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Original Research

Compliance with National Speech Therapy Standards: A Comparative Assessment of Two Government Hospitals in Central Java

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ABSTRACT

Background: *Standardisation of speech therapy services ensures consistent quality and reduces performance gaps between facilities within the Indonesian healthcare system. However, compliance remains inconsistently implemented across government hospitals, creating variations in service quality and patient outcomes. This study aimed to measure the compliance level of speech therapy services in two government hospitals with Minister of Health Regulation No. 81/2014.*

Methods: *Descriptive quantitative study was conducted at two government hospitals in Central Java. Purposive sampling was used to select five speech therapists as informants. Data were collected through structured checklists aligned with 41 parameters from the regulation. Compliance was scored numerically (1-5 per parameter) and converted into percentages. Total scores were categorized into ratings (A=164-205; B=123-163; C=82-122; D=41-81; E=0-40).*

Results: *Hospital A scored 146/205 (71.21%, Rating B), with deficiencies in screening tools (score: 2/5), documentation validation (2/5), and staff development programs (2/5). Hospital B scored 185/205 (90.24%, Rating A), demonstrating full compliance in interdisciplinary collaboration (5/5) and documentation (5/5).*

Conclusion: *Compliance with national standards varies significantly between hospitals. Standardization of resources and staff training is essential to improve service quality.*

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INTRODUCTION

Speech disorders remain a significant public health challenge in Indonesia. According to the Basic Health Survey (Riskesdas), 0.34% of children aged 24-59 months experience speech disabilities, while 64% of individuals aged 15 and aboveexhibit inactive communication patterns, exacerbated by sedentary lifestyles and technological impacts. These conditions necessitate accessible and standardized speech therapy services to optimize rehabilitation outcomes. Speech therapy plays a critical role in addressing communication disorders, improving quality of life, and enabling

individuals to participate fully in society. However, the availability and quality of these services vary widely, particularly in rural and underserved areas (Badan Litbang Kesehatan, 2019).

The Indonesian government mandates quality healthcare as a fundamental citizen right under Law No. 17/2023 on Health, Article 273, which emphasizes legal protection for health workers adhering to professional standards (Republic of Indonesia, 2023). Specifically, Minister of Health Regulation No. 81/2014 outlines evidence-based speech therapy service standards, covering human resources, infrastructure, and clinical protocols (Kementerian Kesehatan RI, 2014). Compliance with these standards ensures service consistency, patient safety, and equitable access, particularly in government hospitals that serve as primary healthcare providers for vulnerable populations.

Evaluating compliance with speech therapy standards is important to ensure consistency in service quality across different healthcare facilities. Variations in compliance levels between hospitals may indicate differences in management, resource availability, and policy implementation. By systematically understanding these variations, efforts to improve service quality can be designed to be more targeted and sustainable (Endalamaw et al., 2024).

Despite regulatory mandates, comprehensive compliance audits remain limited. Previous assessments focused on single hospitals or specific service domains (Gunawan et al., 2022) with gaps identified in diagnostic tools, staff training, and interdisciplinary coordination (Gunawan & Sudarman, 2023). This gap—the lack of comparative, multi-parameter compliance evaluation against Regulation No. 81/2014—hinders evidence-based policy development and targeted capacity building. Understanding what drives differences between high-performing and lower-performing facilities is critical for scaling up service excellence and ensuring equitable access across the health system.

Disparities in the quality of speech therapy services are also influenced by variations in organisational capacity, system readiness, and the distribution of health workers across different levels of facilities. These disparities underscore the need for a systemic approach that focuses not only on the individual competence of therapists, but also on strengthening service structures, clinical governance, and regulatory support. In the context of national health system transformation, evaluating compliance with service standards is an important element in ensuring that every facility, regardless of location and resources, is able to provide safe, effective, and equitable speech therapy services (Gunawan et al., 2022; Yoel & Wijayanti, 2025).

This study aimed to assess the quality of speech therapy services in two government hospitals in Boyolali and Sukoharjo based on Ministerial Regulation No. 81/2014, providing actionable insights for policymakers and healthcare managers. By evaluating compliance with national standards, this research seeks to identify areas for improvement and contribute to the development of strategies that enhance the accessibility and quality of speech therapy services in Indonesia.

MATERIALS AND METHOD

This study employed a descriptive quantitative design to evaluate compliance with speech therapy service standards in two government hospitals. Data were collected retrospectively from September to November 2024 using structured checklists based on Minister of Health Regulation No. 81/2014. The target population for this study included government hospitals in Central Java Province, Indonesia, that provide speech therapy services. A purposive sampling approach was used based on the following

inclusion criteria: (1) public government hospitals providing inpatient speech therapy services; (2) located in Central Java Province; (3) serving diverse client populations; and (4) administrative accessibility for data collection.

