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Analysis of the quality and security of electronic medical records in supporting sustainable healthcare decision-making

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ARTICLE INFO

Article history:

Received Aug 27, 2026
Revised Sep 1, 2026
Accepted Sep 14, 2026

Keywords:

Data Quality
Electronic Medical Records
Information Security
Sustainable Healthcare
Decision-Making

ABSTRACT

Electronic Medical Records (EMRs) are important sources of information for healthcare delivery and decision-making. This study analyzed EMR quality and security in supporting sustainable healthcare decision-making. An evaluative qualitative design involved nine informants from medical records, healthcare, and IT personnel at two hospitals in Makassar. Data were collected through interviews, observations, and document reviews and analyzed thematically. EMR quality was assessed through completeness, accuracy, consistency, and timeliness, while security covered confidentiality, integrity, access control, authentication, and data protection. Findings showed improved information access, medical history retrieval, and service efficiency. However, incomplete documentation reflected user discipline, while workload and system disruptions delayed data entry. Accuracy was relatively adequate, but consistency across units required improvement. Medical records personnel emphasized completeness and consistency, healthcare professionals highlighted accessibility and workload-related delays, while IT personnel emphasized access control, authentication, backup, and recovery. Reliable decision-making therefore depends on integrating data quality, user compliance, and information security.

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INTRODUCTION

Digital transformation in healthcare has accelerated the transition from conventional medical records to Electronic Medical Records (EMRs). EMRs serve not only as tools for documenting healthcare services but also as important information resources that enable healthcare professionals to retrieve patient histories, support continuity of care, and obtain relevant information for clinical and managerial decision-making (Demlinur Putri et al., 2023). The effective utilization of EMRs is therefore expected to improve healthcare service efficiency by providing faster, more accessible, and continuously available patient information (Anggraeni et al., 2022).

However, the implementation of an electronic system does not automatically ensure the availability of reliable information for healthcare decision-making(Yulisuyanti & Soewito, 2023). The usefulness of EMR information is strongly influenced by the quality of data entered and maintained within the system. In this study, EMR data quality is evaluated through four operational dimensions: completeness, referring to the availability of required patient and healthcare information; accuracy, referring to the correspondence between recorded information and healthcare services provided; consistency, referring to the alignment of information across records and healthcare units; and timeliness, referring to the availability and entry of information according to the healthcare service process. Previous studies have indicated that incomplete documentation, high workloads, and system disruptions may influence the quality and timely availability of electronic health information (Nugroho & Pramudita, 2024).

Information security is equally important because EMRs contain confidential and sensitive patient information that requires continuous protection (Mardiyana et al., 2023). In this study, EMR security is examined through confidentiality, integrity, access control, authentication, and data protection. These dimensions include restrictions on access to patient information, control over data modification, authorization based on user responsibilities, individual user authentication, and mechanisms for data protection, backup, and recovery. Effective EMR security therefore depends not only on technological safeguards but also on user compliance and appropriate organizational practices (Darmiani et al., 2024).

The conceptual basis of this study is aligned with the DeLone and McLean Information Systems Success Model, particularly its emphasis on information quality and the benefits generated from the effective use of an information system (Eva et al., 2024). Within the context of EMRs, high-quality information is expected to improve the reliability and usefulness of patient information for healthcare services and decision-making. This study extends this perspective by considering information security as an essential supporting component because healthcare information must not only be complete, accurate, consistent, and timely, but also confidential, protected from unauthorized modification, and accessible only to authorized users (Nurul et al., 2022). Thus, the value of EMRs for healthcare decision-making depends on the interaction between information quality, information security, and the reliable use of electronic health information.

In this study, sustainable healthcare decision-making refers to the continuous use of reliable, accessible, and protected health information to support healthcare services, continuity of care, and efficient decision-making over time. Sustainability is therefore examined through three interrelated aspects relevant to EMR utilization: information reliability, reflected in the completeness, accuracy, consistency, and timeliness of data; continuity and efficiency of healthcare services, reflected in timely access to patient information and medical histories; and long-term information protection, reflected in confidentiality, integrity, controlled access, authentication, backup, and recovery mechanisms (Nisfu et al., 2023). From this perspective, EMRs contribute to sustainable healthcare not merely through digitalization, but by ensuring that reliable and protected information remains available to support healthcare delivery and decision-making over time.

