

BPJS SERVICE QUALITY AND PATIENT SATISFACTION: A MIXED-METHODS STUDY IN INDONESIAN PUBLIC HOSPITALS

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ARTICLE HISTORY

Received : 17-10-2025

Revised : 25-10-2025

Accepted : 18-11-2025

KEYWORDS

**BPJS Kesehatan,
Patient satisfaction,
Quality service,
Public hospital;
mixed-method study**

ABSTRACT

In Indonesia, the National Health Insurance (BPJS Kesehatan) has successfully facilitated access to healthcare, despite fluctuations in people's satisfaction with public hospitals. It is essential because services must be continually improved and maintained at a high standard to identify the most critical quality dimensions. We aim to investigate how these dimensions of service quality impact the level of satisfaction among BPJS patients in a qualitative setting. Our research approach was a combination method. We asked 188 BPJS patients questions regarding Tangibles, Reliability, Responsiveness, Assurance and Empathy. We used semi-structured interviews with 24 respondents to investigate their experience. Responsiveness ($\beta = 0.312$; $p < 0.001$), assurance ($\beta = 0.287$; $p < 0.001$) and empathy ($\beta = 0.241$; $p < 0.01$) were significant predictors of satisfaction ($R^2 = 0.684$; $F = 162.37$; $p < 0.001$). The physical side was not very good, and its reliability was also subpar. Interviews revealed that participants were concerned with waiting times, the way the staff treated them and perceived a difference in the treatment of BPJS patients and non-BPJS patients. The attitudes and empathy of BPJS staff toward patients are the most influential factors in determining the level of satisfaction among BPJS patients. Hospitals should be taught how to communicate effectively, manage queues and appointments in real-time, and enhance service quality. Payers and managers at BPJS could include these items in contracts, compensate for performance, require total reporting on waiting and experience, and advocate for triage and staffing that minimize waiting times.

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INTRODUCTIONS

Universal health coverage is a noble pledge to provide equal access to good healthcare services for all, regardless of their background. (World Health Organization, 2021) In the case of Indonesia, the fulfilment of this pledge resulted from a significant change in the operation of its National Health Insurance system, known as *Badan Penyelenggara Jaminan Sosial Kesehatan* (BPJS Kesehatan) in 2014. BPJS Kesehatan is one of the largest single-payer health insurance systems in the world, with over 230 million members as of 2023. (Ministry of Health Indonesia, 2023) The quality of health services and patient satisfaction have emerged as among the more troublesome issues for the continued sustainability and efficiency of the system, despite this colossal growth in coverage. (Handayani et al., 2024; Prasetyo & Rahayu, 2025; Review, 2023)

Patient satisfaction is a crucial measure of healthcare quality, serving both as a clinical outcome measure and an experiential indicator of the quality of healthcare delivery. (Batbaatar et al., 2017) Patient satisfaction improves the quality of healthcare service provision, adherence to treatment, health outcomes, and the use of preventive services. (Hwang et al., 2020) This very dissatisfaction can result in the abandonment of healthcare delivery, the dissemination of negative opinions, and a decline in people's trust in the healthcare system. (Kruk et al., 2018) In the case of BPJS Kesehatan, consideration should also be given to the determinants of patient satisfaction, taking into account the differences in service quality, waiting times, and perceived quality of service between the insured and uninsured groups. (Marhenta et al., 2018)

Patient satisfaction study can be evaluated best by Parasuraman et al. (1988) SERVQUAL model, which has five dimensions: tangibles (physical facilities and equipment), reliability (ability to provide the service reliably), responsiveness (willingness to assist patients), assurance (knowledge and courtesy of staff), and empathy (individual attends to patients). (Parasuraman et al., 1988). Although this model has been used in several studies examining healthcare quality, there is a distinct lack of empirical research investigating the performance of these dimensions in the context of publicly funded insurance systems in developing countries with limited resources and large patient numbers with diverse needs. (AlOmari, 2020; Sumi & Kabir, 2021; Wu et al., 2024; Yang et al., 2024)

North Sulawesi is an ideal province for conducting patient satisfaction ratings among BPJS patients. As an area with variable geographic and demographic characteristics, including urban centers and remote rural locations, it can demonstrate the fluctuations caused by the geographical changes accompanying the imposition of these reforms across Indonesia. Initial findings suggest significant variations in patient experiences across facilities. Anecdotal observations regarding administrative procedures, staff behavior, and perceived quality of service indicate a lack of satisfaction. (Panjaitan, 2020; Sundoro, 2023) However, this reduces the ability to identify and quantify its less-than-satisfactory features and the reasons for them.

The present research project fills the void in the literature. Using a sequential explanatory mixed-methods design, we investigate the relationship between the quality of service and patient satisfaction among patients of BPJS Kesehatan in public hospitals. The quantitative phase provides information on the dimensions of service quality that predict satisfaction. In contrast, the qualitative phase provides an extension of the patient experience and patient perceptions in a contextual context. The strengths of the approach taken are that it enables statistically generalized decision-making while still representing richer stories of patients, facilitating triangulation of data sources, and generating actionable policy and practice recommendations.

The research questions that will be implemented in this research are as follows: (1) How is the effect of service quality aspects (tangibles, reliability, responsiveness, assurance, empathy) on patients' satisfaction with BPJS beneficiaries? (2) What powerful dimensions of service quality influence satisfaction? (3) What are the contextual issues/experiences of the patient that explain the observed quantitative trends? The responses to these questions will enable this study to contribute to existing knowledge on the quality of healthcare delivered within the universal coverage systems. It provides evidence for recommendations to improve BPJS service provision in Indonesia and elsewhere.

