Entrustable Professional Activities in Competency-Based Medical Education

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BJA

British Journal of Anaesthesia, 2020;125(5):E408-E410

Would you trust your loved ones to this trainee? Certification decisions in postgraduate anaesthesia training

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Keywords: certification; entrustment; failure to fail; medical education; postgraduate medical education; specialty training; trust

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What is the ultimate goal of medical training:

To expect that physicians, residents, specialists we graduate can all be trusted to provide high quality, safe care

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What is the ultimate goal of medical training:

To expect that physicians, residents, specialists we graduate can all be trusted to provide high quality, safe care

(with limited or no supervision)

The Dutch Medical Act says:

Licensed physicians are entitled to perform medical tasks, *provided they are competent*

But.. What Is Competent? And How Do We Know?

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Would clinical educators trust all graduating trainees with their own family members as patients?

- Many residency program directors can recollect cases signing off for completion of training even if not confident*
- *Failure to fail* reasons: “time is up”; “no valid documentation to back up failure”; “failing a trainee gives us trouble”; ”no tools to handle this”; “when unsure, we err for the benefit of trainee”
- The imperative of Competency-based Medical Education: Reducing “false positive” decisions when graduating trainees for unsupervised practice

*Jonker et al 2020

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Essence of competency-based medical education

- **CBME**: Education, aimed at a standard level of proficiency for all graduates

- **Critical features** of CBME:
  a. Clear description of standards for a “good physician/specialist”
  b. Assessment of all medical trainees using these standards
  c. Competence, not time, is primary reason to finalize training

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Competency-Based Medical Education

- The CBME movement since turn of century. Purpose:
- Better, broader, more specific *standards* for physician competence
- A move from *assuming* competence to *assessing* competence
- To license physicians and register specialists only when they meet standards, based on competence, not just on *time in training*

ACGME competency domains	
Medical knowledge	Practice-based learing and improvement
Patient Care	Interpersonal and communication skills
Professio-nalism	Systems-based practice

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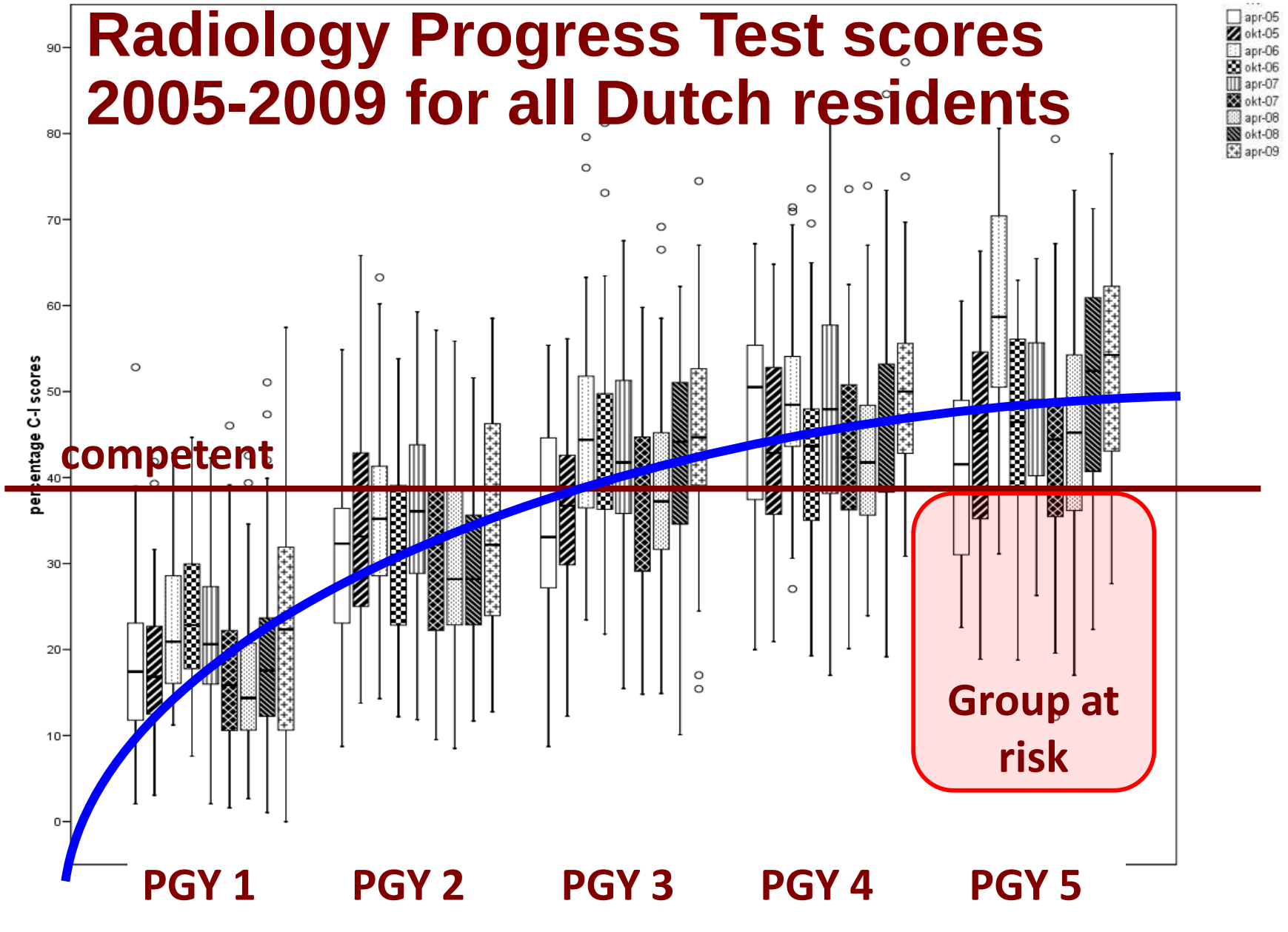
Radiology Progress Test scores 2005-2009 for all Dutch residents



