



**Entrustable professional activities for  
learning in competency-based  
undergraduate medical education**

**CHARITÉ**  
UNIVERSITÄTSMEDIZIN BERLIN

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# Entrustable professional activities (EPAs) in medical education

## Agenda:

- Introduction/ becoming a medical doctor
- What and why of professional activities?
- What and why of entrustment?
- Definition of EPAs for undergraduate medical education at the Charité Berlin
  - Goals
  - Methods
  - Results



# Becoming a medical doctor

## Scope



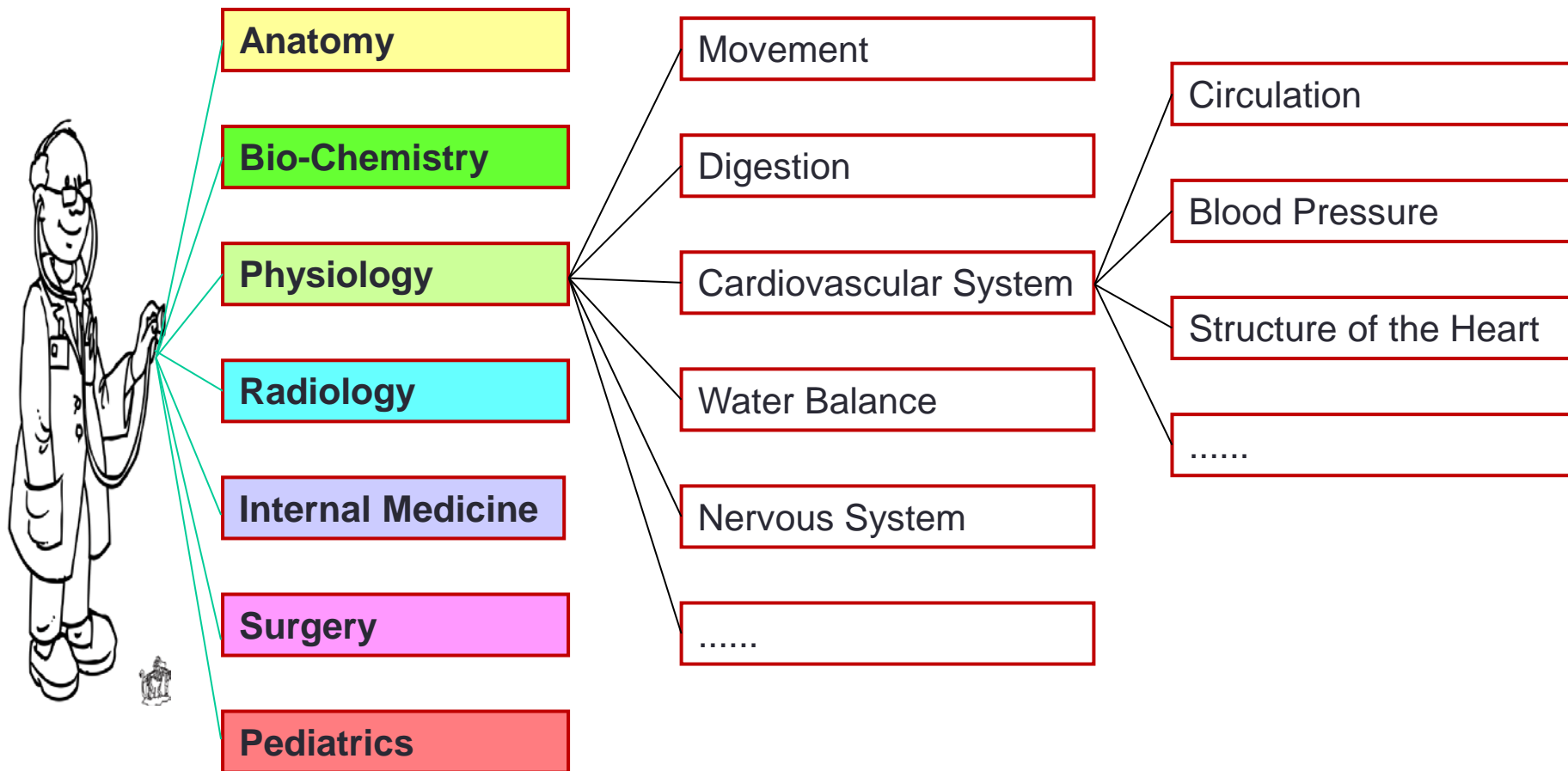
- Ocean of medical knowledge
- Application in individual patients
- Training form a “non-swimmer to a lifeguard”
- Limited time for training (6 years)