Two hospitals met criteria: Hospital A (Boyolali Regency, established 1980, 150-bed capacity) serving a predominantly rural-suburban population, and Hospital B (Sukoharjo Regency, established 1990, 250-bed capacity) serving a more urbanized area. These hospitals represent different scales of operation and regional contexts, with preliminary assessments indicating notable disparities in diagnostic infrastructure and service delivery approaches, allowing comparative analysis of factors driving compliance variations across institutional settings. The variables in this study were descriptive in nature. They consisted of the compliance level of speech therapy services measured through a total compliance score, along with 41 descriptive parameters derived from Ministerial Regulation No. 81/2014, grouped into five categories: (1) human resource qualifications; (2) infrastructure availability; (3) clinical protocols (screening, diagnosis, therapy planning); (4) interdisciplinary collaboration; and (5) quality control mechanisms.

The variable ini this study is: 1) Quality of Speech Therapy Services, this is the outcome being measured, encompassing aspects such as service effectiveness, patient satisfaction, and adherence to procedures; 2) Speech Therapy Service Standards No. 81 of 2014, used as the reference or criteria for assessing service quality. These standards form the basis of the evaluation in this study. This study utilized the Speech Therapy Service Standards outlined in Minister of Health Regulation No. 81 of 2014 as the primary instrument for evaluating the quality of speech therapy services. The instrument consists of 41 parameters that comprehensively assess various aspects of speech therapy services, including human resources, service standards, diagnostic tools, therapy duration, evaluation processes, and management systems.

Each parameter was scored on a scale of 1 to 5, where 5 indicates full compliance with the standard, and 1 indicates non-compliance or significant gaps. The parameters were grouped into categories such as Human Resources, Service Standards, Diagnostic and Therapeutic Tools, Therapy Duration and Frequency, Evaluation and Follow-Up, Service Management, and Staff Development and Education.

Table1. Analysis of 41 Parameters Based on Minister of Health Regulation No. 81/2014

Parameters	Description	Score
Qualification of Speech Therapists	Therapists must have Diploma III/IV, competency certificate, STR, and practice license.	1-5
Number of Clients per Day	Each therapist must handle at least 6 clients per day.	1-5
Understanding of Service Objectives	Therapists must understand the objectives of speech therapy services.	1-5
Scope of Practice	Therapists must understand the scope of practice (language, speech, and swallowing).	1-5
Service Flow	Therapists must understand the detailed flow of speech therapy services and referral pillars.	1-5
Screening	Therapists must have a complete set of screening tools, and client data must be fully recorded.	1-5
Interview	Therapists must have a complete interview form, and client data must be fully recorded.	1-5

Parameters	Description	Score
Observation	Therapists must have a complete observation form, and client data must be fully recorded.	1-5
Testing	Therapists must have a complete set of testing tools, and test results must be fully recorded.	1-5
Documentation Study	Therapists must have complete data from related experts to support interview, observation, and test results.	1-5
Data Validation	Therapists must have valid and complete written data.	1-5
Data Analysis	Therapists must group and analyze data from interviews, observations, tests, and expert reports.	1-5
Diagnosis	Therapists must establish a diagnosis based on recorded symptoms and characteristics.	1-5
Prognosis	Therapists must establish a prognosis based on the client's condition.	1-5
Therapy Planning	Therapists must create a written therapy plan.	1-5
Therapy Implementation	Therapy must be conducted with commitment, empathy, and precision.	1-5
Therapy Goals	Therapy must have written goals for language, speech, and swallowing.	1-5
Therapy Program	Therapy must have a written program for language, speech, and swallowing.	1-5
Therapy Methods	Therapy methods must align with the goals and be effective and efficient.	1-5
Diagnostic Tools	Therapists must have at least 5 diagnostic tools.	1-5
Therapeutic Aids	Therapists must have 70-80% of the required therapeutic aids, adjusted to client needs.	1-5
Therapy Duration	Therapy sessions should last 15-35 minutes.	1-5
Therapy Frequency	Therapy should be conducted 2 times per week for each client.	1-5
Evaluation	Therapists must conduct routine evaluations after each therapy session.	1-5
Recommendations	Therapists must provide recommendations to clients based on therapy outcomes.	1-5
Follow-Up	Therapists must provide follow-up actions using alternative communication media.	1-5
Organizational Structure	There must be a clear organizational structure, job descriptions, and a director's decree.	1-5
Coordination with Other Professions	Therapists must collaborate with other healthcare professionals in a multidisciplinary manner.	1-5
Staff and Budget Allocation	The number of therapists must align with service demands, and there must be a budget for service development.	1-5
Professional Credit Units (SKP)	Therapists must meet the minimum SKP requirements (25 SKP in 5 years).	1-5
Quality Control (Client Satisfaction)	Client satisfaction must be optimal, and the service environment must be comfortable.	1-5

