

# Chapter 101

## Information and Communication Technologies in the Healthcare: Future Trends for Project Success

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### **ABSTRACT**

*Web portals, sensors, electronic records, video communication, on-line gaming and mobile apps. These are all examples of information and communication technologies (ICT) applications or devices that might cause benefits to healthcare. The ICT has the potential to dramatically change the way individuals or society see the sector, and provide tremendous opportunities for supporting professionals, improving effectiveness and efficiency. Healthcare organizations have become more and more challenged on how to assure a fair return from ICT investments. Thus, the application of project management in health is important because it allow more productivity and, as a direct result, more accessibility, higher quality care and a safer environment to patients. The study of the success of these initiatives has become vitally important for the hospitals performance. The article collects relevant data and provide recommendations about the perceived benefits of ICT project implementations, proposing a review of the published work to provide some insights into the benefits of these implementations.*

## **INTRODUCTION**

The world has witnessed significant health gains in recent decades due not only to advances in science, technology and medicine, but also in expanding infrastructure, rising incomes, better nutrition, sanitation, literacy and opportunities for women (Dzenowagis, 2005). While promoting population health has been the classic goal of public health practices and policy, in recent decades new objectives in terms of autonomy and equality have been introduced (Munthe, 2008).

Healthcare systems around Europe are facing major challenges related to chronic diseases, demographic changes, nursing shortages, medical accidents and increasing costs (EC, 2009; WHO, 2011, 2015). The proportion of people over 65 is expected to almost double by 2050 (Eurostat, 2005) and average public spending for health and long-term care in OECD countries may rise to 10-13% of the GDP (WHO, 2011). Today, the problem of improving healthcare delivery in the developed countries is more about the equitable distribution of available resources to the population than about technological issues (Bukachi & Pakenham-Walsh, 2007).

Since the 1990's, the health sector has sought to improve its effectiveness and efficiency by adopting ICT solutions to increase the levels of services quality, namely, patient safety, organisational efficiency and patient satisfaction (Bates and Gawande, 2000). The aim of ICT for healthcare is to improve the quality, access and efficacy of healthcare for all citizens (Ammenwerth et al., 2004; EC, 2009). ICT for healthcare have been referred as a key instrument that facilitate communication, processing and transmission of information by electronic means, with the aim of improving health (Bukachi & Pakenham-Walsh, 2007; Drury, 2005; EC, 2009; Häyrynen et al., 2008). The ICT usage in health is a means to reach a series of desired outcomes across the entire health ecosystem and are part of the continuous quality improvement of healthcare: According to Brandrud et al. (2011), three main key success factors must be guaranteed: (1) Reliable information; (2) Engagement of all stakeholders in all phases of the work improvement; (3) A proper infrastructure involving multidisciplinary teams.

ICT in healthcare represents the integrated effort to collect, process, report and use health information and knowledge to influence policy-making, program action and research and further states that they are essential to the effective functioning of health systems worldwide (WHO, 2006). Furthermore, ICT underpin the expansion of the world's health knowledge: linking systems, enabling research, improving capabilities and communication for healthcare (EC, 2009).

## **METHODOLOGY**

This study is aimed to research the pattern of ICT implementations in healthcare units, using articles published in academic health management journals. The documents were retrieved based on a literature review undertaken using the keywords 'ICT in Healthcare' and 'ICT in Hospitals', available in the following sources: ProQuest, Sciencedirect/Elsevier, Ebscohost, Emerald, Jstore, Medline/Pubmed, Taylor & Francis Online, Sagepub, and Wiley databases. The final set of selected articles resulted from the comparison between the documents collected and the objectives of our study.

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