Title: Clinical Reasoning Assessment Tools: So Many Methods, How to Choose?

Submission Type: Sessions on Medical Education

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Topic Short Description: A recent scoping review identified more than 20 different methods to assess clinical reasoning. A “gold standard” for assessing clinical reasoning assessment in either the workplace or the classroom does not exist. Methods differ in their validity, reliability, and feasibility. This workshop will highlight different clinical reasoning assessment methods, their common uses, and limitations related to feasibility and validity to aid participants in implementing a program of clinical reasoning assessment at their home institutions.

Presenters: Michelle Daniel, MD, MHPE - Introductory didactic Anthony Artino, PhD - Panelist, Self-Regulated Learning-Microanalytic TechniquesValarie Lang, MD - Panelist, Key FeaturesEric Holmboe, MD - Panelist, Global Assessment

Facilitator: Larry Gruppen, PhD – will facilitate panel discussion and run debrief

Learning Objectives: • Classify assessment methods according to the aspects of clinical reasoning they measure • Create a program of clinical reasoning assessment using 2-3 methods • Devise a plan that addresses limitations related to validity and feasibility

Session Plan: Clinical reasoning is central to a physician’s performance. Though definitions and descriptions of clinical reasoning differ, they typically converge on the idea that clinical reasoning entails conscious and unconscious cognitive operations in which clinicians observe, collect and analyze information, diagnose, and treat patients, accounting for their specific circumstances and preferences (Eva, 2007; Durning et al, 2011). A recent scoping review by the authors (in process) identified more than 20 different methods to assess clinical reasoning. Educators will recognize some of these methods, including multiple-choice questions (MCQ), extended matching questions, oral examinations, oral case presentations, written notes, direct observation, and objective structured clinical examinations. Other methods may be less familiar; these include script concordance testing, self-regulated learning-microanalytic techniques, key features examination, concept maps, comprehensive integrated puzzles, and chart simulated recall. Our literature review did not reveal a “gold standard” method for clinical reasoning assessment. Some methods assess workplace-based, “whole task” clinical reasoning activities, like direct observation of a complete clinical encounter, while others address non-workplace-based “part task” clinical reasoning activities, such as vignette-based MCQ. Each method differs in its potential validity, reliability, and feasibility. Thus, a robust programmatic assessment requires broad sampling with a complementary set of clinical reasoning assessment methods. This workshop will highlight three clinical reasoning assessment methods, their common uses, the aspects of the clinical reasoning construct they measure, and limitations related to feasibility and validity. Participants will leave better equipped to implement a program of clinical reasoning assessment at their home institution. • A brief introductory didactic will present the results of a recent systematic review (10 minutes). • A panel
of experts will then discuss how to select different clinical reasoning assessment methods, based on common uses, feasibility, and threats to validity, highlighting 4-5 methods as examples (15 minutes).

The audience will then engage in table top discussions with an expert focused on the following questions: Given X level learner (early medical student, late medical student, resident), what 2-3 methods might you use for clinical reasoning assessment? Why choose these methods? What are issues of feasibility? What are the threats to validity? How can you best manage the threats to validity? (40 minutes) • Table groups will report out key lessons learned. Participants will commit to changing a current method of assessment based on what they learned about threats to validity OR implement a new method of assessment at their home institution. (10 minutes)

NB: Resources will be provided that describe the wide variety of clinical reasoning assessment methods, their common uses, the components of the clinical reasoning construct they measure, feasibility and threats to validity.