Journal of Sustainable Applied Modification Evidence Community
Vol. 02, No. 1, June 2025, 79-85
***e*-ISSN: 3048-040X**

Empowering Students in Health Information Management through SIMRS to Enhance Community Health Education

Satrio Bhagas Yudhanto[1]*, Mirza Aulia[2], & Devid Leonard[3]
[1]*STIKES Dharma Landbouw Padang, Indonesia, [2]STIKES Dharma Landbouw Padang, Indonesia, [3]STIKES Dharma Landbouw Padang, Indonesia
*Co e-mail: sbhagas@gmail.ac.id[1]

Article Information
Received: August 16, 2025
Revised: September 01, 2025
Online: September 08, 2025

Keywords
Medical Records, Community Education, Health Promotion

ABSTRACT

The utilization of information technology in healthcare services is increasingly crucial, particularly in managing patient data and information through the Hospital Management Information System (SIMRS). Students of the Medical Records and Health Information Program need to be equipped with technical skills in using SIMRS as well as the ability to transform data into educational content for the community. Purpose: This community service activity aimed to enhance students' competencies in SIMRS operations and encourage the use of data to support evidence-based health promotion. Methods: The program targeted 25 fourth-semester students who participated in participatory training and hands-on practice over two days. Evaluation was conducted through pre- and post-tests, direct observation during practice sessions, and assessment of the educational products created. Results: all participants were able to operate SIMRS independently and develop educational media based on medical record data. Implications: This activity also improved students' analytical thinking and visual communication skills. Conclusion: The program demonstrates that hands-on SIMRS training effectively prepares students to become professionals who are adaptive to digital transformation in healthcare and capable of contributing to community-based health education.

Keywords: *Medical Records, Community Education, Health Promotion*

http://doi.org/10.69855/samec.v2i1.231
https://gpijournal.com/index.php/samec

INTRODUCTION

The development of information technology has brought fundamental changes to the healthcare service system, particularly in the management of patient data and information (Firdaus, 2025). In the digital era, speed, accuracy, and information security have become important indicators of healthcare service quality (Suhermawan, 2025). One of the concrete forms of technology utilization in healthcare services is the implementation of the Hospital Management Information System (SIMRS). This system integrates clinical, administrative, and financial data, enabling efficiency and effectiveness in hospital operations.

The management of health information through SIMRS is not only crucial for internal hospital management but also highly potential in supporting data-based health promotion activities (Safitri, 2025). Medical record information, for instance, can be used to identify disease trends, case prevalence, and even specific educational needs of communities based on regional characteristics. However, the utilization of SIMRS has not yet been optimal due to limited human resources capable of managing and interpreting the data (Laila, 2024).

Students, as future professionals in medical records and health information, must be equipped with both technical and analytical skills in using SIMRS. These skills are not only important for their readiness in the workforce but also for enhancing their participation in data-based health promotion and education efforts. Based on preliminary observations, it was found that the majority of students have not had direct experience in operating SIMRS and do not yet understand how the data in the system can be transformed into educational information for the community.

This community service activity is designed as a solution to bridge this gap. The purpose of this activity is to provide students with training in operating SIMRS, managing digital health information, and transforming data into communicative and informative educational media. Through this activity, it is expected that students will not only become technically proficient but also develop awareness of the importance of public health literacy.

METHODS

This community service program employs a participatory training approach and experiential learning. This method was chosen because it has been proven effective in enhancing both conceptual understanding and practical skills of students (Motta, 2023). The target participants are fourth-semester students from the Diploma 3 Program in Medical Records and Health Information and the Bachelor Program in Hospital Administration at STIKES Dharma Landbouw. A total of 25 students were selected based on their interest and commitment to the field of health data management. The activity flow is outlined as follows:

Activity Stages

1. **Preparation and Coordination**: The implementing team prepares the training modules, selects an open-source SIMRS simulation platform, and develops pre-test and post-test instruments.
2. **Implementation**:
    a. Day One: Opening session, pre-test, introduction to the basics of SIMRS, and technical training on the use of the electronic medical records module.

b. Day Two: Practice in patient data processing, preparation of simple reports, and training on how to develop infographics and data-based health promotion materials.

3. **Evaluation**:
   a. Assessment is conducted through pre-test and post-test, direct observation during practice, and evaluation of the educational products produced.
   b. Participant feedback is also collected through an activity satisfaction questionnaire.
   c. The educational approach is carried out using interactive learning media, group discussions, case studies, and software-based simulations. Throughout the activity, participants are guided by facilitators experienced in SIMRS management.

RESULTS

This activity was carried out over two days and was fully attended by all participants. The pre-test results showed that the majority of students (80%) only had theoretical knowledge of SIMRS and had never operated it directly. The average pre-test score was 45 on a scale of 100.

