



# Pieces The Problems In Implementing RME Using The Pieces Method In Medical Records At The TNI Au Hospital Lanud Sulaiman

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**Abstract :** Medical records contain information that is both documented and recorded on health services that are rendered to patients, including activities that are taken while they are inpatients, outpatients, or receiving emergency treatment. The purpose of this study is to use the PIECES technique to examine the main challenges facing the Sulaiman Air Force Hospital's medical records officers in implementing RME. Method: a case study approach in conjunction with qualitative descriptive research. Results: Seven topics were identified: output quality, technical challenges, data security, ease of implementing RME, modules and features, accuracy of information, performance or RME performance, and data security. Conclusion: Research from the Sulaiman Air Force Hospital indicates that numerous problems continue to impede the implementation of RME, which is still not up to standards because of its limited capabilities and menus that are currently under development. RME use continues to face numerous challenges in a variety of industries. start with RME performance; information correctness; modules and features; ease of use; data security; technological challenges; data security; and output quality.

## **IndexTerms - Obstacles, Digital Health Records, and Components**

### **I. INTRODUCTION**

The World Health Organization (WHO) stated in 2019 that medical records are designated as an essential aspect for data collecting, analysis, and enhancing the quality of health services. As such, medical records play a significant role in the global health system.

The Statement on Preservation of Patient Medical Records in Health Care Institutions, published in 2008, included additional measures implemented by the American Health Information Management Association (AHIMA).

According to these standards, medical record files are typically retained for ten years after the patient's last treatment. This aligns with the objective of improving the standard of patient care and improving several health system operating procedures, including health risk assessment and claims processing.

associated with the content of medical records, which comprise a comprehensive picture of a patient's information used to support decision-making regarding follow-up care and other medical measures (Riyanto et al., 2022). Medical records are files that contain records of patient personal data, examination, treatment, care, and supporting services that have been delivered to patients, as per Minister of Health Regulation No. 269/Menkes/Per/III/2008 concerning medical records.

Medical records contain information about actions taken by patients, whether they are patients in hospital, outpatients, or receiving emergency care (Belrado & Harmendo, 2024). They also contain information about health service data that is presented to patients. It is believed that Indonesia would be able to use technology that can make all activities easier by enabling computers to connect to each other and exchange information with each other as it enters the digitalization era. Information technology advances fast, and all industries—including hospitals as providers of healthcare—need to adjust to these changes on a regular basis in order to streamline and expedite the spread of information (Fatima, 2023). The implementation of RME is one type of technical innovation in the health sector (Wirajaya & Dewi, 2020).

Information that Minister of Health Regulation Number 269/MENKES/PER/III/2008 concerning Medical Records has to be updated for it is no longer in line with innovations in science and technology, the needs of the healthcare system, and societal legal requirements. Electronic medical records are defined as medical records made using an electronic system intended for the maintenance of medical records by Minister of Health Regulation Number 24 of 2022.

Healthcare providers find that RME facilitates the analysis of diseases and the planning of all patient activities, such as drug administration, nursing care, and medical treatments. Hospital service quality can be enhanced more effectively by holding RME (Wirajaya & Dewi, 2020). . It is expected that making use of a system or application will result in benefits relevant to the reason for which it was designed. In order to maintain the quality of a system, it is required to examine the degree of user satisfaction

derived from these issues in order to develop and improve the system. Some staff members at the Sulaiman Air Force Hospital's medical records unit are still recording and collecting data in the traditional manner, which keeps them from fully using the medical records unit's implementation of electronic medical records. So, the purpose of this study was to ascertain the degree of customer satisfaction with RME. This is essential to get user impressions or opinions about the elements included in RME using an analysis method.

The PIECES method is the analysis method utilized to ascertain user impressions since it has elements that connect with the RME properties. The PIECES examine is a method of analysis used to reach to the core of the issue in greater detail. A system's evaluation is typically done in phases, covering a number of areas such as productivity, security programs, economics, performance, data, and user service. PIECES Analysis (Performance, Information, Economy, Control, Efficiency, and Service) is the name given to this analysis. The PIECES method is crucial before starting the process of developing an information system since this analysis will typically identify the main issue or issues that are a result of the main issue. The purpose of this study is to use the PIECES method to investigate the issue of delayed RME implementation from a perspective of medical records officers at the Sulaiman Air Force Hospital.

