
The Impact Of Hospital Information System (SIMRS) Integration On The Improvement Of Healthcare Service Quality At Cut Meutia General Hospital, North Aceh

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Abstract

The integration of Hospital Information Systems (SIMRS) is an important effort to support the improvement of healthcare service quality by providing fast, accurate, timely, and integrated information across service units. Optimal utilization of SIMRS can assist healthcare workers in accelerating service processes, improving coordination among units, reducing information errors, and supporting the efficiency of patient care. This study aimed to determine the relationship between Hospital Information System (SIMRS) integration and healthcare service quality at Cut Meutia General Hospital, North Aceh. This study employed a quantitative method with a cross-sectional design. The study population consisted of healthcare workers and staff who used SIMRS at Cut Meutia General Hospital, North Aceh. A total of 62 respondents were selected using purposive sampling. Data were collected using questionnaires to measure the level of SIMRS integration and healthcare service quality. The data were analyzed using univariate and bivariate analyses with appropriate statistical tests. The results showed that SIMRS integration was predominantly categorized as moderate, with 31 respondents (50.0%), while 12 respondents (19.4%) were categorized as having good integration and 19 respondents (30.6%) as having poor integration. Healthcare service quality was predominantly categorized as good, with 38 respondents (61.3%), followed by 20 respondents (32.3%) in the moderate category and 4 respondents (6.5%) in the poor category. The results of the relationship analysis showed a p -value of 0.001 ($p < 0.05$), indicating a statistically significant relationship between SIMRS integration and healthcare service quality. It can be concluded that better SIMRS integration is associated with better healthcare service quality at Cut Meutia General Hospital, North Aceh.

Keywords: Hospital Information System, Simrs, System Integration, Healthcare Service Quality, Hospital.

INTRODUCTION

Advancements in information technology have brought about significant changes in the delivery of healthcare services. As healthcare organizations, hospitals have a critical need for information that is rapid, accurate, complete, secure, and easily accessible to both healthcare professionals and management. Such information is essential not only for supporting patient care processes but also for decision-making, resource management, performance monitoring, reporting, and quality improvement. An integrated health information system enables data from various service units to be collected, processed, and utilized more effectively, thereby enhancing coordination and organizational efficiency within the hospital. Wager, Lee, and Glaser (2022) explain that health information systems play a vital role in supporting data management, healthcare delivery, decision-making, and the achievement of value and quality in healthcare services.

Digital transformation in healthcare is also driving hospitals to shift from manual information management to integrated information systems. One such implementation is the Hospital Management Information System (SIMRS). SIMRS integrates various hospital administrative and service processes—such as patient registration, outpatient and inpatient care, emergency services, pharmacy, laboratory, radiology, medical records, and finance, as well as reporting and management functions. This integration ensures that patient and operational data are available in a structured manner and accessible to the units that require them. Putra et al. (2023) note that hospital information systems encompass a wide range of components and service processes—including patient registration, outpatient care, and medical records—making them a crucial element in supporting integrated hospital management.

The implementation of SIMRS in Indonesia is also supported by a robust policy framework.

Regulation of the Minister of Health of the Republic of Indonesia Number 82 of 2013 governs Hospital Management Information Systems, while the digitalization of medical records was subsequently reinforced by Regulation of the Minister of Health of the Republic of Indonesia Number 24 of 2022 concerning Medical Records. These regulations mandate that healthcare facilities, including hospitals, implement electronic medical records and information management systems that ensure data security, confidentiality, integrity, and availability. Digital medical record management is also aimed at enhancing the quality of healthcare services and establishing an integrated medical record system. Thus, the digitization of information is not merely a matter of utilizing technology; it is also part of efforts to improve the quality, safety, and continuity of healthcare services.

The quality of healthcare services is a key aspect of hospital operations. High-quality care must meet patient needs and expectations while being delivered effectively, efficiently, safely, and in a timely, patient-centered manner, supported by coordinated service processes. In this context, the availability of rapid and accurate information is a crucial component in upholding service quality. A robust information system enables healthcare professionals to access patient information promptly, reduces redundant documentation, accelerates administrative processes, enhances inter-unit coordination, and supports clinical and managerial decision-making. Wager et al. (2022) identify health information systems as strategic instruments for improving service quality, optimizing workflows, supporting decision-making, and generating organizational benefits.

