

Integration of Online Queue System and Electronic Medical Records to Improve Operational Efficiency in a Primary Clinic

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Abstract

This study examines the integration of an online queue system and Electronic Medical Records (EMR) as part of a digital management approach aimed at improving operational efficiency in a primary healthcare clinic. The research employs a descriptive qualitative design, with data collected through observation, in-depth interviews, and documentation review. The findings suggest that the integration of these digital systems contributes to a more organized service flow, reduced patient waiting experiences, and fewer administrative repetitions within the clinic's service processes. From an operational management perspective, the integrated system indicates improved coordination among service units, more effective utilization of available resources, and stronger support for data-informed managerial decision-making. Rather than establishing causal relationships, the findings reflect how digital system integration may support operational efficiency and service management within the context of primary healthcare delivery. The implementation process also highlights the importance of human resource readiness, information technology governance, and adequate infrastructure in supporting digital transformation initiatives. As this study is based on a qualitative case study within a single primary healthcare institution, the findings should be interpreted within their specific organizational context. Nevertheless, the study contributes empirical insights into how digital integration practices can support service management improvements in primary healthcare facilities and provides practical implications for digital transformation strategies in similar healthcare settings.

Keywords

Digital Transformation, Operational Efficiency, Healthcare Management, Electronic Medical Records, Online Queue System

INTRODUCTION

The rapid development of information technology has driven significant transformation in healthcare service systems, including primary healthcare facilities such as clinics (Bimantoro et al., 2021); (Munzir et al., 2023). Healthcare institutions are increasingly expected to provide services that are efficient, accurate, and patient-centered in response to growing public expectations for accessible and responsive healthcare delivery (Susanto et al., 2024); (Wally & Hartoyo, 2024); (Ulva et al., 2022). However, many primary healthcare facilities continue to encounter operational challenges related to service management, including prolonged patient waiting times, fragmented administrative processes, and limited integration of patient data across service units. These conditions often result in inefficiencies in service delivery and difficulties in managing patient flow effectively.

In many primary healthcare settings, conventional service systems still rely on manual administrative procedures and on-site registration processes, which may contribute to patient congestion in waiting areas and inefficiencies in the management of clinical information. Long waiting experiences and repetitive administrative processes can reduce the effectiveness of service delivery and create challenges for healthcare staff in coordinating patient information across service units. Previous studies have highlighted that digital health technologies, such as online queuing systems and Electronic Medical Records (EMR), have the potential to support improvements in healthcare service processes by facilitating better access to patient information and improving service coordination (Regah, 2024); (Anggereni & Sari, 2025). The adoption of EMR systems, for instance, enables healthcare professionals to access patient data more efficiently and supports more organized documentation of medical information (Kadek et al., 2024).

Despite the growing adoption of digital health technologies, many healthcare facilities continue to implement digital tools in a fragmented manner, where queuing systems and medical record systems operate independently. As a result, the potential benefits of integrated digital systems for improving operational service management have not been fully explored. Previous studies have primarily examined the effectiveness of EMR in improving data accessibility and clinical documentation, while other research has focused on the role of digital queuing systems in managing patient flow and reducing service congestion. However, limited research has examined how the integration of these two systems simultaneously contributes to operational service management within primary healthcare clinics.

Muhammad Abdus Syafi (MAS) Primary Clinic and Laboratory, located in Binuang, South Kalimantan, represents a primary healthcare provider that operates several service branches and faces similar operational management challenges. In practice, conventional queuing mechanisms often lead to patient accumulation in waiting areas, which may affect patient comfort and overall service experience (Pratiwi, 2025). Prolonged waiting situations may also generate negative perceptions of healthcare services and potentially increase the risk of disease transmission due to crowding in waiting rooms (Tauran et al, 2025). In addition, manual patient data management may create fragmented medical information across service units, potentially leading to administrative duplication and delays in accessing patient records.

