
The Impact Of Cost Accounting On Healthcare Quality Management

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Abstract

The transformation of the healthcare system toward Value-Based Healthcare requires efficient cost management without compromising patient quality and safety. This study aims to analyze the impact of cost accounting implementation on healthcare quality management through a systematic literature review approach. The research method follows the PRISMA 2020 guidelines, with literature searches conducted through Google Scholar, PubMed, and SINTA databases. Article selection was carried out using the PICOS framework to ensure relevance to the research objectives. The screening process resulted in nine eligible articles that were analyzed through qualitative synthesis. The findings indicate that the implementation of modern cost accounting methods, such as Activity-Based Costing (ABC), Time-Driven Activity-Based Costing (TDABC), and Itemized Point Cost (IPC), significantly contributes to improving operational efficiency, enhancing cost transparency, reducing the risk of medical errors, and supporting healthcare accreditation standards. However, excessive emphasis on strict cost control may influence patients' perceptions of service quality. Therefore, the integration of financial and non-financial performance indicators is essential to ensure that economic efficiency aligns with continuous improvement in healthcare service quality.

Keywords: *Cost accounting, Quality management, Healthcare services, Systematic review, Patient safety.*

INTRODUCTION

The global healthcare system is currently undergoing a fundamental transformation, shifting from a volume-based service model to a value-based model known as Value-Based Healthcare (VBHC). This paradigm requires healthcare institutions not only to provide medical treatment but also to ensure efficiency in the use of resources without compromising patient safety and service quality (Shakya et al., 2025). In this context, cost accounting has become a strategic managerial tool that goes beyond financial recording and plays an important role in supporting measurable healthcare quality management through data-driven decision-making (Etges et al., 2020).

The rapid increase in hospital operating costs has encouraged healthcare managers to adopt more accurate costing techniques to maintain financial sustainability. The imbalance between limited healthcare budgets and increasing demands for high-quality clinical outcomes creates a significant challenge for healthcare institutions (Meskarpour-Amiri et al., 2025). Therefore, effective cost accounting systems are needed to document and evaluate the use of resources in each healthcare activity so that efficiency initiatives do not compromise patient safety standards (Dewita et al., 2024).

Cost accounting in healthcare organizations functions as a management tool for calculating service costs, controlling expenditures, and supporting strategic decision-making. However, traditional cost accounting systems often fail to capture the complexity of healthcare services because they rely on generalized cost allocation methods that may distort the actual costs of medical procedures. To address this limitation, modern cost accounting techniques have been developed, including Activity-Based Costing (ABC), Time-Driven Activity-Based Costing (TDABC), and Itemized Point Cost (IPC).

Activity-Based Costing (ABC) calculates costs based on the activities involved in healthcare processes and allows managers to identify value-added and non-value-added activities (Asyari & Achyarsyah, 2022). Meanwhile, Time-Driven Activity-Based Costing (TDABC) focuses on

calculating costs based on the time and capacity of resources used during patient care, making the costing process simpler and more accurate (Shakya et al., 2025). Another emerging approach is Itemized Point Cost (IPC), which integrates risk levels and technical complexity into human resource cost calculations, allowing healthcare institutions to better reflect the value of professional medical labor, particularly in complex procedures (Li et al., 2024).

The relationship between healthcare costs and service quality remains widely debated. Some studies suggest that improving quality can reduce costs by decreasing complications, readmissions, and medical errors. However, other studies indicate that improving healthcare quality often requires additional investments in technology, training, and patient safety systems (Hussey et al., 2013; Eldenburg & Krishnan, 2006). These findings indicate that cost management must be carefully balanced to ensure that cost reduction strategies do not negatively affect healthcare outcomes.

Cost accounting also contributes to improving patient safety through the application of the Cost of Quality (COQ) framework, which categorizes quality-related costs into prevention, appraisal, internal failure, and external failure costs (Jabarbeigi et al., 2021). By quantifying the financial impact of poor quality, such as costs associated with hospital-acquired infections or repeated medical procedures, healthcare organizations can prioritize investments in preventive measures and safety improvement programs that provide long-term economic and clinical benefits.