Ravesloot et al 2012

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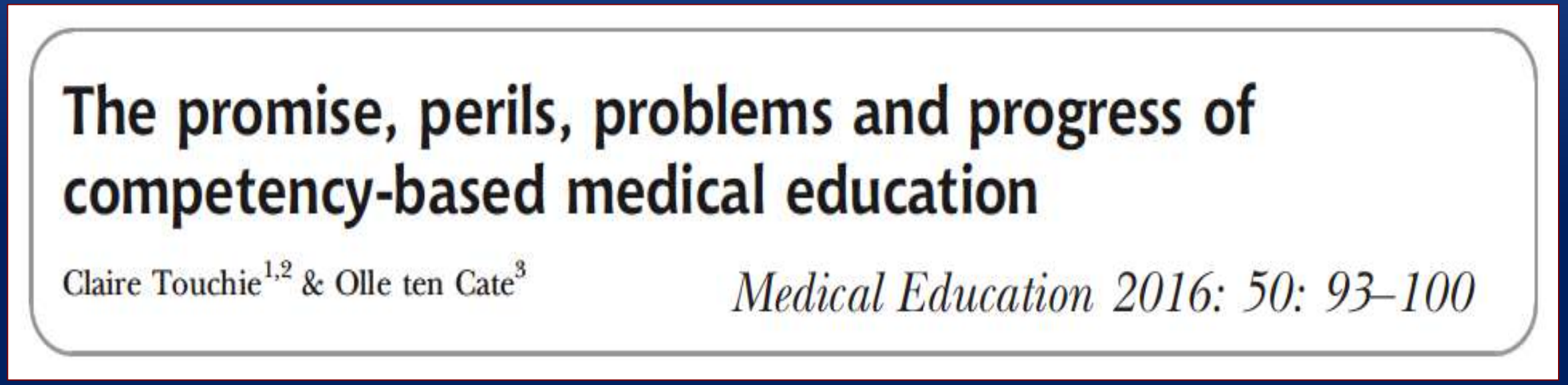
CBME: appreciation and challenges

General acceptance of CBME worldwide, but..

- CBME frameworks can become analytical and detailed
- Competencies are sometimes rather abstract and general
- Clinical teachers often struggle with assessment


The promise, perils, problems and progress of competency-based medical education

Claire Touchie[1,2] & Olle ten Cate[3]

Medical Education 2016: 50: 93–100

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Just imagine: rate an intern

Please rate this intern at the end of your rotation on 7 domains of competence

	1	2	3	4	5	6	7	8	9	10
Medical expert										
Communicator										
Collaborator										
Leader										
Health Advocate										
Scholar										
Professional										

1-3= extremely low; 4=fail, 5=near-pass, 6=pass, 7=satisfactory, 8=very good, 9=outstanding, 10=exceptional

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Issues in workplace-based assessment

- Generosity error (too high scores – *failure to fail*)
- Halo (generalizing from observing one feature)
- Lack of reliability (not reproducible across occasions or raters)
- Unclear standards (often *no* standards)
- Observer/rater differences
- Ratings unclearly relate either to profiency, to personal development, to effort, or to reference group performance.

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What is needed?

- Assessment that matches responsibilities in patient care
- Preferably a holistic, non tick-box approach
- Integration, not separation, of competencies
- But at the same time, practically feasible

Good questions, good answers: construct alignment improves the performance of workplace-based assessment scales

Jim Crossley,[1] Gavin Johnson,[2] Joe Booth[3] & Winnie Wade[3]

Medical Education, 2011

British Journal of Anaesthesia 112 (6): 1083–91 (2014)
Advance Access publication 17 March 2014 · doi:10.1093/bja/aeu052

BJA

QUALITY AND PATIENT SAFETY

Can I leave the theatre? A key to more reliable workplace-based assessment

J. M. Weller[1,2*], M. Misur[2], S. Nicolson[2], J. Morris[3], S. Ure[4], J. Crossley[5] and B. Jolly[6]

EDITORIAL

Annals of Surgery, 2018

Entrustable Professional Activities

The Future of Competency-Based Education in Surgery May Already Be Here

Jacob A. Greenberg, MD, EdM and Rebecca M. Minter, MD

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Entrustable Professional Activity

- **Definition**: Unit 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
- **Purpose**: To operationalize competency-based medical education through a stepwise and safe engagement of trainees in clinical practice – with a progressive (bounded) autonomy
- **Becoming competent**: Passing the threshold that allows for sufficient trust in the trainee to act unsupervised

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E.P.A.

- ***Entrustable***: acts that require trust – by colleagues, patients, public

- ***Professional***: confined to occupations with extra-ordinary qualification and right

- ***Activities***: tasks that must be done

EPAs ground competencies in daily practice; they break medical practice down in *units* that can be overseen, assessed, monitored, documented and certified.

Competencies ←→ EPAs

Person

Work

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	• discharging patient • counseling patient • leading family meeting • designing treatment plan • Inserting central line • Resuscitating patient
the *ability* to do something successfully or efficiently*	that *something* that is (trusted to be) done successfully or efficiently

*Oxford dictionary

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Does it fit?

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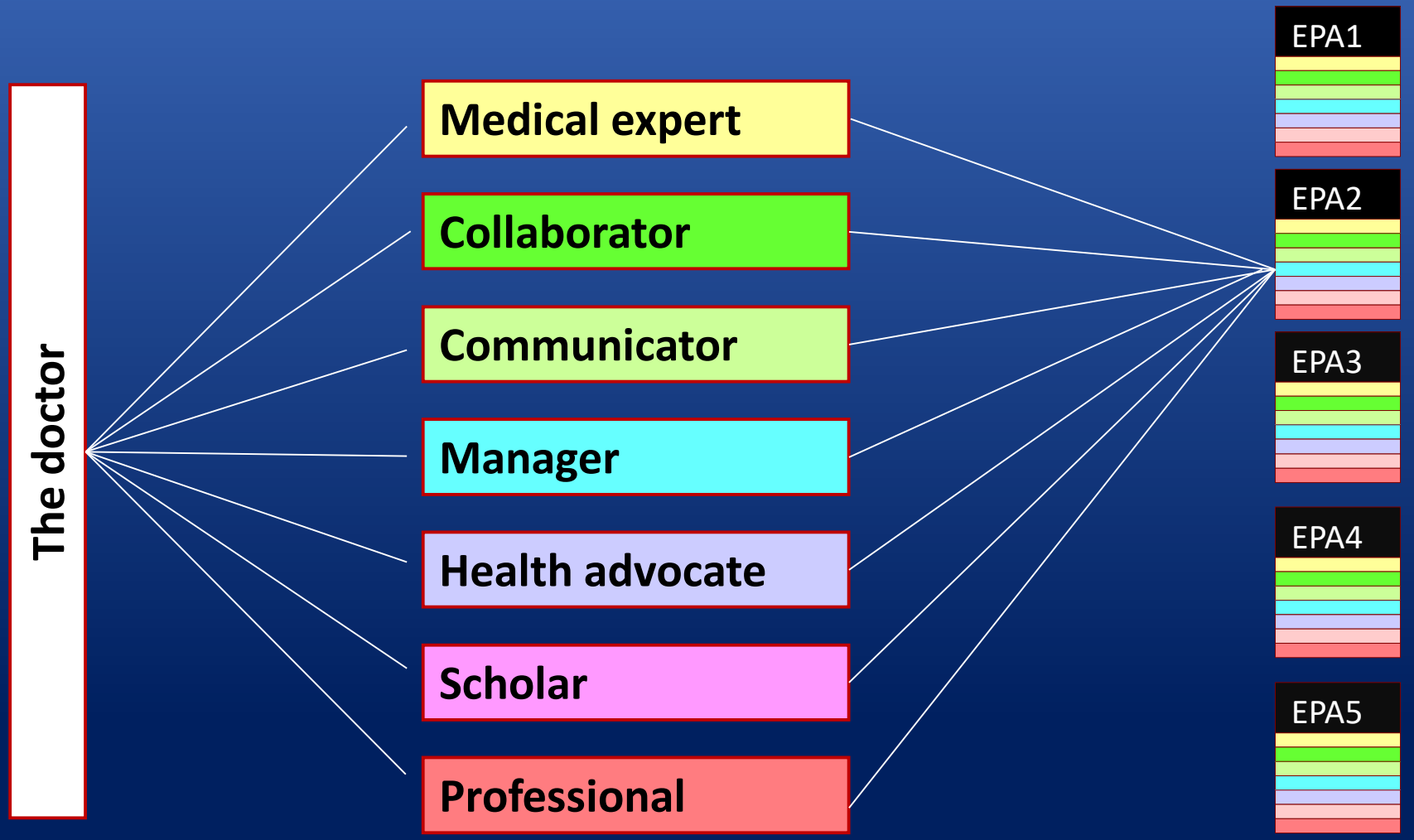
All EPAs require multiple competencies

