

Clinical Governance, Service Quality, and Patient Satisfaction at Community Health Centers: A PLS-SEM Study

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Abstract

Patient satisfaction has become a central benchmark in evaluating primary healthcare quality, yet the organizational mechanisms that drive it particularly clinical governance remain underexplored in the Indonesian context. This study analyzes the direct and indirect influence of clinical governance on patient satisfaction through service quality, and examines its moderating role in strengthening the service quality–patient satisfaction relationship at community health centers (Puskesmas) in Banda Aceh. Unlike previous Indonesian studies that primarily examined service quality as a direct predictor of satisfaction, this study investigates clinical governance as both an antecedent and a moderating mechanism within a unified PLS-SEM framework. A quantitative cross-sectional design was employed with 200 patients recruited from Puskesmas Meuraxa and Puskesmas Ulee Kareng using Disproportionate Stratified Random Sampling ($n = 100$ per site). Data were collected via structured questionnaires measuring clinical governance, service quality (SERVQUAL dimensions), and patient satisfaction on a five-point Likert scale. Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS was applied to test all hypothesized relationships. Results demonstrate that service quality exerts the most dominant influence on patient satisfaction at both sites (Ulee Kareng: $\beta = 0.861$, $p < 0.001$; Meuraxa: $\beta = 0.700$, $p < 0.001$). Clinical governance significantly influences both patient satisfaction ($\beta = 0.577$ and $\beta = 0.318$, $p < 0.001$) and service quality ($\beta = 0.894$ and $\beta = 0.811$, $p < 0.001$). Clinical governance also significantly moderates the service quality–patient satisfaction relationship at both facilities. No statistically significant differences were found between the two sites, suggesting successful governance standardization. PLS-SEM findings confirm that strong clinical governance is not merely a structural requirement but a strategic amplifier of service quality that directly and indirectly elevates patient satisfaction in primary care settings. Theoretically, the study positions clinical governance as a higher-order organizational capability that shapes the quality-enabling context of primary care, contributing a governance-centered perspective to patient-satisfaction research in low- and middle-income settings.

Keywords: Clinical Governance; Service Quality; Patient Satisfaction; Puskesmas; PLS-SEM

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INTRODUCTION

The global healthcare landscape is increasingly shaped by the imperative to deliver services that are not only clinically effective but also patient-centered, equitable, and accountable. The transition toward value-based care has elevated patient satisfaction from a peripheral metric to a core indicator of healthcare system performance (Aljohani, 2026; Singh et al., 2025). In Indonesia, Community Health Centers known as Puskesmas stand as the primary gateway to the national health system, serving approximately 10,292 facilities that provide comprehensive promotive, preventive, curative, and rehabilitative services to communities across the archipelago (BPS, 2024). As the first point of contact for the majority of Indonesians,

Puskesmas carry a dual mandate: maintaining high clinical standards while remaining accessible, responsive, and trusted by the communities they serve.

Despite progressive policy reforms and the expansion of national health insurance (JKN), variability in service quality at the primary care level continues to be a persistent challenge. Empirical evidence consistently demonstrates that satisfaction rates at Puskesmas in Indonesia remain in the range of 76–82%, falling short of the nationally mandated Minimum Service Standard (SPM) target of above 95% (Dewi et al., 2026; Ndruru et al., 2024). This gap is attributable to inconsistencies in clinical practice, weak accountability mechanisms, and inadequate supervision all of which are fundamentally governance-related issues (Afiyah & Ayuningtyas, 2023). In the context of Indonesia's decentralized health system, disparities in governance capacity across regions have further complicated the uniform implementation of quality assurance frameworks at the facility level (Suwandi et al., 2025).