Furthermore, cost accounting systems support healthcare accreditation and quality evaluation processes by providing transparent financial information and efficiency indicators required in institutional audits (Mumford et al., 2015). However, excessive emphasis on cost control may negatively influence patient perceptions of healthcare services, particularly regarding drug availability, service time, and physician interaction (Sulistyaningrum et al., 2022). Therefore, healthcare management must balance financial efficiency with service quality to ensure sustainable healthcare delivery.

Based on these considerations, this study aims to analyze the impact of cost accounting implementation on healthcare quality management through a systematic literature review approach. By synthesizing findings from previous studies, this research seeks to provide a comprehensive understanding of how cost accounting techniques can support both operational efficiency and improvements in healthcare service quality.

RESEARCH METHODS

This study employed a systematic literature review design based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines. The stages of article selection are presented through the PRISMA 2020 flowchart, which describes the process of identification, screening, eligibility assessment, and article inclusion in a systematic and transparent manner (Matthew et al., 2021).

The literature search was conducted systematically using supporting software to explore reputable scientific databases, including Google Scholar, PubMed, and SINTA. The literature search strategy was formulated using a combination of Boolean operators and relevant keywords, such as cost accounting, activity-based costing, health quality management, and patient safety.

In an effort to synthesize scientifically valid managerial and clinical evidence, the authors applied a PICOS-based literature review approach (Table 1). This approach ensures that the selected literature covers the relevant healthcare facility population, appropriate cost accounting technique interventions, and outcomes in the form of improved service quality and operational efficiency. The inclusion criteria established to maintain the quality and relevance of this study include research

journal articles published within the last 10 years that focus on the implementation of cost accounting systems in the health sector.

Table 1. PICOS Method

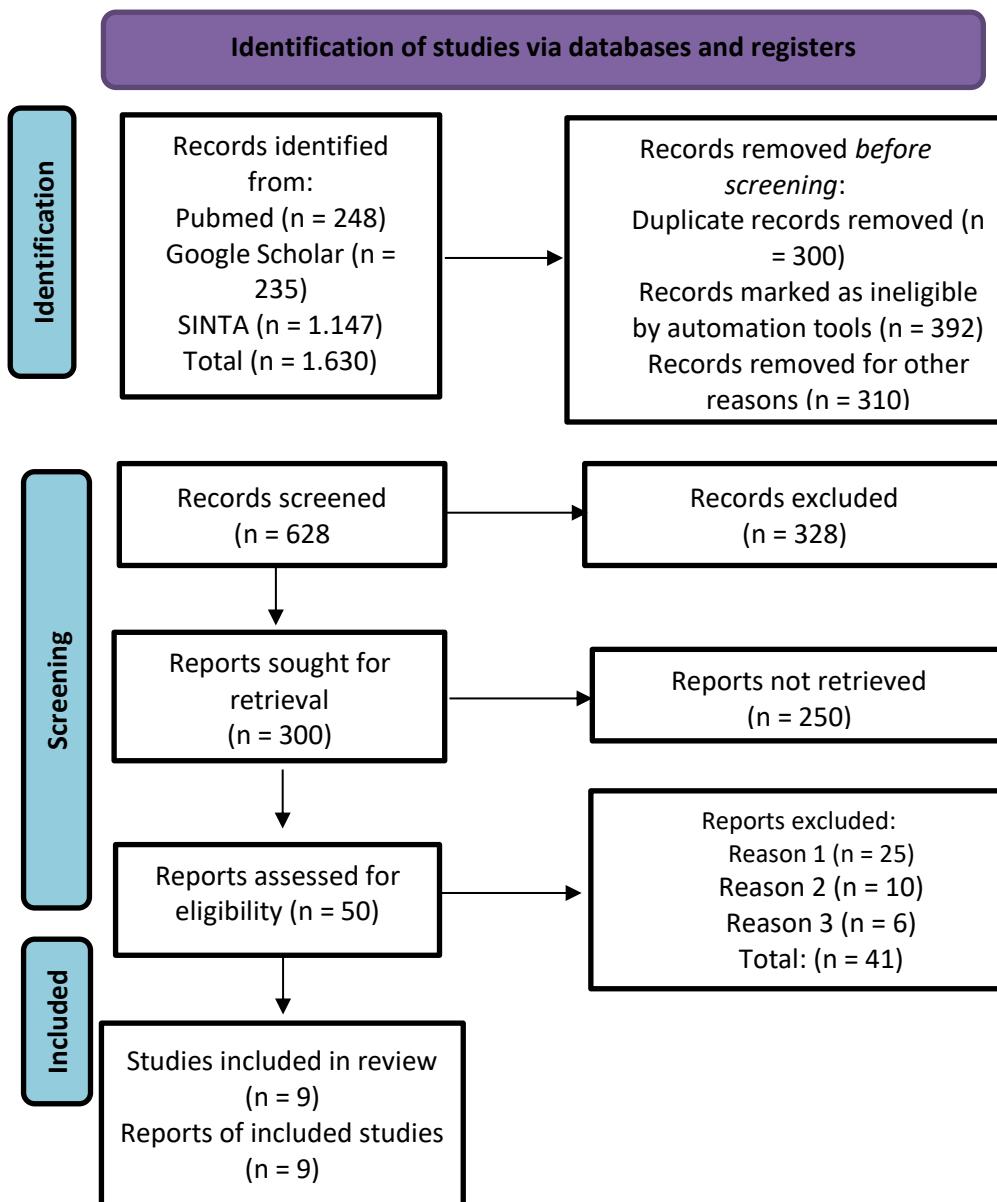
Components	Description
P (<i>Population</i>)	Healthcare Facilities (Hospitals, Community Health Centers, Clinics) and patients.
I (<i>Intervention</i>)	Application of cost accounting techniques (Activity-Based Costing, TDABC, IPC, Strategic Cost Management).
C (<i>Comparison</i>)	Traditional accounting systems or systems without quality indicator integration.
O (<i>Outcome</i>)	Service quality, medical error mitigation, operational efficiency, patient satisfaction, and accreditation standards compliance.
S (<i>Study Design</i>)	Research journal articles (Systematic Review, Quantitative, Qualitative, and Case Studies).