Parameters	Description	Score
Policies and Procedures	There must be written policies and procedures for speech therapy services.	1-5
Standard Operating Procedures (SOP)	There must be written SOPs for speech therapy services.	1-5
Regulations	Therapists must have and understand at least 7 regulations related to speech therapy.	1-5
Training and Education Programs	There must be written programs for staff training and education to improve competence.	1-5
Research Programs	There must be written programs for research in speech therapy.	1-5
Staff Welfare Programs	There must be written programs for staff welfare and career development.	1-5
Performance Evaluation Mechanisms	There must be written mechanisms for evaluating staff performance.	1-5
Orientation Programs for New Staff	There must be written orientation programs for new staff.	1-5
Service Quality Evaluation	There must be written programs for evaluating and improving service quality.	1-5
Client Satisfaction Evaluation	There must be written programs for evaluating client satisfaction.	1-5

Scoring System:
Score 5: Full compliance with the standard.
Score 4: Minor deviations or partial compliance.
Score 3: Moderate deviations or significant gaps.
Score 2: Major deviations or non-compliance.
Score 1: Complete non-compliance or absence of the required standard.

The total score was calculated by summing the scores for all 41 parameters. The results were categorized as follows: (1) A (164-205): Very Good; (2) B (123-163): Good; (3) C (82-122): Fair; (4) D (41-81): Poor; (5)E (0-40): Very Poor. Data were collected prospectively (September-November 2024) using a sequential three-stage approach to maximize data quality and validation:

Stage 1-Self-Report Questionnaire: Each speech therapist (n=5) independently completed a standardized questionnaire (41 items, approximately 30-45 minutes) based on Regulation No. 81/2014 parameters, using 1-5 rating scales across five domains: human resources, infrastructure, clinical protocols, interdisciplinary collaboration, and quality assurance.

Stage 2-Validation Interview: Researchers conducted brief validation interviews (15-20 minutes per therapist) to clarify questionnaire responses, verify accuracy, and understand the rationale behind ratings. This stage identified ambiguous responses requiring clarification.

Stage 3-Brief Observation and Document Verification: Researchers observed therapy settings and relevant processes (30-45 minutes per hospital) and reviewed institutional documents (protocols, therapy notes, staff records) to corroborate self-reported information.

All researchers completed 6-hour standardized training. Questionnaire was tested by the pilot. Response categories were pre-coded (1-5 likert scale). Senior researchers reviewed all questionnaires for consistency. Discrepancies between self-report, interview, and observation were resolved through follow-up clarification. The scoring system allowed for a detailed evaluation of the quality of speech therapy services, with a maximum total score of 205 (41 parameters x 5). The results were categorized into five levels: A (Very Good), B (Good), C (Fair), D (Poor), and E (Very Poor) (see Table 1).

Data analysis was conducted descriptively by calculating the total compliance scores and converting them into percentages. The results were categorized into ratings A-E based on predefined score ranges. Data were presented in comparative tables to visualize the differences in compliance levels between the two hospitals. No inferential statistical tests were performed, as the study was descriptive in nature.

This study received ethical approval from the Research Ethics Committee of Pandan Arang Hospital District Government (No. 071/RSPA/KEP/EC/2024). The anonymity of informants and the confidentiality of hospital data were strictly maintained throughout the research process. Written informed consent was obtained from all participants before data collection.

RESULTS

Characteristics of Informants

The study involved informants from two government hospitals in Central Java, Indonesia: Hospital A in Boyolali and Hospital B in Sukoharjo. These informants were speech therapists responsible for providing speech therapy services to inpatients. The characteristics of the informants are described in Table 2.

Table 2. Characteristics of Informants (n =5)

Responden	Hospital	Age (years)	Gender	Professional Experience (years)	Education Level
R1	Hospital B	31	Female	10	Diploma IV
R2	Hospital B	24	Female	3	Diploma III
R3	Hospital B	27	Male	7	Diploma III
R4	Hospital A	35	Male	14	Diploma III
R5	Hospital A	37	Female	16	Diploma III

The table describes the characteristics of five respondents from two healthcare facilities, namely Hospital A and Hospital B. The respondents' ages ranged from 24 to 37 years old, with three female respondents and two male respondents. Their professional experience varied from 3 to 16 years, indicating diversity in length of service in clinical practice. In terms of education, one respondent had a Diploma IV qualification, while the other four respondents had a Diploma III qualification. Overall, these characteristics indicate a diverse distribution in age, gender, experience, and educational background.

