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Competency-based education and Entrustable professional activities (EPAs) for the health professions

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Disclosure statement

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Overview

1. Competency-based education and frameworks

2. Entrustable professional activities

3. Entrustment decision making as assessment

Competency-Based Medical Education

- First mentioned 1978 (McGaghie et al, WHO)
- Revival around 2000: Canada (CanMEDS), USA (ACGME Outcome project), UK (Tomorrow's Doctors)
- Why: dissatisfaction with quality of care, training models, and supervision & patient safety
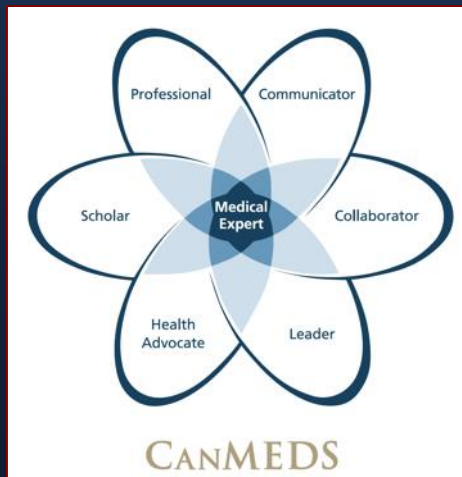
Essence of CBME

- Goal: securing safer and higher quality practice by improved training and assessment

- Better, broader, more valid description of the physician

- Outcome-based, not process based

- From *assuming* competence to *assessing* competence

- The aim: licensing physicians, register specialists only when they meet standards

- Based on competence, not just on time in training

Radiology Progress Test scores 2005-2009 for all Dutch residents

Ravesloot et al 2012
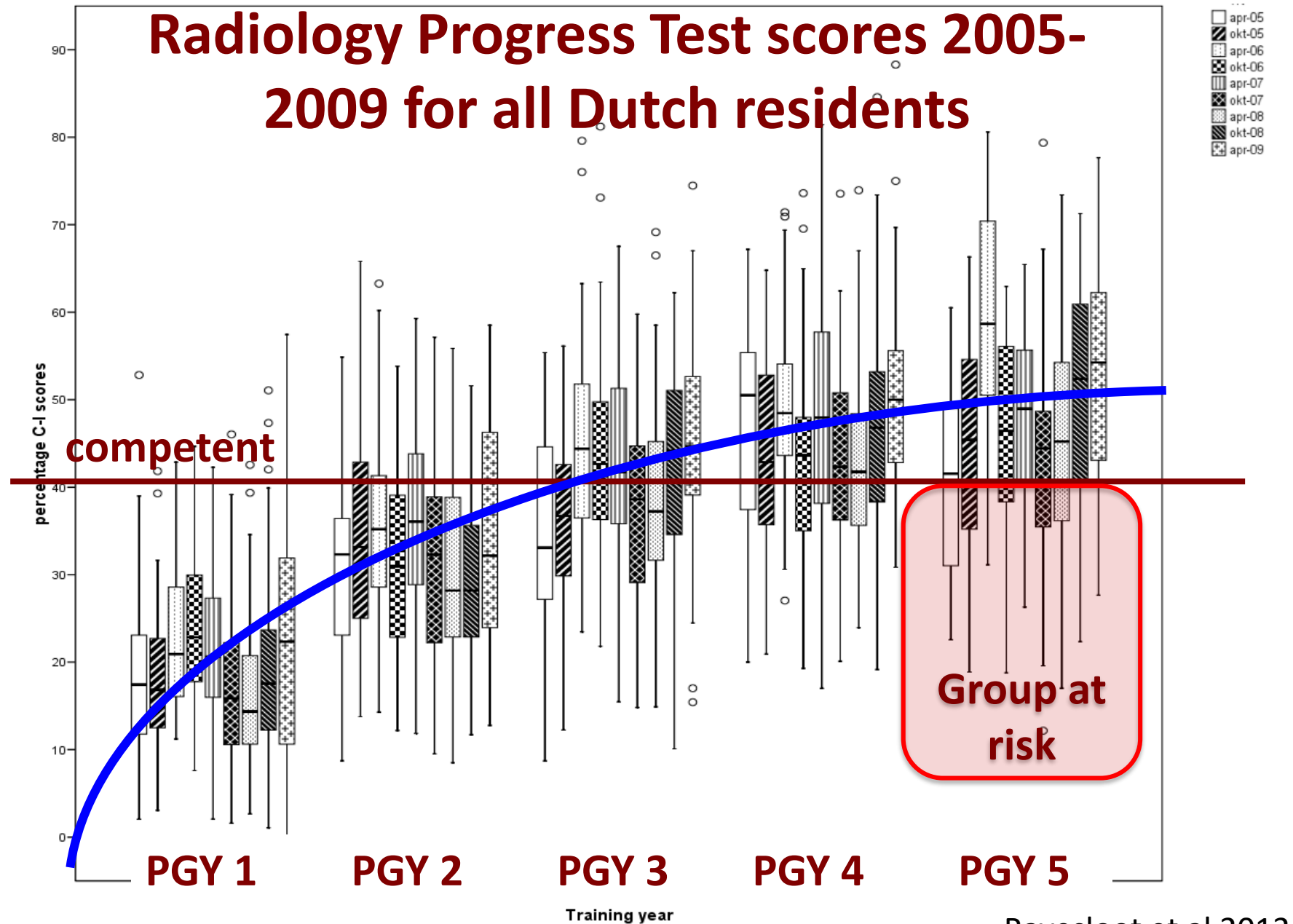
Competency frameworks

