



User Satisfaction with Electronic Medical Record Implementation Using the EUCS Method: A Literature Review

Adi Prabowo^{1*}, Sinta Novratilova¹, Amalia Putri Ramadhani¹, Amalia Sepnesia¹,
Aulia Febiyanti¹, Bunga Elka Setianingsih¹, Joao Manuel Correia Ximenes²

¹Health Information Management Study Program, Politeknik Indonusa Surakarta, Indonesia

polinus@poltekindonusa.ac.id

²Faculty of Health Science, Universidade de Dili, Dili, Timor Leste,

xiaomanuelcorreia23@gmail.com

*Corresponding Author: 24.adi.prabowo@poltekindonusa.ac.id

Abstract

Research Objective: This study aimed to describe user satisfaction with electronic medical record (EMR) implementation across the five End User Computing Satisfaction (EUCS) dimensions and to identify commonly reported implementation barriers. **Methodology:** A structured descriptive literature review was conducted using Google Scholar in April 2026. Searches combined the terms “electronic medical record” OR “rekam medis elektronik,” “End User Computing Satisfaction” OR “EUCS,” and “hospital” OR “rumah sakit.” Indonesian-language, full-text hospital-based studies published from 2022 to 2026 were eligible. Of 1,600 records identified, 5 studies met the criteria and were narratively synthesized. **Results:** The included studies generally reported favorable satisfaction across content, accuracy, format, ease of use, and timeliness. Nevertheless, recurring concerns were reported for ease of use and timeliness, including difficult workflows, unstable networks, server disruption, system errors, limited user skills, and duplicate data entry. **Conclusion:** The reviewed evidence suggests that EMR user satisfaction is associated with both system characteristics and implementation conditions. Improvements should prioritize usability, network and server reliability, workflow simplification, and periodic user training.

Keywords: *electronic medical records, EUCS, user satisfaction, hospital*

INTRODUCTION

The implementation of health information systems in Indonesia has shown significant progress along with the digitalization of healthcare services, particularly through the application of SIMPUS, Health Information Systems (HIS), and Electronic Medical Records (EMR) in various healthcare facilities. The implementation of these systems has proven to improve service efficiency, accelerate administrative processes, and enhance the quality of health data management (Istiqamah & Rachman, 2025), (Hanafi et al., 2025). However, their implementation is still not optimal due to various obstacles such as limited infrastructure, lack of human resource competencies, and low user acceptance of the systems used (Chotimah et al., 2023), (Arya et al., 2025).

Electronic Medical Records (EMR) are information technology-based recording systems used to document and manage patient data electronically with the aim of improving healthcare service efficiency (Endah et al., 2026). As a result of information technology integration, EMR plays an important role in improving service quality through more accurate information management and supporting medical decision-making. EMR implementation is also capable of increasing documentation accuracy, accelerating patient data access, and reducing the risk of clinical errors (Saryadi et al., 2025). However, in practice, the use of EMR has not been fully optimized because several obstacles still exist, such as slow system performance and high service workloads, causing healthcare staff to continue using manual methods under certain conditions (Endah et al., 2026). In addition, other challenges such as technological limitations and low user acceptance also affect the optimization of its use (Saryadi et al., 2025). The End User Computing Satisfaction (EUCS) model is used to assess user satisfaction levels

toward information systems based on five dimensions: content, accuracy, format, ease of use, and timeliness (Rizqullah et al., 2025).

Based on previous studies, it is known that the implementation of Electronic Medical Records generally demonstrates a high level of user satisfaction; however, several obstacles are still encountered in its implementation. According to (Mitha Amelia R, 2024), research conducted at Aisyiyah Hospital Bojonegoro revealed that there were still issues related to the timeliness dimension, although users expressed satisfaction. (Bukhori et al., 2025) at Cengkareng Regional General Hospital also found that user satisfaction was generally good, but weaknesses remained in the ease of use aspect. (Damaranti et al., 2026) at Salatiga Regional General Hospital stated that all EUCS dimensions had a significant effect, although problems such as network issues, complex system workflows, and duplicate data entry still existed. (Arjuna Ginting, Nasipta Ginting, 2024) at Santa Elisabeth Hospital Medan showed a high level of user satisfaction, but technical issues such as system errors were still encountered. Meanwhile, (Saryadi et al., 2025) at Dr. Moewardi Regional General Hospital also found very high user satisfaction, although server disruptions and duplicate recording still caused inefficiencies.

