

# The Influence of Electronic Medical Records on Improving the Effectiveness of Inpatient Registration Services at Humana Prima Hospital

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**Abstract.** The objective of this study is to examine the impact of Electronic Medical Records (EMRs) on enhancing the effectiveness of inpatient registration services at Humana Prima Hospital. This research adopts a qualitative approach, with data collected through direct interviews with inpatient registration staff. The findings indicate that the implementation of EMRs has significantly facilitated the registration process, making it easier and more efficient for staff to register inpatient admissions. However, despite these benefits, the EMR system is not yet fully effective due to recurring issues related to internet connectivity and inadequate supporting infrastructure.

**Keywords:** *Electronic Medical Records, Service Effectiveness, Inpatient Registration*

## Introduction

According to the Health Law of the Republic of Indonesia Number 17 of 2023, Article (1), health services are defined as any form of activity and/or a series of activities provided directly to individuals or communities to maintain and improve public health status through promotive, preventive, curative, rehabilitative, and/or palliative approaches (Republic of Indonesia, 2023). The Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2022 on Medical Records states that the advancement of digital technology in society has driven the digital transformation of healthcare services, making it necessary for medical records to be implemented electronically while adhering to the principles of data and information security and confidentiality (MoH Regulation No. 24, 2022).

Effective and efficient healthcare services are among the key indicators in assessing the performance of a hospital. One of the technological innovations adopted in

healthcare service systems is the Electronic Medical Record (EMR). The use of EMRs aims to improve the effectiveness of services, especially in both outpatient and inpatient care, by accelerating patient registration, medical record documentation, and medical decision-making by physicians (Trisnawati, 2024).

According to previous researchers, the concept of effectiveness, as explained by Azizah (2018), can be assessed based on the following aspects:

**Tasks or Functions** – A program is considered effective if the institution carries out its duties and functions properly. Accordingly, the implementation of EMRs will be effective if inpatient care services can perform their roles properly.

**Plans or Programs** – A plan or program is deemed effective if all planned activities are implemented successfully. Therefore, the EMR implementation can be considered effective if the plans and programs in the inpatient unit are carried out effectively.

**Regulations and Policies** – The effectiveness of a program can also be measured by how well it adheres to applicable rules and regulations. If these are properly enforced, the implementation of the EMR can be said to be effective.

**Goals or Ideal Conditions** – A program is considered effective if it achieves the expected goals or ideal outcomes. In this context, the implementation of EMRs in the inpatient unit is deemed effective if the intended goals and outcomes are achieved (Latipah, T., Solihah, S., & Setiatin, S., 2021).

The implementation of Electronic Medical Records at RS Humana Prima has helped accelerate the inpatient registration process. Although the EMR system has had a positive impact on the speed and accuracy of inpatient registration, several barriers still hinder the system's optimal performance. One of the main challenges faced is an unstable internet connection. This condition leads to delays or interruptions in data input and access, ultimately reducing the effectiveness of inpatient registration services that are expected to be enhanced through EMR implementation. Therefore, the author aims to examine the impact of EMR use on improving the effectiveness of inpatient registration services at RS Humana Prima.

## **Methodology**

The method used in this study is qualitative research. Qualitative research methods are research methods used to research natural object conditions, (as opposed to experiments) where the researcher is the key instrument, data collection techniques are carried out by triangulation (combination), data analysis is inductive, and qualitative

research results emphasize meaning rather than generalization. (Basrowi & Suwandi, 2008) Data collection techniques are carried out through direct interviews with inpatient registration officers during the PKL period. Sudijono (2011, 82) argues that interviews are a data collection technique used to collect information. This activity is carried out by conducting oral questions and answers unilaterally, face to face, and has a specific purpose. (Prafitasari, 2023).

## **Results and Discussion**

### **1. Effectiveness of EMR in Inpatient Registration Services at Humana Prima Hospital**

Based on the results of interviews with inpatient registration officers, it was shown that the Electronic Medical Record (EMR) at Humana Prima Hospital helped facilitate inpatient registration officers in the inpatient patient registration process. However, even though it helps registration officers, this EMR is not 100% effective because there are often obstacles in terms of internet network and work facilities. The registration officer said, "If you look at the manual RM in the past, many of the contents needed to be written by hand, the ones who filled it were officers and patients, so it took longer because there were elderly patients who had no person in charge so it took a long time to write, with EMR now you type directly on the computer and many processes can be skipped".