The articles reviewed in this study were published within the last six years (2019-2025), with the main objective of analyzing the impact of the implementation of cost accounting techniques on quality management and service efficiency in health institutions. In this study, the population studied included various levels of health care facilities (hospitals, community health centers, and clinics) as well as patients who were affected by these cost management policies.

The interventions that were the focus of this systematic review were the application of various modern cost accounting techniques, such as Activity-Based Costing (ABC), Time-Driven Activity-Based Costing (TDABC), and the Itemized Point Cost (IPC) method, as strategic instruments to support managerial decisions. The outcomes analyzed include the dimensions of health service quality, mitigation of medical errors, efficiency of resource allocation, and patient satisfaction levels assessed based on cost allocation accuracy and health accreditation standards.

The selection process was carried out by assessing all titles and abstracts by the author team in accordance with the established inclusion and exclusion criteria to eliminate irrelevant literature. The selected articles were then organized using Mendeley software. The data extraction process was carried out independently by the first author and then re-verified by the second author to ensure the validity of the information. An initial search through various databases yielded a total of 1,630 articles matching the keywords; however, after undergoing a rigorous screening and eligibility assessment, nine main journal articles were deemed valid and relevant for synthesis in this study (Figure 1).

**Figure 1. Data collection based on the PRISMA diagram (2020)
 (Matthew *et al.*, 2021)**



RESULTS AND DISCUSSION

Based on the systematic search process, nine articles were identified as meeting the inclusion criteria. The selected studies were published between 2019 and 2025 and consisted of empirical studies, case studies, and systematic reviews focusing on the implementation of cost accounting techniques in healthcare institutions. The studies were conducted in various healthcare settings including hospitals, clinics, and public healthcare systems across several countries.

