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## Assessment of Satisfaction with Quality of Health Care Services Among Patients in Yenagoa, Bayelsa State

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### Abstract

Patient satisfaction is a key indicator of healthcare quality and reflects the responsiveness of health systems. Evidence comparing satisfaction among insured and uninsured patients in Yenagoa is limited. This study assessed satisfaction with healthcare services and their determinants among insured and uninsured patients attending selected public health facilities. A comparative cross-sectional study was conducted among 550 patients (275 insured; 275 uninsured) recruited from Federal Medical Centre Yenagoa, Niger Delta University Teaching Hospital, and Diete-Koki Memorial Hospital. Data were collected using a structured SERVQUAL-based questionnaire and analyzed using descriptive statistics, chi-square, and multivariate logistic regression at  $p < 0.05$ . Among insured participants, satisfaction was significantly associated with marital status ( $p = 0.004$ ), education ( $p = 0.027$ ), social class ( $p = 0.001$ ), facility attended ( $p = 0.001$ ), insurance type ( $p = 0.001$ ), and household size ( $p = 0.001$ ). Satisfaction was highest among NHIS enrollees (53.8%) and those from households with 1–2 members (57.6%). Independent predictors included small household size ( $aOR = 3.25$ ;  $p = 0.039$ ) and NHIS coverage ( $aOR = 5.62$ ;  $p = 0.001$ ). Among uninsured participants, facility attended ( $p = 0.001$ ), number of working household members ( $p = 0.026$ ), occupation ( $p = 0.032$ ), and income source ( $p = 0.030$ ) significantly influenced satisfaction. Having  $> 2$  working household members predicted satisfaction ( $aOR = 4.26$ ;  $p = 0.018$ ). In conclusion, patient satisfaction was influenced by insurance coverage, household socioeconomic factors, and facility-level characteristics. Expand insurance coverage, reduce socioeconomic barriers, and strengthen patient-centered service delivery across facilities.

**Keywords:** Patient satisfaction; Healthcare quality; Insurance; SERVQUAL

### INTRODUCTION

Quality healthcare remains a cornerstone of functional health systems and an essential requirement for achieving improved population health outcomes. The concept of healthcare quality extends beyond the provision of medical treatment to include safety, effectiveness, timeliness, equity, efficiency, and patient-centeredness. According to the World Health Organization (Shi, 2012; WHO, 2023), patient-centered care is fundamental to strengthening health systems and improving service utilization. Patient satisfaction has therefore emerged as a critical indicator for assessing healthcare quality because it reflects patients' perceptions, expectations, and experiences of services received (WHO, 2023; Arah *et al.*, 2003). Donabedian's quality-of-care model further emphasizes that patient satisfaction represents an important outcome of healthcare processes and is influenced by the structure and processes within health institutions

(Donabedian, 1988). Consequently, evaluating satisfaction among healthcare users provides evidence for identifying gaps in service delivery and informing quality improvement strategies, especially in resource-limited settings.

Globally, the pursuit of Universal Health Coverage (UHC), embedded in SDG 3 of the United Nations Sustainable Development Goals (Ezeanyim *et al.*, 2026), seeks to ensure access to quality essential health services without financial hardship. However, disparities in access and quality persist, particularly in low- and middle-income countries where out-of-pocket expenditure remains high, and healthcare systems face infrastructural and workforce challenges (Chinedum *et al.*, 2026; Okpal and Okpala, 2026). In many African countries, including Nigeria, patient satisfaction has become increasingly relevant due to growing demand for accountability, equitable service provision, and health financing reforms (Giedion *et al.*, 2013; WHO, 2023; WB,

2023). Evidence suggests that patients' satisfaction is often shaped by waiting time, communication with providers, availability of medicines, staff attitudes, and affordability of care (Afolabi *et al.*, 2013; Andaleeb, 2001; Aldana *et al.*, 2001). These dimensions are especially important in settings where health insurance coverage is expanding, but service quality remains inconsistent, making comparative assessments of insured and uninsured populations necessary.