General acceptance worldwide, but..

- CBME frameworks tend to become analytical and detailed
- Competencies are sometimes rather abstract and general
- Clinical teachers struggle with rules for assessment
- Regular criticism in the literature

Analytic framework approach

The doctor

- **Medical expert**
- **Collaborator**
- **Communicator**
- **Manager / Leader**
- **Health advocate**
- **Scholar**
- **Professional**

With nursing staff

With family

With patients

With colleagues

With trainees

...

Consultation

Breaking bad news

Explain medication

With children

With elderly

...

The CanMEDS 2015 competency framework
739 components (across all specialties)

Role	161 key concepts	28 key competencies	116 enabling competencies	434 milestones (excl CPD)
Medical expert	16	5	21	77
Communicator	27	5	18	66
Collaborator	21	3	8	47
Leader	19	4	13	68
Health Advocate	14	2	13	24
Scholar	39	5	27	85
Professional	25	4	16	67

Entrustable Professional Activities

Back to the basic questions (in this order):

1. What *is* the health care work that must be done?

2. What qualities must health care workers have to be trusted to do this?

Brief summary of EPAs

Definition

Units of professional practice (a task) that can be fully entrusted to a trainee, once he or she has demonstrated the necessary competence to execute this activity unsupervised

Specification

- part of essential professional work in a given context;

- executable within a time frame;

- requiring adequate KS&A, generally acquired through training;

- observable and measurable output of professional labour;

- usually be confined to qualified personnel;

- reflecting one or more of the competencies to be acquired.

Brief summary of EPAs

Purpose

- To ground competencies in daily clinical practice
- Increase transparency about objectives
- To formalize entrustment decisions

Implications for

- Workplace curricula
- Workplace assessment
- For UME-GME-CME
- For various specialties and professions in heath care

Competencies versus EPAs

- EPAs: units of work / tasks that must be done
- Competenties: qualities of individuals

- One can possess competencies; one cannot possess EPAs

Competencies versus EPAs

Competencies	EPAs
person-descriptors	**work-descriptors**
knowledge, skills, attitudes, values	Essential units of professional practice
• content expertise • health system knowledge • communication ability • management ability • professional attitude • scholarly skills	• discharge patient • counsel patient • lead family meeting • design treatment plan • Insert central line • Resuscitate patient

Does it fit?

EPAs require multiple competencies

	EPA1	EPA2	EPA3	EPA4	EPA5
Medical expert	++	++	+		++
Collaborator	+		+	++	
Communicator	+	++			+
Leader		+	++	++	
Health advocate	+		++	+	
Scholar	+				++
Professional	+	+	+		

