Journal of Health and Social Sciences Advance Publication Online
Published Online January 29, 2019 doi10.19204/2019/hlth10

ORIGINAL ARTICLE IN PUBLIC HEALTH POLICY

Health effects of the National Health Insurance Scheme (NHIS): A study among federal civil servants in Bayelsa State, Nigeria

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Abstract

Introduction: This study aimed to analyze the level of satisfaction and health effects of the National Health Insurance Scheme (NHIS) among federal civil servants employed in Bayelsa State, Southern Nigeria.

Methods: A cross-sectional survey was adopted using simple random sampling to recruit 337 federal employees living in the state. A structured questionnaire was used as data collection instrument to elicit socio-demographic information and types of services enjoyed under the scheme by the participants. Satisfaction levels and self-rated health were measured as continuous variables. Data was analysed using analysis of variance (ANOVA), multiple linear regression, and χ^2 statistics. The level of statistical significance was set up at $P < 0.05$.

Results: Satisfaction levels and self-rated health differed significantly by demographic variables and types of services enjoyed by the participants ($P < 0.05$). Our findings showed that malaria treatment ($\beta = 0.737$, $P < 0.05$), prescriptions of drugs ($\beta = 0.187$, $P < 0.05$) and vaccinations ($\beta = 0.422$, $P < 0.05$) were good predictors of satisfaction levels and self-rated health status. Malaria treatment had the highest satisfaction level ($\beta = 0.737$, $P < 0.05$) compared to other services enjoyed under the scheme.

Discussion and Conclusion: In spite of the fact that most of the services under the scheme were associated with good self-reported health status and high satisfaction level by the participants, there are still some issues concerning supply of drugs and health facilities for federal employees living in Bayelsa State. The government and key stakeholders should ensure that NHIS provide adequate provisions of drugs, skilled health professionals and equipped healthcare facilities, as proper referral systems could mitigate the effects of health conditions affecting federal civil servants and promote the quality of health-care system.

KEY WORDS: Bayelsa State; Federal Republic of Nigeria; health; health care system; national health policy; National Health Insurance Scheme (NHIS); quality of health care; satisfaction.

Riassunto

Introduzione: Questo studio è stato finalizzato allo studio dei livelli di soddisfazione e degli effetti sullo stato di salute prodotti dal Piano Sanitario Nazionale nei dipendenti pubblici federali impiegati nello stato di Bayelsa, nel sud della Nigeria.

Metodi: Uno studio trasversale è stato adottato usando un campionamento casuale semplice per reclutare 337 dipendenti pubblici federali residenti nello stato. Un questionario strutturato è stato usato come strumento per la raccolta dei dati al fine di ottenere informazioni sugli aspetto socio-demografici e la tipologia dei servizi offerti dal Piano utilizzati dai partecipanti.

I livelli di soddisfazione e lo stato di salute auto-riferito sono stati misurati come variabili continue. I dati sono stati analizzati con l'analisi della varianza (ANOVA), la regressione lineare multipla e le statistiche del chi quadrato. Il livello di significatività statistica è stato fissato a $P < 0.05$.

Risultati: I livelli di soddisfazione e dello stato di salute auto-riferita differivano in modo significativo per variabili socio-demografiche e tipologia di servizio utilizzato dai partecipanti ($P < 0.05$). I nostri risultati hanno evidenziato che il trattamento per la malaria ($\beta = 0.737$, $P < 0.05$), le prescrizioni di farmaci ($\beta = 0.187$, $P < 0.05$) e le vaccinazioni ($\beta = 0.422$, $P < 0.05$) sono stati buoni predittori dei livelli di soddisfazione e di salute auto-riferita. Il trattamento della malaria ha riportato i livelli di soddisfazione più elevati ($\beta = 0.737$, $P < 0.05$) rispetto ad altri servizi utilizzati nell'ambito del Piano Sanitario.