To address these operational challenges, MAS Primary Clinic and Laboratory has initiated a digital transformation effort through the integration of an online queuing system and Electronic Medical Records (EMR). The online queuing system allows patients to register remotely and obtain scheduled service times, thereby supporting more organized patient flow and reducing administrative congestion at the registration desk. Meanwhile, the implementation of EMR supports more systematic and integrated management of patient medical data across service units and clinic branches. Previous studies indicate that the use of EMR can contribute to more efficient service processes and improved accessibility of medical information in healthcare institutions (Rismawan & Renaningtyas, 2024). In addition, digital service management tools such as online queuing systems have been shown to support more structured healthcare service environments (Pratiwi, 2025).

Through the use of EMR, healthcare professionals are able to access patient information more efficiently, which may support more accurate clinical decision-making and improve coordination among healthcare personnel (Darmiani et al., 2024); (Indah & Anwar, 2024); (Sari Dewi & Silva, 2023); (Lestari, 2024). In addition to improving access to clinical information, digital medical record systems have also been associated with improvements in service management efficiency and patient information accuracy within healthcare institutions (Uslu & Stausberg, 2021). These digital systems may therefore play an important role in supporting better coordination between administrative and clinical processes within healthcare facilities.

Based on this background, the integration of an online queuing system and Electronic Medical Records (EMR) can be viewed not only as a technological innovation but also as a managerial approach to improving operational service management in primary healthcare clinics. Therefore, this study aims to examine how the integration of these digital systems supports improvements in service flow organization, patient information management, and operational efficiency within the management of MAS Primary Clinic and Laboratory, which operates four service branches.

METHODS

This study employed a mixed-method approach using a descriptive case study design (Ratnaningtyas et al., 2023). The study combined qualitative exploration with the use of supporting operational data to obtain a comprehensive understanding of the digital transformation process in healthcare services, particularly the integration of an online queue management system and Electronic Medical Records (EMR) within the management of Muhammad Abdus Syafi (MAS) Primary Clinic and Laboratory. The qualitative component was used to explore experiences, perceptions, and organizational practices related to the implementation of the digital systems, while operational data obtained from the clinic information system were utilized to provide contextual descriptions of service performance. This approach enabled the researchers to examine the integration of digital systems within real service settings and to understand how these systems support operational management in primary healthcare facilities.

The research was conducted at Muhammad Abdus Syafi (MAS) Primary Clinic and Laboratory, located in South Kalimantan Regency. The object of the study focused on the implementation of the online queue system and Electronic Medical Records as part of efforts to enhance operational efficiency and service management. The research subjects included clinic management, healthcare professionals (physicians and nurses), administrative staff, and patients as service users. Informants were selected using purposive sampling based on their involvement and familiarity with the digital systems implemented in the clinic. A total of twelve informants participated in the study, consisting of one clinic director, three administrative staff members, four healthcare professionals, and four patients who had experience using the digital service system. Informants were selected to represent managerial, operational, and user perspectives in order to obtain a comprehensive understanding of the system implementation.

Data were collected using three primary techniques: observation, in-depth interviews, and documentation study (Bungin, 2015). Observations were conducted to examine service workflows and patient flow management before and after the implementation of the digital systems. In-depth interviews were conducted with the selected informants to explore their experiences, perceptions, and assessments regarding the use of the online queue system and EMR in supporting service management. Each interview lasted approximately 30–60 minutes and was recorded and transcribed to ensure data accuracy. The documentation study involved the collection of secondary data from the clinic information system, including service reports, patient visit records, and operational statistics that describe service activities within the clinic. These documents were used to complement the qualitative findings and to provide contextual descriptions of operational conditions within the healthcare facility.

