

Chapter 2

Individual, Organizational, and Technological Barriers to EHR Implementation

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EXECUTIVE SUMMARY

This case examines the adoption and implementation of an electronic health record in a regional medical center in Midwest, USA. A background of the organization is provided, including a discussion of the organization's inception, financials, and organizational structure. A brief literature review of technology adoption, use, and performance is presented, followed by a discussion of data analysis techniques and results. A detailed overview of specific technology, management, and organizational concerns is presented along with challenges and solutions. The objective of this case is to highlight the challenges and opportunities during electronic health record adoption and implementation. The hope is that educators and students alike will appreciate the complexity of health information technology adoption and implementation through specific examples of challenges and solutions. While the information contained in this case is indeed specific to one organization in the USA, the lessons learned are broadly applicable to healthcare organizations throughout the world.

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INTRODUCTION

Electronic Health Records (EHR) are emerging as the foundation of Health Information Technology (HIT), although there is current evidence that fewer than 20% of physician practices have adopted the technology (DesRoches, et al., 2008). Despite this, the current social and political environment appears to favor expansion of EHR adoption and use. As a result of increasing efforts to utilize these and other HIT's, analysis of user evaluation of and performance with an EHR is an inherently valuable activity.

For more than three decades, Information Systems (IS) research has explored how and why people accept and use technology. IS researchers have also considered how technology impacts individual (Goodhue & Thompson, 1995) and group (Zigurs & Buckland, 1998) performance. IS practitioners who implement technology may benefit from a method of identifying factors that either inhibit, or enhance performance. In business, it is essential that performance impacts are identified, understood, and accordingly planned for. In health care, where the supply chain is replaced with human patients, understanding performance impact is critical to implementation and operational success.

The objective of this case is to describe the evaluation of an electronic health record system in a regional healthcare organization. The case begins by describing the organizational details, which explicate the context in which the study occurred. A brief literature review of adoption, use, and performance research is discussed followed by detail regarding the quantitative and qualitative findings of the study. The specific research questions of interest to the organization are explored in detail. Finally, the case concludes with a discussion of challenges, solutions, and recommendations.

ORGANIZATION BACKGROUND

Like so many others, the genesis of this health care organization arose due to escalating costs and advances in medical technology in the U.S. during the 1970s. In 1973, the region had two competing hospitals and the feasibility of maintaining both came into question. A seven-member Hospital Action Committee was formed to explore the possibility of merging the two hospitals. Incorporated in July of 1973, the organization began with 80 physicians on the Medical Staff and 280 licensed beds.

Since 1973, the organization has in fact evolved into a health system, comprised of many different units and facilities. In 2011, the health system is comprised of five regional hospitals, five specialty care centers (including, hospice, cancer care, behavioral health, rehabilitation, and surgery), thirty-two regional clinics, five

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