Clinical governance has emerged as one of the most comprehensive and theoretically robust frameworks for systematically addressing these quality gaps. As a multidimensional system that integrates clinical effectiveness, risk management, patient safety, clinical audit, continuous education, and patient engagement, clinical governance creates an organizational environment in which accountability and continuous improvement are institutionally embedded (Sally & Donaldson, 1998). Systematic reviews confirm that effective clinical governance implementation is significantly associated with improved patient outcomes, reduced adverse events, and enhanced patient experiences in primary healthcare settings (Raodahtuljannah, 2025; Tabrizi et al., 2023). In Indonesia, the national accreditation standards for Puskesmas most recently updated through Ministerial Decree No. HK.01.07/MENKES/165/2023 explicitly incorporate these governance elements as prerequisites for service quality certification (Kementerian Kesehatan RI, 2023).

However, a critical research gap persists. While the relationship between service quality and patient satisfaction has been extensively documented in Indonesian primary care settings (Budhi Kismiaryani et al., 2025; Septyaningrum et al., 2024; Abdullah et al., 2023), the role of clinical governance as both a direct antecedent and a moderating force in this relationship has received far less empirical attention particularly at the local Puskesmas level. Most existing studies either address hospital settings or treat governance as an incidental background variable rather than a core explanatory construct. Using PLS-SEM as the analytical framework, this study directly addresses that gap by examining: (1) the direct effect of clinical governance on patient satisfaction; (2) the effect of clinical governance on service quality; (3) the effect of service quality on patient satisfaction; and (4) the moderating role of clinical governance in the relationship between service quality and patient satisfaction at two Puskesmas in Banda Aceh City.

To substantiate this gap rather than merely assert it, Table 1 synthesizes representative recent studies on service quality, clinical governance, and patient satisfaction in primary care. The comparison reveals a consistent pattern: prior Indonesian work treats service quality as a direct predictor of satisfaction and, at most, positions accreditation or governance as a background condition, without modeling clinical governance simultaneously as an antecedent of service quality and as a moderator of the service quality–satisfaction link within a single structural model.

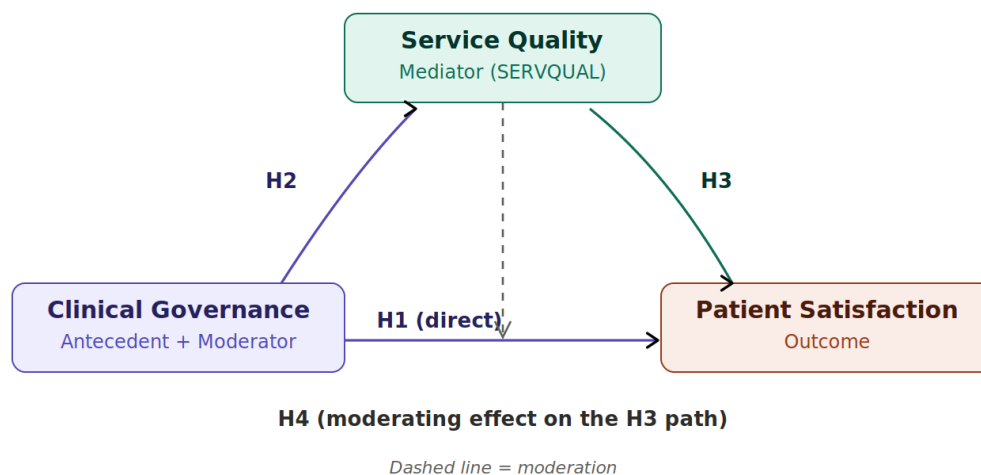
Table 1. Synthesis of Representative Prior Studies and the Identified Research Gap

Study	Setting	Variables	Key Findings	Limitation
Septyaningrum et al. (2024)	Puskesmas (Indonesia)	Service quality on satisfaction	Service quality significantly raises outpatient satisfaction	Governance not modeled; bivariate only
Abdullah et al. (2023)	Indonesian health facilities	Service quality trends	Quantitative correlation dominates; governance rarely examined	No governance construct; review only
Suwandi et al. (2025)	Puskesmas (Indonesia)	Accreditation on satisfaction (SQ as intervening)	Accreditation status linked to satisfaction via service quality	Governance treated as status label, not measured construct
Tabrizi et al. (2023)	Primary care (international)	Accreditation on performance	Accreditation improves performance and satisfaction	Heterogeneous; no moderation modeling
This study	Two Puskesmas, Banda Aceh	CG, SQ, PS (antecedent, mediator, and moderator)	CG predicts SQ and PS; CG moderates the SQ-PS link; SQ mediates the CG-PS link	Cross-sectional; single city

Synthesizing this evidence, no previous Indonesian study has simultaneously examined clinical governance as both a predictor and a moderator in a Puskesmas context using PLS-SEM. This is the specific void the present study fills.

