

# Chapter 71

## Shared Electronic Health Records as Innovation: An Australian Case

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### ABSTRACT

*Based on the Diffusion of Innovation theory, this chapter addresses the following research question: Whether factors of diffusion of innovation theory influence care providers' willingness to adopt Shared Electronic Health Records (SEHRs). Data was collected through a self-administered questionnaire distributed to over 5000 active members of the Australian Medical Association Queensland. A total of 588 valid responses were received from currently active care providers in Queensland. Multiple regression analysis and Chi-Square analysis were conducted to test the research hypotheses and answer the research question. The data revealed that while 72% of those surveyed were willing to adopt SEHRs, significant differences existed between public and private sector care providers and across the various tiers of the health system. In relation to the factors influencing future willingness to adopt, the variables comprising relative advantage were shown to have a significant impact upon future willingness to adopt shared electronic health records. The findings from this chapter will benefit those responsible for the future introduction of SEHRs, specifically by allowing policy makers to target the factors that influence care providers' willingness to adopt.*

### INTRODUCTION

An electronic health record provides each individual with a secure and private lifetime record of their key health history and care within the health system. The record is available electronically to authorised health care providers and in selected instances to the individual anywhere, anytime, in support of

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high quality care (Health Canada, 2004, p. 3). ‘The introduction of an electronic record should enable healthcare workers much greater access to timely, reliable and accurate data’ (Conrick, 2006, p. 12). In addition, Conrick states that ‘great gains are envisioned at the hospital interface, where quick access to a patient’s medication record could be life saving’.

The development of electronic health records and the sharing of these records provides the foundation for the ‘innovation’ to be developed and implemented in this study. The shared electronic health record (SEHR) is not a recent innovation. The concept of SEHRs began at least 40 years ago, but the first implementations did not begin until the 1980s, and with the exception of a few countries in Europe, is still very low (Royal Australian College of General Practitioners, 2004; Schloeffel, 2004a). ‘For over thirty years, there have been predictions that the widespread clinical use of computers was imminent. Yet the ‘wave’ has never broken’ (Berner, Detmer, & Simborg, 2005, p. 3). However, due to factors such as technology interoperability problems and the previous lack of strong incentives from Governments, the widespread clinical use of computers has previously never progressed past the concept stage. The recent diffusion of SEHRs by Government’s (e.g. Australia’s proposed Personally Controlled Electronic Health Record (PCEHR)) has brought the innovation back into the spotlight.

Recently, much work has been undertaken to develop SEHRs to meet specific needs and requirements of various stakeholders. Countries over the past decade which invested significant resources to develop shared electronic health systems, and Standards for these systems include the UK, Netherlands, USA, Indonesia, Australia and Canada (Detmer & Gillings, 2000; Schloeffel, 2004a).

## **Defining Electronic Health Records**

The International Standard ISO 20514 defines an electronic health record as (Schloeffel, 2004b):

*A repository of information regarding the health of a subject of care in computer processable form, stored and transmitted securely, and accessible by multiple authorised users. It has a commonly agreed logical information model which is independent of EHR systems. Its primary purpose is the support of continuing, efficient and quality integrated health care and it contains information which is retrospective, concurrent and prospective.*

Briggs (2000, p. 18) provides the following definition of electronic health records that was developed for the Australian system, HealthConnect:

*An electronic longitudinal collection of personal health information, usually based on the individual, entered or accepted by health care providers, which can be distributed over a number of sites or aggregated at a particular source. The information is organized primarily to support continuing, efficient and quality health care. The record is under the control of the consumer and is stored and transmitted securely.*

*It is any information relating to the past, present or future physical/mental health, or condition of an individual which resides in electronic system(s) used to capture, transmit, receive, store, retrieve, link, and manipulate multimedia data for the primary purpose of providing health care and health related services.*

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