In Nigeria, health financing reforms such as the National Health Insurance Authority (NHIA) and state-based insurance schemes have been introduced to improve financial protection and reduce catastrophic health expenditures (Lagomarsino *et al.*, 2012). Despite these efforts, out-of-pocket payments still account for a substantial proportion of health spending, creating barriers to access and potentially affecting patient experiences (Akinyemi *et al.*, 2016; WB, 2023; Onoka *et al.*, 2013). Studies across Nigeria have reported varying levels of patient satisfaction among insured populations, often linked to differences in provider responsiveness, availability of drugs, administrative bottlenecks, and perceived quality of care (Arah *et al.*, 2003; Nwanaji-Enwerem *et al.*, 2022). While some studies suggest insurance enrollment enhances satisfaction through reduced financial burden and continuity of care, others indicate that insurance alone does not guarantee improved service experiences due to persistent health system inefficiencies. These inconsistencies highlight the need for localized investigations into determinants of satisfaction across insurance categories.

Patient satisfaction is influenced not only by health system factors but also by individual and household-level determinants. Socioeconomic status, household size, educational attainment, occupation, and social class can shape expectations and perceptions of healthcare quality. Higher-income or socially advantaged groups may report lower satisfaction due to elevated expectations, while economically vulnerable populations may report greater satisfaction despite poorer service conditions because of lower expectations or limited alternatives (Afolabi *et al.*, 2013; Mohammed *et al.*, 2011). Likewise, household economic capacity can influence the ability to absorb healthcare costs, particularly among uninsured patients, thereby affecting satisfaction. Understanding these broader determinants is important for interpreting differences in patient-reported experiences and for designing interventions that address both institutional and social drivers of dissatisfaction.

Facility-level factors also play a crucial role in shaping patient satisfaction outcomes. Institutional characteristics such as staffing levels, patient flow management, cleanliness, provider competence, and availability of essential commodities significantly influence patients' perceptions of care quality. Studies in sub-Saharan Africa have consistently shown that long waiting times, poor communication, inadequate privacy, and medicine shortages reduce patient satisfaction, even where clinical care outcomes may be acceptable (Iloh *et al.*, 2012; Daramola *et al.*, 2019). In the Niger Delta region, health facilities often contend with resource constraints and organizational challenges that may

affect service delivery experiences. Yet, evidence specifically comparing satisfaction among insured and uninsured patients within the same facilities in Yenagoa remains limited, creating a gap in understanding how insurance status and facility conditions interact to influence patient satisfaction.

Given this background, assessing satisfaction with the quality of healthcare services among patients in Yenagoa is timely and relevant. The coexistence of insured and uninsured patients within public health facilities provides an opportunity to evaluate whether insurance status translates into better patient experiences and to identify determinants of satisfaction across groups. Such evidence is essential for strengthening the performance of the Bayelsa State Health Insurance Scheme, improving patient-centered service delivery, and advancing progress toward UHC. This study, therefore, seeks to assess and compare satisfaction levels among insured and uninsured patients in selected health facilities in Yenagoa and determine the sociodemographic, household, insurance-related, and institutional factors associated with satisfaction. Findings from the study will contribute evidence for policy reforms and quality improvement interventions aimed at enhancing equitable healthcare delivery in Bayelsa State and similar settings.

## MATERIALS AND METHODS

### Study Area

This study was conducted in Yenagoa, the capital of Bayelsa State, located in the Niger Delta region of southern Nigeria. Yenagoa hosts several public healthcare facilities providing primary, secondary, and tertiary services to urban and peri-urban populations. The study was carried out in three selected public health facilities: Federal Medical Centre Yenagoa, Niger Delta University Teaching Hospital, and Diète-Koki Memorial Hospital. These facilities were selected because they provide services to both insured and uninsured patients and represent different levels of healthcare delivery in the state.

### Study Design

A hospital-based comparative cross-sectional study design was used to assess and compare satisfaction with healthcare quality among insured and uninsured patients attending selected health facilities in Yenagoa. This design enabled evaluation of satisfaction levels and identification of determinants associated with perceived quality of care among the two patient groups.

### Study Population

The study population comprised adult patients aged 18 years and above attending general outpatient or primary care clinics in the selected facilities during the study period. Participants were categorized as insured patients enrolled under the National Health Insurance Authority or Bayelsa State Health Insurance Scheme, and uninsured patients paying for healthcare through out-of-pocket expenditure. Healthcare workers and severely ill patients unable to participate in interviews were excluded.

