



## Implementation of Electronic Medical Record System in Indonesia Viewed from the Perspective of Legal Certainty

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### Keywords

Electronic Medical Records, Health Service Facilities, Electronic Systems, Minister Of Health Regulation Number 24 Of 2022

### Abstract

The implementation of Electronic Medical Records (EMR) is a critical component of this transformation, aiming to transition health records from paper to electronic form, with the government emphasising the need for secure data management, as outlined in the Regulation of the Minister of Health of the Republic of Indonesia number 24 of 2022. The purpose of this study is to analyse the implementation of the Electronic Medical Record System in Indonesia, which has one important and strategic aspect, namely its existence as one of the pillars of health technology transformation in realising national health and as a condition for indicators of realising people's welfare mandated in the Preamble of the 1945 Constitution as a national goal. Its implementation is regulated according to the applicable laws and regulations in Law No. 17 of 2023 concerning Health and specifically in Minister of Health Regulation No. 24 of 2022 concerning Medical Records. The method used is Normative Juridic. As part of the health service system, the role of the Electronic Medical Record System is very strategic in the quality of health services. The successful implementation of the Electronic Medical Record System greatly influences the quality of health services. This will boil down to the regulation regarding the Electronic Medical Record. Currently, the laws governing RME are Law Number 17 of 2023 concerning Health and Minister of Health Regulation Number 24 of 2022 concerning Medical Records. In both regulations, it is regulated on the Implementation of Medical Records; it is formulated that Medical Records are one of the implementations of the pillars of health transformation in the realisation of state goals mandated in the 1945 Constitution, significantly improving the nation's health through a sustainable Electronic Medical Record system. Although various obstacles were found in implementing the RME, one was related to the electronic medical record system used, and the other was related to the security and confidentiality of patient health data. The conclusion of this study will further examine the implementation of the Electronic Medical Record System, which is still experiencing problems regarding the security and confidentiality of Electronic Medical Record data in Indonesia.



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## 1 Introduction

Health is a healthy condition, physically, mentally, spiritually and socially, that enables everyone to live productively socially and economically (Kolib, 2020b). Improving health services aims to increase awareness, comfort, and the ability of every citizen to live a healthy life to realise an optimal degree of health as one of the components of general welfare in the Preamble to the Constitution of the Republic of Indonesia in 1945. Every doctor and dentist as medical personnel, as well as all health workers and health service facilities, must follow applicable standards, policies and procedures in carrying out medical activities so that the public can obtain medical services professionally and safely. One of them is to actively participate in implementing medical records, which have now switched to electronic systems (Sutton et al., 2020).

The laws and regulations governing the implementation of Medical Records in Indonesia are regulated through Law Number 17 of 2023 concerning Health and Minister of Health Regulation Number 24 of 2022 concerning Medical Records (Asyfia et al., 2023). In implementing Electronic Medical Records in Indonesia, there are still problems, such as using Electronic Systems for Medical Records, which must guarantee the confidentiality and security of medical record data. The electronic medical record system must be able to provide data assurance and protection. This guarantee is in the form of confidentiality, integrity and availability (Kolib, 2021). This is related to the obligations owned by Health Facilities, which must maintain the confidentiality of the contents of the Patient's Medical Record (Kusumah et al., 2022).

Electronic Systems in the implementation of Electronic Medical Records can be in the form of Electronic Systems in the form of Electronic Systems developed by the Ministry of Health, Health Service Facilities themselves, or Electronic System Operators through cooperation (Putri & Mulyanti, 2023). Such are the complex challenges for RME implementation; it is necessary to conduct a readiness assessment before RME implementation. This is the most important step to take before implementation. The readiness assessment will help identify processes and priority scales and assist in establishing operational functions to support the optimisation of EMR implementation (Venkatraman & Sundarraj, 2022). The study's results (Ulfa & Yuspin, 2023) mentioned that information technology (IT) offers many advantages compared to the use of paper for storing and retrieving patient data. However, implementing RME has several challenges, including infrastructure and structure problems, information technology problems, lack of need assessment, cultural problems, and high costs of software, hardware, and data exchange standards. Therefore, it is necessary to conduct a readiness assessment before the implementation of RME by referring to the legality of preparation for the implementation of Electronic Medical Records in management information in Health Service Facilities, namely with the existence of Minister of Health Regulation no. 24 of 2022 (Kolib, 2020a).