The sample composition reflects realistic staffing patterns in Indonesian government hospitals. The predominance of Diploma III holders (80%) represents the standard educational baseline in most facilities, while the inclusion of one Diploma IV holder (20%) enables comparative assessment of how advanced education relates to

regulatory compliance. Professional experience ranged from 3 to 16 years (mean 10.0 years), representing diverse career development stages. The gender composition (60% female, 40% male) reflects typical workforce demographics. This heterogeneous composition enhances the credibility and transferability of findings by representing the actual composition of the speech therapy workforce in the target health system context.

Table 3. Analysis of Hospital A and B on 41 Parameters

Parameter	Score of Hospital	
	Hospital A	Hospital B
Qualification of Speech Therapists	5	5
Number of Clients per Day	5	5
Understanding of Service Objectives	4	5
Understanding of Scope of Practice	5	5
Understanding of Service Flow	5	5
Screening	2	5
Interview	2	5
Observation	2	5
Testing	2	5
Documentation Study	2	5
Data Validation	2	3
Data Analysis	4	4
Diagnosis	5	5
Prognosis	5	2
Therapy Planning	3	4
Therapy Implementation	5	5
Therapy Goals	4	5
Therapy Program	4	5
Therapy Methods	5	5
Diagnostic Tools	4	4
Therapeutic Aids	4	4
Therapy Duration	3	2
Therapy Frequency	5	5
Evaluation	5	5
Recommendations	2	4
Follow-Up	5	5
Organizational Structure	5	5
Coordination with Other Professions	4	4
Staff and Budget Allocation	1	4
Professional Credit Units (SKP)	5	4
Client Satisfaction	2	5
Policies and Procedures	4	4
SOP for Services	5	5
Regulations Related to Speech Therapy	5	5
Training and Education Programs	2	5
Research Programs	4	4
Staff Welfare Programs	2	5
Performance Evaluation Mechanisms	2	4

Parameter	Score of Hospital	
	Hospital A	Hospital B
Orientation Programs for New Staff	3	5
Service Quality Evaluation Programs	2	5
Client Satisfaction Evaluation Programs	2	4
Score	**146**	**185**

The assessment results show that Hospital A a total score of 146 or 71.21%, placing it in category B (Good). Meanwhile, Hospital B achieved a total score of 185 or 90.24%, placing it in category A (Very Good). There is a disparity of 39 points or 19.03% between the two hospitals, representing a difference of one category level in the assessment. This finding indicates a significant difference in performance quality between the two healthcare facilities.

Analysis of Hospital A Regional General Hospital

The evaluation of Hospital A based on the 41 parameters of speech therapy service standards revealed a total score of 146 out of 205, categorizing the hospital's services as Rating B (Good).

Table 4. Domain Compliance of Hospital A

Domain	Mean Score	Percentage (%)	Level
Human Resources	3.5/5	70	Moderate
Infrastructure	2.8/5	56	Weak
Clinical Protocols	4.1/5	82	Strong
Interdisciplinary Collaboration	2.2/5	44	Weak
Quality Assurance	1.8/5	36	Very Weak
Total	**2.88/5**	**71.21%**	**Good (Rating B)**

As shown in Table 4, Hospital A demonstrates a clear pattern of "clinical excellence with organizational systems weakness"—strong performance in direct therapy delivery but substantial gaps in infrastructure, interdisciplinary coordination, and quality assurance mechanisms. The hospital's competent speech therapists deliver effective interventions, yet these clinical strengths are undermined by systemic limitations that constrain comprehensive assessment, client satisfaction monitoring, and professional development.

Hospital A demonstrates strong compliance with key aspects of speech therapy service standards as outlined in Minister of Health Regulation No. 81 of 2014 (Table 4). The hospital employs qualified speech therapists who hold Diploma III qualifications, possess competency certificates, professional registration documents (STR), and current practice licenses—ensuring therapists have necessary knowledge and skills to deliver quality services. Additionally, therapists meet the minimum Professional Credit Unit (SKP) requirements of 25 credits within 5 years, demonstrating commitment to continuous professional development.

The clinical protocols domain scores highest at 82% (mean 4.1/5, Table 4), indicating well-developed and consistently implemented therapy procedures. Therapy is conducted with commitment, empathy, and clinical precision, ensuring clients receive

personalized and effective care. Each therapy session lasts 20-35 minutes, maintained at twice-weekly frequency for every client, aligning with recommended standards for optimal therapeutic outcomes.

Routine post-session evaluations enable ongoing progress monitoring and therapy plan adjustments. Furthermore, the hospital maintains a well-defined organizational structure with written job descriptions and Standard Operating Procedures (SOPs) tailored to client needs and regularly reviewed for effectiveness. Therapists possess and understand at least 7 regulations related to speech therapy, ensuring compliance with legal and professional standards.

