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Position and Implementation of the Use of Electronic Medical Records in Proving Medical Crimes in Indonesia

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ABSTRACT

This study examines the legal status and implementation of electronic medical records in medical criminal proceedings in Indonesia. Digital transformation in the healthcare sector has encouraged healthcare facilities to adopt electronic medical records as part of efforts to improve service quality, efficiency, and health data integration. At the same time, the increasing number of complaints concerning alleged medical malpractice and medical disputes requires the availability of evidentiary instruments capable of recording clinical service processes in a complete, accurate, and accountable manner. Electronic medical records contain essential information such as patient history, physical examinations, diagnoses, therapies, medical procedures, informed consent, medication administration, supporting examination results, and the development of a patient's condition. Accordingly, electronic medical records have the potential to become a primary source for assessing whether there have been deviations from service standards, negligence, and causal relationships in medical criminal cases.This research employs a normative juridical method with a statutory approach and a conceptual approach. The analysis focuses on regulations governing medical records under the Health Law, ministerial regulations on medical records, as well as the legal regime concerning electronic documents and electronic system security. The findings indicate that electronic medical records have a legally acceptable status as evidence in the form of electronic documents and or documentary evidence, provided that their authenticity and data integrity can be guaranteed. Their implementation in law enforcement processes requires compliance with data security standards, access control mechanisms, standard operating procedures, and the availability of data management traces such as audit trails to ensure that data are not altered without proper authorization.

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Introduction

The development of technology in today's time is developing very rapidly, one of which is in the field of medicine.(Sidi, 2022) With the increasing technology in the world of medicine or the world of health in Indonesia, the higher the number of violations or crimes committed by doctors in terms of malpractice activities. Medical Records have an important and even very important role in supporting the implementation of the National Health System (SKN). Medical records must exist to maintain a high quality of professional service, for the benefit of the substitute physician who continues the patient's care, for future reference and to fulfill the patient's rights.(Khoirunnisa, 2017)

Medical records are a complete summary of information about the process of medical services in the past, present, and forecast of happening in the future. As an important thing in providing high level of health service facilities, medical records can also be used as educational, research or accreditation materials, and also as evidence in trials involving malpractice activities by doctors. A well-maintained medical record will be very important for health services, as well as for the benefit of patients to know the health information they do both in the hospital and in other doctor's practices.(Aspan, 2017) Seeing how important medical records are in terms of public health services and the interests of the parties concerned as a reference material to see the condition of the party conducting treatment if there are errors or malpractice activities in it, a regulation was formed that regulates the issue of medical records as one of the evidence and even as the main evidence regulated in the Minister of Health of the Republic of Indonesia Number 269/2008 concerning Medical Records. With the advancement of advanced technology, medical records are not only recorded on paper, but can also be done on computers, microfilm, vocal cords and so on.(SIM, 2019) In accordance with the Decree of the Minister of Health of the Republic of Indonesia No. 031/Birhup/1972 concerning the obligation of all hospitals to do medical recording and reporting as well as hospital statistics.4 It is clearly said above that in accordance with the advancement of technology at this time, medical records are no longer only made in writing but also using electronic devices. In the event that the resolution of medical malpractice criminal problems by doctors using electronic devices is still common and has not been clearly regulated in the law, the position of the medical record evidence begins to be questioned. Is the position of the written form of medical records the same as the electronic form of medical records?(Siyen et al., 2020)

The development of digital technology in society has resulted in the transformation of the digitalization of health services so that medical records need to be held electronically with the principles of security and confidentiality of data and information. Electronic medical records are one of the subsystems of the information system of health care facilities that are connected to other information subsystems in health care facilities. The birth of the Minister of Health Regulation No. 24 of 2022 concerning Medical Records replaced the Minister of Health Regulation No. 269 of 2008 concerning Medical Records, causing health service facilities to be required to hold electronic medical records.(Hasna et al., 2023)

Medical records are documents that contain data on the patient's identity, examinations, treatments, actions, and other services that have been provided to the patient. Electronic medical records are medical records that are made using an electronic system

intended for the maintenance of medical records. Electronic systems are a series of electronic devices and procedures that function to prepare, collect, process, analyze, store, display, announce, transmit, and/or disseminate electronic information. So what are the goals and benefits of organizing Electronic Medical Records?(Rahayu et al., 2023)

The purpose and benefits of electronic medical records are to improve the quality of health services, provide legal certainty in the implementation and management of medical records, ensure the security, confidentiality, integrity, availability of medical records and realize the implementation and management of digital-based and integrated medical records. With these goals and benefits, health service facilities consisting of doctors, dentists or other health workers, health centers, clinics, hospitals, pharmacies, health laboratories, health centers and health service facilities determined by the Minister of Health, are required to maintain electronic medical records.(Harahap et al., 2024)