**Sample Size Determination**

Sample size was determined using the formula for comparing two independent proportions:

$$n = \frac{(Z_{1-\alpha/2} + Z_{1-\beta})^2 [P_1(1-P_1) + P_2(1-P_2)]}{(P_1 - P_2)^2} \tag{1}$$

where  $Z_{\alpha} = 1.96$  at 95% confidence level,  $Z_{\beta} = 0.84$  at 80% power,  $P_1 = 0.668$  and  $P_2 = 0.806$  based on proportions from previous Nigerian studies. The calculated minimum sample size was 550 participants, consisting of 275 insured and 275 uninsured respondents.

**Sampling Procedure**

A multistage sampling technique was used. First, the three health facilities were purposively selected. Second, proportionate allocation of respondents to each facility was based on average outpatient attendance. Third, eligible participants were selected using simple random sampling through computer-generated numbers from daily clinic registers until the required quotas were met. Replacement was made when selected participants declined consent or did not meet the inclusion criteria.

**Data Collection Instrument**

Data were collected using a structured interviewer-administered questionnaire adapted from the SERVQUAL model developed by Parasuraman *et al.* (1988). The instrument contained sections on sociodemographic characteristics, household factors, insurance-related variables, and patient satisfaction dimensions, including tangibles, reliability, responsiveness, assurance, and empathy. Satisfaction and service quality perceptions were assessed using five-point Likert scales. The questionnaire also included an overall patient satisfaction rating.

**Validity and Reliability**

The instrument was reviewed by experts in public health and health services research to ensure content validity. A pretest was conducted among 55 patients at a health facility outside the study sites. Reliability testing yielded a Cronbach’s alpha coefficient of 0.89, indicating high internal consistency of the instrument.

**Data Collection Procedure**

Data were collected through exit interviews conducted by trained research assistants over a 12-week period.

Participants were approached after receiving care, the study objectives were explained, and written informed consent was obtained before interviews were administered in English or Nigerian Pidgin, depending on respondent preference.

**Data Analysis**

Data were entered into Microsoft Excel, cleaned, and analyzed using IBM SPSS version 28. Descriptive statistics including frequencies, percentages, means, and standard deviations, were used to summarize variables. SERVQUAL gap scores were calculated as perception minus expectation ( $P - E$ ). Chi-square tests assessed associations between independent variables and satisfaction levels. Student’s t-test compared mean satisfaction scores between insured and uninsured groups. Variables significant at bivariate analysis ( $p < 0.05$ ) were entered into multivariate logistic regression to identify independent predictors of satisfaction, reported as adjusted odds ratios (aOR) with 95% confidence intervals. Statistical significance was set at  $p < 0.05$ .

**Ethical Considerations**

Ethical approval was obtained from the Research Ethics Committee of Federal Medical Centre, Yenagoa. Permission was also obtained from the management of participating health facilities. Written informed consent was obtained from all participants, and confidentiality, anonymity, and voluntary participation were ensured throughout the study.

**Study Limitation**

Because the study employed a cross-sectional design, causal relationships could not be established. In addition, self-reported responses may have been subject to recall and social desirability bias, although anonymity and standardized data collection procedures were used to minimize these effects.

**RESULTS**

Among insured participants (Table 1), sex ( $\chi^2 = 0.08$ ;  $p = 0.777$ ) and age ( $\chi^2 = 8.27$ ;  $p = 0.142$ ) were not significantly associated with satisfaction. However, marital status showed a significant association ( $\chi^2 = 8.15$ ;  $p = 0.004$ ), with single insured respondents reporting higher satisfaction (48.5%) than married respondents (24.8%). Among uninsured participants, none of the variables examined—sex ( $\chi^2 = 0.12$ ;  $p = 0.727$ ), age ( $\chi^2 = 8.54$ ;  $p = 0.129$ ), or marital status ( $\chi^2 = 1.74$ ;  $p = 0.187$ )—showed significant associations with satisfaction.

