

Chapter 51

Implementation of Electronic Health Record (EHR) System in the Healthcare Industry

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ABSTRACT

The purpose of this research is to demonstrate the efficiency of the Electronic Health Record (EHR) software that is adopted in the healthcare industry to provide better patient care. The authors examine the impact of EHRs on the efficient delivery of healthcare services. More specifically, they detail the origin of EHR, its significance in modern healthcare delivery along with the selection and implementation criteria for EHR software. They present a survey on the extent of adoption of EHR by clinicians. They also highlight the challenges and barriers faced by organizations in adopting EHR software such as cost, workflow impact and data security. Finally, the authors contemplate the future of EHR, its role in the implementation of health information exchange and its implementation in the cloud. They conclude that the implementation of EHR in the cloud is an important step towards better health management across the population with the end-goal of better health outcomes.

1. INTRODUCTION

Historically, health records of a patient are managed using paper charts. Overtime, the benefits to patient safety and quality of care by upgrading paper records to electronic charts are realized. With the advent of electronic storage and importance given to patient-centered healthcare, the concept of the electronic health record was born (Hoerbst

and Ammenwerth, 2010). The purpose of this research is to evaluate the efficiency of adopted EHR software in a medical practice.

EHR provides the potential to improve effectiveness and efficiency by maintaining the privacy of health information, minimizing medical record errors and having health information immediately available to healthcare professionals at all times (Razzaque and Jalal-Karim, 2010). EHR supports

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clinical decision, physician order entry, capture and query information relevant to health care quality, and exchange electronic health information with authorized sources (U.S. Department of Health and Human Services, 2009). Despite its advantages, adoption of EHR in the US healthcare system experiences several barriers with respect to the rising costs and inconsistent quality (Zeng, 2008). Technological advancements and research in vendor applications categorized according to the user groups are crucial for wide spread implementation of EHR and to overcome those barriers.

In the future, cloud computing has the potential to greatly increase the availability of EHRs to small practices at an affordable cost and recent congressional policies also have the potential to positively impact the adoption of EHR by small practices. This paper will discuss the possible impact of such technological and congressional changes to EHR and contemplates its future being in the efficient delivery of healthcare.

While several surveys have targeted large hospitals, there is little to no surveys targeting small practices. Our research aims to explore the challenges and hurdles in the adoption of EHR by small health care practices. We will present a survey of physicians and staff members of small practices regarding the adoption, usage and problems with EHR software.

Further sections are categorized into literature review section with a focus on processes involved in adoption of software; system and experimental design section gives the description of the system and the methodology used for conducting the survey; survey results are presented under results and discussion. Finally, the paper concludes by suggesting enhancements along with future directions.

2. LITERATURE REVIEW

The Electronic Health Record (EHR) System emerged as a result of a combination of information communications technology and knowledge

management to capture, code, and disseminate health information in the form of electronic health record systems that enhance care, not simply replace paper. Electronic health records have enormous potential to improve the flow of information across healthcare systems, and information is critical in the effective management of patient care (Mason, 2013).

In this section we will discuss several aspects of EHR software. Section 2.1 describes the importance of software, section 2.2 gives the details right from the selection of software to its adoption. Section 2.3 focuses on future of EHR.

2.1. Importance of EHR

The idea behind converting the paper-based records into digital form is to provide patients health records to healthcare professionals which are easily accessible from multiple facilities. Electronic health records are crucial considering the frequency with which people move for economic reasons, change physicians, and when healthcare problems arise during business trips and vacations (Mason, 2013).

In conjunction with efforts to adopt EHRs, hospitals are actively seeking to convert their paper-based work environments into paperless work environments and transform their Health Information Management (HIM) resources. The reasons for this conversion are many, including more centralized patient records management, the move toward Computerized Physician Order Entry (CPOE), and the need for timely access to medical history, improved data privacy and security, regulatory compliance, and more generally, improved operational effectiveness and reduced costs (Hanover, 2011).

Moreover with the paper based health records, tracking updates, sending the records to other offices happens either manually or by fax which is not as fast and reliable as EHR. Paper based medical records have several disadvantages like illegible handwriting, ambiguous and incomplete

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