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Mortality Reporting Management in Electronic Medical Recprd at Hospital X

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Abstract.
Mortality reporting is an important aspect of evaluating the quality of health services. At Hospital X, the still manual mortality reporting system faces challenges such as slow processes and vulnerability to errors, therefore this study aims to analyze the input, process, and output in mortality reporting. The method used in this study uses a qualitative approach with interview and observation techniques, data were collected from medical record and administrative staff involved in the mortality reporting process, as well as analysis of related documents. The results of this study indicate that the implementation of electronic medical records has increased efficiency in mortality reporting. However, data accuracy is still a significant problem caused by data input errors and lack of training for system users. These research findings indicate that ongoing training and improved technology infrastructure are essential to support the EMR system at Hospital X. With an optimal ERM system, it is expected that the quality of mortality reporting will improve, which will later have an impact on improving the overall quality of health services. This study recommends further development in the management of mortality reporting using EMR

Keywords: *Mortality Reporting Management, EMR, Data Accurancy, Reporting Efficiency*

1. INTRODUCTION

Mortality reporting is one of the important indicators in measuring the quality of health services in a hospital (Khoirot, 2024). Mortality data can be used to evaluate hospital performance, identify mortality risk factors, and as a basis for quality improvement program planning (World Health Organization, 2019). Accurate and efficient mortality reporting is needed to increase accountability and decision-making in health services (Hartati, 2023). However, a slow and error-prone manual reporting system is a major challenge (Adiyanto, 2023). Therefore, to improve mortality reporting management, electronic medical records offer several advantages to improve mortality reporting management (Zuhdi, 2024), such as improving the accuracy and timeliness of data, facilitating data collection and analysis, improving reporting standards and compliance with regulations, and enabling early identification and intervention of potential problems (Hartati, 2023). Along with the development of information technology, electronic medical records (RME) have become the standard in patient data management. RME offers a number of advantages, such as efficiency in data collection, data accuracy, and ease of access. However, the implementation of

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RME in mortality reporting is still not optimal in many hospitals (Suparman, 2020).

The use of RME can increase efficiency in the collection of medical data, but there are still shortcomings in terms of accuracy and integrity of reported data (Amalia, 2024). Several studies also indicate that inadequate training for medical record officers contributes to errors in data input (Rizqulloh, 2024). However, there are still few studies that specifically explore the factors that affect the management of mortality reporting in hospitals, especially in the context of the use of RME (Irawan, 2024).

The lack of an in-depth understanding of mortality reporting practices including reporting flows, the role of medical personnel, and the use of information technology, as well as factors affecting the efficiency and accuracy of data, such as lack of clear standards, inadequate training, and unintegrated information systems, in Hospital X was the main focus of this study. This research is important, considering that the hospital has a good reputation in health services, but still faces challenges in optimal mortality reporting management (Welhelmina, 2022).

Based on a preliminary study conducted by the researcher through an interview with the head of medical records at Hospital X, the management of mortality reporting at the hospital uses a manual system for reporting. Therefore, this study aims to analyze the input, processing and output of mortality reporting.

2. THEORETICAL STUDIES

In the context of hospital mortality reporting, the application of information technology and electronic medical record (RME) systems has a strong theoretical basis. Some relevant theories and concepts include: Management Information System (SIM) Theory, According to this theory, the application of an integrated information system can improve the efficiency and accuracy of business processes in healthcare institutions. The RME system as part of the SIM helps in the collection, processing, and reporting of data quickly and accurately, reducing human error and speeding up the reporting process. Standardization Theory and SOP (Standard Operating Procedure), Standardization of processes through SOPs is important to ensure consistency and quality of data collected and reported. This theory emphasizes that clear and standardized SOPs can improve operational efficiency and reduce variability in mortality reporting. Capacity Building and Training Theory, Officer training and human resource development are important aspects of successful technology implementation.

