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Understanding Physicians Perception of Electronic Health Records Through the Lens of Perceived Usefulness

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ABSTRACT

This paper addresses the underlying factors of perceived usefulness of Electronic Health Records (EHR) and the key obstacles in a clinical setting from physicians' point of view, who are the main users of EHR. Secondary research methodology was employed, using thematic data analysis on data based on qualitative data from different healthcare environments, namely hospitals, clinics, and specialized practices. It studied how EHR systems are designed to conform to physicians' clinical work flows and their specialties. Some key findings indicated that EHR were valuable for enhancing patient care coordination and lowering medication errors, but were at times vilified for problems with the same, including unwarranted documentation time, low customization, and poor connectivity with other health information systems. The study further indicated major variance depending on age, specialty as well as the working environment. System customization needs to be improved, interoperability enhanced, and better training provided to make sure EHR fulfill the practical requirements of physicians and physicians' perception of usefulness in clinical practice is increased.

Keywords: *Physicians, EHR (Electronic Health Records), Perceived Usefulness, Clinical Practice, System, Challenges, Specialty, Customization, Workflow, Integration*

1. INTRODUCTION

With the rise and adoption of Electronic Health Records (EHR), modern healthcare is revolutionized with the ability to manage patient data efficiently, make better decisions and coordinate care more efficiently. Although EHR have been widely implemented across various medical facilities, physicians' perception of EHR is a key factor that determines their effective use. Further studies show that over 85 percent of hospitals in developed countries like the United States have introduced EHR systems, but doctors' satisfaction relates to how useful, well-designed, and clinically able to integrate the systems. According to a 2022 report by the Office of the National Coordinator for Health Information Technology, only 44% of physicians strongly agree that EHR improve patient care quality (Tsai *et al*. 2020). Perceived Usefulness is defined as the extent to which a user believes using a system will enhance his/her job performance, based on the Technology Acceptance Model (TAM). In the field of healthcare, this is even more important as the physicians have limited time, face complex conversations with patients and great demand on documentation. As revealed by research, if physicians generate a perception of EHR as being able to reduce errors, make the workflow easier, and support clinical decisions, they will embrace the technology. Despite this, perceived usefulness is frequently reduced by usability issues, data entry burdens, and lack of customization, making it a barrier to, or detracting from, usability. Moreover, attitudes of the physicians are significantly dependent upon specialty type, age, and previous exposure to digital systems. According to JMIR Medical Informatics (2021), younger physicians, as well as physicians in technologically advanced institutions, had higher acceptance rates than other physicians (Burmann *et al*. 2021). On the other hand, specialists with high patient loads found EHR inefficiencies extremely frustrating. These learnings reinforce the need to understand how physicians perceive EHR to inform the design and training of EHR. Perceived usefulness is important for these systems to understand because it gives actionable pathways to tailor systems to suit clinicians' needs and improve healthcare delivery. As such, there is a need to investigate physicians' perceptions in this light in the quest to enable sustainable EHR adoption and achieve the best clinical outcomes.

Problem statement

Despite the widespread EHR implementation, physicians continue to be dissatisfied because of the poor usability, additional documentation burdens, and lack of integration with workflow. It is expected, yet widely observed among their users, that enhanced quality and efficiency of the care should be provided by EHR, but their actual usefulness in practice is quite different (Rudin *et al*. 2020). Physicians have reported that these systems interfere with patient interactions and make clerical tasks, resulting in decreased job satisfaction. Specialty, age, and institutional support then complicate adoption. This inconsistency shows that the functionality of EHR does not meet physicians' needs. This is necessary in eradicating these long-standing problems, as perceived usefulness needs to be clearly understood by the physicians.

Research Aim:

The research aims to explore physicians' perceptions of Electronic Health Records (EHR) through the lens of perceived usefulness and identify factors influencing their acceptance and effective use.

