

Enhancing Health Management Literacy and Competence Among Students: Preparing Professional Hospital Administrators for Indonesia's Health Transformation Era

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Abstrak

Transformasi sistem kesehatan di Indonesia menuntut tersedianya sumber daya manusia yang memiliki literasi dan kompetensi manajemen kesehatan yang memadai, khususnya bagi mahasiswa sebagai calon administrator rumah sakit. Kegiatan ini bertujuan untuk meningkatkan literasi serta kompetensi manajemen kesehatan mahasiswa melalui edukasi dan penguatan pemahaman mengenai fungsi manajemen rumah sakit, kepemimpinan, tata kelola pelayanan kesehatan, keselamatan pasien, serta implementasi kebijakan kesehatan. Metode yang digunakan berupa kegiatan edukasi dan penyebaran kuesioner kepada 43 mahasiswa untuk mengidentifikasi tingkat pemahaman, kebutuhan pembelajaran, serta persepsi terhadap kompetensi manajemen kesehatan yang diperlukan di era transformasi kesehatan Indonesia. Data dianalisis secara deskriptif menggunakan distribusi frekuensi dan persentase untuk menggambarkan tingkat literasi dan kompetensi responden. Hasil menunjukkan bahwa sebagian besar mahasiswa memiliki tingkat pemahaman yang baik terhadap pentingnya manajemen kesehatan, namun masih terdapat beberapa aspek yang memerlukan penguatan, terutama pada manajemen keuangan rumah sakit, kebijakan kesehatan, kepemimpinan organisasi, dan pengambilan keputusan berbasis data. Kegiatan edukasi memperoleh respons positif dari peserta dan dinilai mampu meningkatkan wawasan serta kesiapan mahasiswa dalam menghadapi tantangan pengelolaan rumah sakit yang semakin kompleks. Dengan demikian, peningkatan literasi dan kompetensi manajemen kesehatan menjadi strategi penting dalam mempersiapkan calon administrator rumah sakit yang profesional, adaptif, dan mampu mendukung keberhasilan transformasi kesehatan di Indonesia.

Kata kunci: Literasi Kesehatan; Kompetensi Manajemen; Administrator Rumah Sakit; Kompetensi di Kalangan Mahasiswa; Transformasi Kesehatan Indonesia.

Abstract

The transformation of the health system in Indonesia necessitates a workforce possessing adequate health management literacy and competence, particularly among students aspiring to become hospital administrators. This initiative aims to enhance students' health management literacy and competence through education and by strengthening their understanding of hospital management functions, leadership, healthcare service governance, patient safety, and the implementation of health policies. The methodology involved educational activities and the distribution of questionnaires to 43 students to assess their level of understanding, learning needs, and perceptions regarding the health management competencies required in the era of Indonesia's health transformation. Data were analyzed descriptively using frequency distributions and percentages to characterize the respondents' literacy and competence levels. The results indicate that while the majority of students possess a good understanding of the importance of health management, certain areas require further strengthening—specifically hospital financial management, health policy, organizational leadership, and data-driven decision-making. The educational activities received a positive response from participants and were deemed effective in broadening students' insights and enhancing their readiness to tackle the increasingly complex challenges of hospital management. Thus, improving health management literacy and competence serves as a crucial strategy for preparing professional and adaptive hospital administrators capable of supporting the success of Indonesia's health transformation.

Keywords: Health Literacy; Management Competence; Hospital Administrator; Competence Among Students; Indonesia's Health Transformation

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INTRODUCTION

The Indonesian healthcare system is currently undergoing a comprehensive transformation aimed at improving service quality, strengthening health resilience, accelerating digital health implementation, and enhancing the competency of healthcare professionals. These reforms have significantly increased the demand for healthcare managers and hospital administrators who possess not only clinical knowledge but also managerial competencies, leadership skills, strategic thinking, health policy understanding, and digital literacy. Hospitals are expected to operate efficiently while maintaining high-quality patient-centered services, requiring future healthcare administrators to adapt to increasingly complex organizational and technological challenges.