Discussione and Conclusione: Nonostante la maggior parte dei servizi offerti dal Piano è stata associata ad un buon stato di salute auto-riferita e ad un alto livello di soddisfazione riportato dai partecipanti, ci sono ancora delle criticità riguardanti la fornitura di farmaci e le strutture sanitarie per i dipendenti pubblici federali residenti nello stato di Bayelsa. Il governo e le principali parti interessate dovrebbero assicurare che il Piano Sanitario Nazionale fornisca adeguate forniture di farmaci, professionisti qualificati e strutture sanitarie attrezzate, in quanto

un corretto sistema di assistenza sanitaria potrebbe mitigare gli effetti dei problemi di salute che interessano i dipendenti pubblici e migliorare la qualità del sistema sanitario.

TAKE HOME MESSAGE: National Health Insurance Scheme (NHIS) resulted in high satisfaction levels and self-rated health among federal civil servants employed in Bayelsa State, Southern Nigeria for many types of service. However, there are still some issues concerning supply of drugs and health facilities.

Competing interests: none declared

Cite this article as: Uzobo E, Ayinmoro AD. Health effects of the national Health Insurance Scheme (NHIS): A study among federal civil servants in Bayelsa State, Nigeria. [published online ahead of print January 29, 2019]. J Health Soc Sci. doi10.19204/2019/hlth10

DOI 10.19204/2019/hlth10

Received: 10 Jul 2018 **Accepted:** 25 Jan 2019 **Published Online:** 29 Jan 2019

INTRODUCTION

To achieve equity in health care service delivery in Nigeria, after the inauguration of the National Health Insurance Scheme (NHIS) in 2005 [1, 2], the National Health Bill was passed in 2006 at the Nigerian National Health Conference attended by government representatives, international agencies and other key stakeholders in the health care sector [3]. This was found to be in line with the priority targets of the United Nations Sustainable Development Goals (UNSDG) on achieving 'universal health coverage, including financial risk protection, access to quality essential health care services, and access to safe, effective, quality, and affordable essential medicines and vaccines for all' (Target 3.8) [4]. Similarly, the Act (Act No. 35 of 1999) establishing NHIS became operational in 2005 with the primary goal of improving the health status of Nigerian citizens as a significant co-factor in the national poverty eradication efforts [2]. Nigeria has three levels of government: Federal (Central), state, and local government areas, and each level of government has its workers. Furthermore, the central government has institutions in each of the 36 states of the federation, with federal employees working in those institutions. With the formal sector health insurance programme, which was designed to ensure that every federal government employee including their spouse and four biological children have access to good healthcare services and benefit from social health insurance programme [2], there was compulsory enrolment of all employees in the public sector as part of the formal sector programme of the scheme [5]. Although the formal sector health insurance programme covers both federal and state workers, its implementation across all workers employed at the state agencies has not received much attention when compared to that of the federal employees since its inauguration in 2005. This suggests that in spite of the health insurance programme is a

federal government directive, especially for the public sector employees, there is a difference between the management of federal and state workers enrolled under the scheme. While federal workers are being managed by the federal government, all the state workers are managed by their respective state governments. Additionally, there were other programmes under the scheme, which were designed to cover other sections of the population, especially those who were not directly employees of the formal sector, such as self-employed persons in urban centres, rural dwellers, under-five children, the disabled, inmates and international travellers. These specific sections of the programme were called as the 'urban self-employed health insurance' programme, the 'rural community' programme, the 'under-five children' insurance programme, the 'permanently disabled social health insurance' programme, the 'prison inmates' program and the 'international travel health insurance' programme, respectively [2].

However, the services for the beneficiaries of the federal civil service included only maternity care for up to 4 live births for every insured contributor/couple; provision of preventive care for registered employees such as immunization programme, post-natal care and family planning services, eye examination, as well as the opportunity to make consultations with specialists or referral for specialized investigations for medical/surgical reasons or other services such as diagnostic or physiotherapeutic services [6].

