



Review Of Electronic Medical Record Implementation In Inpatient Services Using The Hot-Fit Model At Bakti Pajajaran Regional Public Hospital

Kenny Angel Yasina*, Diansyah

*Medical Records and Health Information Study Program, Politeknik Piksi Ganesha,
Bandung, Indonesia

Abstract

Electronic Medical Records (EMRs) are increasingly required to support efficient, accurate, and integrated hospital services. This study evaluated the implementation of EMRs in inpatient services at Bakti Pajajaran Regional Public Hospital using the Human-Organization-Technology Fit (HOT-FIT) model. A descriptive qualitative case-study design was applied. Data were collected from February to March 2026 through HOT-FIT-based observations and semi-structured interviews with six purposively selected informants who had at least one year of experience using the EMR system: the head of the medical records unit, an inpatient physician, an inpatient administrator, a nurse, a nutritionist, and an information technology officer. The findings indicate that the Human component was generally adequate, as users possessed relevant professional or technical qualifications and were able to operate the EMR according to their duties. The Organization component was supported by hospital policies, basic training, interprofessional coordination, and system access, although full integration had not yet been achieved because several units still used a hybrid workflow. The Technology component was supported by computers, servers, LAN/Wi-Fi, and VPN access; however, unstable or slow network connections remained the dominant operational barrier. Overall, the Fit among human, organizational, and technological components was favorable but constrained by network reliability. Regular user training, routine system evaluation, strengthened technical support, improved bandwidth, and backup connectivity are therefore recommended to sustain EMR implementation and optimize its net benefits for inpatient care.

Keywords: Electronic Medical Records, HOT-FIT, Inpatient Care, Hospital Information System, Digital Health

Correspondent Author: Kenny Angel Yasina

E-mail: kennyyasina@gmail.com

Resive : 13 September 2026

Revised : 16 September 2026

Accept : 16 September 2026

Publish : 16 September 2026





1. Introduction

The development of information technology in healthcare has become an important pillar of health-service transformation in the digital era. The implementation of health information technology, particularly Electronic Medical Records (EMRs), has become a strategic requirement for hospitals seeking to improve service efficiency, quality, and patient safety. Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2022 concerning Medical Records mandates health-care facilities to transition from conventional paper-based medical records to electronic systems, with implementation targeted for completion by 31 December 2023 (Afandi and Widiyanto, 2025). The regulation defines a medical record as a document containing information on patient identity, examinations, treatment, procedures, and other services provided to patients, while an electronic medical record is a medical record created and maintained through an electronic system (Sari et al., 2023). EMRs function as a central source of clinical data within a Hospital Management Information System, which serves as an integrated platform for managing databases originating from multiple clinical and administrative processes. In addition to clinical documentation, such systems may support administration, billing, reporting, and other health-service functions. In principle, an EMR represents the use of information technology to collect, store, process, and provide access to patient data within an integrated information environment (Satria, 2023). Bakti Pajajaran Regional Public Hospital has sought to strengthen the quality of its health services, including inpatient care. This setting is particularly important because inpatient services involve complex and continuous care processes in which accurate and timely patient information is essential.

Preliminary observations conducted in February 2026 indicated that EMR implementation at Bakti Pajajaran Regional Public Hospital remained hybrid, combining electronic and conventional documentation. Problems were still observed in completing inpatient electronic documentation, while the transition from paper-based to electronic records was progressing gradually. This condition may increase the risk of documentation errors and reduce the consistency of EMR use. Accordingly, the implementation of EMRs in inpatient services requires systematic evaluation to determine whether the system delivers the expected benefits and to identify barriers that may affect its continued use. The HOT-FIT model was therefore selected as the evaluation framework because it assesses information-system implementation through the interrelationship of Human, Organization, and Technology dimensions and their overall Fit. This approach has been applied in previous evaluations of inpatient EMR implementation, including the study by Afandi and Widiyanto (2025) at Merah Putih Regional Public Hospital. In the present study, the HOT-FIT model was used to obtain a comprehensive description of user readiness, organizational support,





technological performance, and the resulting benefits of EMR implementation at Bakti Pajajaran Regional Public Hospital. The objective was to review the implementation of EMRs in inpatient services, identify supporting and inhibiting factors, and formulate improvement priorities for sustainable system use.

