

The Application of Knowledge Management in Decision Making by Health Workers at the “X” Main Clinic in Tenggara

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KEYWORDS

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ABSTRACT

This study discusses the application of knowledge management in decision-making of health workers at the Main "X" Clinic in Tenggara with a focus on the integration of Electronic Medical Records (RME). The research background emphasizes the importance of fast, accurate, and evidence-based clinical decisions amid limited resources and high workloads of health workers. This study uses a qualitative descriptive approach with informants including nurses, doctors, midwives, heads of clinics, and RME administrative officers. Data were collected through semi-structured interviews, observations, and documentation (SOP, RME, reports). The analysis was performed using the Miles & Huberman model. Results show that knowledge management is implemented through case discussions, briefings, training, and structured clinical documentation, while RME serves as a repository of knowledge that facilitates access to patient histories and supports the standardization of records. The integration of knowledge management and RME has been proven to strengthen clinical decision-making processes, improving speed, accuracy, and consistency of decisions, although there are still obstacles such as suboptimal utilization of RME features, variations in digital capabilities, and high workloads.

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INTRODUCTION

The standard of care provided to patients is greatly influenced by the decision-making by health professionals (Osuna, Pérez-Carrión, Pérez-Cárceles, & Machado, 2018). Health workers at the "X" Main Clinic routinely treat a wide range of clinical conditions that demand quick and precise reactions (Filip, Gheorghita Puscaselu, Anchidin-Norocel, Dimian, & Savage, 2022). Adequate knowledge according to direct experience along with verified data is needed in this condition (Wang et al., 2022). Clinical errors can result from a less efficient decision-making process and less support by organized knowledge (Zavala, Day, Plummer, & Bamford-Wade, 2018). One of the relevant strategies to deal with this problem is knowledge management (Hislop, Bosua, & Helms, 2018).

Previous research has established the importance of knowledge management in healthcare settings (Karamitri, Talias, & Bellali, 2017). Nonaka and Takeuchi's SECI model provides a fundamental framework for understanding knowledge conversion processes in organizations (Farnese, Barbieri, Chirumbolo, & Patriotta, 2019). Studies by Shahmoradi et al. (2017) demonstrated that knowledge management implementation significantly influences clinical decision-making processes in healthcare institutions. Similarly, Monteiro emphasized the role of knowledge integration from diverse data sources in enhancing clinical assessment accuracy (Monteiro, Oliveira, Elvas, & Ferreira, 2025). More recent research by Pereira (2025) highlights the growing importance of integrating digital knowledge management systems with clinical decision-making processes, while Razzaque (2021) specifically examined the impact of electronic health records on clinical decision-making in modern hospital settings.

Health service institutions can build a more directed work process through the application of systematic efforts to collect, store, distribute, and utilize knowledge within the institution (Shahmoradi, Safadari, & Jimma, 2017). This knowledge is explicit (SOPs, documents, medical records, guidelines) and tacit (intuition, experience) (Lucena & Popadiuk, 2020; Natek & Lesjak, 2021). Since Electronic Medical Records (RME) have been implemented in the Main "X" Clinic as a component of its digital services, the use of knowledge management has become increasingly relevant (Windari, Retnowati, Subinarto, & Sugiarto, 2025). Real-time recording, storage, and retrieval of patient data is facilitated by RME (Laurenxius, Ginting, & Ginting, 2025). RME supports more efficient clinical decision-making by facilitating a faster and more organized flow of information (Ding & Peng, 2022). However, there are still problems including the workload of health workers, limited resources, and gaps in the use of technology (Astale, Abebe, & Mitike, 2023). The effectiveness of clinical decisions along with the efficiency of knowledge management can be affected by these problems (Ayatollahi & Zeraatkar, 2020). At the "X" Main Clinic, understanding the application of knowledge management, the use of EMR, and the influence of this process on the decision-making of health workers is crucial so that the quality of health services can continue to be supported and made more responsive to patient needs.

The problem formulation in this study focuses on how to implement knowledge management at the Tenggara "X" Main Clinic, the use of Electronic Medical Records (RME) in supporting the storage and access of knowledge, the decision-making process of health workers, the role of knowledge management on the quality of clinical decisions, as well as supporting factors and obstacles in its implementation. In general, this study aims to find out the application of knowledge management and its contribution to the decision-making process, with the specific aim of describing knowledge management practices, explaining the use of RME, analyzing the decision-making process, identifying the role of knowledge management in improving clinical decisions, and finding supporting factors and barriers to clinical knowledge management.

Theoretically, this research is expected to enrich references regarding knowledge management practices in health care facilities (Raymond, Paré, & Maillet, 2017). Practically, the results of the study are expected to provide an overview for officers about optimizing knowledge

sharing and documentation through RME, as well as being the basis for recommendations for improving the clinic information management system.

