

Analysis of the Inpatient Medical Records Management System at Sandi Karsa Hospital Makassar

Try Ganjar Wati^{1*}, Amran Razak², Darmawansyah², Muhammad Yusran Amir², Rahmatiah Yunus³, Atjo Wahyu⁴, Anwar Mallongi⁵

Try Ganjar Wati^{1*}, Amran Razak², Darmawansyah², Muhammad Yusran Amir², Rahmatiah Yunus³, Atjo Wahyu⁴, Anwar Mallongi⁵

¹Master's Student of Health Administration and Policy, Faculty of Public Health, Hasanuddin University, INDONESIA.

²Departement of Health Administration and Policy, Faculty of Public Health, Hasanuddin University, INDONESIA.

³Departement of Economics, Economics and Business, Hasanuddin University, INDONESIA.

⁴Departement of Occupational Safety and Health, Faculty of Public Health, Hasanuddin University, INDONESIA.

⁵Departement of Environmental Health, Faculty of Public Health, Hasanuddin University, INDONESIA.

Correspondence

Try Ganjar Wati

Makassar, Sulawesi Selatan, INDONESIA.

Tel. 085242848901

E-mail: tryganjarwati@gmail.com

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ABSTRACT

Objectives: Management of medical records at Sandi Karsa Hospital Makassar is still lacking in the process of assembling, reporting, and filing. This study aims to analyze the inpatient medical record management system at Sandi Karsa Hospital, Makassar. **Methods:** The type of research used in this research is qualitative research and data collection using interviews, observation, and documentation with key informants and supporting informants using purposive sampling techniques. **Result:** There is a shortage of medical records officers, and they have not received training. There are fewer computers available, SIMRS is only integrated with patient registration, and the management room is combined with the filing room. The assembly process has not been carried out in the last few months, reporting has been delayed, and there is a backlog of files. Implementation of management SOPs has not been optimal, and socialization activities have not been carried out. Completeness and returns are not up to standard. Medical record quality indicators are low, and there are no feedback activities. **Conclusion:** Lack of staff they have never participated in training and socialization regarding SOPs. There is a lack of facilities such as computers, the medical record room has lots of files, SIMRS is not yet integrated with medical record management, and there are delays in returns and incomplete filling out of medical record files. The hospital can provide outreach and hold regularly scheduled meetings to evaluate or assess officers' performance managing medical records.

Keywords: Management, Medical Records, Hospital, System, Inpatient.

INTRODUCTION

Medical records are documents that contain important patient notes and data relating to identity, results of anamnesis and physical examination, and records of all activities of health workers regarding patients who have been examined and received health services at health facilities from time to time, either through treatment outpatient or inpatient¹. Hospital targets that were not achieved were in the assembling and filing sections. According to², there is complexity and lack of data and integration of medical records in the filing section of hospital surgical patients' medical records. According to³, There is poor compliance with record keeping in South African dental hospitals. This is not in line with research conducted by⁴, which states that hospital monitoring strengthens the relationship between absorption capacity and the implementation of a health recording system, which results in better operational cost performance. Medical records in the healthcare industry can be classified as patient notes, medical images, and other medical documents⁵.

Based on the explanation from the results of a preliminary study at Sandi Karsa Hospital, the factor causing the lack of medical record management is unqualified human resources⁶. These results are in line with research results⁷ regarding the need for additional trained human resources in medical record installations based on workload analysis research at the Jatiroto Community Health Center. Trained human resources can be obtained

through education and training in the field of medical records⁸. Medical record training is mainly about Hospital Management Information Systems (SIMRS)⁹. The results align with the study conducted by¹⁰, which highlights the necessity of providing tailored training on medical records and ensuring the highest quality of officer education.

Medical record management is the activity of caring for and maintaining medical and health records in traditional (paper-based) and electronic form in doctor's clinics, hospitals, insurance companies, health departments, and other facilities that maintain and serve health records¹¹. Management can analyze and generate knowledge for service management¹². Implementing good medical record management depends on accurate information, tracking patients, their care, and the results of that care¹³. Research results from¹⁴ show that the majority of respondents did not comply with writing medical records 107 respondents (55.7%).