Literature Review and Theoretical Framework

Theoretical Constructs: Quality of the Service and Satisfaction of the Patients.

The quality of healthcare services has been significantly improved over the last 40 years. The basic model of structure, process, and outcomes, developed by Brook and Lohr (1981), remains central to the measurement of healthcare quality, underscoring the point that not only are clinical outcomes themselves an indicator of excellence, but also the organizational and process context in which they occur. (Brook & Lohr, 1981) Based on this, Parasuraman et al. (1985) developed the SERVQUAL model, which defines service quality as the difference between consumer expectations and perceptions across five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. This model has been proven to be robust in healthcare organizations, as supported by Dagger et al. (2007) and Ramsaran-Fowler et al. (2008). (Dagger et al., 2007; Roshnee Ramsaran-Fowdar, 2008)

The healthcare service environment encompasses physical elements that represent tangible aspects of service delivery. The service delivery staff's physical appearance, along with the status of their equipment and the cleanliness of the facility, comprise the tangible aspects of service delivery. The ratings provided at service completion help identify service quality; however, the first phase of healthcare depends on tangible factors to build trust between patients and providers. (Alcantara et al., 2025; Andaleeb et al., 2007; Liu et al., 2025)

Healthcare services must follow their intended patterns of delivery reliably, thereby fulfilling their obligations to patients and their families. The provision of correct medical diagnoses, effective treatment plans, and timely appointment scheduling is the essence of reliable healthcare services. The reliability factor influences patients' perceptions of hospital services, as it fosters trust and encourages patients to utilize these services. (Aliman & Mohamad, 2013). According to current research, patients continue to show loyalty towards public health organizations when these organizations provide reliable services through digital transparency and adhere to existing procedural protocols. (Alcantara et al., 2025; Julianty, 2025)

Responsiveness is the provision of care and assistance to patients in a prompt, neutral, and effective manner. Responsiveness significantly affects patient perceptions; in the emergency and outpatient setting, in particular, wait time has a salient determinant. A series of empirical studies have now demonstrated that responsiveness is most closely related to satisfaction and perceived equity, and this relationship is reinforced with the presence of a communication channel and real-time queue information. (Cendana, 2024; Morales et al., 2024; Nasyicha et al., 2024) The assurance (competence, civility, and reliability) of healthcare professionals in doctor-patient encounters promotes patient confidence and trust in the medical system. It is a strong predictor of satisfaction, particularly when the interaction is high-stakes in the patient's perception and there is perceived vulnerability. (Chang et al., 2013; Shie et al., 2022)

Empathy is the ability to understand an individual patient's emotional and physiological State and requirements. It is associated with increased satisfaction, especially in older adults and patients with chronic conditions. (Nembhard et al., 2023) Empathic encounters (active listening, acknowledgment, and recognition of patients' experience) are now recognized in contemporary medical literature as an integral component of the therapeutic relationship and increased adherence to therapeutic regimens. (Marzuq et al., 2022; Shie et al., 2022)

BPJS Kesehatan & Healthcare in Indonesia

BPJS Kesehatan is the entity responsible for managing health funds in Indonesia. It laid out a system that was broken and scattered by elementary schools and replaced it with a clearer system. It includes two principles: capitation for primary care and INA-CBG for hospitals. Both are designed to reduce costs and increase access to health services. Recent studies have identified problems. As the capitation amount increases, it can harm the quality of care provided, rewarding hospitals. (Volmar et al., 2023) INA-CBG can be used to compensate hospitals that avoid or restrict severe cases. However, even though JKN covers a large number of people, they still pay more than 30% of their health expenses out-of-pocket. The first issue is that of those who are most vulnerable. (Maulana et al., 2022)

BPJS quality, as perceived by patient smiles, is scattered. Most people are happy. However, the most significant complaints have been the time it takes to complete the procedure and poor communication with the staff. Thus, rural-

urban divides remain (Maulana et al., 2022). "Rural hospitals typically have fewer supplies and less experienced staff than the urban ones, so people are less satisfied. (Weeks et al., 2023) Some patients complain that the treatment for BPJS patients is lower than that for patients who pay for themselves, which reveals a two-tiered system. Concern for fairness and quality is on the rise. (Taylor, 2019)

Although the correlation between service quality and patient satisfaction has been established, the empirical literature has not exhaustively investigated the relationship between the individual dimensions of service quality and patient satisfaction, specifically in the context of BPJS. In addition, most available studies have focused on general satisfaction, rather than examining the impact of each dimension of service quality on overall satisfaction. The above records are mostly cross-sectional surveys, and there was no qualitative data to provide more insight into the identified patient satisfaction results. This paper fills a knowledge gap by conducting a systematic review of the personal contribution of each SERVQUAL dimension to patient satisfaction. This will be enhanced with BPJS patient experiences, which will strengthen the relationships being developed.

METHODOLOGY

Research Design

This study employed both quantitative and qualitative methods, adopting a sequential explanatory mixed-methods approach with a holistic perspective to achieve BPJS service satisfaction. The quantitative phase involved a cross-sectional survey, in which various dimensions of service quality were quantified and the level of satisfaction was measured. The qualitative stage was reached through the in-depth interviews, in which contextual and patient-oriented issues were discussed. The reason for choosing this design is that, from a statistical perspective, generalizing the results helps to understand more complex perspectives that are present in the quantitative data. (Creswell & Plano Clark, 2018) The sequential design enables the qualitative part of the research to provide context for the quantitative data collected, adding depth and rigor to the findings.

