



FACTORS INFLUENCING THE UPTAKE OF STATE SOCIAL HEALTH INSURANCE SCHEME AMONG PRIMARY HEALTHCARE WORKERS IN CALABAR METROPOLIS, NIGERIA: A CROSS-SECTIONAL STUDY

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ABSTRACT

BACKGROUND:

Despite Nigeria's establishment of State Social Health Insurance Authority (SSHIA) to advance Universal Health Coverage (UHC), enrollment remains critically low (<5% nationally). Primary Healthcare Workers (PHCWs) are pivotal to healthcare delivery, yet factors influencing their SSHIS uptake in Cross River State are under-explored.

METHOD:

A cross-sectional study of 158 PHCWs across Calabar Municipality and Calabar South LGAs assessed awareness, perception, willingness to pay (WTP), and satisfaction via structured questionnaires. Data were analyzed using SPSS v26.0 for descriptive statistics, with chi-square tests identifying associations and bivariate binary logistic regression used to assess predictors. ($p < 0.05$).

RESULTS:

Awareness was high (76.6%), but perception was predominantly negative (71.5%). Only 32.9% were enrolled; 31.0% expressed willingness to pay (WTP), with a low satisfaction level (74.1% dissatisfied). Key barriers included high premiums (45.9%), distrust in network hospitals (52.3%), and administrative burdens (40.4%). Age of workers, location of Primary Healthcare center, and awareness were significantly ($p < 0.05$) associated with and predicted WTP.

CONCLUSION:

SSHIS uptake is hindered by structural and perceptual gaps despite high awareness. Targeted reforms addressing cost, trust, and administrative efficiency are urgently needed.

KEYWORDS:

Health insurance uptake, Primary healthcare workers, Universal Health Coverage, Nigeria,

INTRODUCTION:

Universal Health Coverage (UHC) remains an urgent global priority, with approximately 400 million people lacking essential health services and Sub-Saharan Africa experiencing catastrophic health expenditures affecting 178 million individuals annually^{1,2} (Fenny et al., 2021; Ama et al., 2021). In Nigeria, the National Health Insurance Authority (NHIA), formerly the National

Health Insurance Scheme (NHIS), which was established in 2005 to operationalize UHC^{3,4}, has achieved minimal coverage (<5% of the population)⁵, due to systemic barriers including inadequate awareness, prohibitive premium costs, cultural resistance, and distrust in government stewardship^{6,7,8}. To address these gaps, Nigeria decentralized health financing through the establishment of State Social Health Insurance Authority (SSHIA) in 2014, which organizes the Social State Health Insurance schemes (SSHIS), with Cross River State among 16 pioneering states implementing localized programs⁹. Despite this innovation, Social State Health Insurance Scheme (SSHIS) enrollment remains critically low (8.1 million Nigerians covered nationally since inception), and 97% of citizens lack health insurance, perpetuating financial hardship and limiting healthcare

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access^{10, 11} Primary Healthcare Workers (PHCWs), the backbone of Nigeria's health system as frontline providers, face unique vulnerabilities and yet there's a significant data gap on State Social Health Insurance Scheme (SSHIS) uptake in Cross River State, where enrolment among adults in the state is low (2.4%)¹². This study therefore aimed to identify factors associated with SSHIS uptake among PHCWs by assessing awareness levels, evaluating perceptions, determining willingness to pay, and identifying sociodemographic and systemic barriers. The findings are urgently needed to inform context-sensitive policy reforms, empower PHCWs as SSHIS beneficiaries and advocates, thus increasing the enrollment rates and sustainability of health insurance programs.

METHODS

Study Setting

This study was conducted in Calabar Metropolis which consist of Calabar Municipality and Calabar South Local Government Areas (LGAs) in Cross River State, Nigeria. Calabar Municipality has a population of around 187,432 and 22 Primary Healthcare Centers (PHCs), while Calabar South has a population of around 93,104 and 20 PHCs.

Study Design

A descriptive cross-sectional study design was employed to assess the factors associated with SSHIS uptake among PHCWs in Cross River State. The study was conducted from March to June 2024, and data were collected using semi-structured questionnaires that underwent face validation by experts and pilot reliability testing.

Study Population

The study population consisted of all PHCWs in Calabar Municipality and Calabar South LGAs. A multi-stage sampling technique was used, involving random selection of wards, PHCs, and simple random sampling of PHCWs. Preference was given to male PHCWs due to their under representation in the primary health care workforce.

Sample Size Estimation

The sample size was estimated using Cochran's formula, which yielded a minimum sample size of 143. However, after adjusting for a 10% non-

response rate and a design effect of 1.2, the final sample size was 172.