Based on the Regulation of the Minister of Health No. 24 of 2022 concerning Medical Records, all Health Service Facilities must hold Electronic Medical Records in accordance with the provisions of this Ministerial Regulation no later than December 31, 2023. With the implementation of electronic medical records, of course, the benefits will be felt by patients and health service facilities. The benefits of the use of electronic medical records in general are as a maintenance of health and treatment of patients, evidence in the law enforcement process, dental discipline, medical ethics enforcement, educational purposes, research, as a basis for health financing and health statistical data. Because electronic medical records contain a collection of important things that include records about the patient's identity, medical history, examination of procedures and treatment, the electronic medical record must be filled out completely, and accurately. Electronic medical records have several aspects of usefulness, namely administrative aspects, medical aspects, legal aspects, financial aspects, research aspects, educational aspects, and documentation aspects. By looking at this aspect, electronic medical records have wide utility benefits, because they do not only concern health service providers and patients.(Rahmadsyah & Sidi, 2023)

This is in line with the opinion of M Yusuf Hanfiah and Amri Amir stating that "the role of medical records is very important and closely attached to medical and health service activities". The benefits of clear and complete medical records or electronic medical records for medical personnel are as a basis or guide for planning and analyzing diseases and planning treatments, treatments and medical measures that must be provided to patients, as well as improving the quality of services to protect medical personnel in achieving optimal public health. Meanwhile, the use of medical or electronic medical records for patients is as a basis for determining the calculation of the cost of paying for medical services that must or have been incurred and the development of diseases, treatments, and medical measures. Then in the scope of criminal law, letter evidence is also one of the five legal evidence.

This is in accordance with what is stated in Articles 183 and 184 of the Criminal Procedure Code, in proving a case, a minimum of 2 valid pieces of evidence are needed, as well as the judge's conviction.(Hasibuan et al., 2024) This is in accordance with the evidentiary system that applies in Indonesia, namely negative proof according to the law (*negatief wettelijk stelsel*). In this system, as mentioned earlier, the guilt of a person (the defendant) is determined by the judge's conviction based on the methods and evidence determined in accordance with the applicable law.

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We reiterate that medical records have a vital function in the health system because they contain detailed information about the patient's identity, disease history, treatment received, and medical measures that have been carried out. The increasingly widespread use of electronic medical records is expected to meet the need for fast and accurate access to information. In the Regulation of the Minister of Health No. 24 of 2022, it is explained that electronic medical records are medical records made using an electronic system intended for the implementation of medical records. This shows the government's commitment to encouraging digitalization in the health sector.(Dachban et al., 2023)

In the context of criminal law, electronic medical records offer new possibilities for proof, particularly in cases of medical malpractice. According to Y.B. Mangunwijaya, a criminal law expert, "electronic medical records, with the integrity of data maintained, have the potential to become more objective evidence in court hearings". Electronic documentation offers advantages in terms of accuracy and difficulty in manipulation, compared to conventional paper-based medical records. However, the implementation of electronic medical records as evidence in the trial also poses challenges. Security and privacy aspects are a major concern, considering the risk of data leakage that can occur. Article 297 of the Health Law No. 17 of 2023 emphasizes that health facilities are obliged to maintain the security, integrity, confidentiality, and availability of data contained in medical records.(Dachban et al., 2023)

In the Indonesian legal system, criminal proof follows the principle of negatief wettelijk stelsel, where the truth of a claim must be explicitly proven through valid and adequate evidence. Electronic medical records, as 'letter evidence', must meet certain criteria in order to be admitted in court.x(Komeni & Widjajanti, 2024) This is in accordance with Article 184 of the Criminal Procedure Code which states that letter evidence must be original or in the form of a copy that can be accounted for its authenticity.

The recognition of electronic medical records as legal evidence faces obstacles, among others, related to standards and procedures for verifying the authenticity of data. Prof. Dr. Andi Hamzah, an expert in criminal law, emphasized that "Courts need to be equipped with adequate knowledge and tools for digital verification to ensure that the data presented has not been altered or modified". In addition, the uneven spread of electronic medical record technology throughout Indonesia is also an obstacle in its application as a standard evidence. For this reason, this research is very important to discuss, can Electronic Medical Records be used as evidence in proving criminal cases? How does it stand? Whether it can be used as main or additional evidence. The author then summarized with the title of the research Position and Implementation of the Use of Electronic Medical Records in Medical Criminal Evidence in Indonesia.

