



## Health Services Utilization Patterns among Enrollees of the National Health Insurance Scheme at a Tertiary Health Facility in Federal Capital Territory (FCT) – Abuja, Nigeria

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. Author OED designed the study and wrote the initial draft of the manuscript. Authors CTA and JMA designed the methodology, collected the data and ran preliminary analysis. Authors OED and TMA managed the literature searches and wrote the revised draft of the manuscript. All authors read and approved the final manuscript.*

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### **ABSTRACT**

**Background:** The National Health Insurance Scheme (NHIS) was established to provide accessible, affordable and quality healthcare to the Nigerian population and the enrollees utilize healthcare services at the various NHIS accredited healthcare facilities.

**Objective:** This study assessed the types and patterns of health services utilization and perception of patients towards the NHIS in a tertiary hospital in FCT-Abuja, Nigeria.

**Methodology:** A cross-sectional study of 305 NHIS enrollees selected by systematic random sampling was done at the General Outpatient Clinic, University of Abuja Teaching Hospital,

Gwagwalada, FCT-Abuja, Nigeria. Participants' sociodemographic variables, reasons for hospital choice, utilization and perceptions about NHIS services were assessed. Data were analyzed with IBM SPSS Statistics 20.0.

**Results:** Majority 204 (66.9%) of the respondents were principal enrollees, 93 (30.5) were spouses and 8(2.6%) were extra-dependants, 157 (51.5%) had been enrolled for more than 5 years, and availability of specialist doctors was the main reason most patients 198 (64.9%) chose to access care at the hospital.

An average of 4 services were utilized by the respondents, with outpatient care and laboratory services being the most utilized services. Majority 208 (68.2%) stated that health insurance positively influences prompt health seeking behaviour, while 182 (59.7%) felt that NHIS gives access to quality health services.

**Conclusion:** The study revealed the types of healthcare services utilized and the perception of NHIS beneficiaries towards the scheme. While continuous advocacy and sustained efforts towards improved services and coverage expansion should be intensified, further studies considering patients and healthcare providers' perspectives and other associated factors are recommended.

*Keywords: Health; insurance; services; quality; utilization; perception; Nigeria.*

## 1. INTRODUCTION

The Alma-Ata Declaration of 1978 strongly reaffirms that health is a fundamental human right, and the attainment of the highest possible level of health is a most important universal social goal [1]. One common strategy adopted by governments of many countries towards improving access to affordable and essential health care services and attainment of universal health coverage is health insurance; which is a social security system ensuring the provision of needed health services to people by making certain contributions on a regular basis [2,3,4].

The National Health Insurance Scheme (NHIS) in Nigeria was officially launched on June 2005 by the Federal Government of Nigeria with the objective of providing accessible, affordable and quality healthcare for all Nigerians, and with a commitment to securing universal coverage and improving the health status of Nigerians [5].

The services provided under the NHIS include; out-patient care and in-patient care (hospital admission), prescribed drugs, diagnostic tests, maternity care, immunization, health and family planning education, eye and dental care, primary care and referral services, and consultation/treatment by medical specialists at secondary or tertiary levels depending on the nature and severity of the illness [5].

NHIS beneficiaries access care at the various accredited healthcare facilities under the scheme and some studies have reported various levels of

utilization [6-10] and diverse perceptions about the scheme [8-12].

Health Care Utilization is often defined as the quantity of health care services used [6]. It refers to the population's use of health care services available to them for the purpose of preventing and curing health problems, promoting maintenance of health and well-being, or obtaining information about their health [7]. Utilization of health services is usually influenced by various factors which include; self-rated health status and healthcare needs, users' perception and satisfaction with services, distance and accessibility, level of education, gender, socioeconomic status and social support [13-15]. Patients also usually have reasons such as accessibility, quality and cost of care etc., for choosing where (healthcare facilities) to access care and utilize services [12,16,17]. This study assessed the types of health services utilized, reasons for choice of where to utilize services and patients' perceptions towards the NHIS in a tertiary hospital in FCT-Abuja, Nigeria. Findings from this study provide evidence-based data and contribute to the literature on the utilization of health services by patients under the NHIS. It also provides evidence for the improvement of the quality of services in the study setting.