Data Collection & Data Analysis

Data collection utilized semi-structured questionnaires adapted from the WHO World Health Survey. The questionnaire assessed sociodemographic, awareness, perception, willingness to pay (WTP), and satisfaction with State Social Health Insurance Scheme (SSHIS). The research team visited Cross River State Primary Health care Development Agency and obtained a list of employees for the selection process, facilities present and the number of facilities available. The questionnaires was administered in an interviewer-administered manner. All returned questionnaires were checked manually to ensure that the responses were in order. Perception of SSHIS was measured using a scoring system, where positive perception questions were scored from 5 (Strongly Agree) to 1 (Strongly Disagree), and negative perception questions were scored in reverse. Respondents scoring above the mean were classified as having positive perception of SSHIS, while those scoring below the mean had negative perception. Data was analyzed using SPSS v26.0, License number: 53595fc69139e7c88dec, and results were summarized and presented in figures and frequency tables. Chi-square tests were used to determine associations between WTP and explanatory variables, such as awareness of SSHIS, and binary logistic regression was used to confirm true predictors of WTP, at a 5% significance level.

Ethical Considerations

The study received approval from the University of Calabar Teaching Hospital Ethics Committee with approval number UCTH/HREC/33/Vol. III/343, and written consent was obtained from all participants. The study ensured confidentiality and anonymity of respondents and was conducted according to the Declaration of Helsinki on Ethical Principles for Medical Research Involving Human Subjects.

RESULTS

A total of 158 questionnaires were administered, properly and completely filed by the respondents, representing a response rate of 91.9%.

Table I summarizes the sociodemographic information of the respondents. The study revealed that a greater percentage of Primary healthcare workers (PHCWs) were aged 21-30 years (44.9%), with a mean age of 31.55 ± 9.475 years. Most were female (75.3%), single (57.6%), Christian (98.1%) and from the Efik tribe (44.3%). Additionally, the majority worked in PHCs in Calabar municipality (68.4%), had tertiary education (93.7%), with Household sizes ranging from 1-6 members (80.4%), were mostly Community Health Extension Workers (CHEWs) (48.1%) and earned within 50,000-150,000 naira monthly (72.1%).

Awareness of SSHIS was high, with 76.6% of PHCWs aware of the scheme (see Figure 1). The primary sources of awareness were coworkers (54.4%) and social media (26.6%) (see Figure 2). Most respondents (75.3%) recognized benefits associated with the scheme, including increased access to healthcare services (52.5%), financial protection (46.8%), and improved health outcomes (42.4%), as shown in Table II.

Figure 3 shows that 71.5% of PHCWs held negative perceptions of SSHIS, with an average perception score of 2.36. From Table III, The major concerns cited included high premiums (55.1% strongly agreed or agreed), administrative burdens (65.8% strongly agreed or agreed), and limited coverage (67.1% strongly agreed or agreed), although a significant percentage believes it gives financial protection against medical expenses (20.9% Strongly agreed), increases access to adequate healthcare services (22.2% Strongly agreed) and affordable services (23.4% Strongly agreed).

From Table 4, Only 32.9% of PHCWs were enrolled in SSHIS, with an average premium of ₦1,000/month (32.7%) covering 2-6 family members (50%) and enrolled for 2 years (30.8%) (See Table IV). Figure 4 shows that 31% of the respondents expressed willingness to pay and while 69% were not willing. Among the respondents that were willing, the most reasons for their willingness to enrolled were reduced out-of-pocket payments (61.2%), improve health status (67.3%), and facilitate access to healthcare services (69.4%). While most of those unwilling to pay cited high premiums (45.9%) and distrust in network

hospitals (52.3%) as their reasons. The most recognized benefit packages included maternity care (64.6%), prescription drug coverage (53.8%), inpatient coverage (51.3%), and promotive healthcare services (54.4%) (Also, see Table 4). As shown in Figure 4, the uptake and sustainability of the State Social Health Insurance Scheme were significantly affected by factors including lack of awareness (77.2%), attitude of healthcare workers (47.5%), high premium costs (43.7%), and limited coverage (41.8%).

Table V revealed that few (17.1%) respondents benefited from the scheme, primarily gaining availability of services (70.4%) and timely access to healthcare delivery (63%), with a majority (74.1%) of beneficiaries very dissatisfied with the scheme, and only few of the respondents (11.4% strongly agreed or agreed) of respondents believed the scheme would be beneficial to other healthcare workers and the general public. Non-beneficiaries (82.9%) cited lack of awareness (52.7%) and complex procedures (38.9%) as reasons for not benefiting from the scheme. The most recognized benefit packages included maternity care (64.6%), prescription drug coverage (53.8%), inpatient coverage (51.3%), and promotive healthcare services (54.4%).

