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How entrustable professional activities can serve competency-based medical training

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“X-ray” of UMCU’s education building, designed to resemble a body with lungs and CV system
Overview

- Benefits and challenges of competency-based medical education
- The why and what of EPAs
- ‘Competent’ as a threshold passed – sufficient trust to decrease supervision
- Curriculum building with EPAs
- Some examples
Emergence of CBME

- Increase of quality, but also complexity of health care in post-war era
- Higher and wider demands on doctors
- Growing public dissatisfaction in health care delivery
- Strong need felt to re-define which qualities a physician should posses at graduation and registration, notably in Canada, US and UK

Leading to educational reform plans: CBME

Competency-based medical education
CBME

1. Medical competence more **broadly defined**; communication, collaboration, professionalism and other non-technical domains included

2. Focus on acquiring **actual competence**, not just working and waiting till the time is there to end a rotation, to graduate from medical school or to finish a residency

3. Paradigm shift from fixed time and flexible standards, to **fixed standards and flexible time**

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Emergence of competency-frameworks

- **CanMEDS** 7 roles framework: Medical Expert, Collaborator, Communicator, Manager, Health Advocate, Scholar, Professional
- **ACGME Outcome project** 6 competencies framework: Patient Care, Medical knowledge, Interpersonal and communication skill, systems-based practice, practice-based learning and improvement
- **Tomorrow’s Doctors** framework of the General Medical Council in the UK
Operational problems with CBME

- A need to make detailed descriptions and subcompetencies with broad competency-domains – losing elegance and clarity
- A need to devise assessment instruments to evaluate competencies – still inadequate
- Unavoidable bureaucracy collecting learner data to justify graduation and certification
- Many feel that theze operationalizations did to succeed in capturing the essence
Analytic framework approach

The doctor

Medical expert
Collaborator
Communicator
Manager
Health advocate
Scholar
Professional
Analytic framework approach

The doctor
- Medical expert
  - With nursing staff
- Collaborator
  - With family
- Communicator
  - With patients
- Manager
  - With colleagues
- Health advocate
  - With trainees
- Scholar
  -...
- Professional

Consultation
Breaking bad news
Explain medication
With children
With elderly
...

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Consultation
Breaking bad news
Explain medication
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<table>
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<th>Role</th>
<th>134 elements</th>
<th>28 key competencies</th>
<th>125 enabling competencies</th>
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Commentary: *Pitfalls in Assessment of Competency-Based Educational Objectives*
Stephen J. Lurie, MD, PhD, Christopher J. Mooney, MA, MPH, and Jeffrey M. Lyness, MD

Abstract: Measurement constructs. Although competencies may prove useful in defining an overall social mission for organizations, such competencies should not be mistaken for measurable and distinct attributes that people can demonstrate in the context of their actual work.
Summary so far

- CBME is intuitive, has great face validity
- Defining specific competencies is hard
- Competencies tend to remain theoretical
- Clinicians cannot translate competencies to relevant daily clinical work
- A need for more concrete outcomes of training, better aligned clinical practice

Rethinking CBME, from a clinical practice perspective

1. **What clinical work must be done?** (patient consultations, patient admissions, clinical work-up, diagnostic management, therapeutic management, monitoring, discharge from the hospital)
2. **When can a learner be trusted** to do these things without supervision?
3. **What competencies does he or she need** to have before trust can be granted?
Entrustable professional activity

- A unit of professional practice that can be entrusted to a sufficiently competent learner

EPAs are
- independently executable within a time frame
- observable and measurable
- suitable for entrustment decisions
- Assessment result is framed as supervision level

Typically, EPAs are allocated to individuals.

EPA concept was designed to make CBME work

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**Does it fit?**

Person with competencies  Task (EPA) to be entrusted
Competencies versus EPAs

<table>
<thead>
<tr>
<th>Competencies</th>
<th>EPAs</th>
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<tr>
<td>person-descriptors</td>
<td>work-descriptors</td>
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<td>knowledge, skills, attitudes, values</td>
<td>essential parts of professional practice</td>
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<tr>
<td>• content expertise</td>
<td>• discharge patients</td>
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<tr>
<td>• health system knowledge</td>
<td>• counsel patients</td>
</tr>
<tr>
<td>• communication ability</td>
<td>• lead family meetings</td>
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<tr>
<td>• management ability</td>
<td>• design treatment plans</td>
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<td>• professional attitude</td>
<td>• Insert a central line</td>
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<td>• scholarly skills</td>
<td>• Resuscitate a patient</td>
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For most EPAs, multiple competencies are required

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<tr>
<th>Competencies</th>
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<th>EPA3</th>
<th>EPA4</th>
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<tr>
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<td>Professional</td>
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Assessment based on EPAs
A synthetic framework approach

Medical expert
Collaborator
Communicator
Manager
Health advocate
Scholar
Professional

So when can we decide to trust learners to work by themselves?
When is “competence” reached?