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

Recommendation: focus assessment on EPAs; use competencies for feedback

Competency frameworks tend to be analytic, EPA frameworks are synthetic



Pangaro & ten Cate 2013

But when is a trainee ‘competent’? An operational definition.

When a professional activity is mastered..

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

“Competent”: a *stage* in a developmental continuum

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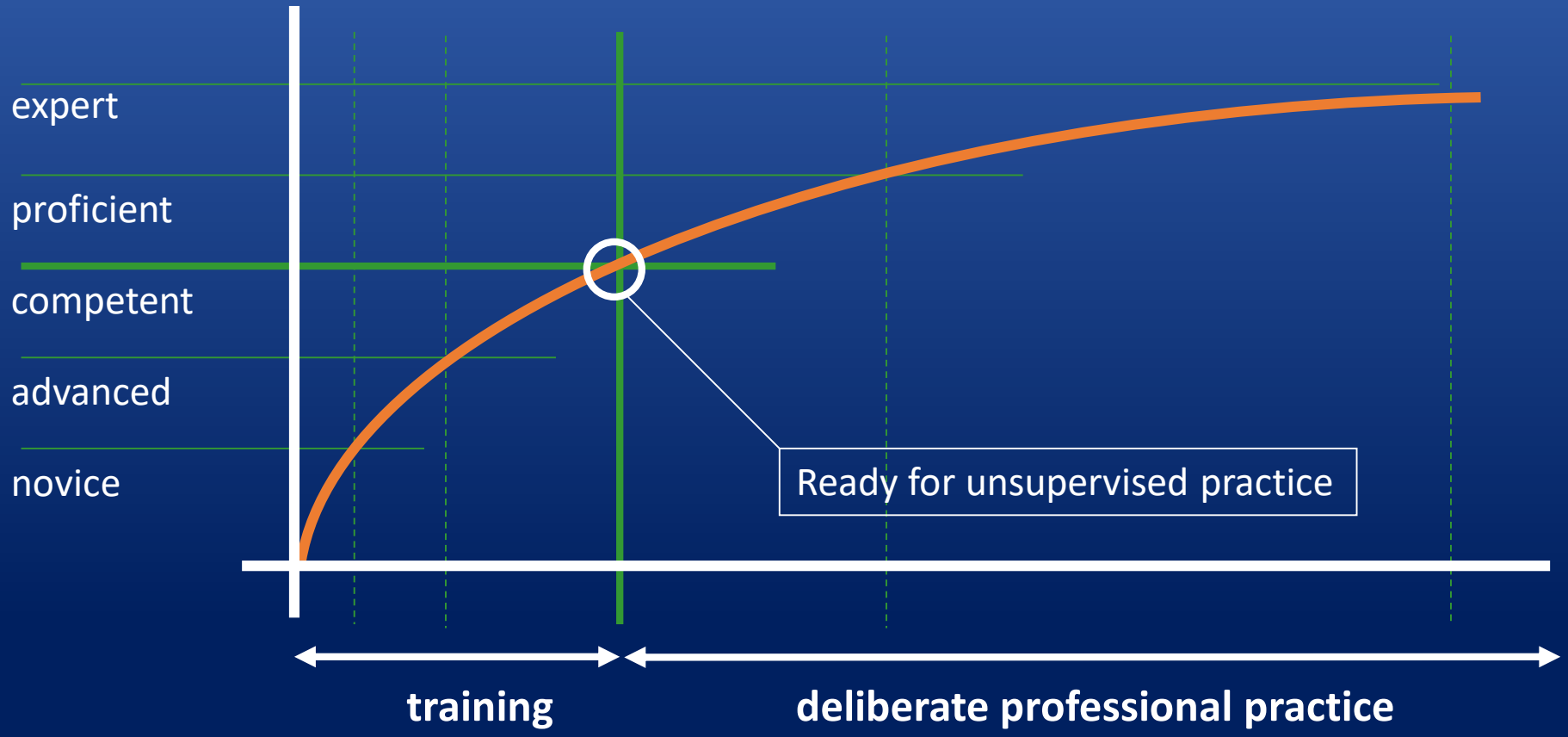
Growth of competence over time



