

Analysis of Medical Records Management in Indonesia at Selected Public Hospitals

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ARTICLE INFO

Article history:
Received 24 January 2025
Revised 15 April 2025
Accepted 14 July 2025
Online first
Published 1 August 2025

Keywords:
Public Hospital
Records Management
Medical Records
Records Lifecycle
Information Governance

<https://doi.10.24191/jikm.v16iSI2.8300>

ABSTRACT

Medical records management in Indonesian public hospitals follows uniform guidelines with adjustments to the conditions of each of them. This study aims to analyze the comparative process of medical records management in two public hospitals of different types and classes. Using qualitative descriptive methods, data was collected through interviews, observations, and documentation, then analyzed using an interactive model. The study's findings reveal significant variations in the execution of the medical records lifecycle, stemming from variations in facility ownership, lack of human resources, and the impact of public hospital classification on management quality. Public hospitals with higher classifications tend to have more structured systems and meet standards. These findings underline the importance of improving resources, technology, and governance in medical records management to support hospital accreditation in Indonesia and the quality of health services. Recommendations for further research include a broader assessment of governance and information technology in medical records management.

INTRODUCTION

Medical records play an important role in identifying each patient's medical history. In government-run public hospitals, effective medical records management can simplify and expedite the retrieval of managed medical records. Additionally, it can safeguard those records from theft or physical, chemical, or biological damage (Oweru & Mnjama, 2016; Khairani & Harefa, 2022). The data and information contained in medical records are considered crucial and confidential. Government-run public hospitals in Indonesia continue to confront challenges in managing medical records, such as duplication, incomplete filling of medical records forms, difficult-to-read handwriting from doctors, and misfiling. In addition, there are challenges in the retrieval process, retention methods, and the lack of human resources (Khoerunisa et al.,

2022; Pohan et al., 2022; Sariyani et al., 2024; Tarigan et al., 2022). These issues suggest the necessity for a medical records management process to foster effective information governance.

The Republic of Indonesia Regulation 2010 classified public hospitals into non-specialist and specialist types. Non-specialist hospitals offer health services across all fields and diseases, while specialist hospitals focus on primary services specific to a particular science, age group, organ, or disease type. Article 4 of the regulation also divides the classification of public hospitals into Class A to Class D, based on their facilities and service capabilities. Services, human resources, facilities, and infrastructure—as well as administration and management—determine these four hospital classifications.

Class A hospitals serve as top referral hospitals due to their extensive provision of specialist and subspecialist medical services. Class C hospitals offer a more limited range of medical services, typically providing at least four basic and supporting medical specialists. The issue of managing medical records in government-managed public hospitals in Indonesia necessitates a comprehensive analysis that considers hospital classification. The government divides hospitals into non-specialist and specialist categories to streamline the services they offer. This shows that the diversity of hospitals in Indonesia can provide different services to patients (Fitria, 2019). Previous studies have demonstrated that hospital classification indicates the comprehensiveness of services and a higher number of human resources (Faturahman & Irawan, 2022; Khoerunisa et al., 2022). This aligns with research on medical records management, which highlights the need for adequate space and qualified human resources to establish effective medical records management (Fauzi et al., 2022).

Therefore, comparative research on the process of managing medical records in two types and classifications of hospitals in Indonesia is necessary to provide evidence. The significance of medical records lies in their ability to hold data and information such as patient identity, diagnosis results, actions taken, health services rendered, and patient treatment (Cyndiandari & Agustina, 2023). Conceptually, the role of medical records is similar to that of traditional records. According to Touray (2021) and Lubis et al. (2024), an organization or individual creates records as a result of its daily activities to carry out its functions. Other factors, such as outstanding service from medical personnel and well-organized hospital administration, are necessary to achieve an excellent quality of health services. An effective and efficient organization of public services for the community aims to realize general welfare. Therefore, the purpose of this study is to analyze the differences in medical records management between Class A specialist hospitals and Class C non-specialist hospitals under the management of the Republic of Indonesia government.

LITERATURE REVIEW

Medical records

Medical records are categorized as records when viewed from the documentation aspect because they include records of health service provision activities of medical personnel both in hospitals and other health service facilities (Davis-Giardina, 2014; Junadi, 2020). The Regulation of the Minister of Health of the Republic of Indonesia Number 55 of 2013, which pertains to the Implementation of medical records work, defines the management of medical records and health information services as the process of maintaining, preserving, and serving medical records, both manually and electronically.