One management approach that can be used to solve problems is a systems approach, where the system is conceptualized, developed, and validated¹⁵, which views management as input, process, and output¹⁶ as well as benefits and impacts (outcomes), namely direct or indirect effects or consequences resulting from achieving the goals of a program in the form of benefits and impacts of the program and feedback. Feedback can take the form of accepting or rejecting positive and negative responses¹⁷. The advantage of the systems approach is that the input used, activities carried out, and goals or targets in managing medical records can be clearly detailed. Based on this, the

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researchers proposed the title "Analysis of the Inpatient Medical Records Management System at Sandi Karsa Hospital Makassar".

METHODS

The method of this study was qualitative research. There were 9 informants. Information was extracted through in-depth interviews, observations, and document reviews. Data analysis uses data reduction analysis methods, data display (data presentation), and conclusion drawing (verification). Triangulation in this research is data source triangulation and technical triangulation.

RESULTS AND DISCUSSION

Results

This research aims to obtain further information regarding the inpatient medical record management system at Sandi Karsa Hospital, Makassar.

1. Input

a) Human Resources

The lack of officers causes their performance in carrying out their work to be less than optimal, resulting in duplicate tasks. Officer interviews proved this. As follows:

"Because there are not enough officers, I gave them double duty. All management activities are carried out"(Responses 1, 2024)

Another respondent's statement supports this:

"As I am in the archiving department, I continue to work on assembling as usual. There is no clear main task, so we do everything" (Responses 3, 2024)

The medical records officer's final education background is a Diploma 3 (D3) in medical records. The following interview results also support this:

"Yes. D3 Medical Records graduate." (Respondents 1,2,3 and 4, 2024)

Officers have never attended the training. The results of interviews prove this. As follows:

"There is no training for medical records. Still needs to be done. There have yet to be instructions from the hospital. However, we will try to apply later." (Respondents 7, 2024)

b) Money (Operational)

Operations are costs incurred to support medical record management activities.

"There are requirements in the medical records room. Such as folders, paper, and ink. That is all." (Respondent 3, 2024)

The results of interviews with other officers were as follows:

"Because sometimes requests are not realized, work continues to be hampered. Sometimes requests are not granted immediately." (Respondent 4, 2024)

c) Material

The results of interviews with medical records officers revealed the following information:

"We use this map because it complies with rules or standards." (Respondent 1, 2024)

Some officers did not know about the Sandi Karsa Hospital SOP because the hospital carried out no socialization. This is proven by the results of interviews with officers, as follows:

"Socialization of the SOP has not been implemented so far; when there are new employees, I accompany the senior ones to have a look." (Respondents 2, 2024)

The results of interviews with other officers were as follows:

"In all the time I have worked, I have never been given socialization. I work based on what I see from the seniors." (Respondents 3, 2024)

d) achine

There must be more computers, and sometimes they experience errors/slowness. This is proven by the results of interviews with officers, as follows:

"There are, but the numbers are still not enough." (Respondents 4, 2024)

The results of interviews with other officers were as follows:

"Often. Depends. The computer in the medical record is by accident, depending on whether the problem is the hardware, application, or network. "If it is hardware, maybe the memory or the hard drive is damaged, or the network is related to the internet connection." (Respondent 9, 2024)

In its application, SIMRS at Sandi Karsa Hospital Makassar is only integrated with patient registration.

"We have designed electronic management, but it is still difficult to implement because the number of computers and the internet is sometimes slow. "So for now, it is just a matter of registering the same number of patients so we can summarize it per month or year." (Respondent 9, 2024)

e) Medical Records Room

The following are the results of interviews with medical records officers:

"Small space matters. "In conditions like this, it is not comfortable to work." (Respondent 1, 2024)

"It affects things because the space is limited, and the number of medical record files is increasing daily." (Respondents 2, 2024).