Dreyfus & Dreyfus 1986; ten Cate et al, 2010

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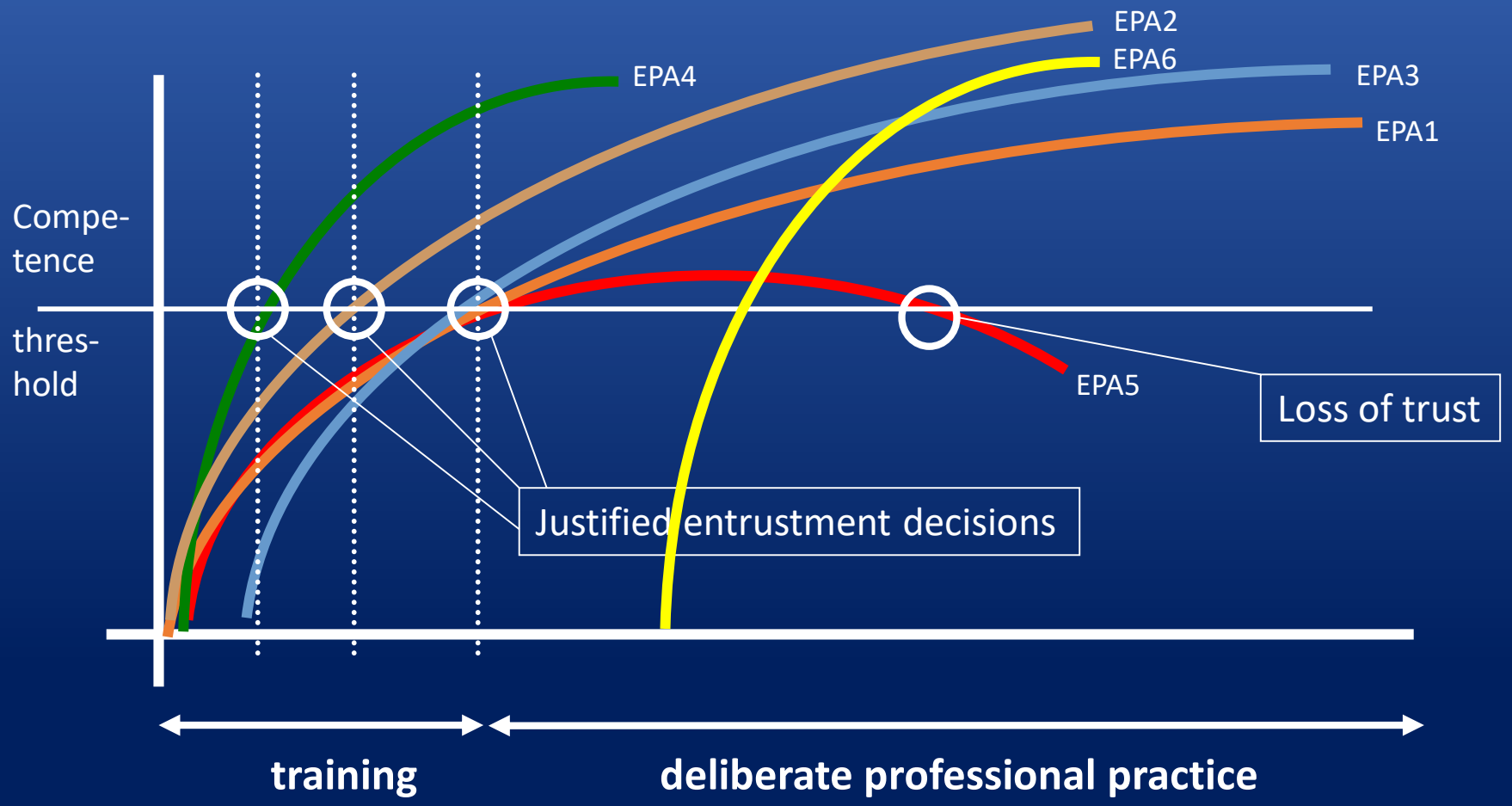
Competency curves of one trainee for various EPAs



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Entrustment decisions: Five 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

Ten Cate et al 2010

An individualized workplace curriculum

Graded supervision allows for	
1	Observing the activity
2	Acting with direct, pro-active supervision present in the room
3	Acting with (re-active) supervision available within minutes
4	Acting unsupervised, i.e. under clinical oversight
5	Acting as the supervisor to a junior

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**

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J Amer Coll Surg 2019; 228(3):299-302

SURGICAL PERSPECTIVES

Seniorization of Tasks in the Academic Medical Center: A Worrisome Trend

Ralph G Dacey Jr, MD, FACS, Thomas J Nasca, MD

For patient safety residents receive less opportunity to execute true responsibilities for patient care

→ Poorly prepared for unsupervised practice

→ Patient safety jeopardized after training

Table 1. Examples of Seniorization of Tasks in the Academic Medical Center

In trying to improve adherence to Surgical Care Improvement Project (SCIP) measures to remove bladder catheters in postoperative patients, a senior hospital administrator demands that attending surgeons (not surgical residents) be required to write the order to have catheters removed immediately after the operation.
The Centers for Medicare and Medicaid Services (CMS) requires that attending physicians personally sign orders to admit a patient to the hospital. A resident's signed order is not sufficient, even though that resident may have evaluated that patient in the emergency department and had been instructed to admit the patient.
A neurosurgery attending physician—not a resident—at a children's hospital is required to make the request for any MRI with conscious sedation done overnight.
Concerned about "inappropriate" requests for consultation, the ophthalmology service requires that requests for consultation on inpatients occur from attending to attending.
In attempting to decompress busy emergency departments and enhance timely decision making, a policy is established to have all communication about patient care occur between attendings.
Cardiology establishes a policy in which their consulting fellows—at night—will discuss their recommendations only with "an attending," not a resident.
At a major trauma center, attendings—not residents—are responsible for obtaining written informed consent before a patient can be brought to the operating room.

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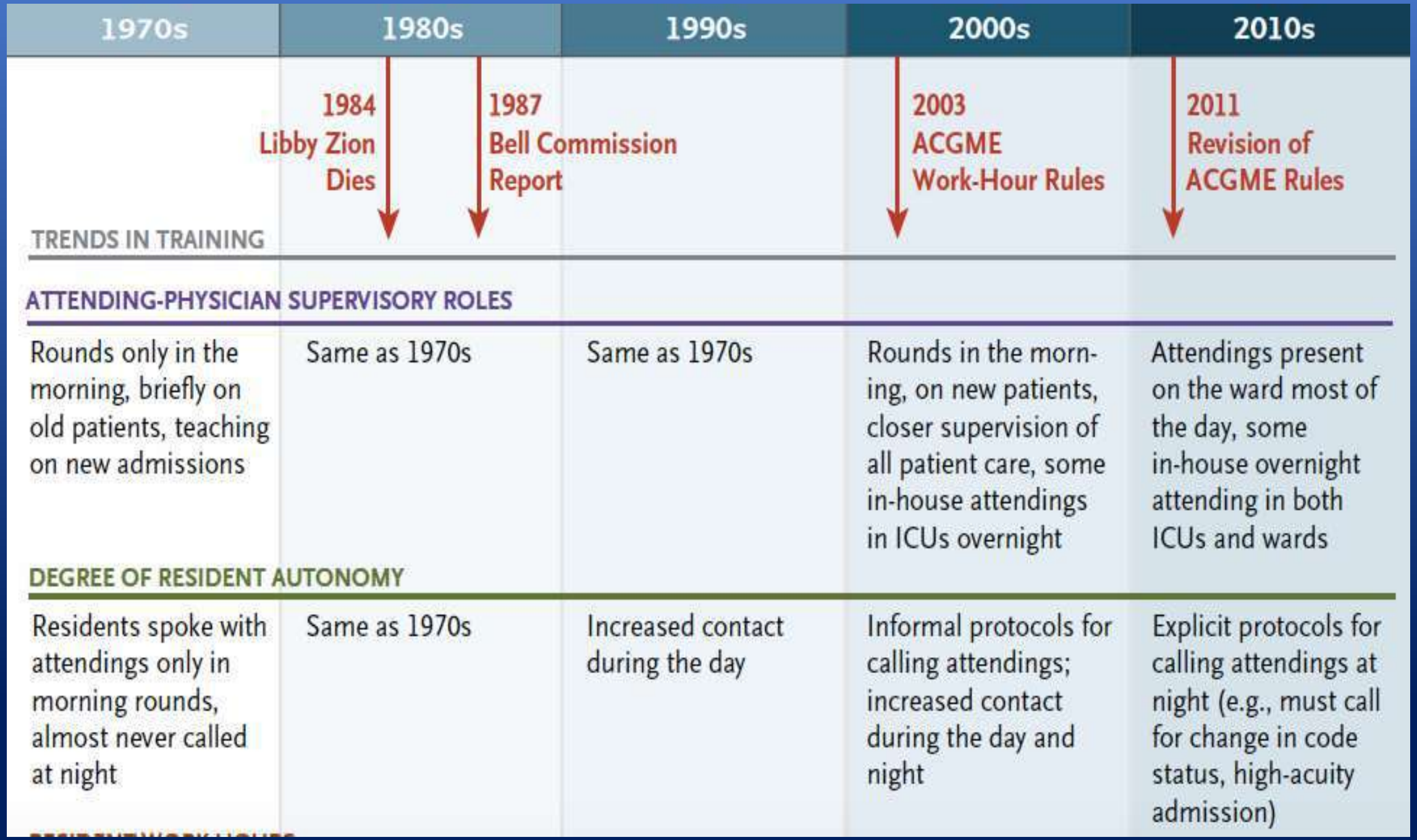