Data analysis was conducted using thematic analysis procedures supported by qualitative data organization techniques. Interview transcripts, observation notes, and documentation data

were first organized and coded to identify relevant themes related to service workflow, administrative processes, and digital system integration. The analysis process involved data reduction, data display, and conclusion drawing to identify patterns and relationships across the collected data. The coding process was conducted iteratively to ensure that emerging themes accurately reflected the empirical data obtained during the research process. To enhance the credibility of the findings, the study employed source and methodological triangulation, whereby information obtained from interviews, observations, and documentation was compared and verified across different informants and data sources to ensure the consistency and validity of the research results.

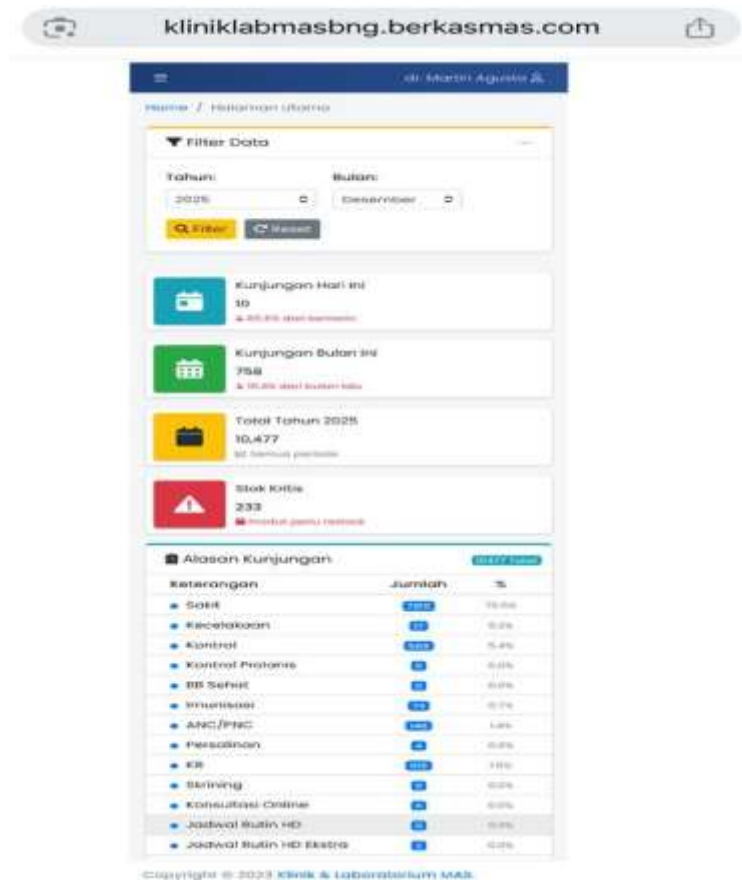
RESULTS

The organizational structure of Muhammad Abdus Syafi (MAS) Primary Clinic and Laboratory demonstrates a clear division of roles and responsibilities in managing digitally based healthcare services. This structure is implemented uniformly across its four clinic branches, with adjustments in personnel numbers according to the operational needs of each branch. Administrative staff play a central role in operating the online queue system and managing Electronic Medical Records (EMR), while the clinic director is responsible for managerial decision-making and monitoring service performance through system-generated operational data.

The organizational structure of MAS Primary Clinic and Laboratory provides the operational foundation for implementing the online queue system and Electronic Medical Records. Administrative staff are responsible for managing patient registration, verifying patient identity, and entering visit data into the EMR system, while healthcare personnel focus on medical service delivery. At the managerial level, clinic leadership monitors service activities and operational indicators through the system dashboard, allowing routine evaluation of patient flow and service performance.

Research informants were determined based on the organizational structure of Muhammad Abdus Syafi Clinic, considering their roles and direct involvement in operating the digital system. The primary informants consisted of the clinic director and administrative staff responsible for the operation of the online queue system and Electronic Medical Records. Additional informants included healthcare professionals and several patients who had experience using the digital registration system. Informants were selected through purposive sampling to ensure that the data collected were relevant to the operational implementation of the digital system within the clinic environment.