The link between information systems and service quality is also supported by various research findings. A systematic review regarding the implementation of electronic health records indicates that using electronic health information systems can positively influence various service quality indicators, including patient safety, service effectiveness, efficiency, timeliness, equity, and patient-centered care. Electronic systems also facilitate documentation, communication, medication management, decision-making, and care coordination. Thus, an integrated information system has the potential to enhance service quality, provided it is supported by proper implementation, competent human resources, and sound organizational governance (Aga et al., 2021).

Beyond improving documentation quality and care coordination, the implementation of electronic medical records also has the potential to increase the efficiency of service processes. Systematic reviews and meta-analyses show that the use of electronic health records is associated with reduced documentation time, increased adherence to clinical guidelines, and a decrease in medication errors. These findings demonstrate that information technology can contribute to service quality and safety when systems are designed and implemented to meet user needs. However, these benefits do not automatically materialize simply because a hospital possesses an information system. System effectiveness depends heavily on system quality, information quality, ease of use, organizational support, user training, and the system's alignment with service workflows (Campanella et al., 2016).

In the context of Hospital Management Information System (SIMRS) implementation in Indonesia, various studies indicate that system success is heavily influenced by system quality, information quality, IT service quality, and user satisfaction. Research involving SIMRS users in Indonesian hospitals demonstrates a link between system quality, information quality, and service quality on the one hand, and user satisfaction on the other. This suggests that the successful integration of SIMRS cannot be measured solely by the presence of applications or technological hardware; it also depends on the system's ability to generate accurate information, its ease of use, its availability when needed, and its capacity to support users in their work. Therefore, evaluating SIMRS implementation requires attention to technological aspects alongside human and organizational factors (Wardhana et al., 2025).

Other research on SIMRS implementation in hospitals indicates that information systems can help enhance operational efficiency, data management, and service quality. However, practical challenges persist, such as system disruptions, inconsistent application of operational procedures, limited user training, and a lack of alignment between the system and service requirements. These conditions highlight the need for continuous integration of information systems through ongoing

evaluation and improvement. An effective system is not merely one that functions technically; it is one that delivers tangible benefits to service processes and the achievement of the hospital's organizational goals (Mahendra & Widiyanto, 2025).

Studies on SIMRS in Indonesia also show that the PIECES framework—covering performance, information, economics, control, efficiency, and service—can be used to assess the success of hospital information systems. Research findings indicate that while SIMRS facilitates user tasks and supports service needs, issues remain that require system development and refinement. This underscores the importance of periodically evaluating SIMRS quality and benefits to ensure the system keeps pace with evolving hospital needs and contributes to improved service quality (Dinata & Deharja, 2020).

Cut Meutia General Hospital (RSU Cut Meutia) in North Aceh Regency is a public hospital owned by the North Aceh Regency Government, holding Class B and BLUD (Regional Public Service Agency) status. According to the Ministry of Health's Hospital Information System profile, the hospital offers a wide range of medical services and facilities, including 24-hour emergency care, internal medicine, pediatrics, surgery, obstetrics and gynecology, radiology, clinical pathology, medical rehabilitation, ophthalmology, pulmonology, and other services. The complexity of these services makes an information system capable of integrating data and service processes increasingly essential.

RSU Cut Meutia recognizes that information technology development plays a crucial role in supporting technology-based healthcare services. The hospital strives to ensure information management is efficient, rapid, accessible, accurate, secure, integrated, and accountable as part of its commitment to delivering high-quality healthcare. This underscores the strategic importance of information technology in supporting service management at the hospital.

Regarding service quality, RSU Cut Meutia faces the ongoing requirement to maintain and improve its standards. Local government performance data indicates that healthcare service quality is a key strategic objective for the hospital. In 2023, for instance, the patient satisfaction index stood at 87.05, while the Bed Occupancy Rate (BOR) was 71%. These figures highlight the need for continuous monitoring of service performance indicators. Given the complexity of operations, the availability of rapid, accurate, and integrated information is vital for monitoring performance and making decisions to enhance service quality.

The need for quality improvement is also evident in research conducted at RSU Cut Meutia. A study examining the relationship between nurses' knowledge and compliance with ward quality indicators demonstrates that service quality indicators must be a priority in hospital operations. These indicators serve not only to assess service outcomes but also as a foundation for the continuous control and improvement of work processes. This reinforces the importance of information system support capable of providing accurate and timely service data to facilitate the monitoring of quality indicators in hospitals (Fauziah, 2023).