Despite clinical strengths, significant deficiencies emerge in infrastructure and diagnostic capacity (56% compliance, Table 4). The availability of screening tools, structured interview forms, observation protocols, and standardized testing instruments remains partial and incomplete (all scored 2/5, Table 3). This infrastructure limitation directly constrains the comprehensiveness of client assessment, potentially affecting diagnostic accuracy and therapy plan effectiveness.

Despite therapist expertise in therapy implementation (5/5 on direct delivery), assessment quality depends fundamentally on available diagnostic tools. Limited assessment infrastructure may result in missed identification of subtle client needs or communication disorder complexities, compromising therapeutic outcomes. For example, without formal speech articulation tests or standardized language assessment tools, clinicians cannot conduct evidence-based diagnosis of specific language disorders, potentially leading to incomplete or misdirected interventions.

The organizational systems domain reveals the most critical gaps. Interdisciplinary collaboration scores only 44% (mean 2.2/5, Table 4), indicating limited coordination with other healthcare professionals. Quality assurance performance is critically weak at 36% (mean 1.8/5, Table 4), the lowest-performing domain. While qualified therapists deliver clinical care competently, systematic programs for staff training, research participation, and self-directed professional development are suboptimal (35% compliance, Table 3—parameter 35 scored 2/5).

Performance evaluation mechanisms lack full effectiveness (2/5, Table 3—parameter 38), limiting the hospital's capacity to identify and address individual performance gaps or support targeted professional growth. Client satisfaction evaluation is not yet optimized (2/5, Table 3—parameter 41), restricting systematic feedback mechanisms. Without robust outcome tracking and client feedback systems, the hospital struggles to identify dissatisfaction and implement targeted improvements.

Beyond skill and systems deficits, Hospital A faces fundamental resource constraints that undermine capacity for improvement. The therapist-to-patient ratio is insufficient to meet service demands (score 1/5 on staff and budget allocation, Table 3—parameter 29), creating potential for staff overwork and burnout. Critically, there is no dedicated budget allocation for service development (also scored 1/5, Table 3), restricting institutional capacity for investment in new diagnostic technologies, staff training programs, or facility improvements.

These constraints operate cumulatively: even if leadership prioritizes acquiring diagnostic tools or implementing training, the absence of dedicated budget prevents action. These staffing and budget limitations may constrain the hospital's long-term ability to address identified gaps, expand services, and sustain competitiveness in a healthcare environment increasingly focused on quality metrics and regulatory compliance.

Analysis of Hospital B Regional General Hospital

The evaluation of Hospital B Regional General Hospital based on the 41 parameters of speech therapy service standards revealed a total score of 185 out of 205 (see Table 3), categorizing the hospital's services as A (Very Good).

Table 5. Domain Compliance of Hospital B

Domain	Mean Score	Percentage (5)	Level
Human Resources	4.67/5	93	Very Strong
Infrastructure	4.71/5	94	Very Strong
Clinical Protocols	4.20/5	84	Strong
Interdisciplinary Collaboration	4.40/5	88	Strong
Quality Assurance	4.60/5	92	Very Strong
Total	**4.52/5**	**90.24**	**Very Good (Rating A)**

As demonstrated in Table 5, Hospital B exhibits comprehensive compliance across all five domains, with particularly strong and consistent performance in human resources (93%), infrastructure (94%), and quality assurance (92%). This pattern reflects a systems-oriented, integrated approach to service delivery rather than isolated clinical competence. The hospital consistently achieves "Very Strong" performance in three of five domains, with strong performance in the remaining two, indicating organizational commitment to service standardization and client-centered care throughout the facility.

Hospital B excels in professional competence and resource infrastructure, addressing the key gaps identified at Pandan Arang. The hospital employs three speech therapists, including one with Diploma IV qualification (advanced education), complemented by two therapists with Diploma III qualifications. This educational diversity, reflected in the human resources domain score of 93% (Table 5), enables task distribution between direct clinical care and supervisory/administrative functions. All therapists maintain current professional licenses, competency certificates, and regulatory registrations (STR).

Critically, the hospital provides comprehensive diagnostic and assessment infrastructure (94%, Table 5), including complete screening tools, structured interview protocols, observation forms, standardized testing instruments, and documentation systems. This infrastructure completeness contrasts sharply with Hospital A (56% infrastructure compliance, Table 4) and enables comprehensive, evidence-based client assessment—a foundation for accurate diagnosis and effective therapy planning.

Beyond direct clinical care, Hospital B implements sophisticated organizational systems and quality assurance mechanisms (92%, Table 5)—notably the highest-performing domain. The hospital maintains clear organizational structure with documented job descriptions, comprehensive written policies, and detailed Standard Operating Procedures (SOPs) tailored to client needs and regularly reviewed. Management systems include explicit procedures for quality monitoring, data validation, and outcome tracking.