The implementation of the online queue system and Electronic Medical Records involved integrated administrative and managerial roles across the branches of MAS Primary Clinic and Laboratory. To empirically examine the operational context of system implementation, this study analyzed service activity data derived from the clinic's EMR database and queue management system. These data include patient visit records, service distribution, and monitoring information available on the operational dashboard used by clinic management.



Source: EMR Data of MAS Primary Clinic and Laboratory, 2025

Figure 1. Monitoring Dashboard of Patient Visits and Logistics at MAS Primary Clinic and Laboratory.

The monitoring dashboard illustrates real-time operational information generated by the EMR system, including patient visit statistics, service unit utilization, and logistics monitoring. The system records patient visits across service units and provides managerial access to operational indicators required for monitoring service flow and resource availability. Through this dashboard, clinic management is able to observe service activity levels, identify potential operational constraints, and monitor the availability of medical logistics required for daily service operations.

In line with the increasing demand for efficiency and service quality in primary healthcare facilities, digital transformation has become an important managerial strategy. The integration of the online queue system and Electronic Medical Records supports the organization of patient service workflows, the management of patient medical information, and the coordination of administrative activities within the clinic. This integrated system allows patient registration data, service records, and clinical information to be accessed through a unified database, thereby supporting more structured service management within MAS Primary Clinic and Laboratory.

Based on operational data recorded in the EMR system, MAS Primary Clinic and Laboratory documented a total of 10,477 patient visits throughout 2025, reflecting a relatively high service volume for a primary healthcare facility. The availability of this operational data allows clinic management to monitor service demand patterns and patient flow within the facility. In the absence of an integrated digital system, such service volume could potentially lead to administrative recording errors, fragmented patient information, and delays in service coordination between administrative and clinical staff.

MAS Primary Clinic and Laboratory provides integrated healthcare services including general practitioner services, dental services, laboratory examinations, and radiology (X-ray). In

conventional service systems, patients may need to repeat registration procedures when accessing different service units. Through the integration of the online queue system and EMR, patient data entered during the initial registration process can be accessed by different service units, thereby reducing redundant administrative procedures and improving coordination between service providers.

In addition to supporting service documentation, the EMR system functions as a managerial Decision Support System (DSS) through several operational monitoring features. One of these features is the critical stock notification system, which automatically identifies medical supply items that approach minimum stock thresholds. During the observation period, the system identified 233 medical product items requiring monitoring or replenishment. This information enables clinic management to make timely logistical decisions and to ensure that service operations are not disrupted due to shortages of medical supplies.

To evaluate the operational implications of the integrated system, this study examined service waiting time patterns based on observations and operational data recorded in the digital system. Waiting time refers to the duration between patient arrival or registration and the beginning of medical consultation. Observations conducted during the service process, supported by queue system logs and EMR timestamps, indicate that prior to the implementation of the integrated digital system, the average patient waiting experience was approximately 60 minutes during busy service periods. After the implementation of the online queue system and EMR, the waiting experience recorded through the digital queue system decreased to approximately 15 minutes on average. This change reflects improvements in service flow organization and administrative coordination supported by the integrated system.

Table 1. Distribution of Patient Visit Reasons in 2025

Reason for Visit	Number of Patients	Percentage (%)
Illness	7.915	75,5
Follow-up	569	5,4
ANC/PNC	146	1,4
Family Planning	105	1,0
Immunization	74	0,7
Accident	17	0,2
Delivery	4	0,0
Others	...	...
Total	10.477	100

Source: EMR Data of MAS Primary Clinic and Laboratory, 2025

Table 1 illustrates the distribution of patient visit reasons recorded by the EMR system throughout 2025. The data indicate that visits related to general illness dominate the service demand at MAS Primary Clinic and Laboratory, accounting for 7,915 patients (75.5%) of total visits. This pattern suggests that curative services constitute the primary service workload within the clinic. The presence of follow-up visits totaling 569 patients (5.4%) indicates continuity of care and the need for coordinated patient monitoring across multiple visits.

