Chapter 46
Step Towards Interoperability in Nursing Practice

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ABSTRACT

Hospital inpatient care compromises one of the most demanding services in health institutions for providing a careful and continuous healthcare assistance. Such demands require a constant update of the patients' health record allied with support systems responsible for monitoring their clinical information. In this context, the problem in this study becomes a process of continuous improvement. To define the case study, it was necessary to use research tools such as questionnaires and interviews. With these techniques, it was possible to delineate the state and dimension of the problem. Subsequently, the approach and solution was established and a new web platform for the daily monitoring of patients was proposed focused on nurses. The tool incorporates a real-time data visualization, and a patient record during an inpatient care episode. Moreover, this article also highlights the required adaptability of this platform for each health unit according to needs. With this solution, it is expected to correct many of the problems detected through quantitative results.

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INTRODUCTION

In a hospital environment, the patient security is one of the major concerns in health, in the sense of improving the efficiency of healthcare delivery, and minimizing delays or failures that could lead to other consequences. These consequences can be translated to a considerable portion of clinical errors which can be of several types, depending on the approach taken. Regarding effects, Reason (2000) argues that errors can be active, with an immediate or latent impact. Thus, the results can appear in short-term or long-term, respectively. According to Reason, these errors can have different sources, disclosed in Figure 1. Moreover, James Reason's "Swiss cheese" model of error causation defines that in complex organizations such as hospitals, errors occur due to the holes or flaws in the multiple layers of defense, causing adverse outcomes to the patients (Reason 2010, Salazar et al., 2013, Duarte et al., 2011, Portela et al., 2014).

The Institute of Medicine's Quality of Health Care in America valued that about 98000 people every year die due to clinical errors at hospitals. Comparing to other main causes of death in America, this causes a greater impact in the scientific community, becoming one of the most emerging public problems today (Donaldson 2000).

The continuous and dynamic alteration of patients' clinical status in healthcare institutions is one of the major causes of the occurrence of adverse events. This level is very high becoming urgent to find connections with other areas, such as information technologies (IT) (Peixoto et al 2012). This is one of the most explored fields in medical informatics, raising great challenges in terms of development, implementation and maintenance. Thus, over the years, and due to the high data flow, efficient and user-friendly support systems for health professionals have been emerging, called hospital information systems (HIS) (Coiera 2003).

Figure 1. Classification of clinical errors according to (Reason, 2010)