Table 2. Summary of Reviewed Articles

Author (Year)	Article Title	Method	Purpose	Main Results
Hussey <i>et al.</i> (2013)	The Association Between Health Care Quality and Cost: A Systematic Review	Systematic Review (61 studi)	This study aims to analyze the consistency of the relationship between accounting costs and service quality.	The results showed that the relationship between variables was heterogeneous (34% positive, 30% negative). The associations were generally small to moderate.
Shakya <i>et al.</i> (2025)	Time-Driven Activity-Based Costing and Its Use in Health Economic Analysis	Systematic Literature Review	This study aims to review the application of TDABC in economic analysis and service value. .	The results of the study show that TDABC is highly effective in identifying resource waste at a granular level at the patient level.
Elfoghi (2025)	Management control and quality indicators in healthcare: a literature review	Systematic Literature Review	This study aims to assess the contribution of management control systems to patient outcomes.	The results of the study indicate that the integration of financial and non-financial metrics enhances quality; key indicators include patient satisfaction.
Mumford <i>et al.</i> (2015)	Counting the costs of accreditation in acute care: an activity-based costing approach	Mixed Methods (Audit Biaya)	This study aims to estimate the incremental costs of hospital accreditation using the ABC approach.	The results show that accreditation costs range from 0.03% to 0.60% of operational costs; smaller facilities feel a greater burden.

Meskarpour-Amiri <i>et al.</i> (2025)	Strategies to reduce costs and increase revenue in hospitals	Mixed Methods	This study aims to identify priority strategies for efficiency and revenue.	The results of the study indicate that improving the quality of care is the most important strategy for the economic sustainability of hospitals. .
Li <i>et al.</i> (2024)	Itemized point cost method in human resource cost accounting	Studi Kasus (Metode IPC)	This study aims to develop a human resource cost accounting method that takes clinical risks into account.	The results show that the IPC method is more accurate in capturing labor value in high-risk procedures with risk coefficients.
Asyari & Achyarsyah (2022)	Evaluasi Model Perhitungan Tarif Kamar Rawat Inap Berdasar Metode ABC	Studi Kasus (Metode ABC)	This study aims to evaluate the ABC model in determining tariffs for cost accuracy.	The results of the study indicate that the ABC model enables the identification of cross-subsidies between service classes, ensuring transparency of service costs.
Etges <i>et al.</i> (2020)	Advances in Value-Based Healthcare by the Application of TDABC	Systematic Review	This study aims to evaluate the impact of TDABC on the concept of inpatient management.	The results of the study indicate that TDABC is recommended as the gold standard for cost accuracy and identification of clinical benchmarks.
Sulistyaningrum <i>et al.</i> (2022)	Persepsi Pasien pada Sistem Pembayaran Kapitasi	Survei Observasional	This study aims to analyze patients' perceptions of service quality under capitation.	The results showed that there was a gap in perception regarding the amount of medication,

indicating the impact of cost efficiency on clinical quality.

The discussion in this systematic literature review aims to explore and synthesize findings on how cost accounting can impact and influence healthcare quality management. This review views cost accounting not merely as a financial tool, but as a mediator that influences internal organizational performance and patient outcomes

Impact of Cost Accounting Techniques on Operational Efficiency

The implementation of modern cost accounting techniques such as ABC and TDABC has been shown to provide managers with the visibility they need to identify workflow inefficiencies (Shakya et al., 2025). Unlike traditional systems, which often distort costs due to fictitious overhead allocations, ABC techniques allow costs to be traced directly to clinical activities (Asyari & Achyarsyah, 2022).

Role of TDABC in Value-Based Healthcare

TDABC is recognized as the “gold standard” in measuring health value due to its ability to map time and resources specifically to each stage of patient care (Shakya et al., 2025). With TDABC, hospitals can identify processes that are high in cost but also high in variability, which can then be targeted for quality improvement. This supports the transition from a fee-for-service system to a value-based model where cost efficiency goes hand in hand with optimal clinical outcomes (Shakya et al., 2025).

Cost Accounting as a Tool for Mitigating Medical ErrorErrors

Medical errors are a massive financial burden that often goes unidentified in traditional financial reports. Cost accounting plays a role in quality management by quantifying the cost of poor quality (COQ), which includes additional costs due to nosocomial infections, retesting, and preventable complications (Meskarpour-Amiri et al., 2025). The priority strategy for improving hospital economic performance is found in improving the quality of care and service processes to reduce these failure costs (Meskarpour-Amiri et al., 2025).