When a professional activity is mastered
• ...on a **threshold** level
• ...that permits **trust**
• ...to act **unsupervised**

Competence is a **stage** in a continuum of development

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**Growth of competence over time**

- expert
- proficient
- competent
- advanced
- novice

*training* *deliberate professional practice*
Competency curves of one trainee

Another trainee
EPA approach serves flexibility

1. **Intra-trainee variation**: trainees do not reach competence threshold levels for all professional skills at graduation

2. **Inter-trainee variation**: residents differ in prior knowledge & skills, learning ability, general attitude

3. **Context variation**: clinical opportunities, requirements of local practice (epidemiology, facilities, culture), education-mindedness of staff

Different from the current one-size-fits-all training; working with EPAs facilitate this flexibility

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**Five supervision levels, reflecting increasing trust in trainee autonomy**

Level 1: not allowed to practice the EPA
Level 2: practice with direct (pro-active) supervision
Level 3: practice with indirect (re-active) supervision

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Level 4*: “unsupervised” practice allowed
Level 5: supervision task may be given

*Competent; deserving a STAR: STatement of Awarded Responsibility, cf “sufficient ability and right to act”

Trust is a calculated risk that adverse event will be containable
Curriculum building with EPAs

- Identify and specify the EPAs
- Plan when learners should ideally be ready for entrustment
- Tailored supervision and monitoring
- Award learners with actual responsibilities in health care from ‘Level 4’

Full EPA description

About two pages, to shape training and assessment

(a) Title
(b) Description: what is included and what not?
(c) Relevant competency domains for this EPA
(d) Knowledge, skills, attitude needed for entrustment
(e) When is level-4 supervision expected?
(f) What is needed to make an entrustment decision?
Example of an early EPA
Routine check-up of stable adult patient

Description
1. Measuring vital functions: pulse, breathing, temperature, blood pressure, saturation: by hand and with devices
2. Explaining all actions to the patient
3. Reporting results to care givers (orally and/or written)
   Limitations: only with circulatory stable patients ≥ 18 year old

Relevant competency domains
☐ Medical Expert  ☐ Health Advocate
☐ Communicator  ☐ Scholar
☐ Collaborator  ☐ Professional
☐ Manager

Required knowledge, skills, attitude before entrustment
Knowledge: Basic anatomy; normal values, interpretation of abnormal values, estimation of consequences. [E-module with test]
Skills: 2nd year med school skills test passed
Attitude: Aware if the critical nature of adequate report

Assessment
Observation/monitoring of all acts, oral case-based discussion

Entrustment decision procedure
Entrustment decision taken and signed by supervisor and a nurse or practice assistant; results in a digital badge (public access)
Level 3 (indirect supervision) expected in the first major clerkship

Trainee Jones’ individualized workplace curriculum

Graded supervision allows for...

1. Observing the activity
2. Acting with direct supervision present in the room
3. Acting with supervision available within minutes
4. Acting unsupervised (i.e., under clinical oversight)
5. Providing supervision to juniors

<table>
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<tr>
<th>Portfolio of: trainee Jones</th>
<th>PGY1</th>
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<td>...EPA x</td>
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Accommodating the new paradigm of “fixed standards – flexible time”

- The difficult way: varying actual time in training
- The feasible way: varying the portfolio of mastered EPAs (number and type)
- Examples from GME and UME

Plans for new the national radiology residency program in the Netherlands

1. All core radiology EPAs required to graduate
2. Flexibility in nr of focus area EPAs (0 to 2 areas)
Plans for the new Utrecht UME curriculum

1. All UME core EPAs required to graduate
2. Speciality specific EPAs for shortened residency
3. Elective EPAs for upper level students

Some examples
EPAs in undergraduate medical education

EPAs in graduate medical education
Thanks to Dr Karen Schultz and Dr Jane Griffiths from the Family Medicine Department of Queens University at Kingston, Ontario, Canada.
Over time, clinical training has become longer, more expensive and less effective.

Close supervision until the end of residency jeopardizes rather than enhances patient safety.

We should provide sufficient practice opportunity, supervision and monitoring to allow for earlier entrustment with selected critical responsibilities.

If we do so, our young colleagues may contribute to health care, rather than induce cost.
References

- ACGME: Core Competencies.-corecomp.com
- ACME: Core Competencies. corecomp.com