Despite the growing body of research on EMRs, an important research gap remains. Previous studies have predominantly examined EMR implementation, data quality, information security, or healthcare service benefits as separate areas of investigation (Nurhaliza, 2021). Consequently, there remains limited understanding of how EMR data quality and information security interact in determining the reliability of information used for healthcare decision-making, particularly from the combined perspectives of medical records personnel, healthcare professionals, and information system/IT personnel. Furthermore, the relationship between these two components and sustainable healthcare decision-making has not been sufficiently explored in healthcare settings where EMRs are already implemented.

This study addresses this gap by integrating EMR data quality and information security within a single evaluative framework and examining how their interaction contributes to information reliability, healthcare efficiency, continuity of care, and sustainable healthcare decision-making. Unlike studies that assess data quality or security independently, this study incorporates the experiences and perceptions of three groups directly involved in EMR management and utilization: medical records personnel, healthcare professionals, and information system/IT personnel. This multi-perspective approach provides a more comprehensive understanding of the operational strengths and limitations of EMRs and represents the principal contribution of this study.

Accordingly, this study aims to analyze the quality and security of Electronic Medical Records and their role in supporting sustainable healthcare decision-making. To achieve this objective, the study addresses the following research questions: (1) How are EMR data quality dimensions completeness, accuracy, consistency, and timeliness implemented and experienced by EMR users? (2) How are confidentiality, integrity, access control, authentication, and data protection implemented in EMR management? (3) What similarities and differences exist in the experiences and perceptions of medical records personnel, healthcare professionals, and information system/IT personnel regarding EMR quality and security? (4) How do EMR data quality and information security contribute to information reliability, healthcare efficiency, continuity of care, and sustainable healthcare decision-making?.

RESEARCH METHOD

This study employed an evaluative qualitative design to analyze the quality and security of Electronic Medical Records (EMRs) and their role in supporting sustainable healthcare decision-making. The study was conducted at UIT Hospital Makassar and Tk. II Pelamonia Hospital Makassar, from July to August 2026, with data collection commencing on July 16, 2026, involving healthcare facilities that had implemented EMRs in their healthcare services. The evaluative qualitative approach was used to obtain an in-depth understanding of EMR implementation from the perspectives of users and system managers, particularly regarding data quality, information security, and the utilization of electronic information in healthcare decision-making.

The informants were selected using purposive sampling based on their involvement, experience, and understanding of EMR utilization and management (Eva et al., 2024). A total of nine informants participated in the study, consisting of three medical records personnel, four healthcare professionals who routinely used EMRs in healthcare delivery, and two information system/IT personnel involved in EMR system management. The inclusion criteria were personnel who: (1) were directly involved in EMR utilization or management; (2) had experience using or managing EMRs at the participating hospitals; (3) understood EMR-related workflows relevant to their professional responsibilities; and (4) were willing to participate in the study. Personnel who were not directly involved in EMR utilization or management were excluded. The inclusion of these three groups was intended to provide complementary perspectives on data management, EMR utilization in healthcare services, and information system security (Yulisuyanti & Soewito, 2023). Data collection continued until data saturation was reached, as indicated by recurring information across interviews and the absence of substantially new information relevant to the study objectives.