The results of both chi-square analysis and univariate binary logistic regression revealed that age, location of health center, and awareness were significant factors influencing willingness to pay (WTP) for SSHIS among PHCWs. Chi-square analysis showed that younger PHCWs ($\chi^2 = 9.886$, $p = 0.002$), those working in Calabar municipality ($\chi^2 = 9.886$, $p = 0.002$), and those with lower awareness levels ($\chi^2 = 6.915$, $p = 0.009$) were less likely to pay for SSHIS (Tables VI & VII). Similarly, logistic regression analysis confirmed that these factors were true predictors of WTP, with older workers (41-50 years old) more likely to pay than younger workers (20 years old and below) (OR = 13.00, 95%CI: 2.735-61.786, $p = 0.001$), workers in Calabar South more likely to pay than those in Calabar Municipality (OR = 3.065, 95%CI: 1.503-6.249, $p = 0.002$), and those aware of the scheme more likely to pay than those not aware (OR = 3.657, 95%CI: 1.328-10.068, $p = 0.012$) (Table IX).

Table I: Socio-demographics characteristics of the Primary healthcare workers in Healthcare centres in Calabar South and Calabar municipality

Variable	Frequency (n=158)	Percentage (%)
Age at last birthday (Years)		
<20	21	13.3
21-30	71	44.9
31-40	45	28.5
40-50	19	12.0
>50	2	1.3
Mean age ± SD	31.55±9.475	
Sex		
Male	39	24.7
Female	119	75.3
Marital Status		
Single	91	57.6
Married	64	40.5
Divorced	2	1.3
Separated	1	0.6
Religion		
Christian	155	98.1
Traditional	2	1.3
Atheist	1	0.6
Ethnicity		
Efik	70	44.3
Ejagham	18	11.4
Yakurr	18	11.4
Bette	23	14.6
Yala	7	4.4
Igbo	5	3.2
Boki	8	5.0
^a Others	9	5.7

^aOthers: Ekoi, Ogoja, Obudu, Ibibio (Source: Researcher, 2025)

Table I (Continued): Socio-demographics characteristics of the Primary healthcare workers in Healthcare centres in Calabar South and Calabar municipality

VARIABLE	FREQUENCY (n=158)	PERCENTAGE (%)
Number of respondents in Primary Health Care Centers		
Calabar Municipality	108	68.4
Calabar South	50	31.6
Educational qualification		
Secondary level	10	6.3
Tertiary Level	148	93.7
Number of members in household		
1-3	33	20.9
4-6	94	59.5
7-10	26	16.5
>10	5	3.2
Cadre of staff		
Director	1	.6
Medical doctor	2	1.3
Nurse	19	12.0
Midwife	6	3.8
CHEW	76	48.1
CHO	14	8.9
Pharmacy technician	10	6.3
Laboratory technician	11	7.0
Nutrition supervisor	3	1.9
^b Others	10	5.4
Monthly Income		
20,000-50,000	14	8.3
51,000-100,000	61	36.3
101,000-150,000	51	30.4
151,000-200,000	28	16.7
200,000 & Above	1	.6

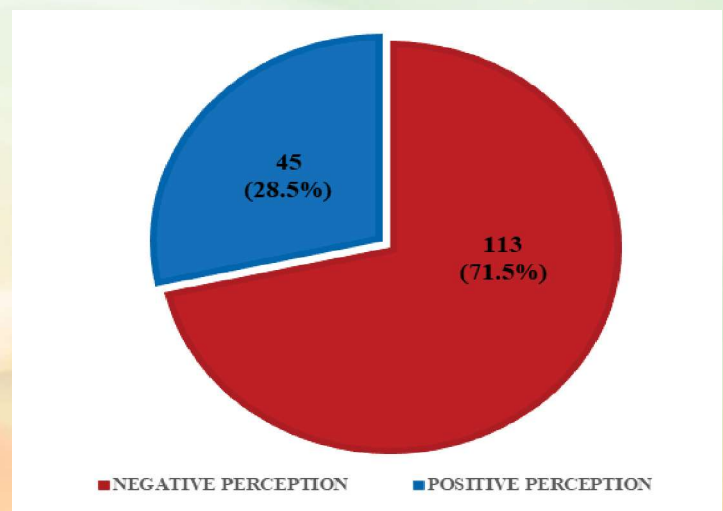
^bOthers: Volunteers. (Source: Researcher, 2025)

Table II: Benefits of State Social Health Insurance Scheme among primary health care workers in Calabar South and Calabar municipality, Cross River State