competencies inferred

Assessment focused on EPAs

EPAs: a synthetic approach
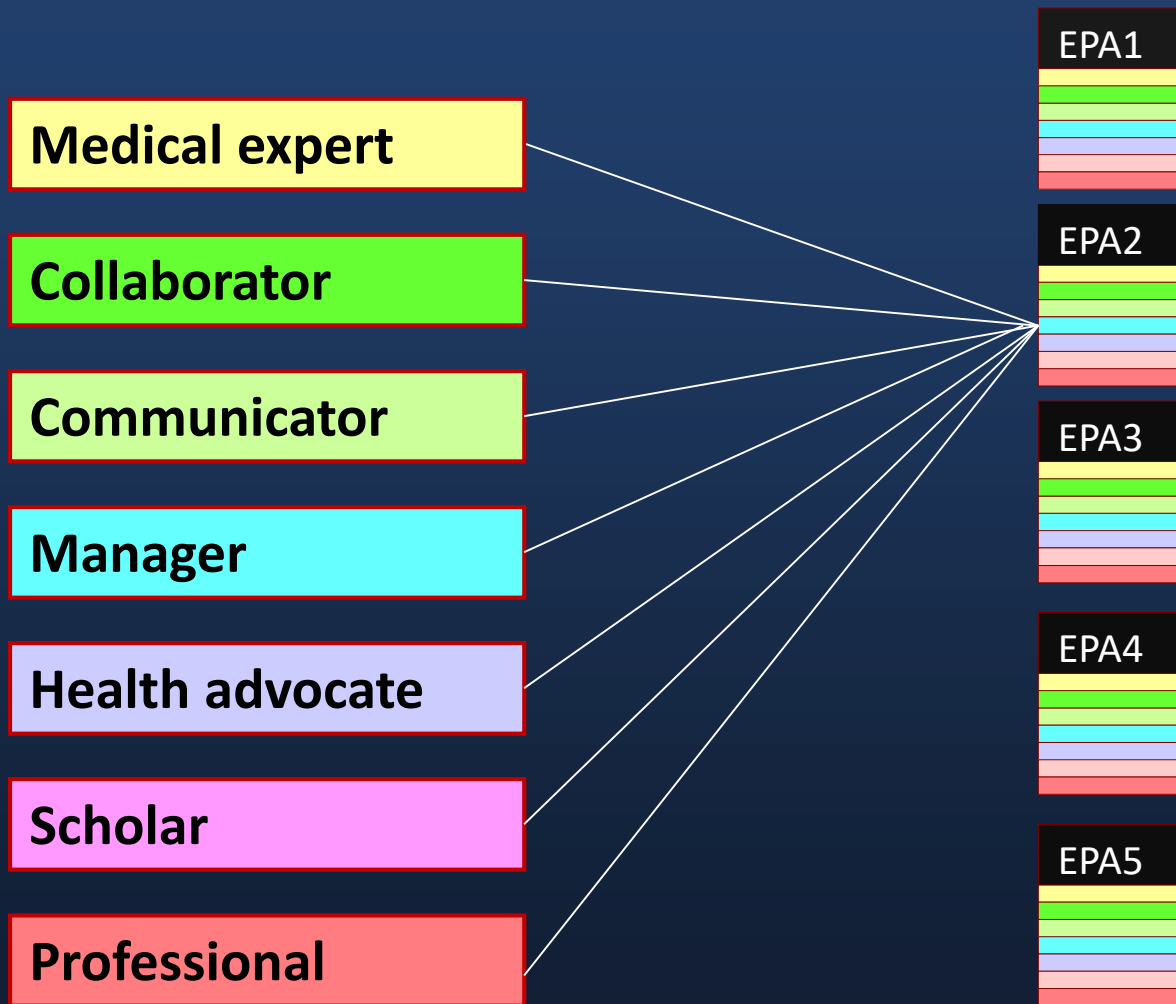
Operationally defining 'competent'

When a professional activity is mastered

- ...at a **threshold** level
- ...that permits **trust**
- ...to act **unsupervised**

Competent: *stage* in a development continuum

Growth of competence over time

expert

proficient

competent

advanced

novice

Ready for unsupervised practice

training

deliberate professional practice

Dreyfus & Dreyfus 1986; ten Cate et al, 2010

Competency curves of one trainee

EPA2

EPA4

EPA3

EPA1

Compe-
tence

thres-
hold

EPA5

Justified entrustment decisions

training   deliberate professional practice

ten Cate et al, 2010

A different trainee

EPA4, EPA2, EPA5, EPA1, EPA3

Compe-tence threshold

Loss of trust

Justified entrustment decisions

training

deliberate professional practice?