Furthermore, to facilitate the realization of the objectives of the scheme, a principal-agent relationship was established among actors. While the NHIS and beneficiaries are the principal actors, health management offices (HMOs) and providers remain the agents of the scheme [7]. Also, for effective implementation and reduction of the cost burdens of the scheme on the

beneficiaries, the guidelines establishing the scheme allow for partnership with registered hospitals, pharmacies, and HMOs to operate under the scheme while professionals' health providers putting into consideration the location of the health facilities and the distance of the beneficiaries [3]. This has enormously contributed to increase the coverage of the formal sector section of the programme to 98% of the target population [8]. As Obadofin commented about the success of the scheme, its benefit package is considered as the most comprehensive in the world and several benefits are accrued to the beneficiaries of the scheme, ranging from out-patient care, pharmaceutical care, and maternal care to preventive care [9]. Even though the percentage of coverage is increasing among the federal civil servants, Razum observed that previous experience from health programs initiated by the government had shown that the availability of a service does not automatically mean its absolute utilization and health status improvement as depicted, for instance, by immunization programme initiated by the government in the 1990s [10]. It is thus obvious that the success of the implementation of NHIS in Nigeria largely depends on how much information the prospective beneficiaries have regarding the scheme as well as on how qualitative the health programme is to the beneficiaries in terms of achieving the desired goals of the scheme. Besides these factors, several scholars have noted that the operation and enrolment of employees is still limited in coverage especially in the public sector [3, 11], while others argue that some of the beneficiaries are faced with difficulties at paying for NHIS services [12]. For example, more than 95% of the population who need financial risk protection against ill health are yet to be covered by the programme [3]. As Obikeze et al further noted, although the NHIS covers private sector businesses with 10 or more employees, many employers do not register their employees to avoid paying taxes [3]. As some scholars argued, poor funding

of healthcare in Nigeria has affected the quality of healthcare service delivery in recent time. Therefore, the high burden of healthcare costs is being borne by individuals and households, which make Nigeria ranks as the country with the second highest level of out-of-pocket spending on health in the world. From the perspective of Oba [13], NHIS implementation may not be unconnected with corruption because the money meant to boost the health sector, most often, ends up in private pockets, which culminate to inadequate funding to execute the programme effectively. Johnson and Stoskopt [14] added that the lack of adequate personnel in health sector as well as obsolete and inadequate medical equipment serve as an impediment to the effective implementation of the scheme. Recently, it was showed that since its establishment 12 years ago, the number of Nigerians covered by the scheme is about 1.5 percent of the population, who are mostly civil servants and corporate workers in the private sector. Therefore, the scheme which was set up to ensure financing of health care costs and management for Nigerians through the pooling and judicious use of financial resources has been subject to many critics [15]. Although it is well-understood that majority of the federal employees (as public sector) have been covered by the scheme, the extent to which it has resulted into improvement in health care services' satisfaction and health status among federal government employees and their relatives is yet to be investigated. This study aims at examining how NHIS has significantly impacted on health status and satisfaction level of federal civil servants (FCS) in Bayelsa State, Southern Nigeria.

METHODS

Theoretical framework

This study is anchored on Ronald Max Andersen's health care service utilization theory, which explains how people are likely to utilise health care services based on their demographics, social

position within the social structure, and beliefs of health services benefits. The theory believed that people's disposition enables or impedes the use of and the need for health care. Anderson [16] further identified that some determining factors for health care services utilization are: 1) Predisposing characteristics (e.g., age, gender, social structure, etc.); 2) enabling factors (e.g., costs and health policies); 3) need-based factors (e.g., nature of health condition); 4) health system characteristics (e.g., availability of health services); 5) external environmental factors (e.g., political, geographic and economic); and 6) personal health care practices (e.g., norms). This implies that various factors influence the utilization of NHIS services despite the federal government directives required that that all federal employees are to be enrolled by the scheme. For example, the utilization of NHIS services may be determined by the age, gender or income level of the beneficiaries. The attitudes of employees towards the scheme can also determine the extent of its utilization as well as the level of severity of the diseases and health facilities available for the enrolees. For instance, when an employee is faced with health problem that requires urgent surgery, the health facilities and health professionals needed are quite different from those provided for malaria treatment. If those facilities and health professionals are not made available, the beneficiaries may not derive maximum satisfaction from the scheme.