# Discipline-based education

Traditional medical curriculum

## Analytic approach



# Competency-based education

Reformed medical curriculum

## Analytic approach

Medical Expert



CanMeds (2005)

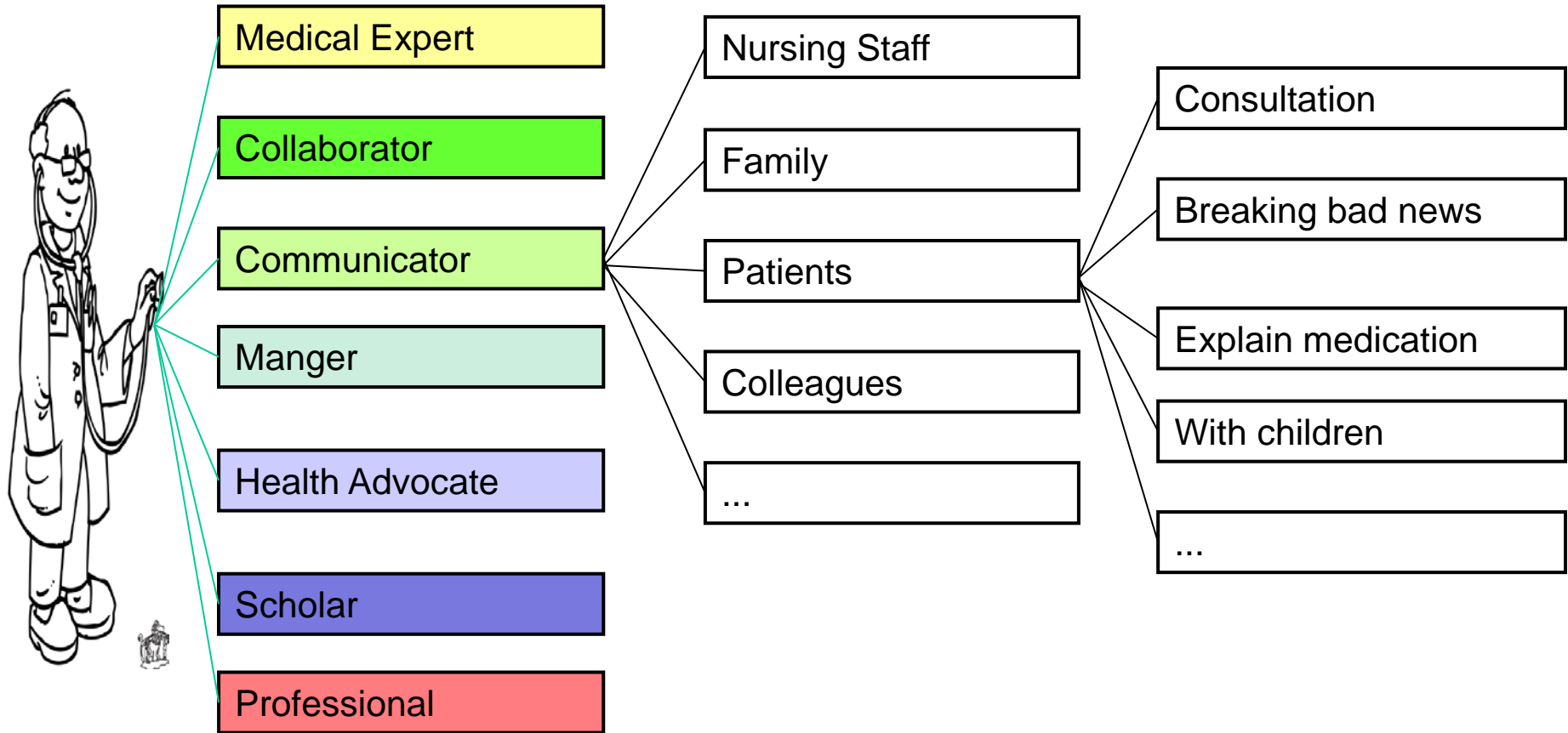
Ten Cate (2014)



# Competency-based education

Reformed medical curriculum

## Analytic approach



CanMeds (2005)

Ten Cate (2014)

# Professional activities

Translate competency-based education into practice

## „**Entrustable Professional Activities**“ (EPAs):

- represent units of professional work
- i.e. clinical activities that characterizes medical doctors, their general and/ or specialty profession
- integrate relevant skills, attitudes and knowledge, as well as competency rolls
- are observable and measurable

(ten Cate & Scheele, 2007,  
ten Cate, AMEE Guide No. 99, 2015)