Research Objectives

- To examine how physicians evaluate the usefulness of EHR in clinical practice.
- To identify specific challenges that reduce physicians' perceived usefulness of EHR.
- To analyze how demographic and professional factors influence EHR perceptions.
- To recommend strategies for enhancing EHR design and usability based on physician feedback.

2. LITERATURE REVIEW

The Electronic Health Records (EHR) are one of the important elements of the modern healthcare system, because of their essentiality to enhance data accessibility, clinical accuracy, and patient safety. Nevertheless, Alowais *et al* (2023), stated that physicians' attitudes toward using the EHR in their clinical practice is where the success of its implementation lies. To understand why some physicians, embrace EHR so easily and others refuse to adopt it, the concept of perceived usefulness stands as the central understanding drawn from the Technology Acceptance Model. While many physicians are familiar with the promises of EHR to help to streamline documentation, reduce medical errors and support decision-making. However, these benefits are seldom given since they are outweighed by usability concerns, time, and the disruption of workflow. EHR have been reported by a significant number of physicians to increase administrative workload, reduce time for patient interaction, and cause frustration because of nonintuitive interfaces or repetitive tasks.

Many of the challenges that reduce perceived usefulness are related to poor system design and lack of customization, poor training. However, the workflows of these specific specialties are negatively affected by many EHR platforms that do not accommodate the workflow of those specialties. Sieck *et al* (2020), have found that EHR are viewed by physicians who suffer regularly from system lags, over time on data entry, or alert fatigue as a nuisance rather than as a helpful aide. Additionally, this design does not incorporate user centered design and is not adaptable to clinical preferences resulting in a lower level of acceptability. As EHR systems continue to develop, understanding these pain points is important in redesigning the tools that actually help serve physicians' work.

Physicians also perceive EHR based on demographic and professional factors. There are clear age-related and exposure related differences, i.e., younger physicians, or those that have had exposure to digital systems, adapt more easily and are more satisfied. In contrast, Canfell *et al* (2022), stated that older physicians or those in high volume specialties tend to find the EHR more disruptive for making them spend more time documenting and less time with each patient. Attitudes are also shaped by institutional factors including access to technical support, the availability of continuous training, etc. Due to this, perception variability is not just technical, but shaped by broader individual, as well as organizational, contexts. These challenges can only be addressed with the active participation of physicians at the system development and implementation phases. Suryanarayanan *et al* (2021), have opined that a desired outcome of physician feedback is to help improve the interface design, the workflows, and the cognitive burden. In understanding how different physicians evaluate the usefulness of EHR, one gains useful insights on how to design systems that promote rather than invalidate clinical performance. In general, the perceived usefulness of physicians toward EHR would be an avenue worth exploring as it would help in enhancing long term adoption of EHR, boost physicians' satisfaction and ensure that EHR make a positive impact in the healthcare outcome.

Methodology

A secondary research methodology was used to gather the existing data of physicians' perceptions about Electronic Health Records (EHR). We reviewed relevant journal articles, reports and healthcare studies to understand key themes about how perceived usefulness was perceived by different users. Instead, this approach provided a means of accessing a wide range of views without the collection of primary data. Thematic data analysis was applied in order to analyze the findings. I have identified and grouped some recurring ideas and issues (for example, usability challenges, workflow disruption, demographic influences) into their meaningful categories. Furthermore, this method allowed a clear view of the common concerns as well

as the patterns in physician responses across different healthcare settings.

3. RESULTS AND DISCUSSION

Physician Evaluation of EHR Usefulness in Clinical Practice

Physicians assess Electronic Health Records according to how good they are in the support of real-time clinical demand. For tracking over time such as hypertension or asthma, EHR have been found by general practitioners in teaching hospitals to enhance a lot. Progress notes, medication histories, and referral records integrated into EHR made it easier for physicians in academic health centers managing chronic care patients to maintain continuity of care, even if patients were transferred among care providers (Rudin *et al*. 2020). For example, in a multi-clinic affiliated to a large metropolitan university hospital, the physicians appreciated the auto generated 'care plan' summaries, which helped smoother follow-ups for complex patients. Both for clinical planning and patient education, EHR systems based on urban family practice and embedded with templates for immunization update, allergy update, and lifestyle counseling were perceived to be valuable. During discussions, physicians then could pull up entire patient health summaries to have collaborative care conversations. With specialists less easily available in rural settings, family doctors reported that EHR-based teleconsultation records enhanced their ability to manage endocrine or dermatology cases having confidence that remote feedback would continue to be available and would be incorporated back into the patient's digital chart. But some hospital physicians had expressed concerns.

