

## Chapter 18

# Empirical Evidence of Resistance to the Implementation of Electronic Prescription in Brazil

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### ABSTRACT

*This research investigates the main causes for the unsuccessful implementation of an electronic prescription system in a general hospital – from an explanatory-exploratory case study standpoint – adopting resistance to information systems as its theoretical background. In the case under analysis, the study shows that the main motives for resistance to the system were: lack of training of the physicians; the age of the physicians; problems with the design and safety of the system; inadequate technological infrastructure; the employment relationship of the physicians; and the interference of the system with the power and autonomy of the physicians. The chapter concludes that the intra-organizational context of the hospitals must be analyzed in a systemic way in order to understand fully how the system will be accepted and used by its main potential users, namely physicians.*

### INTRODUCTION

Over the past few years hospital organizations have taken advantage of the opportunities provided by Information Technology to improve the quality and efficiency of their internal processes and develop new types of health services. To a certain extent this development is due to increased use of the Internet in activities such as providing information about diseases, clinical diagnostic services, electronic

individual patient medical record charts, remote monitoring of patients and surgical intervention at a distance.

However, research has shown that many of these above-mentioned undertakings have not achieved the desired objectives (see, for example: Lapointe *et al.*, 2002; Paré, 2002; Lapointe & Rivard, 2005; Tan, 2005; Horan *et al.*, 2005).

Within this context, this article was prepared in order to list some lessons learned from the unsuccessful implementation of an electronic prescription system in a hospital. The system had been developed

DOI: 10.4018/978-1-61520-670-4.ch018

specifically to speed up the physician's prescription process and the delivery of medication to patients, as well as reduce costs relating to the use of paper.

In order to achieve this objective a case study was developed seeking to analyze the electronic prescription system of the Silvestre Adventist Hospital (HAS) in Rio de Janeiro, Brazil. Detailed analysis of this unsuccessful case *vis-à-vis* resistance to Information Systems enabled the authors to pinpoint the factors that were responsible for the below-average results of such implementation.

Consequently, the initially-established research question is: "Based on the case study under analysis and resistance to information systems, why was the implementation of an electronic prescription system in the hospital under scrutiny unsuccessful?"

## **BACKGROUND**

### **E-Health**

One of the factors that characterize the expression e-Health is the variety of disparate definitions (Mieczkowska & Hinton, 2004). For Whitten *et al.* (2001, p.2), e-Health has been: "an activity in the medical area that makes use of the resources offered by the Internet for the purpose of achieving greater interaction between patients, organizations and professionals in the medical area. This interaction may be achieved through sites, e-mail, chat rooms, discussion lists and videoconferencing, to mention but a few, and/or through applications developed on the web platform to be used with the resources of the Internet navigator".

Eysenbach (2001, p.20) claims that the expression e-Health "now seems to serve as a general "buzzword," used to characterize not only "Internet medicine", but also virtually everything related to computers and medicine. (...) in an attempt to convey the promises, principles, excitement (and hype) around e-commerce to the

health arena, and to give an account of the new possibilities the Internet is opening up to the area of health care".

According to Tan (2005), e-Health should be seen as an integrated multidisciplinary field that links the areas of: a) strategic planning of health systems and concepts of e-marketing; b) specialized maintenance of electronic records and operational analysis of e-business; c) all forms of electronic medicine uniting professionals and patients; and d) corporate and technological health management. On the other hand, Eysenbach (2001) concludes that e-Health is not only a technical development, but also a state-of-mind, a way of thinking, an attitude, and a commitment for networked, global thinking, to improve health care worldwide by using information and communication technology.

The main proposals of e-Health are related to health care at a distance, increase in efficiency in processes in various hospital areas and a reduction in operational costs (Tan, 2005). For example, the applications of PACS (Picture Archiving and Communication System) eliminate the costs involved in developing radiological films and enables the physician to analyze the radiography outside the geographical limits of the hospital (see Mass, 2004).

e-Health also proposes to strengthen tele-education and e-learning. With the use of videoconferencing and courses based on the Internet, health professionals can be trained at a distance and, by means of virtual communities, enter into dialogue and exchange experiences with other specialists (see Figueiredo, 2002).

Furthermore, e-Health also seeks to assist in communication between multiple participants, improving access to health care, especially those living in rural or remote regions. For example, technologies such as tele-homecare make it possible for the health of the patient to be monitored by the physician by means of electronic devices that transmit monitoring signals via the Internet and/or wireless networks (see Demiris, 2004).

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