# Hospital Ownership and Minimum Service Standards Achievement: Empirical Evidence from Indonesia

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## ABSTRACT

*Healthcare service quality is a global priority, and in Indonesia it is assessed through the implementation of Minimum Service Standards (MSS) integrated with National Quality Indicators (NQI). MSS function as a standardized benchmark to evaluate hospital performance across different ownership types. This study aims to examine differences in MSS achievement between government and private hospitals. A quantitative comparative design was employed using secondary MSS/NQI data from 60 Type B and C general hospitals located in Java and Sumatra during 2023–2024. Hospitals were equally categorized by ownership (government and private). Data analysis included descriptive statistics, assumption testing, and independent sample t-tests to identify differences in composite MSS achievement between the two groups. The analysis demonstrated a statistically significant difference in MSS achievement based on hospital ownership. Private hospitals showed higher overall MSS attainment compared to government hospitals, with mean achievement scores of 94.05% and 87.21%, respectively (p < 0.001). This result indicates a measurable performance gap in meeting minimum service quality standards between ownership types. Hospital ownership is significantly associated with the achievement of Minimum Service Standards in Indonesia. Private hospitals consistently achieve higher MSS scores than government hospitals, suggesting structural differences in service quality performance. These findings provide empirical evidence on the role of ownership in hospital quality outcomes and highlight the importance of further investigation into organizational and management factors influencing MSS compliance.*

*Keywords: Hospital Ownership, Minimum Service Standards, Quality Management, Hospital Performance, Indonesia*

## INTRODUCTION

The issue of healthcare service quality, particularly within the hospital setting, has become a central focus of global and national health reform agendas. In Indonesia, the quality assurance effort has been formally institutionalized through the establishment of Minimum Service Standards (MSS or SPM), which are now seamlessly integrated with the National Quality Indicators (NQI or INM) as part of the hospital accreditation framework (Kementerian Kesehatan RI, 2022). These MSS serve as a fundamental benchmark for essential service quality that every healthcare facility is mandated to meet. In practice, a significant operational challenge arises when hospitals operating within the same regulatory and demographic environments display substantial variance in MSS compliance (Permata, 2025). Theoretically, this dynamic raises critical questions regarding the underlying role of quality management strategies in achieving these outcomes, especially as they are shaped by the distinct governance structures and organizational cultures inherent to different types of ownership. Furthermore, the imperative to meet these quality standards is increasingly complicated by mounting service demand and resource limitations, particularly in the context of Low- and Middle-Income Countries (LMICs) (Chu & James, 2020).

The fundamental differences in organizational objectives and structures between government-owned hospitals (RSUD) and private hospitals are widely posited as the primary determinants of quality performance. State-owned hospitals are inherently driven by a public service mandate and social accountability; however, they often grapple with bureaucratic hurdles, rigid procurement processes, and budgetary inflexibility, especially if they have not yet attained the status of a Regional Public Service Agency (BLUD) (Basabih & Widhakuswara, 2025; Widyastuti & Hartono, 2024). Conversely, private hospitals are motivated by profitability and competitive advantage, affording them greater financial and managerial autonomy. This structural flexibility typically enables them to adopt more aggressive quality management models, such as Total Quality Management (TQM), to secure customer loyalty and maintain market superiority (Deswita et al., 2021; Utami & Permana, 2025). The health quality management literature strongly suggests that private institutions are generally quicker to integrate strategic quality policies, fostered by robust top management commitment and a persistent focus on customer satisfaction as a prerequisite for business sustainability (Muninjaya, 2024; Vequist et al., 2021). In contrast, the quality focus in government hospitals can sometimes be skewed toward formal procedural compliance rather than clinical outcome-driven continuous improvement (Hinchcliff et al., 2020).