Therefore, the management of medical records includes maintenance and protection to ensure the provision of optimal health services in hospitals (Hasmah et al., 2022; Khoerunisa et al., 2022). The main purpose of organizing medical records in hospitals is to support orderly administration to improve the quality of health services (Tasri & Tasri, 2020). Upon a patient's admission, a doctor or other health worker initiates the process of organizing medical records in the hospital by recording the patient's medical data.

Once the process of recording the patient's medical data is complete, the doctor or other health worker utilizes the organized medical records to document medical services. They then proceed with the management of these records, which involves storing and retrieving files from storage to meet the patient's treatment requests or other needs. This process is an important part of ensuring the completeness and availability of patient medical data and information.

Medical records management

Medical records management is a process that includes the systematic management of patient information to support health services, hospital administration, and decision-making (Marutha & Ngoepe, 2018; Wager et al., 2021). As part of health information governance, effective medical records management includes the stages of creation, use, storage, and disposition, known as the medical records lifecycle (Fleckenstein et al., 2018; Katuu, 2019; Saffady, 2021). Overall, medical records management requires a combination of technology, strong policies, and competent human resources to overcome challenges at each stage of the medical records lifecycle.

Medical records can contain data and information about patients during their hospital treatment, including both outpatient and inpatient care. According to Mensah and Adams (2014) and Limpoon et al. (2023), the availability of medical records when needed and the completeness of the data and information they contain are crucial factors. Effective and efficient medical records management supports the quality of service for hospitals. A service system that aims to provide data and information to facilitate management for patient services and managerial decision-making by health service providers, as well as administration at health service facilities, incorporates effective and efficient medical records management.

Therefore, it is crucial to organize medical records effectively, beginning with input, utilizing a process approach, and pursuing continuous improvement. The minimum service standards in Indonesian hospitals include providing inpatient service files within 15 minutes, providing outpatient service files within 10 minutes, ensuring 100% informed consent, and ensuring 100% completion of medical records (Wardani et al., 2018). Pohan et al. (2022) state that the Ministry of Health of the Republic of Indonesia mandates the storage of medical records for a minimum of five years after the patient's last treatment date. The purpose of this provision is to guarantee the maintenance and accessibility of patient medical data for purposes such as research, referral, or verification. This provision encompasses the processes of creation, use, storage, maintenance, and disposition of patient medical data.

Medical records lifecycle

The medical records lifecycle includes systematic stages in managing medical records. These stages include creation, use, storage, and disposition, which aim to ensure the availability, accuracy, and protection of data throughout its lifecycle (Smallwood, 2013; Fleckenstein et al., 2018). This concept is important in supporting effective health information management, hospital operational efficiency, and regulatory compliance (Kwan et al., 2022; Crossette-Thambiah, 2024). Figure 1 illustrates the medical records lifecycles.

At the creation stage, the hospital creates medical records by recording patient information, such as identity, diagnosis, and medical procedures. Implementing an electronic medical record (EMR) can overcome challenges at this stage, such as data duplication, manual recording inaccuracy, and difficulty reading the doctor's handwriting (Junadi, 2020; Pohan et al., 2022). The use stage involves the use of medical records for health services, research, and administration. The main challenges at this stage include limited data accessibility and the risk of patient privacy violations. The storage stage includes grouping and physical or electronic protection of medical records. Manual storage frequently encounters space and security limitations, whereas digital storage necessitates data leak protection and can provide effective solutions (Hasmah et al., 2022; Haryanti & Surtikanti, 2023).

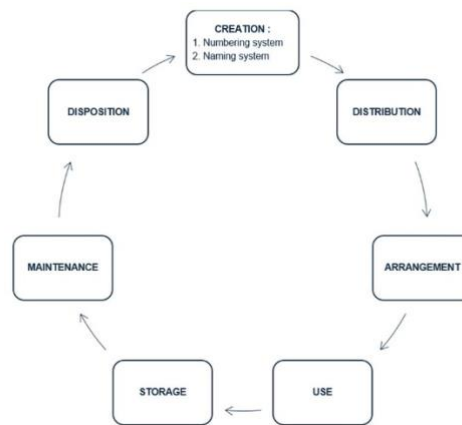


Figure 1 Medical records lifecycle

Regulations require the retention of medical records that are no longer relevant during the disposition stage. Minister of Health Regulation Number 269 of 2008 regulates the retention of medical records for five years after the patient's last visit (Kementerian Kesehatan Republik Indonesia, 2008). Challenges at this stage include compliance with regulations and data security during destruction (Faturahman & Irawan, 2022). Each stage in the medical record's lifecycle presents unique challenges that require technology-based approaches, human resource training, and supportive policies.