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This theory states that improving the competence of officers through continuous training will increase the accuracy and speed of data reporting. Technology Acceptance Model, This model describes the factors that influence the acceptance and use of new technologies, such as ease of use and perceived benefits. The implementation of standardized electronic systems must be supported by positive perceptions from users in order for it to be adopted effectively. Concept of Accurate Data and Data Validity, Data accuracy is critical in mortality reporting. This theory emphasizes that complete, valid, and official data (e.g. death certificates) are key to producing accountable reports and supporting clinical and administrative decision-making.

By integrating these theories, this study confirms that the application of information technology and the development of standardized systems as well as continuous training are the main foundations for improving the efficiency and accuracy of mortality reporting in hospitals.

3. RESEARCH METHODS

This study uses a descriptive qualitative approach to analyze reporting management in hospital X. The focus of this study is to examine the input, data processing, and output of mortality reporting. The informants in this study consist of the head of medical records, daily census officers, and hospital medical records officers involved in the mortality reporting process. The data collection techniques carried out by the researcher in this study include interviews and observations, interviews are conducted to dig up in-depth information from informants regarding reporting practices. After conducting the interview, the researcher made direct observations of the mortality reporting process at hospital X to understand the working mechanism that took place. Documentation was also carried out by the researcher for the collection of secondary data from documents related to mortality reporting and the use of RME as a primary data supporter. Data analysis is carried out in an interactive and continuous manner, including data reduction, data presentation, and data verification (Sutranta, 2022). This process aims to compile the data that has been collected so that it can be concluded and understood properly. The analysis technique used is qualitative descriptive analysis that emphasizes understanding phenomena from the perspective of the subject being studied (Handayani, 2023).

4. RESEARCH RESULTS

Mortality Reporting Management Data Input

Mortality recording is the recording of every death of a person registered with an agency for population data processing. Therefore, every death in the hospital must be documented and reported in accordance with the death certificate. The death certificate is the main source of mortality reporting data which contains information on the sequence of events that led to the death.

Mortality data collection at Hospital X was done manually. The process of collecting death data starts from the room nurse who inputs the patient's identity including the patient's condition at the time of return, data on the patient's death date if the patient is declared dead. A snapshot of the data of patients who have died will later be distributed in excel format by the medical record officer. From the data that has been processed, it will later be sent by internal and external parties. The data collection process is based on the results of interviews with the head of medical records: "...The collection is the same as the usual daily census, so from the room nurse who fills in the identity etc., then later we will be a medical record officer who inputs to excel which will later be made a report to the hospital management and to the social service" (Participant 1, Head of Medical Record).

Mortality Data Processing

The implementation of mortality reporting at Hospital X still uses a manual for reporting. This is due to several factors, including the absence of updates to procedures and technical procedures for reporting mortality in accordance with standards. In addition, incompleteness of medical records became a significant obstacle during observation. The following is an excerpt of an interview conducted with the head of medical records: "The mortality reporting here is still manual so that is an obstacle for us, because it slows down the reporting process" (Participant 1, Head of Medical Record).

The results of the interview regarding the reporting have not been fulfilled because the SIMRS application is still under development so that the processing of the reporting data is still carried out manually. This is in line with previous research by Mardiawati (2023) that at Dr. M. Zein Painan Hospital, it is known that the inputs, processes, and outputs of mortality reporting at SIMRS have not been maximized because the preparation of the report is still manual.

Indicators in data inpatient services will be differentiated starting from patients who died less than 48 hours or patients who died more than 48 hours, babies who died less than 7 days, obstetric patients who

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died. The data is entered into excel format every month. The following is an excerpt of an interview with the medical record officer: "...We differentiate between death reports here, starting from patients who die >48 hours, patients die <48 hours, we also distinguish for babies who die less than 7 days after birth, we also distinguish obstetric patients who die, from the data that has been collected it will be entered into excel" (Participant 2, Medical Record Officer).

