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## Evaluation of the Completeness of Inpatient Medical Records Based on the Strengths, Weaknesses, Opportunities, Threats (SWOT) Method at Welas Asih General Hospital

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### Abstract

*Incomplete medical documentation at hospitals poses a significant risk to patient safety and service quality. This study aimed to evaluate the completeness of inpatient medical records at Welas Asih General Hospital using a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis to formulate strategic recommendations. Employing a qualitative descriptive method, the research focused on inpatient medical records and key personnel, including medical record officers and clinical staff. Data were collected through observation, documentation review, and interviews, and analyzed by grouping findings into the four SWOT categories. Results revealed that the overall completeness rate was 64%, with critical forms such as surgical informed consent and Attending Physician forms showing particularly low rates (41% and 42%, respectively). The analysis identified key challenges, including a hybrid documentation system, low digital literacy, and high staff workload. In conclusion, the hospital's medical record completeness is suboptimal due to internal weaknesses and external threats, despite its existing strengths and opportunities. The findings underscore the urgent need for a systematic improvement plan focusing on structured digitalization and continuous staff training to enhance accountability and quality of care.*

**Keywords:** Digital Literacy, Electronic Medical Records, Inpatient Care, Patient Safety, SWOT Analysis

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## INTRODUCTION

Healthcare services are a fundamental need that must be optimally fulfilled for every individual, regardless of their social, economic, or background status. Within the framework of the national healthcare system, hospitals serve as strategic referral facilities responsible for providing high-quality, effective, efficient, and safe services focused on patient safety (Kemenkes, 2022). This strategic role necessitates that hospitals regularly evaluate various aspects of their operational services, including the medical documentation system, which is a key component in supporting service quality. Medical records are a crucial tool that directly impacts the quality of healthcare provided in hospitals. They contain comprehensive patient health histories, including personal identity, chief complaints, examination results, diagnoses, medical procedures, treatments, and outcomes (Handiwidjojo, 2009; Pratama & Darnoto, 2017). Medical records serve multiple functions, acting as an administrative document, legal evidence, clinical information source, and a means of communication among healthcare professionals to ensure coordinated and targeted care.

The evolution of information technology has brought about a significant transformation in medical documentation. While manual, paper-based records were once the standard, many hospitals are now implementing Electronic Medical Records (EMR). This system enables the digital recording, storage, and access of patient data, which is expected to improve work efficiency, reduce documentation errors, and expedite service delivery (Devhy & Widana, 2020; Alifia, 2024). EMRs are not merely a clinical documentation tool but also serve as a communication platform across professions, valid legal evidence, a guide for healthcare planning, and a data source for research and strategic hospital management. However, the effectiveness of any EMR or even manual system is compromised if the documentation is incomplete or fails to meet established standards.

The completeness of medical record documentation is a crucial indicator of service quality. Incomplete data can have far-reaching consequences, including hindering patient care processes, leading to errors in medical decision-making, causing treatment delays, and creating potential legal issues in the event of a medical dispute (Amran et al., 2023; Andriani, 2017). Consequently, all healthcare facilities

must ensure that every form and item in a medical record is filled out thoroughly and accurately. Previous studies indicate that the completeness of medical record documentation remains a significant challenge in many Indonesian hospitals. The contributing factors are diverse, ranging from high workloads for healthcare professionals, limited human resources with specialized competence in Health Information Management (HIM), lack of technical training, to resistance to the transition from manual to digital systems (Oashttamadea, 2022; Hapsari, 2016).

Based on observations and interviews, a similar situation exists at Welas Asih Hospital. The documentation process for inpatient medical records has not yet reached the ideal standard. Key forms such as initial medical assessments, admission and discharge summaries, attending physician forms, and surgical informed consent are frequently found to be incomplete or inconsistently documented. This situation increases the risk of declining service quality, erodes patient trust, and could potentially lead to legal problems for the hospital and involved healthcare workers. This issue is compounded by the hospital's current hybrid documentation system, which combines manual and electronic records. While the EMR system is fully implemented in outpatient services, its adoption in inpatient units remains limited due to challenges like inadequate technological infrastructure, uneven digital literacy among staff, and a high workload disproportionate to the number of available medical personnel.

To systematically analyze this issue of medical record completeness, this study employs a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis approach. This methodology is particularly suitable as it can identify internal factors (strengths and weaknesses) and external factors (opportunities and threats) that influence the process and completeness of medical documentation. A SWOT analysis provides a strategic framework for hospital management to formulate planned and sustainable policies for improving the quality of medical documentation. The primary objectives of this research are twofold: first, to conduct an in-depth evaluation of the completeness level of inpatient medical records at Welas Asih Hospital using the SWOT method; and second, to generate strategic recommendations that can be used by the hospital to improve and optimize its medical documentation process. This study's urgency lies in addressing a critical gap in service quality that directly impacts patient safety and operational efficiency. The novelty of this research is its application of a comprehensive SWOT analysis to provide a holistic understanding of the contributing factors—both internal and external—and to offer a tailored, actionable strategic plan for improving documentation completeness in a specific hospital context. The findings are expected to not only provide a complete picture of the current situation but also serve as a foundation for decision-making to enhance sustainable, measurable, and accountable healthcare quality.