The 2006 NHIS Scheme in Nigeria

Over 95% of disease conditions that afflict Nigerian people are covered by the NHIS. The scheme includes out-patient services, such as malaria, acute respiratory tract infection, diarrhoeal disease, skin disease and ulcers, hypertension, acute eye infection, rheumatism, anaemia, intestinal worm–disorders, acute ear infection, typhoid fever, dental caries, diabetes mellitus, Sexual Transmitted Infections (STIs), asthma and others (general and specialist), HIV/AIDS

symptomatic treatment for opportunistic infections. Further, it covers also out-patient/day surgical operations, including hernia repairs, incision and drainage of abscesses, and excision of lumps and haemorrhoidectomy. In-patient services included are cervical and breast cancer treatment, diagnosis and complications from other cancers, e.g. anaemia or obstruction, surgical operations, including appendicectomy and prescription medicines approved by the Food and Drugs Board and prescribed by accredited medical and traditional medicines practitioners. Finally, the scheme includes oral health, eye care services, maternity care services and emergencies (medical and surgical emergencies, pediatric, obstetric and gynecological emergencies, health consequences generated by road traffic accidents and workplace accidents) [17].

Study design and data collection method

A cross-sectional study based on randomly selected federal civil servants, was carried out in Bayelsa State, Southern Nigeria, between January and March 2018. The choice of this state was informed by the fact that it has the highest number of newly established federal government departments, institutions and agencies among the states in the south-south part of Nigeria. A structured questionnaire was used to gather quantitative data from the study participants. It was categorized into sections to elicit information related to demographic profile of the respondents, the types of services enjoyed from NHIS, the level of satisfaction derived from NHIS services, as well as their opinions about the challenges posed by using NHIS services. Of 400 eligible participants, 337 were successfully interviewed (response rate = 84%).

Inclusion Criteria:

1. FCS, aged 18-65, employed in Bayelsa State.

2. FCS who had enjoyed at least one service provided by the NHIS in the previous year.

Exclusion Criteria:

1. FCS who were employed at institutions or state agencies in Bayelsa State.
2. FCS who were employed at private establishments in Bayelsa State.

Study variables

Dependent variables

Patient experience may be considered as a type of measure of healthcare quality. It provides feedback on patients' experiences of care. We used the self-reported level of satisfaction on quality of the last healthcare service delivered by the NHIS and the current level of health status after using healthcare services during the previous year. Self-rated health (SRH) accounts comprehensively for many health domains. The level of satisfaction derived by the employees and the improvement in health status following the utilization of NHIS, expressed as self-rated health levels, were used as the dependent variables. The level of satisfaction ('How much are you satisfied about healthcare services used in the previous year?') was measured as a continuous variable ranging from not satisfied '1', indifferent '2', satisfied '3', to very satisfied '4'. The level of self-rated health ('in general, how do you evaluate your current health status?') was also measured as a continuous variable ranging from 0 ('bad') to 3 ('very good'). The questionnaire was pretested by evaluating its content validity through an independent panel of experts in sociology of health and, then, on 30 federal civil servants from two government agencies in Bayelsa State. Cronbach's alpha coefficient was used to calculate the reliability of the questionnaire used. The overall reliability coefficient for this instrument was 0.778, thereby showing a good level of internal consistency.

Independent variables

In this study, the independent variables were nominal variables regarding the NHIS services, which included use of maternity care, vaccination services, malaria treatment, eye care services, and prescription medicines services ('yes/no') and an ordinal variable about the number of times NHIS services were used by employees in the previous year. The rationale for the selection of these services was derived from information collected through the pretested questionnaire. Indeed, only some of the NHIS services resulted to be related to health needs of employees in the study area. Conversely, due to the availability of alternative options like traditional medicine for this study population, the number of times an employee used NHIS healthcare services was adopted as an index to measure the quality of services.

Statistical analysis

Data was analysed by using the Statistical Package for Social Sciences (SPSS v. 20) through the use of bivariate and multivariate statistics. While the bivariate statistics used cross-tabulations and analysis of variance (ANOVA) to examine the statistical differences between the variables, the multivariate statistical model employed multiple linear regressions to examine the relationship between independent and dependent variables, and χ^2 statistics to examine the relationship between categorical variables. The significance threshold was set at $P < 0.05$.

