8E SHORT COMMUNICATIONS:
Outcomes / Competency-based Education 2
Location: Brown 1, Level +2, MiCo

8E1 (22983)
Competency-based Medical Education: State of the Art and Priorities for Development from an International Expert Delphi Process

Jason R. Frank*, Royal College of Physicians and Surgeons of Canada, Office of Education, Ottawa, Canada
Linda Snell, Royal College of Physicians and Surgeons of Canada, Office of Education, Ottawa, Canada
Jonathan Sherbino, McMaster University, Emergency Medicine, Ottawa, Canada
Cynthia Abbott, Royal College of Physicians and Surgeons of Canada, Office of Education, Ottawa, Canada
Olle ten Cate, University Medical Centre Utrecht, Center for Research and Development of Education, Utrecht, Netherlands

Background: Competency-based Medical Education (CBME) is an emerging approach to training in the health professions worldwide. In 2009, the International CBME Collaborators (ICBMEC) was founded to advance the field (See Med Teacher August 2010). In 2013, the consortium reviewed the current state of CBME and priorities for further discussion.

Summary of Work: ICBMEC members undertook a modified Delphi using online surveys and teleconferences. In round 1 participants were asked to identify: a) possible CBME topic that were controversial or requiring further development and b) other educators or practitioners of CBME. Additional members were recruited from the nominees to participate in the process. In further rounds, participants were asked to prioritize the topics until consensus was achieved. Topics with >70% endorsement were included in the next round. Results of each round were distributed electronically and reviewed by teleconference before launching the next round.

Summary of Results: Consensus was achieved in 4 rounds. Survey response rates were 47%, 55%, 66%, and 100% across the 4 rounds respectively. Ninety topics were generated in round 1. By the final round, consensus was achieved on 6 major topic themes: milestones and EPAs, entrustment, assessment, implementing CBME, faculty development for CBME, CBME program evaluation, and a CBME research agenda. The final list of topics was used to design a CBME consensus conference held in 2013 in Calgary, Canada.

Discussion and Conclusions: Health professions education leaders identified 6 key issues to advance CBME worldwide.

Take-home messages: Advancing CBME will require further work on EPAs and milestones, as well as assessment, curriculum implementation, faculty development, program evaluation and key research issues.

8E2 (19102)
Devising a consensus definition and competency framework for non-technical skills in healthcare: A modified Delphi study

Morris Gordon, University of Central Lancashire, School of Medicine and Dentistry, Preston, United Kingdom
Paul Baker, North Western Foundation School, School of Medicine and Dentistry, Manchester, United Kingdom
Ken Catchpole, Cedar Sinai Hospital, Los Angeles, United States
Daniel Darbyshire, University of Central Lancashire, Preston, United Kingdom
Dawn Schocken*, Tampa, United States

Background: Non-technical skills are a subset of human factors that focus on the individual and promote safety through teamwork and awareness. There is no widely adopted competency or outcome based framework for non-technical skills training in healthcare outside the surgical environment. We set out to devise such a framework and reach a consensus on a definition using a modified Delphi approach.

Summary of Work: An exhaustive list of published and team suggested items was presented to the expert panel for ranking and to propose a definition. In the second round, a focused list was presented, as well as the proposed definition elements. The finalised framework was sent to the panel for review.

Summary of Results: 16 experts participated (58% response rate). A total of 36 items of 105 ranked highly enough to present in round two. The final framework consists of 16 competencies for all and 8 specific competencies for team leaders. The consensus definition describes non-technical skills as ‘a set of social (communication and teamwork) and cognitive (analytical and personal behaviour) skills that support high quality, safe, effective and efficient interpersonal care within the complex healthcare system’.

Discussion and Conclusions: This consensus competency framework can be used by curriculum developers, educational innovators and clinical teachers to support developments in the field.

Take-home messages: Previously reported competency frameworks for non-technical skills in healthcare have been framed in a specific context and therefore limited. We have produced a framework that is not discipline specific to support further educational developments in the field.
8E3 (20906)
Medical students' changing perceptions of the desirable personal attributes of a doctor

Steven Hurwitz*, University of Newcastle, Newcastle, Australia, Brian Kelly, University of Newcastle, Newcastle, Australia

**Background:** There is a lack of consensus regarding the desirable attributes of a doctor. Research investigating medical students’ views of these attributes and the trajectory of such views over time, is limited, although moral development and empathy among medical students have been found to decline during their studies.

**Summary of Work:** One cohort of medical students was surveyed in the first and third years of their medical program. The survey contained a list of 31 qualities or attributes of a doctor, which were rated on a likert scale, from 1 (not important at all) to 5 (vital).

