Anticipated Use of EMR Functions and Physician Characteristics

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ABSTRACT

Despite the numerous purported benefits of Electronic Medical Records (EMR), medical practices have been extremely reluctant to embrace the technology. One of the barriers believed to be responsible for the slow adoption of EMR technology is resistance by many physicians who are not convinced of the usefulness of EMR systems. This study used a mail survey of physicians associated with a multi-specialty clinic to examine potential characteristics of physicians that might help identify those individuals that are most likely to pose a threat to the successful EMR implementation. Age and gender of the physicians was generally not associated with anticipated use. However, an analysis of variance indicated self-rated computer knowledge and area of medical specialty were highly related to expected use of EMR functions. Results indicating that anticipated use of various EMR functions depend on medical specialty denotes one of the many difficulties of developing EMR systems for multi-specialty clinics. [Article copies are available for purchase from InfoSci-on-Demand.com]

Keywords: Age; Anticipated Use; Computer Proficiency; EMR Functions; Gender; Medical Specialty; Multispecialty Clinics

INTRODUCTION

For over a decade analysts, policymakers and healthcare software vendors have forecast rapid adoption and implementation of electronic medical record (EMR) systems. Unfortunately, these predictions have proven to be overly optimistic as the pace of EMR implementations has fallen far short of expectations. The adoption of information technology (IT), including influential factors, has long been of interest to IT professionals (e.g., Agarwal & Prasad, 1997; Chau & Hu, 2001; Davis, Bagozzi & Warshaw, 1989; Venkatesh, Morris, Davis & Davis, 2003). While numerous studies have sought to identify “modifiable” and “non-modifiable” factors associated with individual and organizational adoptions, only limited attention has been focused on the healthcare sector, specifically EMR adoptions. This paucity of
research is problematic for both practitioners and academicians seeking to address barriers to adoption and accelerate the deployment of EMR systems.

To date, most studies examining EMR adoptions have reported general findings in terms of system “availability” or “usage.” Unfortunately, such studies provide minimal understanding of what drives physician acceptance or resistance of EMR systems. While global measures such as “availability” and “usage” provide information regarding the rate of adoption of EMR systems they fall short of providing detailed insight into variables relevant to their successful widespread implementation. The present study seeks to examine two such variables, anticipated usage of EMR functions and physician characteristics.

Physician perceptions have been a common theme in EMR research, however, most researchers have again relied on global measures such as a “positive” or “negative” predisposition toward EMRs or IT in general or broad beliefs regarding “cost,” “quality of care,” or “value.” Since perceived “value” of EMR systems is believed to play a significant role in adoption decisions, this study focuses on physician perceptions regarding the anticipated usage of specific EMR functions. Recognizing that the applicability of specific EMR functions will vary from physician-to-physician, this study also examines the relationship between physician characteristics and anticipated usage. Thus, the purpose of the article is twofold: 1) to examine physician perceptions regarding anticipated usage of specific EMR functions; and 2) to examine the extent, if any to which physician characteristics impact anticipated usage. First, the article provides a brief background on EMR systems followed by an examination of the EMR literature to develop a basis for this investigation. Next, a method section is presented that describes the data collection, sample, and results. Following a discussion of the results, the limitations and opportunities for future research are addressed, and the article concludes with a brief summary of the implications of the study.

BACKGROUND AND RELATED LITERATURE

To fully appreciate the relationship between physician perceptions and the adoption of EMR systems requires some understanding of these systems, physician resistance or hesitancy to adopt said systems, and physician attitudes regarding EMRs in general. Background for the present study is provided by reviewing each of these areas.

Electronic Medical Records

An Electronic Medical Record (EMR) is a computerized system that contains a patient’s long-term legal health record generated by encounters at one particular medical practice. Thus an EMR electronically stores such items as x-rays, prescriptions, physician’s notes, structured data, diagnostic images, wave forms, scanned images of paper documents, and other types of medical documentation. EMR systems offers a number of benefits, including improved quality of patient care, more efficient healthcare workflows, and reduced costs (Thompson, Os-heroff, Classen, & Sittig, 2007). Improvement in the quality of patient care can be credited to several attributes of an EMR system including superior documentation, flexible data organization, integrated systems, and assisted clinical decision making (Shekelle, Morton, & Keeler, 2006). Because of the many potential benefits associated with EMR technology, a number of experts believe the market for EMR systems will grow rapidly over the next decade. A recent study projected a 13.5 percent growth rate for EMR technology in the U.S. over the next four years (Pizzi, 2007). This study estimated that the 2005 EMR market of $1 billion will grow to more than $4 billion by the year 2015. The prospects for market growth in the EMR industry are further enhanced by evidence suggesting that the U.S. represents only a small proportion of the market potential for EMR technology. Enormous growth is also anticipated.
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