Ethical considerations

Ethical approval for this study was given by Department of Sociology Research and Ethics Committee (DSREC), Niger Delta University, Wilberforce Island, Bayelsa State with reference number: NDU/FSS/DSREC/006 before proceeding to the data collection. All ethical standards

were duly respected in the conduct of the research including informed consents, assurance of confidentiality and anonymity. Voluntary participation of the respondents was also given due consideration without any form of intimidation or punishment to the respondents.

RESULTS

Data was obtained from 337 FCS (M = 142, 42.1%; F = 185, 57.9%). About half of them were aware of the scheme (M = 41.4%, F = 58.6%) and enjoyed at least one service of it during the previous year (M = 41.6%, F = 58.4%). Figure 1 showed that FCS (M = 22.2%, F = 77.8%), their spouses (M = 33.8%, F = 66.2%), children (M = 41.7%, F = 58.3%) or both of them (M = 65.3%, F = 34.7%) were the users of NHIS services.

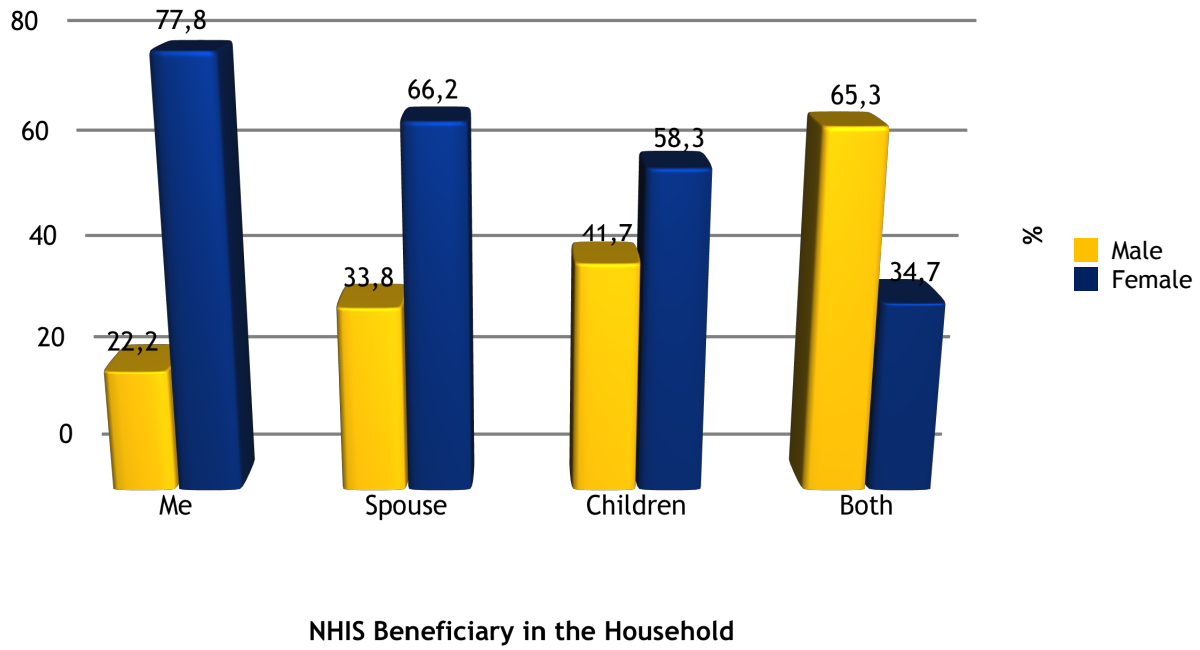

Figure 1. Distribution of respondents by beneficiaries of the NHIS scheme in the household *(n = 337).*

As shown in Table 1, the majority of participants (59.6%) were in the age group of 30-39 years, and reported they were tertiary school graduates (77.4%). About half of them were administrative workers (51%), professionals (17.2%), and executives (15.1%). With respect of income level, 52.5% reported that they were high-income earners, whereas 47.5% of them were low-income level earners. However, the majority of the participants earned above the national minimum wage as ₦18,000 (USD $49.52) per month. The majority of the employees enjoyed family planning service (67.1%), followed by malaria treatment (63.2%) and maternity care (38.9%) in the previous year. The overall mean satisfaction score and self-rated health were as 2.64 ± 1.325 and 1.76 ± 0.837, respectively.