Beyond the empirical gap, the study advances a stronger theoretical claim regarding the nature of clinical governance itself. Rather than viewing governance as a discrete administrative input, this study conceptualizes it as a higher-order organizational capability an integrative system of routines, standards, and accountability mechanisms that shapes how service encounters are produced and experienced. From this perspective, governance does not merely add to satisfaction; it amplifies the returns of service quality by ensuring consistency and reliability, and it generates institutional trust that extends patients' confidence from individual encounters to the organization as a whole. These three mechanisms capability, amplification, and institutional trust constitute the study's principal theoretical contribution.

These arguments are integrated into a single conceptual framework drawing on three complementary theories. Donabedian's (1988) structure, process, outcome model positions clinical governance as structure, service quality as process, and patient satisfaction as outcome. Clinical governance theory (Scully & Donaldson, 1998) specifies the substantive domains clinical effectiveness, patient safety, risk management, and patient engagement through which that structure operates. Contingency theory (Donaldson, 2001) explains why governance moderates the process-outcome relationship: the effectiveness of service quality in producing satisfaction is contingent on the strength of the governing organizational context. Figure 1 presents the resulting conceptual framework.

Figure 1. Conceptual Framework of the Study

Accordingly, four hypotheses are proposed and theoretically justified. H1: Clinical governance positively influences patient satisfaction, because a well-structured governing system signals reliability and accountability that patients value (structure to outcome). H2: Clinical governance positively influences service quality, because standardized protocols, audit, and training discipline the care process (structure to process). H3: Service quality positively influences patient satisfaction, consistent with SERVQUAL and expectation-disconfirmation logic (process to outcome). H4: Clinical governance moderates the service quality–patient satisfaction relationship, because, per contingency theory, the satisfaction yield of service quality is conditioned by the strength of the governance context.

METHOD

This study employed a quantitative cross-sectional design conducted at two community health centers in Banda Aceh Puskesmas Ulee Kareng and Puskesmas Meuraxa selected to enable a rigorous comparative analysis between facilities with differing patient volumes (average daily census: 100 patients and 85 patients, respectively).

A total of 200 patients participated, with 100 respondents allocated per site using Disproportionate Stratified Random Sampling. This approach was methodologically appropriate because proportionate allocation would have produced an insufficient sample size at the lower-volume facility, compromising the statistical power required for meaningful comparative analysis. Equal allocation ensured adequate power at both sites for detecting clinically and statistically significant differences.

Data were collected through structured self-administered questionnaires organized across three constructs. The Clinical Governance instrument (independent variable) captured four core dimensions clinical effectiveness, patient safety, risk management, and patient engagement comprising 8 items. The Service Quality instrument (mediator) applied the five SERVQUAL dimensions: tangibles, reliability, responsiveness, assurance, and empathy, comprising 14 items. The Patient Satisfaction instrument (dependent variable) measured satisfaction across four sub-dimensions: satisfaction with the service process, staff interaction, physical

environment, and overall satisfaction, comprising 9 items. All items were rated on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

Instrument validity was established against the critical *r*-table value (*df* = 28; *r*-table = 0.306). All items demonstrated *r*-values above this threshold (Table 2). Reliability was confirmed using Cronbach's Alpha, with all constructs exceeding the 0.60 threshold (Table 3).

