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SCOTTISH MEDICAL EDUCATION RESEARCH CONSORTIUM

How good is your learning environment?

Measuring UK medical students' perceptions of different clinical learning environments

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Objectives:

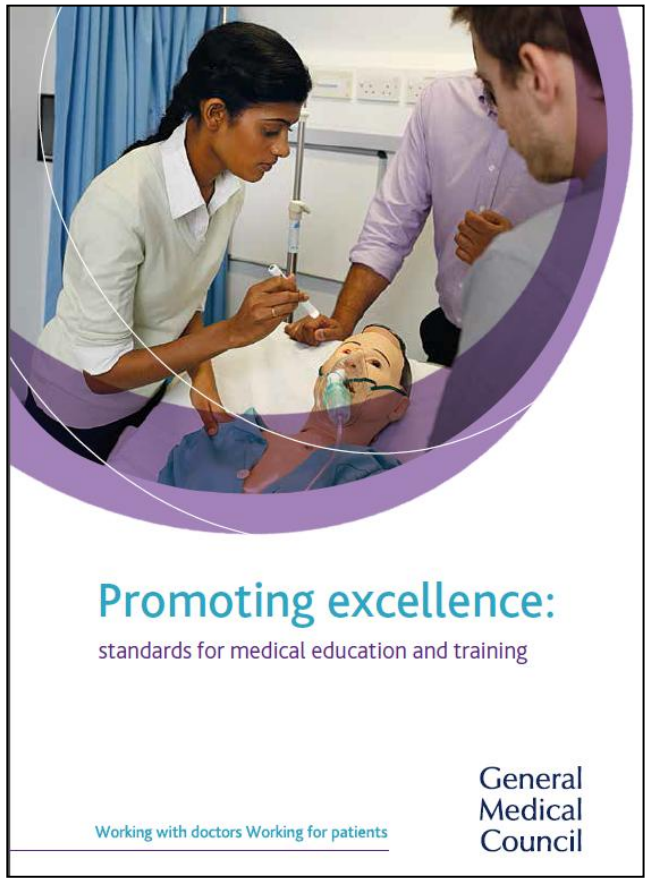
1. Examine the Clinical Learning Environment (CLE)
2. Why relevant?
3. Measuring the CLE – the UCEEM
4. Study – adapted UCEEM for four UK depts.
5. Key findings and applications
6. Take away – what can you do?

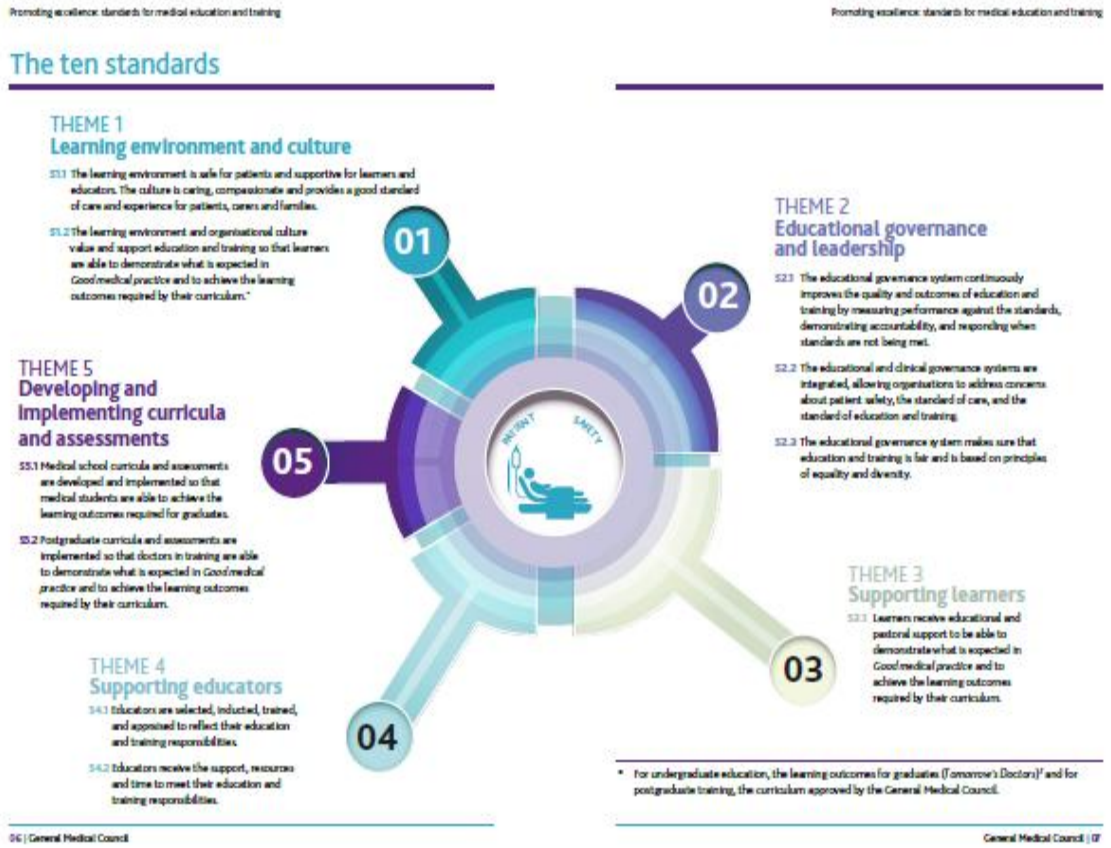
Clinical Learning Environment (CLE)

