Expert Reasoning in the Context of Ill-Structured Clinical Problems: Exploring the Experiences and Sources of 'Comfort with Uncertainty'

Time: 2:00 – 2:15 (1st Presentation)
Presenter: Jonathan Ilgen

Authors: **Jonathan Ilgen** University of Washington, **Judith Bowen** Washington State University, **Pim Teunissen** Maastricht University, **Anique de Bruin** Maastricht University, **Glenn Regehr** University of British Columbia

Background/Purpose:
To act with confidence while simultaneously remaining uncertain is a paradox that epitomizes expert practice. Yet how experts comfortably navigate complex, ill-defined problems remains poorly understood. We sought to examine the behaviors of experts who work in settings rife with uncertainty, exploring what they do to work "comfortably" despite lingering uncertainties.

Methods:
We employed a constructivist grounded theory approach to explore experiences of uncertainty in emergency medicine faculty. We used a critical incident technique to elicit narratives about decision-making immediately following participants' clinical shifts, exploring how clinicians made judgments about whether problems were within their scope of practice, when they felt compelled to enlist others' help, and how they determined when a problem should be triaged to others. Two investigators analyzed the narrative transcripts, coding data line-by-line using constant comparative analysis to organize transcripts into focused codes, key conceptual categories, and then major themes.

Results:
Participants identified multiple forms of uncertainty, organized around conceptualizations of the problem they were facing and the actions they would consider taking in those moments. They described iterative cycles of forward planning and monitoring that generated variable levels of comfort with the situation. This spectrum of comfort in led to a variety of responses: owning the problem with comfort, co-owning the problem with others, triaging the problem to others, or moving forward despite discomfort.

Conclusion:
Clinicians experience multiple forms of uncertainty. Their multitude of potential responses are informed by variable levels of comfort that result from real-time self-monitoring and forward planning.

Summary/Results:
We describe emergency physicians experiences with uncertainty: how they identify the different forms of uncertainty, how they experience and manage these uncertain moments, and the multitude of ways that they respond to these moments of uncertainty. These results provide language around what clinicians mean when they say that they are "comfortable" working through clinical problems while simultaneously experiencing uncertainty.

Clinical Teaching Unit Design: A Systematic Review of Evidence-Based Practices for Clinical Education and Health Service Delivery

Time: 2:15 – 2:30 (2nd Presentation)
Presenter: Ryan Sandarage

Authors: **Ryan Sandarage** University of British Columbia, **Brandon Tang** University of British Columbia, **Katrina Dutkiewicz** University of British Columbia, **Stephan Saad** University of British Columbia, **Jocelyn Chai** University of British Columbia, **Kristin Dawson** University of British Columbia, **Vanessa Kitchin** University of British Columbia, **Iain McCormick** University of British Columbia, **Barry Kassen** University of British Columbia

Background/Purpose:
The Clinical Teaching Unit (CTU) has emerged as a ubiquitous model of clinical education across medical schools, since its inception over 50 years ago. However, health care has changed dramatically over this period, and we thus reviewed existing evidence on principles of CTU design that optimize clinical education and health service delivery in the 21st century.

Methods:
We performed a systematic review in accordance with the Cochrane Review protocol. Databases, including MEDLINE, Embase, and Cochrane Database of Systematic Reviews, and CINAHL, were searched to find primary research articles published from 1993 to 2019 which discussed trainee education and/or health care delivery in the context of a clinical teaching unit or other teaching ward.

Results:
Studies meeting inclusion criteria after full-text review were analyzed according to the Star Model viewing health systems as a collection of interdependent subsystems including: strategy, structure, human resources, incentives, and information and decision support. We added a sixth subsystem for education given its core relevance to CTUs. Most existing evidence focuses on the structure and education subsystems, including approaches to ward rounds, optimal call structures, and novel educational strategies. However, many articles involved low to moderate quality evidence.

Conclusion:
Efforts should be made to generate higher-quality evidence on the design of clinical teaching units as a dual model for both clinical education and health service delivery. Further knowledge translation efforts may be necessary to ensure that known best practices in CTU design become common practice.

Educating for Patient Centered End of Life Care: Understanding the Temporal, Occupational, and Relational Dimensions that Shape Dying Patients' Experiences

Time: 2:30 – 2:45 (3rd Presentation)
Presenter: Laura Yvonne Bulk

Authors: **Laura Yvonne Bulk** University of British Columbia, **Laura Nimmon** University of British Columbia, **Gil Kimel** University of British Columbia, **Nigel King** University of Huddersfield

Background/Purpose:
Temporality, occupation, and relationships are identified as discrete factors impacting quality of life for patients at the end of life (EoL) and their loved-ones. However, educators and practitioners require insight regarding whether their interaction shapes quality of life for patients at end of life. This study is framed by an understanding that meaning is negotiated between people through social interaction and occupational engagement in temporal contexts.

Methods:
We conducted in-depth interviews with 9 patients and 10 loved-ones followed by an iterative analysis process involving open, axial, and selective coding.

Results:
The data highlight ways that temporality impacts relational and occupational experiences. We explore this within three main processes: 1) experiences of temporal rupture, 2) diminished significance of clock time, and 3) shifts in occupational priorities focused on being, becoming and belonging.

Conclusion:
Our analysis of participant narratives provides novel insights into the complex interactions between temporal, occupational, and relational aspects that patients and their loved-ones experience in hospice. Health professionals can enable better EoL experiences by acting upon their awareness of these complexities. It is critical that educational practices prepare health professionals to understand how patients and loved-ones experience quality of life - including altered temporality and shifting priorities - if we are to foster patient-centered EoL care.

"Now I Know It, Now I'll Do It, I'll Work on That": The Nature of Learning After Team Based Simulation

Time: 2:45 – 3:00 (4th Presentation)
Presenter: Farhana Shariff

Authors: **Farhana Shariff** University of British Columbia, **Glenn Regehr** University of British Columbia, **Rose Hatala** University of British Columbia

Background/Purpose:
Learning in complex clinical environments requires health professionals to assess their performance, manage learning, and modify practices based on self-monitored progress. As self-regulated learning (SRL) theory suggests, however, learners often need guidance to enact these processes effectively. Simulation debriefings may an ideal place to prepare learners for self-regulated learning in targeted areas, but at present may not be optimally fostering these practices. This study aims to explore the nature of learning after team-based simulation.

Methods:
A qualitative grounded-theory study was conducted in the context of an interprofessional in-situ trauma simulation program. Participants were interviewed both immediately, and 4-6 weeks after the simulation experience. Transcripts were analyzed in an iterative constant-comparative approach to explore emergent themes and concepts surrounding our research question

Results:
There were numerous examples of acquired content knowledge and plans for straightforward practice change during initial interviews; however, more sophisticated examples of SRL were lacking early on. Some participants appeared to have evolved more specific goals and rudimentary implementation plans by the follow up interviews, but many suggested this was prompted by study interviews rather than the simulation debriefing itself.

Conclusion:
While participants did not develop fulsome SRL plans after the simulation, there were elements of SRL seen once learners had time to reflect on the questions and their own goals. This is an encouraging sign that simulation can support development of SRL skills, however, debriefing approaches would need to be optimized to take full advantage of the opportunity to encourage and foster these skills in practice after the simulation is over.