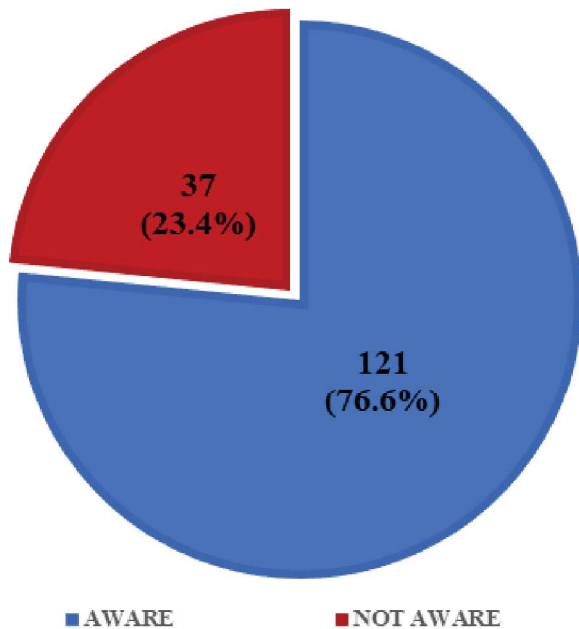
VARIABLE	FREQUENCY (n=158)	PERCENT- AGE (%)
Are there benefits associated with the State Social Health Insurance Scheme?		
Yes	119	75.3
No	39	24.7
What are the benefits of the State Social Health Insurance Scheme?*		
Increase access to health care services	83	52.5
Financial protection by reducing out of pocket expenses for health care services	74	46.8
Improved health outcomes	67	42.4
Facilitating preventive care and health promotion	63	39.9
Equitable health care	53	33.5
Critical illness cover	44	27.8
Accidental hospitalization coverage	38	24.1
Regular Health check ups	62	39.2
Cashless treatment	58	36.7
Age no barrier	33	20.9
Income tax rebate	6	3.8
Health education and awareness	50	31.6

** = Multiple responses allowed

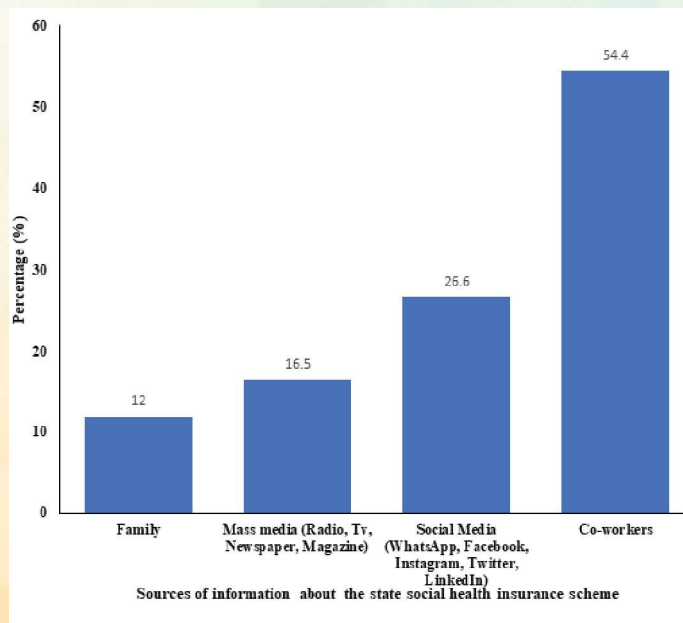
(Source: Researcher, 2025)

**Figure 3: Overall level of Perception of State Social Health Insurance Scheme by primary health care workers in Calabar South and Calabar municipality, Cross River State (n = 158)**

(Source: Researcher, 2025)

**Figure 1: Awareness State Social Health Insurance Scheme among primary health care workers in Calabar South and Calabar municipality, Cross River State (n = 158)**

(Source: Researcher, 2025)

**Figure 2: Sources of information about the state social health insurance scheme among primary health care workers in Calabar South and Calabar municipality, Cross River State (n = 158)**

(Source: Researcher, 2025)

Table III: Perception of the State Social Health Insurance Scheme among primary health care workers in Calabar South and Calabar municipality, Cross River State (n = 158)

VARIABLE	SA n(%)	A n(%)	U n(%)	D n(%)	SD n(%)
The State Social Health Insurance Scheme provides financial protection against medical expenses.	33 (20.9)	0 (0.0)	11 (7.)	66 (41.8)	48 (30.4)
The scheme partners with healthcare providers for timely, quality medical services.	29 (18.4)	0 (0.0)	13 (8.2)	71 (44.9)	45 (28.5)
Preventive services offered by the scheme improve health and well-being.	23 (14.6)	0 (0.0)	20 (12.7)	57 (36.1)	58 (36.7)
The scheme reduces stress, providing peace of mind due to awareness of financial protection.	30 (19.)	0 (0.0)	25 (15.8)	56 (35.4)	47 (29.7)
It increases access to adequate healthcare services.	35 (22.2)	0 (0.0)	18 (11.4)	72 (45.6)	33 (20.9)
The scheme improves primary healthcare workers' seeking behavior due to affordable services.	37 (23.4)	0 (0.0)	29 (18.4)	69 (43.7)	37 (23.4)
Premium costs are a significant constraint of the scheme.	27 (17.1)	60 (38.)	42 (26.6)	9 (5.7)	20 (12.7)
The scheme's coverage is limited to specific treatments or medical procedures.	55 (34.8)	51 (32.3)	26 (16.5)	11 (7.)	15 (9.5)
Administrative processes associated with the scheme can be time-consuming.	49 (31.)	55 (34.8)	26 (16.5)	7 (4.4)	21 (13.3)