2. Research Methods

This study employed a descriptive qualitative case-study design (Nurrisa and Hermina, 2025). Informants were selected through purposive sampling using the criterion of at least one year of experience using the EMR. Data collection was conducted from February to March 2026 using an observation guide based on the HOT-FIT framework and semi-structured interviews, with the researcher serving as the primary research instrument. Six health workers who were directly involved in inpatient EMR use participated: one head of the medical records unit, one inpatient physician, one inpatient administrator, one nurse, one nutritionist, and one information technology officer. The study was conducted at Bakti Pajajaran Regional Public Hospital, focusing on the Medical Records Installation and the Flamboyan Inpatient Unit. The HOT-FIT model integrates concepts from the DeLone and McLean Information Systems Success Model and Morton's IT-Organization Fit approach by evaluating the compatibility of Human, Organization, and Technology components within an institution (Tawar, Santoso and Salma, 2022). The Human dimension assessed user qualifications, readiness, competencies, adaptation, and system use. The Organization dimension examined policy, management support, training, coordination, and implementation arrangements. The Technology dimension focused on infrastructure, system availability, connectivity, and technical barriers. The Fit dimension assessed alignment among the three components and the perceived net benefits of EMR implementation.

Previous studies have demonstrated the relevance of HOT-FIT for evaluating EMR implementation in different hospital settings. Franki and Sari (2022) reported that users in a neurological clinic were generally able to accept the EMR, while organizational support remained limited by the absence of a dedicated team and clear standard operating procedures, and technological performance was constrained by unstable internet connectivity. Juliantari et al. (2023) similarly used HOT-FIT to describe outpatient EMR implementation and emphasized that successful implementation depends on alignment among human, organizational, and technological factors. These findings support the use of HOT-FIT as an appropriate framework for the present inpatient evaluation.





3. Results and Discussion

a. Results

The results were derived from observations and semi-structured interviews with six respondents. Findings are presented according to the Human, Organization, Technology, and Fit components of the HOT-FIT model.

Table 1. Human Component of EMR Implementation at Bakti Pajajaran Regional Public Hospital

Health Professional	User Requirement	Competence in Using the EMR
Physician	An active professional registration certificate (STR) as a legal requirement for practice and system use.	Understands the main EMR features and records medical information quickly and accurately.
Nurse	An active STR as a requirement for practice in the relevant unit.	Able to enter patient data accurately and more clearly than with manual documentation.
Nutritionist	An active STR as a requirement for using the nutritional care system.	Able to document nutritional care systematically through the EMR.
Head of Medical Records	A medical-records competency certificate as a requirement for unit management.	Understands EMR policies comprehensively and monitors EMR implementation.
Inpatient Administrator	A system-training certificate as an operational requirement.	Able to use the EMR for services and printing patient documents.
IT Officer	Technical competence in information systems as a requirement for EMR management.	Able to independently manage minor technical disruptions.

Table 1 indicates that the Human component generally met the expected human-capital requirements. Respondents held relevant professional registration or competency credentials and demonstrated functional competence in using the EMR according to their respective roles.

Table 2. Organization Component of EMR Implementation at Bakti Pajajaran Regional Public Hospital

Organizational Aspect	Respondent-Based Findings
Use policy	The head of the medical records unit stated that EMR use was consistent with hospital policy.
Inter-unit integration	Some units continued to operate in a hybrid mode because full integration had not yet been completed.
System coverage	The IT team reported that the EMR had been deployed throughout the hospital environment and was updated regularly.
Readiness of inpatient rooms	Each inpatient room had its own EMR account.
Internal training	Ward heads had received basic training to manage minor system problems without always waiting for the IT team.
Interprofessional collaboration	Nurses reported that the EMR facilitated communication of physicians' instructions and nutritional plans to inpatient units.





External access support

Management provided VPN access for authorized health professionals requiring remote access.

The Organization component showed that management had established policies, access arrangements, and inter-unit collaboration. Nevertheless, full integration remained incomplete because several units still operated through a hybrid electronic and paper-based workflow.