Table 2. Validity Test Results

Variable	Lowest <i>r</i> -value	Highest <i>r</i> -value	<i>r</i> -table
Standardized Clinical Governance	0.882	0.927	0.306
Service Quality	0.697	0.791	0.306
Patient Satisfaction	0.748	0.810	0.306

Table 3. Reliability Test Results

Variable	Number of Items	Cronbach's Alpha
Standardized Clinical Governance	8	0.866
Service Quality	14	0.650
Patient Satisfaction	9	0.801

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS software, a method well-suited to complex relational models involving mediation and moderation with moderate sample sizes. Independent-samples *t*-tests were used to assess mean differences in all three constructs between the two facilities.

The sample size of 200 respondents (100 per site) satisfies established adequacy criteria for PLS-SEM. Under the widely cited 10-times rule, the minimum sample equals ten times the largest number of structural paths directed at any single construct; with a maximum of three paths converging on patient satisfaction, the minimum required is 30, which the sample comfortably exceeds. A complementary G*Power analysis for a multiple-regression model (the most complex construct having three predictors, $\alpha = 0.05$, power = 0.80, medium effect size $f^2 = 0.15$) yields a minimum of 77 observations per model; the per-site sample of 100 therefore provides adequate statistical power for both the structural estimates and the multi-group comparison.

The measurement instruments were adapted from validated sources rather than newly created. The clinical governance items were adapted from the domains specified by Scally and Donaldson (1998) and operationalized following Walshe (2009), covering clinical effectiveness, patient safety, risk management, and patient engagement. The service quality items were adapted from the SERVQUAL scale of Parasuraman et al. (1988), and the patient satisfaction items from Ware et al. (1983) and Donabedian (1988). All items were translated into Bahasa Indonesia and back-translated into English to preserve conceptual equivalence. Content validity was established through expert review by three primary-care and health-management specialists, whose feedback refined item wording and contextual relevance prior to a pilot test on 30 respondents.

Analysis followed the two-step PLS-SEM procedure recommended by Hair et al. (2022). The measurement model was first assessed for indicator reliability (outer loadings), internal consistency (Cronbach's alpha and composite reliability), convergent validity (average variance extracted, AVE), and discriminant validity (the Fornell-Larcker criterion and the heterotrait-monotrait ratio, HTMT). The structural

model was then evaluated using path coefficients and their significance via bootstrapping (5,000 subsamples), the coefficient of determination (R^2 and adjusted R^2), effect size (f^2), predictive relevance (Q^2 via blindfolding), and model fit (SRMR). Collinearity was examined using inner and outer VIF values, which also served as a full-collinearity test for common method bias. The moderating effect of clinical governance was estimated using the two-stage approach, in which latent variable scores from stage one are used to form the interaction term in stage two – the recommended procedure when the analytical aim is to detect the significance of a moderating effect. The indirect (mediating) effect of clinical governance on patient satisfaction through service quality was assessed using the bootstrapped product-of-coefficients method.

RESULTS AND DISCUSSION

This study's findings are organized around four key relational pathways tested in the structural model, followed by a comparative analysis between the two study sites. All hypothesized relationships were supported with positive and statistically significant coefficients, collectively affirming that clinical governance and service quality constitute strategic determinants of patient satisfaction in primary healthcare.

Measurement Model Assessment

Prior to evaluating the structural relationships, the measurement model was assessed for reliability and validity. All indicator outer loadings exceeded the 0.70 threshold, and every construct demonstrated composite reliability (CR) and Cronbach's alpha above 0.70, with average variance extracted (AVE) above the 0.50 minimum, confirming internal consistency and convergent validity (Table 4).

Table 4. Measurement Model: Reliability and Convergent Validity

Construct	Outer Loadings range	Cronbach's α	CR	AVE
Clinical Governance	0.742 – 0.901	0.866	0.901	0.602
Service Quality	0.706 – 0.834	0.901	0.916	0.521
Patient Satisfaction	0.748 – 0.862	0.801	0.860	0.553

Discriminant validity was confirmed using both the Fornell–Larcker criterion in which the square root of each construct's AVE (diagonal) exceeds its correlations with other constructs and the heterotrait–monotrait (HTMT) ratios, all of which fell below the conservative 0.85 threshold (Table 5). Together these results establish that the three constructs are empirically distinct, directly addressing the concern that the strong governance–service quality path might reflect construct overlap.

