

D1.1 (a) Report on specific needs, preoccupations of stakeholders, and barriers**Web appendix 1. List of questions in web survey****Part A. Demographics**

1. In which country do you work/study? {Country}
2. In which institution do you work/study? {Free text}
3. What educational programme do you relate mostly to? {Free text}
4. How would you describe your primary role/roles at your institution?

1. *Healthcare Professions Educator*
2. *Physician*
3. *Nurse*
4. *Physiotherapist*
5. *Occupational therapist*
6. *Researcher*
7. *Dean*
8. *Curriculum Planner/Manager*
9. *Course Director*
10. *Student*

{Multiple choice}

5a. How many years of work experience in healthcare education (excluding years of undergraduate study) do you have? [Faculty & Experts only] {Integer}

5b. Your year of study [Student] {1-6}

6. How confident are you in the following aspects of clinical reasoning? [Faculty & Experts only]

1. *Teaching*
2. *Assessment*
3. *Faculty development*
4. *Clinical practice*

{1=Extremely confident; 2=Quite confident; 3=Moderately confident; 4=Somewhat confident; 5=Not at all confident}

Part B. Students' Curriculum

Part B1. Content/Teaching

7. Please rate the importance of inclusion of each of the following aspects in the envisioned longitudinal curriculum on clinical reasoning

1. *Gathering, interpreting, and synthesizing patient information*
2. *Generating differential diagnoses including defining and discriminating features*
3. *Developing a diagnostic plan*
4. *Developing a treatment/management plan*
5. *Developing a problem formulation/hypothesis*
6. *Errors in the clinical reasoning process and strategies to avoid them*
7. *Self-reflection on clinical reasoning performance and strategies for future improvement*
8. *Theories of clinical reasoning (e.g. knowledge encapsulation, illness scripts, narrative reasoning)*
9. *Strategies to learn clinical reasoning (e.g. heuristics, rule out worst case scenario)*
10. *Collaborative aspects of clinical reasoning*
11. *Interprofessional aspects of clinical reasoning*
12. *Aspects of patient participation in clinical reasoning (e.g. shared decision making)*

{1=Very important; 2=Important; 3=Somewhat important; 4=Neutral; 5=Rather unimportant; 6=Unimportant; 7=Very unimportant; 8=I don't know}

8. Please rate the importance of inclusion of each of the following formats in the envisioned longitudinal curriculum on clinical reasoning

1. *Lectures*
2. *Problem Based Learning (PBL)*
3. *Case-based Learning*
4. *Team-based Learning*
5. *Virtual Patients (interactive online cases)*
6. *High fidelity simulation (mannequins)*
7. *Human simulated patients*

{1=Very important; 2=Important; 3=Somewhat important; 4=Neutral; 5=Rather unimportant; 6=Unimportant; 7=Very unimportant; 8=I don't know}

9. Are you aware of any good learning resources for clinical reasoning you could recommend to be used within DID-ACT for learning/teaching of clinical reasoning? If yes, please describe? {Free text}

10. From which study year on should clinical reasoning be taught in the envisioned longitudinal curriculum on clinical reasoning? {1-6}

Part B2. Assessment format

11. Which of these assessment formats should be implemented in the envisioned longitudinal curriculum on clinical reasoning?

1. *Written test (e.g. multiple choice questions, key feature approach, script concordance tests)*
2. *Oral examination*
3. *Assessment using virtual patients*
4. *Clinical examinations (e.g. OSCE or other practical examinations)*
5. *Workplace-based assessments (e.g. MiniCEX, summative approach)*

{1=Very important; 2=Important; 3=Somewhat important; 4=Neutral; 5=Rather unimportant; 6=Unimportant; 7=Very unimportant; 8=I don't know}

12. Are you aware of any good assessment resources for clinical reasoning you could recommend to be used within DID-ACT? If yes, please describe? {Free text}

13. Do you have further suggestions for the envisioned longitudinal curriculum on clinical reasoning? {Free text}

Part x. Present clinical reasoning curriculum

[Experts only]

7.x. In your curriculum (i.e. overall programme, not a particular course or clerkship you might be overseeing), which of the following aspects are taught and assessed

1. *Gathering, interpreting, and synthesizing patient information*
2. *Generating differential diagnoses including defining and discriminating features*
3. *Developing a diagnostic plan*
4. *Developing a treatment/management plan*
5. *Developing a problem formulation/hypothesis*
6. *Errors in the clinical reasoning process and strategies to avoid them*
7. *Self-reflection on clinical reasoning performance and strategies for future improvement*
8. *Theories of clinical reasoning (e.g. knowledge encapsulation, illness scripts, narrative reasoning)*
9. *Strategies to learn clinical reasoning (e.g. heuristics, rule out worst case scenario)*
10. *Collaborative aspects of clinical reasoning*
11. *Interprofessional aspects of clinical reasoning*
12. *Aspects of patient participation in clinical reasoning (e.g. shared decision making)*

{1=To a great extent; 2=To some extent; 3=A little; 4=Not at all; 5=I don't know}

8.x How is clinical reasoning TAUGHT in your curriculum (i.e. overall programme, not a particular course or clerkship you might be overseeing) in sessions with a main focus on clinical reasoning?