A critical appraisal of the most recent literature (2020–2025) reveals a noteworthy research gap. Existing studies predominantly concentrate on: (1) Partial implementation of MSS for specific indicators or within a single ownership type (Raharjo & Susilo, 2023; Oktaviani & Ramadhan, 2023), (2) Patient satisfaction perceptions, which, while important, do not directly quantify clinical or managerial performance against the MSS (Samsudin, 2021; Jauhary & Irawan, 2025), and (3) Analysis of autonomy policies (BLUD) without explicitly correlating them with a detailed, comparative attainment of MSS across the public and private sectors (Basabih & Widhakuswara, 2025). This gap highlights the scarcity of in-depth comparative studies utilizing official, nationally aggregated secondary data (e.g., MSS Achievement Reports from the Ministry of Health/Local Health Office) to empirically test the hypothesis that quality management strategies influenced by ownership (particularly concerning resource allocation, decision-making processes, and organizational culture) significantly correlate with disparities in MSS indicator attainment (Manan et al., 2020).

Unlike previous studies that focus on partial indicators, perception-based outcomes, or single ownership types, this study contributes novel empirical evidence by utilizing nationally aggregated official MSS/NQI secondary data to conduct a systematic and comparative analysis of MSS achievement between government and private hospitals. By explicitly linking hospital ownership with quality management

performance outcomes, this research offers a more robust and policy-relevant assessment of how structural governance differences translate into measurable variations in essential service quality compliance.

Stemming from this gap analysis, the primary research question guiding this study is: "How do the differences in quality management strategies implemented by government and private hospitals impact their compliance with the Minimum Service Standards (MSS) in Indonesia, and is there a statistically significant difference in MSS achievement between these two types of ownership?" By addressing this question, the study aims: (1) To quantitatively analyze and compare MSS achievement between the groups of Government and Private hospitals; (2) To identify the specific differences in quality management strategies (based on TQM and continuous quality improvement) employed by the two ownership types that correlate with MSS attainment; and (3) To derive strategic policy implications necessary to ensure uniformity in essential service quality, regardless of the hospital's ownership structure.

## METHODS

### 1. Research Design

This investigation adopts a quantitative comparative research design (Creswell & Creswell, 2018). The core objective of this design is to compare the outcomes of the dependent variable the achievement of Minimum Service Standards (MSS) or National Quality Indicators (NQI) across two distinct, independent groups: government-owned hospitals (RSUD) and private-sector hospitals. This methodological approach enables an empirical testing of the hypothesis concerning disparities in quality performance, which are theorized to stem from fundamental differences in ownership structures and management strategies (Field, 2018). The comparative analysis is conducted as a *cross-sectional study*, where MSS attainment data are measured at a single defined period to reflect the prevailing state of quality management performance.

### 2. Population and Sampling

### a. Population

The study population encompasses all General Hospitals (RSU) across Indonesia that are legally obligated to report their compliance with the Minimum Service Standards (MSS) or National Quality Indicators (NQI), as stipulated by the Regulation of the Minister of Health of the Republic of Indonesia Number 30 of 2022. To ensure comparability in service complexity and reporting obligations, the population is restricted to Type B and Type C General Hospitals both government and private located in Java and Sumatra. These hospital types share similar scopes of essential and referral services as well as standardized MSS reporting requirements (Kementerian Kesehatan RI, 2022).

### b. Sample

The sampling technique employed is purposive sampling, based on the following rigorous inclusion criteria:

1) Type B or Type C General Hospitals
2) Consistent reporting of MSS/NQI achievement during the 2023–2024 period
3) Availability of verifiable secondary data (e.g., LAKIP, CMKP, or HMIS reports)
4) Balanced representation between government and private hospitals (1:1 ratio).

The final sample size will be determined based on statistical requirements for comparative analysis (a minimum of n=30 per group for parametric tests like t-tests/ANOVA) to ensure adequate statistical power ($\beta > 0.80$) (Cohen, 1988).