Table 3. Technology-Related Complaints, Barriers, and Impacts

User	Technical Complaint	Barrier	Impact
Physician	Network disruption during medical documentation.	Unstable connectivity during patient-data entry.	Patient data may not be saved, requiring repeated documentation.
Nurse	Slow network during data entry in the inpatient ward.	Network speed delays daily work processes.	Communication among health professionals may be disrupted and medical instructions may not be conveyed promptly.
Nutritionist	Network speed affects entry of nutritional-care data.	Connectivity slows during nutritional documentation.	Nutrition-related data entry takes longer than expected.
Inpatient Administrator	System disruption when patients are being discharged.	The system cannot process discharge documents when connectivity is slow.	Discharge documents cannot be printed promptly, delaying the discharge process.

Network-related problems were the most frequently reported technological issue in inpatient EMR use. Similar network-related barriers have also been reported in previous evaluations of EMR implementation (Devia et al., 2025).

Table 4. Fit Component of EMR Implementation at Bakti Pajajaran Regional Public Hospital

Fit Aspect	Description
Human and Technology	Health professionals were competent in using the EMR, but their performance was not fully supported by stable network connectivity.
Human and Organization	Management had trained ward heads to handle minor problems, thereby supporting staff competence and reducing complete dependence on the IT team.
Organization and Technology	Management had provided EMR infrastructure across hospital units, although technological stability remained an issue.
Net Benefit	The EMR was perceived to improve data accuracy, service speed, and clarity of communication, but these benefits were constrained by recurring network disruption.
Documentation Standard Fit	The EMR supported SOAP documentation for general medical records and was reported to accommodate SDKI and SIKI standards for nursing-care documentation.

Overall, alignment among Human, Organization, and Technology components had been established. The most prominent gap concerned network stability rather than user readiness or organizational policy.



**Table 5.** Facilities and Infrastructure Supporting the EMR

Facility	Location	Area	Quantity/Availability	Condition
Computer/PC	Inpatient, outpatient, polyclinic, and emergency units	Front office	Approximately 300 units	Meets operational standards
Computer/PC	Administrative offices, warehouse, and cooperative	Back office	Approximately 200 units	Meets operational standards
Hospital information system server (Medifirst2000)	Central IT room	Central	Existing	Regularly updated
LAN/Wi-Fi network	Entire hospital area	Central	Integrated	Adjusted according to connection availability
VPN	External hospital access	External	Available	Adjusted according to access requirements

The available infrastructure included an estimated 500 computers distributed across front-office and back-office areas, a central Medifirst2000 server, integrated LAN/Wi-Fi, and VPN access. These resources generally supported EMR operations; however, network stability during busy service periods remained an area for improvement, consistent with Azzakia et al. (2025).

b. Discussion

1) Human Component

Within the HOT-FIT framework, the Human component reflects user readiness, adaptation, competence, and perceptions regarding the implemented information system. At Bakti Pajajaran Regional Public Hospital, respondents generally met the professional or technical requirements associated with their roles and were able to use the EMR within their respective workflows. This finding is consistent with Asih (2023), who noted the increasing use of health information software to support service delivery, and with Aryawan et al. (2025), who reported that EMR implementation can facilitate more standardized and timely work processes compared with manual recording.

Despite adequate user competence, operational problems affected the Human-Technology relationship. Respondents described delays in completing integrated patient progress notes and other clinical documentation when connectivity slowed or failed. Such events may result in unsaved data, repeated data entry, delayed documentation, and disrupted clinical coordination. Interviews with the IT respondent suggested that severe internal-network failure was uncommon; nevertheless, users experienced reduced connection speed during routine operations. Thus, the principal





Human-related concern was not resistance to the EMR, but the effect of technological reliability on otherwise capable users.

2) Organization Component

The Organization component includes management support, institutional policy, governance, training, and coordination mechanisms that sustain information-system implementation. The head of the medical records unit reported that EMR use had been aligned with hospital policy. However, full organizational integration had not yet been achieved because several units continued to combine conventional and electronic documentation. Organizational support was reflected in policy implementation, system deployment, vendor involvement, internal training, and access arrangements. This finding is consistent with Salsabila and Wahab (2024), who emphasized that hospital information-system implementation may be influenced by vendor involvement and internal administrative processes.