The study was conducted chronologically through several stages, beginning with a literature review and the development of a conceptual framework for evaluating EMR quality and security. Research instruments were subsequently developed in the form of a semi-structured interview guide, observation sheets, and document review guidelines (Arsyam et al., 2024). After coordination with the study sites, eligible informants were selected and data were collected through face-to-face, semi-structured in-depth interviews, observations, and document reviews (Nurul et al., 2022). The interview guide covered three main domains: (1) EMR data quality,

including completeness, accuracy, consistency, and timeliness; (2) EMR information security, including confidentiality, integrity, access control, authentication, and data protection; and (3) the utilization of EMR information in healthcare services and decision-making. Representative questions included: "How do you ensure that required information is completely recorded in the EMR?", "What factors contribute to delays or inconsistencies in EMR documentation?", "How is access to patient information controlled?", and "How does EMR information support healthcare decision-making?" The collected data were then organized according to the study focus and analyzed to identify patterns related to EMR quality, information security, and healthcare decision-making (Nisfu et al., 2023). The overall study procedure followed the sequence: literature review, conceptual framework development, instrument development, study site coordination, informant selection, data collection, data organization, EMR quality and security analysis, thematic analysis, data validation, integration of findings, development of recommendations and a conceptual model. This sequence was implemented consistently with the stages established in the research design (Adrian et al., 2023).

The interviews were conducted individually and face-to-face by members of the research team, beginning on July 16, 2026. Each interview lasted approximately 15–20 minutes. Probing questions were used when necessary to clarify and further explore the informants' experiences. With the informants' consent, interviews were audio-recorded and subsequently transcribed for analysis. The interview transcripts were examined together with observation and document review findings to identify recurring experiences, patterns, and differences in perceptions among the three informant groups.

EMR data quality was operationally evaluated based on four dimensions: completeness, accuracy, consistency, and timeliness. Completeness refers to the availability of required information in the EMR; accuracy represents the correspondence between recorded information and the healthcare services provided; consistency refers to the alignment of information across records and healthcare units; and timeliness reflects the availability and entry of information according to the healthcare service process. Information security was evaluated through five dimensions: confidentiality, integrity, access control, authentication, and data protection. The evaluation covered restrictions on patient information access, control of data modification and correction, authorization according to user responsibilities, individual user authentication, and mechanisms for data protection, backup, and recovery.

Data were analyzed thematically using the Miles and Huberman interactive model, which consists of data reduction, data display, and conclusion drawing (Novida, 2025). Data obtained from interview transcripts, observations, and document reviews were reduced and categorized according to the study objectives and research questions (Adelia & Inge, 2026). Relevant statements were assigned initial codes representing recurring issues, experiences, and perceptions. Similar codes were then grouped into categories and compared across the three informant groups. The information was subsequently grouped into themes related to information accessibility, data quality, information security, healthcare efficiency, implementation constraints, and decision-making. Patterns, similarities, and differences in perceptions among medical records personnel, healthcare professionals, and information system/IT personnel were examined during the analysis. The relationships among these themes were then interpreted to determine how EMR quality and security contribute to information reliability and support healthcare decision-making (Fauzi et al., 2025).

The credibility of the findings was strengthened through source triangulation and method triangulation by comparing information obtained from different informant groups and data collection methods. Specifically, source triangulation compared information from medical records personnel, healthcare professionals, and IT personnel, while method triangulation compared findings obtained through interviews, direct observations, and document reviews. Member checking was also incorporated into the validation process to confirm the interpretation of relevant

findings. Relevant interpretations were confirmed with informants to ensure that the findings appropriately represented their experiences and perspectives. The validated findings were subsequently integrated to establish the relationship between EMR data quality and information security, information reliability, healthcare efficiency and continuity of care, and sustainable healthcare decision-making. Data saturation, triangulation, and member checking were used collectively to strengthen the trustworthiness of the findings.

Prior to data collection, research permission was obtained from the Investment and One-Stop Integrated Services Office (Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu) of South Sulawesi Province. All informants were informed about the purpose and procedures of the study before participation. Participation was voluntary, and informed consent was obtained prior to the interviews and audio recording. Confidentiality and anonymity were maintained throughout data collection, analysis, and reporting. Formal ethical clearance was not obtained for this study.