ten Cate et al, 2010
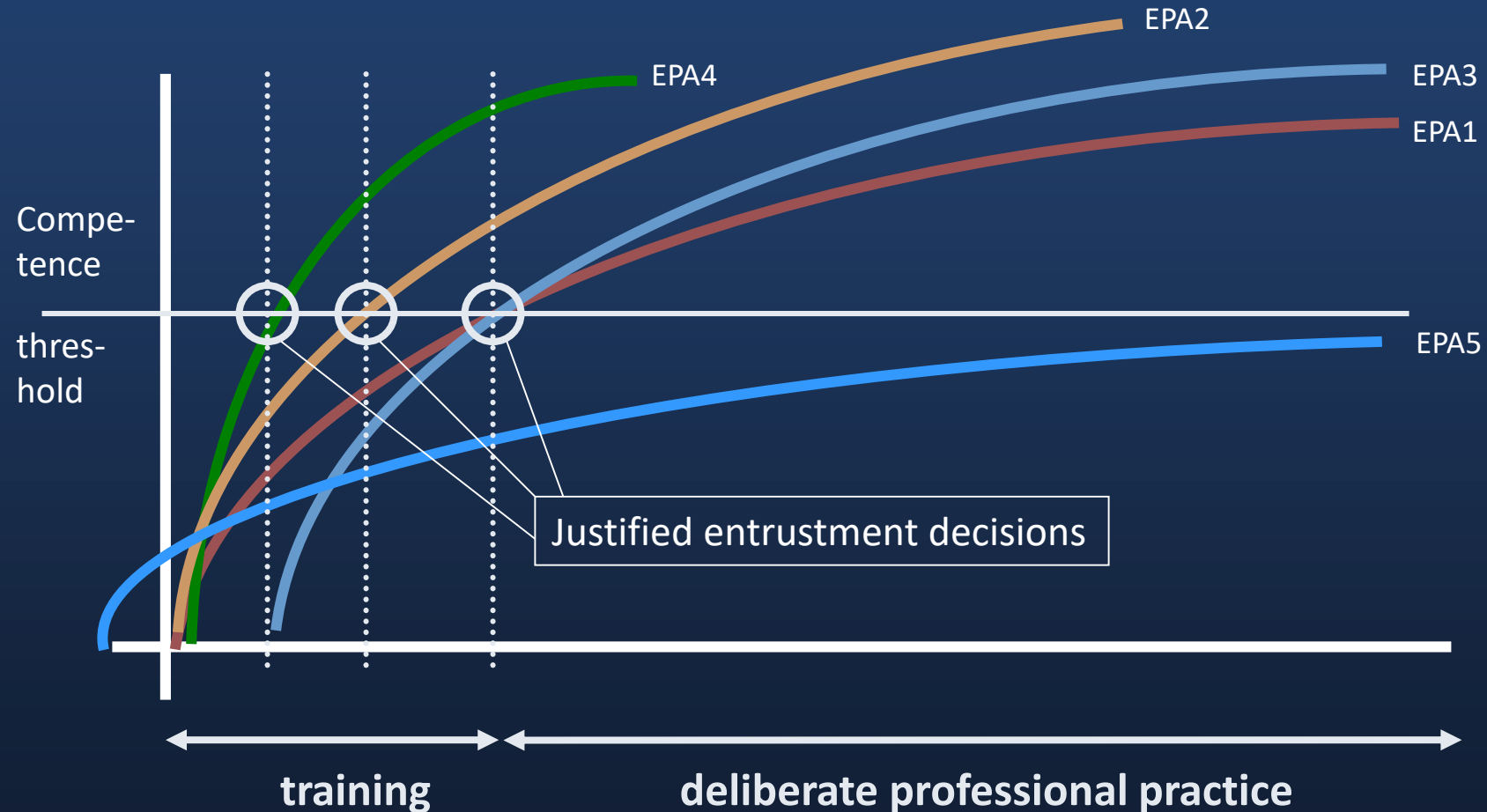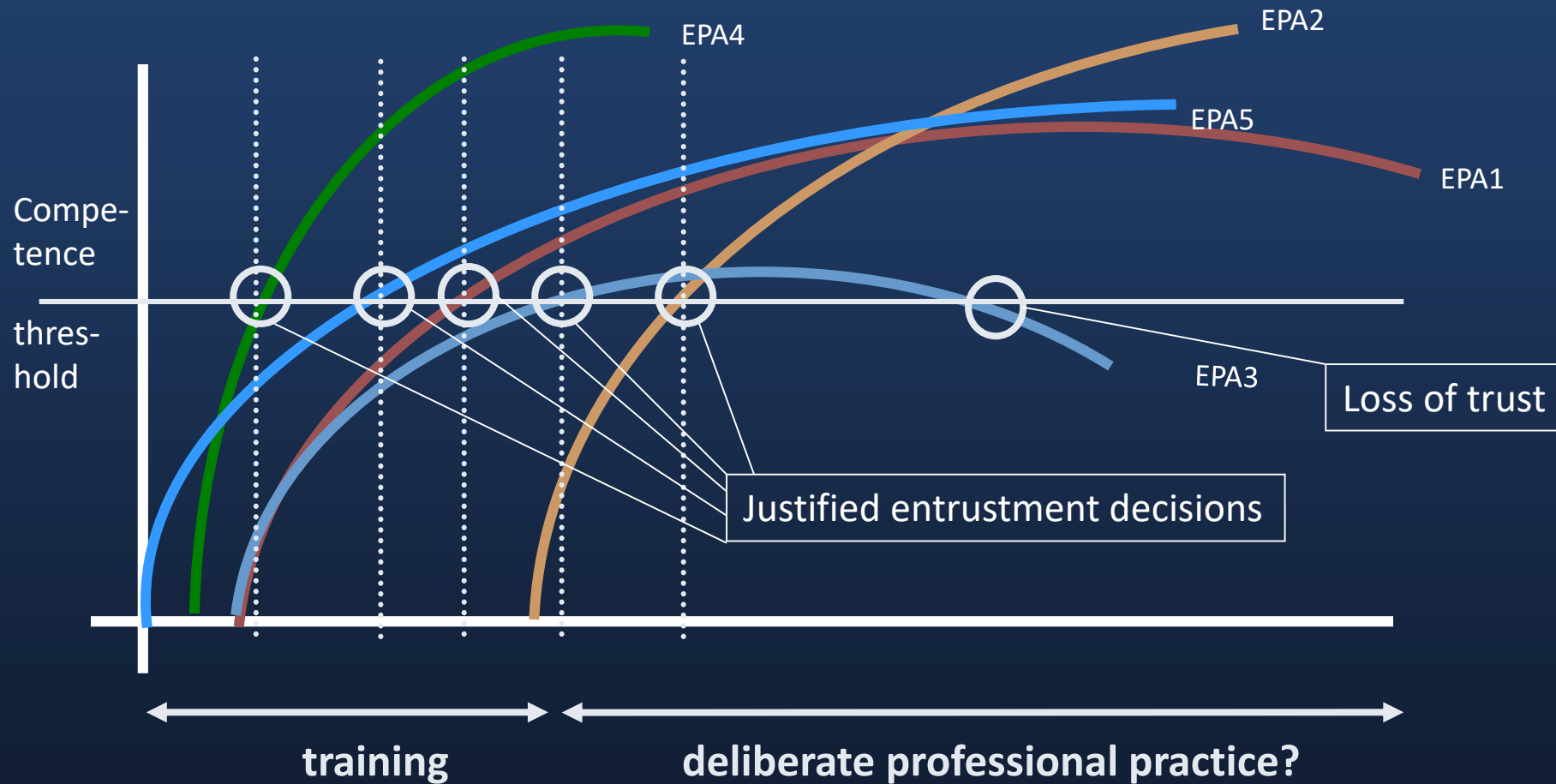
An individualized workplace curriculum

