



ANALYSIS OF THE COMPLETENESS LEVEL OF EMERGENCY DEPARTMENT MEDICAL RECORDS FOR HYPERTENSIVE PATIENTS AT WANGAYA REGIONAL GENERAL HOSPITAL, DENPASAR

ANALISIS TINGKAT KELENGKAPAN REKAM MEDIS PASIEN GAWAT DARURAT PADA HIPERTENSI DI RSUD WANGAYA DENPASAR

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Abstract

A complete medical record is a crucial part of healthcare delivery, serving as a communication tool between healthcare professionals, legal evidence, and the basis for evaluating and planning hospital services. The completeness of medical record documentation, particularly in the emergency department, is an indicator of service quality that requires serious attention. The purpose of this study was to determine the percentage of completeness of identification, authentication, recording, and important reporting in the medical records of emergency patients diagnosed with hypertension at Wangaya Regional Hospital, Denpasar City. This study used a quantitative descriptive method. The population was all 330 medical records of emergency patients diagnosed with hypertension. A sample of 199 files was drawn using a probability sampling technique using a simple random sampling approach. The results showed that completeness of identification reached 100%, authentication reached 176 documents (88.44%), recording reached 174 documents (84.44%), and reporting reached 159 documents (79.90%). It can be concluded that identification had the highest level of completeness, while reporting had the lowest level of completeness. Researchers suggest that hospitals increase outreach and supervision of medical staff, especially in emergency installations, regarding the importance of completeness and timeliness of filling out medical record documents.

Keywords: completeness analysis, emergency care for hypertension, medical records

1. INTRODUCTION

Every hospital is expected to provide optimal support services. One such support service that requires special attention is the medical record. A medical record is a document containing information regarding patient identity, examination results, treatment, procedures, and other



services provided by the healthcare facility. The purpose of creating a medical record is to support orderly administration and improve the quality of healthcare services in the hospital (Amran et al., 2022) .

The medical records unit is a hospital facility that supports the medical service process. Its primary duties include collecting and managing medical record data. Its operational system includes daily census, assembly, coding , indexing , and analysis. All of these processes are focused on supporting medical services and providing relevant information to both internal and external parties (Adriani, 2021).

The completeness of medical records plays a crucial role because it directly impacts the quality of medical care provided by healthcare workers and the overall quality of hospital services. According to Health & Indonesia (2022), medical records must be 100% complete. However, in practice, challenges often arise, such as incomplete data entry, unclear doctor's writing regarding diagnoses, omitted examiner identities, and difficult-to-read writing.

This situation can have negative impacts on both the hospital's internal facilities and external parties. Incomplete medical records can impact information processing, which serves as the basis for reports used in the development of various hospital strategic plans. Furthermore, this data is crucial for management decision-making, particularly in evaluating services provided. Evaluation results are expected to improve the quality of hospital services going forward (Wirajaya & Nuraini, 2019) .

Research conducted at the DR. Ramelan Hospital in Surabaya shows that incomplete medical record documentation remains a significant problem. In terms of patient identification, the highest rate of incompleteness was recorded at 45%, particularly in items related to rank or class. For critical report reviews, the highest rate of incompleteness reached 55%, particularly in items related to length of stay. Meanwhile, in terms of authentication, incompleteness was most often found in items such as patient date, time of entry, full name of patient or family member, and signature of patient or family member. In terms of proper documentation reviews, the highest rate of incompleteness, at 20%, occurred in unclear and difficult-to-read recording items (Arimbi et al., 2021).

Research at Bina Sehat Bandung General Hospital found 100% completeness of identification, 62.96% completeness of important reports, 16.05% completeness of authentication and 72.84% completeness of correct recording, indicating that the completeness of filling out medical records from these four aspects is still high. It can be seen that filling out inpatient medical records in March 2021 at Bina Sehat Bandung General Hospital still has not reached 100% due to limited time for doctors to fill out medical records and often missing some forms so they are not filled in (Gumilar & Herfiyanti, 2021) .

Research conducted by Karma and Wirajaya at Dharma Kerti Hospital in Tabanan found that the majority of inpatient medical records were incomplete, with 85.78% incomplete, while only 14.2% were complete. This incompleteness included identification, report recording, and authentication (Wirajaya & Nuraini, 2019) .

Meanwhile, research at Wangaya Regional Hospital showed that medical record completeness reached 70%, with 30% incomplete. This incompleteness was related to incomplete examination dates, treatment, doctor's signatures, and incomplete forms. Inpatient staff, particularly those handling obstetric cases, frequently made errors in filling out patient identification data on forms, such as incorrectly filling in patient details and incomplete names, resulting in a backlog of medical record documents that required revision (Adriani, 2021).



