Curricular implementation of clinical reasoning

Dear colleagues,

With this survey, we would like to get an overview of how clinical reasoning skills are deliberately taught in healthcare curricula worldwide in order to identify future needs. Clinical reasoning includes gathering, interpreting, and synthesizing information, generating hypotheses and diagnoses, developing management and treatment plans, avoiding cognitive errors, and ensuring patient safety. Please share - to the best of your knowledge - how these aspects are taught in your curriculum. We appreciate your insights on this and we estimate that the survey completion will take about ten minutes of your valuable time.

Thank you for your participation!

1. In which country do you work?

Country [   ]

2. How would you describe your primary role/roles at your institution? (multiple answers possible)

☐ Healthcare Professions Educator   ☐ Dean

☐ Physician   ☐ Curriculum Planner/Manager

☐ Nurse   ☐ Course Director

☐ Physiotherapist   ☐ Student

☐ Researcher

Other (please specify)

[   ]

3. How many years of experience in healthcare education (excluding years of study) do you have?

[   ]

4. In your curriculum, which of the following aspects are taught and assessed with an **explicit** focus on clinical reasoning and how **relevant** do you rate these?

	Is taught	Is assessed	I consider it relevant for the curriculum
Gathering, interpreting, and synthesizing patient information	[▼]	[▼]	[▼]
Generating differential diagnoses including defining and discriminating features	[▼]	[▼]	[▼]
Developing a diagnostic plan	[▼]	[▼]	[▼]
Developing a treatment plan	[▼]	[▼]	[▼]
Errors in the clinical reasoning process and strategies to avoid them	[▼]	[▼]	[▼]
Theories of clinical reasoning (e.g. knowledge encapsulation, illness scripts, ...)	[▼]	[▼]	[▼]
Strategies to learn clinical reasoning (e.g. heuristics, rule out worst case scenario,...)	[▼]	[▼]	[▼]
Interprofessional aspects of clinical reasoning (e.g. collaborative reasoning)	[▼]	[▼]	[▼]

Other (please specify)

[   ]

5. How is clinical reasoning taught in your curriculum in sessions with a **main focus** on clinical reasoning? (multiple answers possible)

☐ Lectures

☐ Problem-based learning

☐ Bedside teaching

☐ Virtual Patients (Interactive online cases)

☐ Other (please specify)

☐ Morning rounds

☐ Morbidity and mortality rounds

☐ Clerkships

[   ]

6. How **should** clinical reasoning be taught in your curriculum in sessions with a **main focus** on clinical reasoning? (multiple answers possible)

- [ ] Lectures
- [ ] Problem-based learning
- [ ] Bedside teaching
- [ ] Virtual Patients (Interactive online cases)
- [ ] Other (please specify)

- [ ] Morning rounds
- [ ] Morbidity and mortality rounds
- [ ] Clerkships

7. In your curriculum, in which years are aspects of clinical reasoning **explictly** taught? (multiple answers are possible)

- [ ] Year 1
- [ ] Year 2
- [ ] Year 3
- [ ] Year 4

- [ ] Year 5
- [ ] Year 6
- [ ] Don't know

8. Is there an explicit longitudinal curriculum on clinical reasoning?

- ( ) Yes
- ( ) No

- ( ) Don't know

Please describe

9. Do you think such an explicit longitudinal clinical reasoning curriculum is necessary for educating healthcare students?

- ( ) Yes
- ( ) No

- ( ) Don't know

Why or why not?

10. How is clinical reasoning assessed in your curriculum? (multiple answers possible)

- [ ] Written exam (e.g. key feature approach)
- [ ] Clinical exam (e.g. OSCE)
- [ ] Other (please specify)

- [ ] Workplace-based assessments (e.g. MiniCEX)
- [ ] Don't know

11. How **should** clinical reasoning be assessed in your curriculum? (multiple answers possible)

☐ Written exam (e.g. key feature approach)   ☐ Workplace-based assessments (e.g. MiniCEX)

☐ Clinical exam (e.g. OSCE)   ☐ Don't know

☐ Other (please specify)

[   ]

12. Do you have a train-the-trainer program/course for clinicians and/or faculty on how to teach clinical reasoning to students?

○ Yes   ○ Don't know

○ No

Comment

[   ]

13. Do you think a train-the-trainer course on how to teach clinical reasoning is necessary for healthcare educators?

○ Yes   ○ Don't know

○ No

Comment

[   ]

14. What, in your opinion, are the main barriers/ challenges for introducing a clinical reasoning curriculum? (choose all that apply)

☐ No particular challenges   ☐ Lack of guidelines for clinical reasoning curriculum development

☐ Lack of qualified faculty to teach clinical reasoning

☐ Lack of curricular time   ☐ Lack of awareness of the need for explicit clinical reasoning teaching

☐ Lack of financial resources   ☐ Perception that clinical reasoning cannot be taught

                                                  ☐ Don't know

☐ Other (please specify)

[   ]

15. What should a train-the-trainer course on clinical reasoning cover? (choose all that apply)

- [ ] Literature on clinical reasoning
- [ ] Theory on clinical reasoning
- [ ] Clinical reasoning strategies
- [ ] Teaching methods on the wards and/or clinic
- [ ] Teaching methods for face-to-face courses (e.g. seminars, PBL courses, lectures)
- [ ] Other (please specify)

- [ ] Technology-enhanced methods (such as Virtual Patients, e-learning...)
- [ ] Common errors in the clinical reasoning process
- [ ] Assessment methods of clinical reasoning
- [ ] Cognitive errors and biases and strategies on how to avoid them
- [ ] Don't know

16. Do you have any further comments?

Thank you for your responses! If you have questions regqrding the questionnaire, please do not hesitate to contact us at inga.hege@med.uni-augsburg.de