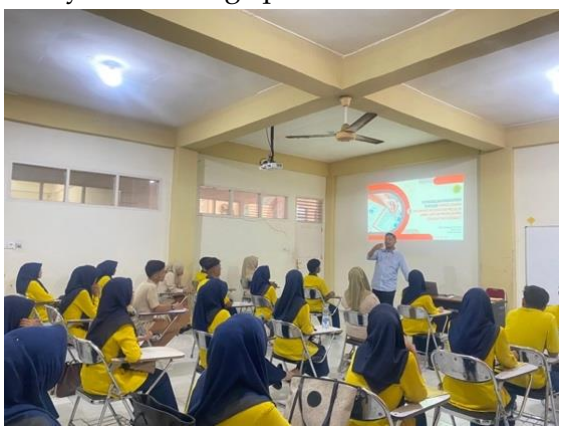

Figure 1. Process of Presenting the Materials

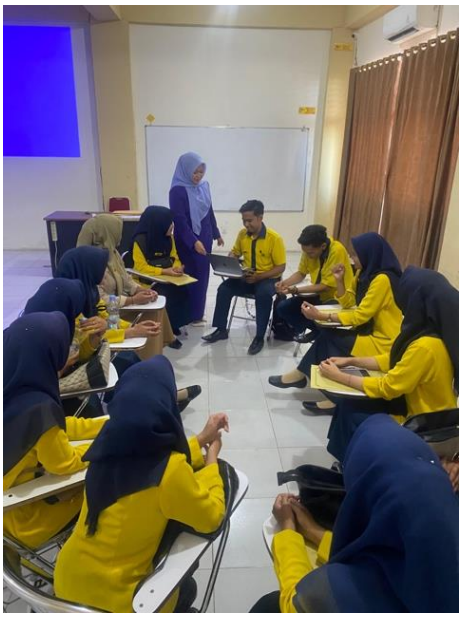

Figure 2. Interactive Discussion Process

After the training, the post-test results showed a significant improvement in participants' understanding, with an average score reaching 85. The students demonstrated enhanced abilities in:

- Operating the basic SIMRS interface.
- Preparing simple reports from medical record data.
- Interpreting data on the most common disease cases and service trends.
- Developing data-based educational content (infographics, posters, leaflets)

The following is an analysis of the pre-test and post-test results based on the assessed aspects:

Table 1. Pre-Test and Post-Test Results

No	Assessment Aspect	Pre-*Test*	Post-*Test*	Percentage Increase
1	Basic understanding of SIMRS	40	85	112.5%
2	Navigation skills and SIMRS data input	35	82	134.3%
3	Medical record data analysis	38	80	110.5%
4	Preparation of simple reports	42	86	104.7%
5	Development of data-based educational media	45	90	100.0%

As the final product, each student group (divided into two groups) produced one health promotion media item based on SIMRS data. Some of the topics addressed included the importance of routine blood pressure checks and education about diabetes based on case prevalence.

Participant feedback indicated that this activity was highly beneficial, practical, and provided new insights into the role of data in health promotion. The majority of students expressed hope that similar activities would be conducted regularly.

DISCUSSION

The results of this activity show that students demonstrated high enthusiasm for the use of SIMRS in real-world contexts. Through an applied training approach, students were able to understand SIMRS not only as a recording system but also as a strategic tool to support health promotion.

Previous research by Sari and Nugroho (2019) stated that digital data management skills strongly influence graduates' readiness for the workforce, particularly in the era of digitalized healthcare services. This activity reinforced those findings by showing that students who received hands-on training were better able to understand the link between data and promotive-preventive actions.

The educational products produced reflected the creativity of students in translating technical data into communicative educational materials. This aligns with the evidence-based health promotion approach, which is increasingly needed in community health practice (Hudson, 2025).

In addition to technical skills, this activity also improved students' soft skills, such as teamwork, analytical thinking, and the ability to convey health messages visually. It also fostered collaboration between educational institutions and healthcare services based on digital systems.

This activity provided new insights that case-based training can create a meaningful learning environment for students. Beyond system mastery, students were also provided with context regarding the importance of data in health decision-making. This can encourage the creation of graduates who are not only skilled but also reflective in understanding the role of data within the broader healthcare context.

The activity also demonstrated that SIMRS has strategic value not only at the operational level of hospitals but also as an effective learning tool within educational institutions (Saragih, 2024). Students who are accustomed to using real SIMRS data tend to adapt more quickly to hospital work environments, which are increasingly digitalized.

In addition, the SIMRS training can be seen as a strategic effort to support the achievement of national digital transformation in the health sector. The Indonesian government, through the Ministry of Health, has initiated a nationwide integration of health data, making students' competence in managing information systems a crucial asset in realizing this policy (Ministry of Health RI, 2023). Indirectly, this activity contributes to preparing health professionals who are ready to adapt to the ongoing transformation agenda.

From a sustainability perspective, students' skills in processing medical records into communicative information must continue to be developed through cross-sector collaboration. Partnerships with hospitals, primary health centers, and local health offices, for instance, broaden students' learning scope and provide them with real-world experiences in managing health data. Consequently, students not only learn within an academic framework but also gain a deeper understanding of the dynamics of field practices (Prasetyo & Hapsari, 2022).