Based on the results of a preliminary study on January 1 - March 17, 2025 at Wangaya Denpasar Regional Hospital with a total of 199 medical record files of emergency patients with hypertension. The results showed a completeness rate of 88.945% of medical records, while the incomplete rate was 11.06%. This was due to limited time for human resources to attend to other patients, resulting in incomplete medical records. Based on this issue, the researchers were interested in conducting this study.

2. RESEARCH METHOD

This study uses a quantitative method with a descriptive approach. The purpose of this quantitative study is to gain a deeper understanding of the Analysis of the completeness of emergency medical records for hypertension at Wangaya Regional Hospital, Denpasar City. The population in this study was 330 medical record files and a sample of 199 emergency medical record files for hypertension. The sampling technique used was *probability* sampling, with samples selected randomly from the population. This sampling technique is included in the category of *simple random sampling*, and the following is how the researcher used it. Before taking samples from the population, each member of the population was given a code that included the medical record number along with the date and month. Then, the papers were cut into small pieces and placed into a container. After that, samples were taken randomly from the container. After one small paper was taken, it became the research sample. The sample number that had been taken was then put back into a special container, so that it was not selected again for sampling.

The data sources used in this study were primary data, namely data or facts obtained directly from patient medical records. This data was collected by examining the completeness of hypertension-related medical records at Wangaya Regional Hospital, Denpasar City. Secondary data on hypertension provides a comprehensive overview of the prevalence, risk factors, impact, and management of hypertension in the emergency department.

The data collection method used in this study was observation. Data were collected by directly observing the research subjects, namely by sampling medical records of emergency care patients with hypertension. Research instruments refer to the tools used to measure the natural or social phenomena being observed or studied (Thabroni, 2021).

3. RESULTS AND DISCUSSION

a. Completeness of emergency medical record identification at Wangaya Denpasar Regional Hospital

Based on the results of research from January 1 to March 17, 2025, data from patients who had been discharged was collected. Regarding the completeness of the emergency medical record documents for hypertension at Wangaya Regional Hospital, Denpasar City, incompleteness was found. A quantitative analysis of the completeness of the emergency medical record documents for hypertension was carried out. as follows:

**Table 1. Results of Identification Completeness Analysis**

No	Completeness Analysis	Amount				Total	
	Identification	Complete	%	Incomplete	%	f	%
1.		199	100	0	0	199	100

Based on the table above, information was obtained that of the 199 used as research samples, in all identifications, information was obtained that 199 data were complete with a percentage of 100%, and 0 data were incomplete with a percentage of 0%.

b. Completeness of medical record authentication in emergency services at Wangaya Denpasar Regional Hospital.

Table 2. Results of Authentication Completeness Analysis

No	Completeness Analysis	Amount				Total	
	Authentication	Complete	%	Incomplete	%	f	%
1.		176	88.44	23	11.56	199	100

Based on the results of the table above, authentication data on emergency medical record documents for hypertension at Wangaya Regional Hospital, Denpasar City, was analyzed by examining the completeness and incompleteness of authentication in emergency medical record documents for hypertension. From the results of the table above, it can be seen that the highest completeness is found in the Authentication analysis component with a total of 176 (88.39%) and incompleteness is 23 (11.56%).

c. Completeness of important reports in the emergency service medical records at Wangaya Regional Hospital.

Table 3. Results of the Analysis of Completeness of Recording

No	Completeness Analysis	Amount				Total	
	Recording	Complete	%	Incomplete	%	f	%
1.		174	87.44	25	12.56	199	100

Based on the results of the table above, the recording data in the emergency medical record document for hypertension at Wangaya Regional Hospital, Denpasar City, was analyzed by examining the completeness and incompleteness of the recording in the emergency medical record document for hypertension. Based on the results of the table above, it can be seen that the highest completeness is found in the Word Error Correction analysis component, namely 174 (87.44%), and the highest incompleteness is 25 (12.56%).



d. Completeness of medical record recording in emergency services at Wangaya Denpasar Regional Hospital.

Table 4. Results of the Analysis of Completeness of Reporting

No	Completeness Analysis	Amount				Total	
	Reporting	Complete	%	Incomplete	%	f	%
1.		156	79.90	40	20.10	199	100

Based on the results of the table above, reporting data in emergency medical records for hypertension at Wangaya Regional Hospital, Denpasar City, was analyzed by examining the completeness and incompleteness of important reports in emergency medical records for hypertension. From the results of table 4.4, it can be seen that the highest completeness was 159 (79.90%) and the highest incompleteness was 40 (20.10%).

Discussion

a. Analysis of Completeness of Identification Filling

Based on the results of a study on the completeness of identification data in the medical records of emergency patients with hypertension at Wangaya Regional Hospital in Denpasar City, a total of 199 data points were filled in completely, achieving a completeness rate of 100%. This finding aligns with a study conducted by Devhy and Widana (2019), which showed that the completeness rate for patient identification reached 100%, doctor identification at 96.8%, and nurse identification at 85.3%. The purpose of completing this identification data is to ensure the clarity of the owner of the medical record document.