Based on the discussion from the background above, the author concludes that there are two main problems, namely:

1. What is the Legal Regulation on Electronic Medical Records in Indonesia?
2. What is the Position and Implementation of Electronic Medical Records in Proving Medical Crimes in Indonesia?

RESEARCH METHODS

This study uses a normative juridical method with a legislative and conceptual approach, which is focused on assessing the position and implementation of the use of

electronic medical records in proving medical crimes in Indonesia.(Indra utama Tanjung, 2024) The research data was obtained through a literature study of primary legal materials in the form of relevant laws and regulations, including the Criminal Procedure Code, the Health Law, and the Regulation of the Minister of Health on Medical Records, and secondary legal materials in the form of books, scientific journals, expert opinions, and court decisions related to proving medical crimes. Data analysis is carried out qualitatively by examining the suitability of legal norms and their application practices, in order to identify the legal position of electronic medical records as evidence, as well as find legal loopholes and implementation problems that have the potential to affect the effectiveness of medical criminal evidence. The results of the analysis are then synthesized to formulate normative conclusions and recommendations that are expected to contribute to the development of legal policies and law enforcement practices in the health sector.

Results and Discussion

1. Medical records

Medical records are one of the most fundamental components of the modern healthcare system. In the practice of medicine and health services, medical records are not only understood as administrative records, but also as clinical instruments that have a central role in the entire patient service process, starting from the stage of registration, examination, diagnosis, treatment, medical procedures, to evaluation of health service results. The existence of medical records is the main support for the continuity of safe, quality, and patient-safety-oriented health services.(Pradana, 2024)

Conceptually, medical records can be understood as documents that contain all medical and non-medical information related to the patient's identity as well as the entire series of health services received by the patient. This information includes patient demographic data, main complaints, current disease history and previous disease history, results of physical examinations, results of supporting examinations such as laboratory and radiology, occupational diagnosis and definitive diagnosis, therapy plan and implementation, medical and nursing measures, development of patient conditions, to discharge or referral records. With such a wide scope of information, medical records become a complete picture of a patient's clinical journey while in health services.(Dachban et al., 2023)

From the perspective of health services, medical records have the main function as a means of communication between health workers. Health services are basically multidisciplinary and involve various health professions, such as doctors, dentists, nurses, midwives, pharmacists, laboratory workers, radiographers, and other health workers. Medical records are a communication medium that bridges coordination between these professions so that every health worker can comprehensively understand the patient's condition, know the actions that have been taken, and plan follow-up actions appropriately. Without complete and accurate medical records, the continuity of health services will be disrupted and potentially cause service errors.(RAHMAYANTI, 2020)

Apart from being a clinical communication tool, medical records also serve as a basis for medical decision-making. Any clinical decision made by medical personnel should be based on adequate information regarding the patient's condition. Medical records

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provide objective and subjective data necessary to establish a diagnosis, determine therapy options, and evaluate the patient's response to the treatment given. Thus, the quality of medical records directly affects the quality of medical decisions and patient safety.

The function of medical records is also very closely related to efforts to improve the quality of health services. Through medical records, hospitals and health care facilities can conduct medical audits, clinical audits, and service quality evaluations. The data recorded in medical records allows an assessment of the suitability of services with medical service standards and operational procedure standards. The results of the evaluation are the basis for continuous improvement in order to improve the quality and safety of health services. In this context, medical records serve as the primary data source for quality control and patient safety activities.(Risdawati et al., 2022)

In the world of hospitals, medical records also have an important function as the basis for planning and managing health services. The aggregate data generated from medical records can be used for disease epidemiological analysis, planning for health human resource needs, planning for the procurement of drugs and medical devices, and developing hospital superior services. Information about disease patterns, length of treatment days, incidence of complications, and health service outcomes are the basis for hospital management in making strategic decisions.

Another function that is no less important than medical records is as a means of education and research in the health sector. Medical records provide empirical data that is invaluable for the development of medical and health sciences. In medical and health worker education, medical records are used as learning materials to understand disease progression, therapeutic responses, and clinical variation in patients. In health research, medical record data is the main source for clinical research, epidemiological research, and health service research, while respecting the principles of confidentiality and health ethics.

In the context of patient services, medical records also function as a documentation tool that reflects the quality of services provided. Complete, accurate, and timely medical records show that health services have been carried out professionally and in accordance with practice standards. On the other hand, incomplete or inaccurate medical records can reflect a weak service system and potentially pose a risk to patient safety. Therefore, filling out medical records is an inseparable part of the professional responsibility of health workers.