Although the Hospital Management Information System (SIMRS) has become a crucial component of hospital digital transformation, system integration does not automatically result in improved service quality. Suboptimally integrated systems can lead to duplicate record-keeping, information delays, data entry errors, difficulties in accessing patient information, and communication barriers between units. Conversely, a well-integrated system can accelerate information flow, enhance inter-unit coordination, support decision-making, bolster patient safety, and improve service process efficiency. Therefore, the impact of SIMRS integration on service quality must be assessed based on tangible benefits realized during service delivery, rather than merely on the system's existence or usage.

Given this context, there is a need to specifically examine how SIMRS integration impacts the improvement of healthcare service quality at Cut Meutia General Hospital in North Aceh. This research is significant because hospitals involve complex service operations and various units requiring rapid and accurate information exchange. A study on the relationship between information system integration and service quality can provide insight into the extent to which SIMRS supports

effectiveness, efficiency, accuracy, safety, coordination, and the overall quality of patient care. The research findings are expected to serve as a basis for hospital management to optimize SIMRS utilization and formulate information system development strategies that better align with service needs.

Thus, conducting research on "The Impact of Hospital Management Information System (SIMRS) Integration on Healthcare Service Quality Improvement at Cut Meutia General Hospital, North Aceh" is highly relevant. This study aims not only to provide an overview of SIMRS utilization but also to generate empirical evidence regarding the contribution of information system integration to healthcare service quality. The findings can be utilized to inform policy development, system quality improvements, user competency enhancement, workflow optimization, and the development of service digitalization strategies at Cut Meutia General Hospital, North Aceh.

RESEARCH METHODS

This study employs a quantitative method with a cross-sectional research design. This design is used to determine the impact of integrating the Hospital Management Information System (SIMRS) on the quality of healthcare services at Cut Meutia General Hospital, North Aceh. Measurements of the SIMRS integration and healthcare service quality variables were conducted on respondents within a single study period. The cross-sectional approach allows the researcher to obtain a snapshot of the implemented SIMRS integration and the quality of healthcare services as perceived or assessed by respondents at the time the study was conducted.

The study was conducted at Cut Meutia General Hospital, North Aceh. The timing of the study adhered to the schedule established by the researcher. The study population consisted of healthcare professionals or staff members who utilize SIMRS in performing their service duties at Cut Meutia General Hospital, North Aceh. This population included nurses, medical record staff, administrative staff, pharmacy personnel, and other healthcare professionals or staff who use SIMRS during service delivery. The population size was determined based on personnel and SIMRS user data obtained from Cut Meutia General Hospital, North Aceh.

The study sample comprised a subset of the population that met the research criteria. Purposive sampling was used as the sampling technique, meaning respondents were selected based on specific criteria established by the researcher. This selection technique was chosen because the study required respondents with direct experience and involvement in using SIMRS, as well as knowledge of the hospital's healthcare service processes.

Inclusion criteria for this study included healthcare professionals or staff at Cut Meutia General Hospital, North Aceh, who use SIMRS in their work, have used SIMRS for at least six months, were willing to participate as respondents, were able to read and understand Indonesian, and were directly involved in service delivery or hospital service administration. Exclusion criteria included respondents who were on leave or inactive at the time of the study, those who did not complete the questionnaire, and those who did not use SIMRS in performing their service duties.

The research instrument consists of two sections: a Hospital Management Information System (SIMRS) integration questionnaire and a healthcare service quality questionnaire. The SIMRS integration questionnaire measures the extent to which the information system integrates data and service processes across hospital units. Assessed aspects include inter-unit connectivity, ease of information access, speed of information delivery, information availability, data precision and accuracy, patient data integration, and the system's ability to support coordination among service units.

The healthcare service quality questionnaire measures the quality of services provided with SIMRS support. Aspects of service quality include speed, precision, reliability, efficiency, patient safety, inter-unit coordination, information completeness, and satisfaction with the service process. Questionnaire items utilize a Likert scale, offering response options such as strongly disagree, disagree, agree, and strongly agree. Each response is assigned a score based on predetermined

categories; higher scores indicate a superior level of SIMRS integration and healthcare service quality. Prior to use, the research instrument underwent validity and reliability testing. Validity testing assessed the ability of each question item to measure the variables under study, while reliability testing evaluated the instrument's consistency in producing measurements. The instrument was deemed suitable for use upon meeting established validity and reliability criteria.

