A Roadmap To Evaluate E-health Services

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Abstract

An important area of research is that of the evaluation of e-health services. A holistic e-health evaluation framework should address the aspects that are hampering the healthcare services from embracing the full potential of information and communication technologies towards successful e-health initiatives. Toward building a holistic evaluation framework for e-health services, this work is intended to address the challenges in developing such a framework, and to propose a roadmap that assists in dealing with the complexities in the development process of an e-health evaluation framework.

Keywords Healthcare services, E-health, Evaluation framework, Evaluation process, Evaluation roadmap.

1. Background

E-health is a very broad term encompassing various activities in an evolving field. This is reflected in the broad and various definitions of the term. An example of these definitions is the one that has been adopted by the World Health Organization. According to the Organisation, E-health can be defined as ‘being the leveraging of the information and communication technology (ICT) to connect provider and patients and governments; to educate and inform healthcare professionals, managers and consumers; to stimulate innovation in care delivery and health system management; and, to improve our healthcare system’ (Hans Oh et al. 2005).
The variety of e-health applications is considerable, ranging from a self-help guide about treating common health problems at home to a virtual clinic which allows diagnostic consultations between patients and practitioners at separate sites. In light of the dynamic and evolving meaning of e-health concept and the wide range of applications that the term e-health has covered, the questions are what the term e-health means and what is the e-health application that should be considered. In this paper although we employ e-health as a broad term, the scope will be limited to the service delivery aspect by electronic means of information, advice, and consultation.

Globally, the healthcare services are considered to be the biggest service industry, and they are taking top priority, receiving enormous investments, and are growing at a rapid pace in most developed countries (Mitchell, 2000: Pan American Health Organization, 1999).

E-health, which are basically enabled and driven by the use of information and communication technologies in healthcare, have the potential to change the healthcare industry worldwide in terms of their infrastructures, and the costs and quality of services (Wickramasinghe and Misra, 2004; Wickramasinghe and Goldberg, 2004). Despite the potential that e-health may bring to the healthcare sector, the sector is the slowest in moving to the form of e-health among other government services. Skinner (2003) argues that the slow progress is related to the fact that healthcare does not have the standards in place that other sectors do. Holliday and Tam (2004) have a broader explanation; they see that slow progress is more related to institutional, cultural and financial factors.
An important area of research is that of the evaluation of e-health services. It could contribute to important knowledge that can be used to support the value of existing e-health projects, and to increase quality and efficient aspect of future e-health initiatives. Despite its importance, the evaluation of e-health services as many researchers agree, is both an under developed and under managed area in theory and practice (Brender, 2006; Friedman and Wyatt 2000).

This study forms a part of a research that aims to develop, and assess a holistic evaluation framework for e-health services. Towards this aim, this paper is intended to address the challenges in developing such a framework, and to propose a roadmap that assists in dealing with the complexities in the development process of an evaluation framework.

2. Research Approach

The research in this paper comprises of two basic phases. Phase one is designed to address the challenges in developing an e-health evaluation framework, and to propose a roadmap that assists in dealing with the complexities in the development process of such a framework. Phase two aims to analyse, and validate the applicability of the proposed roadmap for e-health evaluation in the developed countries.

The process of choosing and deploying appropriate research methods is an important and critical issue. Yin, (2003) identified five major research methods which include experiments, surveys, archival analysis, histories, and case studies. He also set criteria which consists of three conditions that can be used to select a suitable research approach, the conditions are:

- The type of research questions;
• The researcher’s degree of control over actual behavioral events;
• The degree of focus on contemporary as opposed to historical events.

Considering the multidisciplinary of the research domain we are dealing with, and the three conditions identified by Yin, the mixed-method approach (Creswell, 2003) has to be used in this paper. This included structured and semi-structured in-depth interviews, organisational history, and archived documentation. The need to use all these methods related to the wide range of data required to cover all the aspects of the evaluation process including the tangible and intangible risks and benefits of e-health services.

In phase one, a systematic database search will be undertaken to identify the literature related to e-health evaluation. Suitable papers will be selected, and critically analysed to aid the development of the theoretical framework. The suitable articles and empirical case studies have to be carefully selected; specifically looking at those that intended to evaluate e-services in a healthcare context. The need for the published empirical data is important because of the current and rapidly evolving nature of the e-health field. In phase two, a case study has to be used to collect primary data. The collected data is essential to verify the finding of phase one, and to critically analyse, and validate the applicability of the proposed roadmap for e-health evaluation in theory and practice.

The case study which has been chosen to validate the proposed evaluation roadmap is concerning an e-health service called NHS Direct. NHS Direct service is a 24 hour, confidential telephone, online and interactive digital TV health advice and information service. The service is provided now by the NHS Direct Trust in United Kingdom and it
is available through England and Wales. Since its launch in March 1998, NHS Direct has grown from small-scale pilots to being one of the largest healthcare services in the world.

The concept of NHS direct may be summarized by the following statement of the NHS Executive, “The principle is to provide people at home with easier and faster advice and information about health, illness and the NHS so that they are better able to care for themselves and their families” (NHS Executive, 1998).

The NHS Direct telephone service has handled almost 5 million calls during the year April 2007 till March 2008. NHS Direct Interactive, a digital satellite health information channel, is now available to some 18 million homes. The NHS Direct website has received over 30 million unique visits during the year April 2007 till March 2008 (NHS Direct Trust, 2008).

The health information provision on the website includes:

- Self-help guide about treating common health problems at home;
- Health encyclopedia which allow users to search for a treatment or condition by using one of four search options;
- Comparable choices of services available for specific treatment or condition available for different conditions;
- Common health questions;
- Hot topics on the latest health issues;
- Searchable database of local health services e.g. GPs, hospitals, dentists, pharmacies;
- Online health enquiry service.
References