Along with the development of information technology in the health sector, the medical record system has undergone a transformation from a conventional paper-based form to an electronic medical record. Electronic medical records are a system for recording and managing patient medical information that is carried out digitally using an integrated electronic system. This transformation aims to improve the efficiency, accuracy, and availability of medical information, as well as support faster and more coordinated health services.(Risdawati et al., 2023)

From a health perspective, electronic medical records provide various advantages over conventional medical records. Electronic medical records allow access to patient information in real time by authorized healthcare personnel, reducing the risk of data loss, improving the readability of medical records, and minimizing errors due to manual recording. In addition, electronic medical record systems allow integration with other supporting systems, such as laboratory systems, radiology systems, and pharmaceutical systems, so that patient service flows become more effective and efficient.

Electronic medical records also contribute to improved patient safety through clinical alert systems, such as drug allergy alerts, drug interactions, and dosage errors. With the support of information technology, healthcare workers can make safer and data-driven clinical decisions. In the long term, the implementation of electronic medical records is expected to improve the quality of health services as a whole and strengthen the national health system. However, both conventional medical records and electronic medical records still have the same basic principle, which must be filled in completely, accurately, clearly, and on time. This principle is the main foundation so that medical records can carry out their functions optimally in health services. Filling out medical records that do not meet these principles can have a direct impact on the quality of service and patient safety.

2. Legal Regulations on Electronic Medical Records in Indonesia

The legal arrangement on electronic medical records in Indonesia is basically built in stages, starting from the general norms in the law that place the obligation to make and maintain medical records, then descended to technical rules through ministerial regulations that regulate how electronic medical records are organized, and strengthened by the legal regime of personal data and the electronic system regime so that aspects of security, confidentiality, The integrity and validity of the document have a clear foundation. This multi-level model is important because electronic medical records are not only an issue of health service administration, but also concern patients' rights to information, the obligation of health care facilities to maintain health secrets, and the readiness of electronic medical records to be used in the audit process, professional discipline, and in certain contexts as part of the proof.(Hasibuan et al., 2024)

At the legal level, Law Number 17 of 2023 concerning Health provides a firm normative foundation regarding the obligation to make medical records and the minimum standards attached to these records. Article 296 paragraph (1) states: "Every Medical Personnel and Health Workers who provide individual Health Services are required to make medical records." Then paragraph (2) affirms institutional responsibility when services are not carried out in independent practice, namely: "the maintenance of medical records is the responsibility of the Health Service Facility." This is important because in practice, electronic medical records are usually managed in the healthcare facility system, so the burden of compliance does not stop at individual medical personnel, but is also attached to the management of the facility. The Health Law also emphasizes timeliness and record-keeping identification. Article 296 paragraph (3) emphasizes that medical records "must be completed immediately after the Patient finishes receiving Health Services," and paragraph (4) requires that each record "must be affixed with the name, time, and signature of the Medical Personnel or Health Personnel who provide services or actions." With this formulation, the law actually directs that electronic medical records must be able to record the identity of the maker, the time, and the signing mechanism (which in the digital ecosystem is usually related to electronic signatures or strong internal authentication mechanisms).(Njoto, 2011)

Still in the Health Law, regulations regarding document ownership, patient access rights, and security obligations are the three pillars that greatly determine the governance of electronic medical records. Article 297 paragraph (1) emphasizes: "Medical record documents as intended in Article 296 belong to Health Service Facilities." But at the same time, paragraph (2) provides a position of the patient's rights: "Every Patient has the right

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to access the information contained in the medical record document." Then paragraph (3) gives a very relevant obligation for electronic medical records: "Health Service Facilities are obliged to maintain the security, integrity, confidentiality, and availability of data contained in medical record documents." The formulation of "security, integrity, confidentiality, and availability" is in line with the principles of data protection and the security principles of electronic systems. In addition, Article 298 shifts the issue of medical records from the internal level of facilities to the level of national health data governance, by stating that the ministry in charge of health affairs is responsible for managing medical record data for national health data management, including policy formulation, collection, processing, storage, security, data transfer, and supervision. Finally, Article 299 states that further provisions regarding medical records are "regulated by Government Regulation," which indicates that the law does indeed open up space for further technical regulation at the PP level.