The research procedure began with obtaining authorization from the relevant authorities and the management of RSU Cut Meutia, North Aceh. Upon securing permission, the researcher identified potential respondents based on established inclusion and exclusion criteria. The researcher then explained the study's objectives, benefits, procedures, data confidentiality, and respondent rights. Respondents willing to participate were asked to provide their consent via an informed consent form.

Subsequently, respondents were given a questionnaire to assess SIMRS integration and the quality of healthcare services. They were asked to complete the questionnaire based on their experiences and perceptions while using the SIMRS during service delivery. The researcher ensured that respondents understood the instructions and allowed them to complete the questionnaire independently. Once all questionnaires were collected, the researcher checked for data completeness, assigned codes, processed the data, and conducted statistical analysis.

The research data were analyzed using univariate and bivariate methods. Univariate analysis was employed to describe respondent characteristics—such as age, gender, education, profession, tenure, work unit, and duration of SIMRS usage—as well as the distribution of SIMRS integration levels and healthcare service quality.

Bivariate analysis was used to determine the impact or relationship between SIMRS integration (the independent variable) and healthcare service quality (the dependent variable). Prior to bivariate analysis, a normality test was conducted to determine the appropriate statistical test. If the data were normally distributed, the Pearson Product Moment test was used; if not, the Spearman Rank test was applied. A significance level of (α) = 0.05 was used. A p-value of < 0.05 would indicate a significant relationship between SIMRS integration and healthcare service quality at RSU Cut Meutia, North Aceh.

To determine the extent of SIMRS integration's contribution to healthcare service quality, the study could also proceed with linear regression analysis, provided the analytical requirements were met. This analysis was used to assess the capacity of SIMRS integration to explain variations in healthcare service quality after accounting for respondent characteristics or other relevant variables. The analysis results served as the basis for drawing conclusions regarding the impact of SIMRS integration on improving healthcare service quality at RSU Cut Meutia, North Aceh.

RESULTS AND DISCUSSION

Table 1. Characteristics of Respondents by Age

Age	Frequency (n)	Percentage (%)
<30 years	11	17,7
30–39 years	24	38,7
40–49 years	19	30,6
≥50 years	8	12,9
Total	62	100

Based on Table 1, the majority of respondents fell into the 30–39 age group, comprising 24 individuals (38.7%). This was followed by 19 respondents (30.6%) in the 40–49 age group and 11 respondents (17.7%) under the age of 30, while those aged 50 and older constituted the smallest group, with 8 individuals (12.9%).

Table 2. Characteristics of Respondents by Education

Education	Frequency (n)	Percentage (%)
High School / Vocational High School	9	14,5
Diploma	20	32,3
Bachelor's Degree (S1)	25	40,3
Postgraduate Degree (S2)	8	12,9
Total	62	100

Based on Table 2, the majority of respondents hold a Bachelor's degree (S1)—totaling 25 individuals (40.3%)—followed by those with a Diploma—totaling 20 individuals (32.3%). Respondents with a high school or vocational high school (SMA/SMK) education number 9 (14.5%), while those with a postgraduate degree (S2) number 8 (12.9%).

Table 3. Characteristics of Respondents by Profession

Profession	Frequency (n)	Percentage (%)
Nurse	29	46,8
Medical Records Staff	10	16,1
Pharmacy Staff	8	12,9
Administrative Staff	10	16,1
Other Healthcare Personnel	5	8,1
Total	62	100

Based on Table 3, the majority of respondents were nurses, totaling 29 individuals (46.8%). This was followed by medical record staff and administrative staff, with 10 individuals (16.1%) in each category; pharmacy staff, with 8 individuals (12.9%); and other health personnel, with 5 individuals (8.1%).

Table 4. SIMRS Integration at Cut Meutia General Hospital, North Aceh

HIS Integration	Frequency (n)	Percentage (%)
Good	12	19,4
Satisfactory	31	50,0
Needs Improvement	19	30,6
Total	62	100

Based on Table 4, the majority of respondents (31 individuals or 50.0%) rated the Hospital Management Information System (SIMRS) integration as "adequate." Nineteen respondents (30.6%) rated the integration as "poor," while 12 respondents (19.4%) rated it as "good." These results indicate that while the SIMRS integration is being utilized to support service delivery, there are still aspects requiring improvement—particularly regarding information connectivity between units, data access speed, and the availability of information needed for service processes.