Previous studies have commonly reported EUCS scores and implementation barriers separately. A concise synthesis across Indonesian hospital settings may help clarify which EUCS dimensions are consistently rated positively and which operational barriers recur. Accordingly, this review provides an integrated descriptive summary rather than proposing a new causal model.

Accordingly, the research question was: What levels of user satisfaction are reported across the five EUCS dimensions, and what implementation barriers are reported in hospital-based EMR studies? This study aimed to describe user satisfaction and identify recurring factors associated with EMR implementation based on the EUCS framework. The findings are expected to support practical evaluation and development of hospital EMR systems.

METHODS

This study used a structured descriptive literature review to identify, organize, and narratively synthesize recent studies on EMR user satisfaction. Quantitative pooling was not performed because the included studies differed in setting, respondent groups, and reporting. The review was not registered and no formal PRISMA checklist was applied; therefore, it is reported consistently as a structured descriptive literature review.

The literature search was conducted in Google Scholar during April 2026. Search combinations included (“electronic medical record” OR “rekam medis elektronik” OR EMR OR RME) AND (“End User Computing Satisfaction” OR EUCS) AND (hospital OR “rumah sakit”). Google Scholar was selected because it provides broad access to Indonesian health-information-management publications. The 2022–2026 period was chosen to capture recent evidence during the expansion of EMR implementation in Indonesia, while the Indonesian-language restriction maintained a focused national context.

The inclusion criteria were: (1) Indonesian-language scientific articles published in 2022–2026; (2) full text available; (3) hospital-based evaluation of EMR or a directly related hospital information system; and (4) application of the EUCS framework. Books, modules, non-hospital studies, inaccessible full texts, studies not applying EUCS, and evaluations of unrelated systems were excluded. The authors screened titles and abstracts, assessed eligible full texts, removed duplicate records, and resolved differences through discussion. No formal quality-appraisal tool was used because the review was descriptive; this limitation was considered when interpreting the findings.

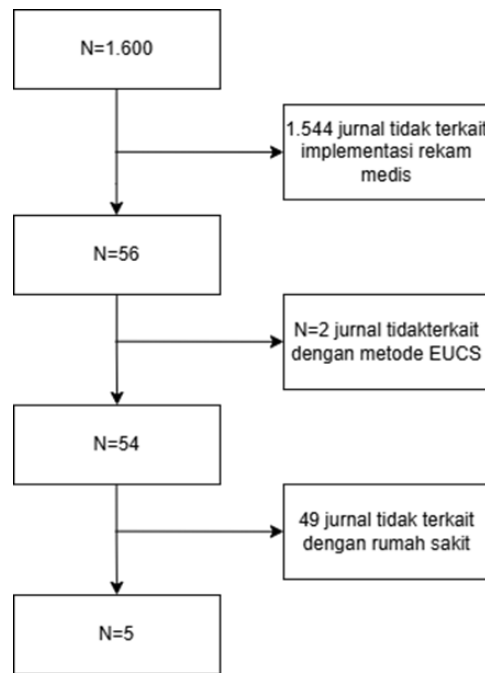


Figure 1. Literature Selection Flowchart

The search identified 1,600 records. After 1,544 records unrelated to EMR implementation were excluded, 56 records remained. Two duplicate records were removed, leaving 54 records for eligibility assessment. Forty-nine articles were excluded because they were not hospital-based or did not use the EUCS framework. Five studies met all inclusion criteria and were included in the narrative synthesis.

RESULTS

Table 1. List of Articles that Met the Inclusion and Exclusion Criteria

No	Author and Year	Research Title	Method	Research Focus
1	Mitha Amelia Rahmawati, Moch Robi (2024)	Analysis of User Satisfaction of Electronic Medical Record (EMR) Services Using the EUCS and RS AISYIAH Bojonegoro Methods	Descriptive Quantitative	Analyzing user satisfaction of EMR based on the EUCS dimensions of content, accuracy, format, ease of use, and timeliness.
2	Ahmad Bukhori, Dina Sonia Bangsa Agung Suty, Muhammad	Evaluation of User Satisfaction of Medical Record Information System (SIMRS) at Medical Record Unit using the EUCS Method	Descriptive Quantitative	Measuring user satisfaction of EMR at the Medical Record Unit based on system quality and efficiency.
3	Maria Ervina Damanik, Wahyu Ratri Widiyaningsih, Aries Sukmono	Analysis of User Satisfaction of Electronic Medical Record Services Using the EUCS Method at RSUD Kota Salatiga	Quantitative (cross-sectional)	Analyzing the relationship between the five EUCS dimensions and user satisfaction, and identifying obstacles such as network issues and complex system workflows.