**Table 1:** Association between sex, age and satisfaction among insured and uninsured patients.

Variable	Category	Insured Satisfied n (%)	Insured Not Satisfied n (%)	$\chi^2$ (p-value)	Uninsured Satisfied n (%)	Uninsured Not Satisfied n (%)	$\chi^2$ (p-value)
Sex	Male	28 (26.7)	77 (73.3)	0.08 (0.777)	10 (9.7)	93 (90.3)	0.12 (0.727)
	Female	48 (28.2)	122 (71.8)		19 (11.0)	153 (89.0)	
Age group	<20	1 (12.5)	7 (87.5)	8.27 (0.142)	1 (3.6)	27 (96.4)	8.54 (0.129)
	21–30	11 (39.3)	17 (60.7)		5 (7.8)	59 (92.2)	
	31–40	29 (33.3)	58 (66.7)		12 (12.1)	87 (87.9)	
	41–50	20 (27.8)	52 (72.2)		2 (5.3)	36 (94.7)	
	51–60	6 (14.3)	36 (85.7)		5 (27.8)	13 (72.2)	
	>60	9 (23.7)	29 (76.3)		4 (14.3)	24 (85.7)	
Marital status	Single	16 (48.5)	17 (51.5)	8.15 (0.004*)	4 (6.2)	61 (93.8)	1.74 (0.187)
	Married	60 (24.8)	182 (75.2)		25 (11.9)	185 (88.1)	

**Table 2:** Association between education, social class and satisfaction among insured and uninsured patients.

Variable	Category	Insured Satisfied n (%)	Insured Not Satisfied n (%)	$\chi^2$ (p-value)	Uninsured Satisfied n (%)	Uninsured Not Satisfied n (%)	$\chi^2$ (p-value)
Education	Secondary	11 (16.9)	54 (83.1)	4.89 (0.027*)	13 (8.6)	138 (91.4)	1.33 (0.249)
	Post-secondary	65 (31.0)	145 (69.0)		16 (12.9)	108 (87.1)	
Social class	Very high	1 (20.0)	4 (80.0)	36.96 (0.001*)	1 (20.0)	4 (80.0)	7.54 (0.110)
	High	2 (9.5)	19 (90.5)		4 (25.0)	12 (75.0)	
	Middle	4 (26.7)	11 (73.3)		3 (5.8)	49 (94.2)	
	Lower	33 (19.3)	138 (80.7)		20 (11.8)	149 (88.2)	
	Very low	36 (57.1)	27 (42.9)		1 (3.0)	32 (97.0)	

**Table 3:** Association between facility attended, insurance type and satisfaction among insured and uninsured patients.

Variable	Category	Insured Satisfied n (%)	Insured Not Satisfied n (%)	$\chi^2$ (p-value)	Uninsured Satisfied n (%)	Uninsured Not Satisfied n (%)	$\chi^2$ (p-value)
Facility	NDUTH	16 (33.3)	32 (66.7)	61.62 (0.001*)	23 (39.7)	35 (60.3)	66.54 (0.001*)
	DKMH	9 (6.8)	123 (93.2)		2 (1.5)	128 (98.5)	
	FMCY	51 (53.7)	44 (46.3)		4 (4.6)	83 (95.4)	
Insurance type	NHIS	50 (53.8)	43 (46.2)	47.97 (0.001*)	–	–	–
	BHIS	26 (14.3)	156 (85.7)		–	–	

**Table 4:** Association between household characteristics and satisfaction among insured and uninsured patients.

Variable	Category	Insured Satisfied n (%)	Insured Not Satisfied n (%)	$\chi^2$ (p-value)	Uninsured Satisfied n (%)	Uninsured Not Satisfied n (%)	$\chi^2$ (p-value)
Household size	1–2	19 (57.6)	14 (42.4)	21.75 (0.001*)	2 (7.4)	25 (92.6)	1.78 (0.619)
	3–4	25 (32.5)	52 (67.5)		9 (11.1)	72 (88.9)	
	5–6	19 (21.6)	69 (78.4)		9 (8.6)	96 (91.4)	
	>6	13 (16.9)	64 (83.1)		9 (14.5)	53 (85.5)	
Working household members	1	38 (31.1)	84 (68.9)	1.36 (0.506)	7 (7.4)	88 (92.6)	7.29 (0.026*)
	2	31 (25.0)	93 (75.0)		15 (9.9)	137 (90.1)	
	>2	7 (24.1)	22 (75.9)		7 (25.0)	21 (75.0)	