In addition to curative services, the EMR data also document promotive and preventive healthcare activities such as ANC/PNC services, family planning consultations, and immunization programs. Although these services represent a smaller proportion of total visits, their systematic recording through EMR allows clinic management to monitor service distribution and plan resource allocation across service programs. This information also enables the clinic to analyze service demand patterns and anticipate workload fluctuations within different service units.

Observations and interviews with administrative staff further indicate that the effectiveness of system implementation is closely related to the readiness of human resources and the availability of technological infrastructure. Clinics with adequate digital literacy among staff

members are able to operate the online queue system and EMR more effectively in supporting service workflows. Therefore, the focus of this study on a single case study setting is intended to provide an in-depth understanding of how the integration of digital systems contributes to service management, operational coordination, and efficiency improvements within a primary healthcare clinic.

DISCUSSION

The research findings indicate that the integration of the online queue system and Electronic Medical Records (EMR) at MAS Primary Clinic and Laboratory has had a significant impact on improving service efficiency and patient experience. The reduction in average patient waiting time from approximately 60 minutes to around 15 minutes demonstrates that the online queue system is capable of optimizing service flow management. These findings are consistent with previous studies stating that the implementation of digital-based queue systems in primary healthcare facilities significantly reduces waiting times, accelerates queue processes, decreases waiting room congestion, and enhances patient comfort and satisfaction through more controlled, informative, and real-time scheduling (Pratiwi, 2025), thereby contributing to the establishment of a more organized and patient-oriented healthcare service system (Tauran et al, 2025). Digital queue systems in primary healthcare facilities significantly reduce waiting times and increase patient satisfaction through more controlled and transparent scheduling. The use of EMR has also been shown to significantly reduce patient waiting times in hospitals, indicating that EMR implementation can improve hospital service efficiency, enhance service quality, and better fulfill patient needs (Rismawan & Renaningtyas, 2024); (Gopal et al., 2019).

From the perspective of service integration, the integration of the online queue system with EMR has been proven to reduce duplication of administrative processes and improve coordination among service units. MAS Primary Clinic and Laboratory provides integrated services including general practitioners, dental services, laboratory services, radiology, maternity care, circumcision clinics, and ambulance availability. Without an integrated system, patients would potentially undergo repeated registration at each service unit. These findings support Putri's study, which demonstrates that integrated Health Information Systems enhance service continuity, accelerate and simplify administrative processes, and reduce administrative workload by facilitating accurate, faster, and real-time information access (Kadek et al., 2024).

The implementation of Electronic Medical Records at MAS Primary Clinic and Laboratory contributes to improved managerial decision-making in both patient safety and clinical aspects. The availability of this information system ensures data accessibility, enabling rapid access to patient medical histories, review of previous diagnoses, retrieval of laboratory results, and medication histories, thereby allowing healthcare professionals to deliver more accurate services. The use of EMR improves the quality of clinical documentation, reduces the risk of medical errors, and supports patient safety through the availability of comprehensive and integrated data (Uslu & Stausberg, 2021).

The implementation of the online queue system at MAS Primary Clinic and Laboratory demonstrates positive impacts and aligns with previous research on healthcare service digitalization. The implementation of this system not only contributes to reducing patient waiting times but also enhances service orderliness and efficiency. The utilization of digital technology in healthcare services accelerates administrative processes and improves the quality of patient service experiences. Healthcare service efficiency through waiting time reduction is achieved by implementing online registration, which shortens queues in healthcare institutions by facilitating ease of registration, convenient access to information, flexible scheduling, improved control, and reduced waiting times (Azizah & Susanti, 2024), thereby also contributing to the mitigation of disease transmission risks (Tauran, Pangandaheng, 2025).