Mortality Data Output

Based on the results of interviews conducted by researchers with medical records officers at hospital X, it is known that the hospital does not have a clear Standard Operating Procedure (SOP) related to mortality reporting. As a result, there are no death certificates that meet WHO standards, and only use death certificates that are not equipped with an accurate diagnosis. Here is an excerpt of an interview with census officers: "...Yes, there is no flow and SOP for mortality reporting here, the process here is still manual, so we input the data one by one through the daily census then we enter it into Excel. For the application of SIMRS, there is also no one for reporting deaths" (Participant 2, Daily Census Officer).

Based on the researcher's analysis of mortality reporting at Hospital X, it is necessary to make a special mortality report which can later be used to obtain information on the causes of death, so that it can provide instructions for the prevention of similar deaths in the future. The regulation of mortality certificates must also be carried out so that the determination of mortality codes is carried out in accordance with ICD 10 and ICD 9 rules. The results of the interview show that there is no death certificate in hospital X, here is an excerpt from the interview by the head of medical records: "...Hmm, if not here, there is no death certificate yet, we have a death certificate. It is also rarely used, especially if the patient's family needs a death certificate, we will make a new death" (Participant 1, Head of Medical Records).

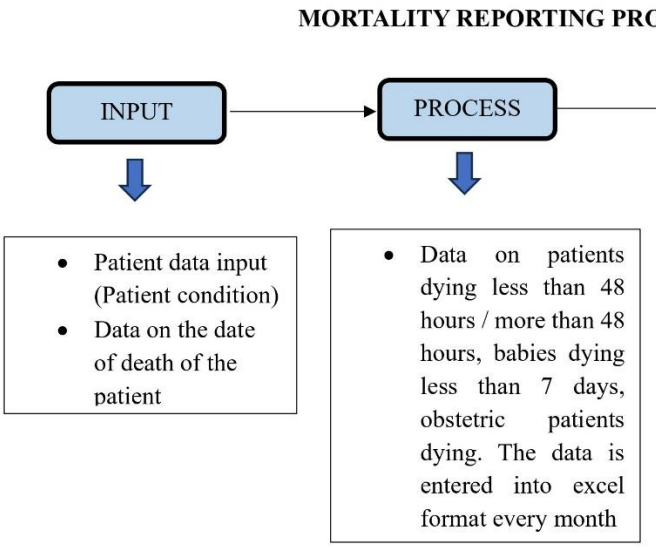
Research shows that the hospital has not used a death certificate but still uses a death certificate. However, the death certificate has not been completed with a final diagnosis before the patient dies. The following is an excerpt of the interview with the head of the Medical Record: "....the death certificate only contains information on the name, gender, age, what time the patient was declared dead, and the death certificate is accompanied by the doctor's signature, for what diagnosis/what

is the patient's stated death from, it is not written on the death certificate" (Participant 1 Head of Medical Record).

Mortality data at Hospital X was used for several reports, consisting of a recapitulation of hospital reports, recapitulation of inpatient service indicator reports and reports of the top 10 diseases in hospitals. The reporting of mortality data will later be reported to hospital management and health office. The following is an excerpt of an interview conducted with the head of medical records: "...The report will later be reported to the internal management of the hospital every month and the health office as the external party every year, the report is usually sent via email" (Participant 3, Medical Record Officer).

The reporting process is in accordance with Thalib's (2022) theory, namely in the reporting system there are 2 targets, namely internal reports and external reports. Internal reports for the benefit of hospital management and external for the benefit of the government and health offices. However, the submission of the death report at the hospital is still not on time. This is because there is no special officer who reports the mortality data, in addition to the absence of special officers, manual reporting is also an obstacle because of the large amount of data that must be input at one time. Here is an excerpt of an interview with census officers: "... Yes, that's because it's still manual and the special officer for reporting death is also not here so we take turns, sometimes I make the report or the head of the medical record, so we take turns reporting it" (Participant 2, Daily Census Officer).