No	Author and Year	Research Title	Method	Research Focus
4	Arjuna Ginting, Nasipta Ginting, Octi Orin	Evaluation of User Satisfaction of Electronic Medical Record Systems Based on the EUCS Method at RS Santa Elisabeth Medan	Descriptive Quantitative	Evaluating user satisfaction with the SIMPUS system based on EUCS quality dimensions and identifying technical constraints and limited human resources.
5	Syawal Saryadi, Pujiha Lia Lestyarini, Agus Dwi Dewi Aris Insiyah Patimah	Analysis of the Relationship between the Application of Electronic Medical Records and the EUCS Method at RSUD Dr. Moewardi	Descriptive Quantitative	Identifying the relationship between medical record application methods and user satisfaction, particularly regarding ease of use, TAM, UTAUT, and system service quality.

All five included studies were conducted in Indonesian hospitals and used quantitative designs. Across the studies, content, accuracy, and format were generally reported positively, while ease of use and timeliness showed more variable findings. The most frequently reported barriers were network or server instability, difficult workflows, system errors, limited user competence, and duplicate data entry.

DISCUSSION

Based on the five articles presented in Table 1, Rahmawati and Robi (2024) reported generally high satisfaction with EMR at Aisyiyah Hospital Bojonegoro across most EUCS dimensions. However, the timeliness dimension remained less optimal, particularly regarding the speed of information presentation. This suggests that perceived information quality may be favorable even when access and display speed remain operational concerns.

Bukhori et al. (2025) also reported generally favorable satisfaction with the MERSI EMR system at Cengkareng Regional General Hospital in the dimensions of content, accuracy, format, and timeliness. Ease of use was the main area requiring improvement, indicating that usability remains important in service settings that require rapid and accurate access to information.

Damaranti et al. (2026) reported significant associations between the five EUCS dimensions and user satisfaction at Salatiga Regional General Hospital. The study also identified unstable networks, complex system workflows, and duplicate data entry. These operational issues may limit optimal system use even when overall satisfaction scores are favorable.

Ginting et al. (2024) reported high user satisfaction with EMR at Santa Elisabeth Hospital Medan across the EUCS dimensions. System errors and limited ability among some healthcare workers were still encountered, indicating that technical reliability and user competence should be considered together during implementation.

Saryadi et al. (2025) reported very high satisfaction among medical record and health information officers across the EUCS dimensions at Dr. Moewardi Regional General Hospital. Nevertheless, server disruptions and duplicate recording occasionally required manual work and created inefficiencies, showing that favorable satisfaction does not eliminate operational problems.

Across the five studies, content, accuracy, and format were consistently described positively, suggesting that users generally considered the systems informative, sufficiently accurate, and acceptably presented. Ease of use and timeliness were less consistent because difficult workflows, network instability, and server disruption were repeatedly reported. These patterns should be interpreted descriptively because the included studies used different samples, instruments, and hospital settings.

Implementation barriers such as limited infrastructure and variable user competence were reported to influence, or may affect, the EUCS dimensions of ease of use and timeliness. For example, unstable networks may delay data access, while complex workflows may reduce perceived usability. These findings indicate an association between implementation conditions and satisfaction, but the reviewed descriptive studies do not establish direct causation.

The findings support evaluating EMR systems from both technical and user perspectives. Practical priorities include simplifying workflows, improving network and server reliability, providing periodic user training, and monitoring recurring problems such as duplicate entry. These recommendations are derived from recurring findings across the included studies and should be adapted to each hospital context.

This review contributes an integrated summary of EUCS dimensions and common implementation barriers in Indonesian hospitals. Its contribution is practical and descriptive: it identifies recurring patterns that may guide local evaluation rather than proposing a causal model or proving the effectiveness of a specific intervention.