Halpern & Detsky 2014 NEJM

General Surgery Residency Inadequately Prepares Trainees for Fellowship

Results of a Survey of Fellowship Program Directors

Samer G. Mattar, MD, Adnan A. Alseidi, MD, FACS,† Daniel B. Jones, MD, FACS,‡*
D. Rohan Jeyarajah, MD, FACS,§ Lee L. Swanstrom, MD, FACS,|| Ralph W. Aye, MD, FACS,¶

Results: There was a 63% response rate (n = 91/145). Of respondent program directors, 21% felt that new fellows arrived unprepared for the operating room, 38% demonstrated lack of patient ownership, 30% could not independently perform a laparoscopic cholecystectomy, and 66% were deemed unable to operate for 30 unsupervised minutes of a major procedure. With regard to laparoscopic skills, 30% could not atraumatically manipulate tissue, 26% could not recognize anatomical planes, and 56% could not suture. Furthermore, 28% of fellows were not familiar with therapeutic options and 24% were unable to

Mattar et al 2014, Annals of Surgery

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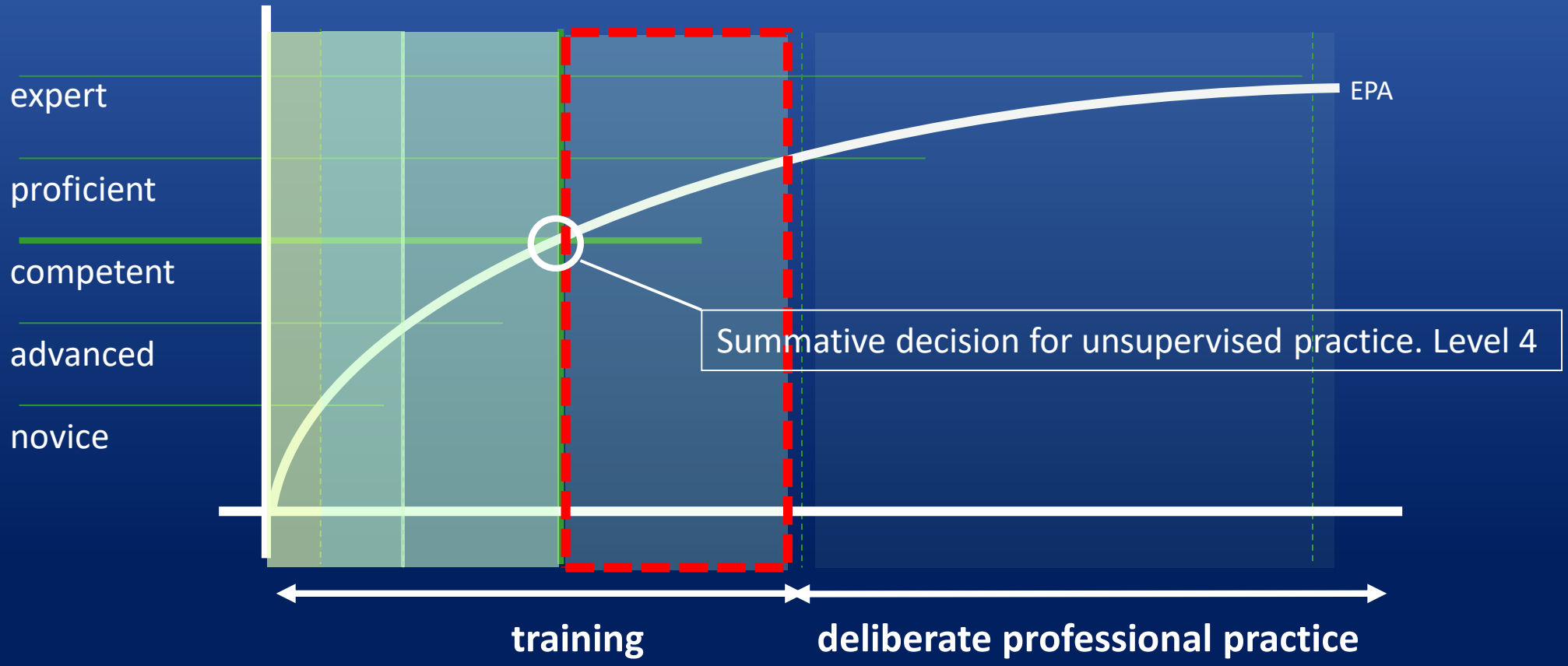
Growth of competence – decrease of supervision



Observe | 2 direct | 3 indirect | 4 distant | no

Shades of decreasing supervision

The purpose of workplace-based assessment: *Retrospective* or *Prospective*?

Does the student show mastery of the content, taught in courses and rotations?

Is the student ready to assume the expected future responsibilities?