### 3. Data Sources and Measurement

#### a. Data Sources

The research relies exclusively on official, quantitative secondary data. The primary data sources are:

1) Government Institution Performance Accountability Reports (LAKIP) or Quality and Patient Safety Achievement Reports (CMKP) issued by the respective Government (RSUD) and/or Private Hospitals.
2) Hospital Management Information Systems (HMIS) integrated with MoH/Local Health Office reporting systems (e.g., the NQI Achievement Reporting Application).

Data access was granted through formal institutional permission from Local Health Offices and hospital management authorities, ensuring data authenticity, completeness, and institutional accountability.

#### b. Variables and Metrics

Independent Variable:

1) Hospital Ownership Type: A categorical (nominal) variable with two levels: 1. Government (RSUD) and 2. Private.

Dependent Variable:

1) Minimum Service Standards (MSS) / National Quality Indicators (NQI) Achievement: Measured as the percentage of compliance/attainment for each indicator mandated by the Ministry of Health.
   a) Sample Indicators Measured: (1) Compliance with Emergency Department Response Time ($\leq 5$ minutes), (2) Compliance with Critical Laboratory Test Reporting Time, and (3) Compliance Rate for National Formulary Use.
2) The achievement score is calculated using the official MoH formula:

$$\text{MSS Achievement (\%)} = \frac{\text{Number of Achievements meeting the standard}}{\text{Total number of measurements}} \times 100$$

3) This achievement data will be converted into continuous numerical data (percentage) for each indicator and aggregated into a composite average MSS achievement score.

### 4. Data Analysis Techniques

Data analysis will proceed through three key sequential stages:

#### a. Descriptive Analysis

Basic statistical computations (mean, median, standard deviation, minimum, and maximum values) will be performed to comprehensively describe the MSS/NQI achievement data separately for the Government and Private hospital groups. This initial analysis will offer preliminary insights into the distribution and inherent variability of quality outcomes across both sectors.

#### b. Assumption Testing

Prior to executing parametric comparative tests, the following statistical assumptions will be verified:

1) Normality Testing: The Kolmogorov-Smirnov or Shapiro-Wilk test will be used to ascertain whether the MSS achievement data follows a normal distribution.
2) Homogeneity of Variances Testing: Levene's Test will be applied to confirm that the variance in achievement scores between the two groups (Government and Private) is homogenous.

#### c. Inferential Analysis (Hypothesis Testing)

To statistically test for a significant difference between the mean MSS/NQI achievement scores of Government and Private hospitals, the following tests will be employed:

1) Independent Samples t-test: This test will be utilized if the data satisfies the assumptions of normality and homogeneity, as it is appropriate for comparing the means of two independent samples.
2) Mann-Whitney U Test: This non-parametric test will be substituted if the data fails to meet the normality assumption.

Furthermore, to analyze the influence of ownership type on the probability of achieving specific MSS targets (e.g., 100% compliance target), Binary Logistic Regression may be considered (Hosmer & Lemeshow, 2000). The results from this inferential testing will serve as the empirical basis for concluding the correlation between hospital ownership and quality of care performance.

## 5. Ethical Considerations

This study exclusively utilized secondary, aggregated institutional data and did not involve individual patients, healthcare workers, or identifiable personal information. As such, the research posed minimal ethical risk and did not require formal ethical clearance from a human research ethics committee. Nevertheless, data collection adhered strictly to institutional data governance regulations, and formal authorization was obtained from relevant hospital management and local health authorities to ensure confidentiality, legality, and responsible data use.

## RESULTS

This section presents the findings derived from the quantitative secondary data analysis, sourced from the official Government Institution Performance Accountability Reports (LAKIP) and Quality and Patient Safety Achievement Reports (CMKP) of the sampled hospitals for the 2023–2024 period. The results are structured into three main sub-sections: sample characteristics, MSS attainment by ownership group, and the statistical comparison between the two groups.