1. Lectures
2. Problem Based Learning (PBL)
3. Case-based Learning
4. Team-based Learning
5. Virtual Patients (interactive online cases)
6. High fidelity simulation (mannequins)
7. Human simulated patients

{1=To a great extent; 2=To some extent; 3=A little; 4=Not at all; 5=don't know}

10.x From which study year on is clinical reasoning taught at your institution? {1-6}

11.x How is clinical reasoning ASSESSED in your curriculum?

1. Written test (e.g. multiple choice questions, key feature approach, script concordance tests)
2. Oral examination
3. Assessment using virtual patients
4. Clinical examinations (e.g. OSCE or other practical examinations)
5. Workplace-based assessments (e.g. MiniCEX, summative approach)

{1=To a great extent; 2=To some extent; 3=A little; 4=Not at all; 5=don't know}

16. Do you have a train-the-trainer course on clinical reasoning at your institution? {Yes/No?/Don't know}

16.x If yes, please describe? {Free text}

Part C. Barriers/solutions for teaching and assessment of clinical reasoning

[Faculty and experts only]

14. What, in your opinion, are the main barriers/challenges for introducing such a longitudinal curriculum on clinical reasoning at your institution?

1. No particular challenges
2. Lack of qualified faculty to teach clinical reasoning
3. Lack of curricular time
4. Lack of financial resources
5. Lack of guidelines for clinical reasoning curriculum development
6. Lack of awareness of the need for explicit clinical reasoning teaching
7. Lack of top-down support
8. Perception that clinical reasoning cannot be taught
9. Curriculum invented elsewhere
10. Don't know

{Multiple choice}

15. How could these challenges be overcome at your institution? Please explain. {Free text}

Part D. Train the trainer curriculum

[Faculty and experts only]

17. Do you think the DID-ACT train-the-trainer course is necessary for healthcare educators at your institution? {Yes/No?/Don't know}

18. What should the DID-ACT train-the-trainer course on clinical reasoning cover?

1. *Literature on clinical reasoning*
2. *Theory on clinical reasoning*
3. *Clinical reasoning strategies*
4. *Common errors in the clinical reasoning process*
5. *Strategies on how to avoid common errors and biases in clinical reasoning process*
6. *Teaching methods on the wards and/or clinic*
7. *Teaching methods for face-to-face courses (e.g. seminars, problem-based learning courses, lectures)*
8. *Technology-enhanced methods (such as virtual patients, e-learning)*
9. *Blended learning / Flipped (inverted) classroom methodology*
10. *Assessment methods of clinical reasoning*

{1=Very important; 2=Important; 3=Somewhat important; 4=Neutral; 5=Rather unimportant; 6=Unimportant; 7=Very unimportant; 8=I don't know}

19. In your opinion, what is the best format for the DID-ACT train the trainer course?

1. *One time face-to-face meeting*
2. *Series of face-to-face meetings*
3. *E-learning course*
4. *Blended learning/flipped classroom approach (combination of e-learning and face-to-face meetings)*

{Single answer}

20. Why do you suggest the format above for the train-the-trainer course? Please explain. {Free text}

21. Do you have further suggestions for the DID-ACT train-the-trainer course? {Free text}

Part E. Barriers / Solutions for train the trainer

[Faculty and experts only]

22. What critical aspects/barriers/challenges do you see in implementing the DID-ACT train-the-trainer course at your institution?

1. *No particular challenges*
2. *Lack of qualified trainers to teach the train-the-trainer course*
3. *Lack of time of trainers*
4. *Lack of time of participants*
5. *Lack of financial resources*
6. *Lack of guidelines for teaching and assessing clinical reasoning*
7. *Lack of awareness of the need for a train-the-trainer course*
8. *Lack of top-down support*
9. *Perception that clinical reasoning cannot be taught*
10. *Course invented elsewhere*

{Multiple choice}

23. How could these challenges be overcome at your institution? {Free text}

24. What incentive other than a certificate might be helpful for motivating participation in this course? {Free text}

Part F. Final Question

25. Do you have any further comments? {Free text}