There are several factors that influence the level of effectiveness in an organization or company, these factors are as follows:

#### **a. Organizational Characteristics (structure and organization)**

The organizational structure at Humana Prima Hospital is in accordance with the requirements of Hospital regulations, namely fulfilling four elements, one of which is the inpatient installation under the medical service element. This hospital implements a functional organization, where the division of tasks and responsibilities is clearly divided into each work unit. This organization supports effective communication and coordination processes between units, so that the implementation of the electronic medical record system can run well. With a supportive structure and the role of each unit that is aligned, the use of electronic medical records is more optimal in accelerating the patient registration process at Humana Prima Hospital.

#### **b. Environmental Characteristics (accuracy of environmental conditions)**

Humana Prima Hospital adjusts its work environment to the demands of fast and precise health services. Support from facilities, professional staff, and strategic locations allows the electronic medical record system to be implemented optimally. This adjustment contributes to increasing effectiveness in the inpatient registration process, both in terms of speed of service and accuracy of patient data.

c. Job Characteristics (differences in worker characteristics)

Each section at Humana Prima Hospital has a different job character, according to their respective main tasks and functions. Inpatient registration officers, for example, focus on patient registration tasks that require speed and accuracy, while medical personnel play a greater role in direct patient service. This difference requires a work system that is able to quickly integrate information. Electronic medical records help streamline coordination between units, speed up the registration process, and improve data accuracy, which ultimately drives increased overall service effectiveness.

d. Management policies and practices

Management at Humana Prima Hospital has a policy that supports the use of technology to facilitate services, including in the inpatient registration process. One concrete step is the implementation of electronic medical records, which are considered capable of accelerating workflow and reducing recording errors. Management also actively provides training to staff so that they are accustomed to using this system properly. With supportive policies and management practices that continue to encourage improvement, the registration process becomes more efficient, patient data is more accurate, and services feel faster for patients.

## 2. Obstacles That Occurred in RME on the Effectiveness of Inpatient Services at Humana Prima Hospital

Based on the results of interviews with inpatient registration tasks, many obstacles often arise during the patient registration period, increasing the patient's waiting time in the inpatient registration process. This is based on the explanation of the inpatient registration officer, namely: "The problem is from the internet network which is often unstable, then also from the work facilities such as the computer is often slow, sometimes the mouse error makes the patient registration process take a long time".

## 3. Efforts Made to Improve the Effectiveness of Inpatient Registration Services at Humana Prima Hospital

To improve the effectiveness of inpatient registration services, the hospital has made various improvements. One of the efforts is to simplify the registration process so that it can be more easily understood and carried out by patients and officers. In addition,

inpatient registration officers have expertise and competence according to their field of duty. Based on the interview results, the inpatient registration officer explained "To improve services to patients, we must be disciplined, such as arriving on time according to working hours, then by typing quickly during the registration process, patients don't have to wait long, if we type slowly, the registration process will automatically take longer, patients are also satisfied because we work quickly, then now when registering patients, there is not much writing, we just write and copy-paste the existing data so it makes it easier for patients now since using RME, then also with the knowledge we have, we can provide information that patients need, for example, what patients need to know most is what is in hospital that is covered by BPJS and not because they are afraid that patients will be surprised if they are not told from the start, then if we speak clearly and in a friendly manner, patients will be happy with us. Then if there is a problem with a slow network or a computer error, we WA to the IT group so that it can be fixed".'

## **DISCUSSION**

### **1. Effectiveness of EMR in Inpatient Registration Services at Humana Prima Hospital**

The implementation of Electronic Medical Records (EMR) in inpatient registration services at Humana Prima Hospital has proven to have a positive impact on the effectiveness of the work of officers, although not optimal, but very helpful. Based on the results of the interview, the EMR system is considered to simplify the registration process for inpatients when compared to the previous manual method. In the manual system, many forms must be filled in by hand by both officers and patients, which causes the process to take longer. With EMR, the process is faster because data entry is done digitally via a computer by typing, and several stages of registration can be shortened. This shows that EMR not only speeds up the registration process, but also reduces the workload of officers and improves services.