If the Health Law is the foundation, then the Minister of Health Regulation Number 24 of 2022 concerning Medical Records is a technical rule that directly "forces" the transformation of medical records into electronics. Since the general provisions, this Permenkes provides a definition that becomes an operational handle. Article 1 number 1 states: "Medical Records are documents that contain patient identity data, examinations, treatments, actions, and other services that have been provided to patients." Then Article 1 number 2 emphasizes: "Electronic Medical Records are Medical Records made using an electronic system intended for the implementation of Medical Records." These two definitions seem simple, but they have a big impact: what is regulated is not just the format, but the entire implementation process, from clinical recording to data management as a single cycle.(Risdawati & Zarzani, 2023b)

Permenkes 24/2022 then affirmed the position of electronic medical records as part of the information system for health service facilities. Article 5 states: "Electronic Medical Records are one of the subsystems of the information system of Health Service Facilities that are connected to other information subsystems in Health Service Facilities." This construction of "subsystems" suggests that electronic medical records should not stand as separate applications without governance, as they must be connected to service processes, support, reporting, financing claims, referrals, and so on. Furthermore, the Minister of Health regulates internal governance: Article 6 states that the implementation of electronic medical records is carried out by a separate work unit or adjusted to the needs and capabilities of the facility, while Article 7 emphasizes that the implementation is carried out from the time the patient enters until the patient goes home, is referred, or dies, and the facility must prepare standard operational procedures for the implementation of electronic medical records with reference to guidelines. In health administration law, this SOP functions as an internal compliance standard that can later be assessed in quality audits, examinations, or case evaluations.

In terms of state obligations and the direction of national integration, the Minister of Health also positions the ministry not only as a regulator, but also as a facilitator. Article 8 states that the minister facilitates the implementation of electronic medical records, including the provision of electronic systems and "service platforms and standards for interoperability and integration of health data." Article 21 then affirms that electronic medical records stored by facilities "must be connected or interoperable with interoperability service platforms and health data integration managed by the Ministry of

Health." This shows that the regulation of electronic medical records is not only about the internal digitization of hospitals, but also about the integration of health data across services, which is ultimately related to referrals, *continuity of care*, and strengthening national health data.

Permenkes 24/2022 is also quite detailed in regulating the cycle of electronic medical record activities. Article 13 paragraph (1) states that the activities of implementing electronic medical records at least consist of patient registration, data distribution, filling in clinical information, processing information, data input for claims, storage, quality assurance, and transfer of the contents of electronic medical records. This division is important because in proving medical criminal cases, problems often arise not only in the "clinical content," but also in the distribution traces, data changes, access, and who makes the inputs. In the storage section, Article 20 paragraph (2) gives a very strict order: storage must "ensure the security, integrity, confidentiality, and availability of Electronic Medical Record data." In fact, Article 20 paragraph (3) recognizes that storage media can be in the form of *servers*, certified *cloud computing*, or other digital media that are certified in accordance with the provisions of laws and regulations, and paragraph (4) requires facilities to have a backup *system*. This means that the minimum standards required by regulations have led to the principle of modern information security, not just storing files.

In terms of access and use of data, the Minister of Health contains norms that are often of concern because they touch on the relationship between facilities and ministries. Article 28 paragraph (1) states: "Health Service Facilities must open access to all contents of Patient Electronic Medical Records to the Ministry of Health." Paragraph (2) states that the ministry is authorized to utilize and store the contents of electronic medical records in the context of processing health data. Paragraph (3) provides an ethical corridor and scientific rules: the processing of health data is carried out for the development of science and technology and/or policy making in the health sector, taking into account the principles *of evidence-based medicine*, medical ethics, and the provisions of laws and regulations. This norm confirms that state access to electronic medical record data must be read together with the principles of personal data protection, health secrets, and restriction of processing purposes.(Risdawati & Zarzani, 2023a)

Regarding security, Permenkes 24/2022 provides a formulation of principles that can be directly used as a compliance parameter. Article 29 paragraph (1) states that electronic medical records must comply with the principles of data and information security which include confidentiality, integrity, and availability. Paragraphs (2) to (4) explain the meaning of each principle, for example, confidentiality as a guarantee of security from interference from internal and external parties who do not have access rights, integrity as a guarantee of data accuracy and changes may only be made by parties who are granted access rights, and availability as a guarantee that data can be accessed by the authorities when needed. This is parallel to the obligations of the Health Law Article 297 paragraph (3), so that systemically the Permenkes becomes a technical instrument for the implementation of legal obligations.

The peak of the "coercion" of the application of electronic medical records is in the closing provisions. Article 45 states: "All Health Service Facilities must maintain Electronic Medical Records in accordance with the provisions of this Ministerial Regulation no later than December 31, 2023." Then Article 46 confirms the change of regime, because when this Permenkes came into force, Permenkes

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269/Menkes/Per/III/2008 concerning Medical Records was revoked and declared invalid. Consequently, normatively, after the deadline, electronic medical records are no longer an internal policy option, but a regulatory obligation.