**Summary of Results:** 158 responses were received at baseline and 135 from the third-year survey (78% and 68% response rates). The qualities respondents deemed most important were: ethically sound and good verbal communication. The mean ratings of all qualities decreased in the second survey, except for tolerance of ambiguity, ethically sound and personal insight. A principle components factor analysis found five categories of qualities: Methodical, Generic Work Ethic, Interpersonal Integrity, Role Certainty and Cognitive Capacity. The perceived importance of Generic Work Ethic (p<.01), Role Certainty (p<.05) and Cognitive Capacity (p<.01) significantly decreased over time.

**Discussion and Conclusions:** Respondents’ ratings of the desirable qualities of a doctor changed significantly over two years of medical studies. Cognitive Capacity, Generic Work Ethic and Role Certainty decreased significantly, but Interpersonal Integrity and Methodical did not, suggesting that they remained valued sets of attributes. The findings provide insights into the values and development of professional identity among medical students.

**Take-home messages:** Medical students' perceptions of desirable attributes of doctors change significantly over the course of their studies, with reduced emphasis on cognitive ability and work commitment, while interpersonal skills retain importance over time.

8E4 (19914)
A Study to develop, by consultation, agreed learning outcomes for the teaching of handover to medical students using Group Concept Mapping

Patrick Henn*, University College Cork, School of Medicine, Cork, Ireland
Helen Hynes, University College Cork, School of Medicine, Cork, Ireland
Hendrik Drachsler, Open Universiteit Nederland, Faculty of Psychology and Educational Sciences, Heerlen, Netherlands
Bridget Maher, University College Cork, School of Medicine, Cork, Ireland
Carola Orrego, Avedis Donabedian Institute, Barcelona, Spain
Sasa Sopka, RWTH Aachen University, University Hospital UKA, Anaesthesiology, Aachen, Germany

**Background:** Newly qualified doctors feel unprepared for handover. This should not be unexpected, as there appears to be little formal teaching in handover in the USA or the UK. A systematic review of educational interventions to improve handover, showed a paucity of research into handover education and evidence of the effectiveness of current educational strategies. As a starting point we undertook this study to develop, by consultation, agreed learning outcomes for the teaching of handover to medical students.

**Summary of Work:** Group Concept Mapping was used to identify a common understanding of an expert group’s common understanding about the learning outcomes for the teaching of handover to medical students.

**Summary of Results:** 45 experts contributed to the brainstorming session. 22 of the 45 (48%) from 4 European countries completed the pruning, sorting and rating phases. 10 themes were identified with which to select learning outcomes and operationally define them to form a basis for handover training for medical students. The themes entitled ‘Being able to perform handover accurately’ and ‘Demonstrate proficiency in handover in workplace’ were rated as most important. ‘Demonstrate proficiency in handover in simulation’ and ‘Engage with colleagues, patients and carers’ were rated most difficult to achieve.

**Discussion and Conclusions:** 10 themes identified with which to select learning outcomes and operationally define them for handover training for medical students.

**Take-home messages:** These learning outcomes could form the basis for future curriculum design for Handover training as newly qualified doctors need to be proficient at handover at the point of graduation otherwise this is a latent error within healthcare systems.
The Swedish Doctor? A pilot study to create a framework of national learning outcomes for medical education in Sweden

Maria Ehin Kolk*, Umeå University, Umeå, Sweden

Background: Since 1977, each of the seven universities in Sweden have been free to develop their own undergraduate medical curriculum, based around 16 overarching goals regulated by law. After 5,5 years of study an internship of at least 18 months is mandatory to receive the legitimation. The medical education in Sweden moves toward a more outcome based education. In 2013 a revised framework, including 21 new overarching goals, was suggested in a government report. The aim of the current study was to develop a more detailed framework of national learning outcomes (LO’s) based on the suggested new overall goals.

Summary of Work: A national conference and literature review supported the need for more detailed learning outcomes. The learning outcomes (LO’s) in “Tomorrow’s Doctor’s” from the UK GMC were selected as most relevant to the Swedish context, and these were mapped to the new overarching goals. The next phase of the study involved a pilot stakeholder opinion-survey of three of the new overarching goals with associated LO’s from Tomorrow’s Doctor’s. Thereafter the findings will be discussed with stakeholders for the medical education to find threats and opportunities for this project.

Summary of Results: It has been possible to map between three of the new 21 overarching goals and the LO’s of Tomorrow’s Doctor’s”, and to use these to gain stakeholder opinions on detailed learning outcomes for Swedish undergraduate medical education.

Discussion and Conclusions: It is possible to create detailed national learning outcomes for medical education in Sweden.

Take-home messages: We are one step closer to defining The Swedish Doctor.