

An Analysis of the Implementation of an Accounting Information System for Inpatient Services in Enhancing the Effectiveness of Hospital Revenue Internal Control: A Case Study of Setiabudi Hospital

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ABSTRACT

This study aims to analyze the implementation of an Accounting Information System (AIS) in inpatient service operations to enhance the effectiveness of internal revenue control at Setiabudi Hospital Medan. This research employed a qualitative approach, with data collected through interviews, observations, and documentation. The findings indicate that the implementation of an integrated AIS through the Electronic Medical Record (EMR) system has improved operational efficiency, accuracy and reliability of transaction recording, and accelerated administrative and financial reporting processes. Furthermore, the system supports the effectiveness of internal control through segregation of duties, transaction authorization, and continuous monitoring. The study concludes that the implementation of the accounting information system at Setiabudi Hospital Medan has been effectively carried out and plays a significant role in enhancing the hospital's internal revenue control.

INTRODUCTION

Hospitals are healthcare institutions that provide comprehensive medical services to the community, including outpatient, inpatient, and emergency care services (Indonesia, 2023). In the development of modern healthcare systems, hospitals are no longer viewed solely as social institutions but also as organizations with high managerial and financial complexity. This complexity arises because hospitals must simultaneously manage human resources, medical technology, administrative systems, and large volumes of financial transactions. The management of inpatient services requires an integrated Accounting Information System (AIS) to support the effectiveness of internal revenue control (Munthe et al., 2023). The existence of a system alone is insufficient; adequate integration and supervision are also necessary.

Along with the rapid advancement of information technology, organizations across various sectors have been encouraged to adapt their information and financial management practices, including those in the healthcare sector. Hospitals, as public service institutions, are required to provide high-quality healthcare services while managing their financial aspects in a transparent, accountable, and sustainable manner. Sound financial management is an essential prerequisite for hospitals to maintain public trust and support operational sustainability amid increasing demands for healthcare services (Saputri & Manik, 2024).

One of the primary components of hospital financial management is inpatient service operations. Inpatient services represent one of the most complex service units compared to other types of healthcare services. The process involves multiple stages, ranging from patient registration, recording of medical treatments, utilization of medications and supporting facilities, to administrative and billing procedures. This complexity increases the risk of recording errors, information delays, and data discrepancies if not supported by an integrated system. An accounting information system that does not function optimally may reduce the effectiveness of hospital revenue transaction control (Zakia & Yuliastuti, 2025).

From an accounting perspective, hospital revenue represents an inflow of economic benefits generated from healthcare services. This revenue serves as the primary source of operational financing; therefore, accurate recording and effective control are crucial. Weaknesses in the revenue recording system may lead to reporting errors, cash receipt leakages, and inadequate internal supervision (Ismiati & Hafni, 2023).

One effort undertaken by hospitals to strengthen revenue control is the design and implementation of an Accounting Information System. The implementation of an AIS enables hospitals to monitor and manage revenue in a more systematic and efficient manner. Through this system, financial information can be presented accurately and promptly, thereby supporting the enhancement of internal revenue control effectiveness. A well-functioning AIS plays a significant role in supporting the long-term success of hospitals by assisting management in obtaining the information necessary for decision-making and financial planning. Consequently, an optimally designed AIS not only supports internal control but also contributes to improving hospital financial performance (D. S. Panjaitan & Julia, 2025).

An Accounting Information System (AIS) is designed to collect, process, and present financial information in an integrated manner to support managerial decision-making. Ideally, the implementation of AIS in inpatient services can improve recording accuracy, accelerate administrative processes, and strengthen internal control. However, in practice, the effectiveness of a system is determined not only by the availability of technology but also by the quality of implementation, compliance with procedures, and users' understanding of the system (Gunawan & Purwanti, 2024).