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

Portfolio of: *trainee Jones*	PGY1		PGY2		PGY3		PGY4	
EPA a	1	2	2	2	3	4	4	5
EPA b	1	1	2	2	2	3	3	4
EPA c	2	2	3	4	5	5	5	5
EPA d	2	3	4	4	4	4	5	5

Recommended full EPA Description

1	Title of the EPA
2	Specification and limitations
3	Potential risks in case of failure
4	Most relevant domains of competence
5	Required knowledge, skills, attitude and experiences
6	Information sources to assess progress and support summative entrustment
7	Entrustment/supervision expected at which stage of training?
8	Time period to expiration if never practiced

Example: Routine check-up of the stable adult patient (early medical student)

2 Specification and limitations	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 $\geq$ 18 year old		
3 Risks at failure	Missing data; confusing or hurting patient		
4 Relevant competency domains	✓ Medical expert ✓ Communicator ✓ Collaborator	☐ Health advocate ☐ Scholar ☐ Professional	☐ Manager
5 Required knowledge, skills, attitude and experiences before entrustment	Knowledge: Skills: Attitude:	Basic anatomy; normal and abnormal values, interpretation; estimation of consequences 2nd year med school skills test passed Aware of critical nature of adequate report	
6 Sources of informa-mation for assessment	Short practice observations of all acts, 3 case-based discussions		
7 Level & expected moment of entrustment	Level 3a (indirect supervision, all findings checked) after 2 weeks of first clerkship		
8 Expiration	One year after non-practice		