## RESEARCH METHODS

This study employs a qualitative descriptive approach to present data in a narrative form, aiming for a deeper understanding of the phenomena under investigation (Arikunto, 2013; Emzir, 2021). This method is well-suited to provide a detailed, holistic perspective on the factors influencing the completeness of medical records. The research was conducted at Welas Asih Hospital, with a specific focus on the completeness of inpatient medical records, which were evaluated against established completeness standards, compliance with Standard Operating Procedures (SOPs), and relevant regulations (RI, D., 2010; Kirana, 2022). The research subjects included medical record officers, medical personnel such as doctors and nurses, and the head of the medical records department, all of whom are directly involved in the documentation process.

### Data Collection and Analysis

Three primary techniques were used for data collection: observation, documentation, and interviews. Observation was conducted on medical record documents using a checklist to assess the level of completeness. Documentation served to collect secondary data, including SOPs, quality reports, and medical record-filling guidelines (Sudaryono, 2024). Interviews were conducted with key informants to gather information on their perceptions, existing barriers, and the factors influencing medical record completeness as identified by the SWOT analysis. These three data collection techniques were applied with a triangulation approach to enhance the accuracy and validity of the data obtained (Sugiyono, 2022). The instruments used in this research included a checklist with items related to both administrative and medical completeness, and an interview guide designed to identify internal (strengths and weaknesses) and external (opportunities and threats) factors for the SWOT analysis. The data were then analyzed qualitatively by grouping the findings according to the four SWOT categories, followed by an interpretation to provide a comprehensive overview of the state of medical record completeness.

## Research Procedure

The research was conducted from July to August 2025 in the medical records room, focusing specifically on the completeness of inpatient medical records at Welas Asih Hospital. The research procedure began with an initial observation and document review to identify key areas of concern regarding documentation completeness. Following this, the research instruments—the checklist and interview guide—were developed and refined based on the preliminary findings and established standards (Handiwidjojo, 2009). The data collection phase involved the simultaneous application of all three techniques to gather a robust and multifaceted dataset. This included observing a sample of inpatient medical records, collecting relevant hospital documents, and conducting structured interviews with the identified subjects. Finally, the collected data were systematically analyzed using the qualitative SWOT framework to identify strategic factors and formulate actionable recommendations, thus ensuring a comprehensive and structured evaluation process.

## RESULTS AND DISCUSSION

### Results

Based on the analysis of medical record documentation completeness at Welas Asih Hospital, findings indicate that five primary forms were the focus of the evaluation (PMIK, 2025). These forms were the medical resume, admission and discharge summary, initial physician's assessment, Attending Physician (DPJP) form, and surgical informed consent. The examination results showed that the medical resume had the highest completeness rate at 98% out of 4,164 total documents. This form was consistently and well-documented by medical staff. In contrast, the admission and discharge summary reached a completeness rate of 75%, indicating that 25% of the documents were not fully completed. The initial physician's assessment had a completeness rate of 64%, highlighting a significant number of incomplete documents.

The completeness rate for the DPJP form was only 42%, signaling a weakness in administrative documentation within this section. On the other hand, surgical informed consent recorded the lowest completeness rate at 41% out of 1,516 documents for patients who underwent surgery. This low figure is a critical concern, as this document serves as legal and ethical protection for both medical staff and patients.

Interview results further revealed that while the Electronic Medical Record (EMR) system is fully implemented in outpatient services, its use in inpatient care remains hybrid. Several forms are still managed manually due to limitations in digital infrastructure, uneven digital literacy among human resources, and high workloads that are disproportionate to the number of available medical staff. This situation directly affects the completeness of documentation.

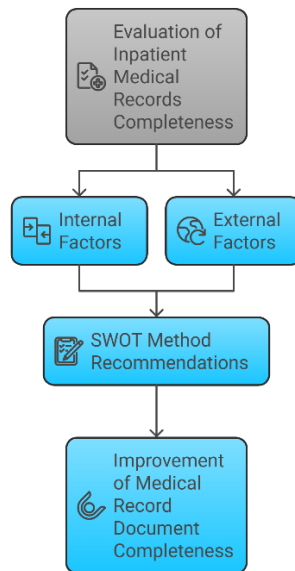
**Table 1. Important Report Completeness**

Num ber	Types of Report Completion Forms	Total	Percentage
1	Medical Resume	4.100	98%
2	Summary of Entries and Exits	3.133	75%
3	Initial Assessment Doctor	2.700	64%
4	DPJP	1.770	42%
5	Informed Consent Surgery	622	41%

Based on the direct observation of inpatient medical record documents, the level of completeness was found to be inconsistent across the analyzed forms. While some forms showed very high rates of completion, others were significantly low, indicating a failure to meet the established standards for all documentation types. These findings, as presented in Table 1, highlight a clear disparity in documentation practices within the hospital. The results from the SWOT analysis further illustrate this situation by

providing a framework to understand the interplay between internal and external factors that influence the quality of medical record completion. The internal factors identified include the hospital's strengths and weaknesses, while the external factors encompass opportunities and threats. This analysis provides a comprehensive picture of the challenges and potential for improvement in the hospital's documentation system.