2. Process

a) Assembling

This is proven by the results of interviews with officers. as follows:

"Sometimes we do assembly; sometimes we do not. The problem is that the officers need clarification when the files are thick, and we do not have time because we have to do other work. For example, if a patient has had two reports and the files do not still need to be assembled, the files are a mess. "The solution should be to have an officer responsible for handling the assembly section." (Respondent 3, 2024)

b) Coding

This is proven by the results of interviews with officers, as follows:

"The one who does case-mix. "For general patients who carry out RM officers in the RM room." (Respondent 2, 2024)

c) Reporting

This was conveyed by the head of the medical records installation, the officer who made the following report:

"I do the reporting. The speed of reporting depends on returns from above. "If it is fast, it is fast; I will input it; if it is slow, it is slow, and it is also reported." (Respondent 1, 2024)

d) Filing

This can be proven as follows:

Table 1. Medical record management system at Sandi Karsa Hospital, Makassar.

Informant code	Code Age	Education	Position
1	28	3-year Diploma of Medical record	Medical Records
2	23	3-year Diploma of Medical record	Medical Records
3	23	3-year Diploma of Medical record	Medical Records
4	24	3-year Diploma of Medical record	Medical Records
5	23	3-year Diploma of Medical record	Casemix
6	48	3-year Diploma of Nurse	Nurse
7	50	Anesthesiologist	Director
8	39	Anesthesiologist	Manager
9	40	3-year Diploma	Information Technology

Source: Primary data, 2023

Table 2. Table of Medical Record Quality Indicators.

Table 3. Observation of feedback from medical records officers at Sandi Karsa Hospital.

No	Assessment Category	Evaluation		Information
		Yes	No	
Feedback				
1.	There is a Response from RM Officers in Coordination with the Head of RM, Senior Managers and Directors	✓		There was no response from officers coordinating with the RM installation head, Senior Manager and Director

Source: Primary data, 2023

"The arrangement problem is arranged based on the final figures; BRM delivery is late because, as you can see now, the condition of the shelves is not enough, and the arrangement is irregular. The solution requires additional shelves. (Respondent 2, 2024)

SOP for medical records at Sandi Karsa Hospital are available and proven from the results of interviews with medical records officers, as follows:

"Here, there is a flow from the registration process to returning medical records to storage, so we carry out daily tasks using the existing flow and SOP. It is just not optimal." (Respondents 4, 2024)

3. Ouput

This is supported by interviews with officers. as follows:

"Sometimes doctors forget because there are too many patients, and they do not have time to complete the PPA." (Respondents 3, 2024)

The process of returning medical record files starts from when the files are in the treatment room until the medical record files are returned to the medical records unit by the return policy of 2 x 24 hours after the patient goes home.

"The doctors and nurses still need to complete it because they cannot be sent home if it is not completed. Must be 100% complete. Later, for example, if it is incomplete, you will be sent back to treatment. Health and medical staff do not comply with the 2 x 24-hour time target." (Respondent 8, 2024)

4. Outcome

This is proven by the results of interviews with directors, as follows:

"The impact is that the patient's travel records are also chaotic, the administration is also not good, and the quality is low." (Respondent 7, 2024).

This can be proven in Table 2.

5. Feedback

D. Discussion

1. Input

a) Human Resources

The results of research and observations show that the number of personnel in the medical records unit is still insufficient because there are multiple tasks, and the duties and functions of each officer who is responsible are not clear and are not carried out optimally. This is in line with research conducted by¹⁸, which states that the lack of officers causes their performance in carrying out their work to be less than optimal, resulting in duplication of duties. The quality of medical record management really depends on the role of the medical record officer himself. With an adequate number of medical records officers according to the job description in each work unit, it is hoped that service can reach an optimal level.