METHODOLOGY

This study employs qualitative research, specifically a comparative descriptive approach. The qualitative research method primarily follows an inductive approach, wherein the researcher derives meaning and understanding from the data acquired in the field (Gorman & Clayton, 2005). The researchers chose this method to compare the management of medical records in two hospitals in Indonesia: Hospital X in Central Java Province and Hospital Y in Lampung Province.

The researchers collected data through a semi-structured interview process, observation, and documentation. This study used a purposive sampling technique to select eight informants, four from each hospital, including a records officer, general administration officer, and head of medical records installation. This study analyzed the obtained data using an interactive model. Figure 2 illustrates the data processing procedure in this study.

STUDY FINDINGS AND DISCUSSIONS

Overview of Medical Records System

Hospital Y employs two methods of managing medical records. It utilizes electronic-based registration and billing systems. Hospital Y utilizes the electronic records management system named SIMRS. Meanwhile, Hospital Y continues to use manual or conventional methods for administration and medical sheets. Thus, manual medical records and data in SIMRS support each other. Hospital Y also undertakes this effort to meet the Indonesian hospital accreditation standards. Figure 3 illustrates the appearance of Hospital Y's SIMRS.

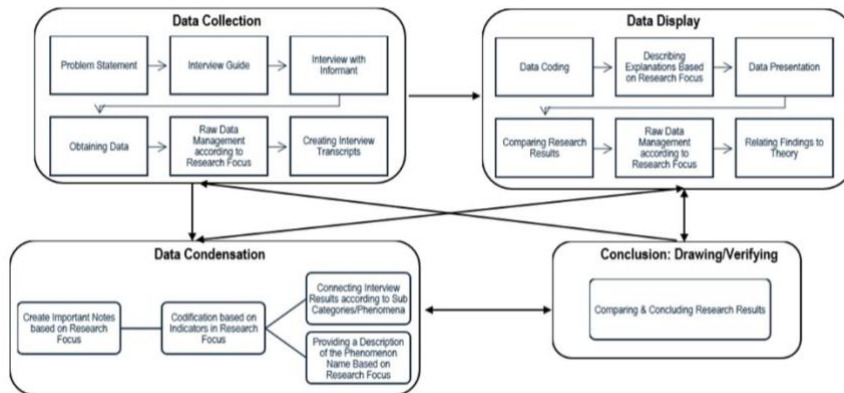


Figure 2 Data analysis process

Figure 3 The SIMRS at Hospital Y

The medical records installation at Hospital X implements two types of medical records services. An electronic records management system, known as SIMETRIS, integrates with the hospital management information system to form the basis of the registration and billing systems. Meanwhile, Hospital X continues to use manual methods for administration and medical sheets. This is because Hospital X is still in the development stage of SIMETRIS, aiming to adapt to manual display requirements and meet the criteria for Indonesian hospital accreditation standards. Figure 4 displays the SIMETRIS of Hospital X.

Figure 4 The SIMETRIS at Hospital X

In 2017, the Indonesian Hospital Accreditation Commission (KARS) introduced national standards. The national accreditation standards include patient safety targets, patient-focused service, hospital management, and national programs. The medical records information management standards, specifically coded by MIRM.1 to MIRM.15, house the standards for the medical records service section (Komisi Akreditasi Rumah Sakit, 2017).

Therefore, the Ministry of Health of the Republic of Indonesia, in 2011 and 2013, mandated the organization of a hospital management information system for all public hospitals (Kementerian Kesehatan Republik Indonesia, 2011 & 2013). The Minister of Health of the Republic of Indonesia 2011 regulated the hospital information management system. The regulation also defines the hospital management information system as an information communication technology system that processes and integrates the entire flow of hospital services, forming a network of coordination, reporting, and administrative procedures to obtain accurate and precise information. This system is a component of the health information system.