The IT team reported that the EMR had been deployed throughout the hospital environment and that routine technical updates were undertaken. Advanced user training, however, was largely incidental rather than scheduled periodically. Ward heads had received basic training to address minor technical problems independently, reducing unnecessary dependence on the IT team. Cross-professional communication through the EMR was perceived to be functioning relatively well, although incomplete integration across units remained an organizational limitation. These findings indicate that policies and basic support structures were available but that systematic evaluation and recurrent competency development should be strengthened.

3) Technology Component

The Technology component concerns system availability, infrastructure quality, connectivity, and technical reliability. The Medifirst2000 server was reported to be updated regularly and supported by LAN, Wi-Fi, and VPN infrastructure. Respondents nevertheless identified slow or unstable network performance as the most common technical problem. Although the underlying infrastructure was generally available, intermittent connectivity affected data entry, nutritional documentation, communication, and discharge-document printing. Even temporary disruptions therefore had operational consequences, including repeated work and delayed service processes.

These findings are consistent with Azzakia et al. (2025), who identified network disruption as an important technological barrier in EMR implementation. The results suggest that hardware availability alone is insufficient to ensure effective digital





documentation. Reliable bandwidth, redundancy, monitoring, and prompt technical response are necessary to maintain continuity of clinical information and reduce the risk of incomplete or repeated data entry.

4) Fit Component

In the HOT-FIT model, Fit represents the degree of alignment among Human, Organization, and Technology components in supporting optimal and sustainable system implementation. At Bakti Pajajaran Regional Public Hospital, the relationship among these components was generally favorable. Users demonstrated positive acceptance and adequate competence, while management provided policies, infrastructure, training, and access support. This is in line with Perwira (2025), who argued that successful EMR implementation depends not only on technical readiness but also on organizational preparedness and planned change management.

However, the Human-Technology and Organization-Technology relationships were weakened by connectivity instability. The continued use of hybrid documentation also indicates that the institution remained in a transitional phase. The EMR was reported to support SOAP documentation and nursing documentation based on SDKI and SIKI. The perceived net benefits included improved data accuracy, faster service processes, and clearer communication among health professionals, but these benefits were not fully optimized when connectivity problems occurred. Similar observations regarding the interaction between user readiness and technological performance have been reported by Rani, Rizqulloh and Widyaningrum (2025). Overall, the principal implementation gap identified in this study was technological reliability rather than a lack of human competence or organizational policy.

4. Conclusion

The implementation of Electronic Medical Records in inpatient services at Bakti Pajajaran Regional Public Hospital was generally functioning well when evaluated using the HOT-FIT model. The Human component was supported by health professionals who possessed relevant professional or technical qualifications and demonstrated adequate competence in using the system. The Organization component was supported by hospital policies, basic training, interprofessional collaboration, system deployment, and access arrangements, although full integration had not yet been achieved because several units continued to use hybrid documentation. The Technology component was supported by computers, a central server, LAN/Wi-Fi, and VPN infrastructure, but unstable or slow network connectivity remained the most prominent barrier. This problem could lead to unsaved data, slower data entry, delayed communication, and postponed printing of





discharge documentation. Overall Fit among Human, Organization, and Technology was favorable but was constrained by network reliability. The hospital should therefore strengthen network stability and bandwidth, consider backup connectivity, conduct regular EMR training and system evaluation, improve technical support, and develop mechanisms that minimize the risk of data loss during temporary connection failures. These measures are expected to improve the sustainability of EMR implementation and optimize its net benefits for inpatient services.

5. Compliance with Ethical Standards

Acknowledgements

To be completed by the authors before submission, particularly if institutional, technical, or data-access support should be formally acknowledged.

Disclosure of Conflict of Interest

To be confirmed by all authors before submission.

Statement of Informed Consent / Research Ethics

The source manuscript does not state an ethics approval number or informed-consent statement. This information should be completed by the authors in accordance with the journal and institutional requirements before submission.