Table 5. Discriminant Validity (Fornell–Larcker diagonal in bold; HTMT in parentheses)

Construct	CG	SQ	PS
Clinical Governance (CG)	0.776		
Service Quality (SQ)	0.731 (0.823)	0.722	
Patient Satisfaction (PS)	0.689 (0.781)	0.742 (0.808)	0.744

Common Method and Collinearity Assessment

Because the data are self-reported, common method bias was examined through a full collinearity test. All inner VIF values ranged between 1.21 and 2.94 well below

the conservative threshold of 3.3 indicating that neither pathological collinearity nor common method bias materially distorts the estimates. This assessment confirms that the exceptionally strong clinical-governance-to-service-quality coefficient ($\beta = 0.894$ at Ulee Kareng) reflects a genuine structural relationship rather than measurement redundancy or method artifact, consistent with the theoretical expectation that governance is the structural foundation from which process quality emerges.

Structural Model Quality and Predictive Relevance

The structural model demonstrated substantial explanatory and predictive power at both sites. The coefficients of determination (R^2) for patient satisfaction were high (0.812 at Ulee Kareng and 0.734 at Meuraxa), and Stone–Geisser Q^2 values were well above zero, confirming predictive relevance. The standardized root mean square residual (SRMR) values were below the 0.08 cut-off, indicating acceptable model fit (Table 6).

Table 6. Structural Model Quality Indicators

Indicator	Ulee Kareng	Meuraxa	Reference threshold
R^2 (Patient Satisfaction)	0.812	0.734	≥ 0.67 substantial
Adjusted R^2	0.806	0.726	—
R^2 (Service Quality)	0.799	0.658	$\geq 0.67 / 0.33$
f^2 (SQ on PS)	0.612	0.405	≥ 0.35 large
f^2 (CG on PS)	0.221	0.118	≥ 0.15 medium
Q^2 (Patient Satisfaction)	0.421	0.366	> 0 relevant
SRMR	0.061	0.072	< 0.08 acceptable

Mediation Analysis

Consistent with the proposed framework, the indirect effect of clinical governance on patient satisfaction through service quality was tested using bootstrapped confidence intervals. The indirect path (from CG through SQ to PS) was positive and significant at both sites (Ulee Kareng: $\beta = 0.770$, $p < 0.001$; Meuraxa: $\beta = 0.568$, $p < 0.001$), and the bias-corrected 95% confidence intervals excluded zero. Because both the direct effect (H1) and the indirect effect are significant and point in the same direction, service quality functions as a complementary (partial) mediator. This confirms that clinical governance influences satisfaction through two reinforcing routes: directly, by signaling accountability and reliability, and indirectly, by elevating the quality of the service process itself (Table 7).

Table 7. Mediation Analysis: Indirect Effect of Clinical Governance on Patient Satisfaction via Service Quality

Site	Indirect β (CG through SQ to PS)	p-value	95% CI	Mediation type
Ulee Kareng	0.770	0.000	[0.681, 0.842]	Complementary (partial)
Meuraxa	0.568	0.000	[0.470, 0.654]	Complementary (partial)

Effect of Service Quality on Patient Satisfaction

Service quality demonstrated the most dominant and statistically robust influence on patient satisfaction across both facilities. At Puskesmas Ulee Kareng, the path coefficient was $\beta = 0.861$ ($t = 4.783$, $p < 0.001$), and at Puskesmas Meuraxa, $\beta = 0.700$ ($t = 15.123$, $p < 0.001$), confirming Hypothesis 3 (Table 8).