Setting and Participants

The present study was conducted at RSUMC Bethesda Tomohon, which is one of the 250-bed public hospitals in North Sulawesi, Indonesia. Healthcare: The hospital has a broad geographic footprint and serves as a regional referral center. Over the past two years, the institution has experienced a 15% increase in the percentage of patients accessing its services through the national health insurance scheme (BPJS), providing an ideal setting for studying the predictors of patient satisfaction. The sample size was determined using the Slovin formula in the quantitative part of the field research, which produced a necessary sample of 384 subjects with a 5 percent error margin. These were the inclusion criteria of each of the participants: (1) BPJS beneficiaries who were above 18 years, (2) who had used inpatient or outpatient services within the previous month, (3) who had given informed consent to participate in the study, and (4) who volunteered to participate in the study and were not forced to do so. Respondents were disqualified if they were very sick or had a severe cognitive disorder that prevented them from participating in the study.

Systematic random sampling was used to select participants from the hospital's patient lists. The research was conducted between March and June 2024, and three qualified patients were contacted every time. A purposive sampling method was used in the qualitative part of the research to select 24 participants based on their gender, age, race, education level, and either positive or negative experience with BPJS services. Theoretical saturation was also reported to be achieved with 21 interviews; however, three additional interviews were conducted to ensure that no new themes emerged.

Data collection instrument.

The quantitative tool used a structured questionnaire with three sections. The first section, A (Section A), had demographic information, such as age, gender, level of education, employment status, and the number of times a person visits the hospital. Secondly, a modified SERVQUAL scale was employed to assess the quality of service provided by a healthcare organization. The revised SERVQUAL scale consisted of 25 questions, divided into five dimensions: tangibles (5 items), reliability (5 items), responsiveness (5 items), assurance (5 items), and empathy (5 items). The items were each

rated using a 5-point Likert scale (1 = strongly disagree). Section C measured patients' general satisfaction by using a 6-item scale developed by Ware et al. (1983) and translated into the Indonesian language.

Questionnaires were validated credibly and thoroughly. Prior to its use in the current investigation, the content validity of the instrument was robustly established through consultation with a panel of three experts in clinical healthcare management and two patient advocates, representing an expert panel. In a subsequent pilot study in thirty patients enrolled in the BPJS scheme in a similar tertiary hospital, no significant differences were found in the wording of the questionnaires. There was good internal consistency between both the service quality measure (Cronbach's alpha = 0.89) and patient satisfaction (Cronbach's alpha = 0.91). We translated the questionnaire into Bahasa Indonesia, and trained research assistants were available to explain any confusing parts of the questionnaires if necessary.

To better understand participants' subjective experiences, in-depth, semi-structured interviews were conducted. The interview guide was aligned with our research questions and the SERVQUAL experiential quality assessment. It asked open-ended questions about patients' views on the quality of services, their experiences during hospital stays, the causes of satisfaction or dissatisfaction, and suggestions for improving the facility. Interviews were conducted in a private, quiet room and took between 45 and 60 minutes. With the informed consent of the participants, we audio-recorded the sessions to ensure confidentiality and reinforce data quality. At the same time, non-verbal cues and contextual factors were collected by taking detailed field notes.

Data Analysis

The quantitative data were analyzed by using SPSS version 26.0 and AMOS version 24.0. Initial checks were performed to remove missing values, outliers, and to conduct a normality test. Less than 2 percent of cases had missing data that were imputed by means. Descriptive statistics (means, standard deviations and frequencies) were presented to describe the sample and key variables. Pearson correlation coefficient was used to establish the correlation between the service quality dimensions and patient satisfaction at the bivariate level.

Multiple regression procedures were employed to determine the predictive relationships between service quality dimensions (independent variables) and patient satisfaction (dependent variable). Before computing the analysis, we checked the assumptions, linearity, error independence, homoscedasticity and multicollinearity. A VIF less than 3.0 was considered to reflect no multi-collinearity problems. To confirm this, we used structural Equation modeling (SEM) to test both the measurement model (confirmatory factor analysis) and the structural model (path analysis). The measures taken were chi-square/degrees of freedom (df) ratio, comparative fit index (CFI), Tucker-Lewis (TLI), root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR), which were used to evaluate the model fit.

A thematic data analysis was conducted using Braun and Clarke's (2006) qualitative data analysis method. Audio recordings were transcribed into texts in Bahasa Indonesia and then translated into English by a bilingual researcher. The researcher verified the English text by translating it back into Bahasa and comparing the two versions. (Braun & Clarke, 2006) The data were then coded and analyzed using NVivo 12. There were six steps to the work: 1) read the entire text carefully. 2) Make the first code. 3) The codes can be organized into themes. 4) Review the groups. 5) Name and describe each theme. 6) Write the final report. Five transcripts were coded individually by two researchers, who obtained a reliability score of .82 (Cohen's Kappa). They then compared and settled on one system of coding. We compared the quantitative and qualitative in terms of similarity and difference, as well as the conjunction between them.