## II. RESEARCH METHODOLOGY

Researchers use a case study design in conjunction with descriptive qualitative research for this study. The Sulaiman Air Force Hospital served as the site of the inquiry. Purposive sampling was used to choose seven medical records officers informants for in-depth interviews, which served as the data collecting method. A researcher-created questionnaire that takes into account study variables such RME performance, information, economics, control or security, efficiency, and patient care is the tool used. The samples selected using the next inclusion and exclusion criteria that the researchers had established.

1. In order to become eligible, a medical records officer must be at least 22 years old, finish at least one year of work, and have a minimum educational background of D3.
2. Officers who have not used RME for purposes of training are excluded.

## III. RESULTS AND DISCUSSION

### 1. Result

Using interview techniques with medical recorders at the Sulaiman Air Force Hospital as the primary research object, researchers looked for significant barriers to the implementation of electronic medical records in this study. This allowed them to gain a thorough understanding of the difficulties encountered in implementing this technology. Seven themes emerged from the interview, including performance—or the performance of RME—accuracy of information, modules and features, ease of application of RME, data security, technological challenges, and output quality.

#### A. Performa RME

The head of medical records at Sulaiman Air Force Hospital was interrogated by researchers over RME's performance, including whether RME implemented orders promptly or not. According to the director of medical records, "The RME registration unit went smoothly, however after implementing RME the poly and ER units experienced many problems such as performance starting to slow down so that some data still used conventional reporting because the capabilities of the RME system were not yet optimal and not yet as needed". The hospital's RME is affected by the BPJS system as well because, in the event of a central BPJS system problems, the hospital's RME system will also be affected, causing issues with patient data access on the RME

#### B. Accuracy of Information

storage, which was a question raised by researchers. In response, the RI registration officer said "Due to the risk of data duplication in storage, patient data storage is also not very accurate. Because of this, the necessary patient data is not accurate, requiring a second check to see if the RME storage system has just one patient data or more. However, in contrast to traditional medical records, the data offered by RME is accessible instantly."

#### C. Features and Modules

Researchers ask as to whether the given menus and features assist users' ability to view information more easily. According to the analytical officer, "There are menus and features that are not yet available, so officers filling out patient data still need paper. The RME access system is still relatively old, and it has not fully accelerated the performance of officers." "In this case, you must still use regular consent paper because the DPJP signature capability is now being developed and is not yet accessible. Additionally, SEPs are still created manually using paper printouts, allowing the SEP coordinator to sign documents using traditional medical records."

#### D. Ease of Applying RME

The researcher asked as to what parts of the trial period impeded the completion of the RME information data. Based on the registration officers at RI and RJ, "Some officers find it straightforward to use; for example, it can expedite data searches, saving them from having to browse through patient files one by one. But other officers also mentioned that it was challenging to apply because of a number of elements that needed to be employed but were still unavailable."

#### E. Security of data

Researchers ask questions concerning the lucidity of authority rights inside the RME security structure. Officer for RJ coding stated that "It is important to setup and create accounts with specific passwords for each officer, not simply each unit, as each user

in each unit does not yet have their own login and password. An authorized user with access can edit patient information data, but after the change finishes, the edited unit does not have an account description function. However, DPJP already has a login and account of its own, allowing it to alter the patient data that has been saved. There is also an option to enter a verification code in advance of changes to input."

## F. Technical Problems

Regarding perceived changes in time efficiency before and after using RME, researchers asked questions. The data that the analyzing officer provided is that, "Compared to paper-based medical records, generated electronic medical records are available quickly. However, the network connection affects how quickly information can be accessed. The internet network is occasionally impacted by the features and menus that need to be chosen. Data is automatically saved and stored in the system storage, making it simple to locate the required data."

## G. Quality of Output

When there is no change or the output is as expected, researchers inquire. The officer responsible for reporting said "The data results still don't meet the expected standards for optimal performance. In these flaws are irregular patient data, which necessitates re-verification and routine updating to assure the accuracy and dependability of all recorded medical data."