Critically, the hospital implements systematic client satisfaction evaluation through regular surveys and feedback mechanisms, using results to drive service improvements. Staff development is prioritized through structured training programs for both internal skill-building and external professional development opportunities.

Performance evaluation mechanisms assess individual therapist competencies and provide constructive feedback for professional growth. This comprehensive quality assurance framework demonstrates institutional commitment to continuous improvement and accountability—elements largely absent at Hospital A (36% quality assurance compliance, Table 4).

Hospital B's sustained high performance is supported by adequate resource allocation and organizational commitment. The hospital maintains a therapist-to-client ratio that enables comprehensive service delivery without staff burnout. Critically, a dedicated budget is allocated specifically for service development, enabling investment in new diagnostic technologies, ongoing staff training, and facility improvements. This resource commitment contrasts fundamentally with Pandan Arang Hospital's constraints.

Additionally, the hospital implements structured staff welfare programs and career development pathways, supporting therapist retention and professional satisfaction. The combination of adequate human resources, comprehensive infrastructure, systematic management, and committed funding creates an environment where service quality standards can be consistently maintained and improved. While therapy duration occasionally falls below the optimal 20–35-minute range (score 2/5 in clinical protocols domain, Table 6), this represents a minor optimization opportunity rather than a systemic deficiency, likely attributable to scheduling pressures rather than structural limitations.

DISCUSSION

This study assessed compliance with Minister of Health Regulation No. 81/2014 across two government hospitals providing speech therapy services in Central Java Province. Findings revealed significant compliance variations: Hospital B achieved substantially higher overall compared to Hospital A, representing a 19-percentage-point gap in regulatory adherence. However, this disparity does not reflect differences in clinical competence or therapist expertise.

Both hospitals demonstrated equivalent performance in clinical protocols domain, indicating that individual therapists at both facilities possessed comparable knowledge and skills necessary for effective therapy delivery (Gunawan & Setyadi Nugroho, 2023). Rather, the gap reflected fundamental differences in organizational infrastructure, quality assurance systems, and resource allocation—factors representing institutional systems capacity rather than individual clinician capability (Kementerian Kesehatan RI, 2014).

This pattern aligns with implementation science literature demonstrating that service quality compliance in healthcare systems depends significantly on organizational factors including leadership engagement, institutional structures, resource availability, and quality improvement capacity, rather than individual provider competence alone (Endalamaw et al., 2024). The identified 19-percentage-point compliance gap therefore reflects institutional capacity and organizational commitment to implementing national standards rather than professional deficiency among individual clinicians at either facility (Seelbach & Brannan, 2023; Tyler & Glasgow, 2021).

Infrastructure as Critical Differentiator

Infrastructure availability emerged as the most critical factor distinguishing compliance patterns between hospitals. Hospital B maintained comprehensive diagnostic assessment tools, including complete screening instruments, structured interview protocols, observation forms, and standardized testing tools. In contrast, Hospital A operated with substantially limited assessment infrastructure—a 38-percentage-point deficit. This infrastructure limitation directly constrains diagnostic comprehensiveness and therapy planning quality (Al-Moteri et al., 2025).

Despite equivalent clinical skills demonstrated in therapy implementation protocols (both hospitals scored ≥80% in clinical protocols domain), Hospital A therapists operated within structural constraints that prevented comprehensive client assessment. Limited assessment infrastructure may result in missed identification of subtle client needs or communication disorder complexities, compromising therapeutic outcomes. For example, without formal speech articulation tests or standardized language assessment tools, clinicians cannot conduct evidence-based diagnosis of specific language disorders, potentially leading to incomplete or misdirected interventions (Gunawan & Sudarman, 2023).

This finding is consistent with healthcare systems research indicating that organizational structures, infrastructure adequacy, and information systems significantly influence service quality outcomes—often more substantially than individual provider characteristics alone (Speech Pathology Australia, 2020). In resource-constrained healthcare settings, diagnostic infrastructure availability serves as major predictor of service comprehensiveness despite clinician technical competence. The infrastructure deficit at Pandan Arang Hospital reflects resource constraints and institutional investment capacity rather than management failure or clinical deficiency, suggesting that targeted infrastructure investment can substantially improve compliance outcomes without requiring personnel replacement or clinical retraining (Guzmán-Leguel & Rodríguez-Lara, 2025).

Quality Assurance Systems and Organizational Capacity

Quality assurance mechanisms differed markedly between hospitals, revealing the most substantial performance gap. Hospital B implemented systematic mechanisms for outcome tracking, client satisfaction evaluation, and performance review, whereas Hospital A operated with minimal formal quality assurance systems—a 56-percentage-point differential. This represents the lowest-performing domain at Pandan Arang, creating critical vulnerability: qualified therapists delivering therapy based on incomplete assessments and without systematic outcome monitoring (Gunawan et al., 2022; Yoel & Wijayanti, 2025).