VARIABLE	SA n(%)	A n(%)	U n(%)	D n(%)	SD n(%)
Enrollment in the scheme predispose one to illness.	14 (8.9)	13 (8.2)	14 (8.9)	60 (38.)	57 (36.1)
The scheme is mostly important for just the elderly.	12 (7.6)	16 (10.1)	15 (9.5)	51 (32.3)	64 (40.5)
The scheme's coverage only include serious illnesses.	12 (7.6)	13 (8.2)	21 (13.3)	43 (27.2)	69 (43.7)
The scheme does not cover preexisting medical conditions.	14 (8.9)	16 (10.1)	48 (30.4)	30 (19.)	50 (31.6)

SA= Strongly agree, A= Agree, U= Uncertain; D= Disagree, SD = Strongly Disagree

(Source: Researcher, 2025)

Table IV: Knowledge and Willingness to pay for State Social Health Insurance Scheme among primary health care workers in Calabar South and Calabar municipality, Cross River State (n = 158)

variable	frequency (n=158)	per-centage (%)
Have you been enrolled into the State Social Health Insurance Scheme?		
Yes	52	32.9
No	106	67.1
If yes, How long have you been enrolled into the State Social Health Insurance Scheme? (n=52)		
≤1 year	5	9.6
2 years	16	30.8
3 years	15	28.8
4 years	9	17.3
≥5 years	7	13.5
What is the premium cost of the State Social Health Insurance Scheme? (n=52)		
N1000	17	32.7
N 2000	14	26.9
N 3000	6	11.5
N 4000	4	7.7
N 5000 and above	11	21.2

Table IV (continued): Knowledge and Willingness to pay for State Social Health Insurance Scheme among primary health care workers in Calabar South and Calabar municipality, Cross River

VARIABLE	FREQUENCY (n=158)	PERCENT- AGE (%)
Who does the State Social Health Insurance Scheme cover?		
Enrolee only	19	36.5
Enrolee and 1 family member	4	7.7
Enrolee and 2-6 family members	26	50.0
Enrolee and 7-10 family members	3	5.8
Are you willing to be a part of the State Social Health Insurance Scheme?		
Yes	49	31.0
No	109	69.0
If Yes, why are you willing to be a part of the State Social Health Insurance Scheme?***		
Reduce out of pocket payment	30	61.2
Improve health status	33	67.3
Facilitate access to health care services	34	69.4
Health equity	18	36.7
Increase preventive care and health promotion	19	38.8
Health education	16	32.7
If No, why are you not willing to be a part of the State Social Health Insurance Scheme?**		
High premium cost	57	45.9
Exclusion of certain treatment	44	40.4
Network hospitals	53	52.3
Formalities and paper work	53	40.4
Unavailability of services	33	48.6
Factors affecting premiums (such as preexisting medical conditions)	15	48.6
Longer waiting times for appointment of treatment	9	30.3
What are the benefit packages of the State Social Health Insurance Scheme that you know?**		
Inpatient coverage (hospital stays, surgeries,)	81	51.3
Outpatient coverage (doctor visits, tests)	80	50.6

VARIABLE	FREQUENCY (n=158)	PERCENT- AGE (%)
Prescription drug coverage	85	53.8
Maternity care	102	64.6
Mental health and substance abuse treatment	50	31.6
Rehabilitation services (physical, occupational, speech therapy)	39	24.7
Laboratory and diagnostic tests	84	53.2
Preventive care (wellness exams, vaccinations)	71	44.9
Promotive healthcare services (health education)	86	54.4
Chronic disease management	31	19.6
Pediatric services (well-child visits, vaccinations)	62	39.2
Urgent care coverage	54	34.2
Emergency room coverage	55	34.8
Ambulance services	34	21.5
Durable medical equipment (wheelchairs, oxygen tanks)	22	13.9
Home health care	29	18.4
Telemedicine services	24	15.2
Oral health	41	25.9
Eye care services	40	25.3

** = Multiple responses allowed
(Source: Researcher, 2025)

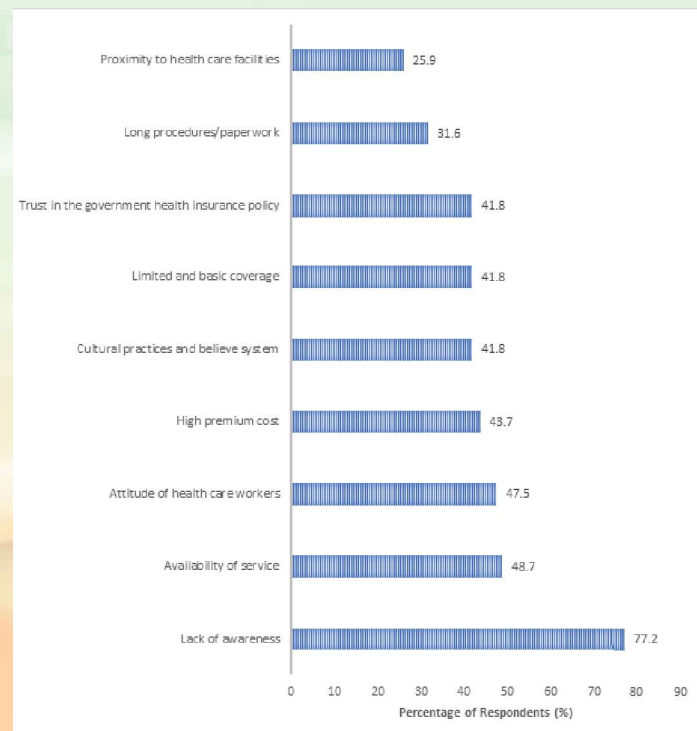
**Figure 4: Factors affecting uptake of state social health insurance scheme amongst primary health care workers in cross river state (n = 158)****(Source: Researcher, 2025)**