Table 5. Quality of Health Services at Cut Meutia General Hospital, North Aceh

Service Quality	Frequency (n)	Percentage (%)
Baik	38	61,3
Cukup	20	32,3
Kurang	4	6,5
Total	62	100

Based on Table 5, the majority of respondents (38 individuals or 61.3%) rated the quality of health services as good. Furthermore, 20 respondents (32.3%) rated the service quality as fair, while 4 respondents (6.5%) rated it as poor. These results indicate that, overall, the quality of health services at RSU Cut Meutia North Aceh falls into the "good" category.

Table 6. Relationship between Hospital Information System (SIMRS) Integration and Healthcare Service Quality

SIMRS Integration	Good Service Quality	Adequate Service Quality	Poor Service Quality	Total	p-value
Good	11	1	0	12	
Satisfactory	21	10	0	31	0,001
Needs Improvement	6	9	4	19	
Total	38	20	4	62	

Based on Table 6, the majority of respondents who rated the Hospital Management Information System (SIMRS) integration as "good" also rated the quality of healthcare services as "good" (11 individuals). Among respondents who rated SIMRS integration as "fair," 21 rated the quality of services as "good" and 10 as "fair." Meanwhile, among those who rated SIMRS integration as "poor," 6 rated the quality of services as "good," 9 as "fair," and 4 as "poor." Statistical test results yielded a p-value of 0.001 ($p < 0.05$). Thus, there is a significant relationship between SIMRS integration and the quality of healthcare services at Cut Meutia General Hospital, North Aceh. These results indicate that the better the SIMRS integration, the better the quality of healthcare services tends to be.

Integration of Hospital Management Information Systems (SIMRS)

The study results indicate that the majority of respondents (31 individuals or 50.0%) rated the integration of the Hospital Management Information System (SIMRS) at Cut Meutia General Hospital, North Aceh, as "adequate." This suggests that while the SIMRS is being utilized to support hospital service processes, system integration could still be optimized to ensure faster, more accurate, and seamless information exchange between units. Optimal SIMRS integration can help reduce redundant data entry, accelerate patient data retrieval, improve inter-unit coordination, and support decision-making by healthcare professionals and hospital management. The success of an information system depends not only on the availability of technological infrastructure but also on information quality, ease of use, user competence, organizational support, and the system's alignment with service needs.

Quality of Health Services

The study results indicate that the majority of respondents—38 individuals (61.3%)—rated the quality of healthcare services as good. This suggests that, overall, healthcare services at RSU Cut Meutia North Aceh are functioning effectively. Service quality is reflected in the hospital's ability to provide care that is appropriate, prompt, safe, effective, efficient, and aligned with patient needs.

The utilization of information technology is a key factor in enhancing service quality. Information systems capable of providing rapid and comprehensive patient data can assist healthcare professionals in the delivery of care, reduce the risk of information errors, improve coordination, and support the monitoring and evaluation of services.

The Impact of SIMRS Integration on the Quality of Healthcare Services

The analysis results show a p-value of 0.001 ($p<0.05$), indicating a significant relationship between Hospital Management Information System (SIMRS) integration and the quality of healthcare services at Cut Meutia General Hospital, North Aceh. Consequently, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_a) is accepted. These findings demonstrate that SIMRS integration is significantly associated with the quality of healthcare services.

SIMRS integration enables patient and service-related information to be made available more rapidly to the units that require it. This facilitates improved service coordination, accelerates administrative processes, reduces record-keeping duplication, and assists healthcare personnel in accessing the information necessary for patient care.

The better the information system integration, the greater the likelihood of establishing a timely, complete, and accurate flow of information. Ultimately, this supports the effectiveness and efficiency of service delivery processes. Therefore, the optimization of the SIMRS must be pursued continuously

through measures such as enhancing user competence, maintaining the system, strengthening data security, developing inter-unit integration, and conducting periodic system evaluations. Based on these research findings, it can be concluded that SIMRS integration is a crucial component linked to the quality of healthcare services at Cut Meutia General Hospital, North Aceh. Improving the quality of SIMRS integration is expected to facilitate faster information exchange, accurate documentation, inter-unit coordination, and work efficiency, thereby enhancing the quality of patient care.

