Chapter 8.10
Patient Journey Record Systems (PaJR) for Preventing Ambulatory Care Sensitive Conditions:
A Developmental Framework

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ABSTRACT

This chapter articulates key considerations for the translation of the concept of the *Patient Journey Record Systems (PaJR)* into real world systems. The key concept lies in the 'discovery' of the use of patient narratives to locate the phase of illness in a patient journey. We describe our developmental framework of in the context of Ambulatory Care Sensitive Conditions (ACSC) for older patients with multiple morbidity, who are at a high risk of hospitalizations and other adverse health outcomes. The framework addresses the feasibility and usability of an information technology based solution to avert adverse outcomes of hospitalization when this is potentially avoidable by activities in primary care. Key considerations in the PaJR knowledge systems are the design and implementation of robust expert knowledge and data support systems. The patient, caregiver, physician and care team perspectives drive clinical usability and functionality requirements. Experts from computer science domains in artificial intelligence, expert systems, and decision support systems ensure the

requirements for the functionality of underlying systems architecture are met. We explore this transdisciplinary perspective and ways in which coherence might be achieved among the many practitioners and expert domains involved in a developmental framework for PaJR. We make a case for the implementation of PaJR systems as part of a universal move to electronic user driven health care.

INTRODUCTION

In this chapter we explore the translation of explicit and tacit knowledge (J. P. Sturmberg & Martin, 2008) about the patient journey into real world systems – the *Patient Journey Record System (PaJR)*. The exploration described in this chapter is from a clinical perspective. We propose a developmental framework to encompass knowledge translation from implicit information to explicit knowledge utilizing many existing developments in health services use of information technology, supporting self care and clinical care. Increasingly ongoing developments in information technology can, if appropriately designed, provide a way forward for patient-centered user-driven care, particularly
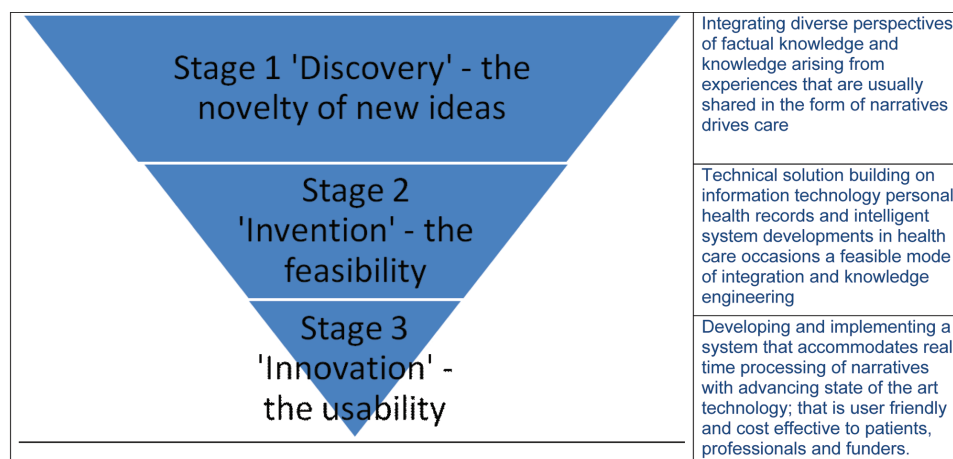
for patients with chronic conditions at high risk of decline, or where they or their families have sustained inputs and an ongoing active role in their care.

TRANSLATING NEEDS, IDEAS AND KNOWLEDGE FOR AN INFORMATION TECHNOLOGY-BASED SOLUTION

Understanding Knowledge Translation: A Brief Introduction

Knowledge translation (KT) is the process of transferring research-based knowledge to daily practice. Moving knowledge between users, researchers, inventors, innovators and consumers should benefit society by improving the well being for its members, and enhancing the economic rewards for its goods and services (Graham & Tetroe, 2007). Knowledge comes in many forms and Lane and Flagg (2010) have identified three stages of development from the concept to operational design to implementation and marketing (Figure 1) (Lane & Flagg, 2010).

Figure 1 Stages of knowledge translation from discovery, to invention to innovation.(Lane & Flagg, 2010) with the PaJR knowledge translation steps

Stage 1 'Discovery' - the novelty of new ideas	Integrating diverse perspectives of factual knowledge and knowledge arising from experiences that are usually shared in the form of narratives drives care
Stage 2 'Invention' - the feasibility	Technical solution building on information technology personal health records and intelligent system developments in health care occasions a feasible mode of integration and knowledge engineering
Stage 3 'Innovation' - the usability	Developing and implementing a system that accommodates real time processing of narratives with advancing state of the art technology; that is user friendly and cost effective to patients, professionals and funders.

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