

## Chapter 6

# Towards an Integrated Electronic Medical Records System for Quality Healthcare in Ghana: An Exploratory Factor Analysis

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### ABSTRACT

*This article explores the factors militating against the diffusion integration electronic medical records in Ghana. Structured questionnaires were used to collect data from respondents in the healthcare ecosystem and analyzed quantitatively using descriptive and inferential statistics. The findings revealed non-integration of electronic medical records systems among the stakeholders of the healthcare ecosystem mostly due to interoperability issues. There is also substantial usage of technology in capturing and storing medical records. The key factors militating against the integration of electronic medical records systems are inadequate funds to purchase database management systems, acquisition and maintenance costs of electronic medical records systems, and an unclear return on investment on the integrated electronic medical records systems. The article recommends sustained government financial support, standardization policy and implementation guidelines to facilitate the integration of electronic medical records systems in the various health institutions.*

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## **INTRODUCTION**

Electronic medical record (EMR) systems is a collection of tools, technologies and process used to create, gather and manage health-related information on an individual that can be consulted by authorized clinicians and staff within the healthcare organization (Tang, Ash, Bates, Overhage, & Sands, 2006). EMR systems are credited with substantial benefits to physicians, clinic practices, and healthcare organizations by facilitating workflow and improving the quality of patients' care and safety ([healthit.ahrq.gov](http://healthit.ahrq.gov), 2015). When integrated among healthcare providers, EMR systems store patient clinical information electronically, enabling instant access to by all providers in the healthcare chain, thereby facilitating provision of coherent and consistent care (Albert & Manda, 2010).

An integrated electronic medical record (IEMR) is becoming the core of computerized healthcare systems. The electronic storage of clinical information creates the potential for computer-based tools to help clinicians significantly enhance the quality of medical care and increase the efficiency of medical practice (Acquah-Swanzy, 2015). These tools may include reminder systems that identify patients who are due for preventative care interventions, alerting systems that detect contraindications among prescribed medications and coding systems that facilitate the selection of correct billing codes for patient encounters (Kurtin, Harrison, Iraca, & Hassan, 2017).

Integrated electronic medical records (IEMR) systems has transformed healthcare worldwide. Some developed countries have built effective IEMR systems throughout the healthcare value chain based on established national standards (Hochheise & Shneiderman, 2011). However, this is not the case in Ghana where individual health institutions have adopted their own EMR systems resulting in interoperability problems and hindering information sharing among healthcare facilities (Acquah-Swanzy, 2015). The improvements in healthcare facilitated by integrated EMR systems has compelled many developing countries to explore its diffusion into their health care delivery systems. Ghana over the years has shown some level of commitments to implement EMR systems in the health care system as evidenced in the various policies and initiatives (MOH, 2005), (Boateng, 2009).

The Ghana Health Service is making effort to implement integrated EMR system through various health sector policies (Adjorlolo & Ellingsen, 2013). In spite of these policies, the extent of EMRS integration in the healthcare delivery system in Ghana leaves much to be desired. Various hospitals continue to use their own EMR systems run on different operating systems with different data and database management systems (Acquah-Swanzy, 2015). This study therefore aims at ascertaining the extent to which hospitals employ electronic medical records systems, examine the extent of EMRs systems integration and key factors influencing the effective deployment and integration of electronic medical records to improve healthcare delivery in Ghana.

## **INTEGRATED ELECTRONIC MEDICAL RECORDS IN HEALTHCARE**

Integrated Electronic Medical Record (EMR) systems are becoming an essential fabric of modern healthcare. EMR systems have evolved from stand-alone single computer record-keeping to an integrated, enterprise-wide system that ensures real time access to accurate patient healthcare data (William & Michael, 2009). The ease of data retrieval with a click of mouse from integrated EMR systems and real-time access to patients' information by clinicians and other stakeholders result in efficiency gains and quality care delivery.

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