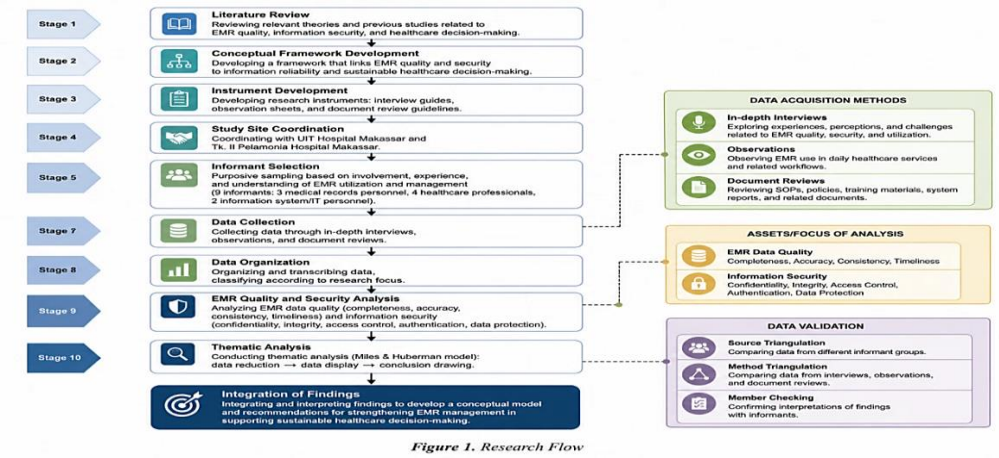

Figure 1. Research flow for evaluating EMR quality and security in supporting sustainable healthcare decision-making

RESULTS AND DISCUSSIONS

This study involved nine informants purposively selected based on their involvement and experience in the utilization and management of Electronic Medical Records (EMRs). The informants consisted of three medical records personnel, four healthcare professionals, and two information system/IT personnel from UIT Hospital Makassar and Tk. II Pelamonia Hospital Makassar. The involvement of these professional groups provided complementary perspectives on data management, EMR utilization in healthcare services, and information security. Data saturation was indicated by recurring information and the absence of substantially new findings. The analysis proceeded from initial coding of interview statements to categories and six themes: information accessibility, data quality, information security, healthcare efficiency, implementation constraints, and decision-making. Findings were compared across informant groups and supported by observations and document reviews.

EMR Data Quality

EMR data quality was evaluated based on four dimensions: completeness, accuracy, consistency, and timeliness. The findings indicate that EMR data at both hospitals generally supported healthcare delivery, although several aspects still required improvement (Nur Jannah et al., 2025). Accuracy was relatively adequate because data were recorded based on examinations and healthcare services provided. However, completeness remained dependent on user discipline,

while consistency required stronger alignment of information across healthcare units. Timeliness was also affected by workload and occasional system disruptions.

Table 1. EMR data quality findings

Dimension	Main Finding	Interpretation
Completeness	Essential information was generally recorded, but depended on user discipline	Requires monitoring
Accuracy	Data reflected examinations and services provided	Relatively adequate
Consistency	Alignment of information across units needs improvement	Integration needs strengthening
Timeliness	Data entry generally followed service processes but was affected by workload and system disruptions	Requires improvement

These findings demonstrate that the availability of an electronic system does not automatically guarantee high-quality information. Incomplete or delayed documentation may reduce the usefulness of information for subsequent healthcare services (Rusdian Ikawati et al., 2025). The findings suggest that EMR data quality results from the interaction between system performance and user documentation practices. Therefore, improving EMR quality requires both technological improvement and stronger documentation compliance and workflow management. This is consistent with previous studies emphasizing the role of user-related factors in EMR effectiveness (Azizah et al., 2025).

EMR Information Security

Information security was evaluated through confidentiality, integrity, access control, authentication, and data protection. The findings indicate that access restrictions and user authentication have been implemented to support patient information protection (Agung & Ayuningtyas, 2026). Access rights were adjusted according to user authority, while individual accounts supported user identification. However, continuous monitoring of data changes, user compliance, backup, recovery, and overall data protection remained necessary.

