

Electronic medical records: how are they changing the healthcare system research ...

[Business](#), [Management](#)



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Introduction

With the technological boom and the fusion of latest software technology with medical practices, the entire medical history of a patient can be viewed electronically, without the use of lengthy documentation and physical file storage requirement. The Electronic Medical Record (EMR) is primarily used in diagnostics and treatment. EMR tracks and records patient data with time, identifies whether a patient is due for initial screening or a follow-up visit, monitor a patient's vitals such as blood pressure, pulse and vaccination history and improves the overall quality of treatment and medical practice. EMR also provides easy printing facilities, where a written report is required by a team of doctors/surgeons or by the patient. This paper highlights the impact of EMR on healthcare services and what can we expect in the future.

Coordinating Care

A study proves that EMRs are capable of transmitting patient data among physicians in a secure manner, thereby enabling easy healthcare coordination among the people of USA with multiple diseases. . The paper listed out that the current paper-based medical records do not contribute towards total quality management of the hospital. Such system is also susceptible to ineligibility, retrieval issues and wrong prescription of drugs (due to limitations of human memory). Since most of the patients at hospitals were those suffering from chronic illnesses, poor coordination led to poor diagnosis and hence, poor treatment; worsening their illness further. Such patients had to endure unnecessary hospitalization rigors and expenses, repetition of the same tests, conflicting medical treatment advises and hazardous (often lethal) effects of drug overdose or incorrect medicine prescription. This lack of coordination due to paper-based medical reports led to chronically ill patients being 99% more susceptible than non-chronic patients to pay unnecessary visits to hospitals every year. Hence, a new electronic-based reporting system was introduced to ease the processes of billing, booking an appointment and preparing patient report. This medical record will be easy to view by the physicians and will save the patient from the hassle of performing the same tests over and over again as his database will already contain the tests already performed and the related results. .

Cost Vs. Benefit Analysis

EMR systems aim to improve patient care quality and reduce medical errors, and their financial effects have also been well-documented. Another study

was conducted to estimate and establish a correlation between the net financial benefit(s) and the cost(s) of introducing EMR systems in primary care. For this study, the data was obtained from studies at different institutions, as well as from well-published and peer-reviewed literature. The benchmark strategy for comparisons was set as the current paper-based medical record system. The net financial benefit and cost per primary care physician for measured and spread over a 5-year period. .

The total net benefit from using EMR system for a 5-year period was estimated at \$86, 400 per provider. Benefits, during this period, accrued primarily in the form of drug expenditure cuts, better radiology tests utilization, improved charges capture and a reduction in billing errors. In a one-way sensitivity analyses, using high and low method, the net benefit varied between ranges of \$8400 and \$140, 100. A five-way sensitivity analysis, analyzing the most pessimistic and optimistic outcomes, and assumptions also showed results ranging from a net cost of \$2300 to a net benefit of \$330, 900. This study and these figures demonstrably represent that the implementation of EMR systems in primary healthcare units can yield positive financial returns for both private and public sector hospitals and clinics, with benefits exceeding the cost threefold. The magnitude of the return, however, is dependent on several key factors. Hence, this study should not be taken to be literal, but just as a general idea to show the impact of EMR on healthcare. .

Better Security and Fewer Errors

In another study conducted with the Veterans Administration health system, the benefits of using EMR and its positive impact on health care were again observed.

EMR organizes updates and discloses all pertinent medical data about a patient that physicians, surgeons and clinicians need to support their decision-making process at the point of care and the stage of treatment. For security purposes, a Bar Code Medication Administration system that utilizes and runs on a wireless, hospital-customized technology with a bar-code reader could be manufactured/purchased and used. Such a system can drastically reduce administration and clerical errors by verifying the medications, as well as, the patient identity and history. It might also require relevant authorizations from senior clinicians in the event where the patient's medical history is required to be classified and released as an epidemic. .

The study also shows that the Veteran's Administration's (VA) EMR system has largely succeeded in removing errors caused by the lost medical records. Excluding the VA system, it is observed that one in every seven hospital admissions is caused by the absence or insufficiency of the medical record (using traditional paper-based medical reports) and 20% of almost all lab tests are frequently repeated because the health care provider (physician, etc) cannot access the paper-backed results. With its EMR system, the VA has achieved the national benchmark in total quality management while maintaining its cost of care per patient at a constant figure for the past 10 years. .

Conclusion

(Obtained from: <http://www.healthit.gov/providers-professionals/benefits-electronic-health-records-ehrs>)

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