International Journal of Management Analytics (IJMA)
Vol. 4 , No. 1 January 2026: 13-20

Analysis of the Success of Electronic Medical Record Implementation Based on the Change Management Approach at Pamanukan Medical Center Hospital

Sigit Nur Aziz[1*], Rivaldi Ramadhan[2], Ima Amaliah[3], Nunung Nurhayati[4]
Universitas Islam Bandung
Corresponding Author: Sigit Nur Aziz: sigitnuraziz22@gmail.com

A R T I CLEINFO

Keywords: Electronic Medical Records, Change Management, ADKAR, Implementation Evaluation

Received: 20 November
Revised: 15 December
Accepted: 10 January

ABSTRACT

The implementation of Electronic Medical Records (EMR) represents a major digital transformation aimed at improving the quality and safety of healthcare services, yet its adoption continues to face various challenges, including at Pamanukan Medical Center Hospital. This study aims to evaluate the level of EMR implementation, identify the remaining issues, and map these findings into the ADKAR Change Management model to determine which stages of change require the most attention. A descriptive-quantitative approach was applied using secondary data from the hospital's internal reports, covering seven key documentation indicators. The findings reveal varying levels of achievement across indicators, with the highest performance observed in the Surgery Report and the lowest in Consultation Notes. The main barriers include incomplete data entry, system technical issues, and inconsistent use of the EMR platform. Mapping the results to the ADKAR model shows that Desire, Knowledge, and Ability are the weakest components and therefore require prioritized intervention in change management efforts. These results indicate that enhancing staff motivation, strengthening technical understanding, and improving operational skills are essential to support successful EMR implementation.

DOI: https://doi.org/10.59890/ijma.v4i1.286
https://dmimultitechpublisher.my.id/index.php/ijma

INTRODUCTION

The implementation of Electronic Medical Records (EMR) represents a major transformation in modern healthcare services, reshaping the way information is collected, stored, and utilized to improve the quality and safety of patient care. EMR implementation requires not only technological readiness but also strong organizational capacity to manage the change process. The shift from manual documentation to a digital platform demands behavioral adaptation, competency enhancement, and continuous support for healthcare workers to ensure their ability to adjust to new procedures (Goldberg et al., 2025).

Despite its potential benefits, the implementation of EMR in many healthcare facilities continues to encounter various barriers. Limited inter-unit communication, insufficient ongoing training, and low organizational readiness are among the factors that frequently slow the adoption of digital systems (Tsai et al., 2020). Weak leadership in driving digital transformation, employee resistance to workflow changes, and the absence of structured change strategies are major contributors to EMR implementation failure (Saleh et al., 2025). Resistance to digital change has even been identified as one of the primary causes of failure in adopting electronic health systems (Scholkmann, 2020). Similar challenges have been reported in hospitals in Indonesia, where organizational culture remains unprepared to transition from manual documentation, managerial commitment is insufficient, and variations in staff understanding of digital procedures hinder successful EMR adoption (Hossain, 2025).

These findings align with the conditions observed at Pamanukan Medical Center Hospital, where internal evaluations indicate that the implementation of the Electronic Medical Records (EMR) system has not yet been fully optimized across several service components. Variations in performance between indicators such as incomplete documentation of diagnoses in consultation notes, missing data in informed consent forms, and technical issues in uploading laboratory results suggest that the change process has not been fully accepted nor consistently executed by healthcare personnel. This uneven performance highlights underlying issues in both individual and organizational readiness to adapt to digital systems, particularly in relation to documentation behavior, understanding of procedures, and operational capability in using electronic platforms.

These challenges demonstrate that EMR implementation barriers do not emerge uniformly across all stages of change. Such inconsistencies make the overall implementation appear uneven across components, reinforcing the notion that the core issue is not solely technological readiness, but rather the irregular progression of organizational change. This condition underscores the need for Pamanukan Medical Center Hospital to gain a deeper understanding of the current extent of its EMR implementation. Therefore, conducting a comprehensive evaluation is essential to identify components that are performing well and those facing persistent obstacles, enabling the hospital to direct improvement efforts more accurately and in a data-driven manner.

An evaluation of the EMR implementation at Pamanukan Medical Center Hospital needs to be conducted using a Change Management approach because the challenges encountered are directly related to organizational change processes. Change Management is particularly relevant, as structured change strategies have

been proven effective in minimizing resistance and increasing user acceptance (Nurmaidah et al., 2024). The integration of Change Management into digital transformation programs can enhance digital safety and ensure that healthcare personnel adapt consistently to new systems (Ebo et al., 2025). The success of digital health initiatives depends not only on technological readiness but also on effective change management in addressing resistance, improving communication, and realigning workflows (Iyanna et al., 2022).

