A STUDY ON ELECTRONIC HEALTH RECORDS

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ABSTRACT:

Electronic health records (EHRs) were introduced to enhance patient outcomes and care quality. The adoption of EHRs and patient outcomes were compared in this study. Using State Inpatient Databases connected to the 2011 American Hospital Association survey, we conducted an observational study. Six sizable, diversified states' worth of surgical and medical patients were included. We conducted univariate analyses and created hierarchical regression models that examined the relationships between mortality, readmission rates, and complications with the extent of EHR utilisation. Using a difference-in-differences methodology, we assessed the impact of EHR adoption on outcomes from 2008 to 2011. Patients seeking medical and surgical care went to hospitals with no EHR (3.5%), partial EHR (55.2%), and full EHR (41.3%) systems. Patients at hospitals with full EHR had the lowest rates of inpatient mortality, readmissions, and hospitalizations in univariate studies.

Keywords: Electronic Health Records, Bar Coding, Speech Recognition, Patient Confidentiality.

I. INTRODUCTION:

It is anticipated that health information technology, especially electronic health records (EHR), would boost the effectiveness and quality of healthcare organisations of all sizes. Under the Health Information Technology for Economic and Clinical Health (HITECH) Act, the federal government promoted the use of EHRs in light of these prospective advantages.As a result, many hospitals are working hard to embrace these tools and show meaningful use. 59% of US hospitals in 2013 used an EHR system of some kind..The federal incentive programme established three phases for the rapid adoption of EHR use: stage 1 is EHR adoption, stage 2 is EHR data interchange, and stage 3 is employing EHRs to enhance patient outcomes.However, just approximately 6% of hospitals completed all requirements despite the widespread use of EHR systems.

II.EHR USES AND CHALLENGES

An Electronic Health Record (EHR) is a collection of various medical records that get generated during any clinical encounter or events. With rise of self-care and homecare devices and systems, nowadays meaningful healthcare data get generated 24x7 and also have long-term clinical relevance. Paper records require more personnel to manage and maintain paper files, accesses and organize countless documents. However, an electronic system means less man power, time and physical storage space are needed.

While EMRs can help improve quality of care in some ways, using EMR systems can add an additional burden to nurses' already-heavy workloads. With so much on their plates, nurses are at an especially high risk of burnout, which can impact the quality of care they provide their patients. Challenges in Implementations:

Fig 1: EHR Challenges

III. METHODOLOGY:

About 75 of the more than 200 pieces of literature on electronic health records have been critically examined. 35 of these were found to expressly discuss the advantages and difficulties of deploying EHRs. The articles used for this systematic review were gathered and compiled using PubMed (MEDLINE complete)

and The Cumulative Index to Nursing and Allied Health Literature (CINAHL). The United States National Library of Medicine's Medical Subject Headings (MeSH) was used to find the key terms related to our topic in PubMed. Our final key terms in the search process for both databases were B electronic health record B electronic medical and B population health or B public health. While these terms have distinct definitions from each other, they are often used synonymously. After filtering relevant time frame academic journals, English only, and other peer review selection processes, we were left with 420 articles. We included both so that the search would be more exhaustive. In accordance with good research practice, we also included Boolean operators and quotation marks in the search string. The initial search in PubMed and CINAHL resulted in nine items, respectively. We chose a timeframe of five years to keep the grouping small enough for reasonable analysis.

IV.IMPLEMENTATION:

In the US, putting in place EHR systems has become necessary. The Centers for Medicare and Medicaid Services (CMS), also known as "providers" in this article, have taken the lead in this shift by offering financial incentives to healthcare organisations and providers. Financial penalties for non-compliance will be assessed if the EHR is not implemented. A legacy (current/old) system has long been used by many healthcare providers as an EHR. The majority of EHRs are hybrid, and some providers have service lines or departments with computers that weren't designed with an informatics system specifically for them in mind. As an example, the pharmacy or laboratory departments' computer systems are unable to communicate with those from the rest of the company.

There are some suppliers that may have integrated informatics systems in specific departments, such lab or billing, but the reporting capabilities are not sufficient to meet the needs of the business and the accreditation requirements and thus reports are manually created. For these clinical and administrative healthcare informatics problems, providers give priority to the implementation of a certified EHR and allocate a budget for the acquisition and adoption of the healthcare informatics system: EHR.

The legacy EHR may meet some of the CMS Meaningful Use requirements but may not be fully ready to meet stage three of the meaningful use requirement. The areas needed for the legacy system to be fully

compliant are for the EHR to be able to generate and transmit discharge prescriptions and provide patients with electronic access to their EHR.

V.CASE STUDY:

Med host EHRs were chosen as the EHR certified solution for examination at a 260-bed hospital; Cerner was also taken into consideration. Clinical, electronic prescription, patient education, and financials are all combined into one platform by MEDHost Enterprise 2019. The clinical decision support system (CDSS), drug-drug allergy interaction tests, patient-specific education materials, data portability, authentication, access, control, and authorisation were among the important Med Host features that were reviewed.

The hospital's criteria were mostly met by the chosen EHR, which was also the most affordable option while still fulfilling the parameters. By implementing the new EHR, patient safety incidents including medication errors caused by giving the wrong drug to a patient and reduced risk of data loss would be reduced.

VI. IDENTIFIED RISK:

The risks associated with the testing and implementation of the new EHR system are those related to not achieving the objectives set for the EHR implementation. Having data that is incomplete, missing or misleading, open or incomplete patient orders, procedures and policies that are ineffective, failure to follow up abnormal test results, confusing one patient with another, reliance upon inaccurate or incomplete patient data, intentionally or accidentally subverting Clinical Decision Systems (CDS), automatic discontinuation of a prescription, data aggregation leading to erroneous data reporting, and prolonged EHR downtime among other legal related mandate risks.

VII. CONCLUSIONS:

The literature revealed that electronic health records had numerous benefits, including the elimination of paper records, fewer entry errors, and less time consuming to retrieve patient records, helped in better care delivery, helped patients to retrieve their records, lab test results etc online, reduced cost. There was improved patient-physician interaction online and better understanding resulting in better care delivery. Though there are

many advantages, it has its own chal- lenges in implementation and use. Due to high initial investment many health care centers with lesser beds found it difficult to implement, as the return on investment would take too long when compared to large hospitals. Other challenges were to train the staff, nurses and doctors and encourage them to use electronic record system. It is also a challenge to maintain the security of patient records and not allow any misuse of the available information.

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