Higher education institutions play a strategic role in preparing competent healthcare management professionals. University students enrolled in health administration and related programs are expected to develop comprehensive competencies before entering professional practice. These competencies include health system management, financial management, human resource management, quality improvement, leadership, communication, decision-making, and evidence-based management. Consequently, strengthening health management literacy during undergraduate education is considered an essential strategy for developing professional hospital administrators capable of supporting Indonesia's healthcare transformation.

Recent studies have highlighted that health literacy has evolved beyond individual health knowledge into a core professional competency within healthcare education. Emphasized that public health literacy should become a fundamental component of healthcare curricula because it enhances students' ability to understand healthcare systems, promote health equity, and support evidence-based decision-making (Gao dkk., 2026). The authors argued that integrating public health literacy into higher education prepares future healthcare professionals to respond effectively to increasingly complex healthcare environments.

The rapid advancement of digital health technologies has also transformed competency requirements for future healthcare professionals. Abou Hashish and Alnajjar reported that university students require adequate competencies in digital transformation, health literacy, and artificial intelligence to remain competitive in modern healthcare systems (Abou Hashish & Alnajjar, 2024). Their findings demonstrated that students with higher digital literacy exhibited better readiness to participate in healthcare innovation and organizational improvement, indicating that digital competency has become an indispensable component of healthcare management education.

Similarly, Artaman et al. investigated health management knowledge, attitudes, and readiness among health science students from multiple universities in the Gulf Cooperation Council region.

Their study revealed that although students generally possessed positive attitudes toward health management, their readiness remained moderate, particularly among those lacking previous exposure to management, health systems, economics, and policy courses (Artaman dkk., 2026). The researchers recommended strengthening undergraduate curricula through the integration of management education to improve students' preparedness for future administrative responsibilities in healthcare organizations.

Furthermore, recent evidence suggests that digital health literacy and professional competencies are strongly associated with students' learning readiness and professional values. A scoping review conducted by Xie et al. concluded that digital health literacy should be systematically integrated into medical education to prepare graduates for digital transformation within healthcare organizations (Xie dkk., 2026). Likewise, Meng et al. demonstrated that digital literacy significantly contributes to the development of professional competencies through self-directed learning and professional values among healthcare students (Meng dkk., 2026). These findings indicate that competency development should extend beyond theoretical knowledge toward practical managerial capabilities suitable for the digital healthcare era.

Although numerous international studies have examined health literacy, digital literacy, and healthcare management education, limited evidence is available regarding Indonesian university students' preparedness to become professional hospital administrators within the context of the national health transformation agenda. Most previous studies have primarily focused on nursing or medical students rather than healthcare management students and rarely assessed management literacy across multiple competency domains simultaneously.

Therefore, this study aims to evaluate the level of health management literacy and managerial competencies among university students as prospective hospital administrators. The study also seeks to identify competency areas requiring further strengthening to support the development of professional healthcare administrators capable of leading hospitals in the era of Indonesia's healthcare transformation. The findings are expected to provide evidence-based recommendations for curriculum development and competency enhancement programs in higher education institutions.

METHOD

This study employed a quantitative descriptive approach to evaluate the health management literacy and competencies of university students as prospective hospital administrators following an educational intervention. A descriptive quantitative approach is appropriate for assessing participants' knowledge and competencies through structured questionnaires and summarizing the findings using descriptive statistics (Debata dkk., 2024; Heydari dkk., 2019).

The activity involved 42 undergraduate students from health-related study programs who participated voluntarily. Respondents were selected using the total sampling technique, in which all participants attending the educational program were included in the study. Data were collected using a structured questionnaire consisting of respondent characteristics and statements related to health management literacy, leadership, hospital governance, healthcare policy, financial management, communication, and professional ethics. Responses were measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

The educational intervention was delivered through lectures, interactive discussions, and case-based learning focusing on hospital management and the competencies required of future healthcare administrators. Prior to implementation, the questionnaire was reviewed by experts in health administration to ensure content validity.

The collected data were analyzed descriptively. Frequencies, percentages, and means were calculated to describe participants' literacy and competency levels. Descriptive statistical analysis is widely recommended for evaluating educational outcomes and competency-based learning programs (Debata dkk., 2024). Ethical principles were maintained by ensuring voluntary participation, anonymity, and confidentiality of all respondents throughout the study.