Furthermore, to understand why security, confidentiality, and access control are so emphasized, the regulation of electronic medical records must be read together with Law Number 27 of 2022 concerning Personal Data Protection. The PDP Law classifies "health data and information" as personal data that is specific. In Article 4 paragraph (2) it is stated that specific personal data includes "health data and information," and the explanation explains that what is meant by "health data and information" is the records or information of individuals related to physical health, mental health, and/or health services. This construction makes electronic medical records automatically fall into the category of sensitive data that demands stricter protection standards, both in terms of basic processing, access restrictions, technical security, and governance in the event of a leak incident.

Finally, because electronic medical records are documents that are born and organized through electronic systems, the legal regime of electronic documents and electronic systems is also relevant to strengthen their position. The Electronic Information and Transactions Law provides normative recognition that electronic documents can be treated as valid evidence. Article 5 paragraph (1) of the ITE Law states: "Electronic Information and/or Electronic Documents and/or their printed results are valid legal evidence." In Article 6, the functional standard is affirmed: electronic information and/or electronic documents are considered valid as long as the information can be accessed, displayed, guaranteed to be complete, and can be accounted for so as to explain a situation. Terms such as "integrity" and "accountability" practically require access control, audit trails, and governance of data changes, which at the technical level have been partly ordered by Permenkes 24/2022 through the principles of confidentiality, integrity, and availability.

Strengthening electronic system security standards can also be seen in Government Regulation Number 71 of 2019 concerning the Implementation of Electronic Systems and Transactions. Article 26 paragraph (1) states that the Electronic System Operator is obliged to maintain the confidentiality, integrity, authenticity, accessibility, availability, and traceability of an electronic information and/or electronic document in accordance with the provisions of laws and regulations. This formulation is almost in the same breath with the obligations of the Health Law Article 297 paragraph (3) and the Minister of Health Regulation 24/2022 Article 20 paragraph (2) and Article 29. Thus, if electronic medical records are put down as electronic documents processed by the electronic system of a healthcare facility, then the minimum standard is not only clinical standards, but also electronic system security compliance standards that emphasize confidentiality, integrity, authenticity, availability, traceability.

3. Position and Implementation of Electronic Medical Records in Proving Medical Crimes in Indonesia

In medical criminal cases, electronic medical records have a strategic position because they record the entire clinical service process in a sequential manner, starting from anamnesis, physical examination, occupational diagnosis and appeal diagnosis, therapy plan, action approval, drug administration, invasive measures, to patient responses and *outcomes*. In the criminal room, electronic medical records do not stand as a mere "story", but are positioned as documents that can be used to test the existence or absence of errors,

forms of negligence, causal relationships, and standards of prudence of medical personnel. However, it needs to be understood from the beginning, Indonesia's criminal evidentiary system requires a combination of evidence and the judge's conviction, meaning that it is not enough to just bring an electronic medical record and then complete, because the judge can only impose a criminal sentence if there are at least two valid pieces of evidence and the judge's conviction is formed from that evidence.(Meher et al., 2023)

The position of electronic medical records in the Criminal Procedure Code is generally "withdrawn" to the category of letter evidence, because Article 184 paragraph (1) of the Criminal Code recognizes letter evidence as one of the valid evidence, in addition to witness statements, expert testimony, instructions, and defendants' statements. In the context of a medical criminal case, this letter can be in the form of a summary of discharge, an integrated patient development record, a doctor's instruction sheet, a medication administration record, an action approval sheet, supporting results, and an action record, all of which are stored in an electronic medical record system. Because electronic medical records are in the form of digital data, the evidentiary framework is not only based on the Criminal Code, but also on the electronic evidence regime. The ITE Law emphasizes that Electronic Information and/or Electronic Documents and/or their printed results are valid legal evidence and are an extension of valid evidence in accordance with the applicable procedural law. This is what makes electronic medical records can be present at the trial in two faces at once, namely as an electronic document, and as a printed result that can be treated as a letter as long as its authenticity and integrity can be accounted for.(Zarzani et al., 2021)

The important condition is in the aspects of system reliability and data integrity. The ITE Law states that electronic documents are considered valid as long as they can be accessed, displayed, guaranteed to be intact, and can be accounted for so as to explain a situation. Then, every party who uses electronic documents to declare or strengthen their rights is obliged to ensure that the electronic documents come from an electronic system that meets the requirements according to laws and regulations. At this point, electronic medical records used for medical criminal proof must be able to explain their reliability, starting from access governance, user authorization mechanisms, recording data changes, to security mechanisms and data recovery. Permenkes Number 24 of 2022 emphasizes the minimum standards for the security of electronic medical record data with the principles of confidentiality, integrity, and availability. This is not just an administrative norm, but a foundation of proof: if the integrity cannot be guaranteed, then the probative value is vulnerable to questioning, especially if the defendant or legal counsel puts forward the argument that "data can be changed" or "the account is used by someone else".