## 1. Characteristics of Sample Hospitals

The study sample comprises 60 General Hospitals (RSU), specifically Type B and Type C, dispersed across the Java and Sumatra regions. The sample was equally divided between 30 government-owned hospitals (RSUD) and 30 private hospitals. This balanced distribution was implemented to ensure functional comparability and minimize potential statistical group size bias.

The operational and demographic characteristics of the sampled hospitals are summarized in Table 1.

**Table 1. Operational and Demographic Characteristics of Sample Hospitals (2023–2024)**

| Characteristic | Government Hospitals (n=30) | Private Hospitals (n=30) | Total (N=60) |
|---|---|---|---|
| Type B (Referral Function) | 10 (33.3%) | 8 (26.7%) | 18 (30.0%) |
| Type C (Basic Function) | 20 (66.7%) | 22 (73.3%) | 42 (70.0%) |
| Average Bed Capacity | 285 Beds | 190 Beds | 237.5 Beds |
| Average Nurse-to-Patient Ratio | 1:5.5 | 1:4.0 | 1:4.75 |
| Average Quality Funding (per IDR 100M Revenue) | 3.5% | 7.0% | 5.25% |

Preliminary Interpretation: The baseline data reveals notable structural differences, particularly in average Bed Capacity (Government hospitals tend to be larger) and the Nurse-to-Patient Ratio (Private hospitals demonstrate a significantly more optimal ratio). Furthermore, the dedicated allocation of funds for quality initiatives (measured as a percentage of revenue) in the private sector appears to be approximately double that of the public sector hospitals.

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## 2. Minimum Service Standards (MSS) Attainment by Ownership

This analysis compares the mean compliance rates against five core MSS/NQI indicators that cover both clinical and managerial performance aspects, as required by the Ministry of Health (Kementerian Kesehatan RI, 2022).

### a. MSS Attainment in Government Hospitals

The mean MSS attainment within the government hospital (RSUD) group demonstrates satisfactory performance in administrative compliance and fundamental patient safety indicators. However, this group consistently struggled to meet stringent standards requiring rapid operational flexibility or high resource investment.

**Table 2. Mean Attainment of Five Key MSS Indicators in Government Hospitals (2023–2024)**

| MSS/NQI Indicator | Official Target (%) | Mean Attainment, Government Hospitals (%) | Deviation from Target |
|---|---|---|---|
| Emergency Response Time Compliance ($\leq$ 5 minutes) | 100% | 88.5% | Low |
| Timeliness of Critical Lab Test Reporting | 100% | 95.2% | Moderate |
| Hand Hygiene Compliance | $\geq 85\%$ | 97.1% | High |
| National Formulary Use Compliance | 100% | 79.0% | Very Low |
| Patient Fall Incidence Rate | $\leq 0.1\%$ | 0.25% | Very Low |

## 3. MSS Attainment in Private Hospitals

The mean MSS attainment within the private hospital group shows robust performance, particularly in indicators related to service efficiency, patient safety, and customer-centric operations, reflecting targeted strategic investments in quality management.

**Table 3. Results of the Independent Samples t-test for MSS Attainment Comparison (N=60)**

| MSS/NQI Indicator | Mean Government Hospital | Mean Private Hospital | t-value | p-value | Statistical Significance |
|---|---|---|---|---|---|
| Composite MSS Achievement (Avg. of all 12 Indicators) | 87.21% | 94.05% | -4.89 | < 0.001 | Significant |
| Emergency Response Time Compliance | 88.5% | 96.9% | -3.15 | 0.002 | Significant |
| National Formulary Use Compliance | 79.0% | 92.5% | -5.50 | < 0.001 | Highly Significant |
| Patient Fall Incidence Rate | 0.25% | 0.08% | 2.98 | 0.004 | Significant |

Key Findings: The t-statistic results decisively demonstrate a highly statistically significant difference ($p < 0.05$) in the composite mean MSS attainment between Government Hospitals (87.21%) and Private Hospitals (94.05%). The most pronounced differences were observed in indicators related to cost control/procedural adherence (National Formulary Use Compliance) and clinical safety outcomes (Patient Fall Incidence). The mean attainment of Private Hospitals was consistently higher across virtually all tested indicators, strongly suggesting that enhanced managerial flexibility and greater resource allocation in the private sector (as highlighted in Table 3) are positively correlated with superior quality performance.