Based on an in-depth analysis conducted by the researcher on human resources at Hospital X, it was found that there was an urgent need to improve the quality and quantity of officers responsible for the implementation of mortality data reporting. This can be overcome by increasing the number of competent officers and improving the knowledge and skills of medical record officers through structured and comprehensive periodic training on mortality reporting procedures in accordance with applicable standards.



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Picture 4.1 Mortality Reporting Process

DISCUSSION

Hospital mortality reporting is an important aspect in assessing the quality of health services and clinical and administrative decision-making. Based on studies from various sources, the application of integrated and technology-based information systems, such as electronic medical records, has a strategic role in improving the efficiency and accuracy of mortality reporting (Khoirot, 2024). The manual systems that are still used in many hospitals, including hospital X, tend to be slow and prone to errors, making the data generated less accurate and unreliable for important decision-making (Adiyanto, 2023). The use of RME offers advantages such as increased speed in data collection, data accuracy, and ease of access and analysis of data (Zuhdi, 2024). This is in line with management information systems theory which emphasizes the importance of integration and automation in data management to increase efficiency and effectiveness. In addition, standardization of procedures through SOPs is also a key factor in ensuring the consistency and quality of reported data (Suparman, 2020).

However, the implementation of this technology cannot be separated from challenges such as the lack of competent human resources and adequate training. Research shows that an increase in the number of trained and competent officers is needed so that the reporting process can run more optimally and on time (Yulia, 2022). The absence of a special officer who is fully responsible for mortality reporting causes the reporting process to be alternating and not well scheduled, which ultimately affects the timing of reporting. In addition to the technology and human resources aspects, reporting theory also emphasizes the importance of standardization and the development of clear SOPs so that the data collected meets standards and can be accounted for.

Data collection in hospitals is an important part of producing accurate and comprehensive information about various aspects of health services. This process specifically involves collecting data sourced from the patient's medical records, which includes detailed information regarding the patient's medical history, diagnosis, treatment, and progression of the patient's condition during hospital treatment. One of the main methods used in this data collection is through the daily

census of hospitalizations. This daily census systematically and periodically records data on patients hospitalized every day, including information such as patient identity, admission and discharge dates, diagnosis, and patient condition. The data collected through the daily census of hospitalizations then becomes an important foundation in the preparation of hospital reports, which are used for various purposes, including service quality evaluation, health program planning, and decision-making in hospital management (Utami, 2023).

The results of this study are in line with previous findings that show that the application of information technology in health services can improve data efficiency and accuracy (Amalia, 2024). However, challenges in terms of training and understanding of the system remain a major concern. Therefore, the recommendations resulting from this study include the need for a continuous training program for medical record officers as well as the improvement of technological infrastructure to support the RME system (Putri, 2024).

This research has significant implications for efforts to improve the quality of health services in Indonesia. Through a better understanding of mortality reporting management, this research makes an important contribution to the development of a more efficient, accurate, and comprehensive reporting system. The results of this research are expected to be a valuable reference for future research in the field of medical records and health information, as well as encourage further discussions on the application of technology, such as integrated information systems in improving the quality of health services in Indonesia as a whole.

5. CONCLUSIONS AND SUGGESTIONS

This study shows that the practice of reporting mortality at Hospital X still faces various challenges, especially in terms of the manual processing process. This indicates that the management of mortality reporting in the hospital has not been fully integrated and has not fully complied with the set standards. As a result, the mortality data produced is less accurate and less reliable for clinical decision-making and evaluation of health service quality. The suggestions from this study are as follows: Suggestions to improve the quality of mortality reporting The researcher suggested that Hospital X make improvements Develop and implement clear Standard Operating Procedures related to mortality reporting, including the use of death certificates and improve technology infrastructure and information

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systems to support better data integration and facilitate access to information required in mortality reporting.

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