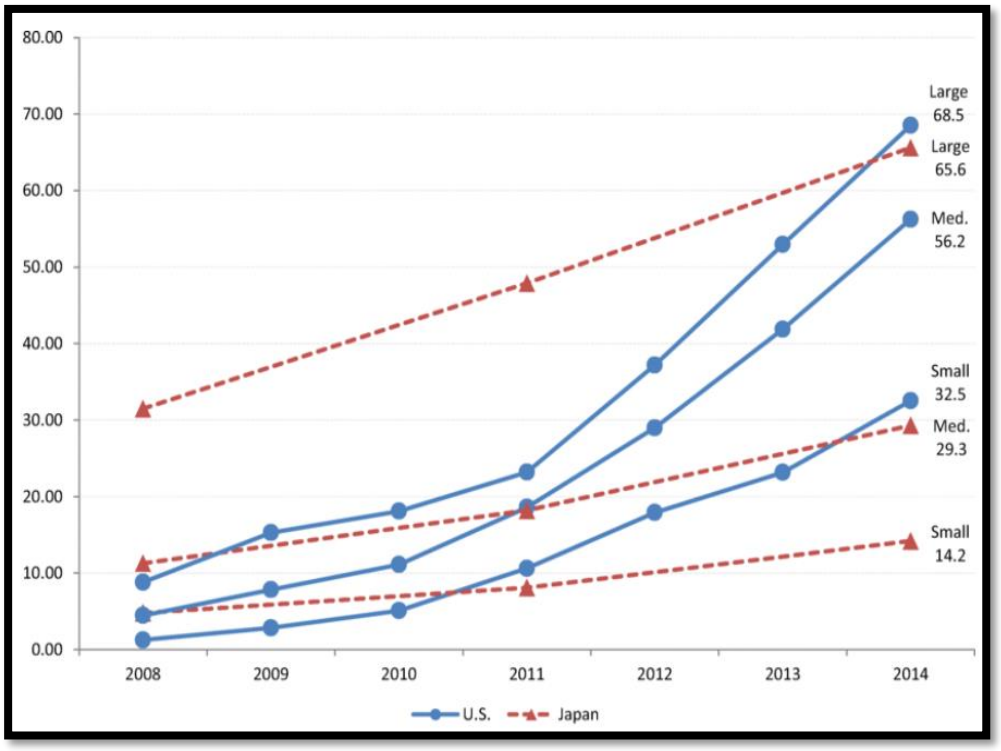

Figure 1: EHR adoption rate in USA and Japan in recent years

(Source: Takako, 2019)

During hectic urgent cases in busy emergency departments, many found the search functions of the EHR cumbersome. At a regional trauma center, a physician said that sometimes searching for a patient's allergy or surgical history involved hunting through several tabs, which can be problematic during acute intervention. Also, surgeons talked about how EHR notes tended to overlook subtle context around intraoperative events that paper dictations caught (Alpert *et al*. 2023). Systems were most useful when supporting specialty-specific workflows and decreasing administrative burden. Physicians considered the platform's tools improving, not performing divided medical decision-making when the platforms delivered structured data without interrupting clinical flow. However, the perception of usefulness dropped by a lot when systems were forcing rigid documentation formats or when they were adding screen time during critical tasks.

Key Challenges Impacting Perceived Usefulness of EHR Systems

A number of challenges related to the practical usefulness of EHR systems have been consistently pointed out by physicians in a variety of healthcare setting. The fragmentation of clinical data in various modules is a frequently mentioned issue.

