

# Chapter 88

## Mobile Health Technology in the US: Current Status and Unrealized Scope

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### ABSTRACT

*ICT technologies like the Internet, mobile telephony, and other enabled handheld gadgets have penetrated our lives in an unprecedentedly disruptive fashion. Explosive computing and communicating power with ever-decreasing price of service over the passage of time have been the hallmark of this success. The success of these technologies has been effectively appropriated in many business processes and systems including the banking sector and the social media applications. However, in spite of having stupendous potential in the healthcare sector, especially in providing access to service for patients in rural and difficult-to-reach areas, very limited ICT appropriation has been witnessed. The authors explain the current extent of ICT penetration and seek reasons for such lackluster inclusion of ICT and mobile technology in the healthcare sector. They use the TAM model to identify the critical factors of technology adoption, and use such understandings to help readers understand the barriers of adoption of ICT and mobile technologies in the healthcare sector. The authors also provide indicative guidelines about how such barriers may be overcome, and widespread adoption and deployment of these technologies can be made possible in the healthcare sector, yielding benefits to large sections of population in the US.*

### INTRODUCTION

One of the much voiced concerns today is that the amount of money spent on healthcare services is quickly getting out of control. In the United States, the Health and Human Service Department

estimates that the cost of healthcare will reach 19.5 percent of Gross Domestic Product by 2017 (Keehan et al., 2008). It is of general understanding that among other measures, Information and Communication Technology (henceforth ICT) artifacts and systems can play a significant role

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in bringing efficiency to the current healthcare system and cut down costs of service at multiple levels. For a vast country like US, where population is distributed over large areas, information and communication technologies, especially m-health technologies can be of critical impact in terms of increased efficiency, cost effectiveness and reduced time lag between the need and access of services.

According to a study conducted by PricewaterhouseCoopers' Health Research Institute (2010), one-third of the surveyed clinicians believed that their assessments were not based on complete information and they could greatly benefit from access to more health information. These clinicians also believed that acquiring more accurate and relevant health information in real-time would speed up their decision process. Further, the study found that up to 30% of clinicians believed that remote monitoring technology would substantially increase their productivity by reducing travel and other costs of inefficiency. Similar studies have confirmed that health technologies, such as remote patient monitoring systems would likely improve patient health and cut organization's costs by major proportions. For example, Wu et al., 2010 demonstrate that such systems have helped some patients manage their diabetes by measuring capillary blood glucose daily and compare the result with the measurements conducted by physicians.

Many ICT applications, such as mobile banking and social networks have demonstrated the explosive potential that these technologies have to offer and continue to receive massive institutional support and deployment. Unfortunately the public and private healthcare organizations including the insurance providers have not pushed much for adoption of these technologies. As a result, impactful absorption of ICT has not been replicated in the healthcare industry. Many have asked whether or not our society is open to accepting and adopting another technology to increase efficiency and improve quality of life at the expense of being ubiquitously intertwined

with the basic constituent and wellness of our very being! General concerns like the above, unknown risks from of a new technology including those of security and privacy concerns around inadequate handling of personal healthcare data have caused stakeholders to be conservative in general, and zealously guarded in those cases where sensitive data could travel over unproprietary channels including wireless networks.

Institutional supports aside, there is an additional factor that remains central to deriving value out of an implemented technology in an organizational set up. A technology is only as good as the value it brings through utilization and use. Implementation of a great technology is valuable only when users at various levels of an organization fully and effectively accept and utilize the technology in the business processes. There are numerous examples of great technologies that are implemented in organizations but are not used effectively by the end users. For instance, the cloud-based patient monitoring technology is not likely to generate expected value unless the user groups viz. the patients and clinicians accept and utilize the technology to their designed level of implementation.

In this chapter, we ask why adoption of mobile based Information and Communication Technology (ICT) by healthcare organizations has been so slow. Further, we attempt to identify the barriers that organizations must overcome to accelerate adoption of mobile technology in healthcare sector. We analyze the dichotomy between technologically viable, theoretically sound and empirically supported usefulness of ICT, and the reality of lackluster adoption of m-health technologies in the healthcare industries of US, and tease out the barriers of adoption. Once these barriers are understood and analyzed, an appropriate framework of policies, initiatives and legal provisions can be ensured. When that happens, m-health technology initiatives can facilitate widespread adoption and acceptance, leading to great benefits to our society.

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