Meanwhile, the implementation of Electronic Medical Records (EMR) has proven to play a crucial role in improving data accuracy and service continuity. Electronic storage of patient data enables healthcare professionals to access health information quickly and accurately, thereby

supporting more optimal decision-making processes. These findings are consistent with the digitalization of medical information systems literature, which emphasizes that the strategic utilization of digital information systems serves as a fundamental element in enhancing healthcare service quality, process efficiency, and data-driven decision-making. In healthcare contexts, this principle is reflected in the digitalization of medical records that support service continuity and patient safety (Zaedar Ghazalba, 2024).

Beyond clinical aspects, the integration of the online queue system and EMR also functions as a Decision Support System (DSS) for the management of MAS Primary Clinic and Laboratory. The annual patient visit data reaching 10,477 visits, along with the critical stock notification feature identifying 233 medical items, indicate that the implemented digital system supports more responsive and data-driven managerial decision-making. These findings are consistent with (Zaedar Ghazalba, 2024), who argues that the success of digital transformation in healthcare organizations is not solely determined by technology adoption but by its ability to generate strategic data for organizational planning and operational control. The synergy between the two systems demonstrates that healthcare digitalization functions not merely as technological innovation but as an effective managerial approach to enhancing clinic operational efficiency. This system integration facilitates continuous performance monitoring by clinic leadership, accelerates decision-making, and minimizes dependence on manual procedures that may lead to errors.

The success of healthcare service digitalization is strongly influenced by human resource readiness and technological infrastructure support. Staff with adequate digital literacy levels are more capable of optimizing system utilization, whereas infrastructure limitations may hinder implementation. These findings emphasize that human resource competencies and infrastructure investment are essential prerequisites for sustainable healthcare digital transformation. Health information system infrastructure and information and communication technology (ICT) serve as key components in determining the maturity level of healthcare digitalization. The quality and readiness of ICT infrastructure directly influence healthcare institutions' capacity to integrate data, support system interoperability and routine reporting, and optimize digital technology utilization in service delivery (Sa'diyah, 2024); (Wahyuni et al., 2023). Digital competence, experience and training, employee attitudes toward digital transformation, and organizational support significantly affect human resource readiness in facing digital transformation in healthcare services (Hariri et al., 2025). Human resource capability and capacity in adopting new technologies are crucial determinants of successful digital change through adaptive training strategies, transformational leadership, collaborative approaches, professional role evolution management, tiered competency development, and integration of digital competencies into career pathways (Yudha et al., 2025). This discussion indicates that the integration of online queue systems and Electronic Medical Records contributes to efficiency, quality improvement, and patient satisfaction while strengthening clinic managerial performance. These findings reinforce previous literature and provide empirical contributions regarding technology-based healthcare service optimization, particularly within primary care contexts.

Based on observations, interviews, and documentation, the integration of the online queue system and Electronic Medical Records (EMR) at MAS Primary Clinic and Laboratory forms a structured service workflow as illustrated in Figure 2. The service process begins with patients registering through the online queue system provided by MAS Primary Clinic and Laboratory, either via the website or messaging applications, which are easily accessible anytime and anywhere. Patient data are then verified by administrative staff to ensure information validity before service schedules are issued.

Following verification, patients receive systematically organized service schedules. During the medical service stage, healthcare professionals, including physicians and nurses, can access patients' Electronic Medical Records integrated with the online queue system. Each medical action, diagnosis, and examination result is directly recorded into the system and stored within the clinic's centralized database. This database is accessible across clinic branches,

enabling real-time service monitoring to support managerial decision-making by clinic leadership. This system integration provides several significant benefits, including accelerated service workflows, reduced data input duplication, minimized administrative errors, and facilitated performance monitoring such as patient waiting times, visit volumes, and medical staff workload distribution. Thus, this integration model contributes not only to internal efficiency but also to improved service quality and patient satisfaction, serving as an indicator of successful digital transformation at the clinic and primary healthcare facility levels.

