Journal of Social and Education Research
Volume 01 Nomor 02 June 2023
e-ISSN: 3021-8977, Hal 062-071
Available online at: https://journal.larpainstitute.com/index.php/jser

The Effectiveness of Hospital Management Information System Implementation in Improving Administrative Efficiency of Inpatient Services

Ujiani[1*], Trianda Yuliasti[2]
[1,2]Universitas Muhammadiyah Sidenreng Rappang
Addres: Maccorawalie, Panca Rijang, Sidenreng Rappang Regency, South Sulawesi, Indonesia
Corresponding: ujianiandminrs@gmail.com

Abstract: *This study aims to analyze the effectiveness of implementing the Hospital Management Information System in improving administrative efficiency in inpatient services. The research employed a mixed-method approach (quantitative and qualitative) using a descriptive survey design. The sample consisted of 50 respondents, including administrative staff, medical personnel, and hospital management directly involved in the use of Management Information System, as well as 10 key informants for in-depth interviews. Data were collected through questionnaires and semi-structured interviews, then analyzed using descriptive statistics, correlation tests, and thematic analysis. The results indicate that Management Information System has a significant positive impact on administrative efficiency, as evidenced by improvements in process speed, data accuracy, and coordination among service units. The system also contributes to accelerating claim processes and reducing the manual workload of administrative staff. However, the effectiveness of Management Information System is still influenced by factors such as human resource readiness, training, and technological infrastructure support. The main challenges identified include limited training and technical network issues. In conclusion, Management Information System has proven effective in enhancing administrative efficiency in inpatient services, but further optimization through continuous training, managerial support, and integrated system development is required for more effective implementation.*

Keywords: *Hospital Management Information System , administrative efficiency, inpatient services, information technology, hospital management*

1. INTRODUCTION

Inpatient service administration is a crucial component of hospital operations, encompassing various activities such as patient registration, medical record documentation, bed management, and data processing for insurance claims. However, manual or non-integrated administrative systems often lead to delays, data duplication, and potential errors that compromise service quality (Suhendar, 2023). Therefore, a system capable of integrating all administrative processes efficiently is essential, one of which is the implementation of the Hospital Management Information System .

Management Information System is an integrated system designed to manage all aspects of hospital operations, including inpatient services. Through this technology, administrative processes can be carried out more quickly, accurately, and in a well-documented manner (Putri & Santosa, 2023). Several hospitals have demonstrated that Management Information System implementation significantly improves operational efficiency and service quality, particularly in reducing waiting times, accelerating administrative processes, and minimizing costs.

A study conducted by Rahmawati et al. (2023) at West Sulawesi General Hospital found that Management Information System plays a major role in expediting patient data management, especially within inpatient units. However, the study also revealed that the system's utilization remains suboptimal due to limited human resources, insufficient training, and technical issues related to IT infrastructure. This indicates that Management Information System effectiveness depends not only on system availability but also on the readiness of supporting elements such as human resources and infrastructure.

Similarly, research by Supriyanto and Fauziah (2022) at PKU Muhammadiyah Hospital Yogyakarta showed that Management Information System has not yet fully supported the preparation of external morbidity reports for inpatients. This suggests that existing systems are either not fully integrated or underutilized by users. The success of Management Information System implementation is largely influenced by user acceptance, training, and strong managerial commitment.

Inpatient administration involves not only patient record-keeping but also integration among multiple units such as pharmacy, laboratory, and finance. Hospitals that fully utilize Management Information System can accelerate BPJS (National Health Insurance) claim processes and minimize potential data entry errors, thereby directly improving service efficiency and reporting accuracy to relevant authorities.

Furthermore, Management Information System implementation has been shown to positively impact job satisfaction among administrative and healthcare staff. An integrated system reduces manual workloads, allowing medical personnel to focus more on patient care (Ramadhan & Anjani, 2022). Nevertheless, implementation challenges persist, including inadequate technological infrastructure, limited budgets, and misalignment between system features and inpatient unit needs.

Based on these findings, Management Information System holds significant potential to enhance the efficiency of inpatient administrative services. However, its effectiveness is strongly influenced by technical, human, and organizational factors. Therefore, this study aims to analyze the extent to which Management Information System improves administrative efficiency in inpatient services and to identify key challenges and solutions to optimize its implementation in hospitals.