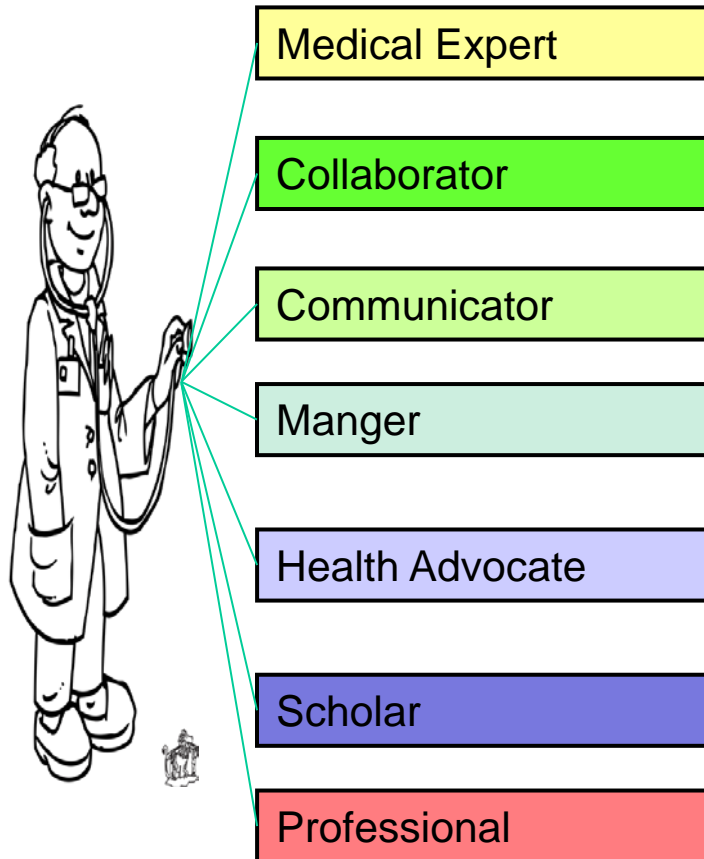




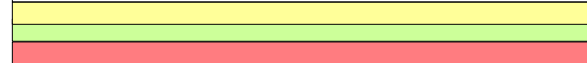
# Professional Activities

Meaningful synthesis

## Synthetic Approach



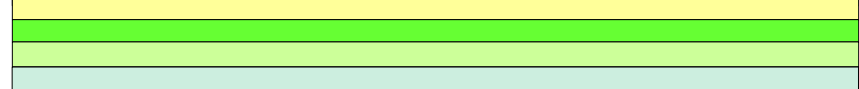
EPA 1: Take patients' history



EPA 2: Perform a liver biopsy



EPA 3: Perform a morning ward round



(ten Cate, 2014)



# Professional activities

Translate competency-based education into practice

## „**Entrustable Professional Activities**“ (EPAs):

- represent units of professional work
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(en Cate & Scheele, 2007,  
ten Cate, AMEE Guide No. 99, 2015)

- **can step-wise be entrusted to trainees**
  - Supervisor: entrusts
  - Trainee: takes over responsibility





## Level of Entrustment

Trainee ...

- 1) observes the activity
- 2) acts with direct supervision present in the room
- 3) acts with supervision available within minutes
- 4) acts with distant supervision, independently
- 5) provides supervision to juniors

(ten Cate & Scheele, 2007, ten Cate et al. AMEE Guide No. 99, 2015)



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## **Goal: EPAs as outcomes for undergraduate medical education**

- A defined set of EPAs
  - that every medical students should reach at the end of undergraduate medical education
  - young doctors are able to perform, when they enter their postgraduate training with distant supervision
- “Units of work” that supervisors can entrust new trainees early with (“first days in clinic”) to perform without direct supervision

# EPAs in undergraduate medical education

Charité Berlin



## Methods:

- Charité faculty members
- Consensus finding by online Delphi survey / 4 point Likert
- 1. Set of EPAs / units of work
- 2. For each EPA:
  - Title
  - Level of supervision (4: distant supervision)
  - Description (summery, specifications, limitations)
  - Meaning of entrustment
  - Knowledge, skills and attitude



# EPAs in undergraduate medical education

Charité Berlin



## Results:

- Delphi 1 (Aug.-Oct. 2014), Delphi 2 (Nov. 2014-Jan 2015), Delphi 3 (start July 2015)
- Participants (n= 46): physicians of varying medical specialties, all experience in curricular planning

	Round 1	Round 2	Round 3
n (Response Rate)	36 / 45 (80 %)	35 / 45 (78 %)	5 / 45 (11 %)
Sex (%)	m=58 ; f=42	m=63 ; f=37	m=60 ; f=40
Age (Years)	46 (SD=8)	45 (SD=8)	49 (SD=7)
Work Experience (Years)	19 (SD= 8)	19 (SD=8)	22 (SD=8)
Teaching Experience (Years)	15 (SD=7)	15 (SD=7)	17 (SD= 5)