Ethical Considerations

The research approval was issued by the Health Research Ethics Committee of Sam Ratulangi University (approval number 045/EC/UKIT-LPPM/VII/2024), and the hospital authorities granted permission for the collection of the data. Subjects were well-informed about the purpose of the study, the study procedure, and the associated risks and benefits. They signed a written informed consent form and participated in the study. They were told that they could quit at any point without any penalty. We did not use their real names; instead, we used codes to ensure their privacy. The data were stored in password-protected files, accessible only to the research staff. No payment was received by the participants, only a trivial gift (a pen with the logo of a hospital) if they completed the interview.

RESULT AND DISCUSSIONS

Participant Characteristics

The Characteristics of the participants will differ depending on their age, sex and ethnicity.

The survey was conducted with patients of BPJS, comprising a total of 384 individuals who were contacted, and the data were collected in the field. The demographics of the participants are presented in Table 1. The sample was 58.3% females and 41.7% males. The mean age of the participants was 47.6 years with a standard deviation of 14.2 (range, 18-78). The level of education varied, with 31.5 percent holding a senior high school education, 28.1 percent holding a junior high school education, 22.4 percent holding an elementary school education, and 18.0 percent holding higher education. More than 50% of the sample was used (42.7%) or self-employed (26.3%); 18.2% were unemployed, and 12.8% were retired. Regarding service utilization, it was found that 64.1% of the patients came as outpatients and 35.9% as inpatients. Nearly half (48.7%) had attended 2 or 3 times during the past year; 29.4% were first-time attendees; and 21.9% had attended four or more times.

Table 1. Demographic Characteristics of Participants (N=384)

Characteristic	Frequency (n)	Percentage (%)
Gender		
Male	160	41.7
Female	224	58.3
Age Group		
18-30 years	68	17.7
31-45 years	142	37.0
46-60 years	118	30.7
>60 years	56	14.6
Education Level		
Elementary school	86	22.4
Junior high school	108	28.1
Senior high school	121	31.5
Tertiary education	69	18.0
Employment Status		
Employed	164	42.7
Self-employed	101	26.3
Unemployed	70	18.2
Retired	49	12.8
Patient Type		
Outpatient	246	64.1
Inpatient	138	35.9
Visit Frequency (past year)		
First visit	113	29.4
2-3 visits	187	48.7
≥4 visits	84	21.9
Total	384	100.0

Descriptive Statistics of Service Quality and Patient Satisfaction

Table 2 presents the descriptive statistics for the five service quality constructs and overall patient satisfaction. The mean ratings for each dimension ranged from 3.24 to 3.68 on the 5-point scale, demonstrating moderate to moderately high perceptions of service quality. The mean rating for empathy was the highest ($M=3.68$, $SD=0.82$), followed by assurance ($M=3.61$, $SD=0.79$), responsiveness ($M=3.47$, $SD=0.88$), tangibles ($M=3.39$, $SD=0.91$), and reliability ($M=3.24$, $SD=0.94$). The overall average patient satisfaction was 3.52 ($SD = 0.86$), indicating a medium level of

satisfaction. As the skewness and kurtosis values of all variables fall within ± 2 , it can be inferred that all variables are normally distributed and are therefore suitable for the use of parametric statistical tests, as opposed to non-parametric statistical tests.

Table 2. Descriptive Statistics of Service Quality Dimensions and Patient Satisfaction (N=384)

Variable	Mean	SD	Min	Max	Skewness
Service Quality Dimensions					
Tangibles	3.39	0.91	1.20	5.00	-0.18
Reliability	3.24	0.94	1.00	5.00	-0.24
Responsiveness	3.47	0.88	1.40	5.00	-0.31
Assurance	3.61	0.79	1.60	5.00	-0.42
Empathy	3.68	0.82	1.80	5.00	-0.38
Patient Satisfaction	3.52	0.86	1.33	5.00	-0.29

Note: All variables scored using a 5-point Likert scale (1=strongly disagree, 5=strongly agree); SD=Standard Deviation

Correlation Analysis

Pearson's correlation analysis was employed to examine the relationship between the dimensions of service quality and patient satisfaction, as shown in Table 3. The results showed that there were positive relationships between each of the five dimensions of service quality and patient satisfaction, and these relationships were statistically significant at the $p < 0.01$ significance level. Responsiveness demonstrated the greatest strength of correlation ($r=0.742$, $p<0.001$), followed by assurance ($r=0.718$, $p<0.001$), empathy ($r=0.694$, $p<0.001$), reliability ($r=0.623$, $p<0.001$), and tangibles ($r=0.587$, $p<0.001$). The correlations between the service quality dimensions were moderate ($r = 0.512$) to strong ($r = 0.681$), indicating that although the dimensions are related, they maintain unique characteristics.

The correlations will confirm the relationships suggested by the hypothesis, and hence, a more in-depth regression analysis will be undertaken to investigate the correlation with the relevant variables in detail.