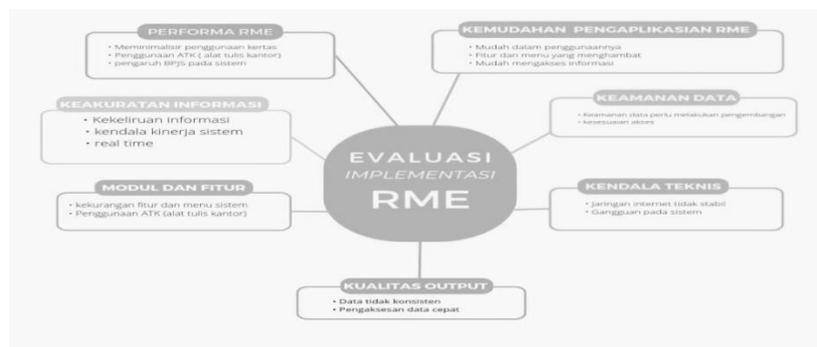


Figure 1. Data Presentation Associated with RME Evaluation

## 2. Discussion

### A. RME performance

For medical record officers, the RME system does not presently give the best results. In this instance, it may be said that there are still issues with the RME system that affect the work ability of the RME. Still, a number of officers claimed that the RME system's features matched their preferences. RME needs to function in line with the user's goals or the intended outcome (Indrawati et al., 2020). (Indrawati & Associates, 2009). 2020). This runs counter to results of Intansari's research from 2023, which show that RME is incredibly user-friendly and improves hospital productivity and performance in multiple ways.

### B. accuracy of information

The correctness of the information in medical records will be impacted by inaccurate data. Because Electronic Medical Records are a source of data that can be used as legal proof, accuracy in their compilation is crucial (Sari Dewi & Silva, 2023). Because this information is required to validate diagnoses and determine the course of medical treatment, incomplete electronic medical records significantly compromise patient safety. In addition, incomplete Electronic Medical Record forms might impede the administrative procedure and result in the denial of BPJS claims (Karmila, 2019).

### C. Modul dan fitur

Medical record officers still require some RME jobs that are not simple to use. These functions are incomplete. According to Dewi and Silva (2023), the menu in the system needs to perform its purpose, and the features and menu on the RME display need to be sufficient to support officer jobs. Features can facilitate data processing and patient data completion for users (Fenilho & Ilyas, 2023)

### D. Ease of Applying RME

Data entry by computer is a simpler process than data entry by hand. In the same way, when compiling patient medical records (Apriliyani, 2021). Mirza's research (2023), which details the outcomes of RME socialization, supports this as well, that in principle and in reality, RME is simple to understand. However, the RME system is not optimal based on the data obtained, and the use of RME is also not entirely efficient. When a system facilitates users' ability to do their responsibilities, it can be considered efficient (Alviolita & Yunus, 2021).

### E. Security of data

Implementing RME requires privacy and security, hence data security techniques that can safeguard the data and information within are necessary (Ningtyas & Lubis, 2018). Lubis & Ningtyas, 2018). A number of variables have been taken into consideration when evaluating the security of electronic medical records, including availability, confidentiality, authentication,

authorization, and integrity (Sofia et al., 2022). Pradita's research (2022) supports this, stating that protecting RME data is critical to preserving the information's authenticity and worth and preventing exploitation by other careless parties. Systems integrating many technologies require the implementation of security mechanisms such as encryption, access control, and authentication (Nicoamon, 2021).

#### F. Technical Problems

ATK is still required by RME in order to overcome its current constraints because the company is still having network issues. technological difficulties or obstacles in the RME system, include inconsistent data, internet restrictions, and lack of accuracy (Dewi & Silva, 2023). Technical barriers to implementing RME in healthcare institutions, however, can also include expensive overhead, a lack of equipment, and an absence of human resources. These issues extend beyond network issues. One of the issues with this is that RME might spread false medical information and obstruct the work of medical professionals.

#### G. Quality of Output

The report output produced by RME must be adjusted for future development to fit the Ministry of Health's format (Rika Andriani et al., 2022). The completeness of patient data has an impact on the quality of the information. According to Franki (2024), the information generated is highly helpful and may be used as a report and proof of service to patients. Doctors can access it straight away without waiting for medical record files, which will speed up patient care times.

### IV. COCLUSION.

According to analysis done at RS TNI AU Lanud Sulaiman, it was concluded that many factors hinder the implementation of RME, which is still not up to standard due to deteriorating features and menu that are still in the process of development. RME implementation still faces numerous challenges in various fields. starting from RME labor, information accuracy, module and fitter, ease of use in RME processing, data security, technical kendala, data security, and output quality. Deviation from the prescribed course might lead to user resistance and system failure.

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