Table 2. EMR information security findings

Dimension	Main Finding
Confidentiality	Patient information access was restricted
Integrity	Data changes and corrections required monitoring
Access control	Access rights were adjusted according to user authority
Authentication	Individual accounts were used to access EMRs
Data protection	Backup, protection, and recovery require continuous strengthening

The findings demonstrate that EMR security is determined by both technological mechanisms and user behavior. Technical safeguards, such as access control and authentication, provide an important foundation for protecting electronic patient information. Nevertheless, their effectiveness depends on user compliance with security procedures, particularly in maintaining account confidentiality and using information according to their authority. This is consistent with previous studies emphasizing that security and confidentiality remain essential components of EMR implementation (Munawwarah Munawwarah et al., 2026), (Retna & Marisa, 2025).

Differences among professional groups indicate that security is experienced differently: healthcare professionals primarily encounter security as system users, medical records personnel through information management, and IT personnel through system protection and access

management. This supports the need for an integrated rather than purely technical approach to EMR security.

EMRs and Healthcare Decision-Making

The findings show that EMRs facilitate access to patient information and the retrieval of previous healthcare records. Electronic availability of information reduces dependence on manual searches for physical documents and allows healthcare professionals to obtain relevant information more efficiently (Iftitah et al., 2026). These benefits contribute to faster information retrieval and support continuity of care. However, accessibility alone does not ensure effective decision-making. The information available in EMRs must be complete, accurate, consistent, timely, and adequately protected to serve as a reliable basis for healthcare services. The research indicates that information reliability depends on the quality of EMR documentation, while information security supports the continued and trustworthy use of electronic health information (Nuzuhria, 2026).

These findings suggest that EMR quality and security have complementary roles in healthcare decision-making. Data quality determines whether information is sufficiently reliable for use, whereas information security ensures that the information remains protected and trustworthy. Therefore, improvements in healthcare decision-making through EMRs require more than technological adoption; they also require consistent documentation practices, adequate system integration, and effective information security management (Rizky & Tiorentap, 2020).

Integration of Findings and Sustainable Healthcare Decision-Making

Integration of the themes generated four main findings: EMRs improve information accessibility; information reliability depends on data quality; information security requires technological safeguards and user compliance; and the integration of quality and security provides a foundation for using EMR information in healthcare decision-making(Delvita et al., 2026).

In this study, sustainable healthcare decision-making refers specifically to the continuous use of reliable and protected information to support healthcare services over time. Therefore, the findings do not imply that EMRs independently create healthcare sustainability, but that reliable and protected EMR information may support healthcare efficiency, continuity of care, and informed decision-making. (Meilani et al., 2025)

Based on these findings, the relationship can be conceptually summarized as follows:

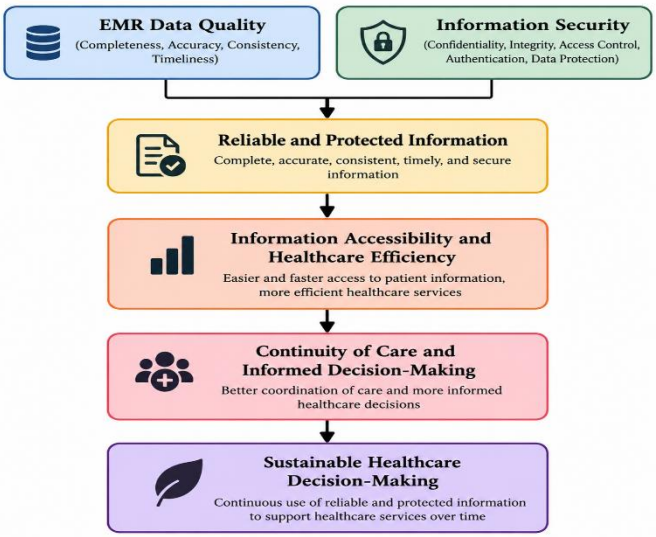

Figure 2. Proposed conceptual model of EMR quality and security in supporting sustainable healthcare decision-making

The novelty of this study lies in integrating EMR data quality and information security within a single evaluative perspective and examining them across medical records, healthcare, and IT personnel. The model suggests that EMR availability alone is insufficient; data quality and security jointly contribute to reliable and protected information, which subsequently supports information accessibility, healthcare efficiency, continuity of care, and informed decision-making. However, this model is qualitative and conceptual rather than causal and requires further validation in broader healthcare settings.