According to Imbalo Pohan (2015:18), the effectiveness of health services is how far the quality of health services is achieved according to the needs and expectations of consumers. These services must pay attention to the principles and principles of public service. In addition, its provision must be carried out by professionals in the health sector and the purchasing power of the community is able to reach it. This must pay attention to the principles and principles of public service, so that public services do not decrease in quality or even their effectiveness in health services. (Rohmana, 2022) According to previous researchers (Situmorang, 2025) the implementation of RME also has a positive impact on the effectiveness of the work of medical recorders, including simplifying the patient registration process, accelerating data searches by

medical recorders, and accelerating the calculation of service indicators that were previously done manually, have now been automated by the system.

Factors that influence the level of effectiveness in an organization or company are as follows:

a. Organizational Characteristics (structure and organization)

The orderly and systematic organizational structure at Humana Prima Hospital has proven to play an important role in supporting the effectiveness of the implementation of electronic medical records. With a functional organizational model, each work unit has a clear role and responsibility, so that the operational process can run efficiently. Centralized leadership allows for more coordinated direction and decision-making, including in terms of implementing a digital system in inpatient registration services. This structural support encourages smoother cross-unit communication, accelerates the flow of information, and helps minimize errors in recording patient data. Therefore, a strong organizational structure directly supports increased service effectiveness, both in terms of speed, data accuracy, and user satisfaction.

According to experts (Haryanto, 1999) Organizational characteristics are internal conditions in an organization. What is meant by organizational characteristics here is as far as the individual perceives it. If there is a match, the individual or worker will feel like a member of the organization. These characteristics can be used to provide support for improving employee performance. (Suparyanto and Rosad (2015, 2020). According to previous researchers (Sambolangi & Rantesalu, 2023) The characteristics of the organization in terms of structure and technology have been implemented simply in providing public services. This can be seen from the organizational structure chart based on its main tasks and functions in providing services to the public.

b. Environmental Characteristics (accuracy of environmental conditions)

Humana Prima Hospital's ability to adapt its work environment to the needs of fast-paced services is an important factor in the success of implementing electronic medical records. Adequate facilities, competent workers, and easily accessible locations also support the effectiveness of this system. A supportive work environment allows the inpatient registration process to run more efficiently, with shorter waiting times and more accurate patient data. Adjustments to external and internal conditions show that a responsive work environment can strengthen the success of using technology in health services.

According to Sonny in Kaswan (2017:568), the work environment is "everything that is around the worker and can influence him in carrying out the tasks assigned". (Desyinta et al., 2019). According to previous researchers (Trisnantoro, 2021), the external environment of a hospital greatly influences its management and operational systems. Changes in the physical environment such as traffic congestion, pollution, and residential development can be threats or opportunities for hospitals in providing services. In addition, changes in government policies, health regulations, and community demands are also part of the environment that must be responded to appropriately by the organization.

#### c. Job Characteristics (differences in worker characteristics)

The differences in job characteristics at Humana Prima Hospital require a system that is able to connect various functions efficiently. Administrative tasks such as patient registration require precision and speed, while medical personnel focus more on clinical services. This condition creates a need for fast and accurate data integration. The implementation of electronic medical records answers these needs by strengthening coordination between units, accelerating the registration process, and reducing the risk of data errors. This shows that digital systems can improve service effectiveness even though the nature of work in hospitals is very diverse.

According to experts (Pustaka et al., 2004) job characteristics are an approach to designing jobs that show how jobs are described into five core dimensions, namely skill diversity, task identity, task meaning, autonomy and feedback. According to previous researchers (Rachmawati et al., 2018) individual characteristics are characteristics that are inherent in each individual. Individual differences cause differences in a person's perspective on job satisfaction. Someone feels satisfied with the existing conditions, not necessarily other people feel the same way. So that individual behavior in satisfying their needs differs from one to another.

#### d. Management policies and practices

Management policies at Humana Prima Hospital strongly support the use of technology as an effort to improve the quality of service, especially in the inpatient registration process. The implementation of electronic medical records is a strategic step that accelerates the workflow and reduces the risk of errors in recording patient data. In addition, management routinely conducts training to ensure that staff can use the system optimally. The combination of pro-technology policies and management practices that actively encourage continuous improvement contribute to the efficiency of the registration process, increased data accuracy, and accelerated services felt directly by patients.