Table V: Satisfaction of the State Social Health Insurance Scheme among primary health care workers in Calabar South and Calabar municipality, Cross River State (n = 158)

VARIABLE	FREQUENCY (n=158)	PERCENT-AGE (%)
Have you benefitted from the State Social Health Insurance Scheme?		
Yes	27	17.1
No	131	82.9
If yes, what did you benefit from the State Social Health Insurance Scheme? (n=27)		
Availability of services	19	70.4
Timely access to health care delivery	17	63.0
Proximity of health care facility	13	48.1
Adequate health care service	16	59.3
Consistency of the scheme	3	11.1
How satisfied are you with the State Social Health Insurance Scheme? (n=27)		
Very satisfied	8	29.6
Satisfied	11	40.7
Neutral	8	29.6
Dissatisfied	3	11.1
Very dissatisfied	20	74.1
Do you think the State Social Health Insurance Scheme will be beneficial to other health care workers and the general public?		
Strongly agree	2	1.3
Agree	16	10.1
Uncertain	41	25.9
Disagree	61	38.6
Strongly disagree	38	24.1
Reasons for not benefitting from the State Social Health Insurance Scheme?		
Lack of awareness of the available benefits	69	52.7
Difficulty using benefits	48	36.6
Limited and basic coverage	49	37.4
Long procedures	51	38.9

VARIABLE	FREQUENCY (n=158)	PERCENT-AGE (%)
Not catering to evolving needs	29	22.1
Social stigma utilizing certain services	16	12.2

** = Multiple responses allowed
(Source: Researcher, 2025)

Table VI: Factors associated with willingness to pay for the state social health insurance scheme amongst primary health care workers.

SOCIO- DEMOGRAPHIC FACTORS	Willingness to pay			Chi- square (x ²)	p- value
	No n (%)	Yes n (%)	Total n (%)		
Age at last birthday (years)					
≤ 20	18 (85.7)	3 (14.3)	21 (100.)	16.574	0.002*
21-30	53 (74.6)	18 (25.4)	71 (100.)		
31-40	31 (68.9)	14 (31.1)	45 (100.)		
41-50	6 (31.6)	13 (68.4)	19 (100.)		
>50	1 (50.)	1 (50.)	2 (100.)		
Sex					
Male	31 (79.5)	8 (20.5)	39 (100.)	2.668	0.102
Female	78 (65.5)	41 (34.5)	119 (100.)		
Marital Status					
Single	69 (75.8)	22 (24.2)	91 (100.)	7.072	0.070
Married	37 (57.8)	27 (42.2)	64 (100.)		
Divorced	2 (100.)	0 (0.)	2 (100.)		
Separated	1 (100.)	0 (0.)	1 (100.)		
Number of members in household					
1-3	23 (69.7)	10 (30.3)	33 (100.)	2.287	0.515
4-6	62 (66.)	32 (34.)	94 (100.)		
7-9	21 (80.8)	5 (19.2)	26 (100.)		
10 & Above	3 (60.)	2 (40.)	5 (100.)		
* = significant at p<0.05 (Source: Researcher, 2025)					

* = significant at p<0.05
(Source: Researcher, 2025)

Table VI (Continued): Factors associated with willingness to pay for the state social health insurance scheme amongst primary health care workers

SOCIO- DEMOGRAPHIC FACTORS	Willingness to pay			Chi- square (χ ²)	p- value
	No n (%)	Yes n (%)	Total n (%)		
Location of Primary health center					
Calabar Municipality	83 (76.9)	24 (23.1)	108 (100.)	9.866	0.002*
Calabar South	26 (52.0)	24 (48.0)	50 (100.)		
Cadre of staff					
Director	1 (100.)	0 (0.)	1 (100.)	8.260	0.508
Medical doctor	2 (100.)	0 (0.)	2 (100.)		
Nurse	12 (63.2)	7 (36.8)	19 (100.)		
Midwife	4 (66.7)	2 (33.3)	6 (100.)		
CHEW	51 (67.1)	25 (32.9)	76 (100.)		
CHO	8 (57.1)	6 (42.9)	14 (100.)		
Pharmacy technician	8 (80.)	2 (20.)	10 (100.)		
Laboratory technician	6 (54.5)	5 (45.5)	11 (100.)		
Nutrition supervisor	3 (100.)	0 (0.)	3 (100.)		
Others	14 (87.5)	2 (12.5)	16 (100.)		
Monthly Income					
20,000-50,000	12 (85.7)	2 (14.3)	14 (100.)	4.877	0.300
51,000-100,000	39 (63.9)	22 (36.1)	61 (100.)		
101,000-150,000	39 (73.6)	14 (26.4)	53 (100.)		
151,000-200,000	17 (60.7)	11 (39.3)	28 (100.)		
>200,000	2 (100.)	0 (0.)	2 (100.)		
* = significant at p<0.05 (Source: Researcher, 2025)					

