Chapter 3.4
Adoption of Mobile Technology by Public Healthcare Doctors: A Developing Country Perspective

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ABSTRACT

South African doctors working in the public healthcare sector are faced with the unique resource constraints prevalent in a developing country. Mobile information and communication technologies (ICTs) hold the promise of improving the quality of healthcare, but this potential can only be unlocked if individuals decide to adopt the new technologies. Understanding the factors that influence the doctor’s adoption of a technology is therefore vital. This article reports on an investigation into the factors influencing the adoption of mobile devices by doctors in the public healthcare sector in the Western Cape, South Africa. The research methodology was shaped by qualitative enquiry and described through thematic analysis. The authors confirmed the key adoption factors identified in prior research: job relevance, usefulness, perceived user resources and device characteristics. However, some additional adoption factors were uncovered in this research, namely patient influence, support structures from national government and hospital administration, and unease in respect of malpractice legal suits.

BACKGROUND

Healthcare in South Africa

Healthcare is a key component of South African society, socially and economically (Chiasson et al., 2004). Total healthcare spending in South Africa is 8.7% of GDP which is substantially above the norm of 5% recommended for developing countries by the WHO (Chetty, 2007). The public healthcare budget alone totalled R47.8 billion (approximately US$ 6.7 billion) in 2006,
ICTs offer tremendous potential in supporting the public healthcare function in the South African society. Although administrative healthcare information systems have been implemented, the shift to systems that support the clinical work performed by healthcare professionals directly has been slow to take off (Andersen, 1997). Better ICT support would, in turn, enable doctors to facilitate the provision of high quality, better informed and cost-effective public healthcare to all the citizens of South Africa.

Mobile Technologies in Healthcare

Mobile technologies can bring immense benefits to the healthcare environment (Varshney, 2006), because it is so information intensive (Li, Chang, Hung & Fu, 2005). Doctors do most of their work at the point of care, which is the patient. This means that they move around between wards, outpatient clinics, diagnostic and therapeutic departments and operating theatres. This movement, together with the fact that most South African public hospitals usually only have one central computer terminal per ward, makes it extremely difficult to service all the needs of the doctor. The use of ICTs in support of this point of care activity of the doctor is what is relevant to this research. Mobile device technologies are quite suitable for supporting the doctor at the point of care. They are small, lightweight, can be carried around with the doctor and usually come with some form of networking protocol built into the device (Porn & Patrick, 2002). Mobile devices are also becoming more affordable and offer more processing power and storage capabilities (Varshney, 2006). Mobile technology ranges from cellular telephones, pagers and PDAs, to very sophisticated tablet computers. Key benefits, as summarized from a large number of studies, include a reduction in medical errors, time savings, better quality care and higher productivity (Lu, Xiao, Sears & Jacko, 2005).

A number of studies have looked at adoption of mobile computing devices. An excellent, system-