Patient identification data in medical records is part of the administrative information that serves as demographic data. Incomplete information can hinder its use as a basis for statistics, research, and service planning in hospitals or healthcare facilities (Rizkika, 2020). Based on researchers' observations, the patient identification component at Wangaya Regional Hospital met the minimum service standards, namely 100%. This is because staff are meticulous in entering patient data, and identity documents such as KTP (National ID Card) and BPJS (Social Security) are generally available and easily read.

However, obstacles still arise when patients do not carry or do not know their identity data, which can ultimately hinder communication between staff and patients. This finding contrasts with the results of a literature review conducted by Murtiningtyas and Dhamanti (2022), which showed that although most hospitals in Indonesia have regulations regarding patient identification, their implementation in the field is still suboptimal. In the study, only 1 in 9 hospitals met all elements of the patient identification accreditation standard. Most healthcare workers still identify patients by using only one identifier, such as a name, without verifying with two identifiers as required by procedure, potentially posing a risk to patient safety.

However, this finding is also supported by the research of Hayati et al. (2025), who explained that electronic medical records (EMD) systems are very helpful in ensuring complete patient identification. The EMD system includes a " *mandatory field* " feature that prevents users from proceeding to the next step until the field is filled in. This makes the identification process more systematic, accurate, and error-free, even during busy service times.

Furthermore, Hayati et al. also emphasized that healthcare workers' *perceived usefulness* and *attitude toward using* EMR are highly correlated with the completeness of patient data



entry. When the system is perceived as useful and easy to use, staff tend to be more disciplined in entering data correctly and completely. Therefore, proper implementation of EMR accompanied by technical training can support hospitals in maintaining 100% identification completeness.

b. Analysis of Completeness of Authentication Filling

Based on the results of a study of 199 medical record documents of emergency patients diagnosed with hypertension at Wangaya Regional Hospital, Denpasar City, it was found that 176 documents were completely filled out in the authentication section, with a percentage of 88.44%, while 23 documents were incomplete with a percentage of 11.56%. This finding is in line with research by Aryanti (2014), which also showed that the level of completeness of authentication in medical record documents in several hospitals still does not meet ideal standards. Authentication is formal legal evidence of health care actions carried out, and is the responsibility of medical personnel such as doctors and nurses to fill out, sign, and affix valid identification to medical records.

These results are also supported by research by Swari et al. (2019), which asserts that authentication can take the form of a medical professional's full name, signature, seal, or initials, all of which must be identifiable in medical record documents. However, several studies have shown inconsistencies in its implementation. Arifin and Purwanti (2020) revealed that only 81% of doctor authentications and 73% of nurse authentications were deemed complete, influenced by factors such as time constraints, staff negligence, and a lack of internal oversight. Meanwhile, according to Rahmawati et al. (2017), low levels of staff awareness of the importance of authentication legality contribute to suboptimal completion. However, according to Effendy (2015), authentication is a crucial part of the validity of medical records and concerns legal aspects and the professional accountability of healthcare professionals.

Based on direct observations by researchers, the completeness of authentication at Wangaya Regional Hospital in Denpasar City does not fully meet the Minimum Service Standards (SPM) of 100%. Several medical record documents were found to lack the full names or stamps of doctors and nurses. This omission can create obstacles in the process of retrieval of medical information, particularly in terms of professional accountability in the event of future clinical or legal issues. Therefore, increased accuracy and ongoing oversight of authentication requirements are needed to ensure that all healthcare workers comply with applicable regulations.

In a study by Situmorang et al. (2025), it was found that the successful implementation of an electronic medical records system significantly correlated with improved service quality, including in the authentication aspect. This system allows for automatic identification of staff through personal login accounts linked to recording activities, simplifying the tracking and validation process. This minimizes the possibility of authentication gaps because the system directly records who accesses and inputs data.

However, even with the system in place, Situmorang et al. (2025) noted that low officer compliance with authentication remains a challenge without training and internal oversight. This is reinforced by Hayati et al. (2025), who stated that while RME technology significantly supports the documentation process, user attitudes toward the technology (*attitude toward using*) are crucial. Officers unfamiliar with the system tend to delay or even skip authentication, especially in high-pressure service areas such as the emergency room.

c. Analysis of Completeness of Recording



Based on the analysis of 199 medical record documents for emergency patients diagnosed with hypertension at Wangaya Regional Hospital in Denpasar City, it was found that 174 documents were declared complete in the recording section, with a percentage of 87.44%, and 25 documents or 12.56% were found to be incomplete. This finding indicates that not all recordings were carried out correctly and consistently. This result is in line with research conducted by Wirajaya and Nuraini (2019), which showed that of all recording components, only 3.90% of error corrections were recorded correctly according to procedure, while the other 96.10% were done incorrectly.

