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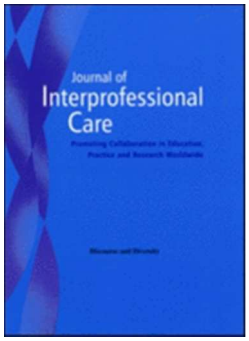
Responding to health care complexity: suggestions for integrated and interprofessional workplace learning

Pim Kuipers
Griffith University

Carolyn Ehrlich
Griffith University

Sharon Brownie
Aga Khan University, sharon.brownie@aku.edu



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Abstract

This report highlights complexity in health care and the relevance of integrated and interprofessional care and learning. It is proposed that appropriate workforce training in response to complexity should be contextually relevant and workplace integrated, and should focus on building interprofessional capability for reflective practice and critical thinking. This training should be interprofessional and foster systems thinking. It is suggested that the World Health Organization's International Classification of Functioning, Disability and Health (ICF) is a useful integrating framework.

The issue of complexity

The notion of 'complexity' has gained substantial prominence in contemporary health care since being highlighted in a key BMJ series of articles (Fraser & Greenhalgh, 2001). Drawing from broader complexity theory, this notion recognises health care as a complex system in which a number of dimensions interact in dynamic, non-linear and unpredictable ways (Katerndahl, Parchman, & Wood, 2010). The interacting dimensions include the patient's complex medical condition(s), treatment-, care-, and patient-related factors, as well as situational, behavioural and health systems factors.

At a systems level, complexity in health care has been linked with the growth of co-morbid conditions, increasing service utilization, the need for more high-cost

procedures, and escalating health care costs (Grant et al., 2011). At a service provision level, health care complexity has been negatively associated with decreased practitioner satisfaction, diagnostic dilemmas (Katerndahl et al., 2010), poorer service quality and reduced outcomes of care (de Jonge, Huyse, & Stiefel, 2006), as well as uncertainty in areas of clinical education and workplace learning (Sargeant, 2009).

People with complex health care needs require care from skilled and experienced practitioners, which is continuous and consistent between providers and over time (Grant et al., 2011). This raises significant challenges for the range of capabilities required of the health care workforce, and for the provision of education which underpins that care (Fraser & Greenhalgh, 2001; Grant et al., 2011).

Education and complexity

The link between interprofessional education and complexity has been noted with the observation that complexity theory suggests the need for a more flexible, more diverse, less linear approach to education (Cooper, Braye, & Geyer, 2004). Indeed clinical education and workplace learning have been proposed as the preferred context in which to equip health care practitioners to respond to such complexity in care (Fraser & Greenhalgh, 2001). In such contexts, there is a need for a suitable framework that encompasses both clinical and systemic dimensions. Such a framework may assist health care professionals to critically analyse, reflect and respond to issues that exacerbate complexity, including the fragmented nature of health care and the single-disease paradigm.

In light of health care complexity, some principles for an integrated approach to workplace education can be suggested. First, acknowledging complexity requires the practitioner to adopt an interoprofessional and collaborative team perspective (McMurty, 2007). Therefore, workplace education for complexity should note the limits of professional expertise and emphasise the importance of the interprofessional team and team dynamics within the context of the health system and the environment

Second, it necessitates an incorporation of both 'systems' level and 'micro' level concerns. Complex systems are comprised of many components that are dynamic and interact continuously. To understand such systems and multiple interactions is very important in health care. Activities such as accurately assessing patient need, coordinating multiple services and providers, ensuring continuity of care, responding to crises, and supporting family and carers, are influenced on many levels (Kodner & Spreeuwenberg, 2002). Thus linear and reductionist approaches to education and practice which focus on component elements of an issue are inadequate to equip practitioners with the capability for such activities. These should be replaced by more systemic approaches which emphasise processes and the conceptualisation of a range of potential influences in any complex situation (Sargeant, 2009).