According to the job description for the medical records officer, both the installation head and the officer have a D3 medical records educational level. ¹⁹states that qualified human resources medical recorders must possess a DIII graduate degree to perform their duties in the medical records unit. Researchers²⁰ found that officers with low levels of education need help to finish their work and must acquire more knowledge. Officers have never participated in internal or external training, though, as the hospital has yet to issue instructions, and the training has yet to be scheduled. Improving the skills of medical record officers is one way to make medical records more effective²¹. This training is one of those steps. Since most field practice will differ from the theory taught during education, the training will enhance medical records officers abilities and skills.

b) Money (Operational)

The research findings indicated that funding was available. Medical record activities were not being implemented as effectively as they could have been because they had yet to reach the optimal level of implementation. More funding must be allocated to improve the efficacy and efficiency of medical record management. This is supported by research²², which indicates that activities will only function at their best if there are sufficient funds to buy the necessary equipment.

c) Material

The Sandi Karsa Hospital medical record folder follows the guidelines for using maps and is readable. But it turns out that some files do not have a medical record folder, and the medical record file gets corrupted if the folder can not be accessed. This medical record folder is helpful for preserving privacy and shielding medical record forms from damage, according to¹⁹. Officers can use Sandi Karsa Hospital's standard operating procedures as a guide and point of reference while carrying out their responsibilities. Nevertheless, because they had not taken part in any hospital-sponsored socialization, a number of officers were unaware of the Sandi Karsa Hospital SOP. According to²², a hospital can attain its objectives through well-organized administration if medical record management is implemented in accordance with established protocols or technical instructions.

d) Machine

The research showed that there needed to be more computers, and errors frequently occurred, so officers took turns using computers, which resulted in the officers work not being optimal. According to²³, information technology is needed to function smoothly and contribute to obtaining optimal, effective, and efficient information. Less than optimal computer function can cause work in the medical records installation to experience obstacles. The hospital information system is only integrated into patient registration to determine who is receiving

treatment and make reports. The Republic of Indonesia Minister of Health Regulation (2011) states that every hospital implements a Hospital Information System (SIMRS), "so hospitals in Indonesia are starting to implement the system to improve services.¹⁰state that increasing system, information, and service quality influence system use and user satisfaction. This increases system quality, service quality, information quality, system use, and user satisfaction.

e) Medical Records Room

According to the study's findings, officers' limited workspace and filing/management room make it difficult to perform their duties. The insufficient conditions in the medical records officer's room, where mountains of medical records were still discovered in cardboard boxes, made matters more difficult. A comfortable workstation can boost productivity and offer psychological and physical comfort²⁴. The failure to protect the privacy of medical record files in situations where a finger is not needed to open the door is connected to another issue, which is the requirement for additional facilities. This is consistent with studies by¹ who found that the medical records room is only accessible by medical records officers.

2. Process

a. Assembling

Obstacles faced in the assembling section include many incomplete medical record documents. Observation results show that after being analysed quantitatively and qualitatively, most documents entering the medical records assembly unit must be completed and returned on time. Many forms and time become obstacles for officers in assembling activities, resulting in inconsistent use of the forms, where the PPA needs clarification when they want to know the patient's previous history. This aligns with research conducted by²⁵, which stated that assembling outpatient files was never carried out thoroughly in the RS "X" Tangerang medical records unit. This shows that when searching for files, many files are updated because old files are difficult to find.

b. Coding

The study results showed that the coding, which used ICD-9 CM for procedures and ICD-10 for diagnoses, complied with the regulations. Medical records officers carry out general patient coding; for BPJS patients, case-mix officers are carcass-mix. The benefit of coding diagnoses according to the International Classification of Diseases (ICD), according to²⁶, is that it can produce accurate, complete, and consistent diagnosis codes. Accurate diagnosis codes will produce correct and quality data, providing valid information when needed. However, in the coding section, there are still several obstacles. Some of these obstacles include discrepancies between diagnoses and medical procedures, gaps in filling in the diagnosis and treatment columns, and difficulty in reading doctors' writing, which causes obstacles for coding officers in assigning codes. This is in line with research conducted by²¹, who state that the inability to read a doctor's writing is one factor that can cause coding inaccuracies.

c. Reporting

According to the study's findings, reports were produced monthly, quarterly, and annually. However, incomplete medical record files and delays resulted in delays in reporting. Reporting is computerized by pulling data from SIMRS and Microsoft Excel. This differs from research conducted by¹⁸, which stated that reporting at Mitra Sehat Situbondo Hospital was under the SOP for reporting. However, there were a few obstacles to its implementation. This obstacle is the length of time for data collection from service units. However, despite experiencing obstacles in collecting data, hospital reports have never experienced delays in reporting²⁷.

