

SYNOPSIS

1. TITLE

Assessing the effect of Electronic Medical Record (EMR) Systems on Physician Productivity in Out-Patient Departments: A Systematic Review

2. INTRODUCTION

Electronic Medical Records (EMRs) are digital platforms that allow doctors to record, access, and oversee patient health data in real time. These systems bring together crucial patient information—including medical history, diagnoses, lab results, medications, and clinical notes—to help enable more efficient and coordinated care. EMR adoption has surged in recent years, bolstered by national initiatives such as the HITECH Act in the U.S. and the National Digital Health Mission in India. The goal of both initiatives is to bring about significant enhancements in the efficiency and quality of healthcare by means of extensive EMR implementation [8,10].

In outpatient departments (OPDs), where clinicians often manage heavy patient loads under tight time constraints, EMRs are expected to affect physician productivity by helping streamline workflows, improve documentation accuracy, and provide quick access to patient medical histories [1,2,5]. Studies suggest that well-optimized EMR systems can reduce the time spent on documentation, increase the number of consultations completed, and support more effective clinical decision-making [4,6]. For example, Alissa et al. (2022) reported that redesigned EMR note templates saved up to 23 minutes per infant in a pediatric unit, which had a noticeable positive effect on physician workflow [6].

However, some studies highlight concerns regarding the effect of EMR use on physician's administrative workload, screen time, and patient interaction [1,2,9]. Young et al. (2018) observed that physicians spent more time working within EMR systems than engaging in direct patient care, which affected work hours and contributed to lower job satisfaction [1]. Similarly, Tai-Seale et al. (2017) introduced the term "desktop medicine" to describe how digital tasks linked to EMR use often required as much time as patient interactions, resulting in time displacement and emotional fatigue [9].

The effect of EMRs on physician productivity is not uniform, it depends on several factors such as system usability, availability of technical support, integration with clinical workflows, and the organization's readiness for digital adoption [3,4,7]. Studies suggest that physician productivity and satisfaction tend to improve when EMRs are supported by responsive IT teams and designed with the end user in mind [3,4]. In contrast, poorly implemented systems can frustrate clinicians, create workflow inefficiencies, and even affect well-being by contributing to professional burnout [2,7].

Given the range of findings reported across studies, there is a clear need for a systematic review to bring together existing evidence, identify the key factors that positively or negatively affect EMR driven productivity in OPDs.

3. RESEARCH QUESTION

What is the effect of Electronic Medical Record (EMR) systems on Physician productivity in Outpatient departments?

4. OBJECTIVES

1. To explore the effect of EMR systems on the workflow of physicians in outpatient care.
2. To examine the relationship between EMR usage and time management during outpatient consultations.
3. To identify factors that may affect physician productivity in an EMR enabled outpatient settings.

5. MATERIAL AND METHODS

Study Design:

Systematic Review following PRISMA 2020 guidelines.

Setting:

Outpatient departments (OPDs).

The study is based on a global synthesis of literature focused on EMR use in OPD settings.

Study Population:

Inclusion criteria

Studies that meet the following criteria were included:

- Published between 2015 and 2025
- Were in English
- Focused on EMR/EHR use in outpatient settings
- Reported outcomes related to physician productivity or workflow
- Provided full-text access

Exclusion Criteria

Studies that did not meet the following criteria were excluded:

- Focused exclusively on inpatient or emergency department settings
- Lacked outcome measures related to Physician productivity
- Were technical or architectural studies without user or workflow outcomes
- Were conference abstracts, editorials, commentaries, or opinion pieces
- Were not available in full text

Study Tools:

Databases and Search Engine used include PubMed Central, ProQuest, and Google Scholar.

Duration of Study:

March 17, 2025 – June 7, 2025

Sample Size:

Out of 580 initial articles, 10 studies were selected after screening and applying eligibility criteria.

Sampling Technique:

Purposive sampling using inclusion and exclusion criteria.

Data Collection Procedure:

Articles were identified, screened, and reviewed following a standardized, PRISMA-compliant process. Data were extracted on key aspects such as Authorship, Year, Article Title, Study Purpose, Study Design, Setting, Study Period, and Key findings related to physician productivity

Operational Definitions:**Electronic Medical Record (EMR):**

Electronic medical record systems are defined as digital versions of an individual's health related data, which can be created, collected, managed, and accessed by authorized clinicians and personnel within a single healthcare organization [8,10].

Physician Productivity:

Physician productivity refers to the efficiency with which a physician delivers clinical services, often measured by metrics such as documentation time, number of patient consultations, and time allocated to non-clinical tasks [1,2,7].

6. DATA ANALYSIS PLAN

The selected studies were reviewed using a narrative synthesis approach in accordance with PRISMA 2020 guidelines. Data from 10 eligible studies were extracted into a standardized format, including details such as Author, Year, Article Title, Study Purpose, Study Design, Setting, Study Period, and Key findings related to physician productivity. The outcomes were grouped into three categories: Positive effect, Negative effect, or No significant effect. Themes like documentation time, consultation length, workflow efficiency, and physician satisfaction emerged. The findings were summarized using tables and charts to emphasize patterns and factors affecting productivity in outpatient settings with EMR systems.

7. ETHICAL CONSIDERATIONS

This review relied solely on secondary data obtained from previously published studies; therefore, ethical approval was not necessary. All references have been properly cited to uphold academic integrity. Additionally, no confidential patient information was used in this study.

8. IMPLICATIONS OF RESEARCH

The review aims to guide EMR policy formulation, implementation, and system improvement by identifying which aspects of EMRs positively or negatively affect physician productivity in outpatient departments. The results can help hospitals and EMR vendors design user-friendly platforms and training protocols, ultimately improving healthcare delivery and reducing physician burnout.

9. REFERENCES

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