Physicians feel frustrated in large public hospitals using legacy systems where critical patient details such as the previous treatments, consultations, or radiology impressions do not sit in one place and require extensive navigation to extract (Isbell *et al*. 2020). For example, a pulmonologist in a teaching hospital explained that when they would review previous imaging reports, it often meant flipping through several screens, which often is a disruption in the diagnostic flow in the course of patient rounds. Another challenge involves template rigidity. Other systems mandate set forms that won't accept nuanced entries or clinical differences. In a developmental clinic, a pediatrician noticed that complying with a rigid note template for documenting nonverbal behaviors or parental concerns acquired at the encounter compromised the quality of clinical records. Likewise, psychiatrists talked of having to work around dropdown boxes or checkbox overflow screens to get to narrative history. These prevented them from entering in subtle emotional, or contextual, observations that were necessary for therapeutic planning.

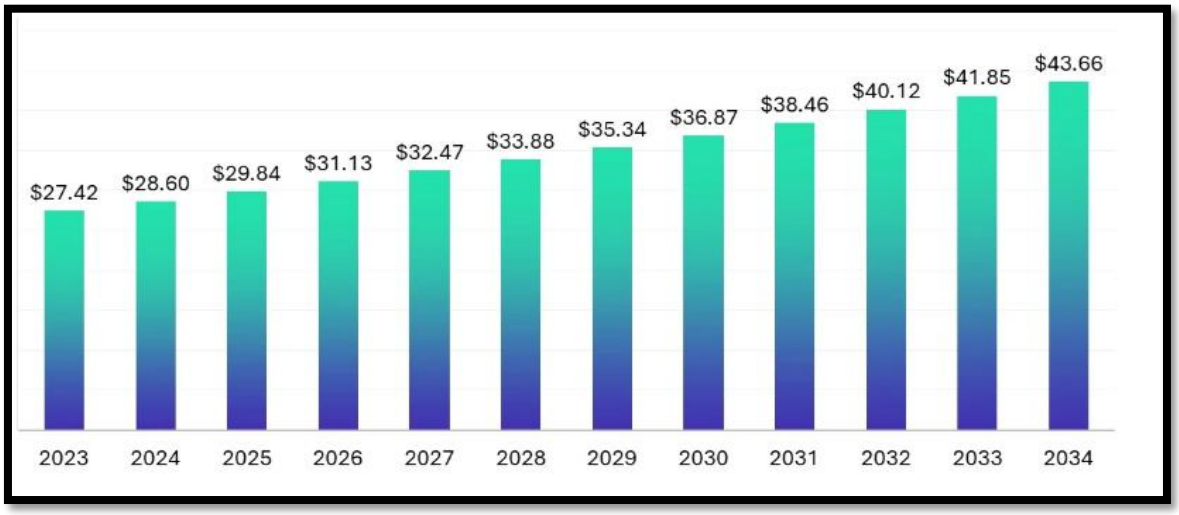

Figure 2: projected market Share of EHR from 2023-2034

(Source: Aditi Shivarkar, 2024)

Alert overload is another barrier. EHR have been reported by physicians even to generate too many prompts or warnings (eg, medication interaction alerts) despite not being clinically germane. A general internist explained how the alerts became ignored habitually, as the very thing meant to protect patient safety ended up compromising it, in the long term. In addition, some physicians think EHR system is not optimized to every department. In case of orthopedic clinics, emphasis of their documentation is on procedural detail and imaging findings. However, the EHR interface typically favors primary care formats with which proceduralists have a difficult time inputting operative insights or following up instructions. As such, these challenges prove to be a friction in clinical workflows (Mwogosi and Mambile, 2025). If systems make unhelpful demands on clinicians that do not meet their unique needs, as well as not support their needs, perceived usefulness is diminished and resistance to digital health transformation increased.

Influence of Demographic and Professional Factors on EHR Perception

The differences in physician backgrounds (both demographic and professional) play a dominating role in how they view EHR systems. Younger physicians, in particular those who learned at a hospital that integrated computers into the platform, view EHR as tools, not obstacles.