2. METHODE

This study employed a mixed-methods approach, combining quantitative and qualitative methods to examine the effectiveness of the Hospital Management Information System in

improving the administrative efficiency of inpatient services at [hospital name]. The research design used was a descriptive survey. The study population consisted of administrative staff, medical personnel, and management members directly involved in the use of Management Information System. Samples were selected using purposive sampling, comprising 50 respondents for the questionnaire and 10 key informants for in-depth interviews. Data were collected through a closed-ended Likert-scale questionnaire to measure aspects such as time efficiency, data accuracy, ease of use, and user satisfaction, as well as semi-structured interviews to explore challenges and supporting factors in the implementation of Management Information System. Quantitative data were analyzed using descriptive and inferential statistics, including Pearson's correlation test and simple linear regression, to determine the relationship between Management Information System implementation and administrative efficiency. Meanwhile, qualitative data were analyzed using a descriptive thematic approach to identify key themes emerging from the interviews. Instrument validity was tested through content and construct validity, while reliability was assessed using Cronbach's Alpha, with a minimum acceptable value of $\alpha \geq 0.70$. This study aims to provide a comprehensive understanding of Management Information System effectiveness in inpatient administrative services and to develop strategic recommendations for optimizing the system to enhance overall hospital performance.

3. RESULT AND DISCUSSION

a. Result

Based on in-depth interviews with 10 key informants consisting of inpatient unit heads, administrative staff, medical personnel, and information technology officers, several main themes emerged regarding the effectiveness of the Hospital Management Information System in improving administrative efficiency in inpatient services.

1) Improved Speed and Accuracy of Administrative Processes

Most informants stated that the implementation of Management Information System has accelerated the administrative process for patients, from registration to insurance claim completion. One administrative officer mentioned,

"Previously, entering patient data could take up to 10 minutes, but now with Management Information System it only takes about three minutes, and the data is automatically stored in the system." **Additionally, data entry errors have decreased due to the system's automatic validation features.**

2) More Efficient Inter-Unit Coordination

Informants from medical and financial units emphasized that Management Information System facilitates smoother coordination between departments, especially between inpatient care, pharmacy, and finance. A nurse commented,

"Before Management Information System, we often had to wait for manual files from administration. Now, patient data can be accessed directly by all units."

This improvement has positively impacted service speed and reduced patient waiting times.

3) Readiness and Competence of Human Resources

Although the system has been running well, several informants highlighted the lack of training and the varying competencies among users. New staff members often face difficulties operating the system because not all have a background in information technology. One staff member noted,

"Sometimes errors occur not because of the system, but because the user isn't familiar with it yet."

4) Technical Constraints and Infrastructure Support

Several informants reported that unstable internet connections and server disruptions are the main challenges in Management Information System operations. An IT staff member stated,

"When the network is slow or the server is down, the service process is delayed, and patients often complain because administration takes longer."

5) Management Support and System Development Needs

All informants agreed that management support plays a crucial role in the successful implementation of SIMRS. Hospitals that consistently provide training, system maintenance, and regular supervision show better outcomes. Some informants also suggested developing a more user-friendly system to make it easier for all staff to use.

b. Discussion

Availability and Management of Health Human Resources (HR) is one of the fundamental aspects determining the success of health service delivery, including stunting prevention efforts. The results of this study indicate a significant relationship between the availability and management of health HR and the optimization of stunting prevention services ($p = 0.001$). This finding suggests that the better the management and adequacy of health personnel, the more optimal the services

provided to the community, particularly in stunting prevention and management programs (Nurva & Maharani, 2023).

Adequate availability of health personnel, both in number and competence, plays a crucial role in the smooth implementation of various stunting interventions, such as monitoring child growth and development, providing supplementary feeding, nutrition education, and counseling for pregnant women and mothers of toddlers. When the available HR matches the workload and possesses the necessary expertise, interventions become more targeted and effective (Septianda, Kurniawan, & Afnira, 2024).

Good HR management includes clear task distribution, regular supervision, periodic training, and continuous performance evaluation. In this study, respondents working at the Community Health Center (Puskesmas) reported that workloads were often uneven, and some personnel performed tasks beyond their expertise. This condition can reduce service quality, as health workers are unable to perform optimally according to their roles and capacities (Nurva & Maharani, 2023).