At the level of implementation in health care facilities, Permenkes Number 24 of 2022 also requires every health service facility to maintain electronic medical records and requires standard operating procedures for its implementation. In evidentiary practice, these SOPs will typically be required to demonstrate how clinical data input procedures are performed, who is authorized to fill them out, how corrections are recorded, how audit *trails* are stored, and how disaster *backup* and recovery mechanisms are implemented. In fact, the Minister of Health opened up a space to strengthen authentication by saying that the implementation of electronic medical records can be equipped with electronic signatures for security and data protection. This is relevant when courts assess "who wrote

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what, when, and with what authority", as electronic signatures and authentication logs help establish the authenticity of clinical records.(Risdawati et al., 2023)

In terms of access for law enforcement needs, Permenkes Number 24 of 2022 provides quite clear signs. The disclosure of the contents of medical records can be done to meet the requests of law enforcement officials in the context of law enforcement, in addition to other interests such as discipline enforcement, medical audits, education, and research. In fact, the mechanism is regulated again that the opening of the contents of medical records must be approved by the Minister, but there are important exceptions if the opening is made based on a court order, which can be done by providing a copy of the document and/or showing the original document. In medical criminal cases, this norm is a practical bridge for investigators or public prosecutors to obtain electronic medical records procedurally and reduce the risk of suspicion being "opened without legal basis".

Furthermore, the standard for the implementation of electronic systems also strengthens the position of electronic medical records as evidence that can be tested. Government Regulation Number 71 of 2019 requires Electronic System Operators to maintain the confidentiality, integrity, authenticity, accessibility, availability, and traceability of electronic information and/or electronic documents. The phrase "traceable" is important in medical criminal proof, because modern evidence demands not only the content of the clinical record, but also the traces of data management: who accessed, who made the changes, when the changes were made, and whether the changes were in accordance with authority and SOPs. If health facilities can show *a complete trail audit*, then electronic medical records tend to be more valuable as evidence, because there is *traceability* that supports integrity.(Ismaidar & Rahmayanti, n.d.)

In the design of evidence at trial, electronic medical records are usually combined with other evidence to meet the principle of a minimum of two pieces of evidence and build the judge's confidence. The most common combination is electronic medical records as letters or electronic documents, then reinforced with expert information, such as forensic medicine experts, anesthesiologists, obgynists, or clinical risk management experts, to explain professional standards and operational procedure standards, as well as explain whether medical procedures are in accordance with indications, dosage, *timing*, and *monitoring*. At this stage, electronic medical records act as the "chronological backbone," while experts translate those records into standard of care assessments. At the same time, the testimony of witnesses such as nurses, pharmacists, or patients' families can test the consistency of electronic medical record records with empirical facts in the field.

An example of an overview of a medical criminal case that is relevant to electronic medical records can be seen through an illustration of case patterns that often appear in hospitals that have implemented electronic medical records. For example, a patient undergoes surgery under general anesthesia, then there is a post-operative respiratory arrest and the patient dies. The family reported because they suspected a medication error or a delay in the resuscitation response. During the investigation, investigators requested the opening of medical records for law enforcement. What was submitted was not only medical summaries, but also periodic vital sign records, records of medication administration in the operating room and recovery room, *code blue records*, and data change logs. It turned out to be a time discrepancy: a written record of administering certain medications was made before the incident, but *trail audits* showed that the entries were only made or altered after the incident. In situations like this, electronic medical

records are not only used to assess medical negligence, but can also give rise to allegations of criminal acts related to the manipulation of electronic documents. The ITE Law prohibits altering, adding, reducing, transmitting, damage, eliminating, moving, or concealing electronic documents belonging to others or public property without rights. In terms of evidence, the prosecutor can combine the printed results of electronic medical records, *trail audit* recordings, digital forensic expert testimony, and medical expert testimony, to build a construction of events: what was done, when it was done, whether it was up to standards, and whether there was an attempt to cover up the facts.