End of training

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Psychology of traditional workplace assessment

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Psychology of *EPA-based* workplace assessment

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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
- **Rich entrustment decisions**: more than just knowledge and skill*

*ten Cate O, Chen, HC. The ingredients of a rich entrustment decision. Medical Teacher 2020;42(12):1413-1420

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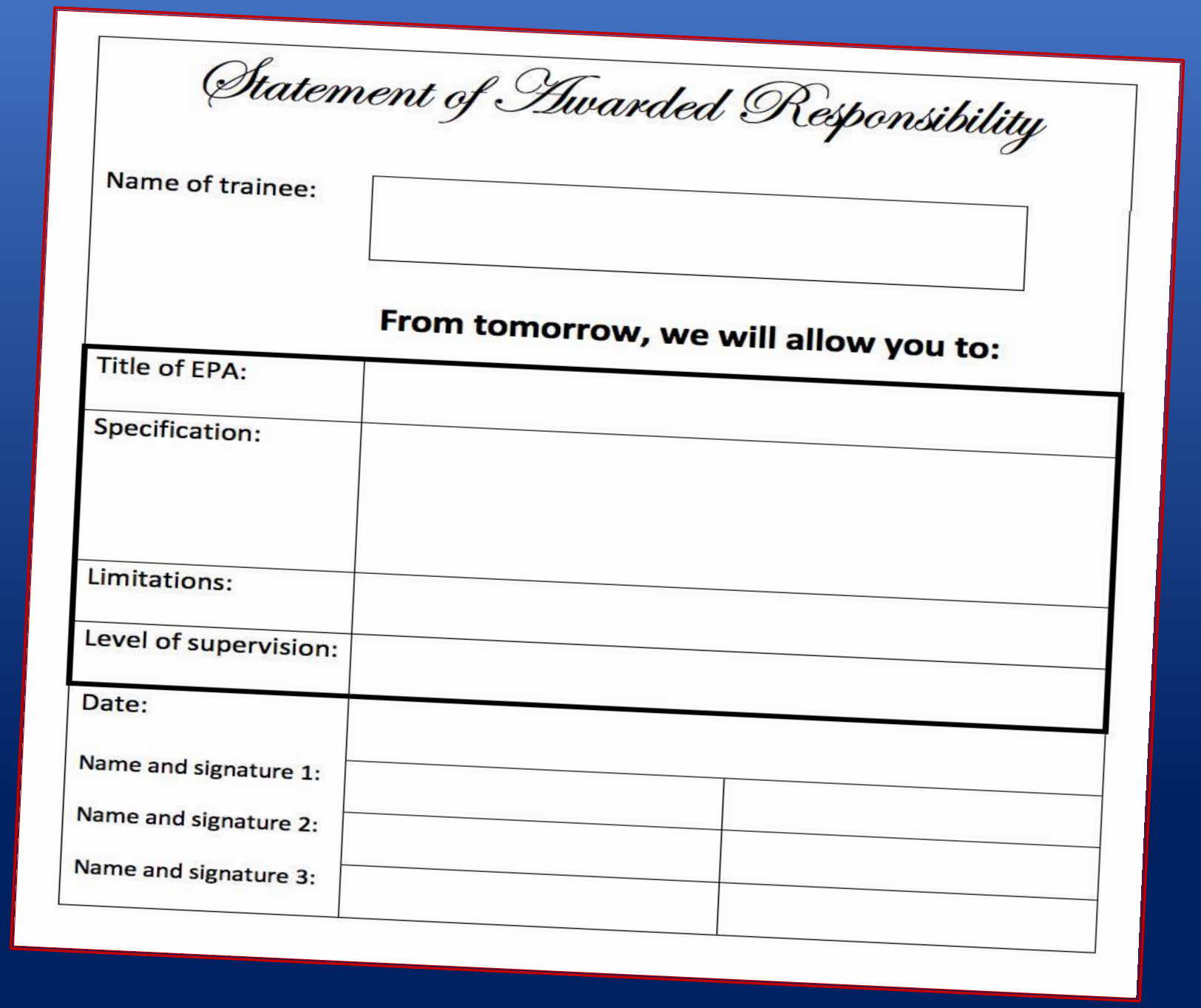
Ad-hoc decisions of entrustment occur daily in clinical education

Summative decisions of entrustment are based on multiple workplace-based assessments and focus on increased autonomy. Sometimes called a *STAR* certificaton



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:	

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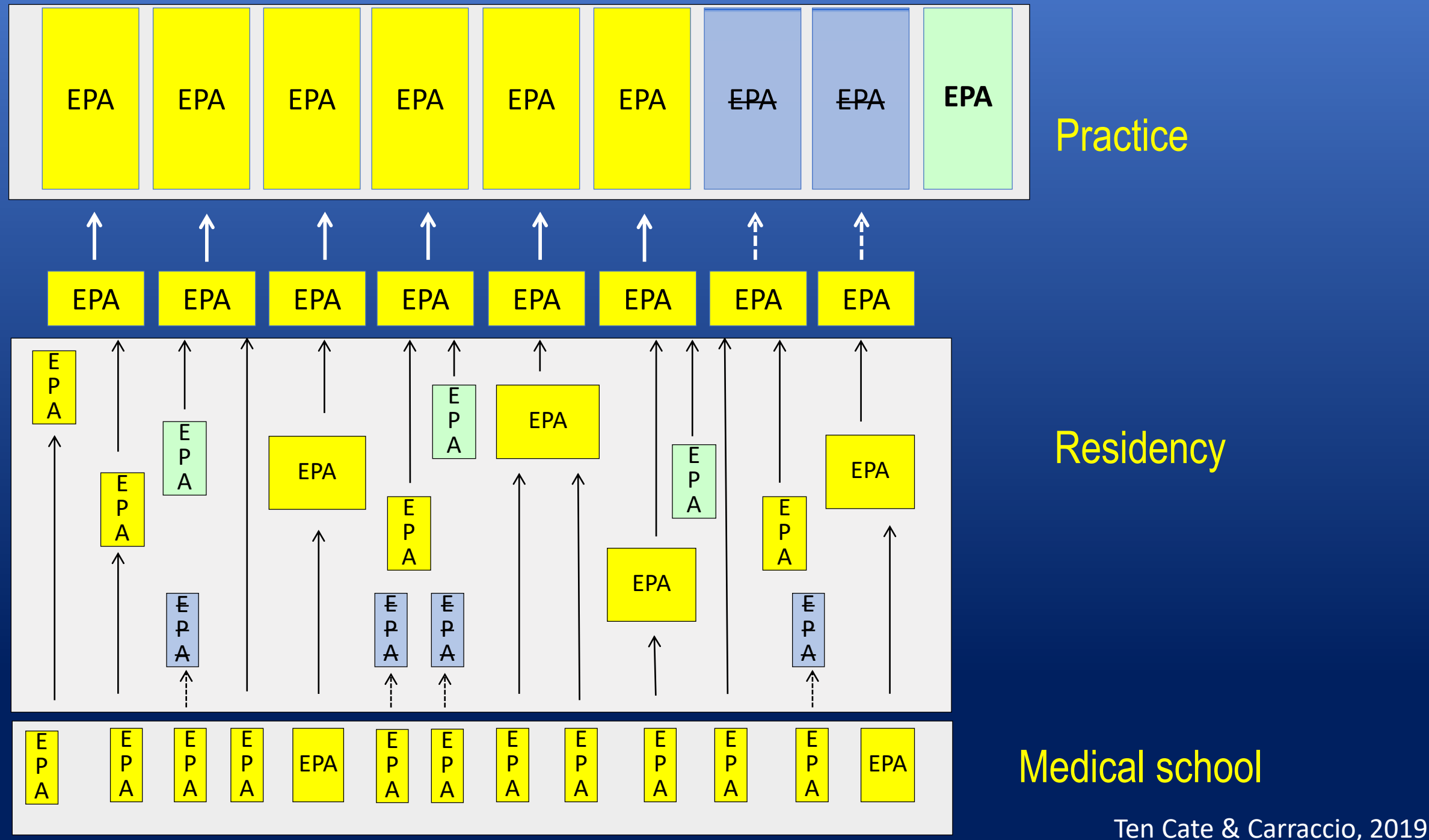
Envisioning medical competence as *a dynamic portfolio of certified EPAs*, usable across a lifetime