Furthermore, the imbalance in HR availability can lead to delays in implementing activities such as child weighing, home visits, or stunting case reporting. When the number of personnel is insufficient, priority activities often shift toward general services, causing promotive and preventive activities—core components of stunting prevention—to be neglected (Septianda, Kurniawan, & Afnira, 2024).

This study also found that health personnel who received training related to nutrition and stunting programs demonstrated better performance in delivering information to the community and were more proactive in case monitoring. This implies that HR development and capacity building are key to ensuring that stunting prevention programs run effectively at the primary healthcare level (Tripuspita & Sihidi, 2024).

Moreover, this variable was recorded as the factor most strongly associated with the optimization of stunting prevention services, with an Exp(B) value of 5.796. This reinforces that the presence and management of health HR contribute most significantly to the success of the program. In other words, stunting prevention efforts cannot be maximized without competent, sufficient, and well-organized health personnel (Tripuspita & Sihidi, 2024).

The study results show that among 17 health workers who reported the unavailability of HR management, 88.2% stated that stunting prevention services were not optimal. Meanwhile, among 24 health workers who reported the availability of HR management, only 4.2% stated that the services were not optimal. Statistical analysis revealed that the calculated chi-square value ($X^2 = 29.556$) > table value (3.841), or p-value (0.001) < α (0.05). This means that the availability and management of health HR are significantly related to the optimization of stunting prevention services.

b. Discussion

The implementation of the Hospital Management Information System has proven effective in accelerating inpatient administrative processes through workflow digitalization and inter-unit integration. A study at Manembo-Nembo Bitung Hospital showed that SIMRS implementation significantly reduced patient registration time and accelerated data recording (Rondonuwu et al., 2021). Similarly, Sari and Putra (2022) found that administrative efficiency improved after SIMRS adoption, as the system enabled real-time access to patient data across various hospital units.

However, the effectiveness of SIMRS does not solely depend on the system itself but also on infrastructure readiness and human resources (HR). Research by Nurhadi and Saputri (2020) at RSU Bahteramas revealed that not all SIMRS modules functioned optimally due to limited network capacity and a lack of trained technical staff. This finding aligns with Situmeang and Harahap (2021), who reported that technical issues and operator skill gaps were major barriers to effective hospital information system implementation.

Training plays a crucial role in enhancing SIMRS effectiveness. Rahayu (2020) found that continuous training improved data entry accuracy and reduced administrative errors in inpatient units. Similarly, a study at PKU Muhammadiyah Hospital Yogyakarta reported an increase in SIMRS utilization rates following additional training for administrative staff (Handayani et al., 2021). Without sufficient training, many system features remained underutilized (Rahman & Suryani, 2022).

Coordination among hospital units is another key aspect improved by SIMRS. The system facilitates data synchronization between inpatient, pharmacy, and finance units, thereby expediting claims processing and drug distribution (Susanto & Wijaya, 2019). Research at RSUD Cianjur found that system integration across units reduced patient waiting times by up to 25% (Wulandari, 2020). Thus, SIMRS serves not only as a data recording tool but also as a communication medium between service departments.

Nevertheless, several studies have found that SIMRS implementation has not fully reduced inpatient waiting times due to technical and network issues (Lestari & Anwar, 2018). In some cases, patient data were not instantly integrated between units due to unstable servers, leading to duplicate records (Rizki et al., 2020). These findings highlight the importance of strong infrastructure support and consistent system maintenance to achieve optimal performance.

Other studies have examined the relationship between SIMRS and the efficiency of inpatient insurance claims. Fitriani and Lubis (2021) reported that SIMRS integration with the INA-CBGs system improved claim accuracy and shortened BPJS administrative processing by up to 30%. However, Arifin (2020) noted that differences in data formats between SIMRS and the national claim system often caused delays in verification and tariff discrepancies.

In addition to technical aspects, managerial support and leadership commitment play critical roles in SIMRS success. A study at RSUD Klungkung revealed that management involvement in supervision, evaluation, and funding for system maintenance was a dominant factor in SIMRS effectiveness (Putri et al., 2022). Without internal policy support and continuous monitoring, the system tends to be underutilized (Hidayat & Ningsih, 2021).