In the practice of evidentiary implementation, there are several crucial points that usually determine the strength or weakness of electronic medical records at trial. First, the method of obtaining evidence must be procedural, because the Ministry of Health places the disclosure of the contents of medical records in the corridor of law enforcement interests and the mechanism of approval or court orders. Second, ensuring data integrity, because the Minister of Health requires integrity as a guarantee of data accuracy and changes should only be made by parties who have access rights. Third, *traceability* and authentication, because Government Regulation 71 of 2019 requires electronic documents to be traceable and maintained authenticity. Fourth, the prosecutor's evidentiary strategy must avoid "sole dependence" on electronic medical records, because in *the negatief wettelijk* system, electronic medical records are safest positioned as the backbone of documents, while causal conclusions and medical standards are emphasized by expert and witness testimony.

With such a construction, the position of electronic medical records in medical criminal evidence is fundamentally strong, because it is recognized as a valid evidence through the electronic document regime and its printed results, and is supported by security, integrity, and traceability norms in the Minister of Health and PP. But that strength is largely determined by the technical implementation in health facilities, especially access management, recording changes, SOPs, and readiness to present supporting evidence such as *trail audits* and expert testimony. If Dr. Indra agrees, we can continue with the next sub-section focusing on "evidence of letters and electronic documents" in the Criminal Code and the ITE Law as an argumentative framework, then I will compile an analysis pattern to answer whether electronic medical records are more appropriately positioned as the main evidence or evidence that must always be combined with experts in medical criminal cases.

Conclusion

Berdasarkan pembahasan, rekam medis elektronik memiliki kedudukan yang kuat dalam konteks pembuktian pidana medik di Indonesia karena secara normatif ditopang oleh rezim rekam medis dalam UU Kesehatan dan Permenkes 24 Tahun 2022, serta diakui sebagai dokumen elektronik yang sah beserta hasil cetaknya dalam rezim UU ITE. Dalam praktik pembuktian, rekam medis elektronik paling tepat dipahami sebagai alat bukti surat atau dokumen elektronik yang merekam kronologi klinis secara sistematis, sehingga dapat membantu menguji standar kehati-hatian, ada tidaknya penyimpangan tindakan medis, serta hubungan kausal dengan akibat yang timbul. Namun kekuatan pembuktian rekam medis elektronik sangat bergantung pada kualitas implementasi di fasilitas pelayanan kesehatan, terutama kepatuhan terhadap SOP, pengendalian akses, penjaminan

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kerahasiaan, integritas, ketersediaan data, dan kemampuan menampilkan jejak pengelolaan data seperti *audit trail* untuk menjamin keaslian serta mencegah tuduhan perubahan data. Karena sistem pembuktian pidana di Indonesia menuntut sekurang-kurangnya dua alat bukti yang sah dan keyakinan hakim, rekam medis elektronik pada praktiknya cenderung efektif bila dipadukan dengan alat bukti lain, terutama keterangan ahli medis dan ahli forensik digital, sehingga konstruksi pembuktian menjadi utuh dan dapat dipertanggungjawabkan.

Based on the discussion, electronic medical records have a strong position in the context of proving medical crimes in Indonesia because they are normatively supported by the medical record regime in the Health Law and Permenkes 24 of 2022, and are recognized as valid electronic documents along with their printed results in the ITE Law regime. In evidentiary practice, electronic medical records are best understood as evidence of letters or electronic documents that record clinical chronology in a systematic manner, so as to help test standards of prudence, the presence or absence of deviations in medical measures, and causal relationships with the consequences that arise. However, the evidentiary power of electronic medical records is highly dependent on the quality of implementation in healthcare facilities, especially compliance with SOPs, access control, confidentiality assurance, integrity, data availability, and the ability to display data management traces such as *trail* audits to ensure authenticity and prevent allegations of data alterations. Because the criminal evidence system in Indonesia requires at least two valid pieces of evidence and the judge's conviction, electronic medical records in practice tend to be effective when combined with other evidence, especially the testimony of medical experts and digital forensic experts, so that the construction of proof becomes intact and can be accounted for.

The government needs to strengthen the synchronization of electronic medical record arrangements with the needs of medical criminal proof through more operational national technical guidelines regarding authentication standards, *trail audit management*, data correction mechanisms, and procedures for submitting electronic medical records for the benefit of law enforcement so as not to cause differences in practices between health facilities. Healthcare facilities must ensure that the implementation of electronic medical records meets the principles of security, confidentiality, integrity, and data availability, including role-based access rights settings, user activity logging, data backup systems, and regular training for medical personnel and medical records officers to complete and timely clinical data completion. Law enforcement officials and courts also need to be supported by capacity building through digital evidence verification training and the use of digital forensic experts, so that the examination of the authenticity and integrity of electronic medical records can be carried out professionally, reduce technical disputes, and encourage fair, accurate, and evidence-based decisions.

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