## 2. METHODOLOGY

A descriptive cross-sectional study was conducted at the University of Abuja Teaching hospital, a tertiary health facility and NHIS accredited healthcare provider located in Gwagwalada, Abuja-FCT, Nigeria. The study

population included NHIS patients attending the General Outpatient Clinic of the hospital in July 2018, with a sample size of 305 selected by systematic random sampling. The study employed a structured interviewer-administered questionnaire, which captured information on sociodemographic variables, reasons for healthcare facility choice, health services utilization and perception towards the NHIS. Adult patients ( $\geq 18$  years) who affirmed they had accessed care in the hospital at least two previous times and consented to participate were included in the study.

The data were analyzed using IBM SPSS Statistics 20.0. Frequency tables and cross tabulations were generated. Chi-square test was used to determine associations between the variables, with the level of significance set at  $p < 0.05$ . Ethical approval for the study was obtained from the Ethical Committee of University of Abuja Teaching Hospital. Participation was fully voluntary, confidential and anonymous.

### 3. RESULTS

The mean age of the respondents was  $36 \pm 10.2$  years, with age ranging from 20 to 74 years. One hundred and thirty-three (43.6%) of the respondents were males and 172 (56.4%) females, with a male: female ratio of 1:1.3. Most, 220 (72.1%) were married, while 82 (26.9%) were single. Majority, 241 (79.0%) reported having a post-secondary/ tertiary education, while 50 (16.4%) had secondary education. About two-thirds 204 (66.9%) were principal enrollees, while 93 (30.5) were spouses and 8(2.6%) were extra-dependants. Majority, 262 (85.9%) registered with the hospital as their primary healthcare provider, while 43 (14.1%) were referred to the hospital from other healthcare facilities. Regarding the duration of enrolment on the NHIS; about half, 157 (51.5%) of the respondents had been enrolled for more than 5 years, 85 (27.9%) were between 3 to 5 years, while 63 (20.6%) had an enrolment of 2 years and below [Table 1].

Availability of specialist doctors was the main reason why about two-thirds 198 (64.9%) of the respondents chose to access care and utilize services at the hospital, 125 (41.0%) was based on of the provision of quality services, while 116 (38.0%) made their choices because of the hospital location and accessibility [Table 2].

There were various services provided in the hospital. An average number of 4 services were utilized by the respondents and all used outpatient care. Majority, 273 (89.5%) had laboratory tests done, 83 (27.2%) had radiological investigations, 57 (17.0%) had been admitted in the hospital before, 48 (15.7%) had accessed obstetrics and gynecological services, while 36 (11.8%) had undergone surgeries. [Table 3].

Table 4 evaluated the number of services utilized by the respondents vis-à-vis the sociodemographic characteristics, which showed there were no statistically significant differences in services utilization regarding age, sex, marital status, education, insurance status and duration of enrollment on NHIS with p values of: 0.938, 0.797, 0.941, 0.788, 0.132 & 0.134 respectively.

About two-thirds 208 (68.2%) stated that health insurance influences people to seek for health care promptly when they are sick, 182 (59.7%) felt that the NHIS gives access to quality health services, 189 (62.0%) indicated that they will recommend the NHIS to others and 216 (70.8%) mentioned that they will recommend the hospital to others. [Table 5]

### 4. DISCUSSION

The age range of the participants was from 20 - 74 years, with majority (67.5%) below 40 years connoting that majority of the participants were in their active working years; this is however not unusual, as the majority of the study participants were government civil/public servants. Also more than half (56.4%) of the respondents were females and the majority (79.0%) had post-secondary/tertiary education which is similar to studies in Ile-Ife and Abuja [18,19] Majority, (66.9%) of the respondents were principal enrollees. This is at variance with the findings from studies in Ibadan, Oyo State, Nigeria<sup>6</sup> where principal enrollees accounted for 84.2% and Ilorin, Kwara State, Nigeria [10] where principal enrollees were 52%. The disparity could have been due to the studies being field survey and review of past records respectively, while this study was a hospital-based cross-sectional study.

