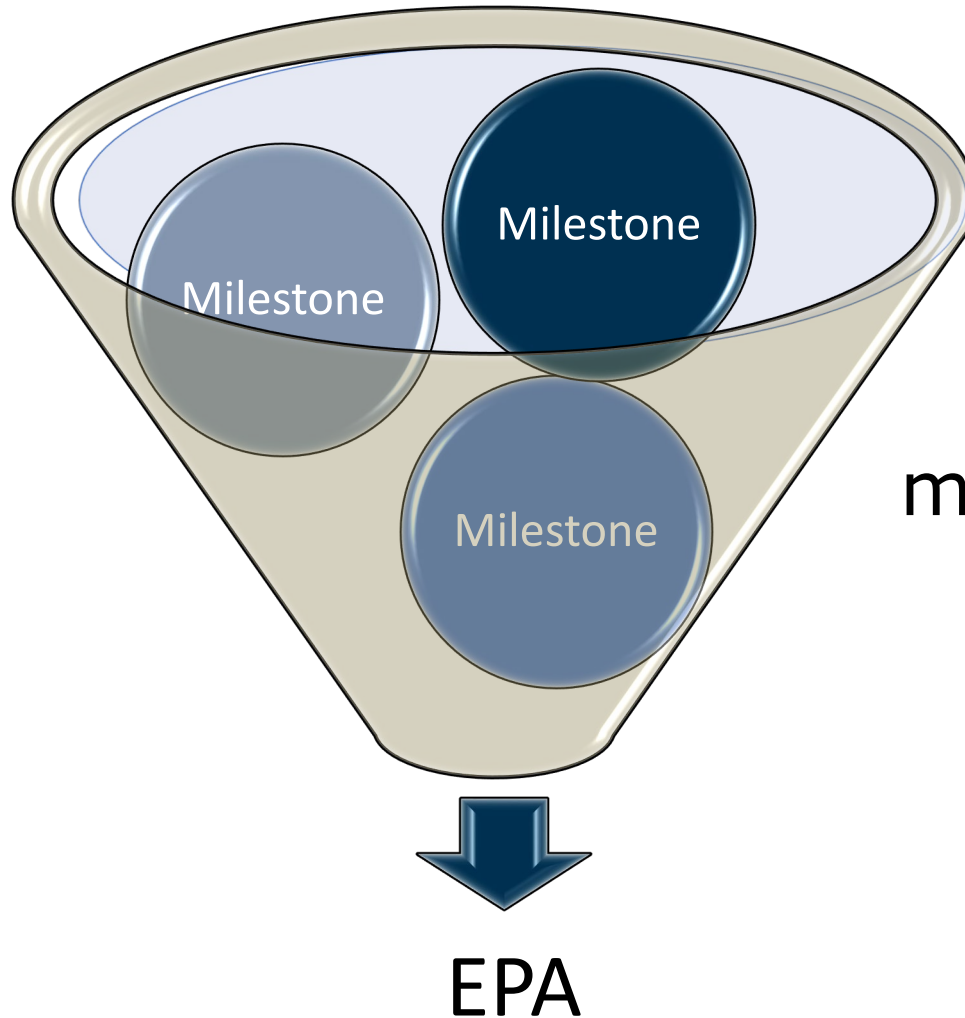
Forget:

- PGYs
- Objectives
- Prescriptive standards
- Ad hoc ITERs
- the Big Exam
- “Read more”
- 5 years only

Enter:

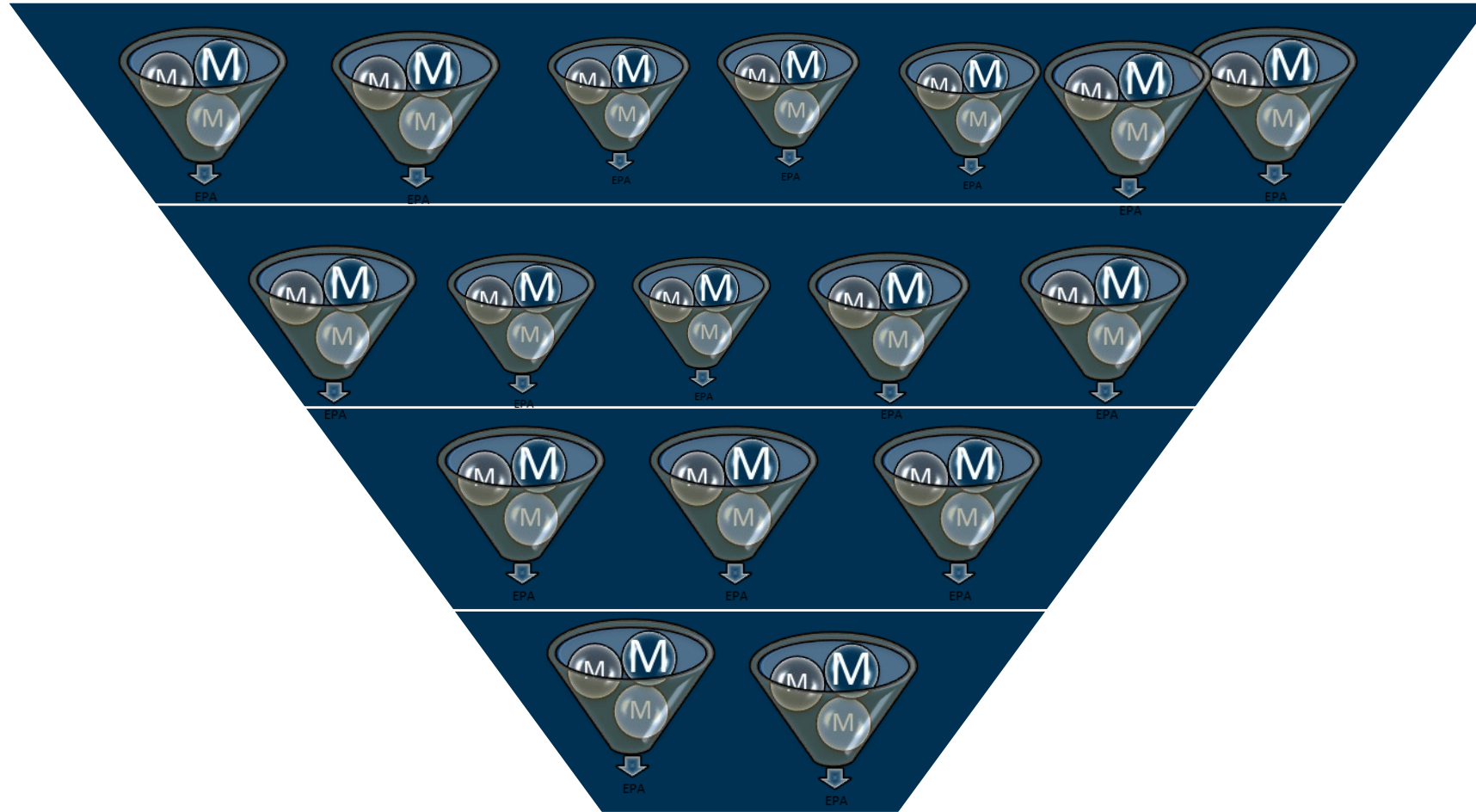
- Stages
- Milestones & EPAs
- Local Flexibility
- Competence Ctes
- Progress testing
- Focused observation
- Ready to practice