# Results Delphi 1 & 2: Units of work/ titles of EPAs

EPA	
1	Take a medical history, perform a physical examination and summarize the results in a structured manner
2	Develop a diagnostic plan and initiate implementation
3	Interpret diagnostic results and initiate next steps
4	Develop a treatment plan and initiate implementation
5	Provide an oral presentation of a patient case
6	Retrieve best evidence for distinct clinical question and the individual patient
7	Seek informed consent for tests and/or procedures
8	Perform general procedures of a physician
9	Inform and advise a patient
10	Give or receive a patient handover
11	Document a patient case and distribute it
12	Recognize an emergency situation and act upon it



# Results Delphi 1 & 2: Relevance of EPAs (description)

EPA		CVI * Round 1
1	Take a medical history, perform a physical examination and summarize the results in a structured manner	92 % (3.66)
2	Develop a diagnostic plan and initiate implementation	89 % (3.36)
3	Interpret diagnostic results and initiate next steps	75 % (3.17)
4	Develop a treatment plan and initiate implementation	72 % (3.06)
5	Provide an oral presentation of a patient case	89 % (3.71)
6	Retrieve best evidence for distinct clinical question and the individual patient	61 % (2.83)
7	Seek informed consent for tests and/or procedures	86 % (3.51)
8	Perform general procedures of a physician	78 % (3.31)
9	Inform and advise a patient	56 % (2.85)
10	Give or receive a patient handover	92 % (3.61)
11	Document a patient case and distribute it	86 % (3.44)
12	Recognize an emergency situation and act upon it	75 % (3.28)

\*Content Validity Index

# Results Delphi 1 & 2: Relevance of EPAs (description)

EPA		CVI * Round 1	CVI Round 2
1	Take a medical history, perform a physical examination and summarize the results in a structured manner	92 % (3.66)	100 % (3.8)
2	Develop a diagnostic plan and initiate implementation	89 % (3.36)	97 % (3.77)
3	Interpret diagnostic results and initiate next steps	75 % (3.17)	89 % (3.38)
4	Develop a treatment plan and initiate implementation	72 % (3.06)	91% (3.60)
5	Provide an oral presentation of a patient case	89 % (3.71)	100 % (3.94)
6	Retrieve best evidence for distinct clinical question and the individual patient	61 % (2.83)	86% (3.31)
7	Seek informed consent for tests and/or procedures	86 % (3.51)	86% (3.49)
8	Perform general procedures of a physician	78 % (3.31)	71% (3.27)
9	Inform and advise a patient	56 % (2.85)	77 % (3.35)
10	Give or receive a patient handover	92 % (3.61)	94% (3.89)
11	Document a patient case and distribute it	86 % (3.44)	100 % (3.94)
12	Recognize an emergency situation and act upon it	75 % (3.28)	97% (3.91)

\*Content Validity Index

# Example of an EPA

<b>Title</b>	<b>Gather a history and perform a physical examination and summarize the results in a structured manner</b>
<b>Description</b>	<p>In the first days of residency, the resident is able to gather a history and to perform a physical examination of an <u>adult patient with a typical presentation and/or a common disease</u>. Following the encounter, the resident is able to summarize the results in a structured manner.</p> <p>This applies for both the inpatient and outpatient sector. It is expected that the professional activity is executed in <u>a complete and focused fashion</u> and is adapted to the situational requirements. This also includes the searching for typical complaints and signs of relevant illnesses and health problems (differential diagnosis on a patient). The results are expected to be presented by means of a structured summary and list of problems to the supervising physician (<u>main complaints, additional complaints diagnosis and problems</u>).</p> <p><u>This EPA applies to common diseases/health problems and their typical presentations.</u></p> <p><u>This EPA does not apply to:</u></p> <ol style="list-style-type: none"><li>1) Newborns, babies, children, adolescents and pregnant women;</li><li>2) No interdisciplinary diseases/health problems</li></ol>

# Next steps

## EPAs and the WATCHME project

- Translate the EPAs into assessment forms for the work place-based evaluation and feedback of the trainee´s
- Configure the WATCHME e-portfolio (EPASS) according the Charité EPAs and assessment forms
- Test the WATCHME e-portfolio (EPASS) in :
  - EPA1) Take a medical history, perform a physical examination and summarize the results in a structured manner
  - EPA2) Develop a diagnostic plan and initiate implementation
  - EPA3) Interpret diagnostic results and initiate next steps
  - EPA4) Develop a treatment plan and initiate implementation
  - EPA8) Perform general procedures of a physician





# Thank you for your attention

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