

## Analysis of the Use of Electronic Medical Records Regarding Law Number 17 of 2023 in Indonesia

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### ABSTRACT

Health services are the most important public service after food in every country. Although ideally, the state should fully manage health services to ensure equal access for all citizens, in reality not all health services can be managed by the state due to limited resources. As the global situation progresses, the health crisis threatens millions of lives, and many countries face a lack of quality and adequate health services. Key barriers include a lack of health infrastructure, insufficient professional staff, poor public health implementation, and limited access to health information. Information technology has become an important solution to overcome this problem, with Electronic Medical Records (RME) as one of the key innovations. RME records patient health history electronically, which helps improve the quality of healthcare services through better information management. The implementation of RME in Indonesia is regulated by Law Number 17 of 2023 concerning Health, which requires health service facilities to maintain electronic medical records. However, challenges such as limited infrastructure, lack of skilled professionals, and issues of confidentiality and security of patient data need to be overcome. For this reason, it is necessary to improve information technology infrastructure, training for medical personnel, financial support, strict data security policies, as well as collaboration between the government, health facilities and technology providers.

## **INTRODUCTION**

Health is the most important public service after food in every country. Ideally, the state should fully manage health services to ensure equitable access for all citizens. However, in reality, not all health services can be managed by the state due to limited resources. Along with global developments, the health crisis threatens millions of lives. Many countries face the problem of a lack of quality and adequate health services. Lack of health infrastructure, insufficient professional staff, poor implementation of public health, and limited access to health information are major obstacles in improving health quality (Rubiyanthi, 2023).

In the modern era, the rapid growth of information in various fields is a phenomenon that occurs throughout the world. The use of information systems in health services is one example. There is no doubt that the use of information systems in the health service sector can provide many benefits for those providing services (Siagian, 2016). Electronic medical records are another information technology advancement in the healthcare field. There are many benefits that can be obtained from using electronic medical records, which can improve the quality of health services (Amatayakul, 2013).

Various solutions have been attempted to overcome this problem. One solution is the use of Information Technology (IT). IT not only makes the work of medical personnel easy but also allows for storing patient medical data in a structured format. This approach can help in making appropriate decisions for the healthcare system (Fritz, Tilahun, & Dugas, 2015). Electronic Medical Records (RME) is an information system that records health history, diagnostic test results, medical cost information, and other medical data. This system includes cashiers, demographic data, support units, disease history, inpatient wards, treatment, polyclinics, procedures, and administrative payments (Hatton, Schimdt, & Jelen, 2012). Electronic medical records can help improve the quality of healthcare systems around the world. It can be developed to address issues such as interoperability, efficiency, and flexibility to adapt to change (Orbeta, 2005). Data held by (World Health Organization, 2016) also shows that various countries use electronic medical records.

Hospitals around the world have started using RME as a replacement for paper-based medical records. In Indonesia, the application of RME is also starting to be introduced, especially with the development of E-Health, where hospitals use RME as a computer-based information center. RME has great potential to be implemented in Indonesia because it offers many benefits compared to manual medical record systems. However, if the implementation of RME in hospitals throughout Indonesia is not optimal, this could affect the

accuracy of health data and create implementation gaps between one province and another.

## **LITERATURE REVIEW**

### ***Implementation of Electronic Medical Records in Indonesia***

Currently, Indonesia is in the industrial era 4.0, which is an information technology revolution, and industry needs to implement it. Hospitals, a busy health sector, are intensifying the strategy of improving the quality of facilities through the contribution of the Hospital Information System (SIRS). Electronic Medical Records (RME) is one of the SIRS that helps improve the quality and efficiency of good services. Electronic Medical Records (RME) are an important technological tool for healthcare, modernizing medical information management, and contributing to good patient care and effective management. More specifically, RME is considered a digital patient data repository that is secure and accessible to multiple authorized users. The main goal of RME is to support patient care and improve the quality of their care (Adriani et al, 2017).

According to Silvestre (2018), electronic medical record systems are very complex and require careful planning and coordination from all health service staff, as well as a focus on the needs of service users. To achieve successful implementation of electronic medical records, there are several elements that are very important. This includes thorough planning; dedicated team members; support from facility management, funders, and computer system developers; financing and acquisition strategies; workflow and process mapping; functional; data strategy; technical strategy; vendor selection strategy; and implementation strategies (Mashoka et al., 2019).

### ***UU Number 17 of 2023 about Health***

Medical records can be defined as records or recordings of patient treatment provided at health facilities that meet the requirements set by applicable regulations (Sudra, 2019). Known medical records usually consist of conventional medical records, which store patient data in written form. However, as technology advances, medical records have developed into electronic medical records, where every data entered is entered directly into the health information system (KKI, 2006). The use of medical records in health service facilities is regulated in Law No. 17 of 2023 article 173 paragraph (1) c, namely that health service facilities are obliged to maintain medical records. However, patient medical records must be kept confidential by medical personnel and hospitals because they belong to the patient and hospital. Disseminating the contents of medical records will harm patients and violate their interests. Developing an electronic medical record system requires attention

to several important factors. Because this project is so large, it requires careful planning and coordination from all health service staff as well as focusing on the needs of service users (Silvestre, 2018). Several key factors that are important for successful implementation of electronic medical records include comprehensive planning, a dedicated team, and support from facility management, funders, and computer system developers (Mashoka et al., 2019). Apart from that, it is also necessary to pay attention to financing and acquisition strategies, process and workflow mapping, functional strategies, data strategies, technical strategies, vendor selection strategies, implementation strategies, as well as the benefits that will be realized (Amatayakul, 2013).