Furthermore, this initiative opens opportunities for further research on the effectiveness of SIMRS in evidence-based health promotion. Follow-up studies could evaluate how far data-driven educational media can influence changes in community knowledge, attitudes, and behaviors. By integrating community service with research, higher education institutions can strengthen their role in advancing public health literacy (Wahyuni & Syahputra, 2021).

Thus, students' active participation in developing data-based educational materials demonstrates their potential as agents of change within the health system. With continuous training and capacity building, they can serve as a bridge between health information systems and the community, promoting literacy and healthier lifestyles. This activity lays a vital foundation for preparing a younger generation that is both adaptive and innovative in facing the challenges of healthcare in the digital era.

CONCLUSIONS

This community service program successfully had a positive impact on enhancing students' knowledge and skills in managing health information through SIMRS. Students were able to operate the system at a basic level, extract data, and use it to support community education.

The training not only improved work readiness but also strengthened the role of students as agents of evidence-based health promotion. Similar activities should be further developed with the

integration of more complex SIMRS functions and the involvement of partner hospitals, so that students gain a more holistic understanding of digital health information systems.

ACKNOWLEDGMENT

The authors would like to express their deepest gratitude to STIKES Dharma Landbouw for providing the opportunity and support in carrying out this community service program. Special thanks are also extended to the students of the Medical Records and Health Information Study Program (Diploma 3) and the Hospital Administration Study Program (Bachelor) who actively participated throughout the training activities.

Lastly, the authors acknowledge the constructive feedback from all participants, which greatly contributed to the refinement of this activity and will serve as an important foundation for the development of similar programs in the future.

REFERENCES

Firdaus, R., Syeira, K., & Wijaya, N. (2025). *Digital Transformation of Health Information Systems Towards Connected and Patient-Centered Health Services*. *Economics and Digital Business Review*, 6(2), 1045–1055. https://ojs.stieamkop.ac.id/index.php/ecotal/article/view/2481?utm_source=chatgpt.com

Hudson, B., & Michael, L. (2025). *Promoting Effective Strategies to Improve Creative Thinking Skills Among Health Education and Public Health Students*. *Researcher: An Interdisciplinary Journal*, 31(3).

Indonesian Ministry of Health. (2023). *Digital Health Transformation: Strategy and Implementation*. Jakarta: Ministry of Health of the Republic of Indonesia.

Kolb, D. A. (2015). *Experiential learning: Experience as the source of learning and development* (2nd ed.). Pearson Education.

Laila, L., Sulistyawati, S., & Hidayat, M. S. (2024). *Evaluation of the Implementation of Hospital Management Information System (HMIS): A Literature Review*. *Jurnal Promotif Preventif*, 7(4), 710–723. https://doi.org/10.47650/jpp.v7i4.1424

Motta, V. F., & Galina, S. V. R. (2023). *Experiential Learning in Entrepreneurship Education: A Systematic Literature Review*. *Teaching and Teacher Education*, 121, 103919.

Prasetyo, A., & Hapsari, D. (2022). *Integration of Health Information Systems in Supporting National Policy*. *Jurnal Kesehatan Masyarakat Digital*, 3(2), 55–64.

Rahmawati, A., & Putri, N. S. (2020). *The Effect of HMIS Training on the Readiness of Medical Record Students for the Workforce*. *Jurnal Informasi Kesehatan Indonesia*, 8(2), 114–121.

Safitri, E. M., Ramdhani, M. A. E., Robawa, R. S. P., & Putra, R. M. P. K. (2025). *Strategic Planning of Information Systems Using the Ward and Peppard Method at RSUD Husada Prima*. *Jurnal Informatika dan Teknik Elektro Terapan*, 13(1).

Saragih, D. B. (2024). *The Relationship Between Hospital Management Information System (HMIS) and Nurse Performance Effectiveness at Husada Hospital Jakarta*. *Jurnal Kesehatan Holistic*, 8(2), 116–122.

Sari, L. P., & Nugroho, A. (2019). *The Effect of Field Practice on the Competence of Medical Record Students*. *Jurnal Kesehatan dan Informatika*, 7(1), 33–40.

Suhermawan, D. E., & Oktariyanda, T. A. (2025). *Effectiveness of E-Health in Improving Public Services at Sawahan Public Health Center, Surabaya City*. *Socius: Jurnal Penelitian Ilmu-Ilmu Sosial*, 2(12).

Wahyuni, R., & Syahputra, B. (2021). *Digital Literacy of Health Students in Utilizing Information Systems*. *Jurnal Teknologi dan Kesehatan*, 9(1), 77–86.

Widodo, H. (2021). *Utilization of HMIS Data in Health Promotion Planning*. *Jurnal Sistem Informasi Kesehatan*, 5(1), 25–33.

Yuliana, L., & Hidayat, A. (2022). *The Role of Students in Improving Public Health Literacy Through Digital Media*. *Jurnal Pengabdian Kesehatan Komunitas*, 4(3), 140–149.