Table 1 shows the mean satisfaction and self-rated health scores for NHIS services enjoyed based on socio-demographic characteristics of FCS enrolled in our study. Analysis of variance (ANOVA) showed a significant difference in satisfaction level for marital status ($F = 15.048$, $P < 0.05$), educational level ($F = 24.079$, $P < 0.05$), type of services such as maternity care ($F = 149.720$, $P < 0.05$), malaria treatment ($F = 182.638$, $P < 0.05$), prescription of drugs ($F = 20.787$, $P < 0.05$), and vaccinations ($F = 139.055$, $P < 0.05$), while there was no significant difference in satisfaction level for gender, income, eye care and family planning service.

Table 1. Comparison of mean satisfaction and self-rated health scores according to the socio-demographic characteristics and type of service used by ANOVA method *(n = 337)*.

	Number of subject (n %)	**Satisfaction score mean**	**P-value**	**Self-rated health mean**	**P-value**
Overall mean		**2.64 (1.325)**		**1.76 (0.837)**	
Gender					
Male	142 (42.1)	2.61 (1.304)	0.729	1.75 (0.887)	0.806

Female	195 (57.9)	2.66 (1.343)		1.77 (0.801)	
Marital status					
Married	201 (59.6)	2.86 (0.965)	0.000*	1.99 (0.566)	0.000*
Single	136 (40.4)	2.30 (1.675)		1.42 (1.037)	
Age					
< 20	6 (1.8)	3.00 (0.000)	0.000*	2.00 (0.000)	0.001*
20-29	52 (15.4)	3.52 (0.502)		2.00 (0.000)	
30-39	201 (59.6)	2.42 (1.576)		1.60 (1.054)	
40-49	74 (22.0)	2.53 (0.579)		2.00 (0.000)	
50 and above	4 (1.2)	3.00 (0.000)		2.00 (0.000)	
Educational level					
Illiterate	-	-	0.000*	-	0.373
Secondary	76 (22.6)	2.00 (1.020)		1.68 (0.734)	
Tertiary	261 (77.4)	2.82 (1.348)		1.78 (0.837)	
Type of occupation					
Auxiliary	9 (2.7)	2.44 (0.527)	0.000*	2.00 (0.000)	0.000*
Clerical	47 (13.9)	1.87 (0.711)		1.79 (0.623)	
Professional	58 (17.2)	3.36 (1.385)		1.72 (0.696)	
Executive	51 (15.1)	3.00 (0.000)		2.39 (0.493)	
Administrative	172 (51.0)	2.50 (1.504)		1.56 (0.938)	
Income					
High	177 (52.5)	2.59 (1.467)	0.543	1.66 (0.952)	0.023*
Medium	160 (47.5)	2.68 (1.151)		1.87 (0.674)	
Low	-	-		-	-
Type of service enjoyed					
Maternity care [yes/no]	[131 (38.9)/206 (61.1)]	2.05 (0.557)	0.000*	2.15 (0.951)	0.000*
Malaria treatment [yes/no]	[213 (63.2)]/[124 (36.8)]	3.23 (0.734)	0.000*	2.15 (0.353)	0.000*
Eye care [yes/no]	[20 (5.9)]/317 (94.1)]	3.00 (0.000)	0.205	2.00 (0.000)	0.186
Prescription of drugs [yes/no]	[123 (36.5)/214 (63.5)]	3.06 (0.823)	0.000*	2.00 (0.000)	0.000*
Family planning service [yes/no]	[226 (67.1)/111 (32.9)]	2.39 (1.323)	0.087	1.74 (0.932)	0.693
Vaccinations [yes/no]	[119 (35.3)/218 (64.7)]	3.61 (0.571)	0.000*	2.00 (0.000)	0.000*