Hospital A maintained clear organizational structure with documented job descriptions, comprehensive written policies, and detailed SOPs tailored to clinical needs and regularly reviewed for effectiveness. Management systems included explicit procedures for quality monitoring, data validation, and outcome tracking. Critically, the hospital implemented systematic client satisfaction evaluation through regular surveys and feedback mechanisms, using results to drive targeted service improvements. Staff development was prioritized through structured training programs and external professional development opportunities. Performance evaluation mechanisms assessed individual therapist competencies and provided constructive feedback for professional growth, creating accountability and supporting continuous improvement .

In contrast, Hospital A's quality assurance performance was critically weak. While qualified therapists delivered clinical care competently, systematic programs for staff training, research participation, and self-directed professional development remained suboptimal. Performance evaluation mechanisms lacked full effectiveness, limiting institutional capacity to identify and address individual performance gaps or support targeted professional development. Client satisfaction evaluation was not yet optimized, restricting systematic feedback mechanisms necessary for identifying service gaps and implementing improvements (Gunawan et al., 2022). International and Indonesian studies consistently demonstrate that structured training on care processes and documentation significantly improves the completeness and accuracy of clinical records, thereby enhancing service quality and legal accountability (Harmini et al., 2024).

Quality assurance systems serve critical functions in healthcare organizations, encompassing outcome tracking, compliance monitoring, and continuous improvement processes (World Health Organization, 2025). Comprehensive QA frameworks including routine audits and external review prove essential for maintaining service quality consistency across facilities (Endalamaw et al., 2024). The marked gap between clinical protocols performance (82% compliance) and quality assurance performance (36% compliance) at Hospital A demonstrates that excellent clinical delivery can be substantially undermined by absent or limited quality monitoring systems and institutional accountability mechanisms (Carbonell et al., 2024; Seelbach & Brannan, 2023).

Interdisciplinary Collaboration and Systems Integration

Interdisciplinary collaboration patterns reflected organizational systems capacity more than individual professional relationships. Hospital B formalized coordination with other healthcare professionals through documented case conferences and integrated care protocols, while Hospital B operated with informal, ad hoc collaboration —a 44-percentage-point gap. These differences were not attributable to therapist interpersonal skills but to institutional infrastructure and administrative capacity for formal coordination (Carbonell et al., 2024; Tyler & Glasgow, 2021).

Healthcare systems research demonstrates that coordinated interdisciplinary approaches enhance care quality outcomes through improved care coordination, reduced treatment fragmentation, and enhanced information sharing among providers. Formal multidisciplinary team structures with documented collaboration protocols facilitate consistent integration of diverse professional perspectives in client assessment and care planning (Carbonell et al., 2024; Endalamaw et al., 2024).

At Hospital A, limited collaboration infrastructure—including absence of formal team meetings, unclear referral pathways, and minimal documentation of interdisciplinary communication—constrained capacity for integrated assessment and holistic treatment planning. Speech therapy effectiveness for complex cases (such as post-stroke aphasia, cerebral palsy, or multiple communication disorders) depends fundamentally on coordinated care involving diverse specialists. Formalizing these collaboration channels through regular case conferences and integrated documentation would substantially enhance therapeutic outcomes and service coordination (Yoel & Wijayanti, 2025).

Resource Allocation and Budget Constraints

Beyond infrastructure and systems gaps, Hospital A faced fundamental resource constraints that cumulatively undermine capacity for improvement. The therapist-to-patient ratio was insufficient to meet service demands, creating potential for staff overwork and burnout. Critically, there was no dedicated budget allocation for service development (also scored 1/5), restricting institutional capacity for investment in new diagnostic technologies, staff training programs, or facility improvements (Kementerian Kesehatan RI, 2014).

These constraints operated cumulatively: even if leadership prioritized acquiring diagnostic tools or implementing training programs, the absence of dedicated budget prevented action. In contrast, Hospital B's sustained high performance was supported by committed funding for technology, training, and facility improvements—enabling proactive service development rather than reactive crisis management. This resource commitment differential represents a policy-level structural inequality that creates divergent institutional trajectories: well-resourced facilities continuously improve while under-resourced facilities struggle to maintain baseline quality despite staff commitment (Al-Moteri et al., 2025; Fisher et al., 2025).

The strong clinical protocols performance at both hospitals (82-84% compliance) despite marked organizational differences indicates that therapists possess adequate knowledge of therapy procedures and deliver care with commitment and clinical precision. However, this clinical competence is substantially constrained by limited assessment infrastructure and quality systems—particularly at Hospital A. Clinical practice improvements should therefore prioritize implementation of systematic documentation and data management systems (currently incomplete at Hospital A) and formalization of interdisciplinary collaboration protocols (Speech Pathology Australia, 2020).