S.No.	Metric	Value	Year/Period
1	Global EHR market size (starting value)	USD 27.74 billion	2021
2	Projected global EHR market size	USD 43.62 billion	2032
3	Global EHR market CAGR	4.20%	2023–2032
4	Hospitals in the U.S. with EHR adoption	Over 90%	2021
5	Healthcare providers reporting improved care with EHR	85%	Survey (Year not

			stated)
6	Healthcare providers with faster access to patient data	75%	Survey (Year not stated)
7	Patients believing EHR improve provider communication	82%	Survey (Year not stated)
8	Office-based physicians in ambulatory care using EHR	86%	2021
9	Average reduction in medication errors post-EHR implementation	70%	Study (Year not stated)
10	Healthcare data breaches linked to EHR incidents	53%	Year not stated
11	Global EHR market size	USD 29 billion	2020
12	Forecast global EHR market size	Over USD 47 billion	2027

Table 1: Key Statistics on the Global Electronic Health Records (EHR) Market and Usage Trends

(Source: Samruddhi Yardi, 2025)

They are more comfortable multitasking across interfaces, accessing digital guidelines, using search filters and, in general, finding information quickly because of their familiarity with digital devices during medical school and residency. For example, early career physicians at urban teaching hospitals shared that they highly use EHR integrated clinical calculators (for example, cardiovascular risk or renal dosing adjustments calculator) (Sharma *et al*. 2021). Conversely, for instance, younger physicians (or primary physicians) have no problem using digital systems and typically even prefer them but, senior physicians, especially when coming from paper based practice, often find these digital systems intrusive and/or overwhelming.

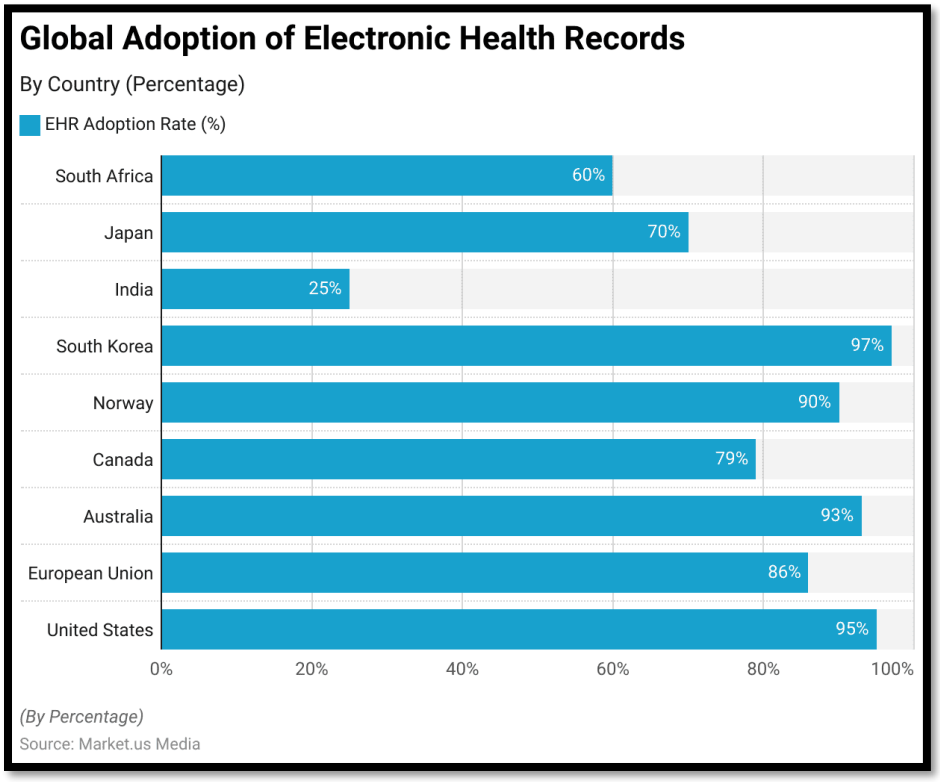

Figure 3: Global adoption rate of EHR system

(Source: Samruddhi Yardi, 2025)