*Significance at $P < 0.05$

More specifically, female employees showed a higher level of satisfaction than their male counterparts, even if this difference was no statistically significant as well as employees with medium income level showed higher level of satisfaction for eye care and family planning services, which was no statistically significant. Also, the analysis of variance showed a significant difference in self-rated health levels for marital status ($F = 42.363$, $P < 0.05$), age ($F = 4.917$, $P < 0.05$), type of occupation ($F = 11.026$, $P < 0.05$), income ($F = 5.239$, $P < 0.05$), maternity care ($F = 54.784$, $P < 0.05$), malaria treatment ($F = 193.390$, $P < 0.05$), prescription of drugs ($F = 16.710$, $P < 0.05$), and vaccinations ($F = 15.784$, $P < 0.05$), while there was no significant difference in self-rated health for gender, educational level, eye care and family planning service. As shown in Table 2, all types of services enjoyed by the employees were good predictors of satisfaction level, except for maternity care and family planning service. Indeed, satisfaction level was influenced by malaria treatment ($\beta = 0.737$, $P < 0.05$), prescription of drugs ($\beta = 0.187$, $P < 0.05$), vaccinations ($\beta = 0.422$, $P < 0.05$).

Table 2. Predictors of patient satisfaction and self-rated health by multiple regression analysis *(n = 337)*.

	Satisfaction level			**Self-rated health**		
Predictors	**Unstandardized coefficient (B)**	**Standardized coefficient (β)**	**P-value**	**Unstandardized coefficient (B)**	**Standardized coefficient (β)**	**P-value**
Maternity care	-0.304	-0.106	0.080	-0.404	-0.202	0.002*
Malaria treatment	2.041	0.737	0.000*	1.623	0.167	0.000*
Eye care	-	-	-	-	-	-
Prescription of drugs	0.518	0.187	0.000*	-0.209	-0.108	0.035*
Family planning service	0.256	0.520	0.623	0.872	0.088	0.023*
Vaccinations	1.250	0.422	0.000*	0.373	0.167	0.022*
Gender	-0.170	-0.064	0.086	0.054	0.029	0.454
Age	0.001	0.001	0.990	-0.073	-0.056	0.294

Marital status	0.765	0.288	0.000*	1.238	0.666	0.000*
Educational level	1.079	0.349	0.000*	0.763	0.353	0.000*
Type of occupation	0.273	0.262	0.000*	0.041	0.056	0.386
Income	-0.514	-0.194	0.004*	-0.133	-0.071	0.301

*Significance at P < 0.05

Socio-demographic variables were good predictors of satisfaction level except for gender and age. More specifically, satisfaction level was influenced by marital status ($\beta = 0.288$, $P < 0.05$), educational level ($\beta = 0.349$, $P < 0.05$), type of occupation ($\beta = 0.262$, $P < 0.05$), and low-income ($\beta = 0.194$, $P < 0.05$). The set of independent variables included in the model account for 80.2% of the variation in satisfaction level. Further analysis showed that all types of services enjoyed by the employees influenced self-rated health status, which was higher for family planning service (87.2%) and vaccination (37.3%) than for other services enjoyed. With respect of socio-demographic variables, only marital status and educational level influenced self-rated health while gender, age, type of occupation and income did not. Table 3 showed the challenges faced by FCS users of NHIS services. The majority of employees stated to be satisfied (85.4%) with the amount deducted as premium under the scheme. Regarding the need for payment of additional costs on treatment, 28.6% of the employees answered ‘yes’ compared to 71.4% who said ‘no’. The rationale for the payment of additional costs on treatment ranged from ‘inadequate health facilities’ (17.5%), and ‘inadequate health professionals’ (6.1%), to ‘inadequate drugs’ (5.0%). In addition, treatments of some several acute and chronic health conditions were not met by the scheme (32.5%), those ranging from surgical operations (13.9%), breast cancer treatment (5.0%), blood pressure (3.6%), and cancer treatment (2.9%) to diabetes (3.2%). The use of NHIS services by FCS was influenced by all these subjective factors in a statistically significant manner (Table 3).

Table 3. Association between use and characteristics of NHIS by Chi-square test *(n = 337)*.