Table 3. Achievement of Cost Accounting-Based Quality Management Indicators

Quality Indicators	Impact of Cost Accounting	Description / Findings	Reference
Medical Error Mitigation	Reducing external failure costs.	Investing in infection prevention (INR 5 Cr) can save on failure costs (INR 19 Cr).	Meskarpour-Amiri <i>et al.</i> (2025)
Patient Safety	Appreciate technical risks.	The IPC method ensures that high-risk procedures are managed by experts through the allocation of risk points.	Li <i>et al.</i> (2024)

Activity Efficiency	Reducing activity waste.	Identify non-value-added activities in detail through time mapping.	Shakya <i>et al.</i> (2025)
Cross-Subsidy Strategy	Transparency of financing between classes.	Determining room rates that allow subsidies from executive class to standard class without compromising quality.	Asyari & Achyarsyah (2022)

Cost Accounting and Accreditation Standards

The hospital accreditation system requires measurable and sustainable quality documentation as a condition of compliance with international standards (Mumford et al., 2015). Cost accounting provides essential data to meet the criteria of financial transparency and accountability in quality audits required by accreditation agencies (Mumford et al., 2015). Although accreditation costs are a financial burden, they are seen as a long-term quality investment that helps standardize patient care pathways (Mumford et al., 2015).

Service Quality Dimensions and Patient Satisfaction

The ultimate impact of cost management is the perceived quality experienced by service recipients. The use of a management control system that integrates financial indicators with patient satisfaction indicators is essential to align operational efficiency with the SERVQUAL quality dimensions (Elfoghi, 2025). However, overly strict cost control risks reducing patient satisfaction in the clinical outcome dimension, as seen in studies showing a perception gap regarding the adequacy of the amount of medication received (Sulistyaningrum et al., 2022).

Tabel 4. Analisis Dimensi Kualitas Layanan Berdasarkan Dampak Akuntansi Biaya

Dimensi Kualitas	Tingkat Kepuasan	Deskripsi Dampak Manajerial	Sumber Utama
<i>Reliability</i>	High	Accurate cost determination ensures the availability of drug stocks and equipment maintenance.	Asyari & Achyarsyah (2022)
<i>Responsiveness</i>	Medium	Time analysis through TDABC helps optimize staff allocation and reduce waiting times.	Elfoghi (2025)
<i>Assurance</i>	High	Patients feel safe because they are treated by experts who are valued according to the level of technical risk.	Li <i>et al.</i> (2024)
<i>Tangibles</i>	Low	Budget allocations often prioritize direct clinical costs over physical facilities.	Sulistyaningrum <i>et al.</i> (2022)

Research Gap and Future Research Directions

This review identifies several critical gaps in the current literature.:

Causality Gap: Most studies remain observational in nature, making it difficult to establish a direct causal relationship between specific cost accounting techniques and measurable improvements in patient outcomes such as mortality reduction.

Digital Implementation Gap: Although emerging technologies such as Artificial Intelligence (AI) and Internet of Things (IoT) offer opportunities for automated cost accounting systems, empirical evidence regarding their implementation in healthcare institutions—especially in developing countries—remains limited. **Behavioral Gap:** Further research is needed to examine how transparency in cost information influences physicians' clinical decision-making and motivation to maintain patient safety standards.

CONCLUSION

The results of this systematic literature review indicate that cost accounting plays a strategic role in supporting healthcare quality management. Modern costing techniques such as Activity-Based Costing (ABC) and Time-Driven Activity-Based Costing (TDABC) provide more accurate cost transparency and enable healthcare organizations to identify inefficient activities and optimize resource allocation. In addition, cost accounting contributes to patient safety improvement and supports accreditation processes through measurable financial and quality indicators. However, excessive emphasis on cost efficiency may influence patients' perceptions of service quality. Therefore, healthcare institutions need to integrate financial and non-financial performance indicators to ensure that cost efficiency is aligned with continuous improvement in healthcare service quality.

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