CONCLUSION

This study indicates that integrating EMR data quality and information security supports the availability of reliable and protected information for healthcare decision-making. Theoretically, this study contributes an integrated conceptual perspective in which data quality and information security function as complementary foundations linking EMR utilization with information reliability, continuity of care, and sustainable healthcare decision-making. Practically, hospitals should strengthen documentation compliance, cross-unit data integration, role-based access control, user authentication, and backup and recovery procedures. The findings should be interpreted considering the limited number of informants (nine) from only two hospitals and the reliance on qualitative perceptions. This study did not measure clinical outcomes, conduct security penetration testing, or perform quantitative data quality audits. Therefore, further studies should validate the proposed conceptual model using larger, multi-site samples and quantitative measures of EMR quality, security, and healthcare outcomes.

ACKNOWLEDGEMENTS

The authors would like to express their sincere gratitude to the Ministry of Higher Education, Science, and Technology of the Republic of Indonesia (Kemdiktisaintek) through the BIMA research funding program for providing financial support for this research under the 2026 research grant program. The authors also extend their appreciation to the affiliated institution, the participating hospitals, research informants, and all parties who contributed to the implementation of this study. This funding and support have enabled the research on the quality and security of Electronic Medical Records to be conducted and developed to support sustainable healthcare decision-making.

References

Adelia, P. A., & Inge, D. (2026). Pro Health Jurnal Ilmiah Kesehatan Literature Review: Analisis Dampak Kebijakan Privasi Terhadap Pengelolaan Rekam Medis Elektronik di Rumah Sakit. In *Disetujui Juli*.

Adrian, H., Purnami, C. T., & Suryoputro, A. (2023). Analysis of Electronic Medical Record's Documentation In Health Care Facilities: A Literature Review. *Media Publikasi Promosi Kesehatan Indonesia*, *6*(11), 2086–2095. https://doi.org/10.56338/mppki.v6i11.4307

Agung, L. P., & Ayuningtyas, D. (2026). Kesiapan rumah sakit dalam penerapan tanda tangan elektronik pada sistem rekam medis elektronik: scoping review. *Journal of Health Research Science*, *6*(01), 98–107. https://doi.org/10.34305/ek34k440

Anggraeni, W. I., Deasy Rosmala Dewi, Nanda Aula Rumana, & Muniroh. (2022). Literature Review: Tinjauan Aspek Keamanan Dan Kerahasiaan Rekam Medis Di Ruang Filing. *SEHATMAS: Jurnal Ilmiah Kesehatan Masyarakat*, *1*(2), 137–150. https://doi.org/10.55123/sehatmas.v1i2.99

Arfiandita, R., & Wijaya, W. (2024). Identifying Data Security Risks from Using Weak Passwords by SIMRS Users: Systematic Literature Review. In *Jurnal Rekam Medis dan Informasi Kesehatan* (Vol. 5, Number 1).

Arsyam, H., Sulaiman, L., & Setiawan, S. (2024). Dampak Pemanfaatan Elektronik Rekam Medis di Fasilitas Kesehatan: Pendekatan Sistematik Literatur Review. *Bioscientist : Jurnal Ilmiah Biologi*, *12*(2), 2049. https://doi.org/10.33394/bioscientist.v12i2.12800

Azizah, N., Avianta, S., Putra, D. H., Satrya, B. A., & Fuad Iqbal, M. (2025). *Analysis of Artificial Intelligence Implementation in the Indonesian Healthcare Sector: A Literature Review*. *5*, 1199–1210. https://doi.org/10.57152/malcom.v5i4.2229