A principal enrollee is a civil/public servant or an employee of the private sector, who is the main contributor of health insurance premium, and on behalf of whom the other members of the family (dependants) are enrolled and entitled to health

insurance cover.<sup>5</sup> The principal enrollees, being civil/public servants are likely to be more educated and also enlightened about the scheme through interactions with colleagues, the Health Maintenance Organizations (HMOs) and NHIS [12]. The large number of may account for the high healthcare utilization, as some studies [20-23] have reported a positive relationship between the level of education, health seeking behaviour and health care utilization.

A few 8(2.6%) of the respondents were extra-dependants. Principal enrollees are entitled to register a spouse, and four biological children below the age of 18 years as dependants under the NHIS. However more dependants (additional spouses and children below or above 18 years)

can be covered upon the payment of additional contributions by the principal enrollee; these are referred to extra-dependants [5]. Addition of extra-dependants provides NHIS principal beneficiaries the opportunity to enroll their biological family members who are not covered.

This study found that most beneficiaries have been enrolled for more than five years, with a minority newly registered in the past two years, which is similar to the findings of Ehiosun in Abuja, who reported that most NHIS beneficiaries were registered during the inception of the scheme; with the majority enrolled above 5 years and less than 10% newly registered within the past one year [24].

**Table 1. Socio-demographic characteristics of respondents**

<b>Variables</b>	<b>Frequency (n=305)</b>	<b>Percent</b>
Age group (years)		
< 30	102	33.4
30-39	104	34.1
40-49	68	22.3
50-59	23	7.5
≥ 60	8	2.6
<i>Mean: 36 ± 10.2</i>		
Sex		
Male	133	43.6
Female	172	56.4
Marital Status		
Single	82	26.9
Married	220	72.1
Divorced	2	0.7
Widowed	1	0.3
Level of education		
Primary	14	4.6
Secondary	50	16.4
Post-Secondary/Tertiary	241	79.0
Insurance Status		
Principal Beneficiary	204	66.9
Spouse	93	30.5
Extra-dependant	8	2.6
Relationship with Healthcare Facility		
Primary Provider	262	85.9
Secondary Provider	43	14.1
Duration of enrollment on NHIS (years)		
< 1	14	4.6
1 – 2	49	16.1
3 – 5	85	27.9
>5	157	51.5

The NHIS in the past few years has migrated from manual registration of new enrollees undertaken by the NHIS, HMOs and Ministries Departments and Agencies (MDAs) to the more reliable electronic direct data capture method, which is currently being handled only by the NHIS; however the response of the NHIS to organizations/employees and prospective enrollees seeking to be enrolled needs to be improved and the registration procedure reviewed to enhance speedy enrollments.

The reduction in new registrations could also be ascribed to the level of employment in the country. Unemployment in Nigeria may be attributed to the population growth without the corresponding job opportunities, a freeze in employment in many public and private sector institutions and job losses in the manufacturing and oil sectors, in addition to insecurity and its resultant effects [25].

Availability of specialist doctors and provision of quality services were the two foremost reasons why the respondents chose the hospital. These findings are comparable to that of Keffi, North

Central Nigeria [12] and not unusual as the health care facility is a government teaching hospital, with a lot of medical specialists involved in training of medical students, resident doctors and other healthcare specialists.

Apart from outpatient care, the two most utilized services were laboratory and radiological investigations. In contemporary medical practice, clinical laboratory and diagnostic imaging are essential to patient care and diagnosis [26,27]. Laboratory and radiological investigations aid physicians to make appropriate evidence-based diagnosis and decisions, and has become indispensable for diagnosing, staging and monitoring disease, providing prognoses and predicting treatment responses [26-28].

Majority of the respondents stated that health insurance has a positive influence on people's health seeking behaviour, making them to seek for health care promptly when sick. This is similar to the findings in India and Ghana, [29,30] and shows that the NHIS aids early presentation, prompt treatment and improving health outcomes.