Third, educating for complexity should avoid training for narrow 'competencies', which also foster reductionism (IECEP, 2011). Instead, education should aim for 'capability', which lays a foundation for increasing learning over time which may be generalised to different contexts (IECEP, 2011). In light of this, integrated and inter-professional workplace learning approaches are particularly appropriate for

responding to complexity since learning is contextual and takes place through social exchange in complex environments (Sargeant, 2009).

A framework for complexity

As noted above, a key challenge then is to identify a framework which can reflect the systems thinking required and which can cross professional boundaries. A useful framework that portrays inter-related constructs of health conditions is the World Health Organisation's International Classification of Functioning, Disability and Health (ICF), published in 2001 (WHO, 2001). The ICF (in its full form) is a comprehensive coding system that provides a standard language for describing human functioning, disability and health. It comprises classifications for Body Functions, Body Structures, Activities and Participation as well as Environmental Factors (such as the physical, social, and service environment). In addition, it outlines Personal Factors (such as personality, age, culture and coping strategies).

In the model overview (Figure 1), the ICF depicts a comprehensive bio-psycho-social model of health and functioning that can be used to conceptualise issues, and elucidate interactions that are influential in health care complexity at individual and system levels. The ICF appears to be a useful tool for conceptualising and targeting interventions for patients with complex health conditions (Allan, Campbell, Guptill, Stephenson, & Campbell, 2006), assisting clinicians to think in broader, less reductionist ways. While its direct application to clinical education and training for complexity requires future research, the interconnectedness of the model (Figure 1) implies the need for a holistic approach to training which acknowledges the interacting dimensions of a person's life and health.

Figure 1 about here

To maximise holistic care and respond to complexity through healthcare education, previous recommendations have included building critical thinking and reflective practice, and the use of case presentations and role plays (Fraser & Greenhalgh, 2001). Likewise, exposure to appropriately complex case histories with multiple acceptable solutions builds the capacity of health care practitioners to respond to complex situations in future. Creating opportunities for health care practitioners to learn from each other across professional boundaries and collectively solve complex problems is beneficial and consistent with calls for greater breadth of understanding in the face of complexity (de Jonge et al., 2006; Grant et al., 2011). The ICF may provide an integrating model in this regard.

Conclusion

Interprofessional workplace and clinical education that is based on a comprehensive bio-psycho-social model, which is responsive and relevant to dimensions of health care complexity, and which facilitates critical reflection and reasoning will be vital to maintaining health workforce relevance.

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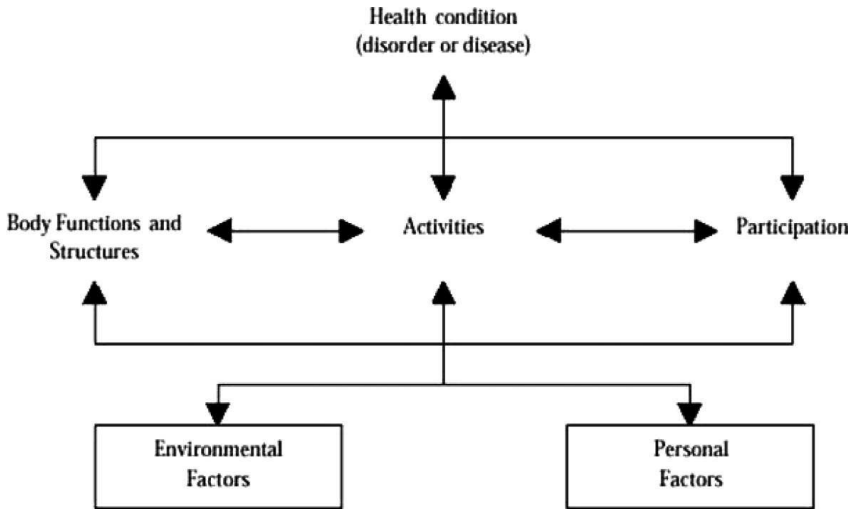

Figure1: The International Classification of Functioning, Disability and Health (ICF) model which depicts key complexity factors