Adoption of RME is a major change that is often felt in practice; it requires additional adjustments and innovations in other elements such as practice structure and culture. Some problems are not related to home management. illness, for example, facing financial problems. These hospitals are government-owned, but hospital leadership can influence policy and set budgets. By training employees and involving them in the entire change process, technical and time problems can be overcome (Rubiyanti, 2023). One of the problems faced is the fact that medical records are not kept confidential.

On the other hand, the fact that medical records are connected to each other in Health Service Facilities (Fasyankes) allows unauthorized people to access patient data. On the one hand, patients have the assurance that their medical record data remains confidential, but on the other hand, unauthorized people may be able to access and find out what is in their medical records. Article 4 paragraph (1) letter i of Law Number 17 of 2023 concerning Health states that: "every person has the right to obtain confidentiality of their personal health data and information." Patients also need to maintain the confidentiality of their data because they also need health services (Nurhayati et al, 2023).

## **METHODOLOGY**

In this article, the normative juridical method is used. This approach focuses on the main legal material and studies the theories, concepts, and principles of law and relevant laws and regulations. This approach is also known as the bibliographic approach, which means reading books, laws and regulations, and other documents that are relevant to the subject of the article. This article is analytically descriptive, which means that it aims to explain an object. investigation through collecting samples or data, which is then analyzed, and conclusions are drawn. To answer the problem, object description articles are carried out to obtain a comprehensive and systematic picture or explanation of the object.

Secondary data is data that is easy to find and use to solve problems in the article. Examples of secondary data sources include literature, articles, journals, and websites related to the topic of the article. In this article, qualitative data analysis is used. through thinking based on reasoning to obtain or draw logical conclusions before preparing the article. Qualitative data analysis not only aims to reveal the truth but also to understand the symptoms that arise in the implementation of the law.

## RESEARCH RESULT

The use of electronic medical records in Hospital Management Information Systems and other health facilities helps organize and update old procedures and create new data flows. more effective. On the other hand, it is also possible to build new data processing and distribution methods that are fast, systematic, simple and informative (Pujihastuti et al., 2021). Electronic medical records are very important for communication and collaboration between various organizations in the health sector and enable the sharing of information through medical systems and electronic medical records. This research found two articles from Amin et al. (2021) and Islam (2021).

Most developed countries use RME to improve quality care health. On the contrary, most countries developing countries lack healthcare information technology infrastructure to develop RME including in Indonesia. The development of RME in Indonesia has not been specifically regulated, with the ratification of the ITE Law of 2008 and Minister of Health Regulation 269 of 2008, became the basis for the validity RME as legal evidence and development of RME in Indonesia. The development of RME implementation is still hampered Resource capabilities Humans (HR) in creating information technology, high investment and support management. Various problems arise in the implementation of RME. Implementation failure RME projects were identified for their lack of integration into practices and organizations. Level receipt of RME by users identified late. Acceptance of RME by onuse requires high costs and learning efforts. Problems related to reception of Slow RME includes: lack of financial incentives, uncertain rewards, lacking technology optimality, lack of priority, and resistance by RME users.

Above, it has been explained that hospitals and other health facilities need an information management system to manage medical record data. On the one hand, the electronic medical record operational system that connects medical record data between health facilities will help patients when they need to be treated at referral health facilities or health facilities that are outside their area of residence. This will also make it easier for doctors, dentists, and other medical personnel to access the patient's medical history to provide appropriate and measurable treatment, therapy, and medical action for the patient's condition. The patient's right to health services will be strengthened by operational

connectivity which is conventionally possible by the Minister of Health Regulation. as regulated in Law no. 17 of 2023 article 276 paragraph e, Law number 17 of 2023 article 173 paragraph 1 letter c, Article 4 of Law Number 17 Article 4 of Law no. 17 of 2023 concerning Health states: Everyone has the right to: a. live a healthy life physically, mentally and socially; b. get information and education about balanced and responsible health; c. obtain safe, quality, and affordable health services in order to achieve the highest level of health; d. receive health care in accordance with health service standards; e. gain access to Health Resources.