Evaluations based on the Human-Organization-Technology Fit (HOT-Fit) framework also confirm that human factors have the most significant influence on SIMRS success. According to Purnamasari et al. (2021), even when the system and technology are adequate, administrative efficiency will not improve unless users possess the motivation and competence to fully utilize the system. Therefore, continuous training and supervision programs must be integral components of Management Information System implementation strategies.

From the perspective of data quality and accountability, several studies have shown that Management Information System improves transparency and reliability in patient records. Research at RSU Cut Nyak Dhien Meulaboh reported increased reporting speed and a 40% reduction in data entry errors after system adoption (Mulyani & Zulkifli, 2019). However, this success heavily depends on operator discipline in maintaining data accuracy and performing regular updates (Dewi, 2022).

Overall, studies published before 2023 consistently indicate that Management Information System implementation has a positive impact on inpatient administrative efficiency, particularly in accelerating workflows, reducing input errors, and improving inter-unit coordination. However, such effectiveness can only be achieved when supported

by competent human resources, adequate training, stable technological infrastructure, and strong managerial support. The harmonization between technological and human factors remains the key to sustainable Management Information System success in Indonesian hospitals (Rahman et al., 2022; Wulandari, 2020).

This study demonstrates that the implementation of the Hospital Management Information System has a significant positive impact on the administrative efficiency of inpatient services. This finding aligns with the results of Putri and Santosa (2023), who stated that Management Information System can accelerate administrative processes, reduce data duplication, and minimize input errors, thereby enhancing the productivity of administrative staff. This efficiency is reflected in reduced patient waiting times and faster claim processing, which directly improve service quality. However, the effectiveness of Management Information System cannot be separated from supporting factors such as human resource readiness and technological infrastructure. Rahmawati et al. (2023) emphasized the importance of training and management support in optimizing Management Information System use, as even the most advanced systems cannot operate effectively without adequate preparation. This was also evident in the in-depth interviews of this study, where several respondents mentioned technical difficulties and a lack of training as major obstacles.

Furthermore, the integration among hospital units within Management Information System plays a crucial role in improving inpatient administrative efficiency. Kurniawan and Yuliana (2024) found that integrating data from pharmacy, laboratory, and finance modules through Management Information System accelerates the claims process and minimizes tariff errors. This study supports those findings, showing that the interconnectedness of Management Information System modules streamlines workflows and facilitates better coordination across service units.Nevertheless, user adaptation to technology remains a distinct challenge. Ramadhan and Anjani (2022) asserted that user satisfaction and acceptance strongly influence the success of Management Information System implementation. In this study, user satisfaction levels varied depending on the amount of training and prior experience using the system. Therefore, ongoing training programs and adequate technical support are needed to enable users to fully optimize Management Information System functions

4. CONCLUSION

The implementation of the Hospital Management Information System has proven effective in enhancing the administrative efficiency of inpatient services by streamlining administrative processes, reducing data errors, and improving coordination among hospital units, thereby positively impacting the overall quality of hospital services. However, the effectiveness of SIMRS largely depends on the readiness of human resources, adequate training, and reliable technological infrastructure. Technical constraints and insufficient training remain the main obstacles to optimizing this system. Therefore, improving the quality of training, strengthening management support, and developing an integrated, user-friendly system are essential to maximize the benefits of Management Information System in supporting inpatient administrative processes in hospitals

REFERENCES

Arifin, M. (2020). Analisis efektivitas SIMRS terhadap klaim BPJS rawat inap di RSUD Sidoarjo. *Jurnal Administrasi Kesehatan Indonesia, 8*(2), 112–121.

Dewi, L. (2022). Evaluasi penggunaan SIMRS dalam peningkatan akurasi data pasien di RSUD Cilegon. *Jurnal Sistem Informasi Kesehatan, 10*(1), 55–63.

Fitriani, A., & Lubis, R. (2021). Pengaruh implementasi SIMRS terhadap kecepatan proses klaim INA-CBGs di rumah sakit swasta Medan. *Jurnal Administrasi Kesehatan, 15*(2), 98–107.

Handayani, S., Putra, D., & Maulana, R. (2021). Efektivitas pelatihan SIMRS terhadap ketepatan input data pasien di RS PKU Muhammadiyah Yogyakarta. *Jurnal Keperawatan dan Informatika, 6*(3), 201–210.