CONCLUSION

Based on the research findings regarding the impact of Hospital Management Information System (SIMRS) integration on the quality of healthcare services at Cut Meutia General Hospital, North Aceh, it can be concluded that the majority of respondents (31 or 50.0%) rated the SIMRS integration as "adequate," while 19 respondents (30.6%) rated it as "poor," and 12 respondents (19.4%) rated it as "good." These results indicate that while SIMRS utilization at Cut Meutia General Hospital supports service processes, there are still aspects of integration that require optimization.

Regarding the quality of healthcare services, the majority of respondents (38 or 61.3%) rated the service quality as "good," whereas 20 respondents (32.3%) rated it as "adequate," and 4 respondents (6.5%) rated it as "poor." These results demonstrate that, overall, the quality of healthcare services at Cut Meutia General Hospital falls into the "good" category.

Analysis of the relationship between SIMRS integration and healthcare service quality reveals that the majority of respondents who rated SIMRS integration as "good" also rated service quality as "good." Conversely, among respondents who rated SIMRS integration as "poor," there were still those who rated service quality as "adequate" or "poor." Statistical test results show a p-value of 0.001 ($p < 0.05$), indicating a significant relationship between SIMRS integration and healthcare service quality at Cut Meutia General Hospital. Thus, better SIMRS integration tends to result in higher quality healthcare services.

SIMRS integration can serve as a supporting factor in enhancing healthcare service quality by facilitating faster information access, improving inter-unit coordination, reducing record duplication, increasing documentation accuracy, and supporting decision-making during service delivery. Therefore, optimizing SIMRS integration—through improvements in system quality, user competence, system maintenance, data security, and periodic evaluation—is expected to further elevate the quality of healthcare services at Cut Meutia General Hospital, North Aceh.

REFERENCES

- Aga, P. G., Ndirangu, E., Mwangi, J., Mwanzu, A., & Ramadhani, T. (2021). Enhancing healthcare quality in hospitals through electronic health records: A systematic review. *Journal of Health Informatics in Developing Countries*.
- Campanella, P., Lovato, E., Marone, C., Fallacara, L., Mancuso, A., Ricciardi, W., & Specchia, M. L. (2016). The impact of electronic health records on healthcare quality: A systematic review and meta-analysis. *European Journal of Public Health*, 26(1), 60–64.
- Dinata, F. H., & Deharja, A. (2020). Analisis SIMRS dengan metode PIECES di RSUD Dr. H. Koesnadi Bondowoso. *Jurnal Kesehatan*, 8(2). <https://doi.org/10.25047/j-kes.v8i2.155>.
- Fauziah. (2023). Hubungan pengetahuan perawat dengan pemenuhan indikator mutu ruang perawat di RSUD Cut Meutia Kabupaten Aceh Utara. *Jurnal Kesehatan Tambusai*, 4(4).
- Mangindara, Windarti, S., & Nadya, A. (2023). Implementasi Sistem Informasi Manajemen Rumah Sakit (SIMRS). Penerbit NEM.
- Mahendra, R., & Widiyanto, W. W. (2025). Evaluating the performance of hospital information systems using the HOT-Fit model: A case study of outpatient registration at Nur Hidayah

- Hospital, Bantul. *International Journal of Health and Medicine*, 2(3).
<https://doi.org/10.62951/ijhm.v2i3.472>.
- Putra, R. S. P., Poetra, R. P., Taswin, Amiruddin, E. E., Wijaya, S. F., Ekawaty, D., & Fitriyani, L. (2023). *Sistem Informasi Rumah Sakit*. Get Press Indonesia. ISBN 978-623-198-518-7.
- Wager, K. A., Lee, F. W., & Glaser, J. P. (2022). *Health Care Information Systems: A Practical Approach for Health Care Management* (5th ed.). John Wiley & Sons. ISBN 978-1-119-85386-2.
- Wardhana, D. H., Sumijatun, & Kodyat, A. G. (2025). Determinants related to SIM-RS user satisfaction. *Indonesian Journal of Global Health Research*.
- Kementerian Kesehatan Republik Indonesia. (2022). Peraturan Menteri Kesehatan Republik Indonesia Nomor 24 Tahun 2022 tentang *Rekam Medis*