**Table 5:** Association between occupation and income source and satisfaction among insured and uninsured patients.

Variable	Category	Insured Satisfied n (%)	Insured Not Satisfied n (%)	$\chi^2$ (p-value)	Uninsured Satisfied n (%)	Uninsured Not Satisfied n (%)	$\chi^2$ (p-value)
Occupation	Government-employed	74 (28.4)	190 (71.6)	0.98 (0.611)	2 (50.0)	2 (50.0)	6.88 (0.032*)
	Self-employed	1 (12.5)	7 (87.5)		26 (10.2)	230 (90.8)	
	Student	1 (33.3)	2 (66.7)		1 (6.7)	14 (93.3)	
Income source	Salary	75 (28.2)	191 (71.8)	1.27 (0.260)	2 (40.0)	3 (60.0)	4.68 (0.030*)
	Business	1 (11.1)	8 (88.9)		27 (10.0)	243 (90.0)	

\*Significant predictor at  $p < 0.05$ .

Educational level (Table 2) was significantly associated with satisfaction among insured participants ( $\chi^2 = 4.89$ ;  $p = 0.027$ ), with higher satisfaction among those with post-secondary education (31.0%) than those with secondary education (16.9%). Social class was also significant among insured respondents ( $\chi^2 = 36.96$ ;  $p = 0.001$ ), with the highest satisfaction observed among very low social class respondents (57.1%). Among uninsured participants, neither education ( $\chi^2 = 1.33$ ;  $p = 0.249$ ) nor social class ( $\chi^2 = 7.54$ ;  $p = 0.110$ ) significantly influenced satisfaction.

Facility attended (Table 3) was significantly associated with satisfaction in both insured ( $\chi^2 = 61.62$ ;  $p = 0.001$ ) and uninsured participants ( $\chi^2 = 66.54$ ;  $p = 0.001$ ). Among insured respondents, satisfaction was highest at FMCY (53.7%) and lowest at DKMH (6.8%). Among uninsured participants, satisfaction was highest at NDUTH (39.7%) and lowest at

DKMH (1.5%). Type of insurance also significantly influenced satisfaction among insured respondents ( $\chi^2 = 47.97$ ;  $p = 0.001$ ), with NHIS enrollees reporting greater satisfaction (53.8%) than BHIS enrollees (14.3%).

Association between household characteristics and satisfaction among insured and uninsured patients (Table 4), showed that Household size was significantly associated with satisfaction among insured respondents ( $\chi^2 = 21.75$ ;  $p = 0.001$ ), with the highest satisfaction among households with 1–2 members (57.6%). Among uninsured participants, the number of working household members significantly influenced satisfaction ( $\chi^2 = 7.29$ ;  $p = 0.026$ ), and satisfaction increased with greater household economic support.

Association between occupation, income source satisfaction among insured and uninsured patients (Table 5), showed that

**Table 6:** Association between monthly income and satisfaction among insured and uninsured patients.

Monthly Income	Insured Satisfied n (%)	Insured Not Satisfied n (%)	$\chi^2$ (p-value)	Uninsured Satisfied n (%)	Uninsured Not Satisfied n (%)	$\chi^2$ (p-value)
<N100,000	3 (17.6)	14 (82.4)	3.91 (0.272)	0 (0.0)	17 (100)	2.72 (0.437)
N100,000–N200,000	67 (27.3)	178 (72.7)		24 (11.9)	178 (88.1)	
N201,000–N400,000	4 (40.0)	6 (60.0)		5 (9.3)	49 (90.7)	
N401,000–N500,000	2 (66.7)	1 (33.3)		0 (0.0)	2 (100)	

\*Significant at  $p < 0.05$ .