- EPAs can be flexibly added, deleted or replaced after training
- Boundaries can be crossed
  - between UME-GME-CME
  - between specialities, to tailor individual physicians' needs ("transdisciplinary EPAs")
  - between professions (cf Pysician Assistant EPAs)
- Medical competence becomes rather a *state* than a *trait*
- EPAs may lead to rethinking structure of health care workforce



Ten Cate & Carraccio, 2019

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Medical license

Specialty certification

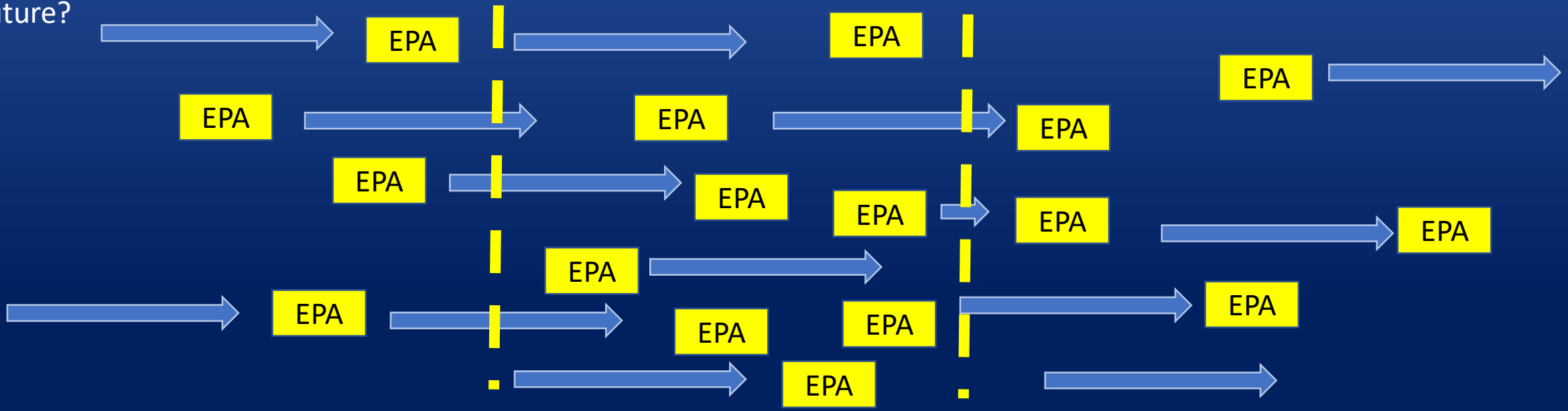
No autonomy, privileges and responsibities

Limited autonomy, privileges and responsibities

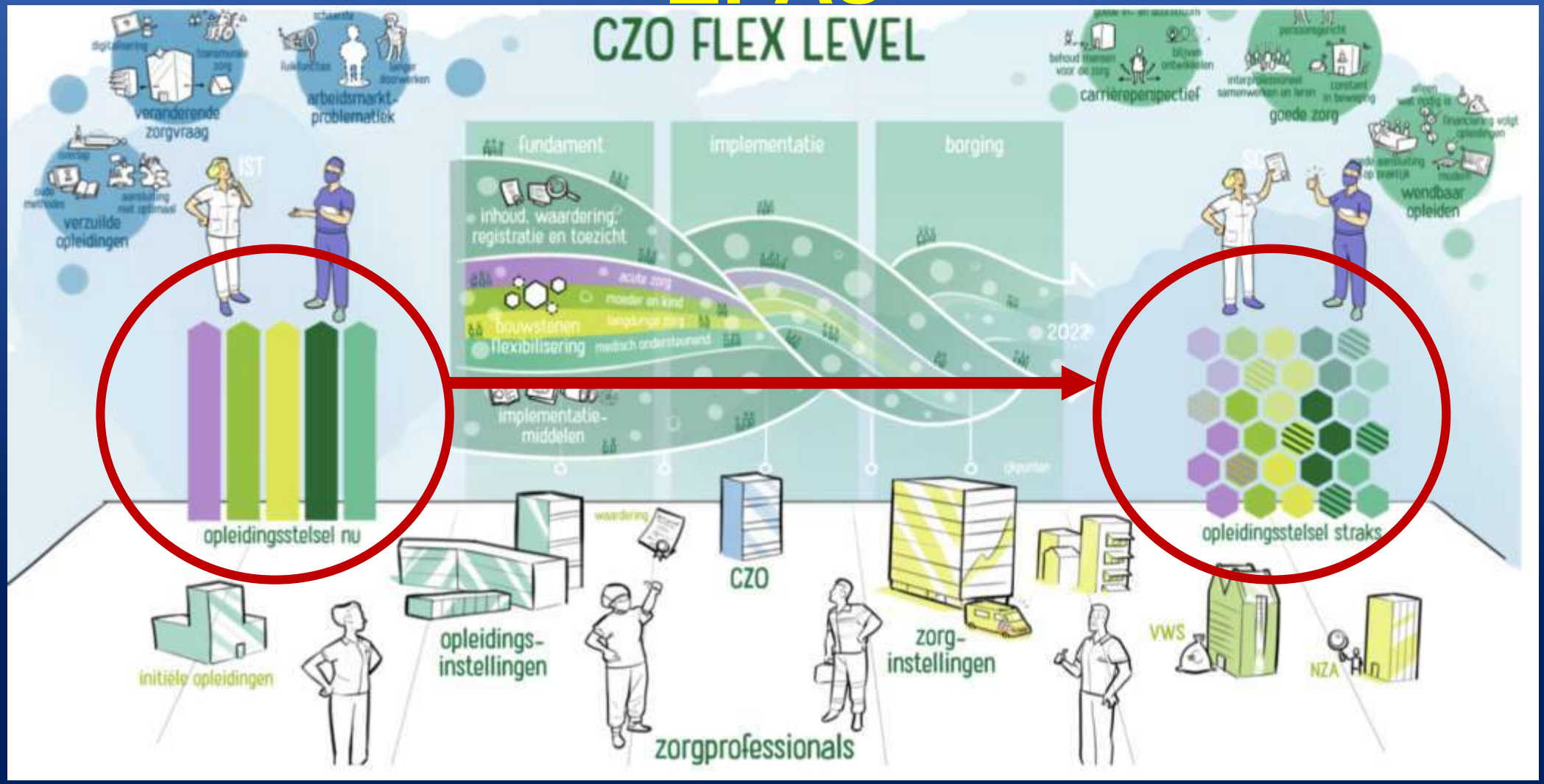
Full autonomy, privileges and responsibities

now

future?



