

# Electronic Health Record (EHR) Diffusion and an Examination of Physician Resistance

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## INTRODUCTION

Since the enactment of the United States Health Information Technology for Economic and Clinical Health (HITECH) Act in 2009, there has been substantial progress in the diffusion of Electronic Health Record (EHR) systems in medical clinics throughout the United States. Many physicians, however, continue to resist adopting EHR technology despite several recognized long-term benefits and available government sponsored financial incentives. The objective of this article is analyze physician resistance to EHR technology adoption. Previous researches indicate that physicians have been reluctant to adopt EHR systems due to high implementation and maintenance cost besides the uncertainties associated with EHR's return on investment. Apart from financial cost, physicians also seem to encounter challenges in adopting EHRs due to lack of technical skills, time, and technical support. Workflow disruption, loss of autonomy, confidentiality issues, and interoperability are major challenges hindering the adoption of EHRs (Ajami & Arab-Chadegani, 2013; Lorenzi, Kouroubali, Detmer, & Bloomrosen, 2009). Moreover, an annual report prepared by the United States Department of Health and Human Services (2014) shows that, loss of productivity, lack of adequate training and incompatibility of EHRs with practice needs are the top reasons why physicians resist the adoption of EHR systems. With the awareness of the major physician barriers

to the adoption of EHR technology, stakeholders and policy makers can address barriers and pursue actions to mitigate or reduce physician resistance to achieve nationwide diffusion targets and pursue initiatives to digitize all patient records.

Although physicians are hesitant to adopt EHR technology, there are several benefits of EHR systems that make the technology worth adopting. Evidence from healthcare research and systematic reviews show that the benefits of EHRs continue to grow and include: enhancing the accurate collection, storage and sharing of medical information of patients with authorized personnel to support informed decision making, prevention of medical errors, availability of data for clinical research and analysis (United States Department of Health and Human Services, 2014). The Institute of Medicine and other stakeholders in the healthcare field suggest that the wide-scale adoption of EHR systems could be pivotal for improving patient safety and health care quality and could reduce the costs of providing ambulatory care (Ajami & Bagheri-Tadi, 2013). It is generally accepted that EHRs could also improve efficiency, portability and research capabilities (Pipersburgh, 2011).

Given the potential benefits of EHRs, physicians could be helped to overcome their barriers to adopting EHR technology. For example, physicians can be more productive or efficient and effective if their routine tasks are automated. With the input of physicians, automated technologies could be produced to handle repeated tasks and

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daunting processes. Physicians will then be able to spend more time with patients and workflow interruptions will be eliminated as well. This research illuminates the challenges encountered by physicians in adopting EHRs, and suggests how future research could tackle these.

## BACKGROUND

An EHR can be defined as a digitally stored record of an individual's healthcare information used for supporting the continuity of care, education, and research (Ajami & Arab-Chadegani, 2013). The Health Information Technology for Clinical Health (HITECH) Act, which was enacted as a part of the American Recovery and Reinvestment Act (ARRA) of 2009, served as a turning point in the evolution of EHR technology in the United States. The HITECH Act was signed into law with the explicit intention of accelerating the adoption of Electronic Health Records (EHRs) by physicians, and since its enactment, the program has distributed billions of dollars to physicians for adopting certified EHRs through the meaningful use (MU) program (Mennemeyer, Menachemi, Rahurkar, & Ford, 2016). One research study noted that through December 2015, the federal government had made \$13 billion worth of EHR incentive payments to physicians and other eligible professionals who

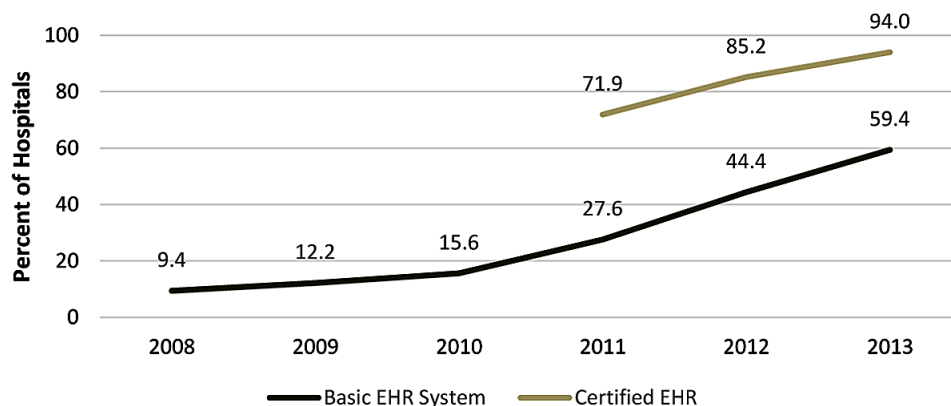
met stage 1 of meaningful use (Cohen, 2016). Overall, the stimulus act included a requirement that grant recipients achieve all meaningful-use requirements, including interoperability, by the end of 2017 (Sandler, 2016).

In acute care hospitals, there has been substantial growth in the adoption of basic and certified EHR systems (Charles, Gabriel, & Furukawa, 2014). In 2014, 3 out of 4 hospitals had adopted at least a basic EHR system which represents an increase of 27% from 2013 (Charles et al., 2014). Figure 1 delineates the growth in the percent of non-federal acute care hospitals with adoption of at least a basic EHR system and possession of a certified EHR system from 2008 to 2013 (Charles et al., 2014).

EHR adoption has also been on the rise for rural practices which has reversed initial trends (Hirsch, 2015). A new study by the Journal of the American Medical Informatics Association (JAMIA) revealed that EHR adoption in rural areas was 56 percent compared to 49 percent in urban areas, and the study concluded that 27 states have adoption rates statistically higher in rural areas than in urban areas (Hirsch, 2015). The USA is not alone in its efforts of EHR implementation and use. Figure 2 shows notable efforts by other organizations in key developing countries.

Despite the progression of the technology and broad agreements on the benefits of EHR

*Figure 1. EHR system adoption for non-federal acute care hospitals in the U.S.*  
Charles et al., 2014.



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