**Table 7:** Multivariate logistic regression showing determinants of satisfaction among insured patients.

Variable	Category	Crude OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value
Household size	1–2 members	6.68 (2.68–16.64)	0.001*	3.25 (1.06–9.98)	0.039*
	3–4 members	2.37 (1.10–5.08)	0.027*	1.98 (0.78–5.05)	0.148
	>6 members	1.00	–	1.00	–
Insurance scheme	NHIS	6.98 (3.90–12.48)	0.001*	5.62 (3.17–9.96)	0.001*
	BHIS	1.00	–	1.00	–
Social class	High	0.12 (0.03–0.44)	0.001*	0.31 (0.07–0.97)	0.047*
	Middle	0.30 (0.09–1.06)	0.062	0.24 (0.06–0.98)	0.046*
	Lower	0.18 (0.10–0.34)	0.001*	0.46 (0.20–0.95)	0.038*
	Very low	1.00	–	1.00	–

**Table 8:** Multivariate logistic regression showing determinants of satisfaction among uninsured patients.

Variable	Category	Crude OR (95% CI)	p-value	Adjusted OR (95% CI)	p-value
Working household members	1 member	1.00	–	1.00	–
	2 members	1.38 (0.54–3.51)	0.504	1.28 (0.49–3.32)	0.604
	>2 members	4.19 (1.33–13.24)	0.015*	4.26 (1.28–14.17)	0.018*
Income source	Salary	6.00 (0.96–37.51)	0.055	9.96 (0.84–27.91)	0.068
	Business	1.00	–	1.00	–

Reference category (1.00) = baseline comparison (Crude OR = 1.00, Adjusted OR = 1.00); \*Significant predictor at  $p < 0.05$ .

occupation ( $\chi^2 = 6.88$ ;  $p = 0.032$ ) and income source ( $\chi^2 = 4.68$ ;  $p = 0.030$ ) significantly influenced satisfaction among uninsured participants, with salary earners reporting greater satisfaction than self-employed respondents.

Association between monthly income and satisfaction among insured and uninsured patients (Table 6) showed that monthly income was not significantly associated with satisfaction among insured ( $p = 0.272$ ) or uninsured participants ( $p = 0.437$ ).

Multivariate logistic regression (Table 7) showed that insured participants from households with 1–2 members were over three times more likely to report satisfaction than those from households with more than six members (aOR = 3.25; 95% CI: 1.06–9.98;  $p = 0.039$ ). NHIS enrollees were over five times more likely to report satisfaction compared with BHIS enrollees (aOR = 5.62; 95% CI: 3.17–9.96;  $p = 0.001$ ). Social class also remained a significant predictor, particularly among lower social classes.

Among uninsured participants (Table 8), households with more than two working members were significantly more likely to report satisfaction compared with those with one working member (aOR = 4.26; 95% CI: 1.28–14.17;  $p = 0.018$ ), compared with households with >2 members (reference). This indicates that household economic capacity is the major determinant of satisfaction among uninsured patients.

Summary statistical analysis (Table 9) confirmed that significant determinants of satisfaction among insured

participants were marital status, education, social class, facility attended, insurance type, and household size, while among uninsured participants, facility attended and household economic indicators were significant. Compared with households having one working member (reference), households with >2 working members had 4.26 times greater odds of reporting satisfaction. Independent identified through multivariate analysis included NHIS coverage (aOR = 5.62), small household size (aOR = 3.25), and having more than two working household members (aOR = 4.26).

## DISCUSSION

This study assessed satisfaction with quality of healthcare services among insured and uninsured patients in selected facilities in Yenagoa and found that patient satisfaction was influenced by insurance coverage, household socioeconomic conditions, and institutional factors. Among insured participants, satisfaction was significantly associated with marital status ( $\chi^2 = 8.15$ ;  $p = 0.004$ ), educational level ( $\chi^2 = 4.89$ ;  $p = 0.027$ ), social class ( $\chi^2 = 36.96$ ;  $p = 0.001$ ), health facility attended ( $\chi^2 = 61.62$ ;  $p = 0.001$ ), insurance type ( $\chi^2 = 47.97$ ;  $p = 0.001$ ), and household size ( $\chi^2 = 21.75$ ;  $p = 0.001$ ). Among uninsured participants, significant associations were found for facility attended ( $\chi^2 = 66.54$ ;  $p = 0.001$ ), number of working household members ( $\chi^2 = 7.29$ ;  $p = 0.026$ ), occupation ( $\chi^2 = 6.88$ ;  $p = 0.032$ ), and income source ( $\chi^2 = 4.68$ ;  $p = 0.030$ ). These findings suggest that satisfaction is driven by multiple interacting determinants rather than insurance status alone.