RESEARCH METHOD

This study employed a descriptive qualitative approach to comprehensively explore the implementation of knowledge management in health worker decision-making at the "X" Main Clinic in Tenggara. The research was conducted at the "X" Main Clinic throughout 2025. Research informants included five key stakeholders directly involved in healthcare delivery: nurses, doctors, midwives, the clinic head, and RME administrative officers, selected based on their ability to provide comprehensive information relevant to the research focus.

Data collection was carried out through three primary methods: semi-structured interviews, observation, and documentation review. Semi-structured interviews were conducted using an interview guide divided into four main sections. The first section addressed knowledge management implementation, focusing on information sharing processes among staff and the conduct of briefings, case discussions, and training sessions. The second section examined RME utilization in daily services, its benefits for patient information access, and challenges in its implementation. The third section explored clinical decision-making processes, including the types of information used and RME's role in these processes. The final section identified supporting factors and barriers, encompassing leadership support, facilities and infrastructure, workload, and RME proficiency. Observations were conducted to directly examine work processes and health worker interactions, while documentation review was used to analyze relevant SOPs, RME records, and clinical reports.

Data analysis followed the Miles and Huberman model, comprising three main stages. The first stage involved data reduction, where data from interviews, observations, and documentation were selected, focused, and simplified. The second stage was data display, where organized data were presented in matrices, tables, or descriptive narratives to facilitate understanding of patterns and relationships. The third stage was conclusion drawing, where the presented findings were verified and interpreted to answer research questions and derive meaning regarding knowledge management implementation and RME's role in clinical decision-making at the "X" Main Clinic in Tenggara.

RESULTS AND DISCUSSION

Overview of Research Locations

The "X" Main Clinic in Tenggara is a primary health facility that serves the needs of residents in the city and surrounding areas. A number of additional services for routine check-ups along with standard medical care are available at this clinic. The Main Clinic "X" is now used as one of the initial referral places for residents who want to consult or seek treatment for mild to moderate health complaints, even though the size is smaller than the hospital. At the "X" Main Clinic, there are nurses, medical personnel, and administrative staff who coordinate the daily flow of services and are all covered in the organizational structure of the clinic so that it is relatively

simple but still efficient. Patients who visit this clinic fluctuate according to the needs of the community and the disease season of the year and every day the service activities continue to operate.

Access to organized information and knowledge is crucial to support the quality of services so that health workers must make quick assessments in the real world. Consultation rooms, basic procedure areas, along with support for manual and digital service recording systems are among the clinic's facilities. A number of efforts continue to be improved by the "X" Main Clinic, such as simplifying workflows, utilizing technology, and increasing the capacity of its human resources so that safe and appropriate services are guaranteed for each patient while still adhering to the relevant standards. In addition to speeding up referral procedures and coordinating patient care, Klinik Utama "X" is renowned for its solid connections with other medical facilities in the Tenggara region. Through these advantages, the "X" Main Clinic is a prime example of a healthcare organization that aims to combine internal information management with medical services to facilitate better decision-making.

Implementation of Knowledge Management in Primary Clinic "X"

Health workers (nurses, doctors, and midwives) at the Main Clinic "X" were interviewed so that the results were obtained that the clinic implemented knowledge management through various activities whose purpose was to ensure that access to accurate, relevant, and easy-to-use information could be had by health workers when making decisions. A working pattern that allows for regular formal or informal sharing of knowledge has been pursued by this clinic despite its limited facilities.

First, regular conversations, case review sessions, and daily communication during service hours are the main ways officers share knowledge. Through this exchange, healthcare workers can clarify treatment protocols, share clinical experiences, and develop a shared understanding of relevant service standards. This process is crucial to transform individual tacit knowledge into a shared understanding that can be used in specific clinical settings.

Second, as a form of explicit knowledge management, a recording and record-keeping system has begun to be implemented by clinics. Information that supports the analytical process and the determination of treatment stages can be found in patient action records, work guides, and medical records. A number of these efforts can be obtained to understand that proper documentation is a crucial component of efficient information management, even though it is not yet fully digitally connected.

Third, there are instructions for health workers to participate in competency development activities, training, and gradual knowledge improvement. Individuals can improve their clinical abilities and organizational knowledge can be enriched when learning outcomes are communicated internally. This allows new information to be internalized more evenly. There are still a number of obstacles, including limited time for officers to thoroughly examine new information, standardization requirements for digital documentation, and the use of RME features that have not been optimal despite a number of initiatives. However, Klinik Utama "X" is clearly moving

towards the development of a more focused knowledge management system, as can be seen from the implementation of RME and the growing culture of information sharing.