Darmiani, S., Yuda Pratama, B., Maulani, J., Islamy, B., Hidayat, T. A., & Paramarta, V. (2024). *Tantangan Integrasi Rekam Medis Elektronik dengan Sistem Manajemen Rumah Sakit: Dampak pada Keamanan Data dan Efisiensi Biaya Operasional-A Systematic Review*. *4*. http://sosains.greenvest.co.id

Delvita, D., Vebi Eka Utama Fakultas Gizi dan Manajemen Informasi Kesehatan, A., Muhammadiyah Palangkaraya Jalan Anggrek, U., Kereng Bangkirai, K., Sebangau, K., Palangka Raya, K., & Tengah, K. (2026). *Analysis of Medical Records Management Systems in Improving the Quality of Health Services: Systematic Literature Review*. *9*(4), 666–672. https://doi.org/10.32832/pro

Demlinur Putri, R., Mulyanti, D., PHH Mustofa No, J., & Barat, J. (2023). Tantangan SIMRS dalam Penerapan Rekam Medis Elektronik Berdasarkan Permenkes 24 Tahun 2022: Literature Review. *Jurnal Medika Nusantara*, *1*(1).

Eva, N., Karina, R., Mutiara, S., & Rohmat Saedudin, R. (2024). Analisis Jaminan Kualitas Sistem Keamanan Siber pada Sistem Informasi : sebuah Studi Literatur. *Teknik Dan Teknologi Terapan*, *1*(2), 76–89.

Fauzi, A., Nur Aprilla, I., Fauziyyah, N., & Fazriyanti Bachtiar, N. (2025). *Implementasi Multi-Faktor Authentication, Single Sign-on dan Role-Based Access Control dalam Keamanan Sistem Informasi (Studi Literature Review)*. *2*(1). https://doi.org/10.63217/fibonacci.v2i1.256

Ferdyastari, N., Fatria, I., Maulina, L., & Warasti, N. S. (2025). *TRANSFORMASI DIGITAL DOKUMENTASI FISIOTERAPI MELALUI REKAM MEDIS ELEKTRONIK: LITERATURE REVIEW*. https://journal.ymci.my.id/index.php/ijhri/index

Iftitah, M., Laila, K., Surya, M., Pribadi, W., Ariyanto, S., Yunita, N., Nanda, S., Rahayu, T., Kesa, W., Pujanggi, A., Sutha, W., & Ariyanto, O. S. (2026). *Faktor Penghambat Pelaksanaan Rekam Medis Elektronik di Rumah Sakit: Narrative Review*. https://doi.org/10.33560/jmiki.v12i1.645

Jaelani Rusdi, A., & Rengganis Ularan, R. A. (2023). *TINJAUAN LITERATUR ANALISIS YURIDIS MANAJEMEN KERAHASIAAN REKAM MEDIS ELEKTRONIK*.

Mardiyana, I., Hariyanti, E., Arrasyid, N. N., Handayani, A. T., Suryadewi, K. S., Akhlaqulkarimah, F., & Pramiyas, H. (2023). *Penerapan Kerangka Kerja Keamanan Informasi di Rumah Sakit: Tinjauan Literatur Sistematis*. *12*(2).

Meilani, A. H., Nugraheni, S. W., & Suprawita, B. (2025). ANALISIS IMPLEMENTASI REKAM MEDIS ELEKTRONIK TERHADAP MUTU PELAYANAN RAWAT JALAN DI RSUD IBU FATMAWATI SOEKARNO KOTA SURAKARTA. *Infokes: Jurnal Ilmiah Rekam Medis Dan Informatika Kesehatan*, *15*(2), 158–164. https://doi.org/10.47701/4b9q1c44

Munawwarah Munawwarah, Sinta Novratilova, Tri Respati Utaminingsih, Sursiyah Sursiyah, Hanik Pratiwi Agustiana, Thessa Nur Auliya, & Zakiya Murni Setyawati. (2026). Tinjauan Literatur Tentang Peran Rekam Medis Elektronik dalam Peningkatan Mutu Pelayanan Kesehatan. *Vitalitas Medis : Jurnal Kesehatan Dan Kedokteran*, *3*(3), 01–12. https://doi.org/10.62383/vimed.v3i3.3153