#### SWOT Analysis for Medical Records Completeness



**Figure 1. SWOT Evaluation of Medical Record Document Completeness**

#### Discussion

This study's findings reveal that the completeness of inpatient medical record documentation at Welas Asih Hospital is significantly below standard, with an average completeness rate of just 64% across the five key forms analyzed. While the medical resume consistently demonstrated a high completion rate of 98%, a considerable disparity was observed in other critical documents. Specifically, surgical informed consent forms were only 41% complete, and the Attending Physician (DPJP) forms were at a low of 42%. This substantial variance indicates a systemic issue and highlights a critical gap in adherence to Standard Operating Procedures (SOPs) and a limited, non-uniform implementation of the Electronic Medical Record (EMR) system in inpatient services.

These findings are directly corroborated by data from our key informant interviews, which identified major contributing factors, including inadequate digital infrastructure, low digital literacy among healthcare personnel, and a high workload that is disproportionate to the number of available medical staff. This situation aligns with existing literature, such as research by Andriani (2017), which underscores the crucial role of information technology support and inter-professional collaboration in ensuring the completeness of clinical data. Furthermore, our results resonate with the challenges highlighted by Devhy & Widana (2020), who noted that technological adaptation barriers, stemming from a digital literacy gap, pose a significant obstacle to effective EMR adoption. Conversely, our analysis also supports Oashtamadea's (2022) assertion that national health system integration policies can serve as a powerful catalyst for accelerating electronic documentation initiatives.

The primary contribution of this research is the provision of a comprehensive, multifaceted understanding of the factors influencing documentation completeness at Welas Asih Hospital. By employing a SWOT analysis, we moved beyond simply quantifying the problem to systematically identifying the interplay between internal strengths and weaknesses and external opportunities and threats. This strategic framework allows us to offer concrete, actionable recommendations for improvement, such as the strategic expansion of the EMR system, periodic capacity-building training for staff, the implementation of real-time monitoring for documentation completeness, and the integration of critical forms into the electronic system. The insights gained from this study not only enrich the body of knowledge in healthcare quality management but also provide a tangible and evidence-based foundation

for the hospital's leadership to enhance patient safety, operational efficiency, and public trust in its services.

In conclusion, this study, which utilized a SWOT analysis to evaluate the completeness of inpatient medical records at Welas Asih Hospital, confirms that the current level of documentation is suboptimal. The findings demonstrate that this issue is influenced by a complex mix of both internal and external factors. Our SWOT analysis identified several key strengths, including the existing EMR system and the involvement of multidisciplinary healthcare staff, as well as significant opportunities arising from supportive government regulations and the ongoing integration with the National Health Insurance (JKN) system.

However, these positive factors are overshadowed by critical weaknesses and threats. The identified weaknesses include limited human resource competency, low adherence to established documentation standards, and a lack of consistent technical training. The primary threats are a persistently high workload and a low level of staff adaptability to digital systems, which act as major impediments to achieving ideal documentation completeness.

Based on these findings, the core of this research emphasizes the critical need for strengthening the hospital's documentation management system. This involves enhancing human resource capacity through continuous training and accelerating a more structured and comprehensive digitalization process. Implementing these strategic steps is essential for ensuring accountability and for demonstrably improving the overall quality of healthcare services provided at Welas Asih Hospital.

## CONCLUSION

The findings of this study demonstrate that the completeness of inpatient medical records at Welas Asih General Hospital remains suboptimal, with an average rate of only 64%. While certain forms, such as the medical resume, showed a high level of completeness (98%), critical documents like surgical informed consent and the Attending Physician (DPJP) forms were far below acceptable standards, at 41% and 42%, respectively. Through the SWOT analysis, it was revealed that the hospital has important strengths, such as an existing EMR system and supportive government policies, as well as opportunities related to health system integration. However, these are overshadowed by internal weaknesses, including low digital literacy, limited staff competency, and poor adherence to SOPs, along with external threats such as high workloads and resistance to digital adaptation. This imbalance directly impacts patient safety, operational efficiency, and the hospital's accountability.

A key limitation of this research lies in its qualitative descriptive design and single-site focus, which restricts the generalizability of the findings to broader hospital settings. Therefore, future studies are recommended to employ quantitative or mixed-method approaches across multiple hospitals to validate and compare results, as well as to evaluate the effectiveness of specific interventions such as targeted training or expanded EMR integration. Practically, this study underscores the urgent need for hospitals to strengthen human resource capacity through continuous training, enhance compliance monitoring, and implement structured digitalization of documentation systems. By addressing these strategic areas, healthcare institutions can significantly improve medical record completeness, thereby advancing patient safety, service quality, and public trust in hospital care.

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