The preparatory evaluation of the implementation of electronic medical records should be thorough and include human resources, organisational work culture, governance, leadership, and infrastructure. All of these elements will support the implementation of operational functions to optimise the implementation of RME (Adha et al., 2023). The technology system element that supports electronic medical records plays an important role in the success of the implementation of RME in Fasyankes. However, incomplete preparation is an obstacle to this success. The obstacles to the RME system include the electronic system used and the readiness of human resources and infrastructure (Bakhtiar & Syaid, 2022). The important role of medical records is not only for patients as owners of medical record content but also for organisers, namely health service facilities that carry out the work. Medical records have a role in legal protection for patients and health facilities, especially if law enforcement officials open the medical records in court. So that the implementation of this RME can provide legal certainty for health facilities and patients. However, with the complex obstacles experienced, the author is interested in making a study entitled

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**"The Implementation of Electronic Medical Record Systems in Indonesia Viewed from the Perspective of Legal Certainty."**

This research aims to understand how the Electronic Medical Record (EMR) System is operated in health facilities and to convey the readiness of health facilities to implement the system according to Minister of Health Regulation No. 24 of 2022. This research aims to gain an in-depth understanding of the EMR operational process in Health Facilities, including collecting, storing and accessing patient data. Apart from that, this research also aims to assess the extent to which health facilities are ready to adopt an EMR system, including aspects of infrastructure readiness, human resources and compliance with applicable regulations.

## **2 Materials and Methods**

Research methods are the science of the levels that must be passed in the research process or science related to scientific methods to find, develop and prove the truth of knowledge. The research method used in this study is normative research, which is research conducted using library legal materials or secondary data that may include primary, secondary and tertiary legal materials. For Research Approach The approach used in this study is juridical normative research with a statutory approach (statute approach) and a case approach (case approach). The legal approach is carried out by reviewing all laws and regulations relevant to the legal issues being handled.

The case approach is carried out by examining cases related to issues faced in the implementation of legislation and having permanent legal force in the form of what happened in Indonesia. The analytical technique used in this study is descriptive research; descriptive research techniques explain a legal event or condition. A legal event is an event with legal aspects that occur in a certain place and at a certain time. Descriptive analysis techniques, when viewed from the point of view of the form, are diagnostic research, which is an intended investigation to obtain information about the causes of the occurrence of a symptom or several symptoms, which aims to find facts (fact-finding) followed by finding a problem (problem finding) which then leads to problem identification (problem identification).

The source of the data in the form of legal materials used in this study is primary legal material, including basic regulations, laws and regulations, non-codified legal materials, jurisprudence and treaties. In this case, Health Law Number 17 of 2023 concerns Health and Minister of Health Regulation Number 24 of 2022 concerns Medical Records. Secondary legal materials are those that explain primary legal materials. Tarsier legal materials provide instructions and explanations for primary and secondary legal materials. Secondary legal materials are materials that provide explanations of primary legal materials such as draft laws, legal writings in books, magazines, journals, newspapers, and internet media, and the results of research and scientific works of scholars. Tertiary legal materials, namely legal materials, provide guidance and explanation for primary legal materials and secondary legal materials, such as encyclopedias (legal) dictionaries.

For Data Collection Methods, in this study, the author uses a type of data collection tool, namely through interviews and literature studies, which are all efforts made by researchers to collect various information relevant to the topic or problem that will or is being researched, such as various kinds of scientific books, research reports, scientific essays, theses and dissertations, regulations, statutes, yearbooks, encyclopedias, and other written sources, both printed and electronic.

## **3 Results and Discussions**

### **Medical Record Regulation in Indonesia**

Management Information Systems in Health Care Facilities were created not only to maximise the old governance but also to update and create new technical data flows that are more effective and efficient. In addition, a system of data processing procedures that are more systematic, simple, informative and effective information

distribution is created (Karmadi et al., 2023; Pujihastuti & Hastuti, 2021). In administrative terms, the benefit of electronic medical records is that they store electronic information regarding health status and health services provided by healthcare facilities that patients have obtained. The benefits of using medical records with electronic systems are also useful for doctors and health workers to find and open access to information about patients. This helps medical personnel and health workers make clinical decisions and establish diagnoses for patients.