- The CLE is the sum of the internal and external circumstances and factors surrounding and affecting a person's learning and working:
  - Physical surroundings
  - Systems and structures
  - Organisational culture (e.g. relationships between staff, patients and students/trainees; shared values, norms and behaviours)
  - Attitudes, norms “how we do things here”
  - The learner – how s/he perceives the climate, interacts with the environment and its opportunities
- Important for learner satisfaction (1), achieving competencies (2), and how they practice after training (3)

1. Genn JM. AMEE Medication Education Guide No. 23 (Part 2): curriculum, environment, climate, quality and change in medical education – a unifying perspective. Medical Teacher 2001; 23:445–54.
2. Mitchell et al. Factors affecting resident performance: development of a theoretical model and a focused literature review. Academic Medicine. 2005; 80(4):376-89.
3. Hoff et al. Creating a learning environment to produce competent residents: the roles of culture and context. Academic Medicine. 2004;79(6):532-40.

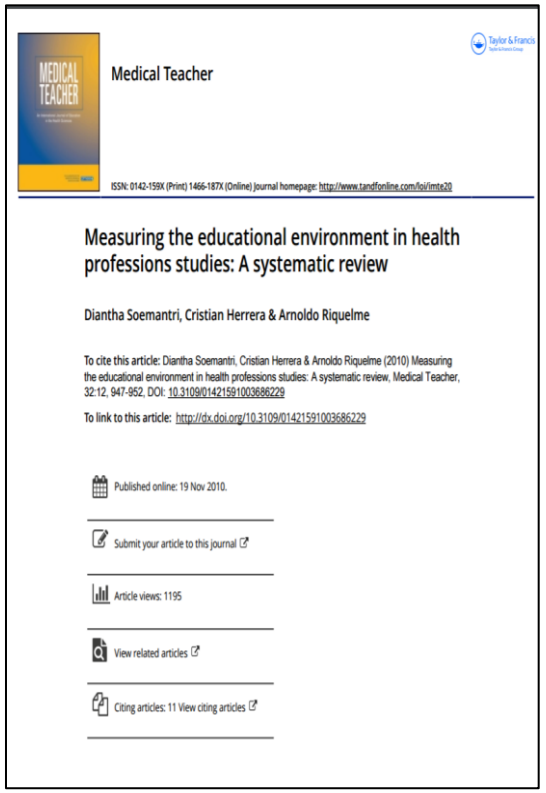
Why look at the CLE?





Measuring the CLE

- Wide range of tools to measure learners' perceptions of the learning environment
- Most measurement tools approach the CLE as an educational environment rather than a working environment (4)
- Many popular tools have also been criticised on their apparent lack of theoretical basis (5)



4. Soemantri et al. Measuring the educational environment in health professions studies: A systematic review. Medical Teacher. 2010;32(12):947-52.
5. Billett S. Workplace participatory practices: conceptualising workplaces as learning environments. Journal of Workplace Learning. 2004;16(6):312–324.

Undergraduate Clinical Education Environment Measure (UCEEM) – Strand et al.

- Developed to measure UG medical students' perceptions of the learning environment
  - Developed in Sweden (6)
  - Based in workplace learning theory (7) with qualitative data (focus groups, interviews plus a pilot)
  - Examines multiple organisational qualities that focus on social inclusiveness and experiential learning (i.e. the social, emotional and cognitive dimensions of the CLE)
  - Validated, robust measure (8)

UCEEM Dimensions and sub-scales
1. Experiential learning:
1A. Opportunities to learn in and through work & quality of supervision
1B. Preparedness for student entry
2. Social participation
2.A Workplace interaction patterns & social inclusion
2.B Equal treatment

6. Strand P et al. Development and psychometric evaluation of the Undergraduate Clinical Education Environment Measure (UCEEM). Medical Teacher 2013; 35:1014-1026.
7. Billett S. Workplace participatory practices: conceptualising workplaces as learning environments. Journal of Workplace Learning. 2004;16(6):312–324.
8. Strand et al. Development and psychometric evaluation of the Undergraduate Clinical Education Environment Measure (UCEEM). Medical Teacher 2013; 35:1014-1026..