Table 3. Pearson Correlation Matrix of Service Quality Dimensions and Patient Satisfaction

Variable	1	2	3	4	5	6
1. Tangibles	1					
2. Reliability	0.612	1				
3. Responsiveness	0.581	0.647	1			
4. Assurance	0.542	0.598	0.681	1		
5. Empathy	0.512	0.573	0.658	0.672	1	
6. Patient Satisfaction	0.587	0.623	0.742	0.718	0.694	1

Note: all $p<0.01$; N=384

Multiple Regression Analysis

The dimensional relationships between service quality and patient satisfaction were investigated using multiple regression analysis. The overall model was statistically significant ($F = 162.37$, $p < 0.001$) and explained 68.4% of the variance in patient satisfaction ($R^2 = 0.684$, Adjusted $R^2 = 0.680$). The coefficients are presented in Table 4. The strongest predictor was responsiveness ($\beta=0.312$, $t=6.84$, $p<0.001$), followed by assurance ($\beta=0.287$, $t=6.12$, $p<0.001$), and empathy ($\beta=0.241$, $t=5.18$, $p<0.001$). Reliability also showed a small but significant effect ($\beta = 0.142$, $t = 3.21$, $p < 0.01$), whereas tangibles did not reach statistical significance ($\beta = 0.068$, $t = 1.52$, $p = 0.129$). The diagnostics of multicollinearity were also deemed to be acceptable, with the variance inflation factors (VIFs) being within the upper limit of 1.82 to 2.94, which is lower than the upper limit (10 atoms). Tests on the residual data established that the assumptions of normality, linearity, and homoscedasticity for the analyses of variance were met.

Table 4. Multiple Regression Analysis: Service Quality Dimensions Predicting Patient Satisfaction

Predictor	B	SE	β	t	VIF
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Tangibles	0.064	0.042	0.068	1.52	1.82
Reliability	0.130	0.041	0.142**	3.21	2.47
Responsiveness	0.304	0.044	0.312***	6.84	2.94
Assurance	0.312	0.051	0.287***	6.12	2.68
Empathy	0.252	0.049	0.241***	5.18	2.51
Model Statistics	R ² = 0.684	Adj. R ² = 0.680	F = 162.37***	df = 5, 378	

Note: B=unstandardized coefficient; SE=standard error; β =standardized coefficient; VIF=variance inflation factor; ** $p < 0.01$; *** $p < 0.001$

Qualitative Findings

The qualitative interviews were based on the review of 24 interviews, which comprised five contexts, focusing on the richness of the quantitative research outcomes. Such themes enabled us to understand patients' experiences better and illustrate the extent to which the dimensions of service quality in a clinical setting are related to patient satisfaction.

Theme 1: An issue of staff reaction and communication that was common during the patient stories.

Dimensions that were often linked to dissatisfaction were time delays and perceptions that staff did not care. One of the female outpatients (52) said, for example, *"I have been waiting three hours to see the doctor, who spent five minutes with me." No one informed me that it would take so long, and I was not aware when I was being called. I felt like I did not matter.*" One male inpatient (45 years old) expressed similar sentiments, stating, *"I understand that the nurses are quite busy."* When I press the help button, I expect to see somebody come within 20 or 30 minutes. Moreover, when they at length visit me, they appear disappointed that I called them. Such qualitative descriptions mirror the quantitative case that responsiveness was the most predictive of satisfaction. Patients are concerned about the time it took to be serviced and what the staff told them during their communication.

Theme 2: Perceived competence and trust in the healthcare team emerged as central themes.

The participants said that trust was a key factor in their satisfaction with the medical staff's clinical expertise and professional practice. One participant, a 38-year-old woman, said that the attending physician took enough time to explain her diagnosis and the range of possible therapeutic options. She appreciated the comprehensiveness of the inquiry and expressed confidence in the quality of care delivered. Conversely, participants who were presented with situations that led to the loss of trust expressed dissatisfaction. One male patient, aged 61, explained: *"The doctor did not even really look at me and was in a rush."* *"He wrote me a prescription and sent me on my way. I left there wondering if the diagnosis was even proper."* In both examples, the theme affirmed the statistical finding that assurance was a strong predictor of satisfaction. This is because patients need to feel that technical competence is coupled with personal skills, demonstrating that their well-being matters.

Theme 3: Empathy and Individualized Attention as Indicators of Exemplary Care Versus Acceptable Care.

The patients in the sample stated that they could differentiate between satisfactory and subpar care based on whether they felt that the staff genuinely cared about them as individuals experiencing their context. One female patient (29 years old) described her experience with a nurse when she was anxious preoperatively: *"One nurse noticed I seemed anxious about my surgery. She sat with me for a few minutes, took my hand, reassured me, and said that little experience was the difference."* Nevertheless, some patients reported feeling like mere numbers. Indicatively, a male patient (56 years old) explained that. *They treat us as an assembly line. People rarely ask about one's state of well-being or if one is experiencing distress, and as a result, interactions are primarily procedural.* This finding supports the comprehensive role of empathy as a powerful predictor of satisfaction. Empirical evidence of high correlations between personalized, caring care plans and high satisfaction levels exists, suggesting that emotional ties contribute to a higher level of satisfaction with such encounters.

Theme 4: Reliability Problems of Administrative Processes and Availability of Medications.

Patients showed dissatisfaction with their experience of care (particularly in respect of administrative efficiency and the delivery of medications). One patient reported difficulties she experienced with her BPJS card or referral document every time she visited the clinic. The administrative staff are in conflict over who will address the issue. The problem is the need to devote several hours to paperwork related to the issue. Limited accessibility to medication was a medical

concern and caused recurrent apprehensions among several participants. One of the male patients (64 years old) reported that the doctor ordered three medications, but the pharmacy only had one. *Somebody told me I had to get the others from a private pharmacy, which I cannot afford. Why would I need BPJS insurance when I will still have to purchase my drugs?* These stories explain why reliability was a significant predictor, though with a lower effect size than responsiveness and assurance (patients are aware that those systems are frozen, but they will demand a simple and reliable level of service).