Obligation Recording medical records is done by doctors and dentists who perform medical actions on patients. So, according to the regulations, there is nothing that can be used as a reason for doctors not to record medical records. Implementing the Electronic System of Medical Records solves various problems in healthcare facilities. One of these problems is that the space for storing medical records must be large as new patient visits at the health facility increase, medical record files are lost, the release of medical record data is needed, and many more problems are faced. SIM, or Management Information System in the form of an electronic system of medical records, provides operational benefits that can facilitate the process of extracting patient data, as well as practical and minimal errors in document storage. so that, in this case, it does not require a lot of space; the time to find medical record data is short, and all the necessary health data can be fulfilled and read in RME, which can improve the quality of service.

The regulations governing the implementation of Medical Records in Indonesia are Law Number 17 of 2023 concerning Health in articles 296 to 300 and Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2022 concerning Medical Records. Both regulations seek to be the legal basis or legality for implementing medical records, especially those held electronically. So, with this policy, health service facilities (Fasyankes) must run an electronic patient medical history recording system. Minister of Health Regulation No. 24 of 2022 has regulated three new things. These three things are electronic medical record systems, electronic medical record management activities, and electronic medical record data protection. Law number 17 of 2023 article 300, paragraph 2, regarding the integration of medical records with the national health information system launched by the government, namely in the form of the Satu Sehat program, requires the implementation of Electronic Medical Records, which the system must be able to guarantee the security, confidentiality, integrity and availability of Medical Record data. Therefore, article 3 and Article 9 of the Minister of Health Regulation Number 24 of 2022 concerning Medical Records emphasise the obligation of Fasyankes to run an Electronic System in the Implementation of Medical Records at Fasyankes. Article 22, paragraph 1 of the Minister of Health Number 24 of 2022 stipulates the Cooperation Agreement that Fasyankes can carry out with Electronic System Operators (PSE). The Electronic System used in implementing Medical Partners electronically is also required to have compatibility and interoperability capabilities.

In carrying out a cooperation agreement, one requirement to choose a PSE is to register the Electronic System used at the Ministry of Health. The system (Yunisca et al., 2022) used by health facilities is an integrated system that will also be integrated with the national health system in the future, namely the One Healthy Program. The Ministry of Health of the Republic of Indonesia is transforming the digitalisation of health services through the SATUSEHAT program, a platform for data connectivity, analysis, and services to support integration between applications and health service facilities (fasyankes). Later, patients will not need to fill out new forms when moving Health Care Facilities repeatedly. With the SATUSEHAT Program, patients can get information about their health condition more clearly and transparently. Through the Ministry of Health, the Government of the Republic of Indonesia continues to make efforts to achieve the target of Implementing Electronic Medical Records (RME) by the Minister of Health Regulation (PMK) Number 24 of 2022 concerning Medical Records.

The Ministry of Health of the Republic of Indonesia created this integration platform through a long process. The process starts with planning, polls from experts, and alpha and beta phase trials with participants from various institutional backgrounds. For example, hospitals, laboratories, pharmacies, independent clinics, practitioners, and academics. According to existing data, there are 792 hospitals, clinics and puskesmas that have been incorporated into the SATUSEHAT platform and continue to increase in number where the public can open access in

<https://satusihat.kemkes.go.id/platform/healthcare-list>. This step is one of the movements of accelerating technological transformation to achieve health data, where this system also provides convenience in utilising accurate and efficient data. This aligns with health transformation in pillar six, namely health technology transformation.

The obstacles and problems when implementing an electronic system of medical records are related to systems that must have interoperability with variables that are mandatory by the provisions of the Ministry of Health of the Republic of Indonesia, which often do not meet the needs of variables that become standard formats in medical records by applicable laws and regulations, namely the Decree of the Minister of Health Number HK.01.07 / MENKES / 1423 / 2022 concerning Variable Guidelines and Meta Data on Electronic Medical Record Administration. This Decree of the Minister of Health was determined with the consideration that in the implementation of electronic medical records, an electronic system that has compatibility and interoperability capabilities between one electronic system and another electronic system and different electronic systems is needed to be able to work in an integrated manner to communicate or exchange data with one or more other electronic systems. This requires that the electronic system on electronic medical records used must refer to variables and metadata set by the Ministry of Health. One of the obstacles is the unfulfilled element of interoperability, resulting in hampered medical record implementation activities and incomplete input. This has an impact on the availability of incomplete data in the RME. The readiness of human resources, which makes inputs, includes all medical personnel and health and non-health workers involved in RME activities. EMR officers often do not have sufficient ability and knowledge to input Electronic Medical Records. So that the data inputted is incorrect, inaccurate, and complete. The role of Management includes leadership in determining the system used.