RESULT AND DISCUSSION

Respondent Characteristics

A total of 42 students participated in this study. Based on gender, the majority of respondents were female (64.3%), while 35.7% were male. The distribution indicates that female students were more actively involved in the health management literacy program.

Table 1. Characteristics of respondents

Characteristics	Frequency (n)	Percentage (%)
Male	15	35.7
Female	27	64.3
Total	42	100.0

The respondent characteristics demonstrate that female students dominated participation in this educational activity. Although gender was not the primary variable of this study, the findings indicate that both male and female students showed interest in improving their health management competencies. This condition reflects the increasing awareness among health science students regarding the importance of managerial competencies in addition to clinical knowledge.

Preparing future hospital administrators requires multidisciplinary competencies regardless of gender, including leadership, communication, strategic management, and health literacy. Organizational health literacy has become an important component in strengthening hospital management because administrators are responsible for creating organizational environments that facilitate effective communication, quality improvement, and patient-centered care. Recent research among hospital managers in Germany identified leadership, communication, and organizational management as the main dimensions supporting organizational health literacy and improving healthcare quality (Häberle dkk., 2024).

Students' Literacy on Human Resource Management and Leadership

The questionnaire explored students' understanding of human resource management (HRM) and leadership through statements concerning workforce planning, HR management, leadership responsibilities, communication, and teamwork. Overall, respondents demonstrated positive perceptions regarding the importance of HR management in improving hospital service quality. Students also recognized that effective leadership, communication, and human resource planning are essential competencies for hospital administrators.

Table 2. Summary of literacy on human resource management and leadership

Competency Domain	Main Findings
Human resource management	Students acknowledged the importance of HR planning and workforce management.
Leadership	Students recognized leadership as an essential competency for healthcare managers.
Communication	Effective communication was perceived as crucial for teamwork and patient safety.

This finding is consistent with previous studies emphasizing that effective leadership is one of the primary determinants of successful hospital management. Healthcare leaders are expected to possess the ability to coordinate multidisciplinary teams, manage organizational change, and implement evidence-informed decision-making. Furthermore, evidence-informed leadership contributes to better organizational performance because managerial decisions are based on scientific evidence rather than intuition alone (Clark dkk., 2024).

From the perspective of hospital management education, these findings indicate that theoretical knowledge should be complemented with experiential learning, including simulations, case-based learning, internships, and leadership training. Such learning approaches enable students to translate management theories into practical decision-making competencies that will be required when managing healthcare organizations.

Students' Literacy on Hospital Marketing, Financial Management, and Digital Health

The questionnaire also evaluated students' perceptions regarding hospital marketing, financial management, and digital health. Respondents generally agreed that hospital marketing should be implemented professionally and ethically to improve institutional competitiveness and public trust. Students also perceived financial management as an essential component supporting organizational sustainability and managerial decision-making.

Table 3. Summary of literacy on hospital management competencies

Competency Domain	Main Findings
Hospital marketing	Marketing strategies were considered important for hospital competitiveness.
Financial management	Financial literacy was recognized as supporting organizational sustainability.
Digital health	Students perceived digital competency as essential for future hospital management.

The findings also demonstrate that students recognized hospital marketing, financial management, and digital health as integral components of modern healthcare management. Respondents perceived that hospital competitiveness depends not only on service quality but also on effective communication with the community, efficient financial resource allocation, and successful digital transformation.

These findings align with recent literature highlighting that digital transformation has become a strategic component of hospital marketing. The utilization of digital platforms, social media, hospital information systems, and online communication improves hospital visibility while strengthening patient engagement and institutional competitiveness (Siti Nur Ainun Nadiyah & Diansanto Prayoga, 2024).

Similarly, financial literacy is increasingly recognized as an essential competency for hospital administrators because healthcare organizations must maintain financial sustainability while delivering high-quality services. Hospital managers are expected to evaluate resource utilization and support strategic investment decisions, particularly during digital transformation initiatives. Studies on digital hospitals demonstrate that integrating financial evaluation into digital implementation contributes to organizational sustainability and long-term efficiency (Nguyen dkk., 2024).