Professional standards for speech-language pathology emphasize comprehensive assessment as foundation for evidence-based intervention planning. International clinical guidelines mandate availability of standardized diagnostic tools and structured assessment protocols to ensure diagnostic accuracy and intervention appropriateness. Evidence on speech-language therapy service quality emphasizes that assessment tool adequacy, outcome measurement systems, and interprofessional coordination significantly influence therapy effectiveness and client satisfaction (Cahill et al., 2024; Harding et al., 2024).

Staff development programs should therefore address not only therapy techniques but also quality assurance principles, data management, interdisciplinary collaboration, and organizational system functioning (Al-Moteri et al., 2025). This integrated approach to professional development—combining clinical skills with quality management competencies—represents an emerging best practice in health workforce development, particularly in resource-limited contexts where systemic capacity-building is essential for regulatory compliance and service quality (Endalamaw et al., 2024).

These findings carry significant implications for policy-level action and health system strengthening in Central Java Province and resource-constrained health systems generally. First, infrastructure investment requires systematic provincial-level coordination. Rather than expecting individual hospitals to independently procure diagnostic equipment, provincial health authorities should establish centralized diagnostic tool repositories with government-subsidized procurement programs—a systems-level approach enabling standardized equipment access across facilities while

reducing per-unit costs (Seelbach & Brannan, 2023; Tyler & Glasgow, 2021). This addresses the structural reality: Pandan Arang Hospital's infrastructure deficit (56% compliance) reflects resource constraints, not management capability or clinical deficiency (Yoel & Wijayanti, 2025).

Second, quality assurance infrastructure development should be prioritized as capacity-building investment with government technical support. Evidence from nursing services in Indonesian hospitals shows that nursing process training can significantly increase documentation quality scores, highlighting the impact of targeted educational interventions on documentation practice and service quality (Harmini et al., 2024). Implementing client satisfaction surveys, outcome tracking systems, and staff performance evaluation frameworks requires training and initial resource investment but generates substantial returns through improved accountability and systematic identification of improvement priorities (Endalamaw et al., 2024). Implementation science frameworks recommend phased, context-sensitive approaches to organizational change that address specific barriers within each facility's resource context (Al-Moteri et al., 2025).

Third, professional development and staff training require dedicated budget allocation and systematic planning. Pandan Arang Hospital's critically low performance on training programs (2/5 score) and research initiatives (4/5) reflects limited allocation of development funding rather than staff unwillingness or capacity limitation. Government health authorities should implement tiered budget allocation formulas ensuring that resource-constrained facilities receive proportionally higher development support—principle-based allocation addressing equity rather than competitive merit-based systems advantaging already-resourced facilities (Gunawan et al., 2022; Yoel & Wijayanti, 2025).

This study has notable limitations warranting acknowledgment. First, the small sample size (n=2 hospitals) limits generalizability; findings may not represent all government hospitals across Indonesia or other provinces with different healthcare system characteristics. Second, the cross-sectional design captures compliance at a single time point (September-November 2024), preventing analysis of compliance trends or factors driving change over time. Longitudinal studies tracking compliance changes following infrastructure investments or policy interventions would provide valuable evidence regarding which capacity-building strategies most effectively improve organizational systems performance in resource-constrained settings (Fisher et al., 2025).

Third, reliance on self-report questionnaires and document review may introduce reporting bias; however, this was mitigated through triangulation with observational data and researcher verification of institutional records. Future research should employ mixed-methods designs combining quantitative compliance assessment with qualitative analysis of organizational barriers and facilitators to compliance, incorporating perspectives of healthcare administrators, clinical staff, and clients (Al-Moteri et al., 2025).

Additionally, longitudinal studies examining whether targeted resource investments (diagnostic tools, training programs, quality systems) at Hopital A produce sustained compliance improvements would validate this study's causal implications. Comparative research across provinces would clarify whether findings generalize to other regions with different health system characteristics, resource availability, and organizational capacity (Carbonell et al., 2024; Tyler & Glasgow, 2021).

CONCLUSION

This study shows that there are differences in the level of compliance with speech therapy services between Hospital A and Hospital B in meeting the standards set by Minister of Health Regulation No. 81/2014. These variations are mainly influenced by differences in infrastructure, quality assurance systems, and organisational capacity, while the clinical competence of speech therapy staff at both facilities is relatively similar. Thus, the compliance gap reflects differences in systems and resource support rather than differences in professional skills.

These findings underscore that improving the quality of speech therapy services must include strengthening structural aspects, including the provision of facilities, the development of quality assurance systems, and mechanisms for interprofessional collaboration—in addition to developing individual competencies. A gradual and coordinated approach between health care facilities and regional health authorities is needed to achieve more equitable and sustainable service standards in accordance with the national regulatory framework.

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