Study aim:

Apply the UCEEM to the new context of a UK setting, to assess and examine the perceptions of senior medical students of a number of different CLEs

- Support departments improve their own learning environments

Methods – questionnaire

- Cross-sectional questionnaire study
- 5th year medical students, at the end-of-year session
- Context: four departments that had received mixed reviews from students and were in the process of making changes/improvements
- Asked to completed questionnaire for two memorable LEs/rotations from the four identified (length =8 weeks)
- UCEEM consists of 25 items scored on a five-point Likert scale (Fully disagree to fully agree)

- Approximately 80% took part (n=132)

Example UCEEM Survey Items
1. I received useful induction to this placement.
2. My supervisors were expecting me when I arrived.
3. My (work) tasks are relevant to the learning objectives.
4. I am sufficiently occupied with meaningful (work) tasks.
5. My tasks are suitably challenging for my level of knowledge and skills.
6. I am encouraged to participate actively in the work here.
7. I have adequate access to computers.
8. There is sufficient physical space for the number of medical students on placement here.

Results

UCEEM Scales, Subscales & Example Items *	Department 1 Median (L-UQ		ent 3 L-UQ)	Department 4 Median (L-UQ)
Number of students who rated each department	87			
Scale1: Experiential Learning		-4.4)		
1:A: Opportunities to learn in and through work & Quality of supervision		-4.6)		
5. My tasks are suitably challenging for my level of knowledge and skills.		-5.0)		
13. I receive useful feedback from my supervisors.		-5.0)		3.0 (3.0-4.0)
1:B: Preparedness for student entry				3.50 (2.6-4.0)
1. I received useful induction to this placement.				3.4 (2.0-5.0)
2. My supervisors were expecting me when I arrived.				3.4 (3.0-4.0)
Scale 2: Social Participation	4.2 (3.5-4.7)	4.0 (3.5-		3.8 (3.2-4.4)
2:C: Workplace interaction patterns & student induction	3.8 (3.2-4.5)	3.9 (3.1-		3.3 (2.5-4.2)
20. I feel included in the team of people who work here	3.4 (2.0-4.0)	3.6 (3.0-5.0)		3.3 (2.0-4.0)
22. Communication between those working here is goo	3.3 (2.0-4.0)	3.7 (3.0-5.0)	3.7 (3.0-5.0)	3.3 (2.0-4.0)
2:D: Equal treatment	4.5 (4.0-5.0)	5.0 (4.0-5.0)	4.5 (4.0-5.0)	4.0 (3.0-5.0)
23. Everyone is treated equally here regardless of cultural background.	5.0 (4.0-5.0)	5.0 (4.0-5.0)	4.0 (4.0-5.0)	4.0 (3.0-5.0)
24. Everyone is treated equally here regardless of gender.	4.0 (4.0-5.0)	5.0 (4.0-5.0)	5.0 (4.0-5.0)	4.0 (3.0-5.0)

Overall Dept. 4 rated poorest

Dept. 2 & 3 more opportunities to learn in and through work experience

Dept. 4 poorest for feedback

Dept. 3 most prepared for student entry

Depts. 1, 2 & 3 reported as inclusiveness and social participation

Depts. 2 & 3 students reported feeling a part of the team

All depts. scored good for equal treatment

Discussion

- Results valuable for directing improvements:
  - Fed unit specific data back to individual clinical depts. to initiate and direct improvements (e.g. tailored discussions and workshops around optimising their LEs for medical students)

- Applies UCEEM to new context:
  - Reflects prior research (e.g. welcome introductions, sense of belonging, student-centred supervision and team work) (9)
  - Requires further evaluation in other contexts and settings
  - Valuable for directing further in-depth qualitative research (e.g. role of belonging and tensions between service and training)

9. Liljedahl et al. What students really learn: contrasting medical and nursing students' experiences of the clinical learning environment. Advances in Health Sciences Education. 2015;20(3):765-79.

Concluding Remarks

- <u>What it adds:</u>
  - UCEEM is a useful tool for evaluating medical student perceptions of CLEs
  - Theoretically robust, it is straight-forward to administer and score
  - Used to collect baseline and comparative data for evaluation and improvement purposes
- <u>Areas to consider</u>:
  - Think about your own unit's educational ethos – how might learners perceive this (UCEEM)?
  - What are the expectations of students and trainers in terms of tasks and interactions – are these different?
    - How are student induction and learning opportunities organised?
  - How are students made to feel welcome and part of the clinical team
    - Consider impact of teacher/trainer behaviour on learner perceptions?
  - Learner tasks planned and evaluated?
  - Think about the impact that you have on your own LEs – you all are important parts of the LE!

Questions?
Thank you for listening!

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