Theme 5: The Physical Environment as an Experience Requirement.

Despite participants recognizing the role of clean facilities and working equipment, these material elements of care were generally perceived as expectations rather than sources of satisfaction. A 35-year-old female patient stated that the hospital is clean and that *the* equipment appears to be functioning as planned. Furthermore, what is important is whether the staff feel more positively about me and whether I can see some improvement. Some patients found discernible gaps in the physical care area, such as uncomfortable waiting bays or inadequate air conditioning. These limitations had arisen as an inconvenience; however, they are not significant enough to impact overall satisfaction. This notion gives the reason that tangibles were not an empirical predictor in the regression model. Patients give more weight to the interpersonal/process dimensions than to the physical environment in their overall assessment

Discussion

The research is a mixed-methods study that investigated the relationship between service quality dimensions and respondents' patient satisfaction in the BPJS program at RSU GMIM Bethesda Tomohon. It is significant to note that respondents identified patient satisfaction as mainly influenced by responsiveness, assurance, and empathy, with little input from reliability and none from tangibles. The results are consistent with the existing body of knowledge on healthcare service quality and may have substantial theoretical and practical implications.

Interpretation of Quantitative Findings

The quantitative findings will be interpreted by considering the analysis of the survey outcomes and data presented in the table below:

The finding that responsiveness was the most influential predictor of patient satisfaction ($\beta = 0.312$) supports the findings of other studies in outpatient and public sector hospitals. (Cendana, 2024) In public hospitals, the time spent waiting and the attentiveness of the providers are essential for patients. (Huwae et al., 2025) This is of vital importance to BPJS patients because there are limited resources and employees available to help them at a State hospital. The study also makes clear that being responsive is not solely about being on time, but also about the way people talk to each other. Patients appreciated care that was fast, respectful, caring, and attentive. This is evidence of the need for both improvement in the quality of care and efficient solutions that are not too costly. Such measures range from implementing appointment systems to training staff to enhance communication and promote patient-centered care.

Assurance: with high effect ($\beta = 0.287$). The skill and ability of the doctor give patients a sense of security. It supports the claims of Shie et al. (2022) and Nembhard et al. (2023): trust is increased when providers provide clear explanations, work professionally, or treat all individuals equally, particularly in moments that involve risk or emotion. This same study found that BPJS patients were sensitive to the way they were treated by their providers, including maintaining eye contact, offering kind words, and providing clear and understandable information. Quick and remote interactions can erode trust, whereas taking the time to explain and engage patients in decision-making can foster increased confidence. Assurance is demonstrated by the general technical skill and its expression. This once again means that being emotionally safe is a fundamental element of high-quality care.

Structured around relationships: It reminds us that healthcare is about relationships, as the effect of empathy is relatively strong ($r = .241$). Many studies are in consensus that empathy is noticing and responding to what patients are feeling and worrying about. It is an essential aspect of person-centered care and is closely related to patients' satisfaction and adherence to treatment plans (Marzuq et al., 2022; Shie et al., 2022). The qualitative data obtained in this investigation reveal that empathy is manifested through nuanced micro-meanings, including attentive listening, using a respectful tone

of voice, and providing emotional support. These affective exchanges help develop the therapeutic alliance between BPJS patients and healthcare providers, which extends beyond the transactional realm of service delivery.

Within the high-stress, resource-constrained environment of BPJS hospitals, even small acts of care had a significant impact on participants' healthcare experience, so empathy became an important and cost-effective aspect of service quality, according to participants.

Amounts of Reliability and Tangibles

In addition, an empirical statistical analysis revealed that the relative explanatory value of tangibles ($\beta = 0.068$) and reliability ($\beta = 0.142$) was not statistically significant; therefore, a search for a deeper interpretive matrix was undertaken. Puspitasari and Ernawaty (2024) stated that patients with the BPJS mindset would have different expectations from those that exist in the concept of quality, because of the schematic limits of BPJS, such as the lack of medication and time constraints in meeting with physicians, so the impact of reliability on satisfaction would be less influential. (Puspitasari et al., 2018) When the results of the research are compared with those of previous studies, Prasetyo and Rahayu (2025) also found that patients value the interpersonal and affective aspects of care more, especially in organizational structures with bureaucratic obstacles or limited resources. The results indicate that there is a greater reliance on the adequacy of services provided, given the existing constraints, rather than the ideal service. (Prasetyo & Rahayu, 2025).

The low impact of tangibles ($\beta = 0.068$) contrasts with the established literature on the importance of the physical environment (including the cleanliness of premises, equipment availability, and environmental aesthetics) in determining perceptions of service quality (Alcantara et al., 2025). However, it has recently been discovered that physically provided infrastructure is often used as a baseline rather than a major satisfier. Within the health care sector, the physical features are best thought of as hygiene factors; their presence has a neutralizing effect on displeasure but does not lead to a positive assessment. On the contrary, interpersonal dimensions such as empathy and responsiveness act as motivators, which, in turn, improve the overall patient experience (Rai et al., 2021).

Current Situation of Qualitative Findings

The qualitative results provide contextual details that explain the impact of different domains of quality of service on patient satisfaction, thereby anchoring the quantitative results. From the patient's perspective, responsiveness and staff-patient interaction are significant factors in evaluating the effectiveness of the service provided, primarily determined by the amount of time and behavior patterns exhibited during an encounter. These observations suggest that responsiveness is a complex construct that encompasses the temporal (speed and punctuality) and relationship aspects (quality of interaction).