Moreover, respondents acknowledged the importance of digital health competencies. This finding is relevant to current healthcare transformation, where electronic health records, artificial

intelligence, and digital decision-support systems increasingly assist hospital managers in planning, monitoring, and evaluating healthcare services. Artificial intelligence has been shown to improve managerial decision-making by providing timely information and supporting evidence-based planning within healthcare organizations (Alves dkk., 2024).

Students' Literacy on Health Policy, Ethics, and Readiness as Future Hospital Administrators

The final competency domain assessed students' understanding of health policy, professional ethics, and their readiness to become hospital administrators. Most respondents perceived that knowledge of health policy is essential for implementing equitable healthcare services and supporting hospital governance. Likewise, ethical principles were recognized as fundamental in managerial decision-making because ethical leadership contributes to public trust and organizational accountability.

Table 4. Summary of literacy on policy, ethics, and professional readiness

Competency Domain	Main Findings
Health policy	Students understood the importance of health policy implementation in hospitals.
Professional ethics	Ethical decision-making was considered fundamental for healthcare managers.
Professional readiness	Students reported readiness to become future hospital administrators but expected more practical learning experiences.

The final findings indicate that respondents understood the importance of health policy and professional ethics while expressing readiness to become future hospital administrators. Nevertheless, students also recognized the need for additional practical experiences to strengthen their competencies before entering professional practice.

Understanding health policy is essential because healthcare administrators are responsible for implementing national regulations, ensuring service quality, and supporting equitable healthcare access. Current research highlights that effective hospital management requires integration between healthcare policy, financing, accessibility, and organizational governance to achieve sustainable health system performance (Wang dkk., 2024).

Professional ethics also emerged as a fundamental competency. Ethical leadership promotes accountability, transparency, fairness, and patient-centered decision-making. These principles become increasingly important as hospitals adopt digital technologies and artificial intelligence, where administrators must balance technological innovation with patient privacy, data security, and ethical responsibility (Alves dkk., 2024).

Overall, the findings demonstrate that students have developed positive literacy regarding health management competencies. However, the educational program also identified opportunities to strengthen practical competencies related to leadership, hospital financial management, digital health implementation, and policy analysis. Therefore, higher education institutions should continuously integrate competency-based learning, digital health education, and experiential management training into the curriculum to produce professional hospital administrators capable of supporting Indonesia's ongoing healthcare transformation (Frisinger & Papachristou, 2024).

CONCLUSION

Based on the analysis of 42 respondents, the highest literacy was observed in leadership and human resource management, while competencies related to hospital financial management and digital health require further strengthening. The educational program on health management literacy successfully enhanced university students' understanding of the competencies required for future hospital administrators in the era of Indonesia's healthcare transformation. Based on the questionnaire results, students demonstrated positive perceptions of the importance of human resource management, leadership, hospital marketing, financial management, health policy, professional ethics, and digital health as essential competencies for managing modern healthcare organizations. These findings indicate that health management literacy programs can effectively increase students' awareness and readiness to assume managerial roles in hospitals.

The educational approach, which combined lectures, interactive discussions, and case-based learning, proved appropriate for addressing the identified need to strengthen managerial competencies among undergraduate students. This method enabled participants to better understand the strategic roles of hospital administrators and encouraged them to recognize the importance of evidence-based decision-making, effective leadership, ethical practice, and digital innovation in healthcare management.

The program provides important implications for higher education institutions by demonstrating the need to integrate competency-based health management education into the curriculum. Strengthening practical learning experiences through leadership training, hospital internships, management simulations, and digital health applications is expected to further improve students' professional readiness and support the development of competent hospital administrators capable of responding to future healthcare challenges.

Future community empowerment programs should involve larger and more diverse student populations from multiple universities and incorporate pre-test and post-test evaluations to measure

learning outcomes more objectively. In addition, collaboration with hospitals and healthcare organizations is recommended to provide experiential learning opportunities that bridge theoretical knowledge and real-world management practice, thereby contributing to the development of professional hospital administrators who can support the sustainable transformation of Indonesia's healthcare system.

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