The electronic system used can come from Fasyankes, the Ministry of Health, or from entering into a cooperation agreement with PSE (electronic system operator). The cooperation agreement with PSE is currently the choice of most health facilities in Indonesia. Choosing a PSE that fulfils government requirements regarding the electronic medical record system is the duty of health facilities to be able to carry out electronic medical record implementation activities according to laws and regulations. PSE that can meet the needs of Fasyankes in terms of selecting medical record metadata variables, the system is considered capable of meeting the elements of compatibility and interoperability. It is digitally integrated with other devices and systems. The implementation of the Electronic Medical Record System in Health Service Facilities consists of patient registration, distribution of electronic medical record data, filling in clinical information, processing of Electronic Medical Record information, Covering data for financing claims, storage of Electronic Medical Records, quality assurance of Electronic Medical Records, transfer of contents of Electronic Medical Records (Putri & Mulyanti, 2023). All of these implementation activities require an RME system whose compatibility and interoperability can ensure data security and confidentiality. An RME system that can meet metadata variables according to the Ministry of Health regulations can be used to guarantee that the data meets interoperability and compatibility requirements and is in line with the government program, namely SATUSEHAT.

#### **Implementation of RME System in Indonesia**

The Ministry of Health of the Republic of Indonesia, on August 31, 2022, stipulated the Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2022 concerning Medical Records. So, enacting this regulation revokes the Regulation of the Minister of Health of the Republic of Indonesia Number 269 / MENKES / PER / III / 2008 of 2008 concerning Medical Records. The things that underlie the revocation of the previous Minister of Health. Some of these are as follows: 1.) There are developments in science and technology, health service needs and legal needs in the community so that Permenkes Number 269 / MENKES / PER / III / 2008 2008 is no longer by this; 2.) The transformation of digitalisation of health services underlies the development of digital technology in society 3.) Electronic medical records must prioritise the principles of security and confidentiality of data and

information in the electronic medical record management system. Minister of Health Regulation Number 24 of 2022 is used as the legal basis for the legality of the implementation of RME. Three new things are regulated in general terms, Minister of Health Regulation Number 24 of 2022. These three things are electronic medical record systems, electronic medical record implementation activities, security and electronic medical record data protection. There are several ways to implement an electronic medical record system: an electronic system developed by Fasyankes himself, an electronic system developed by the Ministry of Health of the Republic of Indonesia, an electronic system developed by an Electronic System Operator that has been registered in the health sector at the Ministry of Communication and Information Technology of the Republic of Indonesia. In its implementation, the electronic system used is required to have the ability to conform one electronic system to another electronic system and the ability of different electronic systems to be integrated in carrying out communication or data exchange with other electronic systems. When preparing to implement Minister of Health Regulation Number 24 of 2022, it is considered necessary to develop the use of RME, including 1. The number of health human resources in each unit is added, where each will have a special responsibility to input RME 2. Increasing the number of IT human resources who have the task of maintaining and maintaining the continuity of the RME 3 Information System network system. Additional internet capacity in the health facility environment 4. Increase the number of hardware devices to optimise the use of RME 5. Optimising the RME information system to improve patient service security arrangements and protect medical record data to organise EMR.

Regulated in the Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2022, which consists of ownership and content of RME, security and protection of electronic medical record data and regarding the confidentiality of the contents of electronic medical records, waiver of rights to the contents of electronic medical records and the retention period of electronic medical records. The ownership and content of RME are two ownerships, namely belonging to health care facilities and belonging to patients. Healthcare facilities are responsible for loss, damage, falsification and use by persons or entities who do not have rights to such medical record documents. If patients obtain consent, it can be conveyed to the next of kin or other parties. Fasyankes' obligations in organising medical records as stated in the Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2022 explain several things, including: 1.) This regulation provides obligations for all health service facilities to organise electronic medical records no later than December 31, 2023, including independent practices carried out by health workers and medical personnel. The Ministry of Health, through the Director General of Health Services, has the authority to provide administrative sanctions and conduct written reprimands and recommendations for the revocation or revocation of accreditation status for healthcare facilities found to have violations. This legal obligation is strengthened by legal sanctions aimed at realising legal certainty. However, legal practicality should also be considered.