Setiabudi Hospital Medan, as one of the private hospitals in Medan City, is expected to provide high-quality inpatient services comparable to those offered by other hospitals. To support these services, an information system capable of effectively managing administrative

and financial aspects of inpatient care is required. However, in practice, several obstacles may hinder service efficiency, including disruptions in the information system, inadequate understanding of procedures among staff, and delays in payment administration due to data discrepancies. These conditions may affect the quality of services received by patients.

The implementation of an effective Accounting Information System is expected to assist hospitals in managing transaction data in a more organized and accurate manner. This system enables incoming and outgoing data to be processed efficiently, resulting in timely and reliable information. Furthermore, AIS plays an important role in strengthening internal control by safeguarding hospital data and assets and ensuring that all revenue transactions are recorded in accordance with established procedures. Effective internal control is essential to minimize recording errors and prevent fraudulent activities that could negatively impact the hospital.

As a private healthcare institution, Setiabudi Hospital Medan has the responsibility to ensure that all inpatient service transactions are recorded accurately, timely, and in accordance with established procedures to support the effectiveness of internal revenue control. In the context of increasingly competitive healthcare services, the effectiveness of the Accounting Information System has become a strategic factor in maintaining accountability, transparency, and financial stability. Therefore, it is important to conduct an empirical evaluation of the implemented system to determine the extent to which it can minimize the risks of recording errors, information delays, and potential discrepancies in financial data.

Based on the foregoing discussion, this study aims to analyze the effectiveness of the implementation of the Accounting Information System for inpatient services at Setiabudi Hospital Medan in supporting internal revenue control. Theoretically, this study is expected to enrich the literature on the implementation of Accounting Information Systems in the private healthcare sector, particularly in medium-sized hospitals. Practically, the findings of this study are expected to serve as evaluation material and provide recommendations for hospital management to improve system quality and continuously strengthen internal revenue control.

METHOD STUDY

Accounting Information System (AIS) in inpatient service operations and its role in enhancing the effectiveness of internal revenue control at Setiabudi Hospital Medan. This approach was selected because the study focuses on actual conditions in the field, particularly those related to service workflows, recording procedures, and control mechanisms in the management of inpatient revenue. Through a descriptive method, the researcher is able to systematically describe the operational processes of the existing system without intervening in the organization's activities (Sugiyono, 2022).

The informants in this study consisted of individuals directly involved in inpatient services and hospital administration, namely the Head of the Finance Department and relevant management personnel. They were selected because of their understanding of system procedures, service workflows, recording processes, and revenue control mechanisms. Data

were collected through semi-structured interviews, direct observation, and the review of relevant documents. Subsequently, the data were analyzed inductively through data reduction, data presentation, and conclusion drawing to obtain a comprehensive understanding of the effectiveness of the system's implementation.

RESULTS AND DISCUSSION

Implementation of Accounting Information System in Inpatient Services

An Accounting Information System (AIS) plays a crucial role in supporting inpatient services in hospitals and other healthcare facilities. The system not only functions in financial management but also contributes to patient data management and the smooth execution of daily operational activities. The optimal implementation of AIS can improve work efficiency, enhance the quality of patient services, and ensure that all processes are carried out in accordance with applicable regulations (Maharani & Aisah, 2024).

Based on interviews conducted by the researcher with a representative of Setiabudi Hospital Medan, namely Ms. Nurhalimah from the accounting department, it was found that the implementation of the Accounting Information System at the hospital has been running effectively. The system provides various benefits, including improved efficiency, accuracy, and transparency in financial management. In addition, the use of AIS also accelerates the completion of administrative tasks such as patient billing processes, transaction recording, and inventory management. Furthermore, the integrated system facilitates the preparation of financial reports and enables management to obtain timely and accurate information as a basis for decision-making (Nurhalimah, 2026).

The implementation of the Accounting Information System at Setiabudi Hospital Medan provides convenience for management in conducting real-time and continuous monitoring of revenue. Through this system, the hospital can assess revenue achievement levels and detect potential issues more quickly. In addition, AIS supports the processing and analysis of various sources of income, whether derived from cash payments or other sources. The availability of accurate and timely information enables management to prioritize services that contribute higher revenue and reduce less efficient expenditures.