CONCLUSION

Based on the findings of this study, the integration of the online queue system and Electronic Medical Records (EMR) within MAS Primary Clinic and Laboratory demonstrates how digital system integration can support improvements in service workflow management and operational efficiency in primary healthcare facilities. The implementation of the online queue system contributes to more organized patient flow management and a more structured service process, while the EMR system facilitates integrated patient data management and improves accessibility of medical information for healthcare personnel. The combined use of these systems supports better coordination between administrative and clinical processes and enables clinic management to monitor service activities through digital operational data.

Beyond describing operational improvements, this study provides empirical insight into how the integration of digital service systems functions as a managerial instrument in primary healthcare settings. The findings highlight that digital integration is not merely a technological upgrade but also an organizational mechanism that supports service coordination, operational monitoring, and data-informed decision-making within healthcare institutions. In this context, the study contributes to the growing literature on digital transformation in healthcare by demonstrating how the integration of queue management systems and electronic medical records can enhance service management practices in primary clinics.

However, the effectiveness of digital system integration is influenced not only by technological availability but also by organizational readiness, including human resource capabilities and supporting technological infrastructure. The study therefore suggests that successful digital transformation in primary healthcare facilities requires not only system implementation but also continuous organizational adaptation, staff capacity development, and effective digital governance. Strengthening these aspects is essential to ensure the sustainability of digital healthcare services and to maximize the operational benefits generated by integrated health information systems.

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REFERENCES

- Anggereni, K., & Sari, R. I. (2025). Efektivitas Implementasi Rekam Medis Elektronik (Rme) Dalam Meningkatkan Efisiensi Administrasi. *Jurnal Kesehatan Tambusai*, 6(1), 3767–3774.
- Azizah, F. N., & Susanti, A. S. (2024). *The Influence of Implementing an Online Registration System Through the Application On Reducing Queues at the Bandung Muhammadiyah Hospital*. 1(June), 66–72.
- Bimantoro, A., Pramesti, W. A., Bakti, S. W., Samudra, M. A., & Amrozi, Y. (2021). Paradoks Etika Pemanfaatan Teknologi Informasi di Era 5.0. *Jurnal Teknologi Informasi*, 7(1), 58–68. <https://doi.org/10.52643/jti.v7i1.1425>
- Bungin, B. (2015). *Metodologi Penelitian Sosial dan Ekonomi*. Kencana.
- Darmiani, S., Pratama, B. Y., Maulani, J., Islamy, B., & Hidayat, T. A. (2024). Tantangan Integrasi Rekam Medis Elektronik dengan Sistem Manajemen Rumah Sakit: Dampak pada Keamanan Data dan Efisiensi Biaya Operasional. *Jurnal Sosial Dan Sains*. <http://sosains.greenvest.co.id>