One model well-suited for assessing readiness and progress in organizational change is the ADKAR model, which evaluates individual change through the components of Awareness, Desire, Knowledge, Ability, and Reinforcement. This model has demonstrated its contribution to the success of digital transformation efforts in hospital settings (Baek & Kim, 2024). The ADKAR model is particularly effective for guiding stepwise, behavior-based change interventions, making it appropriate for evaluating technology adoption such as EMR implementation, which requires shifts in documentation culture and daily work patterns (Hanif, 2023).

Based on the background described above, the research problems addressed in this study include: (1) What is the level of EMR implementation achievement across evaluation indicators at Pamanukan Medical Center Hospital? (2) What problems still emerge in the implementation of EMR based on internal evaluation results? (3) How do these implementation achievements align when mapped to the components of the ADKAR model? and (4) At which stages of the change process are the most dominant barriers found, requiring particular attention in the hospital's change management efforts?

METHOD

This study employs a descriptive quantitative approach using secondary data obtained from internal reports of Pamanukan Medical Center Hospital regarding the level of success in implementing the Electronic Medical Record (EMR) based on the components of the ADKAR model (Awareness, Desire, Knowledge, Ability, and Reinforcement). This approach was selected because the study does not involve primary data collection; instead, it analyzes existing data as an evaluative measure of organizational change management implementation.

The ADKAR model is used as the evaluative framework in this study, in which each component is treated as an indicator of change success. The numerical values analyzed represent the percentage achievements from the hospital's internal assessment of EMR implementation, which had already been mapped to the ADKAR components by the relevant unit. Accordingly, the study does not develop new survey instruments or interviews, as all parameters and measurements were predetermined through the hospital's internal monitoring mechanisms.

The EMR indicators analyzed in this study consist of seven components: patient identity, consultation notes, medical resumes, informed consent, laboratory and radiology results, operative reports, and inpatient admission requests (SPRI). The selection of these indicators is based on Article 13 paragraph (1) of the Ministry of Health Regulation No. 24 of 2022, which stipulates that EMR implementation must include at minimum patient registration, clinical information entry, service data input,

data processing, quality assurance, as well as the storage and transfer of EMR content. Through an operational interpretation of these provisions, the seven indicators are considered representative of the essential documentation elements within the clinical service cycle.

Data were collected through a review of official hospital documents, specifically the EMR implementation reports for the period of January–December 2024. Administrative validation was conducted by examining the accuracy of data sources, completeness of variables, consistency of formatting, and confirming information with the medical records unit. All data were then analyzed descriptively to identify performance patterns and achievement trends across each component.

RESULT AND DISCUSSION

In accordance with the research objective to evaluate the level of success in implementing the Electronic Medical Record (EMR) using the ADKAR framework, the analysis was carried out using secondary data obtained from internal service unit reports at Pamanukan Medical Center Hospital. These data describe the actual conditions of EMR implementation across various service indicators and serve as the basis for assessing change readiness, documentation consistency, and the effectiveness of hospital information system utilization.

Table 1. Results of ESDM Implementation Assessment on Various Service Indicators

No.	EMR Indicator	Identified Issues	Achievement Percentage
1	Patient Identity	Identity stickers not attached	80%
2	Consultation Notes	Diagnoses not recorded in the Hospital Management Information System	50%
3	Laboratory & Radiology	Lab results not automatically uploaded to the medical resume	82.5%
4	Informed Consent	Many components (procedure explanation, responsible personnel data, signatures) are incomplete	75%
5	Operative Report	–	95%
6	Inpatient Request Form	Many forms cannot be opened	75%
7	Medical Resume	Incomplete or inconsistent diagnoses, procedures, signatures, medication, discharge info	70%

Source: Internal data of Pamanukan Medical Center Hospital, 2024

Based on Table 1, the success rate of Electronic Medical Record (EMR) implementation at Pamanukan Medical Center Hospital varies across indicators. The highest achievement is found in the Operative Report indicator, with a score of 95%, indicating that the surgical unit has consistently carried out electronic documentation. Other indicators, such as Laboratory and Radiology results (82.5%) and the completeness of Patient Identity data (80%), also demonstrate performance levels that are close to the hospital's internal standards.

However, several indicators still show significant implementation barriers. Consultation Notes, with an achievement of only 50%, represent the lowest-performing indicator, primarily due to incomplete or missing diagnosis entries in the Hospital Management Information System. Other indicators, Medical Resume (70%), Informed Consent (75%), and Inpatient Request Forms (75%) indicate persistent inconsistencies in documentation processes, both in terms of data completeness and accuracy of input into the system.