On the other hand, the implementation of AIS provides various benefits in improving operational performance, particularly in financial data management, report preparation, and administrative activities. The accuracy of transaction recording is better maintained, resulting in more reliable financial statements. This also assists management in formulating more effective decisions related to resource allocation, planning, and financial strategy (Trisnawati & Martani, 2023). Moreover, the system plays a role in strengthening revenue control and promoting long-term cost efficiency through the reduction of operational errors.

However, the implementation of AIS also has several limitations, including relatively high initial investment costs and the need for staff training, which requires time and financial resources. Dependence on technology also poses a challenge, as system disruptions may

affect operational continuity. In addition, potential technical errors within the system may impact the accuracy of the financial information produced (Salsabila et al., 2024).

The Role of Internal Control System in Supporting the Effectiveness of Inpatient Service Revenue

An internal control system is a fundamental element in financial management, particularly in inpatient services within hospitals. The existence of this system aims to ensure that revenue management is carried out effectively and efficiently, while minimizing the potential for errors and irregularities. Adequate internal control plays an important role in maintaining the reliability of financial information, reducing the risk of fraud, and ensuring that all operational activities are conducted in accordance with applicable regulations. In addition, the implementation of a well-designed system can enhance the trust of various stakeholders, including patients and insurance providers, as well as support the long-term financial stability of healthcare institutions (Mariana & Ismayanti, 2024).

At Setiabudi Hospital Medan, the internal control system has been implemented quite optimally and has made a significant contribution to supporting operational activities. The existing control mechanisms are able to prevent fund misuse and ensure accuracy in financial recording and reporting processes. The hospital has also implemented structured procedures in inventory management, including medicines, medical equipment, and other medical supplies, to ensure availability and quality standards are met. In addition, financial and operational reports are prepared in a transparent and accountable manner, making them reliable for external parties such as auditors. Efforts to protect information systems and patient data have also been seriously implemented through security measures designed to prevent unauthorized access.

DISCUSSION

Accounting Information System for Inpatient Services at Setiabudi Hospital Medan

Based on the analysis conducted by the researcher, Setiabudi Hospital Medan has implemented a computerized system across all operational activities, starting from patient admission processes to cash receipt management. The implementation of this system is supported by the use of an Electronic Medical Record (EMR) application, which functions to facilitate and improve the efficiency of hospital operational activities. This system enables comprehensive data integration, allowing each department to access the required information quickly and accurately.

An Electronic Medical Record (EMR) is a digital-based system used to manage patient data in an integrated manner, ranging from medical record documentation to financial management related to healthcare services. This system allows all patient data to be systematically stored in a centralized database, making it easier for both medical and administrative staff to access the required information in a timely, precise, and accurate manner. In addition, EMR also supports more structured recording processes, including

patient identity, medical history, examination results, medical treatments, and detailed service costs.

The use of EMR provides various benefits for employees in performing their duties, particularly in improving work efficiency and reducing the administrative burden that was previously carried out manually. With this system, the process of retrieving patient data becomes faster, the risk of data loss can be minimized, and recording errors can be significantly reduced. Furthermore, the implementation of EMR also supports transparency and accountability in information management, especially in relation to hospital services and financial operations. Thus, the implementation of EMR not only improves operational effectiveness but also contributes to enhancing service quality and overall patient satisfaction. The following shows the interface of the Electronic Medical Record (EMR) system on a computer screen:

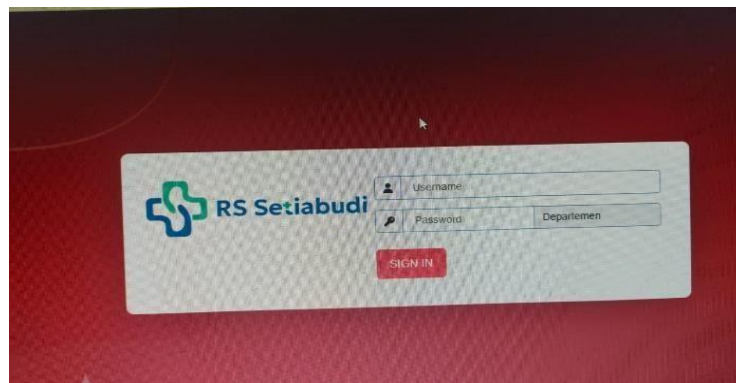


Figure 1. Display Screen of the Electronic Medical Record (EMR) System at Setiabudi Hospital Medan

Source: Setiabudi Hospital Medan

The implementation of the Electronic Medical Record (EMR) in healthcare services at Setiabudi Hospital Medan is structured into three main subsystems, namely input, process, and output. These three subsystems are integrated with one another, forming a systematic information management flow. The implementation of EMR not only functions as a medium for digital patient data recording but also serves as an instrument that supports operational effectiveness and strengthens internal control in healthcare service information management.

In principle, the implementation of information systems in healthcare services consists of three main components that function as subsystems. To provide a more in-depth understanding, the researcher will further elaborate on each of these three subsystems in detail.

a. Input Subsystem (Data Input)

The input subsystem represents the initial stage of the EMR system, functioning to collect and record patient data in a complete and systematic manner. At Setiabudi Hospital Medan, this process begins with patient registration activities, both for new and returning patients. The data collected includes patient identity information such as full name, place and

date of birth, gender, address, identification number, as well as contact information and previous visit history. All of this data plays an important role as the foundation for the preparation of patient medical records.

After the registration process is completed, administrative staff directly input the data into the EMR system. This computerized recording process supports data accuracy and completeness, while also serving as part of internal control efforts to minimize errors and data duplication from the initial stage.

b. Process Subsystem

The process subsystem is the next stage that functions to process the data collected during the input stage. Within the EMR system at Setiabudi Hospital Medan, all patient data that has been input is processed and stored in a centralized database integrated across service units. This process includes the management of medical record information, examination results, medical procedures, and service transactions related to patients.

Each staff member involved in data processing is granted specific access rights through the use of individual accounts (username and password), ensuring that every activity within the system can be identified and traced. This mechanism reflects the implementation of internal control principles, particularly in terms of data security, access authorization, and user accountability. Thus, the data processing stage becomes more structured, accurate, and accountable.

c. Output Subsystem (Data Output)

The output subsystem is the final stage of the EMR system, which generates various information and reports required by the hospital. The outputs include patient visit reports, medical procedure records, financial reports, as well as detailed patient billing information. This information is used as evaluation material and as a basis for managerial decision-making. In addition, the output generated by the EMR system also supports internal control by ensuring that all transactions are recorded completely, accurately, and in accordance with applicable procedures.

management.

On the other hand, internal control is a mechanism designed to provide reasonable assurance that all hospital assets are properly safeguarded, operational activities are carried out in accordance with established procedures, and financial reports produced are highly reliable. Therefore, the effectiveness of internal control is strongly influenced by the quality of the Accounting Information System implemented. A well-designed system is capable of supporting the implementation of management policies, improving operational efficiency, and minimizing errors, irregularities, and fraudulent activities that may harm the hospital.

Based on the analysis, the Accounting Information System for inpatient services at Setiabudi Hospital Medan has demonstrated relatively effective performance in supporting the hospital's internal revenue control. This improved effectiveness is reflected in the faster inpatient administrative processes, increased accuracy of revenue transaction recording, reduced risk of data entry errors, and improved ease for management in monitoring hospital revenues. In addition, the use of an Electronic Medical Record (EMR)-based system also helps accelerate report generation and facilitates the tracing of transaction data in cases of information discrepancies.