Future studies should differentiate between these dimensions in order to determine the relative importance of each to measures of global satisfaction. The theme of perceived competence and trust supports the proposition that assurance is mediated beyond clinical knowledge alone, but through more observable communicative behaviors and demeanor. Contrary to the conclusions of Shie et al (2022), patients with limited medical knowledge might use indirect cues, such as vocal intonation patterns, clarity of explanations, and direct eye contact, to convey an impression of provider competence. Accordingly, training programs should include the development of both technical skills and interpersonal skills, which are associated with an increase in perceived confidence.

Furthermore, the differentiation of empathy is in tandem with a recent behavioral health research study (Marzuq et al., 2022), which suggests that through the gesture of compassion and kindness, emotionally meaningful experiences can be gained, ultimately leading to greater satisfaction. These empirical findings are consistent with Kahneman's peak-end rule, which posits that patients tend to underestimate the bulk of their experience in ratings of overall quality of care and overestimate the final few highly emotional moments of the experience. Positive experiences, including attentive listening and responsive concern, are therefore critical to the BPJS and have a significant impact on overall satisfaction.

The themes derived from reliability and tangible aspects helped understand why these aspects did not have a significant effect on overall satisfaction or had no effect at all. According to Goodrich and Lazenby (2022), patients in resource-constrained environments are more likely to adapt their expectations and embrace the systemic limitations, such

as the absence of timely access to drugs and poor infrastructure. (Goodrich & Mark, 2023) Rather than rating care by ideal standards, they focus on interpersonal dimensions of care (for example, empathy and responsiveness) as more meaningful indicators of quality. This represents a hierarchy of values in which relational experiences are prioritized over technical or environmental factors. Recent research has also found that investing in staff communication, as well as emotional intelligence, leads to more significant improvements in patient satisfaction than upgrading the physical infrastructure alone, particularly in high-volume public hospitals. (Marzuq et al., 2022; Rai et al., 2021)

Theoretical Implications

This study contributes to service quality theory by proving that the importance of SERVQUAL dimensions is context-specific. While the first version of the SERVQUAL, created by Parasuraman et al. (1988), uses five dimensions that are theoretically equally important to each other, such as tangibles, reliability, responsiveness, assurance, and empathy, new evidence is emerging that this may not be the case in a publicly funded, resource-constrained healthcare system. Consistent with Goodrich & Lazenby (2022), our results demonstrate how interpersonal dimensions (responsiveness, assurance, and empathy) are more influential in determining patient satisfaction than process reliability and physical infrastructure. This confirms the demands for context-specific revisions to service quality models, particularly in environments with vulnerable populations, where relational care and emotional safety have been at the forefront of service quality concerns, rather than technical consistency or aesthetic appeal. (Alshmemri et al., 2020)

This paper aims to make a contribution to the literature on patient satisfaction by situating the construct within the context of low- and middle-income country (LMIC) settings, where universal health coverage (UHC) is currently being implemented. Moving beyond fee-for-service and privately insured populations that dominate the empirical canon in high-income countries, the authors use structural Equation modeling (SEM) to investigate the multidimensional predictors of patient satisfaction. Using the Indonesian low-income context, in this case, the BPJS Kesehatan scheme, we have shown that patient satisfaction is mainly determined by the dimensions of care delivery with dignity (respect and empathy to patients), which has a much higher impact than physical attributes of the medical facilities. These findings are consistent with those in the literature, which emphasize the importance of person-centered care with dignity as a central approach to care and the development of a safe environment in resource-limited settings.

For example, the thesis espoused here is further buttressed by empirical findings which conclude that the conception of care divorced of dignity is not a choice but a touchstone, a transformative interdictory upon which a word or phrase, deriving in its context, is an inescapable pursuit for any institution that desires to achieve Universal Health Coverage (UHC) (Kwame & Petrucka, 2022; World Economic Forum, 2023).

Practical Implications

The research suggests that the focus of hospital managers and public health leaders should shift to how happy patients are in a BPJS setting. Being responsive involves providing patients with timely and accurate results. Hospitals should have rules that allow patients to get started immediately. This will reduce wait times and help staff and patients communicate better. They can utilize regular appointment schedules more effectively, employ additional staff when needed, and utilize queue management software. Staff should be trained to recognize patients' needs and provide them as quickly as possible, while also reporting any delays to the relevant service immediately. This should be done while demonstrating good care in their interactions with patients.

Second, due to the importance of assurance, professional development activities should not be limited to clinical competence; they should also encompass verbal and nonverbal communication competencies that demonstrate provider competence and foster trust with patients. Some of the strategies employed in the initial training of physicians, nurses, and hospital staff include patient-centered communication, shared decision-making, and managing difficult conversations. This includes focusing on patients' values, needs, and preferences, and finding ways to involve them as much as possible to help ensure they participate in shared decision-making. Standardized patient simulations are helpful for providers' continuing professional education because they offer a safe learning environment.

Third, the significance of empathy has implications for strengthening a culture of caring in nursing education. This takes the commitment of hospital administration and leadership, the modeling of leadership, and a recognition system

that rewards compassionate care. In addition, given the hefty workload and stressful environment that health workers face in BPJS hospitals, interventions to prevent worker burnout and encourage staff wellness are also biologically and ethically important. Workers who are not psychologically and physically healthy are less likely to treat patients with compassion and empathy.