* = significant at p<0.05
(Source: Researcher, 2025)

Table VII: Relationship between Awareness and willingness to pay for the state social health insurance scheme amongst primary health care workers.

AWARENESS	Willingness to pay			Chi-square (X ²)	p-value
	No n (%)	Yes n (%)	Total n (%)		
Not Aware	32 (86.5)	5 (13.5)	37 (100.)	6.915	0.009*
Aware	77 (63.6)	44 (36.4)	121 (100.)		

* = significant at p<0.05
(Source: Researcher, 2025)

Table VIII: Relationship between perception and willingness to pay for the state social health insurance scheme amongst primary health care workers.

PERCEPTION	Willingness to pay			Chi-square (X ²)	p-value
	No n (%)	Yes n (%)	Total n (%)		
Negative perception	77 (68.1)	36 (31.9)	113 (100.)	0.133	0.716
Positive perception	32 (71.1)	13 (28.9)	45 (100.)		

* = significant at p<0.05
(Source: Researcher, 2025)

Table IX: Univariate Binary Logistic regression of the predictors of willingness to pay for the state social health insurance scheme amongst primary health care workers

Independent Predictors	OR	95% CI	p-value
Age at last birthday (years)			
≤ 20	1 (reference)		
21-30	2.038	0.537 – 7.736	0.296
31-40	2.710	0.685 – 10.723	0.156
41-50	13.000	2.735 – 61.786	0.001*
>50	6.000	0.290 – 124.10	0.246

Independent Predictors	OR	95% CI	p-value
Sex			
Male	1 (reference)		
Female	2.307	0.858 – 4.834	0.107
Marital Status			
Single	1 (reference)		
Married	2.289	2.289 – 1.148	0.019
Divorced	0.000	0.000 – 0.000	0.999
Separated	0.000	0.000 – 0.000	1.000
Number of members in household			
1-3	1 (reference)		
4-6	1.187	1.187 - 0.504	0.695
7-9	0.700	0.700 - 0.227	0.535
10 & Above	0.000	0.000 - 0.000	1.000
Location of Primary health center			
Calabar Municipality	1 (reference)		
Calabar South	3.065	1.503 - 6.249	0.002*
Cadre of staff			
Director	1 (reference)		
Medical doctor	1.000	0.000 - 0.000	1.000
Nurse	942344517.663	0.000 - 0.000	1.000
Midwife	807723872.283	0.000 - 0.000	1.000
CHEW	791886149.297	0.000 - 0.000	1.000

Independent Predictors	OR	95% CI	p-value
CHO	1211585808.424	0.000 - 0.000	1.000
Pharmacy technician	403861936.141	0.000 - 0.000	1.000
Laboratory technician	1346206453.804	0.000 - 0.000	1.000
Nutrition supervisor	1.000	0.000 - 0.000	1.000
Others	230778249.224	0.000 - 0.000	1.000
Monthly Income			
20,000-50,000	1 (reference)		
51,000-100,000	3.385	0.693 - 16.524	0.442
101,000-150,000	2.154	0.428 - 10.848	0.132
151,000-200,000	3.882	0.725 - 20.792	0.352
>200,000	0.000	0.000 - 0.000	0.113
Awareness of SSHSS			
Unaware	1 (reference)		
Aware	3.657	1.328 – 10.068	0.012*
Perception of SSHSS			
Negative Perception	1 (reference)		
Positive Perception	0.869	0.408 - 1.851	0.716

* = significant at p<0.05
(Source: Researcher, 2025)

DISCUSSION

This study assessed awareness, perception, willingness to pay, and factors affecting uptake of the State Social Health Insurance Scheme among Primary Healthcare workers in Calabar metropolis of Cross River State, Nigeria. The workforce was predominantly youthful, with over half of the respondents aged 21-30 years, similar to findings

in Oyo State, Nigeria¹³. Females dominated the workforce, consistent with other Nigerian studies^{13, 14}. Many respondents were married, Christian, and of Efik ethnicity, with tertiary education, reflecting the demographic profile common to the state medical sector^{15,16}. Their high educational attainment could facilitate tailored healthcare delivery¹⁶. Most respondents came from small households, with Community Health Extension Workers being prominent, and earned ₦50,000-150,000 monthly, highlighting the need for financial support and incentives^{17,18}.