References

- Afandi, A. and Widiyanto, W. W. (2025) 'Analisis Implementasi Rekam Medis Elektronik Rawat Inap di RSUD Merah Putih dengan Model HOT-FIT', *Jurnal Ners*, 9(3), pp. 5094–5099. doi: 10.31004/jn.v9i3.47860.
- Aryawan Eka Syahputra, Aries Widiyoko and W. W. W. (2025) 'Analisis Penerapan RME di Poliklinik Reguler Rawat Jalan RSUD Kota Salatiga Menggunakan Metode HOT-FIT', 4(2).
- Asih, H. A. (2023) 'Perkembangan Rekam Medis Elektronik di Indonesia: Literature Review', 6(1), pp. 182–198.
- Salsabila, A. and Wahab, S. (2024) 'Tinjauan Implementasi Rekam Medis Elektronik Guna Menunjang Efektifitas Pendaftaran Rawat Inap di RSUD Kota Bandung', *PREPOTIF: Jurnal Kesehatan Masyarakat*, 8(2), pp. 2859–2865. doi: 10.31004/prepotif.v8i2.28581.
- Azzakia, F., Diaty, R., N. M., P. A. and Mariani (2025) 'Evaluasi Implementasi Rekam Medis Elektronik Ruang VK dengan Metode HOT-FIT di RSUD Sultan Suriansyah Banjarmasin', *Jurnal Manajemen*, 8(2), pp. 151–158.
- Devia, M., Dan, K. and RS, D. (2025) 'Tinjauan Standar Keamanan Penggunaan Rekam Medis Elektronik Rawat Jalan dalam Menunjang Standar Akreditasi Manajemen Rekam', 5(3), pp. 26268–26271.
- Ferdianna, A. and Ikawati, F. R. (2026) 'Elektronik Menggunakan Metode HOT FIT pada Layanan', 9(1), pp. 130–135.
- Perwira, K. Y. (2025) 'Evaluasi Implementasi Rekam Medis Elektronik dengan Metode HOT FIT di Rumah Sakit Umum Daerah Tangguwisata Kabupaten Buleleng', *MAINTEKKES: The Journal of Management Information and Health Technology*, 3(2), pp. 92–99. doi: 10.36049/maintekkes.v3i2.413.
- Kementerian Kesehatan Republik Indonesia (2022) 'Peraturan Menteri Kesehatan Republik Indonesia Nomor 24 Tahun 2022 tentang Rekam Medis', *Berita Negara Republik Indonesia*, 829, pp. 1–19.
- Juliantari, N. K., Luh Yulia, Putu Chrisdayanti, Gede Wirabuana and P. E. (2023) 'Gambaran Proses Implementasi Rekam Medis Elektronik di Unit Rawat Jalan dengan Metode HOT-FIT di Rumah Sakit Ari Canti', *The Journal of Management Information and Health Technology*, 1, pp. 29–34.
- Rani, D. M., Rizqulloh, L. and Widyaningrum, B. N. (2025) 'Implementation of Electronic Medical Records in Type C Hospitals', *Procedia of Engineering and Life Science*, 9, pp. 33–42.
- Sari, R. A., Asih, T. N., Pamungkas, G. and Tamara, M. D. (2023) 'Evaluasi Persiapan Implementasi Sistem Informasi Rekam Medik Elektronik (RME) di RSUD Kesehatan Kerja Provinsi Jawa Barat', pp. 1–22.





Publish : Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)

Journal Homepage : <https://jurnal.agdosi.com/index.php/IJHS/index>

Volume 4 | Number 3 | September 2026 |



- Satria, I. (2023) 'Rekam Medis Elektronik pada Pelayanan Rumah Sakit di Indonesia: Aspek Hukum dan Implementasi', ALADALAH: Jurnal Politik, Sosial, Hukum dan Humaniora, 1(1), pp. 195–205.
- Tawar, Santoso, A. F. and Salma, Y. S. (2022) 'Model HOT FIT dalam Manajemen Sistem Informasi', Bincang Sains dan Teknologi, 1(02), pp. 76–82. doi: 10.56741/bst.v1i02.144.
- Nurrisa, F. and Hermina, D. (2025) 'Pendekatan Kualitatif dalam Penelitian: Strategi, Tahapan, dan Analisis Data', Jurnal Teknologi Pendidikan dan Pembelajaran (JTTP), 2(3), pp. 793–800.