This review has several limitations. It used a single database, included only Indonesian-language publications, and identified a small number of eligible studies. No formal methodological quality-appraisal tool or quantitative meta-analysis was applied, and differences in samples, settings, and reporting limited direct comparison. The findings should therefore be interpreted as a focused descriptive synthesis.

CONCLUSION

Based on the five included studies, EMR users generally reported favorable satisfaction across the EUCS dimensions, particularly content, accuracy, and format. Ease of use and timeliness were more affected by reported operational barriers, including complex workflows, unstable networks, server disruptions, system errors, limited user skills, and duplicate data entry. The findings suggest that improving user satisfaction requires attention to both system usability and implementation readiness. Hospitals should prioritize workflow simplification, reliable infrastructure, and periodic user training.

Author Contributions: Conceptualization: AP, SN, APR; methodology: AP, SN, APR; data curation: AP, SN, APR; formal analysis: AS, AF, BES, JMCX; investigation: AS, AF, BES, JMCX; resources: AS, AF, BES, JMCX; supervision: AS, AF, BES, JMCX; project administration: AS, AF, BES, JMCX; software and dashboard development: AS, AF, BES, JMCX; validation: AS, AF, BES, JMCX; writing-original draft preparation: AP, SN, APR, AS, AF, BES, JMCX; writing-review and editing: AP, SN, APR, AS, AF, BES, JMCX. All authors have read and approved the final version of the manuscript.

Funding: This study was independently conducted and funded through contributions from group members without financial support from any specific sponsor.

Ethical Approval Statement: Not applicable. This review analyzed publicly available published studies and did not involve direct contact with human participants.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data extracted from the five included studies are summarized in Table 1 and discussed in the manuscript. No new primary dataset was generated.

Acknowledgments: The authors would like to express their gratitude to all parties who assisted with the literature search and the preparation of this article, enabling its successful completion.

Conflict of Interest: The authors declare no conflict of interest.