## **DISCUSSION**

By law, nurses and hospitals are responsible for maintaining the confidentiality and integrity of medical records, which are confidential. including preventing items from being lost or used illegally by unauthorized parties. Doctors, hospital leaders, and practical students must also be responsible (Kusumaningrum, 2013). In a legal context, medical records function as legal written evidence in trials to prove medical errors by health workers. This is also regulated in Law no. 17 of 2023 article 276 paragraph e which states that patients have the right to have access to the information contained in them. in the medical record. Then in Article 173 paragraph 1 letter c, what is meant by medical records is a document containing patient identity data, examinations, treatment, procedures, and other services that have been provided to patients which are created using an electronic system intended for administering medical records. In the event that a healthcare facility cannot maintain electronic medical records due to technical obstacles, non-electronic medical records can be used until the obstacles are resolved, and medical record data can be re-entered into the electronic medical record system. The main concept in electronic medical records is the ability to communicate and collaborate between organizations in the health sector, as well as enabling the exchange of information through electronic medical records and other medical systems (Eichelberg et al., 2005; Berges, Bermúdez, and Illarramendi, 2012). This research found two articles discussing improvements to the electronic medical record system carried out by Amin et al. (2021) and Islam (2021). Electronic medical records are very vulnerable to damage if there are too many clinical and administrative systems in one health facility (Jardim, 2013). Therefore, repairs to electronic medical record systems must be carried out by professionals who can provide best practice methods in improving the system and reducing errors.

## **CONCLUSIONS AND RECOMMENDATIONS**

The implementation of Electronic Medical Records (RME) in Indonesia is an important step in improving the quality and efficiency of health services. RME

helps modernize medical information management, supports patient care, and ensures that health data can be accessed easily and securely by authorized medical personnel. However, the implementation of RME in Indonesia still faces several challenges, such as limited infrastructure, lack of skilled professionals, as well as technical and financial obstacles. Apart from that, the issue of confidentiality and security of patient data is also a major concern in the implementation of RME. Legislation, such as Law Number 17 of 2023 concerning Health, has stipulated an obligation for health service facilities to maintain electronic medical records. However, further efforts are still needed to ensure that all health facilities can meet these requirements and overcome existing barriers.

In this regard, the Government needs to improve information technology infrastructure in all health service facilities, including in remote areas, to support the overall implementation of RME, Provide adequate training and education to medical personnel and related staff regarding the use of RME and the importance of maintaining the confidentiality of patient data, Provide financial support for health facilities, especially those in low-resource areas, to assist them in adopting and implementing RME, Develop and implement strict data security policies to protect patient health information from unauthorized access and breaches of confidentiality., Encourage collaboration between the government, health facilities, technology providers and other related parties to ensure effective and efficient implementation of RME and Conduct regular monitoring and evaluation of the implementation of RME in various health facilities to identify obstacles and take necessary corrective actions. With these steps, it is hoped that the implementation of RME in Indonesia can run more effectively, improve the quality of health services, and ensure that patient health data is managed safely and efficiently.

## **FURTHER STUDY**

The implementation of Electronic Medical Records (EMR) in Indonesia presents numerous opportunities and challenges that warrant further investigation. Future studies could explore the following areas to enhance the understanding and effectiveness of EMR systems:

1. **Infrastructure Development:** Investigate the current state of health information technology infrastructure across different regions in Indonesia. Assess the gaps and propose strategies for upgrading infrastructure, especially in remote and underserved areas.

2. **Training and Education:** Conduct research on the effectiveness of training programs for medical personnel and support staff on the use of EMR systems. Identify best practices and areas needing improvement to ensure comprehensive and ongoing education.
3. **Data Security and Privacy:** Examine the current policies and practices related to data security and patient privacy in EMR systems. Study the effectiveness of these measures in protecting sensitive information and propose enhancements to mitigate risks.
4. **Financial Models and Support:** Analyze the financial challenges faced by healthcare facilities in adopting EMR systems. Explore potential funding models and government support mechanisms that could facilitate widespread implementation, particularly in low-resource settings.
5. **Interoperability and Integration:** Investigate the interoperability of EMR systems with other healthcare information systems. Assess the technical and organizational barriers to seamless data exchange and propose solutions to improve integration and collaboration across different healthcare providers.
6. **Impact on Healthcare Quality and Efficiency:** Conduct longitudinal studies to measure the impact of EMR implementation on the quality and efficiency of healthcare services. Evaluate patient outcomes, service delivery times, and overall healthcare system performance.
7. **User Experience and Satisfaction:** Study the user experience and satisfaction levels of healthcare providers and patients with EMR systems. Identify pain points and areas for improvement to enhance the usability and acceptance of EMR systems.
8. **Policy and Regulatory Framework:** Examine the existing legal and regulatory framework governing EMR implementation in Indonesia. Propose policy recommendations to address gaps and support the effective and ethical use of EMR systems.
9. **Case Studies of Successful Implementations:** Document and analyze case studies of successful EMR implementations in various healthcare settings. Identify key factors contributing to their success and develop guidelines for replication in other facilities.
10. **Monitoring and Evaluation Mechanisms:** Develop robust monitoring and evaluation frameworks to continuously assess the progress and impact of EMR implementation. Propose indicators and methodologies for regular audits and feedback loops.

By addressing these areas, future research can contribute to the optimization of EMR systems in Indonesia, ultimately leading to improved healthcare delivery, enhanced patient outcomes, and better management of health information



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