**Table 2. Reasons for choosing hospital**

<b>Variables</b>	<b>Frequency (n=305)</b>	<b>Percent (%)</b>
Hospital location and Accessibility	116	38.0
Quality services	125	41.0
Availability of 24- hour services	58	19.0
Prompt attention	25	8.2
Availability of specialist doctors	198	64.9
Clean hospital environment	37	12.1
Affordable cost	74	23.3
Referred for specialist care	63	20.7

*\*Multiple response*

**Table 3. Services utilization**

<b>Variables</b>	<b>Frequency (n=305)</b>	<b>Percent (%)</b>
Outpatient care	305	100.0
Hospital Admission	57	17.0
Surgery	36	11.8
O&G/Maternity services	48	15.7
Dental care	21	6.9
Eye care	29	9.5
Laboratory services	273	89.5
Radiology	83	27.2
Physiotherapy	8	2.6

*\*Multiple response*

**Table 4. Services utilization by socio-demographic characteristics**

	Variables Number (types) of Services Utilized			X <sup>2</sup>	P-value
	1 - 2	3 - 5	≥ 5		
Age group (years)					
< 30	75(24.6)	17(5.8)	4(1.3)	2.94	0.938
30-39	79(25.9)	26(8.5)	5(1.6)		
40-49	50(16.4)	15(4.9)	3(1.0)		
50-59	19(6.2)	4(1.3)	0(0)		
≥ 60	6(2.0)	2(0.6)	0(0)		
Sex					
Male	101(33.1)	26(8.5)	6(2.0)	0.45	0.797
Female	128(42.0)	38(12.5)	6(2.0)		
Marital Status					
Single	63(20.7)	15(4.9)	3(1.0)	1.75	0.941
Married	163(53.4)	49(16.1)	9(3.0)		
Divorced	2(0.7)	0(0)	0(0)		
Widowed	1(0.3)	0(0)	0(0)		
Education					
Primary	10(3.3)	3(1.0)	1(0.3)	1.71	0.788
Secondary	36(11.8)	13(4.3)	1(0.3)		
Post-Secondary/Tertiary	183(60.0)	48(15.7)	10(3.3)		
Principal Beneficiary	159(52.1)	38(12.5)	7(2.3)	7.07	0.132
Spouse	62(20.3)	23(7.5)	3(1.0)		
Extra-dependant	8(2.6)	3(1.0)	2(0.7)		
Duration of enrollment on NHIS (years)					
< 1	12(3.9)	2(0.7)	0(0)	9.78	0.134
1 – 2	42(13.8)	6(2.0)	1(0.3)		
3 – 5	61(20.0)	23(7.5)	2(0.7)		
>5	114(37.4)	33(10.8)	9(3.0)		
Total	229(75.1)	64(21.0)	12(4.0)		

**Table 5. Perceptions of NHIS and hospital services**

Variable	Frequency (n=305)		
	Agree (%)	Disagree (%)	Neutral (%)
Health insurance influences people to seek healthcare promptly	208 (68.2%)	51 (16.7%)	46 (15.1%)
NHIS gives access to quality healthcare Services	182 (59.7%)	72 (23.6%)	51 (16.7%)
I will recommend NHIS to others	189 (62.0%)	73 (23.9%)	43 (14.1%)
I will recommend the hospital to others	216 (70.8%)	30 (9.8%)	59 (19.3%)

## 5. CONCLUSION

In conclusion, the study revealed the services utilization by beneficiaries under the NHIS in this tertiary health facility, from the perspective of the patient and showed a substantial utilization of various healthcare services by the NHIS enrollees, with the majority having the perception that health insurance has a positive influence on health seeking behaviour. There is a need therefore to consolidate the gains and advance the coverage of the scheme. Hence, advocacy and efforts concerning the expansion of the coverage of social health insurance should be

strengthened, with the Federal Government demonstrating willingness and commitment towards Universal Health Coverage. Further studies considering patients and healthcare providers' perspectives and healthcare utilization are also recommended.

## CONSENT AND ETHICAL APPROVAL

Adult patients (≥18 years) who affirmed they had accessed care in the hospital at least two previous times and consented to participate were included in the study. Ethical approval for the study was obtained from the Ethical Committee

of University of Abuja Teaching Hospital. Participation was fully voluntary, confidential and anonymous.

### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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