Dutch nursing speciality training programs to be flexible by 2022, using EPAs



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Popularity and use of EPAs has increased

- Singapore: Most of PGME and nursing education
- Netherlands: Most of PGME and PG-nursing education
- UME: all of Canada, some schools in USA, Switzerland, Netherlands
- High interest in Sweden, Finland, Taiwan, Thailand, Pakistan, Lat-Am countries; national intern phase projects in Ireland, Germany
- Other health professions are exploring EPAs: Dentistry, Veterinary Medicine, Physical Therapy, Physician assistants, Dietetics; and WHO

- ***Next challenge***: international collaboration to harmonize competency and EPA frameworks to serve mobility. UEMS can play a leading role in PGME.

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A few Recommended resources

2015, 37: 983–1002 MEDICAL TEACHER

2015

AMEE GUIDE

Curriculum development for the workplace using Entrustable Professional Activities (EPAs): AMEE Guide No. 99

OLLE TEN CATE[1], HUIJU CARRIE CHEN[2], REINIER G. HOFF[1], HARM PETERS[3], HAROLD BOK[4], & MARIEKE VAN DER SCHAAF[4]

[1]University Medical Center Utrecht, The Netherlands, [2]University of California San Francisco, USA, [3]Charité University, Germany [4]Utrecht University, The Netherlands

2020

MEDICAL TEACHER
https://doi.org/10.1080/0142159X.2020.1838465

MEDICAL TEACHER

Taylor & Francis
Taylor & Francis Group

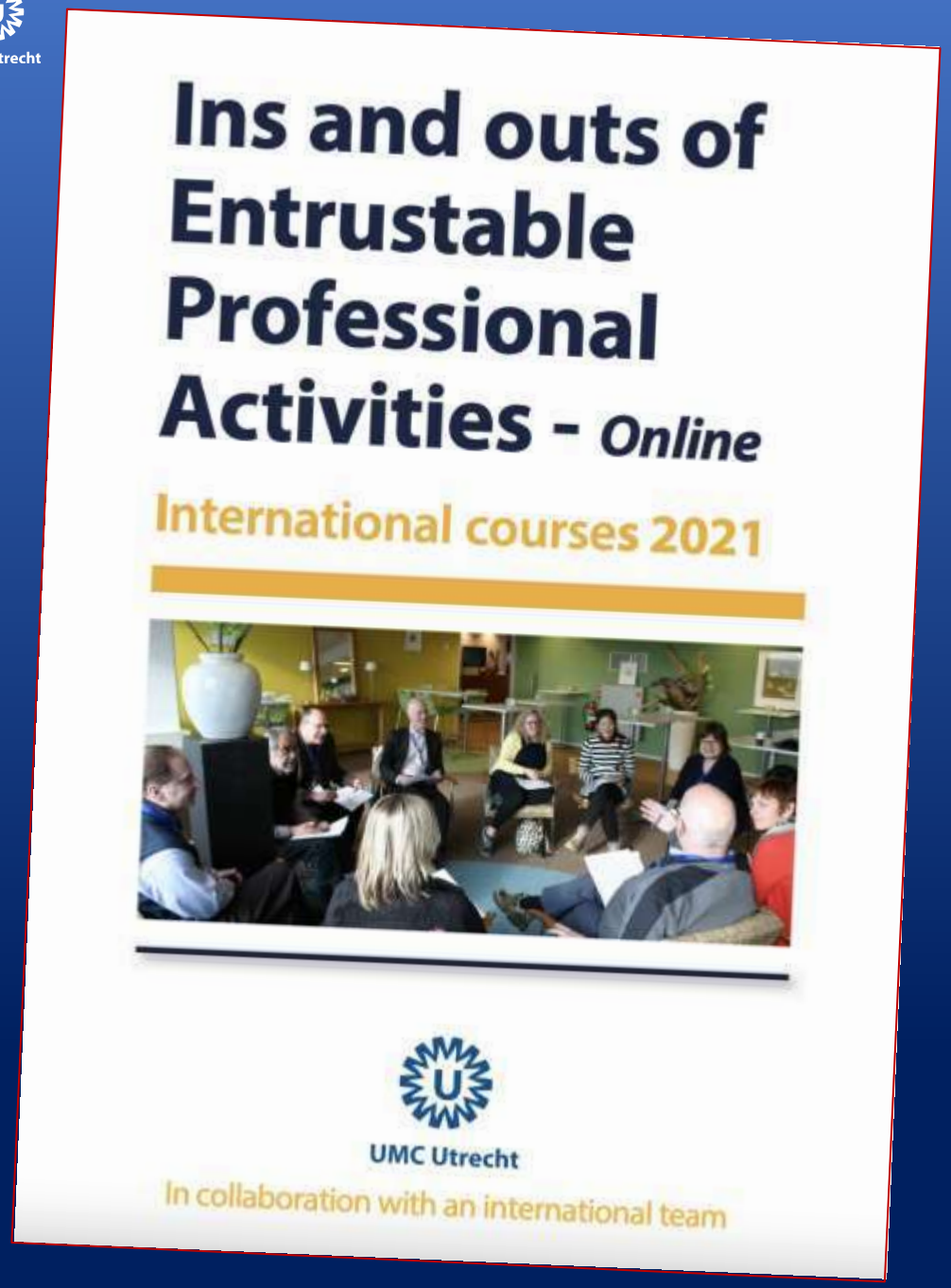
AMEE GUIDE

OPEN ACCESS Check for updates

The recommended description of an entrustable professional activity: AMEE Guide No. 140

Olle ten Cate[a] and David R. Taylor[b]

[a]Center for Research and Development of Education, University Medical Center Utrecht, Utrecht, The Netherlands; [b]Department of Medicine, Queen's University, Kingston, Canada



Courses (4*3 hours) 2021
- February
- April
- June
- July
- September*
- November*

Courses (4*3 hours) 2022
- February* (+ more tbd)
- 3-day face-to-face courses in Utrecht* and Washington DC*

*Seats still available. Visit: www.epa-courses.nl

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