**Table 9:** Summary of statistical tests for significant associations and independence.

Variable	Group	Test statistic	p-value	Interpretation
Marital status	Insured	$\chi^2 = 8.15$	0.004*	Sig. Asso.
Education level	Insured	$\chi^2 = 4.89$	0.027*	Sig. Asso
Social class	Insured	$\chi^2 = 36.96$	0.001*	Sig. Asso
Facility attended	Insured	$\chi^2 = 61.62$	0.001*	Sig. Asso
Insurance type	Insured	$\chi^2 = 47.97$	0.001*	Sig. Asso
Household size	Insured	$\chi^2 = 21.75$	0.001*	Sig. Asso
Working household members	Uninsured	$\chi^2 = 7.29$	0.026*	Sig. Asso
Occupation	Uninsured	$\chi^2 = 6.88$	0.032*	Sig. Asso
Income source	Uninsured	$\chi^2 = 4.68$	0.030*	Sig. Asso
Facility attended	Uninsured	$\chi^2 = 66.54$	0.001*	Sig. Asso
1–2 household members	Insured	aOR = 3.25 (1.06–9.98)	0.039*	Independent
NHIS coverage	Insured	aOR = 5.62 (3.17–9.96)	0.001*	Independent
>2 working members	Uninsured	aOR = 4.26 (1.28–14.17)	0.018*	Independent

\*Statistically significant at  $p < 0.05$ ;  $\chi^2$  = Chi-square statistic; OR = Odds ratio; aOR = Adjusted odds ratio; CI = Confidence interval; Sig. Asso. = significant Association.

The higher satisfaction among insured participants enrolled under NHIS (53.8%) compared with BHIS (14.3%) is consistent with studies reporting that more comprehensive insurance coverage is associated with improved perceptions of service quality due to reduced out-of-pocket expenditure and better continuity of care (Onoka *et al.*, 2013; Nwanaji-Enwerem *et al.*, 2022). The adjusted odds of satisfaction among NHIS enrollees in this study (aOR = 5.62; 95% CI: 3.17–9.96;  $p = 0.001$ ) suggest a strong independent effect of insurance scheme type on patient experience. Similar findings have been reported by Arah *et al.* (2003), who found higher satisfaction among insured patients where administrative efficiency and access to medicines were stronger. However, the lower satisfaction observed among BHIS enrollees may indicate scheme-level challenges such as delays, restricted service benefits, or provider inefficiencies, supporting evidence that insurance enrollment alone does not guarantee a positive patient experience (Mohammed *et al.*, 2011).

Household size significantly influenced satisfaction among insured participants, with respondents from households of 1–2 members reporting the highest satisfaction (57.6%), while those from households with more than six members reported the lowest (16.9%). Regression analysis further showed that respondents from smaller households were over three times more likely to report satisfaction than those from larger households (aOR = 3.25; 95% CI: 1.06–9.98;  $p = 0.039$ ). This highlights the role of financial resilience in shaping healthcare satisfaction. This finding agrees with reports that household-level economic stress can negatively affect perceptions of healthcare adequacy and access (Afolabi *et al.*, 2013). It also aligns with broader social determinants literature showing that family resource constraints can influence health service utilization and satisfaction (WHO, 2023).

Social class was another significant determinant among insured participants, with respondents in the very low social class reporting the highest satisfaction (57.1%), compared with only 9.5% satisfaction among the high social class group. Adjusted analysis showed significantly reduced odds of satisfaction among high social class respondents (aOR = 0.31;  $p = 0.047$ ), suggesting that individuals with higher

socioeconomic standing may hold greater expectations of healthcare quality. This finding supports expectation-disconfirmation theory and agrees with studies by Andaleeb (2001) and Aldana *et al.* (2001), which found that patient satisfaction often reflects the gap between expectations and perceived service performance. Similar patterns have been reported in Nigerian public health settings where lower-income groups sometimes report higher satisfaction despite poorer objective service conditions because expectations differ (Aldana *et al.*, 2001; Andaleeb, 2001).