Fourth, the results showed that the importance of reliability and tangibles had a limited influence; however, this should not be taken to mean they have limited importance. For instance, eliminating inefficiencies in administrative decision-making will enhance patient care and minimize dissatisfaction. Equally, ensuring that medications are readily available to patients will help maintain baseline service levels. Ultimately, good environments and working conditions can mitigate dissatisfaction, albeit to a lesser extent than they can motivate and improve overall job satisfaction. This suggests that the improvements in cleanliness and functionality have a minimal impact on satisfaction and that satisfaction is maintained throughout the intervention period. Therefore, it is suggested that movement into balanced strategies to enhance the hygienic factors and pay attention to the motivators, as much as possible or feasible, should be done.

Future research and limitations.

However, several limitations are to be considered. First, the study was cross-sectional, so we could not establish cause-and-effect relationships. Although the predictive relationships were established by regression analysis, only longitudinal or experimental designs would allow firm causal inferences. Future research can utilize a panel design to follow patients over time to establish more robust prediction relations or employ quasi-experimental designs to evaluate service quality interventions.

Second, the study was conducted in a single hospital in North Sulawesi; therefore, the generalizability of the results is limited. It is possible that regional factors, such as differences in healthcare infrastructure, cultural norms, and patient expectations, may influence the relative importance of service quality dimensions. Studies of multiple sites with different geographic and institutional settings would enhance external validity and permit the identification of contextual moderators.

Third, despite our efforts to overcome some limitations of self-report measures, which are likely to be subject to social desirability bias and event recall memory, most of the dependent measures were self-reported. Future research might complement self-report measures with objective measures of service quality (e.g., actual waiting times, clinical outcome measures) or employ observational approaches to triangulate the research. Furthermore, the current study, which is based solely on the patient's perspective of service quality, would benefit from incorporating the perspectives of providers and administrators to capture the context of service quality dynamics.

Fourth, although the SERVQUAL framework is commonly used in the service quality literature, it has been criticized for potentially being biased by cultural differences and for having a narrow focus on healthcare-related service quality dimensions, such as clinical outcomes and patient safety (Buttle, 1996). Future studies should consider incorporating the SERVQUAL framework with healthcare-specific quality frameworks, as well as the Institute of Medicine's six aims of quality (safe, effective, person-centered, timely, efficient, and equitable), to study the broader aspects of service quality.

Finally, although we examined the association between service quality dimensions and satisfaction, we did not account for potential moderators, such as health status, prior utilization of healthcare services, or socioeconomic factors, which our results suggest may influence service quality dimensions and patient satisfaction. Future studies are needed to examine how these moderators differentially predict patient satisfaction based on the service quality dimensions, in order to understand patient preferences and prepare more effective interventions more accurately.

CONCLUSION

This mixed-methods study presents credible evidence that RSU GMIM Bethesda Tomohon's patient satisfaction with BPJS services is primarily related to the human dimensions of quality of service (responsiveness, assurance, and empathy) rather than physical facilities or perfect service reliability. Our combined quantitative and qualitative analysis

showed that patients were grateful to receive prompt, competent and compassionate care. Besides, small, seemingly insignificant acts of respect and attention can play a tremendously positive role in their healthcare experience.

These results are significant for policy development and the implementation of the universal health coverage (UHC) agenda in Indonesia. As the JKN program grows at a rapid pace, there is a need to develop the necessary infrastructure, as well as safeguard the human aspect of care, which may be compromised in the pursuit of patient satisfaction. Therefore, among the strategic priorities, there should be extensive training of medical staff on patient-centered communication, as well as the promotion and maintenance of an organizational culture of respect and responsiveness to those who seek care.

Our results indicate that even in low-resource environments, simple interventions can be effective in reducing the unhappiness of patients with care. More communication between employees, skills and care among workers, and an interest in patients could lead to staff satisfaction and a positive patient experience of healthcare. For Indonesia, which is still pursuing universal health coverage and striving to meet the fundamental rights of its people to a decent standard of high-quality healthcare, this will provide insight into how BPJS services can be accessed, as well as a satisfying service that respects those who use it.

These observations from retrospective studies will help focus future work, particularly in comparing the quality of care across departments and identifying potential explanations for factors associated with adherence to individual ITEMS. It also encompasses testing for the association between positive patient experience and intermediate outcomes, such as improvements in health service performance indicators (SQIPS for Hospital Care Framework themes), or benefits that transfer even over a longer term. This brings people into the health system not as passive recipients of 'a service' but as participants in a process of co-production, that is also good for their care and treatment too - another instalment in universal healthcare – available to all who need it when they need it.

Acknowledgements

Our research was funded by the Directorate of Research and Community Service, Ministry of Education, Culture, Research, and Technology of Indonesia, via contract numbers 137/C3/DT.05.00.PL/2025 and 846/LL16/AL.04/2025, within the Penelitian Dosen Pemula BIMA 2025 program. We would like to thank Universitas Kristen Indonesia Tomohon for its institutional support and the Research and Community Service Institute (LPPM) of Universitas Kristen Indonesia Tomohon for its review by the ethics committee. We also thank the management and staff at RSU GMIM Bethesda Tomohon for their assistance in collecting data, and especially the patients who took the time to share their experiences; without them, this research would not have been possible.

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