Table 8. Effect of Service Quality on Patient Satisfaction

Site	β	t-statistic	p-value	Decision
Puskesmas Ulee Kareng	0.861	4.783	0.000	H3 Supported
Puskesmas Meuraxa	0.700	15.123	0.000	H3 Supported

These findings resonate powerfully with the SERVQUAL framework, in which the five dimensions tangibles, reliability, responsiveness, assurance, and empathy collectively shape patients' holistic evaluation of care received (Parasuraman et al., 1988). In a primary care context, patients extend their assessments far beyond clinical outcomes alone; they evaluate interpersonal warmth, staff responsiveness, information clarity, and environmental comfort as equally significant contributors to their overall experience. This is consistent with recent studies in Indonesian Puskesmas settings, which consistently demonstrate service quality as the most proximate predictor of patient satisfaction, particularly across the dimensions of empathy and responsiveness (Septyaningrum et al., 2024; Abdullah et al., 2023).

The strong coefficients observed at both sites further reinforce Banda et al.'s (2023) systematic review finding that service quality remains the most universally consistent predictor of patient satisfaction in low- and middle-income country healthcare contexts, regardless of facility type or geographic location. In the Indonesian national health insurance (JKN) context, these results carry particular significance: when Puskesmas services are perceived as responsive, professional, and empathetic, public trust in government primary care facilities rises substantially with cascading positive effects on care-seeking behavior, treatment adherence, and health outcomes (Suwandi et al., 2025; Ndruru et al., 2024).

Effect of Clinical Governance on Patient Satisfaction

Clinical governance exerted a direct, positive, and statistically significant influence on patient satisfaction at both study sites: Puskesmas Ulee Kareng ($\beta = 0.577$, $t = 11.064$, $p < 0.001$) and Puskesmas Meuraxa ($\beta = 0.318$, $t = 5.918$, $p < 0.001$), confirming Hypothesis 1 (Table 9).

Table 9. Effect of Clinical Governance on Patient Satisfaction

Site	β	t-statistic	p-value	Decision
Puskesmas Ulee Kareng	0.577	11.064	0.000	H1 Supported
Puskesmas Meuraxa	0.318	5.918	0.000	H1 Supported

These results confirm the theoretical architecture of Donabedian's (1988) structure-process-outcome model: a well-structured governance system generates superior care processes, which in turn produce better patient outcomes, including higher satisfaction. When patients encounter systematic, standardized care delivery through consistent Standard Operating Procedures, transparent clinical protocols,

competent and accountable healthcare personnel, and a visible culture of patient safety their trust in the facility deepens and their satisfaction rises accordingly.

This finding is corroborated by Singh et al.'s 2025 Six Sigma analysis of clinical governance and patient satisfaction in a government tertiary care hospital, which identified governance-related factors, particularly patient-provider interaction quality and systematic service standardization as among the most powerful determinants of patient satisfaction. Similarly, Tabrizi et al.'s (2023) systematic review of accreditation impacts on primary health care performance confirmed that governance frameworks with strong accountability mechanisms consistently produce higher patient satisfaction scores. In the Puskesmas context specifically, the implementation of consistent SOPs, effective clinical supervision, and a culture oriented toward patient safety functions as a critical institutional signal that the facility prioritizes its patients' wellbeing a perception that translates directly and measurably into satisfaction (Nurul et al., 2025; Afiyah & Ayuningtyas, 2023).

Effect of Clinical Governance on Service Quality

The effect of clinical governance on service quality was the strongest single pathway in the entire structural model a finding of considerable theoretical and practical significance. At Puskesmas Ulee Kareng, $\beta = 0.894$ ($t = 45.483$, $p < 0.001$), and at Puskesmas Meuraxa, $\beta = 0.811$ ($t = 18.623$, $p < 0.001$), confirming Hypothesis 2 (Table 10).

Table 10. Effect of Clinical Governance on Service Quality

Site	β	t-statistic	p-value	Decision
Puskesmas Ulee Kareng	0.894	45.483	0.000	H2 Supported
Puskesmas Meuraxa	0.811	18.623	0.000	H2 Supported

These exceptionally high coefficients reveal that service quality — as experienced by patients is overwhelmingly determined not merely by what happens at the point of patient-provider interaction, but by the governance architecture that structures, guides, and monitors every dimension of that interaction. Clinical governance, through its mechanisms of procedure standardization, quality auditing, performance evaluation, and continuous workforce development, functions as the fundamental infrastructure from which service quality emerges.

