Chapter 7
mHealth: Mobile Healthcare

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ABSTRACT

Mobile Healthcare, or mHealth, involves the use of mobile devices in healthcare. It is considered a revolutionary approach to delivering health care services such as diagnosis and treatment, research, and patient monitoring. Much of its revolutionary reach is due to the widespread adoption of mobile devices such as mobile smart phones and tablets such as the Apple Ipad. It is estimated that there are over five billion mobile devices in use throughout the world. In terms of demographics, in the United States, it is estimated that five out of seven Medicaid patients carry a mobile smart phone. One result of this mobile reach is the ability to provide healthcare services to people nonambulatory and isolated in their homes, and in underdeveloped and emerging countries, in ways that were previously cost prohibitive. mHealth is also seen as a way to emphasize prevention through mobile monitoring devices and thereby reduce the overall cost of healthcare. mHealth is viewed as changing the healthcare landscape by changing the relationship between the patient, healthcare provider, and between healthcare providers. “A new generation of eHealth products and services, based on wireless and mobile technology, is putting diagnosis and treatment management into the hands of the patient” (The Mobile Health Crowd, 2010). There is clearly a growing interest in, and emphasis on, mobile healthcare applications in the world today by vendors, physicians and patients. It is predicted that the mobile health application market alone will be worth over $84 million, and that by the year 2015, more than 500 million people will be actively using mobile health care applications (Merrill, 2011; Merrill, 2011b).
mHealth

INTRODUCTION

At the time of writing, the annual Consumer Electronics Show (CES) is being held in Las Vegas. This conference showcases the newest technology gadgets and tools that will soon be available to the consumer. Historically, it is filled with amazing innovations such as those providing 3D and other immersive applications, new smartphones, or motion-sensing games. What is unusual this year however is the number of devices on display that focus on mobile applications for health care from personal health records (PHR) systems, patient monitoring systems, to eHealth games. In fact, it is expected that “healthcare devices and applications will increasingly move closer to the center stage of CES.” (Beaudoin, 2011, p. 1). This prediction reflects the growing interest in, and emphasis on, mobile healthcare applications in the world today by vendors, physicians, hospitals, and patients. It is predicted that the mobile health application market alone will be worth over $84 million, and that by the year 2015, more than 500 million people will be actively using mobile health care applications (Merrill, 2011; Merrill, 2011b).

Mobile Healthcare or mHealth involves the use of mobile devices in healthcare. It is considered a revolutionary approach to delivering health care services such as diagnosis and treatment, research, and patient monitoring. Over the last decade, “Mobile computing devices are becoming as commonplace in the practice of medicine as stethoscopes” ((Hau, 2001, p. 1). For example, OptumHealth, a division of United Health, a medical insurance provider, advertises the following; “With NowClinicSM online care, you can talk to a doctor like you would in an exam room. Share your symptoms, receive a diagnosis, and even get a prescription, if clinically appropriate. Available anytime, anywhere you have Internet access.” They preface the advertisement indicating the diagnosis can be made if clinically appropriate and that no controlled substances may be prescribed and the availability of other prescriptions may by restricted by law. However, it indicates how telemedicine is desired by many and warrants a product by the insurance company to meet their needs. (OptumHealth, 2011) Much of its revolutionary reach is due to the widespread adoption of mobile devices such as mobile smartphones and tablets such as the Apple Ipad. It is estimated that there are over five billion mobile devices in use throughout the world (Griffith, 2010). In terms of demographics, in the United States, it is estimated that five out of seven Medicaid patients carry a mobile smartphone (Griffith, 2010). One result of this mobile reach is the ability to provide healthcare services to people nonambulatory and isolated in their homes, and in underdeveloped and emerging countries, in ways that were previously cost prohibitive. mHealth is also seen as a way to emphasize prevention through mobile monitoring devices and thereby reduce the overall cost of healthcare.

Of course, one key question with the introduction of any new technology is the adoption rate by its targeted users. Will health care providers and patients be willing to deliver or receive health care services through mobile devices? From a patient perspective, a recent study found that 41% of consumers would prefer to have more of their health care delivered to them through a mobile device; 31% stated that they would willingly use a mobile application to track and monitor their health; and 40% would be willing to pay monthly subscription fee to have their medical data such as heart rate, blood pressure and blood sugar, automatically transmitted to their doctor through their mobile device (Lewis, 2010). From a physician perspective, 57% reported that they would use remote devices to monitor their patients’ health and vital signs; 56% report that mobile devices assist in expediting decision-making; and 40% claim that remote monitoring and messaging could reduce office visits by up to 30%. However, physicians in the study did report a concern about
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