Utilization of Electronic Medical Records (RME)

Healthcare workers can now access patient data quickly and accurately thanks to the seamless integration of Klinik Utama's "X" RME into service workflows. Clinical data includes test results, patient identity and visit history, along with details about previous medical procedures recorded centrally in the system. Thanks to this integration, patient progress can be monitored more easily by the officer, ensuring that complete data can support all clinical decisions. Officers no longer rely on manual documents that are easily lost or tracked so that the recording or reporting process becomes more efficient through RME. A more efficient and transparent service flow can be obtained through updating information obtained during the examination. RME also makes it easier for doctors or nurses to review complaint patterns, compare data from previous visits, verify allergy history, and consider the best treatment options.

The standardization of documentation is increasingly supported by the use of RME. The possibility of writing or interpretation errors can be minimized through a uniform recording format by ensuring consistent data quality. The goal is to help when there is a change of health care provider or when the patient is being followed up. Decisions that are more responsible and organized can be made by officers based on data obtained from RME.

The use of RME still needs to be optimized regardless of all the benefits, namely so that all its functions are guaranteed to be used when needed. Then, adaptation by a number of officers is needed when systematically entering data so that the patient's condition can be accurately reflected through the recording of the data. Nonetheless, RME has been made a key element of knowledge management at the "X" Main Clinic while greatly facilitating clinical decision-making.

Health Worker Decision Making Process

At the "X" Main Clinic, decisions are made in a flow of services that require accuracy, speed, and precision. The patient's condition must be evaluated by all health workers, including doctors, nurses, or support personnel through clinical data, professional expertise, and relevant service standards. Personal capacity as well as access to accurate or comprehensive information are needed in decision-making. Information collection usually includes physical examinations, initial interviews (Anamnesis), and a review of data stored in the RME. A number of crucial foundations that officers can use when understanding the patient's overall condition include visit history, allergies, previous test results, along with previous medical records. This approach is more effective when there is an RME because the information is easily accessible. The officer will then analyze the situation through consideration of symptoms, test results, along with potential follow-up plans.

Officers usually have spontaneous discussions regarding a number of things that must be considered further, especially when they are complicated or high-risk. Its function is to broaden the viewpoint and ensure that decisions are based on the combined expertise of the clinic and

individual knowledge. According to the decision, the next service action is carried out, including the administration of medicines, additional referrals, patient education, or specific procedures. By recording each choice in the RME, consistency of information between visits is maintained. When there are changes or re-checks in the future, you can use this documentation as a tool for review. A number of obstacles are still found, including excessive workload, little in-depth study time, and demands that clinical recommendations or specific conditions for each patient be balanced, even though the decision-making process is very systematic. As a result, the use of technology, expertise, and collaboration at the "X" Main Clinic has been seen as integrated so that the decisions made are relatively correct and can be accounted for.

The Role of Knowledge Management and RME in Decision Making

At the "X" Main Clinic, knowledge management and the use of RME are crucial so that the quality of assessment from health workers can be improved. Both improve the way health workers access, share, and apply knowledge in their daily work while providing a strong foundation of information. Knowledge management frameworks govern the sharing of knowledge and clinical expertise in the workplace. The tacit knowledge of each officer can be transformed into a shared understanding through regular discussions, evaluation sessions, and informal communication.

Reducing the possibility of differences in interpretation between officers along with creating uniformity in case management can be achieved through this process. Group experiences can be used to make clinical decisions, rather than according to individual perspectives when there is a consistent pattern of knowledge exchange. Then, an organized source of explicit knowledge is RME. Detailed data on the patient's history, including previous examination findings, recurring complaints, treatment responses, and treatment procedures that have been implemented are presented by this system. Officers can more easily conduct an initial assessment, compare the patient's condition around the clock, and determine the best course of action when the information is well documented. As a result, trusted and unbiased data is offered by RME to support improved decision-making accuracy. A more efficient and complete decision-making process is created from the integration of knowledge management and RME. Explicit information stored in digital systems can complement the tacit knowledge shared from officer's interactions. As a result, officers are better prepared to study problems, recognize hazards, and rank interventions. Then, the clarity of documentation makes it easier to be accountable for decision-making. However, the consistency of the use of these two components has a significant impact on its effectiveness. There is still a need to strengthen the optimization of RME features, systematic data recording, and active knowledge sharing. Every medical decision at the "X" Main Clinic is guaranteed by a crucial pillar that includes knowledge management and RME to be systematic, precise, and at the same time focus on patient safety when this aspect is carried out properly.

Supporting Factors and Barriers

Several factors can have an impact on knowledge management and the use of RME at the "X" Main Clinic so that the process can be helped or hindered. As a result, it can result in the

implementation of the accuracy of system development from understanding according to a number of these factors.