Medical records management

Creation

The administrative or counter section at Hospital X and Hospital Y creates medical records, including the stages of making, receiving, registering, and classifying them. Both hospitals adhere to the Minister of Health of the Republic of Indonesia's Regulation 2008, Chapter II, Article 3, Point 1, which mandates the creation of clear and complete medical records in conventional or electronic format.

The process of creating medical records at the Medical Records Installation of Hospital X and Hospital Y follows the concept of the records lifecycle, despite encountering several obstacles such as duplication and incomplete filling of medical records forms. The initial recording of medical records follows a conventional pattern, utilizing paper media such as forms or assessments, each uniquely colored for each clinic. After compiling conventional medical records, the officer in Hospital X will input them into the SIMETRIS. This differs from Hospital Y, which conducts a file screening stage to ascertain the status of new or existing patients, as well as those utilizing health insurance and those who do not. Hospital Y's Medical Records Installation employs a unit numbering system to assign patient medical record numbers, yet certain aspects of the relevant standard operating procedures remain incompletely implemented.

Distribution

The distribution process of medical records differs between both hospitals. Hospital X follows a more systematic approach; the presence of tracers and the integration of medical records into the SIMETRIS demonstrate Hospital X's compliance with the Minister of Health of the Republic of Indonesia's Regulation 2008. Hospital Y distributes medical records differently, lacking a tracer and relying on manual storage racks and label numbering. This suggests that Hospital Y lacks a tracer to guide the search for medical records and to mark the removal of the patient's medical records from the storage rack or roll o pack.

Arrangement

Hospital Y arranges medical records by examining the completeness of patient files both before and after the patient receives healthcare services. Only services for outpatients are subject to the arrangement of files at Hospital Y. The emergency room registration section handles the tasks for inpatients and emergency rooms. The process of arranging outpatient, inpatient, and emergency room patient files is carried out separately. The arrangement of records is based on the numbering method in each medical record.

Use

The use of medical records refers to the process of utilizing them for their intended purpose, which includes all information on drug services and actions received by patients during their hospital stay. Referring to Article 6 of the Regulation of the Minister of Health of the Republic of Indonesia 2008

stipulates that doctors or certain health workers bear the responsibility for medical records. Hospital X uses medical records for various purposes, including health insurance, research, and health services. Hospital Y utilizes medical records differently, employing them for information gathering, decision-making, policy formulation, planning, control, and oversight. When external parties use medical records, they must request approval from the head of the medical records installation, stating a clear and appropriate purpose. This aligns with the Regulation by the Minister of Health of the Republic of Indonesia 2008, specifically Article 10.

This study revealed a significant difference in the borrowing process of medical records between both hospitals. Hospital Y only lent files in the form of resume sheets as copies to external parties, while the original files were only intended for internal hospital parties, complete with full recordings as evidence to supervise the use of medical records. Meanwhile, at Hospital X, borrowing files can be done by using an official application letter, while for health services it is sufficient to print a tracer on the SIMETRIS. The standard operating procedure prohibits citing the contents of files containing sensitive data and information, such as examination results and patient treatment history, as it violates the confidentiality of the doctor-patient relationship. Despite adhering to the same regulations, Hospital X and Hospital Y differ in their borrowing procedures, purposes of use, and types of files borrowed when using medical records.

Storage

Storage, also known as filling, involves arranging and storing medical records, which are valuable hospital assets with legal value and confidentiality. Hospitals are responsible for maintaining their physical form and contents. Hospital X and Hospital Y follow the same process of storing medical records according to a centralized storage system. This involves gathering medical records into a single folder within a designated filing room and organizing them using a unit numbering system. The shelves organize the storage process according to the type of medical records.

Disposition

Disposition is the stage of selecting and destroying records. Under Articles 2 and 3 of the Regulation of the Minister of Health of the Republic of Indonesia 2008, the hospital carries out the selection of medical records by setting a five-year time limit for the retention of medical records, except for summaries and approvals for medical actions.

This study found that the process of disposition of medical records adhered to the regulation, although there were variations in the calculation of the five-year limit and other aspects. Hospital X sets a minimum storage time limit of five years from the last date the patient received treatment or since the patient's death but stores the summary of the operation for an additional ten years before destroying it. Meanwhile, Hospital Y has reduced the method of sorting patient files that have not been visited in the last five years and is only managing medical records up to the disposition stage. Fund allocation restrictions have prevented Hospital Y from completing the stages of assessing the use value up to retention.