d. Filing

The research results also showed that inadequate barriers allowed for files to be mixed up, and the need for shelves resulted in many files being placed on the floor and stored in cardboard boxes. Stated that the function of storing medical records is to make it easier to retrieve them when needed and to protect medical record documents from the danger of theft and damage¹⁹. Organizing archives in the Sandi Karsa Hospital medical records unit uses a centralized system, where patient medical records are stored centrally in one location. Based on this explanation, the hospital should review the need for storage shelves. According to²⁸, planning shelf needs will improve the medical record storage system, making it easy for officers to retrieve files, thereby improving the quality of service. Hospitals also need to control the temperature of the storage room to provide work comfort for filling officers and reduce the risk of damage to medical record files.

e. SOP for Medical Records Management

The study's findings demonstrated that the administration of medical records is governed by a SOP. Medical record officers should be aware of the contents of Standard Operating Procedures (SOP) since they have never been taught about them and because their use could be more effective. ²⁵found that work orientation was the means by which SOP socialization was achieved; officers were requested to read the SOP and, via senior colleagues, to post work procedures in the medical records room. This is not the case here. Socialization is done on a scheduled, irregular basis. Standard Operating Procedures (SOP) socialization has a positive effect on employee performance, according to²⁹ research. With SPO, it can show standards that must be adhered to by all employees.

3. Output

a. Incompleteness

In December, Sandi Karsa Makassar Hospital had 259 inpatient medical record files taken; only 164 were completed. Only complete inpatient medical record (RM) forms at Gianyar City's Ganesa Hospital can make it easier for RM officers to input, process, and produce reports about events and medical services, according to research by³⁰ This could cause information to be presented more slowly. This research is also in line with research at the Rizki Amalia General Hospital, which stated that the completeness of inpatient medical records is to reach 100%. This situation is often caused by the doctor in charge of the patient, who still needs to complete the medical record form, so incomplete medical records must be returned to the nurse to be completed¹¹.

b. Lateness

Following the patient's return home, there are two days for returns. Nevertheless, the study's findings demonstrated that Sandi Karsa Hospital's inpatient medical record files were returned later than expected. Just 120 of the 276 files submitted for return in December were submitted on time, representing a 56% delay rate. According to³¹, data processing will require the delivery of medical record documents. This is considered bad because medical record files still need to be returned, namely more than 2 x 24 hours, where the medical record files must be immediately returned to the medical records unit to be reviewed by the assembling officer. The high percentage of returns of medical record files that are not timely can hurt the quality of service in hospitals. Delays in returning inpatient files can cause delays in processing data for hospital reports.

c. Outcome

The research results illustrate that the quality indicators of medical records at Sandi Karsa Hospital in Makassar are low, with a percentage of 67% compared to 100%. Factors influencing the quality of medical

record unit services involve several aspects, including the completeness of filling out inpatient medical records. A good and correct medical record management system will support the maintenance of good medical records.^{32,33-37} concerning Standards for Completeness of Filling in Medical Records, which must reach 100%, it can be said that medical records are considered qualified if they are filled in completely to 100%.

d. Feedback

The findings of observations made at the Sandi Karsa Hospital Makassar Medical Records Installation indicate that there needs to be active feedback mechanisms in place for all officers to use in order to promptly report any issues to the leadership, such as when a medical record file goes missing. After seeing the medical records officer's advice, the leadership then makes an attempt to offer a solution. This contradicts the study by²⁵, who reported that feedback activities were demonstrated to be actively carried out by all officers at Hospital "X" Medical Records Installation.

CONCLUSION

The number of staff is low, there are no clear duties and functions, they have never attended training, there is a lack of understanding by officers regarding standard operating procedures, and socialization of standard operating procedures has not been carried out. There are not enough computers, SIMRS has not been integrated with management, the medical records room is integrated with the filing room, assembling is not consistently carried out, reporting experiences are delayed, and returns of files are late and incomplete. A lack of supervisory feedback from the officers and a quality deficiency were indicated by the 56% of incomplete returns in December.

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CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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