According to Swari et al.'s (2019) theory, recording in medical records must be done carefully and according to procedure, considering that medical records are legal documents that form the basis of medical services and accountability. Errors in recording should not be erased or overwritten, but should be crossed out with a single line so that they remain legible, accompanied by an error statement, and initialed by the relevant officer. Another study by Prasetyo and Sulistyowati (2020) also found that incomplete or non-procedural recording often occurs in nursing assessments and nursing actions, caused by time constraints, high workloads, and low compliance with SOPs.

Based on the researchers' observations, the completeness of the recording components at Wangaya Regional Hospital does not fully meet the Minimum Service Standards (SPM) of 100%. Several documents were found to be incomplete or even blank, with sections for assessments and nursing actions. This condition can seriously impact the validity of patient medical data and complicate the process of tracking clinical information later. Furthermore, inaccurate recording risks causing errors in data entry during storage or when the information is reused by other healthcare workers, thus increasing the potential for medical errors. Therefore, improvements are needed through training, socialization of SOPs, and routine monitoring of the medical record recording process.

Research by Hayati et al. (2025) shows that medical recording conducted through the EMR system has advantages over manual recording, primarily due to its standardized format and automatic notification feature. This feature encourages staff to complete all required sections before saving the data. This, of course, has a positive impact on the completeness of recording, which is often overlooked due to time constraints or high workloads, particularly in emergency departments.

Meanwhile, Situmorang et al. (2025) stated that the EMR system can improve service effectiveness and medical staff productivity, but still requires adequate technical support. In the case of the RSIA (Institute of Women and Children), it was found that even though an electronic system was available, recording was not always complete if users were unfamiliar with it or lacked ongoing training. Therefore, it is important for hospitals to not only provide a good system but also to build a work culture that supports disciplined and timely recording.

d. Analysis of Completeness of Reporting

Based on the results of a study of 199 medical record documents of emergency patients diagnosed with hypertension at Wangaya Regional Hospital, Denpasar City, it was found that 159 documents were completely filled out in the important reporting section with a percentage of 79.90%, while 40 documents or 20.10% were declared incomplete (Swari et al., 2019). Reporting in medical records includes important information that serves to monitor the patient's disease course and assess the effectiveness of medical interventions that have been carried out.

According to Riyantika (2018), mandatory reporting components included in inpatient medical records include the primary diagnosis, the patient's condition upon discharge, the dates



of admission and discharge, the type and report of surgery, and informed consent. Completeness of this reporting is crucial because it documents all actions taken by doctors and nurses during the care process. This information is expected to be presented in a complete, accurate, and reliable manner, serving as a basis for medical decision-making and service evaluation. Incomplete reporting data not only impacts the quality of medical records but can also lead to legal and administrative issues in the event of a lawsuit or medical audit.

Based on the researchers' observations, the completeness of the important reporting components at Wangaya Regional Hospital in Denpasar City did not meet the minimum service standard of 100%. In the medical action section of several documents, it was found that the column was not filled in and was not provided with additional information such as a dash (-) or the explanation "not available." This omission of information gives the impression that the data was not recorded, not because the action was not performed. Therefore, it is important for medical personnel to provide clear information even if no action was taken, to ensure the completeness, clarity, and validity of the information in the patient's medical record.

Research by Situmorang et al. (2025) revealed that after implementing the EMR system, the quality of medical documentation significantly improved. This was due to the ease of compiling medical reports using a standardized format available within the system, minimizing gaps or omissions in reporting. The system also provides a history of medical procedures and evaluations, facilitating clinical tracking and follow-up for healthcare professionals.

In line with this, Hayati et al. (2025) emphasized that successful reporting is highly dependent on actual system use and the facilitating conditions available in the work environment. If the system is running optimally and users find it easy to use, reporting will be more consistent and complete. However, without training, supervision, and technical support, data gaps like those found in this study can still occur, even with the technology available.

4. CONCLUSION

The completeness of filling in the identification of medical record documents from all components was 199 (100%). The completeness of filling in the authentication was found in the Service analysis component with a total of 176 (88.44%) and incompleteness was 23 (11.56%). The completeness of filling in the recording was found in the analysis component with 174 (87.44%) and incompleteness was 25 (12.56%). The highest completeness of filling in the reporting was found in the analysis component with 159 (79.90%) and incompleteness was 40 (20.10%). For future researchers, it is hoped that they can conduct further research on the analysis of the completeness of medical record documents, especially in the emergency care section, by paying attention to what indicators are incomplete and the factors that influence incompleteness in emergency care medical records.

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