Nisfu, M. S. W., Reynata, A., Auzini Yasmine, D., & Maulana Putra Pratama, D. (2023). *SYSTEMATIC LITERATURE REVIEW (SLR) : KEAMANAN DALAM SISTEM INFORMASI*. *2*(6). https://www.google.com/

Novida, D. R. (2025). Evolusi Sistem Informasi Akuntansi dalam Era Digital: Tinjauan Literatur tentang Tren, Tantangan, dan Peluang. *Jurnal Minfo Polgan*, *14*(1), 77–85. https://doi.org/10.33395/jmp.v14i1.14628

Nugroho, Y. W., & Pramudita, F. A. (2024). The Role of Electronic Medical Records in Improving Efficiency, Quality of Health Services, and Safety of Patient Care: An Analysis of Systematic Literature Review. In *Media Publikasi Promosi Kesehatan Indonesia* (Vol. 7, Number 2, pp. 343–350). Muhammadiyah Palu University. https://doi.org/10.56338/mppki.v7i2.4867

Nur Jannah, S., Slamet, U., & Jaelani Rusdi, A. (2025). *Literature Review: Keamanan Data Pasien Rekam Medis Elektronik Berdasarkan ISO27001 Di Fasilitas Kesehatan*.

Nurhaliza, A. (2021). Analisis Sarana Dan Prasarana Pada Ruang Filing Terhadap Keamanan Berkas Rekam Medis Di Puskesmas Wadaslintang 1. In *INFOKES* (Vol. 11, Number 2).

Nurul, S., Anggrainy, S., & Aprelyani, S. (2022). *FAKTOR-FAKTOR YANG MEMPENGARUHI KEAMANAN SISTEM INFORMASI: KEAMANAN INFORMASI, TEKNOLOGI INFORMASI DAN NETWORK (LITERATURE REVIEW SIM)*. *3*(5). https://doi.org/10.31933/jemsi.v3i5

Nuzuhria, R. (2026). PENGARUH KUALITAS REKAM MEDIS ELEKTRONIK TERHADAP KINERJA PEGAWAI DAN KEPUASAN KERJA DENGAN KEPATUHAN SEBAGAI VARIABEL INTERVENING: LITERATURE REVIEW. In *Journal of Public Health Science (JoPHS)* (Vol. 3, Number 2).

Rahmah Dwi Asti, Nadiyah Rahma Dalimunthe, Ajib Atha Syah Putra, Meisa Putri Rangkuty, Findyani Siregar, Latifah syahrani, Adillah Maharani, & Dewi Agustina. (2025). Inovasi Manajemen Organisasi Kesehatan dalam Meningkatkan Mutu Layanan di Era Digital. *Jurnal Kesehatan Amanah*, *9*(2), 354–360. https://doi.org/10.57214/jka.v9i2.974

Retna, N., & Marisa, J. M. (2025). *PERAN TEKNOLOGI INFORMASI KESEHATAN DALAMPENINGKATAN KESELAMATAN PASIEN DAN PENGAMBILAN KEPUTUSAN KLINIS: KAJIAN LITERATUR*.

Rizky, D., & Tiorentap, A. (2020). Manfaat Penerapan Rekam Medis Elektronik Di Negara Berkembang: Systematic Literature Review. In *Health Information Management Journal ISSN* (Vol. 8, Number 2).

Rusdian Ikawati, F., Ansyori, A., & Anggih Surya Permatasari, D. (2025). *Literature Review: Analisis Keamanan Data Rekam Medis Elektronik di Fasilitas Kesehatan*.

Yulisuyanti, E., & Soewito, B. (2023). Model Manajemen Risiko Sistem Informasi Untuk Sistem Informasi Manajemen Kepegawaian Information System of Risk Management Model for Personnel Management Information System. In *Agustus* (Vol. 22, Number 3).