- Gopal, G., Suter-Crazzolara, C., Toldo, L., & Eberhardt, W. (2019). Digital Transformation in Healthcare: Architectures of Present and Future Information Technologies. *Clinical Chemistry and Laboratory Medicine*, 57(3), 328–335. <https://doi.org/10.1515/cclm-2018-0652>
- Hariri, A., Wahyuni, W., & Rochmat, A. (2025). *Menghadapi Transformasi Digital Layanan Kesehatan*. 9, 3837–3845.
- Indah, N., & Anwar, A. (2024). Manfaat Rekam Medis Elektronik terhadap Kepuasan Pasien: Literature Review. *Prosiding UNM Humanis*.
- Kadek, N., Purniari, T., & Muna, N. (2024). Optimizing Healthcare Performance Through Electronic Medical Records : An Efficiency Analysis. *JANAPATI*, 13(3), 532–545.
- Lestari, Y. (2024). *Implementasi Rekam Medis Elektronik melalui SIKDA di UPTD Puskesmas Sukarasa Kota Bandung*.
- Munzir, M., Danuwijaya, T., Tunang, A., Dinar, L., & Kassa, P. (2023). Edukasi Financial Technology (FINTECH) pada Pelajar di Kota Sorong. *Samakta: Jurnal Pengabdian Kepada Masyarakat*, 1(1), 28–35. <https://doi.org/10.61142/samakta.v1i1.59>
- Pratiwi, R. D. A. R. (2025). Analisis Penggunaan Sistem Antrian Di Rumah Sakit Dari Perspektif Penyedia Dan Pelanggan. *Literature*, 6(1), 286–297.
- Ratnaningtyas, E. M., Ramli, Syafruddin, Edi Saputra, Suliwati Desi, Bekty Taufiq Ari Nugroho, Karimuddin, Muhammad Habibullah Aminy, Nanda Saputra, Khaidir, & Jahja, A. S. (2023). *Metodologi Penelitian Kualitatif*. Yayasan Penerbit Muhammad Zaini.
- Regah, R. (2024). Transformasi Kesehatan Digital: Peran Teknologi Komputer. *Jurnal Praba: Rumpun Kesehatan Umum*, 2(2), 30–35. <https://doi.org/10.62027/praba.v2i2.95>
- Rismawan, I., & Renaningtyas, N. (2024). *Analisis Efektifitas Penggunaan E-Medical Record*. 5(1), 2437–2451.
- Sa'diyah, F. (2024). Menghadapi Tantangan Era Disrupsi (Sebuah Pembacaan Atas Teori Fungsionalisme Struktural). *Annual Symposium on Pesantren Studies*, 02, 21–36.
- Sari Dewi, T., & Silva, A. A. (2023). Hambatan Implementasi Rekam Medis Elektronik dari Perspektif Perekam Medis dengan Metode PIECES. *Jurnal Manajemen Informasi Kesehatan Indonesia*, 11(2). <https://doi.org/10.33560/jmiki.v11i2.597>
- Susanto, A. B., Yuniawati, R. P., & Sukajie, B. (2024). Efektivitas Rekam Medis Elektronik di Klinik Kusuma Medical Center Batukajang Kalimantan Timur. *Jurnal Ilmiah Digital Management*, 5(10). <https://doi.org/10.55178/idm.v5i10.394>
- Tauran, Pangandaheng, N. (2025). *Jurnal Penelitian Perawat Profesional*. 7, 825–832.
- Ulva, S. M., Hakimi, M., & Kandarina, I. (2022). Pola makan dan anemia ibu dengan kejadian BBLR: analisis data Indonesian Family Life Survey (IFLS 5). *Jurnal Gizi Klinik Indonesia*, 18(4), 172. <https://doi.org/10.22146/ijcn.34961>
- Uslu, A., & Stausberg, J. (2021). Value of the Electronic Medical Record for Hospital Care : Update From the Literature Corresponding Author : Related Articles : *Journal of Medical Internet Research*, 23(12), 1–16. <https://doi.org/10.2196/26323>
- Wahyuni, I., Sanjaya, G. Y., Istiqlal, H., Sulistiyowati, D., & Mutamakin, A. (2023). *Pentingnya Komponen Infrastruktur Sistem dan TIK Dalam Mendukung Transformasi Digital di Rumah Sakit*. VIII(3), 8–17.
- Wally, P., & Hartoyo, A. M. (2024). Analisis Penatalaksanaan Administrasi pada Klinik Pratama di Kota Kendari. *Jurnal Administrasi Dan Kebijakan Kesehatan*. <http://ojs.uho.ac.id/index.php/jakk>
- Yudha, G. A. K., Bambulu, G., & Veranita, M. (2025). *Blantika : Multidisciplinary Jurnal Transformasi Manajemen Rumah Sakit di Era Digital : Tinjauan Literatur dalam Fokus Pengembangan Sumber Daya Manusia aspek kehidupan manusia dengan manifestasi berupa inovasi teknologi , ekspektasi masyarakat akan layana*. 3(8), 1089–1101.
- Zaedar Ghazalba, A. A. (2024). Strategic Information Systems. *Jurnal Informatika Teknologi Dan Sains (JINTEKS)*, 4(6), 976–986.