Based on the assessment across all EMR indicators, it is evident that the level of implementation at Pamanukan Medical Center Hospital remains uneven. To understand these varying patterns more comprehensively, the findings were classified using the ADKAR model. This approach enables clearer identification of change components that are functioning well and those that remain constrained, as each indicator is mapped to the most relevant ADKAR component according to its documentation characteristics and challenges.

Table 2. Mapping of Electronic Medical Record Indicators to ADKAR Components

ADKAR Component	Related EMR Indicators
Awareness	Patient Identity, Informed Consent
Desire	Consultation Notes, Medical Resume
Knowledge	All indicators requiring understanding of medical record documentation standards (Patient Identity, Consultation Notes, Medical Resume, Informed Consent, Laboratory & Radiology, Operative Report, Inpatient Request Form)
Ability	Laboratory & Radiology, Inpatient Request Form
Reinforcement	Operative Report

Source: Internal data of Pamanukan Medical Center Hospital, 2024

The mapping of Electronic Medical Record indicators to the ADKAR components was conducted to understand how the success or barriers in each indicator reflect the organization's readiness for change. Each ADKAR component Awareness, Desire, Knowledge, Ability, and Reinforcemen trepresents a different stage in the process of individual and institutional change.

In the Awareness component, indicators such as Patient Identity and Informed Consent are included because both rely heavily on healthcare workers' awareness of the importance of accuracy and compliance with regulations. Incompleteness in these indicators is often caused by limited awareness of the clinical, ethical, and legal risks that arise when documentation is not completed properly. This aligns with the concept of Awareness in the ADKAR model, which involves understanding the urgency of change and the consequences of failing to implement it.

The Desire component is associated with Consultation Notes and Medical Resume because the quality of documentation in these indicators requires not only awareness but also the internal motivation of healthcare workers to complete documentation thoroughly. The willingness to participate in change often influences consistency in clinical documentation, particularly when the system is perceived as increasing workload or requiring additional time.

The Knowledge component encompasses all indicators that require an understanding of medical record documentation standards. This is logical, as many EMR-related errors occur due to insufficient understanding of data formats, structures, and documentation rules. Therefore, all indicators are relevant to this component, as technical knowledge is a prerequisite for successful electronic documentation.

The Ability component includes Laboratory & Radiology and the Inpatient Request Form because these indicators rely heavily on operational skills in using the system, such as uploading, accessing, or opening electronic documents. The challenges that arise are more closely related to practical skills in performing technical EMR processes rather than to motivation or basic knowledge.

Finally, the Reinforcement component is linked to the Operative Report because this indicator shows the highest and most consistent level of achievement. This reflects the existence of reinforcement mechanisms such as supervision, strict standard procedures, and a more established documentation culture in the surgical unit. Within the ADKAR framework, Reinforcement appears when change behaviors have stabilized and are consistently maintained by the organization.

Overall, the mapping of EMR indicators to the ADKAR components shows that the most significant barriers to EMR implementation at Pamanukan Medical Center Hospital arise in the Desire and Knowledge components. The low achievement in Consultation Notes and Medical Resume indicates that healthcare workers' motivation to complete documentation thoroughly and consistently has not yet been fully developed. Ability also requires improvement, particularly in the Laboratory–Radiology system and the Inpatient Request Form, both of which continue to show operational issues. In addition, the high number of documentation inconsistencies across nearly all indicators demonstrates that technical understanding of electronic documentation standards still needs to be strengthened.

Meanwhile, Awareness appears to be present but not evenly distributed across units, as reflected in incomplete patient identity data and incomplete informed consent forms in certain medical records. In contrast, Reinforcement is the most stable component in the surgical unit, as demonstrated by the high level of consistency in the Operative Report. These findings suggest that the success of digital transformation in hospitals is strongly influenced by a combination of internal motivation, technical understanding, and sustained organizational reinforcement mechanisms.

These findings are also consistent with previous studies showing that barriers to digital implementation in hospitals commonly relate to technical understanding, motivation, and operational skills among healthcare workers. Hariri et al. (2025) emphasize that digital competence both knowledge and technical skills is a key factor in change readiness. Ginting et al. (2025) also found that motivation and reinforcement mechanisms are critical for ensuring consistent electronic documentation practices. Furthermore, Asti et al. (2025) highlight that the success of digital transformation relies heavily on continuous training and managerial support. This convergence of evidence strengthens the conclusion that the barriers observed in EMR implementation at Pamanukan Medical Center Hospital align with the ADKAR components requiring enhancement namely Desire, Knowledge, and Ability.