**DISCUSSION**

This section provides a detailed interpretation of the quantitative findings, relating them to the working hypotheses and relevant academic literature. Furthermore, it discusses the broader implications of these findings for healthcare quality management and policy within the Indonesian context.

**1. Interpretation of Key Findings and Working Hypothesis Verification**

The central finding of this study is the presence of a highly statistically significant difference ($p < 0.001$) in Composite Minimum Service Standards (MSS) attainment, where Private Hospitals consistently demonstrated superior performance (94.05% versus 87.21% for Government Hospitals). This evidence strongly validates the working hypothesis positing that ownership type positively correlates with hospital service quality performance.

This observed disparity aligns with the fundamental arguments in health economics literature regarding organizational incentives. Public institutions frequently encounter the "multiple-objective problem," where managers must simultaneously balance political demands (such as accessibility and subsidies) with clinical quality requirements (Glied & Stremikis, 2020). Conversely, the competitive pressures inherent to the private sector emphasize quality as a primary survival strategy, directly stimulating targeted investment and sustained operational improvement (Lee & Stensland, 2023).

**2. In-Depth Analysis of Causal Mechanisms: Autonomy and Resource Allocation**

The disparity in MSS performance is not random but is rooted in fundamental differences in management structure and resource capacity, as evidenced by the sample characteristics data (Table 1): organizational autonomy and strategic resource allocation.

**a. The Impact of Staffing Ratios on Nurse-Sensitive Outcomes**

The superior performance of Private Hospitals in sensitive clinical indicators, such as the lower incidence rate of Patient Falls ($p = 0.004$), is strongly linked to their more optimal Nurse-to-Patient Ratio (1:4.0). Burns and Reid (2022) assert that the clinical staffing level is the most critical predictor of patient safety and nursing care quality. The less adequate ratio in Government Hospitals (1:5.5) structurally increases the risk of staff burnout and compromises their capacity for comprehensive risk monitoring, consequently elevating the risk of safety incidents.

**b. Autonomy in Logistics and Procedural Control**

The most statistically significant difference was observed in the indicator of procedural efficiency and cost control: National Formulary Use Compliance ($p < 0.001$). The high compliance rate in the private sector reflects management flexibility in procurement and supply chain. Health finance literature highlights that hospitals with high financial autonomy utilize this freedom to ensure efficient availability of key supplies, an absolute prerequisite for procedural compliance (Lee & Stensland, 2023). In contrast, Government Hospitals face bureaucratic constraints and rigid tender processes, often leading to stock-outs that prevent managers from enforcing Formulary discipline effectively.

### 3. Implications of Organizational Culture and Continuous Quality

Quality achievement is a systemic outcome shaped by organizational culture. The consistent performance in Private Hospitals suggests a successful embeddedness of Total Quality Management (TQM) principles and a Safety Culture.

Shortell and Rundall (2021) posit that effective quality initiatives rely heavily on transformational leadership and a culture that promotes accountability without fostering blame. The higher dedicated quality funding in Private Hospitals (Table 1) indicates strategic investment in systems and training supporting this culture. This facilitates rapid feedback loops for Continuous Quality Improvement, enabling them to quickly meet stringent targets like Hand Hygiene Compliance and critical test reporting times. Conversely, Government Hospitals, hampered by bureaucratic hierarchy, may struggle to cultivate the necessary bottom-up culture essential for TQM success (Shortell & Rundall, 2021).