Example: Resuscitation of a multiple trauma patient in the Emergency Room

2	Resuscitation of trauma patients of all age groups, in the Emergency Room. Active participation in the trauma team. Assessment and control of vital functions. Pain management in trauma patients. No limitations
3	Unnecessary suffering for patient; Failure of resuscitation teamwork; Increasing preventable morbidity or even mortality
4	✓ Medical expert ✓ Manager ☐ Scholar ✓ Communicator ☐ Health advocate ☐ Professional ✓ Collaborator
5	Trauma mechanisms & pathophysiology; Organization of trauma care; Collaboration in the trauma team; Trauma diagnoses & treatment; Primary & secondary survey; Trauma airway management; Emergency IV[1] & IO[2] access; Emergency thoracostomy; Hemorrhage / massive transfusion; Emergency Room registration procedures
6	5 SPOs and 5 trauma CBDs (different days and assessors), incl. trauma airway management, emergency IV & IO access and emergency thoracostomy; LPO over >3 weeks (MSF); 2 trauma simulator achievement tests passed
7	Level 4 (unsupervised practice) in PGY 4 of anesthesiology training
8	Six months after non-practice

EPAs serve clarity and flexibility

- **Clear training objectives for learners**

- **Serves intra-trainee variation**: trainees do not reach competence for everything on last day of training

- **Serves inter-trainee variation**: different prior knowledge and skills, learning ability, general attitude

- **Serves context variation**: variable clinical opportunities, local practice (epidemiology, facilities, culture), education-mindedness of staff

Entrustment decision making as assessment

Issues in workplace-based assessment

- Generosity error (too high scores – *failure to fail*)

- Halo (generalizing from observing one feature)

- Unreliable (not reproducible)

- Unclear standards (often *no* standards)

- Observer/rater differences

- Ratings unclearly relate to profiency, to personal development, to effort, or to reference group performance.

Entrustment decisions as assessment

Entrustment decisions for medical trainees combine three acknowledgments:

- of competence to act (ability)
- of readiness for a privilege to act (right)
- of readiness for service (duty)

→Entrustment links assessment to patient care

Entrustment as Assessment: Recognizing the Ability, the Right, and the Duty to Act

Olle ten Cate, PhD

The Challenge

Competency- and milestone-based frameworks are designed to improve assessment of learners on broad domains, such as
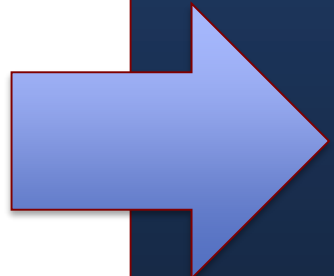
Rip Out Action Items

Program directors should:

1. Ensure that faculty, residents, and staff understand EPA

From traditional scales to entrustment / supervision scales

10 Outstanding
9 Excellent
8 V
7 G
6 A
5 N
4 F
3 P
2 V
1 A

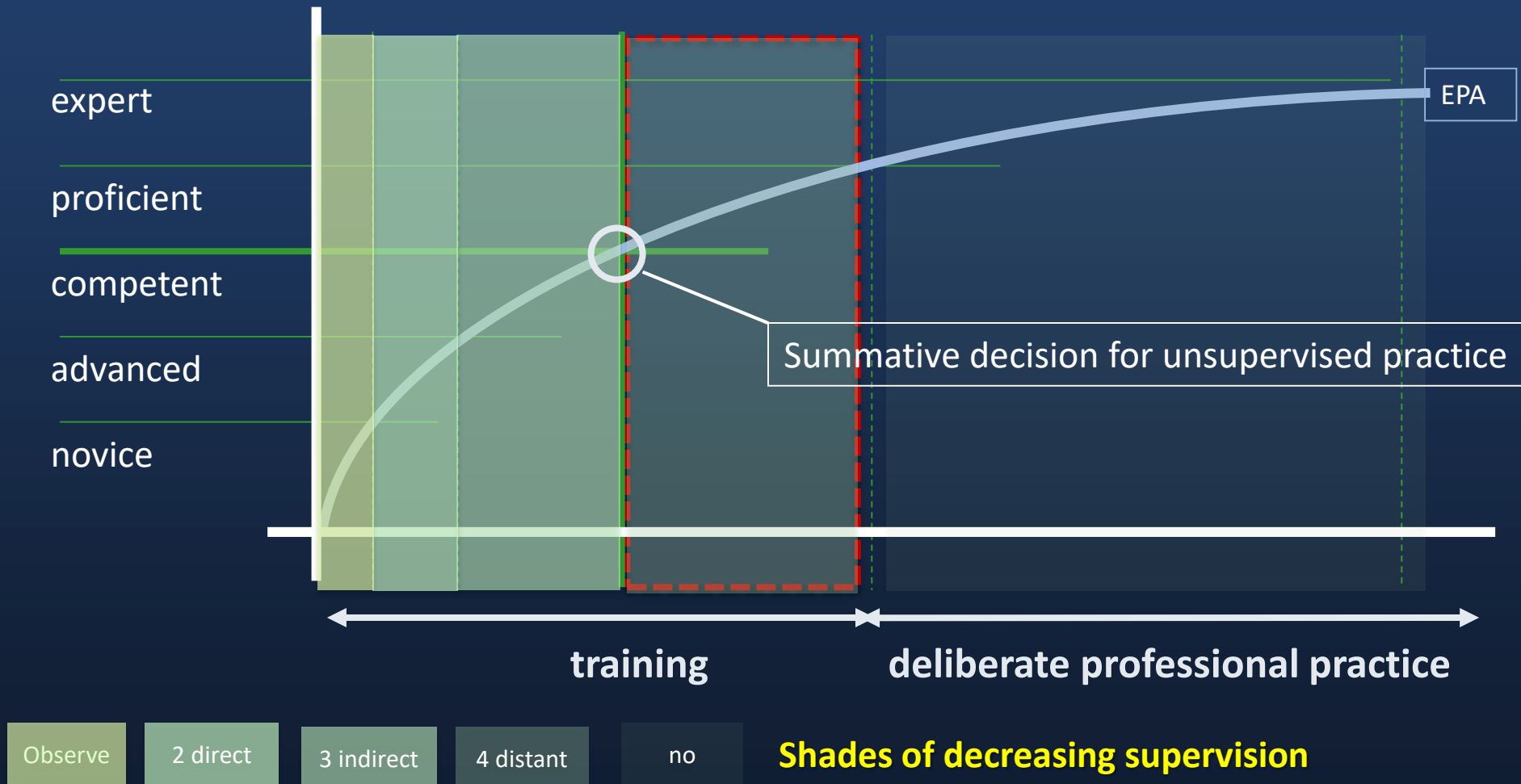Exceeds expectations

Meets expectations

Below expectations

- I need to explain everything
- We can do this together
- I can watch the learner do it
- I can briefly leave the room
- I can leave until she calls
- I can leave the hospital
- Learner ready for independence

Five basic levels of supervision, reflecting increasing trust in trainee autonomy

1. Be present but no permission to enact EPA

2. Practice EPA with direct (pro-active) supervision

3. Practice EPA with indirect (re-active) supervision

---[threshold]---

4. Unsupervised practice allowed (distant oversight)

5. May provide supervision to junior learners

Growth of competence – decrease of supervision

expert

proficient

competent

advanced

novice

EPA

Summative decision for unsupervised practice

training

deliberate professional practice

Observe | 2 direct | 3 indirect | 4 distant | no | **Shades of decreasing supervision**

Levels of supervision

1. Observation only

Levels of supervision

2. Direct, proactive, supervision

Levels of supervision

3. Indirect, reactive, supervision

Levels of supervision

4. Oversight – distant supervision

Levels of supervision

5. Be a supervisor for juniors

Statement of Awarded Responsibility

Name of trainee:

From tomorrow, we will allow you to:

Title of EPA:	
Specification:	
Limitations:	
Level of supervision:	
Date:	

Name and signature 1:		
Name and signature 2:		
Name and signature 3:		

Expiration date if not practiced: ……………………..

The trust concept in EPA-based assessment

- Trusting someone is making yourself **vulnerable**

- Calculated **risk** that adverse events are acceptable

- Graduates will be certified to carry out activities that supervisors have **not been able to observe** and leaners may have never encountered

- Entrustment decisions require estimation of **adaptive competence** to cope with unfamiliar situations