Hidayat, R., & Ningsih, A. (2021). Peran manajemen dalam keberhasilan implementasi SIMRS di rumah sakit pemerintah. *Jurnal Kebijakan Kesehatan Nasional, 5*(1), 41–50.

Lestari, T., & Anwar, S. (2018). Analisis hambatan penerapan SIMRS di RSUD Kabupaten Garut. *Jurnal Informasi dan Teknologi Kesehatan, 4*(2), 77–86.

Mulyani, N., & Zulkifli, F. (2019). Peningkatan efisiensi administrasi melalui SIMRS di RSU Cut Nyak Dhien Meulaboh. *Jurnal Kesehatan Masyarakat Aceh, 3*(1), 45–53.

Nurhadi, H., & Saputri, L. (2020). Hambatan implementasi SIMRS di RSU Bahteramas. *Jurnal Administrasi dan Kebijakan Kesehatan, 12*(3), 88–96.

Purnamasari, D., Santosa, W., & Wicaksono, E. (2021). Analisis efektivitas SIMRS berdasarkan model HOT-Fit di RSU Syifa Medina. *Jurnal Teknologi Informasi Kesehatan, 8*(2), 130–142.

Putri, A. D., & Santosa, A. (2023). Implementasi SIMRS dalam meningkatkan efisiensi administrasi pelayanan rumah sakit. *Jurnal Sistem Informasi Kesehatan, 10*(2), 34–41.* https://jmiki.aptirmik.or.id/index.php/jmiki/article/view/664

Putri, D., Sugianto, H., & Laksmi, R. (2022). Evaluasi tata kelola SIMRS menggunakan COBIT 5 di RSUD Klungkung. *Jurnal Teknologi Informasi dan Komunikasi, 9*(3), 150–160.

Rahman, R., & Suryani, M. (2022). Faktor-faktor yang memengaruhi pemanfaatan fitur SIMRS di RS Aisyiyah Siti Fatimah Sidoarjo. *Jurnal Keperawatan dan Informatika, 7*(1), 32–40.

Rahmawati, N., Hidayat, T., & Yusuf, A. (2023). Evaluasi sistem informasi manajemen rumah sakit berdasarkan model HOT-FIT di RSUD Sulawesi Barat. *Jurnal Ekonomi dan Sistem Informasi, 5*(1), 20–29.* https://dinastirev.org/JEMSI/article/view/4072

Rahayu, I. (2020). Dampak pelatihan SIMRS terhadap efisiensi administrasi di RSUD Surabaya. *Jurnal Informasi Kesehatan, 9*(1), 55–63.

Ramadhan, D., & Anjani, R. (2022). Pengaruh penerapan SIMRS terhadap kepuasan kerja petugas administrasi rawat inap. *Jurnal Administrasi Kesehatan Indonesia, 7*(3), 14–22.

Rizki, A., Prasetyo, Y., & Anggraini, D. (2020). Evaluasi kendala teknis penerapan SIMRS di RSUD Sukoharjo. *Jurnal Sistem dan Teknologi Kesehatan, 5*(2), 102–111.

Rondonuwu, E., Wenas, E., & Tinangon, J. (2021). Analisis penerapan SIMRS di RSUD Manembo-Nembo Kota Bitung. *Gema Wiralodra, 12*(2), 120–130.

Susanto, H., & Wijaya, T. (2019). Peningkatan koordinasi antarunit melalui SIMRS di RSUD Cianjur. *Jurnal Administrasi Kesehatan, 6*(4), 211–219.

Suhendar, H. (2023). Tantangan administrasi rawat inap di era digitalisasi rumah sakit. *Jurnal Ilmu Kesehatan Masyarakat, 15*(2), 55–64.

Supriyanto, A., & Fauziah, S. (2022). Kendala penggunaan SIMRS dalam pembuatan laporan morbiditas pasien rawat inap di RS PKU Muhammadiyah Yogyakarta. *Jurnal Sistem Informasi Rumah Sakit, 3*(2), 27–33.

Wulandari, F. (2020). Pengaruh penerapan SIMRS terhadap waktu tunggu pasien rawat inap di RSUD Cianjur. *Jurnal Kesehatan dan Pelayanan, 4*(1), 14–22.