Milestones within an EPA

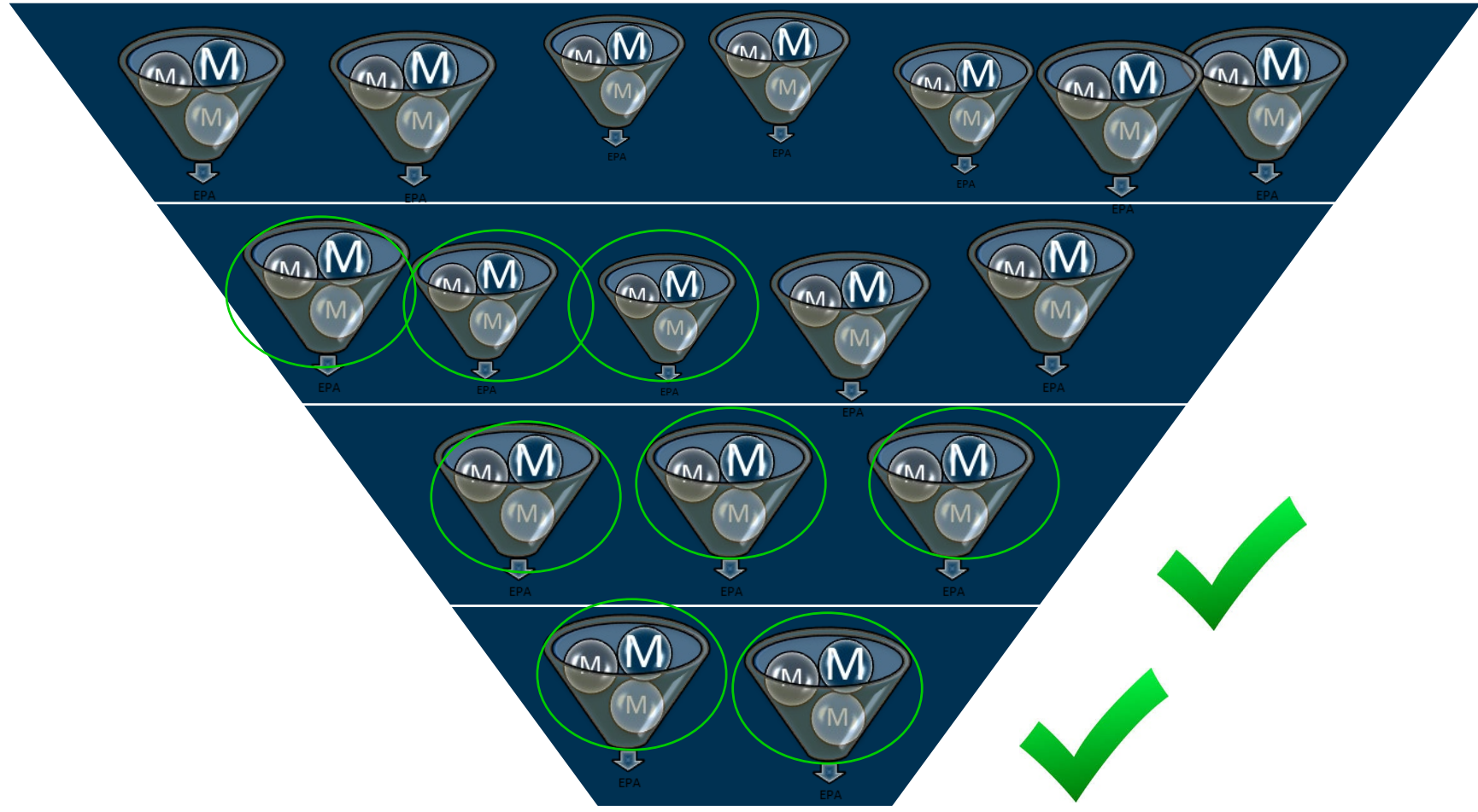


Typically, each
EPA **integrates**
multiple milestones.


Milestones and EPAs within Four Stages of Residency



Progression of Competence




ePortfolio: Learner Dashboard



Casey Chandler
Learner ▾

Learner


Observer




Discipline: Oncology
Current Stage: Foundations of Discipline
Stage Start Date: 6/2/2015
Next Progress Meeting: 11/12/2015
Total for Discipline: 31 of 68

EPAs COMPLETED

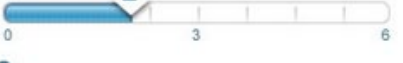
1 - Transition to DISCIPLINE



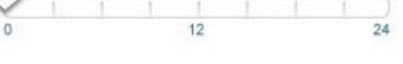
2 - Foundations of DISCIPLINE



3 - Core of DISCIPLINE



4 - Transition to PRACTICE



Add Reflection

EPAs By Stage (68)

Reflections (4)

Narratives (2)

Supporting Documentation (1)

Stage	<input type="checkbox"/> Hide Achieved		
<div style="background-color: #e0e0e0; padding: 5px; margin-bottom: 5px;"> + Transition to Discipline (14) </div>			
<div style="background-color: #e0e0e0; padding: 5px; margin-bottom: 5px;"> + Foundations of Discipline (24) </div>			
EPA	EPA Status	Observations	Evidence
+ 2.1. Manage the transfusion needs of a complex patient	In Progress	2 of 4	
+ 2.2. Supervise & interpret immunohematology testing	Achieved	2 of 3	Proof of exam.pdf
+ 2.3. Conduct and interpret appropriate assessment of intracoronary physiology	Achieved	10 of 10	

ePortfolio: Observer Dashboard

The screenshot shows the Observer Dashboard for Brigitte Hayes. At the top, there are navigation tabs for 'CBD Home', 'Discipline', and 'Learners'. The user's profile is displayed with a photo and the name 'Brigitte Hayes Observer'. A dropdown menu is open, showing 'Learner' and 'Observer' options. The 'Discipline' is set to 'Oncology'. Below the profile, there are buttons for 'Add Narrative' and navigation tabs for 'Pending Observations (4)', 'EPAs by Learner (2)', 'My Archived Observations (32)', and 'Narratives (3)'. The main content area is divided into two sections: 'Accepted' and 'Pending Acceptance', both filtered by 'Oncology'. Each section contains a table of observations with columns for 'Observations', 'Learner', 'Stage #', and 'Actions'.