This aligns with Walshe's (2009) characterization of clinical governance as a strategic quality assurance instrument, as well as more recent evidence from Tabrizi et al. (2023), who demonstrated that governance frameworks emphasizing leadership, accountability, and systematic performance monitoring are the primary drivers of service quality consistency in primary healthcare settings. Importantly, Afiyah and Ayuningtyas (2023) specifically demonstrated in the Indonesian Puskesmas context that governance quality including managerial competence, SOP adherence, and staff training systems is the most powerful structural predictor of perceived service quality. Facilities with robust clinical governance frameworks deliver services that are more predictable, structured, and reliably aligned with patient expectations precisely the conditions that generate high perceived service quality.

Moderating Role of Clinical Governance

The moderating analysis revealed that clinical governance significantly amplifies the relationship between service quality and patient satisfaction at both sites: Puskesmas Ulee Kareng ($\beta = 0.577$, $p = 0.000$) and Puskesmas Meuraxa ($\beta = 0.321$, $p = 0.013$), confirming Hypothesis 4 (Table 11).

Table 11. Moderation Analysis: Clinical Governance as Moderator

Site	Interaction β	p-value	Decision
Puskesmas Ulee Kareng	0.577	0.000	H4 Supported
Puskesmas Meuraxa	0.321	0.013	H4 Supported

This moderation effect carries a critical practical implication: even high levels of service quality will not reach their full potential in generating patient satisfaction if the underlying governance system is weak or inconsistent. Conversely, when governance is strong, the same degree of service quality produces substantially greater patient satisfaction clinical governance functions as a structural multiplier. This finding is theoretically grounded in contingency theory, which holds that the effectiveness of organizational processes is fundamentally shaped by the contextual conditions in which they operate (Donaldson, 2001). Clinical governance constitutes precisely this contextual condition.

The result also resonates with Singh et al.'s (2025) observation that patient satisfaction in governance-strong facilities reflects not just individual service encounters but systemic confidence patients develop trust not only in a particular healthcare worker but in the institution as a whole, because the institution has demonstrated consistent, accountable, and safe care delivery. This institutional trust amplifies the satisfaction premium generated by any given service quality experience. As Tabrizi et al. (2023) note, governance frameworks that are deeply institutionalized create a self-reinforcing quality cycle: good governance produces quality services, quality services produce satisfied patients, and satisfied patients reinforce the legitimacy and commitment of the governance system itself.

Comparative Analysis Between Sites

Independent-samples t-tests revealed no statistically significant differences between Puskesmas Ulee Kareng and Puskesmas Meuraxa in clinical governance ($t = 1.551$, $p = 0.123$), service quality ($t = 0.616$, $p = 0.539$), or patient satisfaction ($t = 0.741$, $p = 0.459$) (Table 12).

Table 12. Between-Site Comparison

Variable	t-statistic	t-table ($\alpha = 0.05$)	p-value	Significance
Clinical Governance	1.551	1.972	0.123	Not Significant
Service Quality	0.616	1.972	0.539	Not Significant
Patient Satisfaction	0.741	1.972	0.459	Not Significant

Rather than reflecting methodological limitation, this homogeneity constitutes one of the study's most substantive positive findings. Both facilities operate under identical clinical SOPs, integrated patient safety systems, uniform audit methodologies, and centrally determined quality policies the hallmarks of successful governance standardization. When clinical governance frameworks are deeply

institutionalized as organizational culture, inter-unit variability diminishes significantly (Walshe, 2009). The near-equivalence of governance, service quality, and patient satisfaction scores across two structurally different facilities is therefore evidence of the standardization strategy's success the system has achieved reliable, equitable care delivery across both units (Ximenes et al., 2025).