According to (Gibson JIL, 2001) Management policies and practices are mechanisms that include setting strategic goals, finding and utilizing resources efficiently, creating an environment of achievement, communication processes, leadership and decision-making, and organizational adaptation and innovation. In this case, managers are very important in directing activities professionally to achieve goals.

## 2. Constraints that Occur in EMR on the Effectiveness of Inpatient Services at Humana Prima Hospital

Although the implementation of Electronic Medical Records (EMR) at Humana Prima Hospital provides convenience in services, there are still a number of technical constraints that affect the effectiveness of the inpatient registration process. The results of interviews with registration officers showed that several major obstacles such as unstable internet connections and less than optimal work devices. Officers revealed that slow computers, mice that often experience problems, and other technical problems cause the patient data input process to be slower. This condition has an impact on increasing patient waiting time in the registration process, which ultimately reduces service efficiency. Thus, although EMR has the potential to speed up services, these technical constraints need to be addressed immediately so that the system can run optimally.

According to experts, four main factors generally prevent hospitals from implementing electronic-based medical records: laws and regulations, infrastructure, expenses, and human resources (HR). According to (Dhamar and Rahayu 2020) in their research, the Machine factor is the main inhibiting factor in the implementation of Electronic Medical Records, such as computers still experiencing obstacles and the limited number of computers available and slow networks. (Laila et al., 2024).

## 3. Efforts Made to Improve the Effectiveness of Inpatient Registration Services at Humana Prima Hospital

Humana Prima Hospital has taken various improvement steps to improve the effectiveness of inpatient registration services. One effort is to shorten the registration flow so that it is easier to understand and implement by officers and patients. Inpatient registration officers at Humana Prima Hospital also have adequate competence and demonstrate a professional attitude in carrying out their duties. Based on the results of the interview, officers emphasized the importance of discipline in working, such as arriving on time to the hospital and typing quickly, so that the registration process runs efficiently and patients do not wait too long. In addition, the use of the RME system makes it easier for officers because some data can be copy-pasted, so that patients no longer need to write a lot of data manually. In addition to technical aspects, officers also demonstrate good communication skills, such as providing information needed by

patients regarding BPJS services, and explaining clearly and in a friendly manner. These things are considered to increase patient satisfaction and create more effective services.

According to (Soedarmadji et al., 2023) Efforts to improve the quality of hospital services are activities that are intended to provide optimal care or services for patients. Efforts to improve the quality of services have a large and effective role if improving quality is made a top priority. According to (Suartini, 2018) in his research, the effectiveness of health services can have an impact on the level of public health, therefore one of the efforts to increase the effectiveness of services is to require discipline in working.

## **Conclusion**

1. Based on the research results, it can be concluded that the implementation of Electronic Medical Records (EMR) in the inpatient registration service at Humana Prima Hospital has a positive impact on the effectiveness of the work of registration officers. This system simplifies the patient registration process by reducing stages that were previously carried out manually, such as filling out handwritten forms, thereby accelerating the service flow. However, the effectiveness of EMR is not yet fully optimal because technical obstacles are still found, such as internet network disruptions and work facilities that often error. However, compared to the manual method, EMR is considered more efficient and able to reduce the workload of officers, as well as increase the speed and quality of inpatient registration services. The effectiveness of inpatient registration services at Humana Prima Hospital is influenced by a clear organizational structure, a supportive work environment, differences in the nature of work in each unit, and management policies that encourage the use of electronic medical records. The combination of these factors increases the speed, accuracy, and efficiency of services. 2. It can be concluded that although the implementation of EMR at Humana Prima Hospital makes the registration process easier, the effectiveness of this system is still not optimal. Based on interviews with registration officers, a number of significant technical obstacles were found, such as unstable internet connections and unsupported work devices, including slow computers and mice that often break down. These problems cause the patient registration process to be slower and have an impact on increasing patient waiting times.

3. Efforts to improve the effectiveness of inpatient registration services at Humana Prima Hospital have been carried out by simplifying the registration flow and improving the competence of officers. The RME system, but also shows a disciplined and professional attitude in carrying out tasks. The use of RME has been proven to help speed up the registration process because it allows patient data to be processed

digitally, thereby reducing patient involvement in manual filling. In addition, good communication skills of officers, such as providing clear and friendly information about the services available, also increase patient satisfaction. Overall, the combination of work discipline, technical skills, and communication skills are important factors in creating more efficient and effective services.

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