This study found a high awareness level (76.6%) of the State Social Health Insurance Scheme among primary healthcare workers in Calabar metropolis of Cross River State, exceeding previous studies^{19,20}, likely due to their professional knowledge and education. Coworkers and social media were key information sources, emphasizing the importance of interpersonal and digital communication^{21,21}. Most respondents recognized benefits like increased healthcare access, financial protection, and improved outcomes, enabling effective promotion of the scheme as noted by a study similar study in Southwest Nigeria²³.

Primary healthcare workers in Calabar metropolis of Cross River State predominantly held negative perceptions (71.5%) of the State Social Health Insurance Scheme due to concerns over financial protection, partnerships, and administrative burdens, contrasting with artisans' more favorable views²⁰ suggesting primary healthcare workers recognize scheme limitations more clearly than artisans, who might perceive these schemes as vital for financial protection against healthcare costs. Community-led design and implementation might foster trust and address negative views⁶. Willingness to pay was low (31%), with concerns about premium costs, network hospitals, and administrative burdens. This differs from higher willingness to pay among artisans²⁰, rural dwellers²⁴, and households²⁵, likely due to occupational and socioeconomic factors. Policymakers should consider these factors to increase uptake among primary healthcare workers.

Few primary healthcare workers in Calabar metropolis of Cross River State benefited from the State Social Health Insurance Scheme, with most

beneficiaries expressing dissatisfaction, and only a small percentage believing the scheme would be beneficial to other healthcare workers and the general public. This contrasts with higher satisfaction levels reported in Ahmadu Bello University, Kaduna, and a tertiary hospital in Southwestern Nigeria^{6,26} possibly due to differences in sociodemographic factors and scheme administration.

Key factors affecting the State Social Health Insurance Scheme's uptake and sustainability include lack of awareness (77.2%), negative attitudes of healthcare workers (47.5%), high premium costs (43.7%), and limited coverage (41.8%). These findings align with previous research^{27, 28}, highlighting the impact of awareness; others studies also noted the impact of negative attitude of healthcare workers²⁴, high premium²⁹ and limited coverage³⁰, all these underscored the need for awareness campaigns, improved healthcare worker attitudes, affordable premiums, and expanded coverage to enhance enrollment and retention.

Age, location of primary health centers, and awareness significantly influenced willingness to pay for the State Social Health Insurance Scheme among primary healthcare workers in Calabar Metropolis of Cross River State and were also good predictors of willingness to pay for the scheme. Younger PHCWs, those in Calabar Municipality, and those with lower awareness levels were less likely to pay, possibly due to perceived lower health risks among younger ones³¹, awareness of scheme limitations among urban workers³², and limited understanding of benefits among those less aware³³. Age's impact aligns with previous studies^{34, 35}. In contrast, sex, marital status, income, and perception were not significant factors, likely due to uniform priorities, similar financial considerations, and a structured professional environment.

Limitations

While our study provides valuable insights into the factors influencing SSHIS uptake among PHCWs, it has some limitations. Our cross-sectional design captures a snapshot of PHCWs' awareness, perception, and willingness to pay for SSHIS, potentially overlooking changes over time.

The focus on Calabar Metropolis limits generalizability, and self-reported data may introduce biases. The sample size, although calculated to ensure representativeness, may still be relatively small, potentially affecting the precision of our estimates. Our quantitative approach may have missed the deeper qualitative insights, such as PHCWs' experiences and concerns about SSHIS, which could inform improvements to the scheme. These limitations emphasize the need for future research to address these gaps and provide a more comprehensive understanding of SSHIS uptake and its implications.

CONCLUSION

The study concludes that the State Social Health Insurance Scheme in Calabar metropolis of Cross River State, Nigeria, is underperforming with only 32.9% uptake, which was shown to be due to poor perception, low willingness to pay, and limited satisfaction among primary healthcare workers, with younger workers and those with limited awareness being particularly less willing to pay, highlighting the need for reforms to improve the scheme's design and implementation.

ABBREVIATIONS

NHIA - National Health Insurance Authority
PCHWs – Primary Healthcare Workers
SPSS - Statistical Package for the Social Sciences
SSHIA – State Social Health Insurance Authority
SSHIS – State Social Health Insurance Scheme
UHC - Universal Health Coverage
WTP – Willingness to Pay

ETHICAL APPROVAL AND INFORMED CONSENT

Ethical approval was obtained from the Health Research Ethics Committee of the University of Calabar Teaching Hospital, with protocol assigned number; UCTH/HREC/33/Vol. III/342. Participants provided informed consent.

CONSENT FOR PUBLICATION

The authors declare that they have obtained necessary consent for publication from all parties involved in the study.

DATA AND MATERIAL AVAILABILITY STATEMENT:

The data used to support the findings of this study

study are available from the corresponding author upon request.

ADDITIONAL INFORMATION

No additional information is available for this paper

COMPETING INTEREST STATEMENT

The authors declare no conflict of interest.

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