Observations	Learner	Stage #	Actions
Multiple Source Feedback	Guerrero, Kim	1 - Transition	Actions
3.2 Supervise & interpret immunohematology testing	Logan, Bryan	3 - Core	Actions
3.4 Assessment, development and communication of an interventional plan	Mitchell, Johnny	3 - Core	Actions

Observations	Learner	Stage #	Actions
1.6 Knowledge and practical application of adjunctive pharmacotherapy	Rios, Gail	4 - Transition	Actions

ePortfolio: PD Dashboard

Marshall Gross
Program Director

Next Competency

- Learner
- Program Director
- PG Dean
- Program Administrator
- Observer
- Competence Committee Member

University

1-Transition
17

1 - Transition
2 - Foundations
3 - Core
4 - Transition

My Discipline Snapshot

Discipline	Total Learners	Transition to Discipline	Foundations of Discipline	Core of Discipline	Transition to Practice
Oncology	25	14	6	3	1
Otolaryngology	12	3	2	5	0

Discipline: Oncology


Learners (9) Observers (5) Learners with No Activity (7) Reflections (4) Narratives (4) Supporting Documentation (5) Notes (5)

Learner	Next Progress Meeting	Stage		Learner Status	Actions
		#	Start Date		
Guerrero, Kim	11/12/2015	1 - Transition	4/15/2015	Progressing as Expected	Schedule Progress Meeting
Logan, Bryan	10/11/2015	3 - Core	2/1/2015	Not Progressing as Expected	Flag for Review


ePortfolio: Competence Committee Agenda

CBD Home Discipline Learners Competence Committee

< Back to Dashboard



**Oncology
Competence Committee**







Discipline: Oncology

Meeting: 10/20/2015 - Upcoming

View Archived Agendas: Select
9/20/2015 - Pending
8/20/2015

Learners (6)

Reviewed Not Reviewed All


Learner	Priority	Presenter	Stage		Learner Status
			#	Start Date	
 Benson, Teresa <i>Not Reviewed</i>	High	Morgan, Curtis <i>Pending</i>	1 - Transition	3/13/2015	---
 Brown, Kelly <i>Not Reviewed</i>	Medium	Frazier, Pam	3 - Core	5/25/2015	---
 Guerrero, Kim <i>Not Reviewed</i>	Medium	---	1 - Transition	4/15/2015	---
 Logan, Bryan <i>Not Reviewed</i>	Low	Morgan, Curtis <i>Pending</i>	3 - Core	2/1/2015	---

Feedback to Learner

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam. Erat volutpat ut wisi enim adminin veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisi ut aliquip ex ea commodo consequat. Duis atutem vel eum iriure dolor in hendrerit in vulputate velit esse molestie cons3equat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis

ePortfolio: PG Dean Dashboard

CBD Home Discipline Learners Reports

 **René Neal**
PG Dean ▼

Next Competency: 10/20/2015

- Program Director
- PG Dean
- PG Manager
- Program Administrator
- Observer

MY MAINPORT

1 - Transition
2 - Foundations
3 - Core
4 - Transition



1-Transition
17

My Discipline Snapshot

Discipline	Total Learners	Transition to Discipline	Foundations of Discipline	Core of Discipline	Transition to Practice
Oncology	25	14	6	3	1
Otolaryngology	12	3	2	5	0

Discipline: Oncology ▼

[Learners \(7\)](#)
[Learners with No Activity \(7\)](#)
[Narratives \(4\)](#)
[Supporting Documentation \(5\)](#)
[Notes \(5\)](#)
[Pending Status Approvals \(1\)](#)
[Archived Status Approvals \(3\)](#)

Learner	Next Progress Meeting	Stage		Learner Status	Actions
		#	Start Date		
 Benson, Teresa	11/12/2015	1 - Transition	3/13/2015	Failure to Progress	Actions ▼
 Guerrero, Kim	11/12/2015	1 - Transition	4/15/2015	Progressing as Expected	Actions ▼

Van Melle's Core Components of CBME

1. Outcomes competency framework
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(publication pending)

Is Your Program Competency-based?

How would you know?

Should it be?

What are the pros & cons for
your program?

Diagnosis: The “Tea Bag Model” of HPE

Is there a better way to ensure competence than just time spent?

CBME: WHY?

5. Programmatic Assessment that Promotes Learning

- Emphasis on workplace observation
- Focused on tasks performed
- Multiple observers
- Multiple methods
- Entrustment
- Curation
- Collation
- Decision-framework & benchmarks

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Workplace-based Assessment Strategies

01

EPA / Entrustment
Direct
Observations (O-
Score by Gofton)

02

Work Product
Tools (e.g. review
of a chart)

03

Multi-source
Feedback (360s)

04

Encounter cards

05

Field Notes

...Ultimately, a move to CBME is about a **better way to train health professionals...**

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