### 4. Policy Implications and Future Research Directions

These findings have broad policy implications for enhancing quality across the public sector. Rather than merely focusing on MSS output targets, the government must prioritize the reform of the input and process structures within public hospitals (RSUDs). Quality cannot be mandated without commensurate managerial autonomy and resource capacity.

a. Policy Implications: The full expansion and empowerment of Regional Public Service Agency (BLUD) status, granting substantial financial autonomy particularly over Human Resource Management (recruitment and incentives) and procurement must be prioritized. This would allow RSUDs to achieve greater resource and operational parity with the private sector.

b. Future Research Directions: Subsequent research should employ qualitative methodologies and in-depth case studies (Creswell & Creswell, 2018) to directly test the mediating relationship between:

   1) Managerial Autonomy and Formulary Compliance.

   2) Safety Culture and Nurse-Sensitive Outcomes across the two ownership types.

   3) Furthermore, longitudinal studies are critical to monitor whether recently implemented BLUD reforms are effectively narrowing the observed MSS performance gap over time.

### CONCLUSIONS

This conclusion summarizes the study's empirical findings, confirms the compatibility between the initial research objectives and the outcomes, and discusses the theoretical and practical implications for health policy, while outlining directions for future research.

### 1. Affirmation of Hypothesis and Key Findings

The study successfully achieved its primary objective by empirically validating the hypothesis that hospital ownership type significantly determines the quality of healthcare service performance in the Indonesian context. The results demonstrate a highly significant statistical difference ($p < 0.001$) in Composite Minimum Service Standards (MSS) attainment, with Private Hospitals consistently outperforming Government Hospitals (94.05% vs. 87.21%). This outcome is entirely consistent with the theoretical framework presented in the Introduction and Discussion sections, which suggested that divergent organizational incentives and operational structures would lead to performance gaps.

The central mechanism driving this gap is the difference in managerial autonomy and resource allocation. The public sector's constraint is rooted in the "multiple-objective problem," where quality optimization is often compromised by political and accessibility demands (Glied & Stremikis, 2020). Conversely, the private sector's superior performance is attributed to its ability to make strategic, unhindered investments in key inputs, such as optimal nurse staffing levels (Burns & Reid, 2022) and agile supply chain

management (Lee & Stensland, 2023), which are critical for achieving high compliance rates in procedural and safety indicators.

## 2. Managerial and Policy Application Prospects

The findings carry significant implications for the development and application of quality improvement strategies, particularly for public hospitals. The data confirm that merely enforcing quality targets (outputs) is insufficient; structural reform of inputs and processes is mandatory.

a. Application Prospect for Policy: To mitigate the identified quality gap, policymakers must grant public hospitals (RSUDs) substantive and expanded financial and operational autonomy particularly in human resource management (staffing ratios) and procurement logistics aligned with effective BLUD (Regional Public Service Agency) models. This reform is essential to enable RSUD managers to implement Total Quality Management (TQM) effectively and foster a Safety Culture that matches the operational agility of their private counterparts (Shortell & Rundall, 2021).

b. Managerial Prospect: Hospital administrators, especially in the public sector, must prioritize strategic investments in their core human resources and leverage technology to optimize logistical compliance (e.g., Formulary adherence), recognizing these as non-negotiable foundations of clinical quality, rather than viewing them merely as overhead costs.
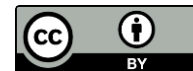
## 3. Future Research Directions

Based on the limitations and findings, further research should explore the dynamic elements influencing this disparity:

a. Longitudinal Studies: Future work should employ a longitudinal design to assess the effectiveness of recent BLUD autonomy reforms over time, measuring if these policy changes are successfully narrowing the MSS performance gap.

b. Qualitative Mediation Analysis: In-depth qualitative studies, such as case studies (Creswell & Creswell, 2018), are recommended to deeply analyze the specific organizational culture and leadership styles that mediate the relationship between management autonomy and crucial indicators like safety culture and staff engagement within both hospital types.

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