Chapter 21

E–Health Strategic Planning:
Defining the E–Health Services' Portfolio

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ABSTRACT

Nowadays there are a myriad of e-Health services. Due to their innovative character, these services often lack systematization raising difficulties when selecting, implementing or evaluating an e-Health service. The purpose of this chapter is introducing the reader to different types of e-Health services and to providing guidelines for the development of a strategic plan for e-Health. The authors present a list of sixteen e-Health services' types discussing their main potentials, features and requirements and characterising them according to a multi-dimensional attributes model. This classification model groups e-Health services in order to perform case studies analysis and benchmarks between services inside each group. The attributes dimensions used are: interaction pair, type of interaction, main goals and measurement of impact and critical success factors. The authors also discuss the processes of planning, selecting, implementing and evaluating e-Health services, based on their perspectives and on a review of existing literature, identifying major problems and purposing guidelines.

## INTRODUCTION

E-Health Definition: What Is E-Health?

The last two decades were characterized by a huge development of information and communication technologies (ICTs) particularly web technologies. This fact caused the most accelerated and comprehensive social and economic revolution ever seen: people and companies began to access web services and contents to improve knowledge and to establish interaction among each other. This new paradigm has been called Information Society, e-Society or Networked Society and is also related to Knowledge Society.

In the health environment this evolution also took place, although with a few years delay when compared to other industries. This delay in informa-

Figure 1. Common concepts included in e-health
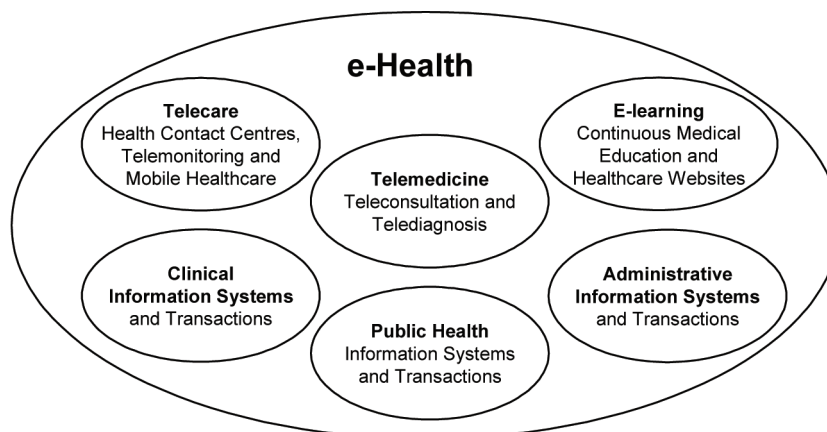
tion technology adoption in the health sector has already been reported by other authors (England I., 2000).

There are several different definitions of e-Heath although all of them refer to the use of ICTs in the health sector. The World Health Organisation's (WHO) definition is:

E-Health is the combined use in the health sector of electronic communications and information technology (digital data transmitted, stored and retrieved electronically) for clinical, education and administrative purposes, both at the local side and at a distance (World Health Organization, 2008-1).

This is a wide definition, and hence e-Health encompasses several concepts that have also been used in this field, as shown in figure 1.

E-Health Evolution: What Is the Stage of Implementation of E-Health?

A health system is a complex network of actors which interact in distributed processes. Additionally, the delivery of care is an activity that uses information quite heavily. Therefore, there are great potential gains in implementing e-Health

services. In recent years, those actors - patients, health providers, government health departments, pharmacy industry and others - became aware of opportunities to use the Internet and related technologies with several levels of benefits to the different users. Numerous pilot projects throughout the world showed the clinical and organisational benefits that can be achieved through the application of e-Health technologies (Tan, 2005; Stroetmann, 2006). In Europe several projects were financed by the fourth to the seventh Research and Development Framework Programmes (European Commission, 2007).

Despite these research investments and the technological advancements, we still observe a relatively low take-up of e-health (European Commission, 2009). In fact, until now, the majority of the developed applications were single-discipline, local and small. As a result most were individually difficult to justify financially and failed to become a permanent part of care delivery (Stanberry, Benedict, 2007).

Reporting to Moore theory about diffusion of innovation and technology adoption life cycle in its work "Crossing the chasm" (Moore, 2002), we can state that e-health is crossing the chasm between the early adopters (the enthusiasts and visionaries) and the early majority (the pragmatists).

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