Chapter 3.14

Considerations for Deploying Web and Mobile Technologies to Support the Building of Patient Self–Efficacy and Self–Management of Chronic Illness

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ABSTRACT

This chapter examines issues relating to the introduction of information and communication technologies that have emerged as part of planning for the Pathways Home for Respiratory Illness project. The project aims to assist patients with chronic respiratory conditions (chronic obstructive pulmonary disease and cystic fibrosis) to achieve increased levels of self-management and self-efficacy through interactions with case mentors and the deployment of ICTs. The chapter highlights that in deploying ICTs, it is important to ensure that solutions implemented are based on a detailed understanding of users, their needs and complex interactions with health professionals, the health system, and their wider environment. Achieving benefits from the introduction of ICTs as part of processes aimed at building sustainable self-efficacy and self-management is very difficult, not least because of a desire to avoid simply replacing patient dependency on health professionals with dependency on technology. More specifically, it also requires sensitivity toward assumptions made about the role, impact, and importance of information per se given that

it is often only one factor among many that influence health attitudes, perceptions, actions, and outcomes. More broadly, the chapter indicates that as ICT-supported patient-focused interventions become more common, there is a need to consider how assessments of benefit in terms of a cohort of patients inform us about an individual patient's experience and what this implies for terms like individualized care or patient empowerment (Muir Gray, 2004). At this level, there are implications for clinical practice and one-size-fits-all care-delivery practices. This collaborative project involves a multidisciplinary team of researchers from the University of Tasmania's School of Medicine, School of Nursing and Midwifery, and School of Information Systems. The project is supported by the Tasmanian Department of Health and Human Services and funded by the Commonwealth Department of Health and Ageing, and is due for completion in June 2008.

INTRODUCTION

The crisis in healthcare across the developed world is, ironically, partly due to the success of medical innovations in fighting disease and increasing life expectancy. Aging populations are dramatically changing the nature and demand for medical procedures, medications, and healthcare services such that the need for high-quality, cost-effective approaches to the growth in chronic and/or complex medical conditions has been widely recognized. As part of the response to this need, a number of approaches that empower patients to participate directly in their own care are increasingly being explored as a means of improving disease treatment, management, and education. Underpinning these approaches are assumptions that patients are willing and able to take on these new responsibilities and that when they do, the result will be positive in terms of quality of care and health outcomes. While most evaluations to date report some benefit, the variety of methodologies and assessment procedures used make comparisons of efficacy difficult and highlight the complexity and uncertainty associated with supporting the self-management of chronic illness (Warsi, Wang, LaValley, Avorn, & Solomon, 2004).

E-health initiatives have also been identified as a critical component in the development of responses to the health crisis. By improving opportunities for information access, delivery, and update, ICTs have strong support. However, there is increasing awareness that the design, development, and deployment of ICTs also raise numerous socio-technical, clinical, and legal challenges that influence the realization of benefits. Many approaches to the deployment of ICTs in the health domain continue to make problematic assumptions about how ICTs will actually benefit patients, health professionals, and the healthcare system as a whole. More broadly, as meta-analysis of research recording positive benefits from the introduction of ICTs into health shows, many measures of success have little to do with improvements in patient care or outcomes (Wyatt, 2004).

Combined, these discussions highlight that the development of technology to support self-efficacy and self-management of chronic illness is highly complex. However, from a practical perspective, it is clear that understanding the users is important not just for designing approaches to build self-efficacy and self-management, but also for considerations of how ICTs should be deployed: "finding out prior to design what the unique requirements are, and designing to support them, is much more cost-effective in the long run than finding out after launch that your design does not meet requirements" (Mayhew, 2001).

This chapter adopts a patient-centered approach in its examination of issues around the deployment of Web and mobile technologies to support the building of patient self-efficacy and self-management of chronic illness. From a patient-empowerment perspective, this work draws on a range of approaches advocating how to build

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