Hospital Y is also required to manage medical records following the standards set by the National Archives of the Republic of Indonesia or ANRI, ensuring they are not damaged, and adhering to the retention schedule. This condition can be concluded that the disposition of medical records in both hospitals follows government regulations, but there are differences in their implementation, especially in terms of calculating the storage time limit and the completeness of the disposition stages. Table 1 presents the findings from the medical records lifecycle process in both hospitals.

Table 1 Comparison of medical records lifecycle

Indicators	Hospital X	Hospital Y
Creation		
Conventional Method	V	V
Electronic Method	V	V
Unit Numbering System	V	V
Distribution		
Use of Tracer	V	--
Arrangement		
Numbering Method	V	V
Use		
Loan Sheet	V	V
Loan Notes	V	V
Storage		
Centralized System	V	V
Space Separation	V	--
Fire Extinguisher	V	V
Smoke Detector	V	--
Air Conditioner	V	V
Maintenance		
Assembling	V	V
Indexing	V	--
Filling	V	--
Statistics and Reports	V	--
Disposition		
Disposition (five years)	V	V
Storage in Records Center	V	--
Records Use Assessment	V	--
Retention	V	--

The medical records management in both hospitals reveals significant similarities and differences in the implementation of procedures and systems. Although both follow the same regulation, in practice there are variations influenced by internal factors at each hospital, such as human resource capacity, technology, governance, facilities, and infrastructure. In general, Hospital X has a more structured medical records management system that follows standards. The use of SIMETRIS, the presence of tracers, and more systematic distribution procedures demonstrate this.

However, both hospitals still face several obstacles that require fixing, including data duplication, incomplete form filling, and suboptimal assessment of record value. Specifically, the standard for information management and medical records, is coded by MIRM.1 to MIRM.15. These standards form part of the national standards for hospital accreditation in Indonesia, particularly in the areas of records creation and storage. However, several areas require improvement, including access security, evaluating the utility value of records, and establishing procedures for borrowing medical records. Hospital X, with better systematization, has met the standards. In the meantime, Hospital Y must significantly enhance the security and completeness of medical records data to attain full compliance, particularly with MIRM.14, which outlines the confidentiality and privacy of information.

LIMITATIONS AND RECOMMENDATIONS

The limitations of this study lie mainly in the narrow sample coverage, which only involved two types and classes of public hospitals. This limits the generalizability of the research findings to the entire hospital system in Indonesia, which is diverse in terms of geographical location, size, ownership, and facilities. In addition, the qualitative descriptive research method without quantitative data support may reduce the strength of the analysis and validity of the findings because there are no statistical measurements to support the conclusions. The lack of human resources and facilities mentioned may require a more in-depth analysis of the root causes and appropriate solutions.

For further research, it is recommended to involve a wider and more diverse sample, including hospitals from various regions, classes, and types of ownership including private and government. A mixed-methods approach can provide a more comprehensive picture and stronger validation of the research findings. Research should also explore the influence of technological developments, such as the implementation of electronic medical records systems, on the efficiency and quality of medical records management. In addition, it is important to consider the role of government policies and regulations in medical records management and how these factors affect practices in the field. Research can focus on strategies for improving human resources through training and competency development, as well as providing adequate facilities and infrastructure. Longitudinal studies can also be conducted to monitor changes and developments in medical records management practices over time so that they can provide more relevant and applicable recommendations for improving the quality of health services in Indonesia.

CONCLUSION

This study demonstrates that the classification and capacity of each hospital significantly influence medical records management in public hospitals in Indonesia. Public hospitals with a higher classification, such as class A, show more structured management, following the concept of the medical records lifecycle. Factors such as the availability of adequate human resources, supporting facilities, and the use of information technology play an important role in improving the efficiency and quality of medical records management. In contrast, hospitals with a lower classification, such as class C, face a lack of facilities, human resources, and technology implementation, which impacts the quality of management. This difference highlights the need to strengthen human resources through training, investment in information technology such as the electronic medical records system, and the development of governance that supports medical records management. This study contributes to the development of information governance in the health sector while encouraging improvements in hospital service standards in Indonesia.

ACKNOWLEDGEMENT

The authors would like to thank to the Universiti Teknologi MARA, Puncak Perdana Campus of UiTM Selangor Branch for research support and opportunities.

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