Strengthening Continuing Medical Education:

A theoretical framework to inform research and practice

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BACKGROUND

- Continuing Medical Education (CME) is a means for healthcare practitioners (HCP) to maintain clinical competence

- Is effective when offered correctly (Cervero and Gaines, 2015)

- However, continues to be poorly developed (Legaré *et al*, 2015) and inappropriately utilized (Sibley et al, 1982)

- In addition, HCPs underestimate skill deficits (Davis et al, 2006) and overestimate abilities (Hodges, Regehr and Martin, 2001)

BACKGROUND

- Rapid rate of knowledge creation (Davidoff et al, 1995), particularly in fields of Public Health and Quality Patient Care (Druss and Marcus, 2005), together with epidemiologic transition (Oman, 2005) necessitates improving development and delivery of CME

- Focus shifted to identifying wider contextual factors that play a role in CME (Cervero and Gaines, 2015; Grant et al, 2015)

- Current study aims to develop conceptual framework of wider contextual factors in PH CME for frontline HCPs

WHY A THEORETICAL FRAMEWORK

- First step in medical education research (Ringsted, Hodges and Scherbier, 2011)
- Lack of explicit application of frameworks in medical education (Zackoff *et al*., 2018)
- Theories in medical education individualistic (Bleakley, 2006; Mann, 2011)
- Growing recognition to utilize contemporary socio-cultural theories of learning in medical education (Hodges and Kuper, 2012; pg. 31)

"[offer] explanatory power at the level of the environments in which medicine is learned and practiced"

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METHODS

- Narrative review of online journal databases and selected academic texts
- Keywords: "*learning theory*", "*medical education*"

- <u>3 Criteria:</u>
  1. Cognisant of contexts beyond the individual learner
  2. A systems understanding of interactions between contexts and learner
  3. An appreciation of learning as more than mere acquisition of knowledge

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RESULTS

- Eleven theories examined

THEORY	AUTHOR
Awareness-to-adherence	Pathman *et al.*
Adult Learning	Knowles, M.
Bioecological Model of Human Development	**Bronfenbrenner, U.**
Biographical Learning	Alheit, P.
Constructive Alignment	**Biggs, J.**
Diffusion Theory	Rogers, E.M.
Experiential Learning	Kolb, D.
Expansive Learning	Engström, Y.
Situated Learning and Communities of Practice	Lave & Wenger
Transformative Learning	Mezirow, J.
Theory of Multiple Intelligences	Gardner, H.

UNIFIED THEORETICAL FRAMEWORK

Direction of CME Development

Biggs / Bronfenbrenner	Presage (Past experiences, regulation, etc)	Process (Teaching/learning activity, etc)	Product (Purpose/outcome of CME)
Micro-system (Individual)			
Meso-system (Intermediaries)			
Exo-system (Influencers)			
Macro-system (Ideologues)			

Directions of Interaction

Direction of Learning

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UNIFIED THEORETICAL FRAMEWORK

Direction of CME Development

Biggs' Theory of Constructive Alignment	Presage (Past experiences, regulation, etc)	Process (Teaching/learning activity, etc)	Product (Purpose/outcome of CME)

- Constructivist theory of learning
- AND
- Alignment between outcome, TLA and TA (Biggs and Tang, 2011)
- 'Deep' vs 'Surface' learner
- Presage-Process-Product Model (Biggs, 1993)

Directions of Interaction

Direction of Learning

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UNIFIED THEORETICAL FRAMEWORK

Direction of CME Development

Bronfenbrenner Bioecological Model

- Micro-system (Individual)
- Meso-system (Intermediaries)
- Exo-system (Influencers)
- Macro-system (Ideologues)

- Impact of ecological systems on human development (Bronfenbrenner, 1976)
- Interactions between systems and individual
- Offers a definition for identifying stakeholders within each system
- Final iteration (PPCT) complements Biggs (Rosa and Tudge, 2013)

Directions of Interaction

Direction of Learning

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UNIFIED THEORETICAL FRAMEWORK

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Directions of Interaction

Direction of Learning

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NEXT STEPS

1. Mixed-Method Systematic Review of Literature
   - Best Fit Framework Synthesis (Booth and Carroll, 2015)

2. Qualitative semi-structured interviews with key stakeholders
   - Identify any themes not raised in literature

Leaving Thoughts:

"Moving [medical education research] forward involves the use of theories to frame and generate our questions, using the resulting scholarship to support or modify the theory" (Bordage, 2007; pg. S127)

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THANK YOU! QUESTIONS?

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