A senior oncologist in a regional cancer center noted that, although EHR improved documentation, they impinged on face–to–face contact during patient consultations. Specialization also shapes perception. In the case of family physicians dealing with patients' diverse cases and intensive relations, EHR prove more useful. One rural physician in a community practice used the system to follow a child's development, vaccination schedule, and mental health screens over many years, for example. Surgeons and emergency physicians usually operate in environments with a high pace, meaning they prefer documentation formats in a concise form from the beginning. For these professionals, the current systems were created with 'primary care model' in mind, and they find that the forms contain too many fields for their relatively brief and procedure-focused cases. It also takes a major role in work setting. Increased use of EHR is likely to happen in medical institutions that have strong technical support and regular digital training (Boonstra *et al*. 2021). For their part, those in understaffed clinics with no on-site IT support often complain about delays, confusion and system crashes all the time, it leads to frustration. These patterns indicate that perceiving EHR cannot be viewed only in terms of the system features, but also in light of user training, specialty, and compatibility between the work environment and a digital tool.

Suggested Improvements for Enhancing EHR Design and Usability

With direct experience dealing with system limitations, physicians have proposed a variety of ways to improve. Among recommendations across specialties is to simplify the user interfaces based on clinical workflows. Clinicians at a large rehabilitation center participated in a feedback group at the center that resulted in the redesign of daily note templates from generic checklists to reflect therapy goals and the patients' responses (Rabiei and Almasi, 2022). This upgrade improved the quality of documentation and user satisfaction. There is one more improvement that increases customization options. However, physicians wish to control how their dashboard looks and which tools are most visible. Providers in a mid-sized hospital's cardiology unit promoted a customized medication view that groups cohorts of drugs by category and goal of therapy, which would speed up medication reconciliation. In employing this, IT teams found that physicians were able to more easily assess things, adjust treatment as appropriate for the time of day when there were patient transitions.

Additionally, it is essential to integrate the systems better. Some physicians working in multi-hospital networks work with fragmented records. In one provincial pilot program whereby, patient data was linked between acute care and long-term care facilities, smoother handovers were seen, especially for elderly patients transferring between units. During transfer, doctors in this pilot cited fewer missed details—those that had been directly tied to care quality. Another priority would be training and ongoing support. Community pediatricians learned through a before-and-after comparison of EHR satisfaction after their first year of use that only after completing a specialized workshop that explained specialty-specific functions did their satisfaction improve. Many had not known about time-saving features that can cut out duplication because of a lack of proper onboarding and follow-up sessions (Classen *et al*. 2023). We also discovered that eventually, many physicians emphasized the requirement of consistent feedback loops. Those that already execute regular user experience reviews are more likely to see more responsive changes in the EHR vendor community. Through these collaborative systems, the clinician morale improves, the EHR usability improves, and its clinical value is reinforced.

4. CONCLUSION

The research findings are based on the research objectives, which clearly indicate that physicians' perception with regard to Electronic Health Records depends upon how much Electronic Health Records match their clinical workflows, specialty requirements and digital skills. Especially, the usefulness of EHR was understood on the roles of supporting chronic disease tracking, care coordination and integration of data. But the challenges with rigidity of templates, system fragmentation and poor customization limited their value. Less frustration came from younger physicians and primary care physicians, as they adapted to the interface more positively, but experienced frustration with it, specialists and senior doctors. Improvement suggestions included system redesign, better customization, enhanced integration and consist technical support. Therefore, it is underlined that EHR systems should be aimed at user contexts rather than requiring clinicians to conform to rigid frameworks. Knowledge of these physician-based perspectives will aid in improving EHR implementation, design and long-term usability in healthcare environments. The work also supports the connection between perception of usefulness and the practical specialty driven system performance.

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