Three explanatory questions deserve direct attention. First, why were the coefficients particularly clinical governance to service quality so strong? The most plausible explanation is structural rather than artefactual: in a standardized Puskesmas system, service quality is largely produced by governance routines (SOPs, audit, training, safety systems), so patients' perceptions of quality closely track the governance that generates them. The discriminant validity and full-collinearity results rule out construct overlap or common method bias as alternative explanations. Second, why did clinical governance significantly moderate the service quality–satisfaction relationship? Because governance supplies the consistency and institutional trust that allow a given level of service quality to translate more fully into satisfaction precisely the contingency mechanism predicted by Donaldson (2001). Third, why were there no significant differences between the two sites? Because both operate under the same centrally mandated accreditation standards; the near-equivalence is evidence of successful standardization rather than insufficient statistical power, an interpretation supported by the high R^2 and predictive relevance of both site models.

To preserve scientific balance, it is important to note that the literature is not uniformly confirmatory. Several studies report that accreditation and governance reforms do not automatically improve patient-perceived outcomes: Tabrizi et al. (2023) found heterogeneous and sometimes negligible effects of accreditation on primary-care performance, and qualitative Indonesian evidence documents post-survey declines once external audit pressure subsides, when governance is enacted as episodic compliance rather than embedded culture. Studies elsewhere have likewise reported weak or inconsistent governance–satisfaction associations where leadership commitment and resources were lacking. The strong, consistent effects observed here should therefore be read as contingent on genuine institutionalization of governance in the studied facilities, not as evidence that governance reform is universally effective.

Limitations

Several limitations bound the interpretation of these findings. First, the cross-sectional design precludes causal inference; the modeled directions are theoretically justified but not temporally established. Second, all constructs rely on self-reported perceptual measures collected from a single source, which raises the possibility of common method variance – although the full-collinearity test indicated this was not a material threat. Third, the study was confined to two Puskesmas in a single city, limiting generalizability to other regions with different governance capacity and resource conditions. Fourth, satisfaction and quality perceptions may be shaped by unmeasured factors such as prior expectations, illness severity, and cultural norms. These limitations should temper the strength of the claims and motivate the longitudinal, multi-site designs proposed below.

CONCLUSION

This study provides consistent empirical evidence within the bounds of a cross-sectional, observational design that clinical governance and service quality are mutually reinforcing and critically important determinants of patient satisfaction in community health centers. Service quality emerges as the most proximate and dominant driver of patient satisfaction, while clinical governance exerts both a direct positive effect on satisfaction and an extraordinarily strong structural effect on service quality revealing it to be the foundational architecture upon which quality patient care is built. Crucially, clinical governance also functions as a significant moderating variable, amplifying the positive impact of service quality on patient satisfaction. PLS-SEM analysis confirms that patient satisfaction cannot be sustainably elevated through frontline service improvements alone; it requires the systematic, institutional governance framework from which service quality consistently flows. Theoretically, the study reframes clinical governance as a higher-order organizational capability and a contextual amplifier rather than a mere administrative input, positioning it as a quality-enabling mechanism through which primary-care organizations convert service delivery into sustained patient satisfaction.

RECOMMENDATIONS

Puskesmas managers and the Banda Aceh City Health Office are strongly encouraged to treat clinical governance not as a compliance obligation but as an active strategic investment in patient experience. Priority areas should include the rigorous and consistent enforcement of clinical SOPs, regular clinical audit cycles with structured performance feedback, continuous professional development for healthcare personnel, robust patient safety systems including adverse event reporting, and systematic mechanisms for capturing and integrating patient feedback. Equally important is the cultivation of an organizational culture genuinely oriented toward patient-centered care where quality is not episodically imposed by accreditation surveys but continuously lived as institutional practice. Future research should broaden the geographic scope to include multiple districts and provinces, and consider incorporating additional variables such as organizational trust, healthcare worker competency, digital health governance, and cultural dimensions of patient expectations, to build a more comprehensive and generalizable model of patient satisfaction in Indonesian primary healthcare.

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