This must be a consideration due to the geographical factors of Indonesia, which are very wide, varied, and compounded. The situation in the field and the situation and condition of health workers and medical personnel on duty in all regions to remote parts of Indonesia who have limitations in infrastructure must be considered by the Ministry of Health, especially regarding internet and computer networks. 2.) The authority of the Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2022 to the Ministry of Health related to the data and content of electronic medical records and electronic medical record implementation systems. Healthcare facilities must have open access and be integrated into all contents of electronic medical records for the Ministry of Health. There must be a balance with great responsibility because, until now, personal data protection in Indonesia has been categorised as still weak, and there are frequent leaks. Medical secrets are not only personal data that must be safeguarded but also a basis and philosophical basis for health workers and medical personnel in carrying out their profession. In this case, there needs to be regulations that have legal force regarding medical secrets through harmonisation or synchronisation. Through the Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2022 as legal protection in implementing electronic medical records.

Legal protection is comprehensive and must be explained and disseminated again through broad regulations (for example, SOPs / Standard Operating Procedures or RME Implementation Manuals). This aims to prevent misunderstanding of the provisions of the Regulation of the Minister of Health of the Republic of Indonesia, number 24 of 2022. Law Number 24 of 2022 concerning Medical Records must have the basis of the Principle of Legal Certainty, where the principle in the rule of law prioritises the basis of legislation, decency, and justice in every policy of the state administrator. This principle has the will to respect the rights that a person has obtained based on the decisions of state administrative bodies or officials. This principle is important because it guarantees clarity from this law; it explains that electronic medical records in the RME Implementation System have clarity and legal protection for patients regarding medical record data so that with this, data confidentiality is maintained and not leaked. The absence of RME in service has legal consequences relating to 1. Insurer RME 2. Sanctions for violation of the provisions of the RME. Fasyankes' RME is responsible for the integrity and continuity of services, and evidence of Fasyankes includes primary clinics for all efforts to heal patients. Health workers or health facilities must organise medical or electronic medical records correctly and are responsible for confidentiality. Therefore, Fasyankes that do not carry out electronic medical records may result in administrative sanctions if the unavailability of medical record facilities may be subject to criminal law. Civil sanctions may be imposed if there is incompleteness in conducting electronic medical records. The opening of electronic medical records legally has criminal, civil, and administrative legal consequences.

#### 4 Conclusion

The assessment of readiness for the implementation of RME in health facilities in terms of human resources is almost entirely not ready due to the need for special staff responsible for the implementation of RME. The staff must have the competence to master information systems with the assistance of information technology experts. The assessment of the readiness of the implementation of RME in terms of organisational work culture is considered quite ready. Still, almost all of them do not have SOPs and RME workflows that are not ready for planning. The assessment of readiness for implementing RME in terms of infrastructure is partly not ready; this is assessed from the unavailability of adequate software and computers. Minister of Health Regulation Number 24 of 2022 is the legal basis or legality in terms of organising electronic medical records. In general, three new things are regulated in the Minister of Health Regulation Number 24 of 2022: electronic medical record systems, electronic medical record implementation activities, security and electronic medical record data protection. The Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2022 regulates the following: ownership and content of electronic medical records; Security and protection of electronic medical record data, including the confidentiality of the contents of electronic medical records, waiver of rights to the contents of electronic medical records and the period of storage of electronic medical records.

To improve the quality of health services in healthcare facilities in the face of technological advances, it is expected that all health service facilities in Indonesia can make more mature preparations from the aspects of Human Resources, Organizational Unit Culture and Infrastructure that can provide support for the implementation of Electronic Medical Records. This can maximise the development of the RME information system for Health Service Facilities. And indirectly, Fasyankes is required to know how the legality and management of Electronic Medical Records must be maintained from the aspect of confidentiality and has the aim that these health workers can be utilised optimally and sustainably in increasing the competence of human resources who are broad-minded in technology so that the target of advancing health facilities is achieved and the development of information through the Medical Records System but must always pay attention to several things such as the possession and content of electronic medical records; Security and protection of electronic medical record data including the confidentiality of

the contents of electronic medical records, waiver of rights to the contents of electronic medical records and the period of storage of electronic medical records.

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