Variables (NHIS characteristics)	**Use of NHIS services**		***P-value***
	'Yes, I used some NHIS services at least one time in the past year'	**'I never used NHIS services in the past year'**	
'Percentage deducted was satisfactory'			
Yes	239 (85.4)	-	0.000*
No	20 (7.1)	-	
Uncertain/NA	21 (7.5)	57 (100.0)	
' It was needed an additional cost service'			
Yes	80 (28.6)	-	0.000*
No	200(71.4)	57 (100.0)	
'Reason for additional cost service was…'			
Inadequate drug supplies	14 (5.0)	-	0.000*
Inadequate health professionals	17 (6.1)	-	
Inadequate health facilities	49 (17.5)	-	
N/A	200 (71.4)	57 (100.0)	
'All my health problems have been addressed by NHIS'			
Yes	189 (67.5)	-	
No	91 (32.5)	57 (100.0)	
'Health problems that NHIS did not sufficiently address were…'			
Blood transfusion	4 (1.4)	-	0.001*
Breast cancer	14 (5.0)	-	
Cancer treatment	8 (2.9)	-	
Diabetes	9 (3.2)	-	
High blood pressure	10 (3.6)	-	
Mental illness	7 (2.5)		
Surgery	39 (13.9)		
N/A	189 (67.5)	57 (100.0)	

*Significance at $P < 0.05$

DISCUSSION

In Nigeria, NHIS has been recently established to ensure universal coverage and access to qualified and affordable healthcare, in order to enhance the health status of Nigerians enrolled by the scheme. The main purpose of NHIS was to eliminate every possible socioeconomic obstacle to attaining access to an efficient health service for all. In 2013, NHIS covered 98% of all Nigerian federal employees and 2 million private sector workers, together with pregnant women and children under five through a dedicated section of the insurance programme. In our exploratory study based on a sample of federal civil servants enrolled by the section of the scheme dedicated to federal employees, findings showed that majority of participants were both aware of the scheme and captured by it. This was in agreement with Obalum and Fiberesima's study showing that NHIS was able to cover 98% of federal government employees. Interestingly, our study has demonstrated that satisfaction levels for those who were married, graduates of tertiary education and professional workers were significantly higher than other categories. This could be attributed to the fact that either the beneficiaries or their spouses and children needed and accessed the services more than other categories of participants. In our study, most of the respondents enjoyed health care services covered under the scheme ranging from maternity care, immunization service, malaria treatment, eye care, drug supply, and family planning services, confirming [5] the stipulations of the formal sector programme of the scheme. Furthermore, our findings revealed that almost all healthcare services covered under the scheme were significantly related to high satisfaction and self-rated health levels referred by participants with malaria treatment reporting the highest percentage compared to all other services enjoyed under the scheme, probably due to the high prevalence of malaria in this Nigerian state [18]. However, this confirms [2, 9] that the benefit package provided by the scheme for FCS is most comprehensive

and people enrolled may benefit many healthcare services [9], ranging from out-patient care, pharmaceutical care, and maternal care to preventive care.

However, despite this, there is a long way to go to meet the health needs of all other categories of public and private employees in our country and many challenges in order to meet health needs of FCS in this state as well as in other Nigerian states. Indeed, the scheme does not cover some type of surgical interventions, and some chronic health problems such as high blood pressure, cancer and diabetes. In some cases, due to inadequate supply of drugs, health professionals and facilities, it was required to employees the payment of an additional cost. This suggests the opportunity to implement the scheme [6] and corroborates past research [13, 14] that lack of adequate personnel in health sector and obsolete or inadequate medical equipment and drugs hinder the full implementation of NHIS programme in Nigeria.

This study has some limitations. The small size of the sample may prevent from the generalizability of our findings. In this study, we only considered federal civil servants, whereas employees from private organizations and public state and local agencies were not included. In addition, our study was based on self-reported data, which may contain several probable sources of bias.

In conclusion, this study has highlighted that most of the services provided under the NHIS were associated with a good self-reported health status and a high satisfaction level by federal government employees in Bayelsa State. However, the programme shows there are still many weaknesses concerning inadequate supply of drugs, health professionals and facilities, as well as poor referral systems. This may have negative implications when urgent health care needs for

acute and chronic conditions are required. Furthermore, the scheme needs to be revised for including new services and type of insured such as households with more than four children. Therefore, government and key stakeholders should ensure that NHIS provide adequate provisions of drugs, skilled health professionals and equipped healthcare facilities to address social and health inequity, while efforts are to be made to ensure proper referral systems that could mitigate the effects of some health conditions affecting these employees and promote the quality of health-care system.

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