1) Supporting Factors

a. Commitment to Health Workers

The success of knowledge management is highly dependent on the enthusiasm or participation of health workers in exchanging experiences, documenting services, and utilizing data RME. Their practice of contributing to case discussions, exchanging ideas, and regularly updating patients' medical records shows this.

b. Availability of RME as a Centralized Source of Information

The routine use of RME makes it easier to collect patient data and provide clear references to officers to evaluate clinical conditions. Information that was previously distributed in manual records is brought together through the help of this system.

c. Good Internal Coordination and Communication

The dissemination of knowledge is accelerated when doctors, nurses, and administrative staff have an open communication relationship. New knowledge and clarification of procedures can be disseminated through informal conversations during routine practice.

d. Adaptive Organizational Environment

Clinics can create an environment that encourages knowledge acquisition through improving procedures, modifying SOPs, and opening internal training areas. Opportunities to innovate are offered by these adaptations that affect the quality of decisions.

2) Obstacles

a. Utilization of RME Features That Have Not Been Maximized

The unaddressed potential of RME as a source of knowledge has resulted in a number of its features still not being utilized even though the system has been used. This can reduce access to depth of information for decision-making and reduce the quality of documentation.

b. High Workload

The time for discussion, knowledge updates, and clinical document review is reduced due to fluctuating numbers of patients and lack of resources. As a result, the knowledge management process can slow down.

c. Variations in Digital System Usability

Not all officers are equally proficient in the operation of RME, resulting in inconsistent data recording and the need for longer assistance.

d. Documentation Standardization Has Not Been Optimal

Service guidelines are still not fully implemented even though they are available. Interpretation of data on subsequent visits may be more difficult due to variations in recording and examination results.

Theoretical Discussion

As a fundamental framework for knowledge management, the development of the SECI (Socialization, Externalization, Combination, Internalization) model by Nonaka & Takeuchi shows a good correlation with the findings of this study. During the socialization stage, case meetings, routine conversations, and informal meetings at work include ways for employees to share tacit knowledge. This is due to the direct exchange of professional intuition, understanding, and clinical experience so that new knowledge can be created according to the group's experience. By formalizing tacit knowledge into an explicit form, the stage of externalization is achieved. An example is through the preparation of clinical records, updating and developing Standard Operating Procedures (SOPs), along with organized documentation stored in RME systematically. This procedure can transform previously personal knowledge into organizational resources that can be utilized, accessed, and learned by all health workers (Shahmoradi et al., 2017). Then, a variety of explicit knowledge sources are combined in the combination stage to produce a collective assessment in the case meeting, including RME data, national clinical guidelines, patient examination results, along with a summary of previous case experiences. The overall analysis process, more accurate clinical assessment, and cohesive understanding that can be used as a basis for decision-making are all made possible by the integration of diverse data sources. Healthcare workers enter the internalization stage when they begin to integrate the new knowledge, they have learned from case analysis and evaluation into their daily practice. Explicit knowledge gained from SOPs, guides, or RME data is transformed into new tacit knowledge through hands-on experience and repetitive learning.

The reflective and adaptive clinical capacity of health workers develops during this stage so that patient care standards can be improved (Pereira, 2025). In addition to these four procedures, this study also shows how knowledge management and contemporary digital systems—especially RME—can be strategically integrated so that the process of knowledge utilization and knowledge sharing in the workplace can be strengthened. Organized data storage, fast data access, and fewer errors due to information delays or duplication can be made possible through storage (Razzaque, 2021). As a result, speed, accuracy, and reliability of decision-making can be obtained by health workers. The quality of clinical decisions is positively influenced by the combination of RME technology assistance and knowledge management procedures. Reliance on personal memory is reduced, workflows become more effective, and healthcare worker coordination is improved. These results are supported by the principle of evidence-based clinical decision making which emphasizes the combination of clinical data, scientific evidence, professional experience, and patient preferences to determine optimal course of action. The overall findings of the study show that a sustainable learning ecosystem can be built through the use of SECI models supported by a strong digital infrastructure. This ecosystem improves patient safety and overall quality of care in addition to the decision-making process.

CONCLUSION

The research highlights the pivotal role of the SECI model (Socialization, Externalization, Combination, Internalization) in healthcare knowledge management, facilitating effective sharing and transformation of tacit and explicit knowledge among health workers. Tacit knowledge is shared through staff interactions and meetings, then documented as explicit knowledge in SOPs and clinical records within Electronic Medical Records (RME). Integrating clinical guidelines, experience, and RME data leads to informed decisions, while internalization reintegrates this knowledge into daily practice. The synergy of knowledge management and digital systems like RME enhances faster, more accurate, and consistent clinical decision-making, promoting evidence-based care. Future research should explore the impact of emerging digital technologies such as artificial intelligence and machine learning on optimizing the SECI process, particularly in enhancing knowledge internalization and decision-making accuracy in dynamic clinical settings. Suggestions for practice include optimizing RME as a knowledge hub, regular case discussions, continuous SOP updates, enhanced knowledge management training, and fostering a culture of organizational learning that supports transparency, innovation, and reflection.

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