REVIEW ARTICLE

ELECTRONIC MEDICAL RECORD- A BRIEF OVERVIEW

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ABSTRACT

The electronic medical record (EMR) is a promising technology which enables a physician to maintain the records of the patient in the most organized manner, than possible with paper-based records. However, doing this is not as easy as it sounds. It has been found through various qualitative studies that quality improvement depends mainly on the way the physicians' use the EMR-and not paper-for most of their daily tasks. This article provides an overview of barriers that physicians might possibly see in the EMR implementation process and, as such, could be valuable for EMR policymakers and implementers.

INTRODUCTION

The importance of medical records in the health care delivery system has been known from a long time now. It's an ongoing process in which data is systematically accumulated and stored. Information technology is an important tool for improving patient safety and quality of care, mainly by promoting the practice of evidence-based medicine. Among all the health information technology (IT) currently, the electronic medical record (EMR) has the most Wide-ranging capabilities and is the greatest tool for improving quality.[1] Among some of the EMR functions, studies have shown that it also has the quality benefits of electronic documentation and viewing, prescription and test ordering care management reminders, and messaging, among other EMR functions.

Consequences of using the manual based record systems

- Increasing Cost in patient care
- Decreased compliance with health care standards
- In appropriate variation in health care delivery
- Negligent behaviour by health care providers

Electronic Medical Record (EMR)-Concept

What is the Electronic medical record

An electronic medical record (EMR) is a digital version of a paper chart that contains all of a patient's medical history from one practice.[2] An EMR is mostly used by providers for diagnosis and treatment.

The concept of creating EMR was investigated in the 1970s to improve the patient care. This is due to the fact that the medical record is the cornerstone for all information systems within the health care setting.

Benefits of EMR

- *Track* data over time
- *Identify* patients who are due for preventive visits and screenings
- *Monitor* how patients measure up to certain parameters, such as vaccinations and blood pressure readings
- *Improve* overall quality of care in a practice
- *Viewing*- It improves data organization, and legibility. Quality benefits depend on the amount of clinical data that are viewed. When the patient data gets accumulated over a period of time, financial savings accrued from less staff time spent finding, pulling, and filing charts and less physician time spent locating information are the benefits obtained.[3]
- *Documentation and care management*-It was seen that there is a direct relationship between electronic documentation by physicians and greater quality improvement and financial benefits. The dictated notes are transcribed and imported into the EMR, or these notes are typed into unstructured text boxes. Some users type data into templates (electronic

forms) that included physical exam and documentation. This improves the legibility and accessibility of the records. The use of documentation leads to improvement in quality of care.

- *Ordering*- Basic use of electronic ordering consists of physicians' typing in prescription orders, responding to drug interactions and drug allergy alerts, and printing out prescriptions. Further advanced ordering includes additional decision support, electronic transmission of orders to pharmacies and laboratories, and better tracking of test-order status and test results, all this can improve quality and decrease errors.
- *Messaging*- Use of electronic messaging improves the availability, timeliness, and accuracy of messages and increased completeness of documentation.
- *Analysis and reporting*- Earlier physician performance monitoring and feedback capabilities were used to improve the quality and efficiency. But over a period of time, reporting capabilities are more widely used.
- *Patient-directed functionality*- Practice web sites allow the patients to schedule visits, send secure e-mail messages to providers, receive e-mail reminders, order medications, access their charts, and obtain more individualized educational patient care information-all of which in turn improves the quality.
- *Billing*- Integrating billing and EMR software, combined with electronic documentation, can provide financial benefits by more complete capture of services provided, more defensible Medicare coding at higher coding levels, and decrease in staff required for data-entry.

Barriers to EMR use

High initial cost and uncertain financial benefits-

Implementing EMRs is costly and hence a barrier in its adoption. Studies have shown that an up-front cost ranges from $16,000 to $36,000 per physician.

High initial physician time costs

Studies have shown that most physicians who use EMRs spend more time per patient for a period of months or even years after EMR implementation. Spending more time with patients results in longer working hours and fewer patients seen, or both, during that initial period.

Three underlying barriers-difficulties with technology, complementary changes and support, and electronic data exchange-increased physicians' initial time costs and reduced physicians' EMR use, financial benefits, and quality improvement.

Technology

EMRs are very challenging to use because of the multiplicity of screens, options, and navigational aids. Problems faced with using EMR includes documenting progress notes-causing physicians to spend more time to learn effective ways to use the EMR.[4]

Difficult complementary changes and inadequate support-

EMR hardware and software cannot simply be used "out of the box." Instead, physician practices must carry out many complex, costly, and time-consuming activities to "complement" the EMR product. Across industries, such complementary changes have been found to be critical for generating benefits from new technology.

Inadequate electronic data exchange

The lack of adequate electronic data exchange between the EMR and other clinical data systems is another barrier. Due to parallel electronic and paper based systems physicians had to switch between systems, thus decreasing the speed of workflow hence leading to more time needed to manually enter data from external systems, and increasing physicians' resistance to EMR use. [5]

Lack of incentives

Use of EMR can be increased by providing financial rewards for quality improvement and for public reporting of multiple measures of quality performance. But there are no public reporting of their quality performance compared with that of other physician practices. [6]

CONCLUSION

Though there are many advantages from using EMRs in medical practices, the adoption rate is still low and there are barriers that a physicians faces in accepting EMRs. Implementing an EMR system definitely changes the workflow in a medical practice. Moreover, an EMR implementation is a major change that is felt throughout the practice; it demands complementary adjustments and innovation in other aspects such as to the structure and culture of practice.EMR implementers should choose and decide on appropriate interventions based on the ongoing scenario.

References

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