CONCLUSION

Based on the evaluation of Electronic Medical Record (EMR) implementation at Pamanukan Medical Center Hospital using a descriptive-quantitative approach and the ADKAR Change Management model, the following conclusions can be drawn:

1. The level of EMR implementation achievement varies across indicators, with the highest performance found in the Operative Report (95%) and the lowest in the Consultation Notes (50%), indicating that documentation compliance has not yet been consistent across all units.
2. The main issues identified include incomplete data entry, technical system problems, and irregularities in information input.
3. Mapping the results to the ADKAR model shows that several indicators have not fully met the expected change components, particularly in the aspects of Awareness, Desire, Knowledge, and Ability, as reflected in the variation of outcomes across EMR indicators.
4. The most dominant barriers are found in the Desire, Knowledge, and Ability components, which are directly related to user motivation, understanding of documentation standards, and operational skills in using the EMR system. These three aspects therefore require focused attention in the hospital's change management efforts.

REFERENCES

Ahmad Hariri, Wahyuni, W., & Rochmat, A. (2025). Kesiapan Sumber Daya Manusia Rumah Sakit dalam Menghadapi Transformasi Digital Layanan Kesehatan. *Jurnal Ners, 9*(3), 3837–3845. https://doi.org/10.31004/jn.v9i3.45936

Asti, R. D., Dalimunthe, N. R., Putra, A. A. S., Rangkuty, M. P., Siregar, F., Maharani, A., & Agustina, D. (2025). Inovasi Manajemen Organisasi Kesehatan dalam Meningkatkan Mutu Layanan di Era Digital. *Jurnal Kesehatan Amanah, 9*(2), 354-360.

Ebo, T. O., David-Olawade, A. C., Ebo, D. M., Egbon, E., & Olawade, D. B. (2025). Transforming healthcare delivery: A comprehensive review of digital integration, challenges, and best practices in integrated care systems. Digital Engineering, 6, 100056. https://doi.org/10.1016/j.dte.2025.100056

Ginting, A. B., Karlinawati, N. M. D. S., Purwadhi, P., & Widjaja, Y. R. (2025). Strategi Membangun Budaya Organisasi yang Inovatif dalam Menghadapi Transformasi Digital di Rumah Sakit. *Maneggio: Jurnal Ilmiah Magister Manajemen, 8*(1), 36–41.

Goldberg, D. G., Soylu, T. G., Hoffman, C. F., Kishton, R. E., & Cronholm, P. F. (2025). Clinicians' perspectives on the adoption and implementation of EMR-integrated clinical decision support tools in primary care. *Digital Health, 11*, 20552076251334043. https://doi.org/10.1177/20552076251334043

Hanif, S. (2023). Developing Organizational Change Capabilities using ADKAR model of Change: The Efficacy of Context Sensitive Training: Organizational Change using ADKAR Model. *Journal of Workplace Behavior*, *4*(1), 81-93.

Hossain, M. K. (2025). An exploratory study of electronic medical record implementation and recordkeeping culture: the case of hospitals in Indonesia. *BMC Health Services Research.*

Iyanna, S., Kaur, P., Ractham, P., Talwar, S., & Islam, A. K. M. N. (2022). *Digital transformation of healthcare sector: What is impeding adoption and continued usage of technology-driven innovations by end-users?* **Journal of Business Research, 153**, 150–161. https://doi.org/10.1016/j.jbusres.2022.08.007

Kementerian Kesehatan Republik Indonesia. (2022). *Peraturan Menteri Kesehatan Republik Indonesia Nomor 24 Tahun 2022 tentang Rekam Medis*. https://peraturan.bpk.go.id/

Nurmaidah, N., Kustiningsih, N., & Rahayu, S. (2024). Change management strategy in the implementation of electronic medical record system in the era of digital transformation: Case study at Rahman Rahim Hospital. Gema Wiralodra, 15(1), 228-238.

Saleh, H., et al. (2025). Perceived benefits and barriers of medical doctors regarding EMR adoption: A global literature review. *BMC Health Services Research.*

Scholkmann A. B. (2020). Resistance to (Digital) Change: Individual, Systemic and Learning-Related Perspectives. *Digital Transformation of Learning Organizations*, 219–236. https://doi.org/10.1007/978-3-030-55878-9_13

Tsai, C.-H., et al. (2020). Effects of Electronic Health Record Implementation and Barriers to Adoption: A Scoping Review. *International Journal/PMC.*