References

- Arjuna Ginting, Nasipta Ginting, C. O. (2024). *Kepuasan Pengguna Rekam Medis Elektronik Berdasarkan Metode Eucs di Rumah Sakit Santa Elisabeth Medan*. 7(4), 734–741.
- Arya, I. P., Putra, A., Prabadhi, I. A., & Akbar, R. S. (2025). *Analisis Komparatif Metode Evaluasi Pelayanan Publik : Sebuah Tinjauan Literatur Sistematis*. 15(1), 33–39.
- Azrul A. Aswad, Roviana H. Dai, B. A. (2022). Evaluasi Tingkat Kepuasan Pengguna SIM-RS Menggunakan Metode EUCS di RSUD Prof. Dr. H. Aloei Saboe Kota Gorontalo. *Journal of System and Information Technology*, 2 No. 2(1), 20–26.
- Bukhori, A., Sonia, D., Satrya, B. A., Iqbal, M. F., & Unggul, U. E. (2025). *Cengkareng Melalui Pendekatan End User Computing Satisfaction*. 1, 1–14.
- Chotimah, S. N., Nurvita, S., & Dewi, V. N. (2023). *Penggunaan Metode Evaluasi Sistem Informasi Kesehatan di Indonesia : Literature Review Program Studi Manajemen Informasi Kesehatan , Fakultas Sains dan Teknologi , Universitas Nasional Karangturi Semarang Email : Siti.Chotimah@Unkartur.Ac.Id*. 3(2).
- Damaranti, M. E., Sukmaningsih, W. R., Widiyoko, A., Palem, J., Grogol, K., & Tengah, J. (2026). *Analisis Kepuasan Pengguna Terhadap Penerapan Rekam Medis Elektronik Menggunakan Metode EUCS di RSUD Kota Salatiga*. 05(01), 29–35.
- Dianti, M. P. (2019). *Hubungan Dukungan Keluarga Terhadap Pemberian ASI Eksklusif Pada Bayi di Wilayah Kerja Puskesmas Banjarsari Kota Metro*. 45–74.
- Endah, N., Maharani, D., Novratilova, S., Putri, F. R., & Surakarta, P. I. (2026). *Analisis Efektivitas Rekam Medis Elektronik Pada Surat Pengantar Rawat Inap Bed Management di RSUD Dr . Moewardi Dengan Metode Tam*. 05(01), 14–19.
- Febrianti, F., Ahsyar, T. K., Saputra, E., Munzir, M., & Zarnelly. (2020). Analisa Kepuasan Pengguna Sistem Informasi Manajemen Rumah Sakit Menggunakan Metode EUCS. *Jurnal Teknik Informatika dan Sistem Informasi*, 10(1), 656–669.
- Gristiari, N. M. P., Adiputra, I. M. S., & Aditya, M. W. (2024). Perancangan Desain User Interface Ekspedisi Elektronik Dokumen Rekam Medis Rawat Inap. *Health Sciences And Pharmacy Journal*, 8(3), 181–190. <https://doi.org/10.32504/Hspj.V8i3.1161>
- Hanafi, S. T., Panjaitan, W. U., Ramadhan, A. R., & Purba, S. H. (2025). *Tinjauan Literatur : Penerapan Sistem Informasi Kesehatan di Puskesmas di Indonesia*. 3(1), 19–23.
- Istiqamah, N. F., & Rachman, D. A. (2025). Evaluasi Sistem Informasi Manajemen Puskesmas dalam Peningkatan Kualitas Layanan Kesehatan : Literature Review Evaluation of the Management Information System of Community Health Centers in Improving The Quality of Health Services : Literature Review. 8(11), 6635–6639. <https://doi.org/10.56338/Jks.V8i11.8636>
- Kamal, S., Mayasari, N., & Khairani, D. (2024). Analisis Kepuasan Pengguna Sistem Rekam Medis Elektronik Menggunakan Metode EUCS di RS Hermina Kota Padang. 9(2), 124–134.
- Marliana, N., Widyaningsih, C., & Istiqlal, H. (2023). Analisis Kepuasan Pasien Terhadap Sistem Anjungan Pendaftaran Mandiri (Apm) RSKD Duren Sawit Dengan Metode EUCS. *Jurnal Manajemen dan Administrasi Rumah Sakit Indonesia (Marsi)*, 7(1), 65–77. <https://doi.org/10.52643/Marsi.V7i1.2931>
- Maulana, T. D., Ananda, A., Nugroho, S., Suryaputra, B. A., Wulansari, A., Informasi, S., Anyar, G., & Review, S. L. (2024). *Tinjauan Literatur Sistematis : Manajemen Sumber*

- Daya TI di Lingkungan Pendidikan*. 8(1), 57–62.
- Mitayani, T., Merari, J. P., & Sunarni, T. (2024). Evaluasi dan Pengembangan Model Sistem Informasi Manajemen Skrining Resep. *Pharmaceutical Journal of Indonesia*, 9(2), 103–112.
- Mitha Amelia R, M. R. (2024). *Analisis Kepuasan Penerapan Rekam Medis Elektronik Rawat Jalan Menggunakan Metode End-User Computing Statisfaction (EUCS) Di Rumah Sakit ‘ Aisyiyah Bojonegoro*. 2, 50–58.
- Nurul Khatimah Ismatullah, Aris Puji Widodo, S. A. N. (2022). *Model EUCS (End User Computing Satisfaction) untuk Evaluasi Kepuasan Pengguna Terhadap Sistem Informasi Bidang Kesehatan : Literature Review*. 5(5), 463–467.
- Rizqullah, N. R., Susaningsih, C., & Piranti, N. M. (2025). *Penggunaan Metode Technology Acceptance Model (TAM) Pada Analisis Sistem Mesin Anjungan : Systematic Literature Review*. 9(4), 6149–6154.
- Saryadi, S., Listyorini, P. I., Dyah, L., Arini, D., & Marsha, A. (2025). *Analisis Kepuasan Pmik Terhadap Implementasi Rekam Medis Elektronik Dengan Metode Eucs di RSUD Dr . Moewardi Universitas Duta Bangsa Surakarta , Indonesia Information System (Promis) Yang Diangkat Untuk Berorientasi Pada Masalah Dari Berbagai Metode End*.
- Widaningrum, P. (2024). *Terhadap Simrs Dengan Metode End User Computing Satisfaction (EUCS) Terhadap Simrs Dengan Metode End User Computing Satisfaction (EUCS)*.