Facility-level differences were among the strongest findings in this study. Among insured participants, satisfaction was highest at Federal Medical Centre Yenagoa (53.7%) followed by Niger Delta University Teaching Hospital (33.3%), while only 6.8% of insured participants attending Diете-Koki Memorial Hospital reported satisfaction. Among uninsured participants, satisfaction was highest at NDUTH (39.7%) but very low at FMCY (4.6%) and DKMH (1.5%). These significant facility effects (insured:  $\chi^2 = 61.62$ ;  $p = 0.001$ ; uninsured:  $\chi^2 = 66.54$ ;  $p = 0.001$ ) suggest strong institutional influences, likely reflecting differences in waiting time, provider attitude, organization of care, or resource availability. Similar inter-facility variations have been documented by Iloh *et al.* (2012) and Daramola *et al.* (2019), who showed that organizational performance strongly shapes patient satisfaction in Nigerian hospitals.

Among uninsured participants, household economic capacity was the most important determinant of satisfaction. Respondents from households with more than two working members reported 25.0% satisfaction compared with only 7.4% among those with one working member, and were more than four times as likely to report satisfaction (aOR = 4.26; 95% CI: 1.28–14.17;  $p = 0.018$ ). This finding indicates that among those without insurance, financial resilience substantially influences perceptions of care. Similar findings have been reported in studies showing that affordability and income security are major determinants of healthcare satisfaction, where out-of-pocket payment predominates (Nguyen *et al.*, 2011; Mohammed *et al.*, 2011). The significance of occupation ( $\chi^2 = 6.88$ ;  $p = 0.032$ ) and income source ( $\chi^2 = 4.68$ ;  $p = 0.030$ ) further supports the role of

economic stability in shaping satisfaction among uninsured patients.

Interestingly, sex and age were not significantly associated with satisfaction in either group. Among insured participants, sex ( $\chi^2 = 0.08$ ;  $p = 0.777$ ) and age ( $\chi^2 = 8.27$ ;  $p = 0.142$ ) showed no significant relationship; while among uninsured participants, sex ( $\chi^2 = 0.12$ ;  $p = 0.727$ ) and age ( $\chi^2 = 8.54$ ;  $p = 0.129$ ) were also not significant. This contrasts with some studies that have reported higher satisfaction among older adults or female patients, but agrees with others showing that structural and financial determinants often outweigh demographic characteristics in explaining satisfaction (Arah *et al.*, 2003). In this context, the similarity across age and sex categories may suggest that systemic service experiences are broadly shared across demographic groups.

The findings collectively support the view that achieving patient satisfaction requires both effective financial protection and improved service delivery quality. This is consistent with the framework proposed by Donabedian (1988), which links health system structure and care processes to patient outcomes, including satisfaction. The study also reinforces evidence from Universal Health Coverage literature that expanding insurance without addressing service quality may have a limited impact on patient experience (WHO, 2023; Onoka *et al.*, 2013). Thus, improving satisfaction in Bayelsa requires strengthening insurance performance, reducing socioeconomic barriers, and improving institutional efficiency across facilities.

Overall, this study contributes to the growing evidence that determinants of patient satisfaction differ between insured and uninsured populations. For insured patients, insurance scheme type, social class, and household size were the strongest predictors, while among uninsured patients, household economic capacity predominated. These distinctions are important because they suggest that interventions to improve satisfaction should be tailored to patient group characteristics rather than assuming a single strategy will benefit all healthcare users.

## CONCLUSION

Patient satisfaction in Yenagoa was influenced by insurance coverage, household socioeconomic factors, and facility-level characteristics. NHIS coverage, smaller household size, and lower social class were associated with higher satisfaction among insured patients, while household economic capacity was the major determinant among uninsured patients. Differences across facilities further showed that the quality of service delivery plays an important role in shaping patient experiences. These findings highlight the need for targeted, facility-level and socioeconomic interventions

## Recommendations

Health insurance coverage should be strengthened to improve access and patient satisfaction. Healthcare facilities should enhance service quality through improved efficiency, patient-centered care, and regular performance monitoring. Targeted support should also be provided to economically vulnerable

households and lower-performing facilities to promote equitable and quality healthcare delivery.

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The present research did not receive any financial support to conduct the research.

## Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/ or falsification, double publication and/or submission, and redundancy has been completely observed by the authors.

## Life Science Reporting

No life science threat was practised in this research.

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