Miller's Pyramid
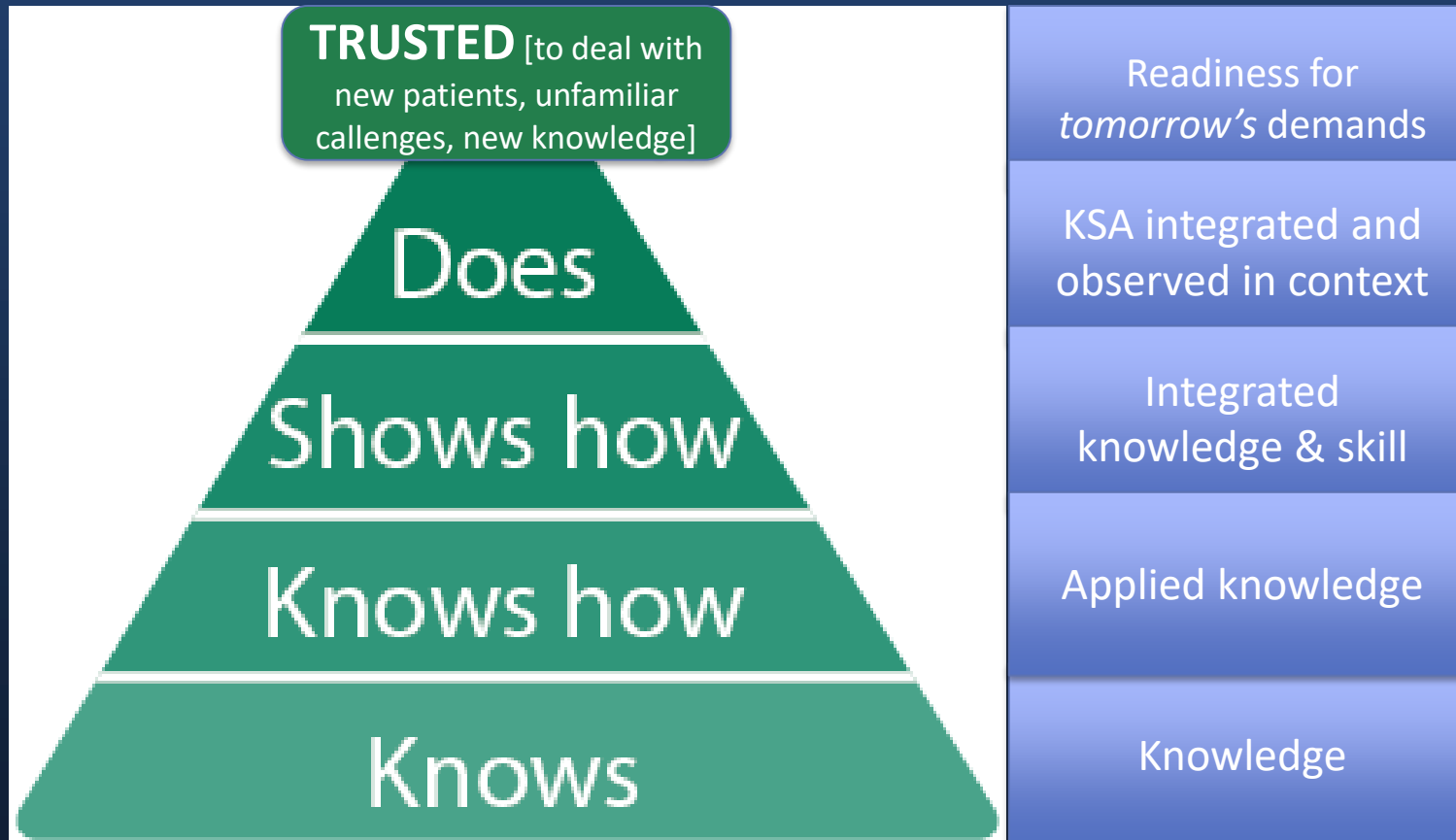
Trust requires skill, but more

1. Knowledge (anatomy, physiology, pathology)

2. Skill (technical proficiency, through deliberate practice)

3. Diagnostic judgment and patient management skill

4. Non-technical behavior (communication, collaboration)

5. Other very general characteristics

General qualities that enable trust (in trainees)

1. **Capability** (knowledge & skill; experience; awareness and oversight)

2. **Integrity** (truthful, good intentions, patient-centered)

3. **Reliability** (conscientious, predictable, accountable, responsible)

4. **Humility** (observing limits, willing to ask help, receptive to feedback)

5. **Agency** (self-confident, proactive toward work, team, safety)

Useful acronym: think of *A RICH* entrustment decision

Based on (not exclusively): Kennedy et al 2008; Dijksterhuis et al 2009; Sterkenburg et al 2010; Ginsburg et al 2010; Wijnen-Meijer et al 2013 (2x); Choo et al 2014; Tiyyagura et al 2014; Hauer et al 2014; Sheu et al 2016, 2017; Duijn et al 2018

Spread of the EPA concept anno 2019

- **Launched**: 2005 – for postgraduate medical specialty training, to facilitate competency-based transition to unsupervised practice

- **Programs**: examples in all PGME disciplines, UME, nursing, veterinary medicine, midwifery, pharmacy, physical therapy, dentistry, physicians assistants, education (a.o. elementary)

- **Countries**: All continents; local, national and international projects

- **Legal status**: Lithuania: first parliament to include EPAs in health legislation (2018)

Wrap-up

- Competency-based medical education (CBME): a movement to stay

- Gradual entrustment of trainees with responsibilities: the core mission of education

- Assessment in the workplace is critical, but difficult

- Entrustment-supervision scales align with the realities of every day health care and improve reliability

- EPAs may become common language in all health profession serve eventually creating competency-based practice through a portfolio of valid EPAs until retirement

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