The effectiveness of this Accounting Information System implementation is also supported by the application of internal control elements that are systematically implemented in each inpatient service activity. These internal controls are applied to ensure that all administrative and revenue management processes are carried out in accordance with procedures, to minimize the risk of errors, and to maintain the reliability of the information produced. The internal control mechanisms implemented in the Accounting Information System at Setiabudi Hospital Medan are as follows:

a. Control Environment

In the implementation of healthcare services at Setiabudi Hospital Medan, particularly in inpatient services, the payment mechanisms applied are diverse, including cash payments, BPJS (national health insurance), and various other health insurance schemes. Although different payment methods are used, all service processes remain guided by the principles and values established by the hospital, which prioritize patient condition and safety as the main concern. This indicates that the service orientation is not only focused on administrative and financial aspects but also on a strong commitment to the quality of healthcare services provided.

b. Internal Control Activities

The Accounting Information System implemented at Setiabudi Hospital Medan has demonstrated an adequate level of support for operational activities, as reflected in the application of structured procedures aligned with organizational needs. This can be observed from the clear division of responsibilities among departments, where each function is carried out by different parties according to their respective duties. In addition, every document used in transaction processes undergoes authorization by authorized personnel to ensure the

validity and accuracy of recorded data. The hospital has also established patient class categorization as part of its service system, which affects the type of services provided as well as the charges applied. The implementation of these control activities indicates that the system is designed to support administrative order and minimize the risk of errors and irregularities.

c. Risk Assessment

Each unit involved in inpatient service operations at Setiabudi Hospital Medan continuously conducts review and verification processes throughout all stages of the revenue cycle. This process begins from the moment a patient receives services until the final stage of financial report preparation. These activities aim to ensure that each process is carried out in accordance with procedures and to identify potential risks that may affect data accuracy and operational efficiency.

d. Information and Communication

The smooth implementation of service activities at Setiabudi Hospital Medan is strongly influenced by the availability of effective information and communication systems among employees in accordance with their respective duties and responsibilities. A structured communication flow ensures that all generated information is accountable and supports hospital operational efficiency. This is reflected in the implementation of procedures that regulate access rights to the system, ensuring that only authorized personnel can manage certain data. In addition, the preparation of daily summary reports is an important part of ensuring the availability of accurate and timely information for management.

e. Monitoring Activities

The monitoring function at Setiabudi Hospital Medan is carried out continuously to ensure that all operational activities are performed in accordance with established regulations. One form of this monitoring is the preparation of periodic monthly financial reports aimed at providing an overview of the hospital's financial condition. Furthermore, financial management is supervised by designated officers, namely the revenue treasurer and expenditure treasurer, supported by assistant treasurers in each function. This structure plays a role in overseeing all activities related to cash inflows and outflows. In addition, there is a Technical Implementation Officer (PPTK) responsible for supervising overall operational activities. Through these monitoring mechanisms, the hospital is able to assess the effectiveness of activities and ensure that all processes are conducted in an orderly, transparent, and accountable manner.

CONCLUSION AND SUGGESTIONS

Based on the results of the research and discussion, the implementation of the Accounting Information System for inpatient services at Setiabudi Hospital Medan shows that the system has been running in an integrated manner through the use of an Electronic Medical Record (EMR), which includes input, process, and output subsystems. The implementation of this system is able to improve operational efficiency, accelerate administrative processes, and produce more accurate and systematic transaction recording. In addition, data integration

across units enables the provision of timely and reliable information, thereby supporting service efficiency and facilitating management in monitoring and decision-making processes.

The Accounting Information System for inpatient services has also been proven to contribute to improving the effectiveness of internal revenue control at the hospital. This improvement is reflected after the implementation of the EMR-based system, including faster inpatient administrative processes, increased accuracy of revenue transaction recording, reduced risk of data entry errors, and easier managerial supervision of hospital revenues. Furthermore, the implementation of control mechanisms such as segregation of duties, transaction authorization, access restrictions, and continuous monitoring supports the creation of a more orderly, transparent, and accountable revenue management system. Thus, the implementation of an EMR-based Accounting Information System plays an effective role in enhancing the effectiveness of internal revenue control at Setiabudi Hospital Medan.

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