Chapter 17
Implementation of Evidence–Based Practice and the PARIHS Framework

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ABSTRACT

Patients receiving healthcare are commonly exposed to harm that is systematic and often severe. Clinical decisions based on inaccurate sources of information can lead to medical errors, high treatment costs, and poor patient outcomes. Evidence-based practice has the potential to overcome these problems by improving clinical decision-making processes. The PARIHS framework was developed to address the inability of traditional unidimensional models to successfully implement evidence-based practice. The PARIHS framework proposes that successful implementation of evidence into practice is a function of evidence, culture, and facilitation. The PARIHS framework can be used to design, implement, and evaluate knowledge translation projects at both acute and chronic care facilities. This chapter discusses the PARIHS framework as well as its advantages for implementing change at a healthcare setting compared to traditional models. The chapter also outlines a feasible knowledge translation project based on the principles of the PARIHS framework while highlighting health informatics and availability of easily accessible high quality patient outcome data as key enablers in designing and successfully implementing such a project at a healthcare setting.

MEDICAL ERRORS AND EVIDENCE-BASED MEDICINE

In modern health care stakes are high as a medical error can potentially have fatal consequences. The cost to health care system due to medical errors is enormous both in terms of finance and patient well-being. It is estimated that 44,000 to 98,000 Americans die annually due to medical errors

and that the annual costs for adverse events are between $38 billion to $50 billion (Institute of Medicine, 2000). An adverse event is defined as, "an unintended injury or complication that results in disability at the time of discharge, death or prolonged hospital stay and that is caused by health care management rather than the patient's underlying disease process" (Baker et. al., 2004, p. 1679). A recent Canadian study found adverse

event rate of 7.5 per 100 hospital admissions in participating Canadian hospitals after adjustment for sampling strategy. The same study associated approximately 1521 additional hospital days with adverse events (Baker et. al., 2004). It is quite evident that lowering the occurrence of medical errors in health care will not only lower financial costs but will also improve patient safety outcomes.

Research has shown that clinical decisions based on inaccurate sources of information can lead to medical errors, high treatment costs, and poor patient outcomes. Evidence based medicine has the potential to overcome these problems by enhancing healthcare staff clinical decision making processes. The term evidence based medicine, coined in the early 1990s, is defined as "the process of systematically finding, appraising and using contemporaneous research findings as the basis for clinical decisions" (Straus & McAlister, 2000, p. 837). It is a multistep process that takes into consideration not only the current best evidence from research but also the clinical expertise and patient values during clinical decision making (Haynes & Haines, 1998; Straus & McAlister, 2000). However, development and introduction of policies or guidelines based on current best evidence alone is not sufficient to change or modify clinical practice. For example, Rosser (1993) found that only 5% of surveyed Ontario family physicians followed the lipid lowering guidelines. Implementation of evidence often fail to change practice as policy makers, researchers, and managers frequently rely on unidimensional change models that are incapable to take into consideration all the complexities associated with the change process (Davis & Taylor-Vaisey, 1997; Kitson, Harvey, & McCormack, 1998). Healthcare organizations are living systems that are influenced by a large number of interdependent agents (such as patients, healthcare staff, hospital administration, accreditation and licensing bodies etc.) and external forces (such as political ideologies, provincial laws and regulations etc.) in a nonlinear and discontinuous manner (Begun,

Zimmerman, & Dooley, 2003). As a consequence, successful adoption of current best evidence into practice will necessitate the utilization of a holistic or a multidimensional framework that takes into consideration various contextual factors such as culture and leadership while implementing the change process.

In 1998, a team of researchers at Royal College of Nursing Institute developed a multidimensional framework, Promoting Action on Research Implementation in Health Services (PARIHS), that proposes that the successful implementation of evidence based practice is a function of evidence, context, and facilitation (Estabrooks et. al., 2009b). A salient advantage of the PARIHS framework over the traditional implementation models is that it can allow health informatics to be integrated seamlessly within the change process during the implementation of evidence based practice. For example, it can be used to design a decision support tool that can suggest appropriate facilitating strategies such as leadership retreat, academic detailing, audit and feedback, and computer based reminders depending on the needs of a particular situation. The aim of this chapter will be to discuss in detail the advantages, challenges, and limitations of the PARIHS framework for implementing change at a healthcare setting. The chapter will also outline a feasible project to improve the uptake of clinical practice guidelines for prevention of pressure ulcers at a nursing care setting while highlighting the role of health informatics and availability of easily accessible high quality patient outcome data as key enablers in designing a project that can benefit from the comprehensive nature of the PARIHS implementation model without being limited by financial and logistical constraints.

THE PARIHS FRAMEWORK

The implementation of evidence into practice (also referred as knowledge translation or transfer) is a complex and challenging task as the process is

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